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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Regulation of the European Parliament and of the Council on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EU) No 1293/2013

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Table of contents

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT	5
1.1. Scope and context	5
1.2. Lessons learned from the previous LIFE+ programme (2007-2013) and the current LIFE programme (2014-2020)	7
1.2.1. Consultation activities.....	11
2. THE OBJECTIVES	12
2.1. Challenges for the LIFE programme for the next MFF	12
2.1.1. Key features of the current LIFE Programme	12
2.1.2. Key challenges and opportunities facing LIFE	13
2.1.3. Potential gaps and synergies with other EU programmes	14
2.2. Expected impacts of an unchanged LIFE programme (baseline)	15
2.3. Objectives of the LIFE programme post 2020.....	15
General and specific objectives for the future LIFE programme	16
Seizing opportunities for optimising the performance of the LIFE programme.....	17
3. PROGRAMME STRUCTURE AND PRIORITIES.....	18
3.1. Programme priorities	18
3.2. Critical mass	19
3.3. The EU added value of LIFE.....	20
3.4. Possible enhancements to the scope and structure of the future LIFE programme.....	21
3.4.1. Extend the scope of the LIFE programme to include capacity-building projects related to clean energy by adding a sub-programme on Clean Energy Transition.....	22
3.4.2. Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity.....	26
3.4.3. Extend eligibility of LIFE to the EU's Overseas Countries and Territories (OCTs) specifically for nature and biodiversity actions within the Environment sub-programme	27
3.5. Conclusions.....	28
4. DELIVERY MECHANISMS OF THE INTENDED FUNDING.....	29
4.1. Possible enhancements to funding mechanisms	29
4.1.1. Expand the scope and scale of Strategic Integrated Projects (SIPs).....	29
4.1.2. Targeted support to upscale and replicate successful projects.....	31
4.1.3. Address the unbalanced participation of candidates from some Member States to LIFE calls for proposals through a reinforced network of LIFE contact points and targeted capacity-building actions.....	32
4.1.4. Increase the co-financing rate.....	33
4.1.5. Systematically define and develop synergies with other instruments	33
4.1.6. Financial Instruments delivered through a central fund.	35
4.1.7. Improving the strategic focus of the programme by simplifying the Regulation and the MAWP.	36

4.2.	Conclusions.....	37
4.3.	Programme management	38
4.3.1.	Package of measure to reduce the administrative burden for the applicants/beneficiaries	38
4.3.2.	Streamlined procedures for the implementation of the EU budget.....	39
5.	HOW WILL PERFORMANCE BE MONITORED AND EVALUATED?	39
5.1.	Lessons learned related to the existing monitoring and evaluation framework.....	40
5.2.	Monitoring and evaluation framework for post 2020 indicators	42
5.2.1.	How the outcomes and impact/catalytic role of the programme will be assessed	43
5.2.2.	The timetable and the evaluations of the LIFE Programme 2021-2027	44
ANNEXES.....		47

Glossary

<i>Term or acronym</i>	<i>Meaning or definition</i>
BaU	Business as Usual scenario
BEST Initiative	Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas
CAP	European Common Agricultural Policy
Transition to Clean Energy Programme	The part of Intelligent Energy Europe which could be transferred into LIFE
CF	Cohesion Fund
COSME	Europe's programme for small and medium-sized enterprises
DG	General Directorate of the European Commission
EAFRD	European Agricultural Fund for Rural Development
EASME	European Agency for Small and Medium Enterprises
EFSD	European Fund for Strategic Investments
EIB	European Investment Bank
EIC	European Innovation Council
EIT	European Institute of Innovation and Technology
EMFF	European Maritime and Fisheries Fund
ERDF	European Regional Development Fund
Horizon Europe	The 9 th (post 2020) Research and Innovation (R&I) Framework Programmes-
GHG	Green House Gases
IEE	Intelligent Energy Europe
IMPEL	European Union Network for the Implementation and Enforcement of Environmental Law
IPs	Integrated projects (LIFE 2014-2020)
LIFE+ Programme	Financial Instrument for the Environment (LIFE+) – years 2007-2013 - Regulation (EC) No 614/2007 of the European Parliament and of the Council of 23 May 2007 concerning the
MAWP	Multi Annual Work Programme
MFF	Multi-annual Financial Framework
MTE	Mid-term Evaluation of the LIFE Programme 2014-2020
NCPs	National Contact Points
N2000	Natura 2000
Nature Directives	Birds Directive: Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds and Habitats Directive: Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

NEC Directive	National Emission Ceilings (NEC) Directive (2016/2284/EU)
NGO	Non-governmental organisations
OCTs	Overseas Countries and Territories
ORs	Outermost Regions
SDGs	Sustainable Development Goals
SF	Structural Funds
SIPs	Strategic Integrated Projects (post 2020 LIFE)
R&I	Research and Innovation
TFEU	Treaty on the Functioning of the European Union.

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

1.1. Scope and context

This impact assessment¹ accompanies the Commission proposal for the future LIFE Programme for the Environment and Climate Action 2021-2027 and satisfies the requirements of the Financial Regulation in respect of preparing an ex-ante evaluation.

All current and future EU generations are affected by environmental and climate problems, which impact on health, quality of life, and the availability and status of natural resources, implying social and economic costs. The EU is a global leader for environmental protection and climate action and - as confirmed in the President Juncker's 2017 *State of the Union address*² - wants to enhance this role³.

As highlighted in the Commission communication on the "Next steps for a sustainable European future"⁴, the 2030 Agenda on Sustainable Development and the 17 Sustainable Development Goals constitute an essential guiding principle and the contribution provided by the EU policies shall be assessed during the future EU multi-annual financial framework (MFF). The Commission communication on "A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020"⁵ acknowledges the citizens' expectations for their health, the environment and the climate. It identifies the European added value, enhanced performance, simplification and flexibility as the keys to a modern and effective EU budget.

At EU level, large investments in environmental and climate actions are primarily funded by major funding programmes (mainstreaming), in particular the cohesion funds, agriculture and rural development funds, maritime and fisheries funds, the research & innovation programme as well as external policy instruments.

The LIFE programme is the only EU fund entirely dedicated to environmental and climate objectives, addressed at present through two sub-programmes. With its modest budget (currently amounting to EUR 3.5 billion for the period 2014-2020 – 0.3% of the EU budget), it targets a niche between EU programmes supporting research and innovation on the one hand and EU programmes financing large-scale deployment of measures on the other hand (see Figure 1 below).

As Figure 1 illustrates, the first stage, *research/innovation*, involves primary research that enhances scientific knowledge and technical demonstration to prove viability of innovations. LIFE does not cover this area apart from small-scale research activities that support other objectives in projects. LIFE mainly finances actions that come under:

- the *demonstration/best practice* stage, including testing, demonstrating and piloting the effectiveness of new technologies, approaches or policies as methods for policy implementation.

¹ This impact assessment follows a special template developed for the future EU programmes with the aim to assess how the EU added value of the programmes can be enhanced.

² https://ec.europa.eu/commission/state-union-2017_en

³ An analysis of the continued need for action in the various environmental policy areas and on climate change to ensure compliance with the relevant EU legislation, the Paris Agreement and the implementation of the Energy Union is presented in Annex 4.

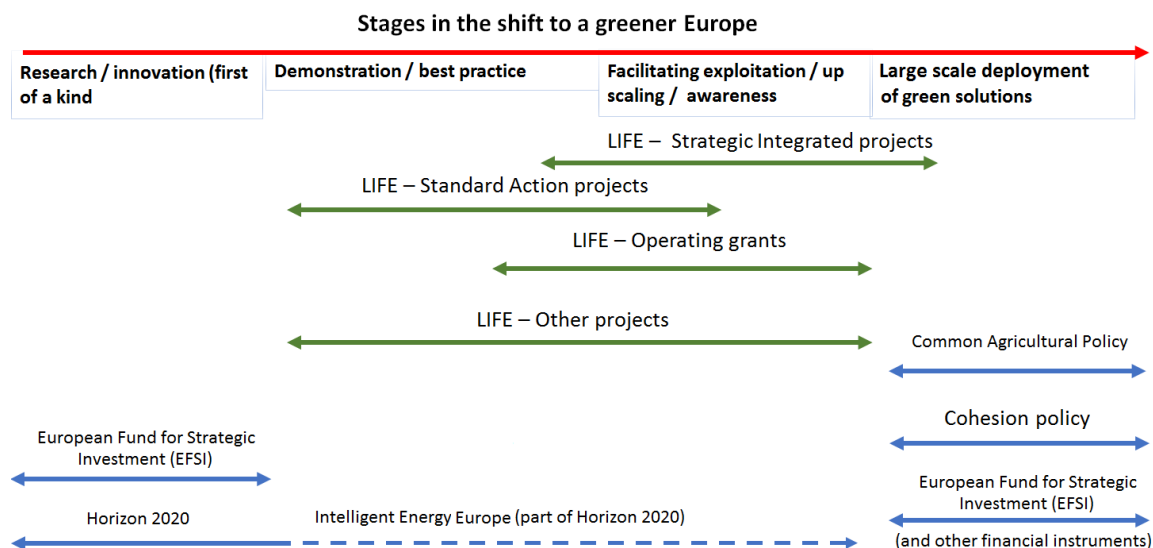
⁴ SWD(2016) 390 final

⁵ See COM(2018) 98 final.

- the *facilitating exploitation/upscaling/awareness* stage to prepare the ground for the large-scale deployment of appropriate technical and policy-related solutions.

LIFE also contributes to the *large-scale funding of green solutions*, where access to funding constitutes the main barrier for the large-scale deployment of a technology, approach or policy, which has already proved to be effective. Its contribution is via two currently pilot financial instruments Private Finance for Energy Efficiency (PF4EE) and Natural Capital Finance Facility (NCFF), that only operate at a relatively small scale.

Figure 1. The coverage of LIFE and other major EU programmes and funds



Source: European Commission

While LIFE activities tackle certain problems directly on the ground, the programme's main impact is indirect through its catalytic role: the support for small-scale actions intended to initiate, expand or accelerate sustainable production, distribution and consumption practices by supporting:

- the development and exchange of best practice and knowledge;
- the building up of the capacities and speeding up the implementation of environmental and climate legislation and policies;
- stakeholders in testing small-scale technologies and solutions; and
- the mobilisation of funding from other sources.

On 2 May 2018, the European Commission adopted its proposals for a new Multiannual Financial Framework (MFF) for 2021-2027. Under these proposals, the LIFE programme will have a budget of EUR 5 450 million over this period.

This impact assessment report reflects the MFF proposals and focuses on the changes and policy choices which are specific to this instrument.

Among other things, it analyses the integration of part of the Intelligent Energy Europe (IEE) programme⁶ into the future LIFE Programme as a separate window on "Clean Energy Transition" (see option 3.4.1 in chapter 3).

Moreover, it provides an assessment of the option for the establishment of dedicated envelopes for biodiversity and the management of the Natura 2000 network⁷.

1.2. Lessons learned from the previous LIFE+ programme (2007-2013) and the current LIFE programme (2014-2020)

The final evaluation⁸ of the LIFE+ Programme (2007-2013) concluded that the programme was successful in promoting the implementation of the EU's environmental policy and legislation with significant EU added value. However, it also identified a number of shortcomings. The vast majority⁹ of these were addressed by introducing changes to the design of the current LIFE Programme (2014-2020). For example, the need to ensure that the projects supported had sufficient strategic focus was addressed in the new programme by shifting from a pure bottom-up approach to a more flexible approach, with specific thematic priorities and project topics defined for the Environment sub-programme. Likewise, the need for further simplification in the application process and reporting obligations was addressed by introducing a two-step application procedure for the integrated projects, waiving the requirement to submit an external audit certificate and/or a VAT certificate and streamlining the system to enable applicants to submit their proposals electronically (e-proposal). Further details on these changes and their rationale are provided in Annex 3.

The effectiveness of these changes was explored in the recent mid-term evaluation of LIFE (MTE)¹⁰. While the evaluation was undertaken at an early stage of the programme implementation, when only the 2014 and 2015 projects had started, it confirmed that the programme is on track to be effective¹¹, efficient and relevant and that it is providing a contribution to the Europe 2020 strategy. Furthermore, most stakeholders see LIFE as being a very important instrument for addressing environmental and climate priorities.

The lessons learned from the MTE and, where relevant, recommendations from other reviews of the LIFE programme, are summarised below. They concern three aspects: programme relevance, coherence and coverage; effectiveness and catalytic effect; and efficiency and simplification. Some of the conclusions have already been taken into account in the implementation of the current programme.

⁶ This impact assessment concerns a Programme for the Environment and Climate Action, including Clean Energy and will analyse the option to include activities identified as "Clean Energy Transition" according to the option in section 3.4.1. below.

⁷ This analysis of this option was requested by various stakeholders, including the European Parliament in the resolution of 14 March 2018 on the next MFF: Preparing the Parliament's position on the MFF post-2020 (2017/2052(INI)) - P8_TA-PROV(2018)0075. For further information see par. 2.1.1. below.

⁸ Communication from the Commission to the European Parliament and the Council 'Final evaluation of Regulation (EC) No 614/2007 concerning the Financial Instrument for the Environment (LIFE+)'. COM/2013/0478 final.

⁹ As described in Annex 3 the vast majority of the identified shortcomings have been addressed. Potential remaining gaps may concern the development of greater synergies and coherence with national, regional, and local programmes in Member States, and addressing liquidity problems for the NGOs that received operating grants due to issues related to the speed and timing of payments.

¹⁰ EC (2017) [Report on the Mid-term Evaluation of the Programme for Environment and Climate](#), SWD(2017) 355 final, Ecorys (2017) Support for an external and independent LIFE Mid Term Evaluation Report

¹¹ Basing on the analysis of the Key Performance Indicators used to assess the performance of projects.

1. Relevance, coherence and coverage

- The **LIFE programme and its general objectives are relevant** and are targeting the EU's existing environmental and climate policy priorities. Also, the six **Priority Areas defined in the LIFE Regulation¹² are responding to the needs**.
- Around 13% of the LIFE projects impact more than one thematic area¹³. These 'overlaps' are synergetic: taking into account the interdependence of natural resources, **multipurpose projects are more effective**. Their expected combined impact is rewarded with bonus points during the evaluation of proposals.
- The small budget, the breadth of policy objectives targeted and the new challenges imply that not all the thematic areas could be addressed adequately by the end of the programming period. **A critical mass to trigger a change on all environmental and climate issues¹⁴ would require a substantial increase of the budget**.
- **Reducing the thematic scope of the programme would have critical consequences** in addressing one or more of the programme's priorities (e.g. resource efficiency, the quality of water and air, greenhouse gas emissions reduction, marine conservation, etc.).
- Synergies have been found between the projects financed by LIFE grants and projects financed by grants from other EU programmes (e.g. demonstration projects under Horizon 2020), as the programmes, while having distinct goals and being different in size and nature have inter-related activities. In some areas (i.e. nature and biodiversity including marine ecosystems) the Programme plays a unique and essential role. Synergies and complementarities have been observed in particular with research and rural development programmes. Still, **the systematic development of synergy mechanisms could offer space for improvement**.

2. Effectiveness and catalytic effect

What the Programme is delivering:

- In general, the **various types of grants** (for standard projects, integrated projects, technical assistance for integrated projects, preparatory projects and NGO support) **appear to be effective delivery mechanisms**.
- The **integrated projects**, which coordinate the implementation of actions on a large territorial scale, have shown a **significant potential to enhance the catalytic effect** of LIFE¹⁵. LIFE financing of EUR 251.7 million to integrated projects under the present programme in the period 2014-2016 is expected to mobilise investments on environmental and climate action of about EUR

¹² The priorities areas are: Environment and Resource Efficiency, Nature and Biodiversity, Environmental Governance and Information, Climate Mitigation, Climate Adaptation, Climate Governance and Information.

¹³ The LIFE thematic priorities concern water, waste, resource efficiency, environment and health, climate mitigation and adaptation. For instance, some nature and biodiversity projects impacted positively on water quality, the marine environment and climate adaptation.

¹⁴ These views were echoed by a recent study. See European Parliament (November 2017) "[Implementation of the 7th Environment Action Programme – Mid-term review](#)", Brussels, European Union 2017

¹⁵ In their motion for resolution on the LIFE mid-term review - under adoption at the time of finalisation of this impact assessment - the European Parliament has recognised the important potential of the integrated projects.

5.7 billion in total, thus for each LIFE euro spent a further 22 euros from other sources is expected to be used in a coordinated way for environment and climate objectives¹⁶.

- The pilot financial instrument for energy efficiency, **Private Finance for Energy Efficiency instrument (PF4EE)** is aimed at building up the capacity of financial institutions to develop and test specific loan products targeting private sector's investments in energy efficiency measures. It has shown a good uptake and the possibility, after the pilot phase, to enable up-scaling of the piloted energy efficiency loans via relevant financial instruments mobilised by EU programmes, in particular under the future EU Invest Fund. The Committee of the Regions has called on the LIFE programme to achieve greater complementarity between PF4EE and other relevant financial instruments¹⁷.
- The pilot financial instrument for natural capital, **Natural Capital Financing Facility (NCFF)**, provides loans, equity and guarantees to nature and climate adaptation measures that can generate revenues or save costs. It is intended to establish a pipeline of replicable, bankable operations that will serve as a "proof of concept" to demonstrate to potential investors the attractiveness of operations directly addressing biodiversity and climate adaptation objectives. It has registered a slow uptake because of the need to adapt banking practices for assessing the returns of such investments combined with the need to improve the quality of the project applications. Several adjustments have been made as a follow-up of the LIFE mid-term evaluation to increase the visibility of the instrument and to operationalise the technical assistance facility. The project pipeline has improved as a result. One of the recommendations still to be addressed is to complement this financial support with targeted grants (blending).
- **Public procurement contracts are considered a valuable delivery mechanism** for providing targeted support for the preparation of environmental and climate legislation and policies and their implementation/enforcement. They have an important catalytic effect.

What more could be done:

- **More targeted steering of projects towards key priorities could enhance the focus and performance**, in particular for the Environment sub-programme, where thematic priorities are defined in the Regulation for a period of seven years. This may pose a challenge for new priorities emerging during the seven-year programming period (such as have been in the current programming period the Circular Economy and the related sectors¹⁸, for example plastics), or other priorities which are not adequately targeted by projects (selected following a calls for proposals on the basis of a bottom-up approach).

¹⁶ See Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE). [SWD\(2017\) 355 final](#) and annex 5.

¹⁷ ENVE-VI/016, Opinion, Mid-term evaluation of the LIFE programme, Committee of the Regions. 121st plenary session, 8-9 February 2017.

¹⁸ The Circular Economy Action Plan adopted in December 2015 - COM(2015)614 – identifies 5 cross-sector key areas (Production, Consumption, Waste Management, Secondary Raw Materials and Innovation&Investments&Monitoring) as well as 5 Key sectors (Plastics, Food Waste, Construction and Demolition, Bio-mass and biobased products, Critical Raw Materials) that need to be addressed to set in motion the transition to a circular economy in the EU.

- There is a low participation of beneficiaries from some Member States which risks weakening the catalytic effect of the programme (see Annex 8)¹⁹. The use of national allocations has proven not to be effective in targeting this problem: it resulted in a reduced participation from the countries which had participated more before without improving the participation of the others. It has been discontinued since 2018. The capacity-building grants introduced in 2014 seem to have mixed results but it is too early to reach any firm conclusion. **New ways of mitigating an uneven participation of Member States should be sought.**
- **The greater the replication of project results, the greater the catalytic effect of LIFE.** A 2016 report²⁰ on LIFE + projects observed that, although about three quarters of projects have good potential for replication, there is space for improvement in actual replication. The beneficiaries mention that the main barriers to replication are a lack of: financial means, decision makers' interest and sense of urgency, specific information and communication of transferable solutions, and investment-planning capacity.

3. *Efficiency and simplification*

- **The delegation of management from the Commission to the Executive Agency for Small and Medium-sized Enterprises (EASME) delivered cost savings and improved the efficiency of the programme**, because it introduced economies of scale for implementing the large number of homogenous and standardised operations needed to manage grants.
- **LIFE is relatively efficient compared to other EU programmes.** It costs, in relative terms, significantly less to manage LIFE than other similar programmes (e.g. COSME²¹ and Horizon 2020²²). The management practices characterised by the use of external support for project monitoring has resulted in a very high project success rate and a very low error rate²³ (0.25% in 2017 - the lowest across all the EU programmes). However, there might be a potential for further improving efficiency though adjustments of certain programme management aspects, such as the monitoring of projects.
- **A potential risk of lacking continuity and losing input from projects for policy-making and vice-versa due to the delegation of management from the Commission to EASME was mitigated** by transferring key human resources from the Commission to EASME and by defining a strong policy-integration strategy.

¹⁹ It should be noted that in terms reaching EU environmental and climate policy objectives, it is not necessarily decisive where the coordinating LIFE beneficiary is situated.

²⁰ Report on LIFE past, present and future contribution to employment and economic growth: LIFE effectiveness and replicability. NEEMO 2016. This analysis is based on LIFE+ projects and does not take into account the expected improvements in the current LIFE programme.

²¹ Europe's programme for small and medium-sized enterprises

²² See Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE). [SWD\(2017\) 355 final](#). The figures included in the interim evaluation of Horizon 2020 do not contradict this statement. The information provided is that the level of administrative expenditure "stays below the level observed in FP7 and below the stated target of 5% of the overall budget". For comparison, this figure in the LIFE Programme for the period 2014-2020, is 2.4% including all EASME's expenditures.

²³ The error rate identifies the amount that is considered at risk and is well below the materiality benchmark threshold of 2 %, which represent the ceiling above which missing or incorrect information in financial statements is considered to have an impact: it means that it was EUR 0.25 for every EUR 100 spent in 2017.

- Beneficiaries find administrative burden too high. Thus, there is a **need to simplify the application and reporting process**. Some simplification measures have already been introduced and others are being tested.

1.2.1. Consultation activities

As part of the LIFE mid-term evaluation a wide range of consultation activities were conducted. They included a 12-week public consultation with more than 250 responses, six specific surveys with more than 200 responses, and over 150 interviews (and, where relevant, site visits) of key stakeholder groups, including project beneficiaries, project coordinators, external monitoring experts and financial instruments' stakeholders.

The key messages from these consultation activities, described in more detail in Annex 2, are included in the lessons presented in the previous section and have been taken into account for the definition of the options.

Box 1: Summary of key messages from stakeholders consulted under the MTE of LIFE

- 95% of the respondents to the public consultation confirmed the need to have an EU programme for the environment and climate.
- Stakeholders emphasised that the transnational nature of LIFE plays an important role in the programme's effectiveness.
- Stakeholders highlighted that LIFE is one of the few EU funds that supports the restoration and maintenance of biodiversity and thus plays an important role in funding nature conservation.
- Stakeholders welcomed the phasing out of national allocations but emphasised the usefulness of national contact points. At the same time, stakeholders highlighted that there are large differences between Member States in terms of their capacity and performance.
- The large majority of respondents to the public consultation considered that all the different types of interventions covered by LIFE are relevant for an EU programme for the environment and climate.
- The majority of stakeholders considered LIFE to be both internally and externally coherent.
- Stakeholders agreed that LIFE acts as a catalyst. Nevertheless, the consultation activities showed that this potential should be further exploited.
- The LIFE Programme was considered to be relevant by stakeholders to address the needs and problems in the area of climate and environment. At the same time, the need for prioritisation and the potential inclusion of a more 'top-down' approach was highlighted.
- The majority of the respondents to the public consultation confirmed that the Programme has an important EU added value because it supports the coherent development, implementation and enforcement of EU environment and climate policy and legislation (98 % of respondents); it tackles environmental and climate problems more efficiently (98 % of respondents); it preserves EU environmental resources which, even if unevenly distributed across the EU, benefit the EU as a whole (94 % of respondents); it contributes to EU-wide sharing of 'best practices', knowledge transfer, demonstration, and awareness raising (99 % of respondents).
- Stakeholders had strong views on the need for further simplification, and the excessive administrative complexity of the programme was criticised.
- The high potential of integrated projects was emphasised by stakeholders.
- With regards to financial instruments, stakeholders highlighted the need for grant blending and further technical assistance. Some stakeholders also questioned the relevance and effectiveness of the NCFF.
- The importance of the involvement of NGOs in environmental and climate policy was highlighted by the stakeholders who replied to the consultation activities pointing the relevance of the LIFE operating grants.

Source: Ecorys (2017) Support for an external and independent LIFE Mid Term Evaluation Report

For this impact assessment, it was not considered necessary to organise a new, broad public consultation. Still, further opinions on the LIFE mid-term evaluation results and

the future of the LIFE Programme were received from environmental NGOs and some consultation activities to discuss the challenges and opportunities of the programme were undertaken with relevant stakeholders (see Annex 2).

These consultations confirmed the conclusions of the LIFE mid-term evaluation and provided new insights relating to the options for the new LIFE programme. A summary of these points is presented in the box below.

Box 2: Summary of key points from other stakeholders

- A wide range of environmental NGOs highlighted the importance of the LIFE Programme in funding environmental issues even if the current budget of the programme only represents 0.3% of the total EU MFF. At the same time, they called for more than a 3-fold increase of the future LIFE's budget, arguing that LIFE should receive at least 1% of the total EU post-2020 MFF.
- Given the need to increase nature conservation efforts and the importance of LIFE's role in supporting biodiversity, some NGOs called to dedicate 50% of the future LIFE programme to Nature and Biodiversity. Furthermore, several stakeholders called for the creation of a large dedicated Nature Fund, possibly within the LIFE umbrella.
- The need to increase co-financing rates was also highlighted, particularly to facilitate participation from the Member States which are participating less. Furthermore, NGOs emphasised the need to reduce administrative burden on project applicants in order to increase the effectiveness of the programme.

2. THE OBJECTIVES

2.1. Challenges for the LIFE programme for the next MFF

2.1.1. Key features of the current LIFE Programme

The LIFE programme is directly managed by the European Commission (DG Environment and DG Climate Action), although the implementation of some components has been delegated to EASME. The European Investment Bank (EIB) manages the two financial instruments associated with the LIFE programme 2014-2020.

The budget for the current Environment sub-programme is EUR 2.59 billion and it targets the following Priority Areas: environment and resource efficiency; nature and biodiversity, including terrestrial and marine ecosystems; environment governance and information. The budget for the current Climate sub-programme is EUR 864 million and it targets the following Priority Areas: climate mitigation; climate adaptation and climate governance and information.

The setting of **strategic priorities** differs between the sub-programmes. The Environment sub-programme is quite prescriptive in the Regulation and the Multiannual Work Programmes (MAWP), whereas the Climate sub-programme enjoys a greater flexibility, allowing, in the yearly call for proposals, the identification of key priorities in line with the latest policy developments, e.g. the implementation of the 2015 Paris Agreement on Climate Change.

LIFE currently has three²⁴ main types of **delivery mechanisms** (Article 17). These are: **grants (action and operating), financial instruments and public procurement contracts**. An overview of the intervention logic and key features of the delivery

²⁴ The Regulation also allows other interventions to be used in addition to these three, for the purpose of achieving the general objectives.

mechanisms is set out in Annex 5. As mentioned in Section 1.2, the final evaluation of the LIFE+ Programme (2007-2013) identified several shortcomings, the vast majority of which have been addressed in the design of the current LIFE Programme (2014-2020). This includes changes to the action grants delivery mechanism.

The catalytic effect of the standard '*traditional*' LIFE projects is to demonstrate suitable technologies or methodologies for implementation of EU environment and climate policy, which can subsequently be deployed at large scale, funded by other sources, including the main EU funds. The LIFE *integrated projects* and *technical assistance projects* are dedicated to facilitating the development, implementation and coordination of large-scale actions including by bringing together stakeholders and by using investment plans that mobilise funding from other sources. Likewise, the objective of the *financial instruments* currently being financed under LIFE is to test the possibility to improve the leveraging of funds for environmental and climate objectives. Similarly, support to the definition of policy and legislative targets, to the exchange of good practices, and to the EU role of global leader in international fora, financed through the LIFE procurement activities, further contributes to the catalytic effect of the programme.

Replication of results, including through promoting synergies with other EU programmes, increases the catalytic effect of LIFE and enhances the added value of EU spending overall. For this reason, LIFE projects are required to establish a replication plan (*After LIFE plan*). Furthermore, projects appearing to have a large replication potential are closely monitored and beneficiaries are advised about other funding instruments (e.g. the Horizon 2020 SME Instrument or regional development schemes) or private investors which might provide additional funding for up-scaling. Moreover, LIFE also magnifies the impacts of other EU programmes by taking forward their results, particularly through awarding bonus points for project applications that take up results from Horizon 2020 or previous research programmes.

It is challenging to determine the full impact of the LIFE programme because of its catalytic effect. The full effect of a LIFE project often materialises 5-7 years after the project has been completed, and may manifest itself in societal transformations that are hard to measure.

2.1.2. Key challenges and opportunities facing LIFE

The key challenges and problems to be addressed by the future LIFE programme remain largely unchanged compared to the current programme, as illustrated in the needs analysis of Annex 4 and summarised below:

- The urgent need of transforming society to a clean, circular, energy-efficient, low-carbon and climate-resilient economy, with a high level of environmental protection and of halting and reversing biodiversity loss.
- Insufficient availability and use of efficient environmental, climate-friendly and low-carbon methods across different sectors.
- Insufficient knowledge, know-how and information.
- Insufficient levels of compliance with EU environmental and climate policy and legislation, and weak environmental and climate governance at all levels.

However, as highlighted by the World Economic Forum in its 2018 Report on Global Risks²⁵ the urgency of facing up to systemic challenges has intensified, in particular in the field of environmental degradation and climate change.

In order to adequately address these systemic problems and failures, both environmental and climate mainstreaming as well as targeted funding are needed. Furthermore, as mentioned in Annex 4, allocations to integrated projects should be scaled up by at least four-fold to achieve increased replication and large-scale deployment, particularly as regards mainstreaming of nature and biodiversity objectives into other financing programmes/instruments.

These challenges are developing rapidly over time, which accentuates the need for having a LIFE programme which is sufficiently flexible to target the evolving needs throughout the programming period as well as having a sufficient critical mass of finance to catalyse real societal transformation.

In designing the new LIFE Programme, there is a need to address the specific challenges mentioned in Section 1.2 above, as well as to address the cross-cutting objectives flexibility, focus on performance, coherence and synergies, simplification, which are mentioned in the Commission Communication on "A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020"²⁶..

2.1.3. Potential gaps and synergies with other EU programmes

An analysis of potential gaps and synergies with other EU programmes is presented in Annex 6. In general, it confirms the conclusions from the LIFE mid-term evaluation that overlaps in financing stages related to implementation and development of environment and climate policy are synergetic. Nevertheless, if potential synergies could be exploited more systematically, this would enhance the performance of all the programmes. Moreover, considering the similar objective and stage in the shift to a greener Europe (see Figure 1) targeted by the LIFE Climate sub-programme and the IEE part of Horizon 2020, integrating the IEE programme into the future LIFE Programme could increase the coherence of the EU budget²⁷.

At the same time the analysis shows some gaps related to the financing of specific environmental, climate and energy objectives, in particular regarding:

- Conservation of biodiversity and sustainable use of ecosystem services in the EU's Outermost Regions (ORs) and Overseas Countries and Territories (OCTs), which is presently supported through the BEST initiative²⁸.
- Nature and biodiversity, where several evaluations and assessments (notably the mid-term review of the EU Biodiversity Strategy to 2020 and the Nature Fitness

²⁵ <https://www.weforum.org/reports/the-global-risks-report-2018>

²⁶ See COM(2018) 98 final.

²⁷ For the distinction see Figure 1 "The coverage of LIFE and other major EC programmes and funds".

²⁸ The financing comes from past pilot projects and a 2018 preparatory action. The preparatory action was required by the Budgetary Authority and can be renewed for a maximum of three consecutive years. According to the Financial Regulation, a preparatory action is designed to prepare a proposal for the adoption of future actions. For more information see:

http://ec.europa.eu/environment/nature/biodiversity/best/index_en.htm.

Check), and a recent study²⁹ highlighted the shortcomings of the current integration approach to nature and biodiversity financing.

2.2. Expected impacts of an unchanged LIFE programme (baseline)

The continuation of the LIFE programme in its current format, and scale, in the next MFF would likely see a similar outcome as that described in the mid-term evaluation and in Annex 5. However, this would result in sub-optimal effectiveness in reaching the programme's overall objectives, particularly when considering the emerging new challenges including for circular economy and the plastics strategy, as well as the needs for nature protection, including in the marine environment.

Thus, positive environmental impacts, highlighted by previous evaluations, would continue to be delivered in each of the programme's thematic areas: air quality and emissions; biodiversity; climate change adaptation, climate change mitigation; environmental and health; nature; resource efficiency; waste and water.

While the programme would continue to act as a catalyst to promote changes in the development and implementation of environmental and climate policies, it is not expected to reach its full potential as a catalyst without seizing the opportunity to address the specific challenges mentioned in section 1.2 above, as well as the cross-cutting MMF objectives. In particular, some gaps would remain in the funding of certain environmental and climate challenges. Furthermore, the continuation of the programme in its current format would not ensure extensive coherence between the LIFE programme and other EU funds.

Without an increase in funding for certain environmental and climate challenges, the scale of action taken may be insufficient to address the associated problems sufficiently (see Annex 4). The funding of nature projects is one such example³⁰. Likewise, there may be gaps in financial support for some of the new and increasingly urgent environmental and climate challenges.

Prioritisation between the various strands of LIFE is not possible because there is no hierarchy of objectives in environment and climate policy. Furthermore, multiple interlinked priorities are addressed by more than one strand of the programme, which makes prioritising one strand above another impossible. Thus, if the scope were broadened without an increase in budget, the funding available for all existing activities would have to be consistently decreased and the needs described in Annex 4 would not be adequately addressed.

The programme will continue to support existing, and promote new, jobs in environmental and climate fields as well as supporting the development of skills, knowledge, and innovation³¹.

2.3. Objectives of the LIFE programme post 2020

²⁹ Kettunen, M. et al., Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Environmental Policy (IEEP), Brussels/ London, January 2017.

³⁰ See Annex 4 – Needs analysis for a more detailed estimate.

³¹ For the contribution of LIFE to employment see the Staff Working Document for the Mid term Evaluation, pp.39-40 as well as 'LIFE past, present and future contribution to employment and economic growth. LIFE effectiveness and replicability' NEEMO 2016.

General and specific objectives for the future LIFE programme

On the basis of the key challenges to be addressed by the LIFE Programme, the **general objective** for the future LIFE Programme is:

Box 3: General objective of the LIFE Programme 2021-2027

To contribute to the shift towards a clean, circular, energy-efficient, low-carbon and climate-resilient economy, including through the transition to clean energy, to the protection and improvement of the quality of the environment and to halting and reversing biodiversity loss, thereby contributing to sustainable development.

The general objective of the next LIFE Programme has been simplified but not changed in substance compared to the current LIFE Programme, which has four general objectives. Furthermore, while a contribution towards a transition to clean energy is already covered by the current objectives, this transition is mentioned explicitly in the future objective in order to reflect the appropriateness of considering the activities discussed under Option 1 in Section 3.4.1.

In response to the general objective, the implementation of the Programme will be optimised in terms of coverage and delivery mechanisms (see Sections 3 and 4), by pursuing, in line with the cross-cutting objectives of the MFF, greater efficiency (simplification and flexibility), an improved coherence and better synergy with other programmes as well as increased effectiveness.

Although the new programme will not explicitly mention 'priority areas,' its actions will continue to address all topics covered by the current priority areas, as they are relevant according to the results of the mid-term evaluation. Moreover, to take into account the possible integration into LIFE of the transition to clean energy, an additional focus has been added on energy efficiency and renewable energy. As a result, the following specific objectives have been set as follows:

Box 4: Specific objectives of the LIFE Programme 2021-2027

- 1. To develop, demonstrate and promote innovative techniques and approaches for reaching the objectives of the Union legislation and policy on environment and climate action, including the transition to clean energy, and to contribute to the application of best practice in relation to nature and biodiversity.**
- 2. To support the development, implementation, monitoring and enforcement of the relevant Union legislation and policy, including by improving governance through enhancing capacities of public and private actors and the involvement of civil society.**
- 3. To catalyse the large-scale deployment of successful technical and policy-related solutions for implementing the relevant Union legislation and policy by replicating results, integrating related objectives into other policies and into public and private sector practices, mobilising investment and improving access to finance.**

The specific objectives are consistent with those established by the present LIFE Regulation, but they have been consolidated, giving more focus to replication and the triggering of large-scale deployment. This responds to the findings of the MTE. The present LIFE Regulation has several specific objectives for each of its six priority areas, which are partly repetitive.

Through these specific objectives, LIFE should continue to contribute to a societal transformation through its catalytic effect targeting the implementation of EU climate and environment policy goals, including compliance with the relevant EU acquis. The

main source of EU finance for environmental, climate and energy action must continue to come from other EU programmes (mainstreaming).

Seizing opportunities for optimising the performance of the LIFE programme

To address the cross-cutting objectives of the future MFF and take advantage of the lessons learned, the new LIFE programme aims at achieving four operational goals, which are presented below together with the issues/opportunities to be addressed and the relevant parts of the programme – coverage, delivery mechanism, programme management – in which they will be addressed.

Box 5: Operational challenges and opportunities in line with the MFF cross-cutting objectives

Operational goals	Issues addressed	Relevant part of LIFE
1. To avoid gaps and ensure coherence with other EU programmes	• Lack of finance for action on nature and biodiversity in the EU	Programme coverage: geographical and technical scope; delivery mechanism
	• Lack of finance for biodiversity in ORs and OCTs.	
	• Opportunity to improve the coherence with IEE	
2. To improve the strategic focus of LIFE	Limited flexibility to provide funds for new and key environmental and climate priorities and launch strategically focused calls.	Delivery mechanism: strategic flexibility
3. To improve LIFE's performance and catalytic role	Unbalanced accessibility for beneficiaries in different Member States	Delivery mechanism: Improve awareness and know-how in Member States
	Build on LIFE project successes and improve synergies with other EU programmes	Delivery mechanism: increase effectiveness /sustainability of projects
	Under-utilised potential for Strategic Integrated projects	Delivery mechanism: scope of integrated projects, and specific project type for nature mainstreaming.
	Opportunity to improve the leverage effect	Delivery mechanism: improve the implementation of the financial instruments
4: To increase the efficiency and simplify the management of LIFE	Potential opportunities to improve specific elements of the programme management	Programme management: management costs
	Potential opportunities to improve specific elements of the monitoring and evaluation processes	Programme management: monitoring and evaluation
	Potential opportunities to simplify the application procedures for certain beneficiaries	Programme management: application procedures

3. PROGRAMME STRUCTURE AND PRIORITIES

3.1. Programme priorities

Fundamentally, the priorities of the LIFE programme 2021-2027 remain unchanged from the present programme, namely to support the development and implementation of the EU's environment and climate policy, through catalytic actions that improve compliance on the ground at all levels.

The operational challenges and the options to change the programme in order to address them are described in the box below.

Box 6: Operational challenges to the LIFE programme and corresponding options

<i>Operational challenge</i>	<i>Options to address the challenges</i>
Potential to cover gaps and to increase the coherence with other EU Funds.	• <i>Business as Usual (BAU)</i> • Extend the scope of the LIFE programme to include capacity building projects related to renewable and sustainable energy (the Clean Energy Transition Programme as far as not retained in Horizon Europe, excluding market uptake of first of a kind innovations) • Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity • Extend the scope of the LIFE programme to include large scale deployment activities for nature • Extend full eligibility of LIFE to the EU's Overseas Countries and Territories across all sub-programmes • Extend eligibility of LIFE to the EU's Overseas Countries and Territories specifically for nature and biodiversity actions within the Environment sub-programme
Lack of flexibility to focus strategically on the latest key priorities, in particular under the Environment sub-programme and lack of flexibility to use the best mix of delivery mechanisms due to different spending ceilings in the LIFE Regulation.	• BAU • Expand the scope and scale of integrated projects • Reduce the priority areas • Removal of thematic priorities and activities from Annex III of the Regulation for the Environment sub-programme • Remove prohibition of further pre-allocation in the MAWP or annual calls and reduce number of budget ceilings in the Regulation • Financial Instruments delivered through a central fund
Potential for further systematically enhancing the performance and catalytic effect of the different delivery mechanisms, including improving synergies with other EU programmes, further facilitating replication, improving accessibility to	• BAU • Systematically define and develop synergies with other instruments • Targeted support (e.g. technical assistance) to upscale and replicate successful results • Replace capacity building projects with a

LIFE funds for beneficiaries across the different Member States;	reinforced network of LIFE contact points • Increase the co-financing rate
Potential for enhancing further the efficiency of the management of LIFE; including simplification and reduction of administrative burden on beneficiaries	• BAU • Further delegation of management responsibilities to EASME • Retraction of management responsibilities from EASME • Allocation of grants to selected organisation without the need for a call for proposals • Reducing budget lines • Package of measures to simplify the life of applicants/beneficiaries (e.g. simplified costs options, output based payments, two-step approach, cascading grants, etc.)

As can be seen in their description in Annex 8, these options are not alternatives, but rather measures that are assessed individually and can function in synergy. In Annex 8, the effectiveness, efficiency and coherence of each one of these options has been analysed and some of them have been discarded. Many of the options can be implemented without a net increase to the budget; where additional budget would be required this is described in annex 8 and below.

Given the synergistic nature of the EU's environment and climate policies that underlie the LIFE programme and the fact that it is not appropriate to establish a hierarchy between the different environmental and climate policy areas, in case the budget is lowered, there will be a proportional reduction of the budget for the sub-programmes and thus a general reduction in funding for all activities covered by the LIFE programme.

3.2. Critical mass

As described above, the programme's main impact arises from its catalytic actions to promote the substantial societal transformation required to achieve the full range of EU's environmental, climate and clean energy objectives.

Annex 4 describes the overall level of change required for each thematic area covered by the Programme, based on the scale of the problems to be addressed. Given that the role of LIFE is to catalyse change, in order to reach the overall goals, a critical mass is required not only in LIFE but also in other financing sources which are 'mobilised' by LIFE actions. Any reduction from the present levels of financing would spread the funding too thinly across different thematic areas, for the full catalytic effects to be realised.

Therefore, any expansion of thematic coverage or any new emerging priority will need to be accompanied by an adequate funding increase³² or by the definition of negative or limited priorities. The concept of negative priorities is difficult to apply in the environmental and climate spheres there is a demonstrated interdependence among the different priorities (e.g. air, water, nature and biodiversity, resource efficiency, climate mitigation, etc..).

³² The source of funding may depend on the nature of expansion. For those areas where the scope of the LIFE programme is expanding to address gaps or improve synergies with other programmes, some funding may be made available through budget transfers from the relevant programmes. However, in cases where the expansion is to address new priorities, or scale up activities, this would require a new source of funding.

The specific unmet needs in the area of nature and biodiversity indicate that the critical mass needed, including to promote coordinated use of complementary funding sources, is significantly more than presently allocated.

Further elements on an appropriate level of support for the different priority areas, defining also the need for the Strategic Integrated Projects, are provided in Annex 4.

3.3. The EU added value of LIFE

The EU added value of the LIFE Programme is recognised by almost all stakeholders and the general public. Its approach is unique as it is specialised in catalytic interventions primarily targeting issues concerning environmental protection and climate action. According to the MTE, LIFE is fulfilling its role as a catalyst by sharing best practices and supporting actions to accelerate change.

Highlighting its catalytic role, LIFE responds to cross-border environmental challenges, which a Member State is unlikely to address alone or which would risk leading to a duplication of efforts by Member States.

The programme's value added stems from its support to EU environmental and climate policy development, as well as its support to activities enhancing the ability to meet EU environmental and climate objectives across the EU. More homogenous implementation is achieved because LIFE represents an EU-level platform for sharing best practice and for the demonstration of more efficient solutions as well as by giving priority to projects that can be replicated at a wider scale in the EU³³.

LIFE allows a better sharing of responsibility and promotes solidarity for the management/conservation of EU environmental assets, which are usually public goods, which are not evenly distributed across the EU. Their associated costs and benefits are not normally reflected in the market and, as a consequence, there is the need to ensure a sharing of associated burden.

LIFE focusses on relatively small-scale projects providing one-off investment needed in a specific area, eliminating initial barriers and testing new approaches which in turn catalyse broader actions and mainstreaming of environmental and climate policy into the major EU spending instruments.

Through strategic integrated projects, and the new strategic nature projects, the Programme will create synergies across EU and national funds which ease implementation of the relevant EU legislation.

Furthermore, LIFE finances those actions and measures that would otherwise be inadequately financed by Member States alone. Certain pieces of EU environmental legislation, such as the Habitats Directive and the National Emission Ceilings (NEC) directive, specifically acknowledge the need for EU finance to meet their objectives³⁴.

³³ 2016 Annual Management and Performance Report for the EU Budget, COM(2017) 351 final

³⁴ See article 8 of Council Directive 92/43/EEC and article 7 of Directive 2016/2284/EU..

3.4. Possible enhancements to the scope and structure of the future LIFE programme

The internal structure and scope of the present LIFE instrument is generally considered sufficiently fit-for-purpose albeit there is room for broadening its scope and size, and reflecting the possible expanded scope in the area of transition to clean energy (see section 3.4.1) and nature (see section 3.4.2) through dedicated sub-programmes. Indeed, as described in Annex 6, there are potential gaps in meeting the needs for environment and climate finance in the various EU instruments as well as opportunities to enhance synergies between them.

To address these challenges and better meet the related operational goal of avoiding gaps and ensuring coherence with other EU programmes, several options relating to potential changes in the scope and structure of the LIFE programme were identified and then screened in terms of effectiveness, efficiency and coherence. Annex 8, section 1 presents the relevant options and the results of the screening. The most promising options are summarised in Box7 below. They are further analysed in sections 3 and 4.

Box 7: Options retained after initial screening

A. Programme coverage/geographical and technical scope	
Option 1	Extend the scope of the LIFE programme to include capacity building projects related to renewable and sustainable energy
Option 2	Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity
Option 3	Extend eligibility of LIFE to the EU's Overseas Countries and Territories specifically for nature and biodiversity actions within the Environment sub-programme
B. Programme's Delivery mechanisms	
Option 4	Expand the scope and scale of strategic integrated projects (SIPs)
Option 5	Targeted support (e.g. technical assistance) to upscale and replicate successful results
Option 6	Replace capacity building projects with a reinforced network of LIFE contact points
Option 7	Increase the co-financing rate
Option 8	Systematically define and develop synergies with other instruments
Option 9	Financial Instruments delivered through a central fund
Option 10	Improving the strategic focus by simplifying the Regulation and the MAWP
C. Programme's Management	
Option 11	Package of measures to reduce the administrative burden for the applicants/beneficiaries
Option 12	Streamlined procedures for the implementation of the EU budget

In accordance with the methodology described in annex 7, the impacts of the options are considered taking into account environmental, social and economic factors, however only those impacts which differ from the status quo are mentioned. In practice, and in view of the fact that the options were conceived with the purpose of improving the effectiveness of the LIFE programme to meet its environment and climate policy goals, most of the observed net impacts concern environmental factors.

3.4.1 Extend the scope of the LIFE programme to include capacity-building projects related to clean energy by adding a sub-programme on Clean Energy Transition

This option is introduced to respond to the operational challenge to increase coherence between EU instruments and further develop synergies between the funded actions.

This option would involve extending the scope of projects supported through LIFE to include the capacity-building activities of the Intelligent Energy Europe Programmes (IEE)³⁵, along with the necessary funding. Focusing on energy efficiency and small-scale renewables that contribute to climate mitigation, the relevant activities would be funded under a new Clean Energy Transition sub-programme.

Their objective is to enable socio-economic transformation for transition to clean energy in Europe, especially with those regions, sectors and actors who need to catch up (e.g. cities, coal and carbon-intensive regions in transition, islands). The transition to clean energy is an essential contribution to the mitigation of climate change with co-benefits for the environment and in line with the LIFE framework. These activities address the different elements of the market environment by developing and spreading best practice in policy implementation, mobilising investments, improving skills, creating favourable market conditions for technology deployment and providing support to socio-economic transformation and addressing vulnerabilities.

Lessons learnt:

The evaluation of IEE and the integration in Horizon 2020 under the Societal Challenge 3, did not reveal major weaknesses and confirmed the effectiveness of the funded actions. The integration of the Clean Energy Transition sub-programme in LIFE is expected to lead to improvements and address the shortcomings of the current approach as presented in Annex 9, section 9.3. The main shortcoming, which will be addressed, is the different focus of the R&I framework programme which does not specifically aim at supporting capacity building activities.

The integration of IEE III into Horizon 2020, with different objectives, clients and funding logic, has proved to be difficult and the current proposal is to continue these activities under a better suited framework. The inclusion of IEE-like actions under the R&I programme followed the logic of installing a comprehensive programme covering all steps from basic research to market uptake and deployment. However, in the report on the first results of Horizon 2020 on energy efficiency³⁶ the evaluators point out that mainly large consortia are funded, too little support is given for the applicants and that the impact on national policies could be improved. Also, higher barriers to participation in Horizon 2020 than in IEE actions are mentioned (see Annex 9 9.2.2. *Lessons learnt from the current MFF* for the details).

Conclusions for the next MFF:

³⁵ Activities addressing the market uptake of energy innovation, building on the Intelligent Energy Europe (IEE) programme 2007-2013, are presently part of Horizon 2020 - Energy Challenge (Societal Challenge 3). The Commission committed in its Declaration on Horizon 2020, to dedicate at least 15% of the Energy Challenge budget to Intelligent Energy Europe III Programme. See the Declarations of the Commission (2013/C 373/02) annexed to Horizon 2020 regulation (EU) N°1291/2013

³⁶ Ricardo AEA, CE Delft (2017): Report on the first results of Horizon 2020 on energy efficiency and system integration – Final report

1. The Horizon Europe programme does not specifically cover 'capacity building' activities in its scope

The R&I programme objective is to **fund excellent research and innovation, supporting pioneers** who will show the way. But the EU has also the responsibility to help laggards and followers 'catching up' by **building the capacity** in order to quickly narrow the gap. There is also a need to address specific **barriers hampering the wide uptake** of the existing clean energy solutions. For the massive **market roll-out**, 'expected impact' and 'quality of implementation' criteria should outweigh the criterion of 'scientific excellence', which has less of relevance for capacity building.

Based on this conclusion **the unsuitability of the R&I framework for capacity building is confirmed in the R&I FP proposal** for the next MFF, where the clear demarcation is made in the Horizon Europe Impact Assessment between a 'first-of-the-kind market uptake of innovation' and 'capacity building for a large-scale market uptake'.

As stated in the Horizon Europe impact assessment improving market uptake of innovative solutions is a broad concept encompassing various activities, which help R&I-driven innovation to succeed on the market and create new value for market players and consumers/citizens alike. However, market uptake goes beyond research and innovation. Therefore, activities under the Framework Programme alone cannot suffice to incentivise broad market uptake and dissemination of innovative solutions. Other EU programmes need to also play a key role (see Horizon Europe Impact Assessment Annex 7 on Synergies).

2. Bringing the clean energy capacity building and deployment activities under the LIFE programme will increase the coherence of the European funding landscape

As research and innovation activities would rest with Horizon Europe, the **clear distinction** between excellent **research and innovation**, including market uptake of first of a kind innovations, on the one side and supporting the **catching-up and rolling-out** processes by capacity building, removing barriers and shaping market on the other side leads to improving the **coherence of EU funding landscape**. This coherence would allow the Clean Energy Transition sub-programme to **tailor its interventions** more closely to the often limited capacity of catch-up actors and territories and **lower the barriers for participation** in the programme (see Annex 9 for a comprehensive review of barriers to energy efficiency uptake).

3. LIFE provides the best suitable framework and the potential for synergies while the differences in the implementation know-how will be mutually enriching when integrating the Clean Energy Transition sub-programme.

a. Programme coherence and avoidance of overlaps:

LIFE provides a suitable regulatory environment, taking into account its intervention logic, legal base and delivery mechanisms aiming to implement EU environment and climate policy. The LIFE programme offers the possibility to host the clean energy capacity building that contributes to climate mitigation in a clearly structured but at the same time flexible framework. Installing the Clean Energy Transition sub-programme in LIFE would ensure that potential theoretical overlaps between LIFE and the present IEE III are avoided (see annex 6 for a discussion) and that gaps between the two programmes are filled.

b. Synergies and multiplier effects:

Joining forces would enable **synergy effects**, which can be triggered by the projects implemented under the common framework (tackling energy efficiency, greenhouse gas emissions and local air pollutants at the same time). Such a synergetic action between the projects and the underlying policies is already observed³⁷, like in the case of the Covenant of Mayors initiative, and it will be further strengthened³⁸. There is also a potential for exploiting synergies between actions supporting capacity building for clean energy transition on the one hand and strategic LIFE integrated projects focusing on implementing climate mitigation plans at a larger scale. These synergies could be more easily exploited if these actions were funded under the same programme (see also Appendix 3 to Annex 9, summarising some examples of the existing synergies in the projects and initiatives for environment, climate and clean energy).

c. Further development of the implementation know-how:

The clean energy transition enabling actions funded under IEE and its continuation in Horizon 2020 have developed their own **implementation intelligence, know-how and close interactions with policy-making**, which are exemplary across all the centrally-managed EU funding activities. This precious experience needs to be preserved, while the implementation modalities and instruments available in LIFE are definitely worth exploring. This justifies the integration of Clean Energy Transition as a separate sub-programme, which would allow differences in implementation approaches and facilitate clear communication to the stakeholders.

Implementation knowledge cross-fertilization would be facilitated by the fact that both LIFE and IEE activities in Horizon 2020 are implemented by EASME and the frequent interactions and common initiatives (e.g. common projects feedback workshops) are already in place between the units implementing both programmes.

d. Simplification potential:

The evaluation of IEE type of actions under Horizon 2020³⁹ suggests that there is a clear potential for simplifying the presently complex application procedures. The review showed that the Horizon 2020 framework favours bigger projects and large consortia, putting forward resource-intensive research and innovation efforts. This crowds out smaller participants and projects. In consequence there is not only a need for simplified administration on the side of the Commission, but also the need to guarantee simple and open access to the programmes for the potential beneficiaries, especially catching-up actors with limited capacities (see Annex 9.3.3. *Simplification efforts for details*).

Assessment of the integration option:

³⁷ Please see the examples provided in Annex 9 Appendix 3: Examples of synergies in the projects and initiatives for environment, climate and clean energy

³⁸ ICF International, LDK, Hincio (2015): Evaluation of Intelligent Energy Europe Projects Supporting Sustainable Energy Communities. Final report. ICF review the relation of IEE support for communities and the Covenant of Mayors. Apart from quantifying the multiplier effects generated by the programmes (e.g. set-up and signing of SEAPs) they identify investments triggered by a sample of 30 projects (€8.3bn, p. 91), RES production of 935.000 toe/yr.; primary energy savings of 1,938,000 toe/yr. and 7,700,000 tCO₂eq. reduced (p. 92). The consortium estimates based on a survey that by the end of the projects some 5,470 jobs and 17,373 jobs by 2020 resulted through the projects. 78% of survey respondents confirmed that the respective project would not have been implemented in the absence of IEE funding (figure 43, p. 96).

³⁹ Ricardo AEA, CE Delft (2017)

The Horizon 2020 sustainable energy capacity building projects are currently managed by EASME and currently sit within the Horizon 2020 budget programme with an allocation ~€135 million per year⁴⁰. A planned expansion of the allocated annual budget for these projects to ~€171 million could include the policy support and capacity building for renewables. Particular focus is given to capacity building related to the implementation of the climate and energy package in the Member States, as a key enabler for acceleration of the technological, financial and social transformation.

This option would extend the current thematic coverage of LIFE to explicitly include capacity building for policy implementation and investment mobilisation for the uptake of existing technologies related to: energy efficiency and small-scale, distributed renewable energy⁴¹ sources for climate mitigation. The option will not include projects on biofuels.

The option would not require any change to the current management modes, delivery mechanism and type of projects financed under LIFE.

Table 3.1: Assessment of option 1

<i>Relevant conclusions from screening results</i>	
<i>Effectiveness</i>	<i>+ Greater concentration of financial resources would improve capacity to have a greater catalytic effect.</i>
<i>Coherence</i>	<i>+ Increased coherence in the overall MFF structure since the actions to be financed under this extension correspond better to those already financed by LIFE as regards their size, nature and objectives, as compared to the other projects financed under the framework programme for research and innovation.</i> <i>+ Increased synergies⁴² in energy, environmental and climate policies implementation on the ground and improved coherence of the EU funding landscape.</i>
Impact assessment (qualitative assessment)	
Economic impacts	+ Potential accrued economic impact due to the integration into LIFE, although the activities were already in place under a different programme.
Social impacts	+ Increased number of beneficiary groups ⁴³
Environmental impacts	+ Potential accrued environmental impact due to the integration into LIFE, although the related activities were already in place under a different programme.
Conclusions	
Greater positive impacts, in particular on ensuring coherence and synergies. Potential negative implementation-coherence impact and increased administrative burdens.	

⁴⁰ The figure corresponds to annual funding allocated to capacity building activities in Horizon 2020- Societal Challenge 3 based on the current programming period 2018/2019.

⁴¹ Not to be covered under this programme large-scale investment in renewable energy infrastructure (e.g. wind farms, hydro power plants).

⁴² With the implementation of clean energy policies, environmental vulnerabilities such as local air pollutants are often addressed as well. The same is true for economic synergies, such as the creation of jobs. Whereas these economic and environmental indicators have not been systematically addressed by the present programmes indicators, several projects have identified these co-benefits.

⁴³ To target a wider range of beneficiaries, which are at present underrepresented under Horizon 2020 where the support is given mainly to large consortia. . Especially higher barriers and a complex application process are reported in surveys. These impediments can be expected to be significantly higher with disfavoured regions and actors. Ricardo AEA, CE Delft (2017): Report on the first results of Horizon 2020 on energy efficiency and system integration – Final report.

3.4.2. *Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity*

This option, as the one to finance large scale deployment activities for nature and biodiversity which was discarded during the preliminary screening (see Annex 8)⁴⁴, intends to address, at least partially, the unmet needs in the area of nature and biodiversity.

Under this option, LIFE would include a specific sub-programme for 'nature and biodiversity' covering both the terrestrial and marine environment. This 'nature and biodiversity' sub-programme would consist of a reinforced centrally managed component funding actions similar to those presently implementing the Nature and Biodiversity priority area of LIFE through 'traditional' standard action projects, as well as funding a new type of dedicated strategic nature projects.

The strategic nature projects (SNPs) would reinforce the implementation of Union nature and biodiversity objectives through mainstreaming these objectives into other policies and funding instruments. These projects will support the implementation of programmes of action for each Member State, including the coordination of finance available for large-scale nature and biodiversity actions, with a particular focus on the Natura 2000 network and the implementation of the prioritised action frameworks established pursuant to the Habitats Directive⁴⁵.

This option does not change the objectives of LIFE, nor does it significantly alter the structure of delivery mechanisms of the Programme. This option would be complemented by actions, particularly under the European Agricultural Fund for Rural Development (which presently provides 75% of EU funding for nature), the European Regional Development Fund/Cohesion Fund and the European Maritime and Fishery Fund, that target direct investments in nature conservation and biodiversity or that contribute indirectly to protecting nature and biodiversity. The effectiveness of this approach is therefore dependent on adequate allocation of funding under these other instruments.

Table 3.2: Assessment of option 2

Relevant conclusions from screening results	
Effectiveness	++ <i>This option would be an effective, targeted solution having the conservation of nature as overarching objective.</i> + <i>It would facilitate the smooth transfer of best practices developed in the classical LIFE actions to large scale implementation actions implemented in the Member States.</i> + <i>Uptake of the funds for nature actions, which has sometimes been sub-optimal under the CAP and Structural Funds, would be enhanced due to a greater role for the environment authorities who would be better placed to ensure uptake.</i>
Impact assessment (qualitative assessment)	
Economic impacts	- <i>Planning and coordination effort needed from the environment authorities.</i>
Social impacts	++ <i>Positive impact on governance: the establishment of dedicated managing</i>

⁴⁴ An option to create a large shared managed fund for nature under the LIFE programme was considered during the screening phase of this Impact Assessment, but found to imply a too significant change to the structure and vocation of the LIFE programme. See Annex 8, section 1.

⁴⁵ Habitats Directive: Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

	authorities would ensure the close articulation of actions with nature policy activities in the MSs; it would ensure a smooth transfer of best practices developed in the classical LIFE actions to large-scale implementation actions implemented in the Member States.
Environmental impacts	++ Increase in nature and biodiversity large-scale deployment projects, direct positive impacts
Other considerations	
Relevance	+ It will address the gap in financing for nature and biodiversity in EU, and would support implementation of EU nature legislation, including in the marine environment, in line with findings of the Nature fitness check.
EU added value	+ High EU added value since natural capital is a quintessential EU public good.
Mainstreaming and coherence	+ Experience with integration of nature and biodiversity in the CAP has so far fallen short of expectations ⁴⁶ . The 2017 "Communication on the future of farming and food" recognises the link between agriculture and environment and the need to integrate environmental objectives as a means to ensure coherence between policies and to enhance the delivery of natural capital public goods in rural areas. The strategic nature projects would specifically improve this.
Conclusions	
Effective targeting of support for financing for nature and biodiversity, with positive social and environmental impacts. Potential small negative economic impacts as a result of increased administrative burden. Coherence with mainstreaming approach.	

3.4.3. Extend eligibility of LIFE to the EU's Overseas Countries and Territories (OCTs) specifically for nature and biodiversity actions within the Environment sub-programme

This option would involve a change in the Article 6 provision of the LIFE Regulation, allowing the eligibility of projects on nature and biodiversity in OCTs countries under the same conditions as the ones in the EU.

The BEST scheme⁴⁷ has addressed a gap related to the financing for biodiversity in the Outermost Regions (ORs) and in the OCTs. It has allowed substantial synergies and its financing should be continued.

In the absence of a specific legal basis, the financing of this scheme is decided each year by the Budgetary Authority: in 2018 a preparatory action has been financed. According to the Financial Regulation, a preparatory action is designed to prepare a proposal for the adoption of future actions and cannot be renewed for more than 3 consecutive years. There is therefore the need to provide a (more) stable financing framework for the continuation of BEST in the next MFF.

The external development instrument, the regional funds or the LIFE Programme could constitute such framework. However, given the need to include both ORs and OCTs, the eligibility rules of the concerned programme, whatever it will be, would need to be

⁴⁶ ECA special report No 21/2017: Greening: a more complex income support scheme, not yet environmentally effective.

⁴⁷ The [BEST – voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas](#) = initiative aims to support the conservation of biodiversity and sustainable use of ecosystem services including ecosystem-based approaches to climate change adaptation and mitigation in the EU Outermost Regions (ORs) and Overseas Countries and Territories (OCTs).

changed. Taking into account the type of actions (small-scale grants) and the specific sector (biodiversity), the LIFE Programme seems to be the most suitable framework, subject to additional funding being made available.

This option would allow the continuation of the financing of the BEST scheme under LIFE under its Nature and Biodiversity sub-programme.

Table 3.3: Assessment of option 3

Relevant conclusions from screening results	
<i>Effectiveness</i>	+ Secured future for the BEST initiative, supporting the financing of small-scale demonstration projects related to biodiversity in both the OCTs and the ORs (which are already eligible under LIFE).
Impact assessment (qualitative assessment)	
Economic impacts	- Additional funding would be needed to support the BEST scheme (8 million Euro per year) without displacing finance for other LIFE priorities.
Social impacts	+ The grassroots organisations that are receiving support under BEST could continue their activity for the protection of biodiversity.
Environmental impacts	+ Additional support for biodiversity hotspots in OCTs and ORs, positive climate resilience benefits from ecosystem-based adaptation solutions.
Conclusions	
Potential positive impacts on external coherence of the Programme and on biodiversity in OCTs and ORs but there is the need to ensure no overlap with the external development instrument for OCTs.	

3.5. Conclusions

The LIFE programme has a very high EU added value and its scope and structure are generally suitable to its objectives. This section presents three possible extensions to the current scope of the LIFE programme.

The option to extend the scope to include the energy efficiency and renewable energy actions presently financed under Horizon 2020 is clearly desirable and should be implemented as a priority, provided the new LIFE Programme is equipped with the necessary funding.

The option to extend LIFE to further support the mainstreaming of nature and biodiversity objectives is a highly viable alternative for better financing of nature. In line with the Commission communication on the post 2020 financial framework⁴⁸, this would improve coherence in the overall structuring of the EU budget by facilitating an improved mainstreaming approach.

The integration of the BEST initiative for OCTs (and ORs) is a smaller extension to the programme, which also shows an overall positive impact. Unless either an external instrument or the European Regional Development Fund can finance the entirety of the BEST initiative, it should be incorporated into LIFE, to the extent that the capacity of LIFE to address other priority objectives is not weakened.

⁴⁸ See the Commission Communication "A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020 COM(2018) 98 final.

4. DELIVERY MECHANISMS OF THE INTENDED FUNDING

The present LIFE instrument comprises a variety of delivery mechanisms including several types of standard action grants, strategic integrated projects, technical assistance to develop integrated projects, preparatory projects, operational grants for NGOs, two financial instruments, capacity-building projects for certain Member States and procurement. As mentioned in Section 1.2, these mechanisms (also described further in Annex 5) have been assessed as generally effective and efficient in delivering the objectives of the LIFE programme. It is therefore not appropriate to substantially modify the delivery mechanisms or management model of the programme. Elements such as the NGO operational grants will be continued in their present format⁴⁹. However, this section explores some possible options for further improving the effectiveness and efficiency of the LIFE programme.

As in Chapter 3, these options are not alternatives, but rather complementary measures that are assessed individually and could be applied in synergy. In accordance with the methodology described in Annex 7, only those impacts which differ from the status quo are mentioned and most of the observed net impacts concern environmental factors in view of the inherent nature of the options.

4.1. Possible enhancements to funding mechanisms

As previous sections of this report indicate, several challenges and opportunities have been identified in relation to LIFE's present funding mechanisms. In particular, operational challenges have been established as the basis for further optimisation in view of evolving policy needs to improve the performance and catalytic role of LIFE, and to improve the strategic focus of LIFE.

Options for addressing these operational challenges and improving simplification are presented and screened in Annex 8. An overview of the options assessed is also presented in Box 6 above. The most promising options are further considered below. In terms of project management arrangements, the present model is considered to be the best option. Some measures related to the reduction of the administrative burden are included in Annex 9.

4.1.1. *Expand the scope and scale of Strategic Integrated Projects (SIPs)*

This option is meant to improve the performance and catalytic role of LIFE. The proposed option is an expansion in both the scope and scale of the integrated projects which will be called strategic integrated projects (SIPs) in the post-2020 programming period. The SIPs are designed to support Member State implementation of key environmental or climate plans and strategies, so are focussed on practical support to policy implementation. Since the concept of integrated projects is proving effective during the present programme, it should be reinforced through both:

- an increase in the SIPs targeting the presently eligible plans (air, water, nature, waste, climate mitigation and climate adaptation)⁵⁰. As regards waste, SIPs would be eligible for both waste management plans and, as a new feature, for waste prevention

⁴⁹ E.g. double funding will be prevented in all cases. The effectiveness and the impact of such mechanisms will continue to be assessed during programme implementation (see Chapter 5 for further information)

⁵⁰ At present the Regulation foresees indicatively three integrated projects per Member State over the 7-year period.

programmes, in coherence with the overall aim of transitioning towards a circular economy and

- an increase in the scope of the SIPs under the Environment sub-programme (to include also plans for national emissions ceilings, noise, marine environment and nitrates in accordance with the relevant legislation and policies). SIPs related to the marine environment could be developed through LIFE and EMFF funding.

While the funds allocated for integrated projects in the current programming period have been at a level appropriate to piloting the concept, this level does not allow full realisation of the potential of the mechanism as a tool for improving compliance with key climate and environment policies and legislation, and would need to be increased.

This would imply an overall funding increase in the LIFE budget so as to ensure continued availability of funding also for other project types.

Specifically in order to respond to the considerable needs for financing in the area of nature including the marine environment, identified in the Nature Fitness check, and in order to ensure that LIFE can play the necessary role in coordinating actions related to nature and biodiversity under the mainstream EU funds, the number of strategic projects for nature (SNPs) should be significantly increased and their focus on mainstreaming should be reinforced (see section 3.4.4). Further information about the critical mass required for SIPs can be found in the relevant section of annex 4.

Table 4.1: Assessment of option 4

Relevant conclusions from screening results	
<i>Effectiveness</i>	+ This effective mechanism for promoting compliance would cover more key elements of environment and climate policy, addressing a wider range of implementation challenges.
<i>Efficiency</i>	+ Cost-efficient way to ensure coordinated use of environmental mainstreaming in other EU instruments, including financial instruments. To ensure the full potential of SIPs and SNPs, however, the programming process for the mainstream funds needs to be sufficiently flexible to allow the financing of complementary actions after SIPs and SNPs are defined. At the very least, the potential for such complementary financing needs to be taken into account in the national strategies and programmes for implementing the main funds.
Impact assessment (qualitative assessment)	
Economic impacts	+ More potential to mobilise finance from sources other than EU programmes for environmental and climate objectives - While greater administrative burden can be expected, given that the process for processing SIPs is already established the impact will not be significant but procedures and resources will be required to ensure policy coherence. - Additional budget required
Social impacts	++ Positive impacts on capacity building / Positive impact is on governance and ownership of stakeholders in playing their role
Environmental impacts	+ Potential to achieve greater environmental and climate impacts as a result of the targeting of the most pressing environmental and climate issues + Potential for better governance of nature and biodiversity given the more emphasis on this area
Other aspects	
Mainstreaming	The success depends on condition that the other instruments provide the

	expected levels of environmental mainstreaming for complementary actions. The large over subscription for such projects limits this risk.
Conclusions	
Only very minor negative impacts and significant positive impacts on social and environmental aspects.	

4.1.2. Targeted support to upscale and replicate successful projects

This is a second option aimed at improving the performance and catalytic role of LIFE. LIFE would provide targeted support to facilitate the upscaling and replication of successful LIFE project results. It would therefore increase overall performance by enhancing the impacts of the projects supported by the programme, and focussing the effort on those projects with the greatest potential impact.

This would include a range of mechanisms such as follow-up technical assistance grants to provide coaching and finance to develop upscaling and/or replication plans and undertake centralised measures to diffuse project results to relevant stakeholders. These technical assistance will be small in size and would not require additional budget overall for the LIFE programme.

Targeted support could help to facilitate access to technical assistance/grants, e.g. following the successful example of the ELENA facility, or blending or pilot financial instruments under the centrally managed *EU Invest Fund*, as a means of enhancing sustainability and dissemination of project results.

In such option, the overall existing focus on follow-up plans during project duration would remain and use as a reference for identification of the more promising projects. It would be complemented by additional targeted support actions.

This approach will be coordinated with policy initiatives, taking into account and building on existing dissemination activities (databases of measures, Country Dialogues, Commission-led networks such as the Covenant of Mayors for Energy and Climate, expert groups, conferences, etc.). It will thus strengthen the link between LIFE and policy development.

Table 4.2: Assessment of option 5

Relevant conclusions from screening results	
<i>Effectiveness</i>	+ Increase support to most promising projects
<i>Coherence</i>	+ Increased synergies with other EU programmes
Impact assessment (qualitative assessment)	
Economic impacts	+ improved contribution to the Europe 2020 Strategy and in particular to sustain innovation - Increased administrative burden to deal with applications, and also tailoring of support to different types of projects
Social impacts	+ improved contribution to the Europe 2020 Strategy and in particular to create and maintain jobs
Environmental impacts	++ Upscaling of positive environmental and climate impacts: enhanced overall impact of LIFE projects through replication and upscaling of positive environmental and climate impacts
Others	
Catalytic effect	+ Improved catalytic effect of the Programme

Conclusions
Significant positive environmental impacts. Further positive impacts on social aspects and coherence. Potential negative economic impacts.

4.1.3. Address the unbalanced participation of candidates from some Member States to LIFE calls for proposals through a reinforced network of LIFE contact points and targeted capacity-building actions

This option is aimed at improving the performance and catalytic role of LIFE, notably through enhancing participation from different Member States.

Taking into account the experience of the current national capacity building projects, the capacity of the LIFE contact points will be enhanced through the financing of networking activities. Specifically, it will improve performance by focussing on those approaches that have been most effective under the current programme at building the capacity of national contact points to support the preparation of high quality proposals. The funding for the network would be managed centrally by the European Commission or EASME, and participation would be open to all Member States. The funding would be used to target the specific capacity building needs of the National Contact Points (NCPs), including through mutual learning. It would also include a component targeting barriers to participation specifically in Member States with a low absorption rate. This evolution is in line with suggestions already made by several NCP which have tried to initiate such cooperation in the framework of the preparation of the Multi Annual Work Programme 2018-2020. It would still lead to specific target actions similar to the existing capacity building projects. In turn, the increased capacity of the national contact point will enhance their role in supporting project applicants, leading to both an increase in participation rates from selected Member States, as well as high quality proposals.

These activities will be supported using the budget that is currently allocated to capacity building projects under the current programme.

Table 4.3: Assessment of option 6

<i>Relevant conclusions from screening results</i>	
Effectiveness	+/- Expected wider impact than the present capacity building projects, which have shown only limited results to date but no evidence yet that it will produce anticipated results + Greater flexibility to target interventions to specific needs
Impact assessment (qualitative assessment)	
Economic impacts	+ Reduced administrative burden associated with submitting/processing of application and award than for the capacity building projects for all concerned MS
Social impacts	+ Enhancing ownership, governance and potential involvement of all Member States + Positive impacts linked to the possibility to learn from experiences of other countries
Environmental impacts	No significant environmental impacts.
Other considerations	
EU added value	+ Positive impacts linked to the possibility to learn from experiences of other countries
Flexibility	+ Greater flexibility to target interventions addressed to specific needs

Conclusions
Positive impacts on education and training, whilst also offering greater flexibility. May require additional management time.

4.1.4. Increase the co-financing rate

This is the fourth option for responding to the operational goal to improve the performance and catalytic role of LIFE, notably through enhancing participation for beneficiaries in different Member States⁵¹. The maximum EU co-financing rates that are included in the LIFE Regulation would be increased and therefore project beneficiaries would be required to provide less co-financing. It will therefore improve performance by removing one of the barriers to applicants.

Additional budget would need to be made available to allow for an increase in co-financing rates whilst maintaining the same number of projects to be supported.

Table 4.4: Assessment of option 7

Relevant conclusions from screening results	
Effectiveness	+/- Alleviates one of the barriers to participation, but increasing the co-financing rate may mean that fewer projects can be supported in total unless the overall budget is increased.
Coherence	+ Potential for increased coherence if increased co-financing rate ensure greater harmonisation across other programmes
Impact assessment (qualitative assessment)	
Economic impacts	- If the overall budget is not increased proportionately, fewer projects can be financed, decreasing the total cumulative impact of LIFE interventions.
Social impacts	++ Increased access of funds and hence increased participation from beneficiary groups which have limited co-financing capacity. +Alleviates one of the barriers to participation, and thereby encourages projects from some of those countries that currently have low participation rates due to lack of resources for co-financing.
Environmental impacts	No significant environmental impacts.
Other considerations	
Quality of projects	- Might create false demand and stimulate more applications for lower quality projects. The rate of over subscription of the on-going LIFE programme should ensure that this risk will be very limited.
Conclusions	
Would increase participation of beneficiary groups but this may be at the expense of a reduction in the cost-effectiveness of the programme, as fewer projects would be supported.	

4.1.5. Systematically define and develop synergies with other instruments

This option also responds to the operational goal to improve the performance and catalytic role of LIFE.

⁵¹ At present, for most projects, the maximum co-financing rates range between 55% and 60% of total eligible costs of the projects. In the opinion to the European Commission on the mid-term evaluation of LIFE (ENVE-VI/016), the Committee of the Regions invites the EC to better align the co-financing rates of LIFE with the rates of other both directly and jointly managed EU funding programmes increasing the co-financing rate.

It would complement the present practice of giving preferential treatment in standard LIFE project applications to projects which build on the result of relevant EU research projects (Horizon 2020 or previous programmes)⁵². The preference could be extended to results from other programmes that develop small-scale pilots, such as Interreg.

More systematic mechanisms would be developed to operationalise synergies with other EU programmes that can support sustainability, upscaling and replication of relevant LIFE results. One main area of potential developing of synergies is with the European Institute of Innovation and Technology (EIT) European Innovation Council (EIC) that might support the up-scaling of innovations but also support the objectives of LIFE with targeted activities like the ‘EIC challenges’ (innovation prizes). This would include the possibility to scale up the best close-to-market LIFE projects’ results, by channelling them towards the EIC mechanisms.

Moreover, according to the results of the mid-term evaluation, the development of more systematic synergies through specific mechanisms would be beneficial with the European Regional Development Fund (ERDF, including the European Territorial Cooperation goal), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Funds (EMFF), which can support the large-scale implementation of project results.

This option would not require any specific modifications to the LIFE legal base, but would require more coordination and control at the level of programming and implementation among the concerned DGs and Agencies⁵³. No additional budget will be required to implement this option.

Table 4.5: Assessment of option 8

Relevant conclusions from screening results	
<i>Effectiveness</i>	+ Expected to increase catalytic effect, but scale is uncertain
<i>Coherence</i>	+ Will build coherence with other funding programmes.
Impact assessment (qualitative assessment)	
Economic impacts	+ Facilitates the dissemination of new ideas and projects, supporting innovation. + Ensures continued support to promising projects
Social impacts	No significant social impacts.
Environmental impacts	+ Greater impact in terms of environmental and climate policy goals may be expected by increased link of LIFE interventions with large scale implementation.

⁵² To encourage synergies, LIFE provides for a mechanism to promote the uptake, into LIFE projects, of the results of environmental and climate-related research and innovation under Horizon 2020 and previous framework programmes for research: during the award process, an extra point is granted to proposals that plan to take up results generated through EU-funded research projects. In this perspective, LIFE gives an incentive to implement and scale up knowledge and solutions developed, tested and deployed through EU-funded research activities.

⁵³ At present, the LIFE Regulation mentions explicitly the need to develop synergies with Horizon 2020 and it underlines that the LIFE programme should also encourage the uptake of the results of environmental and climate-related research and innovation under Horizon 2020. In general, the common provisions regulation (CPR) of the ESI Funds acknowledges already this complementarity and actually already contains a special section on coordination and synergies between the ESI Funds and LIFE.

Other considerations	
EU added value	+ Clear EU added value in maximising the impact of EU finance
Conclusions	
Potential positive impacts on innovation and potential to increase coherence with other funds and create EU added value. No negative impacts.	

Such an evolution will require some effort to define and operationalise the mechanisms but is feasible as long as the legal bases do not prevent such mechanisms.

4.1.6. *Financial Instruments delivered through a central fund.*

This is the sixth and final option considered to respond to the operational goal to improve the performance and catalytic role of LIFE. At present the LIFE Programme operates two small-scale pilot financial instruments⁵⁴. After the pilot phase, thus in the next MFF, such instruments could be upscaled and delivered through a central funding instrument (InvestEU Fund) to allow synergy and economies of scale. This up-scaling would require additional budget.

As described in Annex 6 the EU employs a large and increasing number of FIs, several of which could support projects of a similar nature to those targeted by LIFE's FIs (i.e. PF4EE and NCFF). PF4EE's design features specify the nature of support it offers, it helps intermediary banks in Member States to develop and offer specific loan programmes for energy efficiency projects and supports projects that help achieve the national energy efficiency action plan objectives, plus Member State energy efficiency programme objectives. It offers a combination of an EC guarantee, an EIB loan and a technical assistance facility. This combination distinguishes it from the majority of other instruments that can finance energy efficiency projects, although none of the elements are unique. Some potential overlap with EBRD and ERDF loans was highlighted in the Mid-term evaluation of LIFE, there are also other FIs that could support energy efficiency projects (including the EFSI). However, due to the vast investment needs in energy and climate projects that are necessary to achieve the EU's 2030 objectives, and the relatively small scale of PF4EE the risk of FIs seeking to support energy efficiency projects crowding each other out appears minimal.

The NCFF provides €10 million of technical assistance and €50 million guarantee to support EIB investments of up to €125 million that are intended to contribute to the EU's biodiversity and climate adaptation objectives, financing projects that generate a revenue stream from natural capital. This is a new approach and thus no other European FI offers a competing service.

For the future, the creation of the InvestEU Fund as Union-wide investment instrument, providing an EU guarantee with a view to mobilising public and private financing to support various political priorities represents a great opportunity for new synergies. This

⁵⁴ Private Finance for Energy Efficiency (PF4EE) is a risk sharing facility for private sector financial institutions looking to invest in energy efficiency projects. The Natural Capital Financing Facility (NCFF) is a debt and equity instrument - supports upfront investment and operating costs in projects supporting payments for ecosystem services (PES); green infrastructure; biodiversity offsets; innovative pro biodiversity and adaptation investments.

instrument will be the single entry point for 360-degree project development assistance for project promoters.

The suggested structure of this InvestEU Fund includes the following four windows: Social, skills, and human capital; SMEs; Research and Innovation; Infrastructure and Climate. The **InvestEU Fund** is expected to play an important role with financial instruments for market related action, in particular by supporting a thematic investment platform for research and innovation in the Blue Economy.

Besides the existing financial instruments, the opportunity to finance technical assistance and/or blending mechanisms, recommended in the LIFE mid-term evaluation, would be explored.

Table 4.6: Assessment of option 9

Relevant conclusions from screening results	
Effectiveness	+ Possibly a larger budget and economies of scale could be available under a window in a single instrument
Efficiency	+ Specificity of the financial instruments in the testing phase offset in the long run by improved economy of scale in the use of FIs
Impact assessment (qualitative assessment)	
Economic impacts	+ Improved contribution to the Europe 2020 Strategy through upscaling revenue generating solutions
Social impacts	+ Improved contribution to the Europe 2020 Strategy and in particular to create and maintain jobs
Environmental impacts	+ Upscaling of positive environmental and climate impacts: enhanced overall impact of LIFE projects through replication and upscaling of positive environmental and climate impacts from successful pilot FIs, and from blending
Others	
Catalytic effect	+ Improved catalytic effect of the Programme
Conclusions	
Significant positive environmental impacts. Further positive impacts on socio-economic aspects and coherence. InvestEU should include more financing for these up-scaled financial instruments than currently foreseen in the existing LIFE program (2014-2020) .	

4.1.7. Improving the strategic focus of the programme by simplifying the Regulation and the MAWP.

This option responds to the operational goal to improve the strategic focus of LIFE, specifically including the possibility to target specific new and key policy priorities, in line with the cross-cutting objectives of the MFF to pursue budget flexibility and simplification.

It involves the removal of:

- The current list of thematic priorities and related activities under the Environment sub-programme from the LIFE Regulation. The thematic priorities could be included in the MAWP.
- The ceilings related to various delivery mechanisms or thematic areas, beyond the earmarking by sub-programmes, for biodiversity and for project types.

This option would allow for further earmarking within the MAWP and/or in yearly calls for proposals, to target key and emerging priorities including circular economy and plastics waste. No additional budget will be required to implement this option.

Table 4.7: Assessment of option 10

Relevant conclusions from screening results	
<i>Effectiveness</i>	+ Ensures the alignment of the MAWP with new and emerging policy priorities.
<i>Efficiency</i>	+ Increased possibility to adapt the delivery mechanisms to the demand
<i>Coherence</i>	+ Increased coherence with other EU policies as it creates more room for flexible response to priorities.
Impact assessment (qualitative assessment)	
Economic impacts	- Potential negative impacts on applicants because it would de facto decrease the bottom-up allocation, which many applicants favour because it allows some predictability related to the priorities targeted in future calls. Only a limited portion of the budget would be thus earmarked for key priorities. + Reduction of the administrative burden linked to the respect of the ceilings
Social impacts	No significant social impacts.
Environmental impacts	+ Potential for increased environmental impacts + Increased impact on priorities which are not covered with the "pure" bottom up approach. + Potential increased impact on new/urgent environmental challenges.
Conclusions	
Greatest positive impacts relate to increased flexibility. Some positive impacts on coherence. While negative economic impacts are expected.	

4.2. Conclusions

Most elements of the present LIFE delivery model can be considered to be fully functional at present and do not need any modification.

Concerning the operational goal to improve the performance and catalytic role of LIFE, two options were explored in relation to improving the accessibility of LIFE for applicants from all EU Member States. The option to provide centralised support to the entire NCP network instead of the present national capacity building projects (for only certain MSs) is assessed positively. The option of increasing co-financing rates would need to be further considered once the overall shape and budget of the LIFE programme for the next MFF will be decided and basing on the demand over time. It is important that the legal base does not prejudice this issue in line with the existing template.

Several other complementary options were considered to improve the performance and catalytic role of the Programme. Among them, the extension of the SIPs is considered to be the most powerful mechanism based on the pilot experience of integrated projects in the present LIFE programme.

The options to enhance replication and to increase both the flexibility of the programme and the possibility to target key and emerging issues through simplifying the Regulation and the MAWP have no serious negative implications, so should both be introduced. Concerning financial instruments, it would be beneficial to upscale the current LIFE pilot instruments under InvestEU in the next MFF (2021-2027).

The options that are not depending on additional budgets should be implemented in any event. If the budget is specifically increased to include Clean Energy Transition and/or to include a sub-programme for Nature, these options (option 1 and 2) should be included in the structure of the Life Programme. If the LIFE budget is expanded in general, the options 3, 4 and 5 could be implemented.

4.3. Programme management

The MTE concluded that current management arrangements of the programme were efficient and effective. The same conclusion was made with respect to the monitoring and evaluation arrangement of the current programme. Nevertheless, some further options were considered as part of the Impact Assessment to explore whether further improvements could be made to the programme management and monitoring and evaluation processes.

4.3.1. *Package of measure to reduce the administrative burden for the applicants/beneficiaries*

This combination of measures is proposed in order to respond to the operational goal of introducing simplification measures, where possible. This package includes changing some of the processes and systems that are used in the programme management, including:

- Taking into account the experience of the ongoing pilot, consider further waiving the requirement to submit a complete proposal at the start of the application process by expanding the use of a two-step award procedure for standard projects. This has already been applied for integrated projects and is being piloted for some traditional projects. It would reduce administrative burden for applicants.
- Adapting reporting requirements in proportion to the length and complexity of projects and the value of the grant.
- Simplifying the indicators database, based on project focus.
- Use of Simplified Cost Options, payments based on output, limitation of eligible costs for grants.
- Use of cascading grants with limited reporting, with the involvement of the monitoring team
- Simplification of the application process, including rationalised forms and supporting documents

The detailed assessment of the impact of these measures in comparison to the business as usual scenario showed the following:

Table 4.8: Assessment of measures to reduce the burden for applicants/beneficiaries

• Relevant conclusions from screening results	
Efficiency	+Increased efficiency
Effectiveness	+ Increased effectiveness
Impact assessment (qualitative assessment)	
Economic impacts	+ Reduced barriers to entry for applicants. + Reduced administrative burden and increase of flexibility for beneficiaries

	+ Reduced administrative burden for EASME and EC.
Social impacts	No significant social impacts.
Environmental impacts	No significant environmental impacts.
Conclusions	
Greatest positive impacts relate to the reduction of administrative burden.	

4.3.2. Streamlined procedures for the implementation of the EU budget

These measures respond to the operational goal to introduce simplification measures, where possible, and to increase efficiency in the implementation of the programme.

They include:

- the mention in the Regulation of selected organisations, which regularly receives grants without a call for proposals according to Art.190 of the RAP (e.g. because they have a de facto monopoly or the specific administrative power required for the implementation of projects with special characteristics) so that grants can be awarded directly without the need of an exceptional procedure. This will be restricted to a few organisations, such as the IMPEL network and the network of National Contact Points.
- the reduction of the multiple budget lines linked to the LIFE Programme and used for internal management to one operational line per parent DG while going on with the current system for tracking the funds per priority area.

The assessment of these measures in relation to their economic, environmental and social impacts in comparison to the business as usual scenario showed the following:

Table 4.9: Assessment of measures to make easier the budget implementation

• Screening results	
Efficiency	+ Increased efficiency
Impact assessment (qualitative assessment)	
Economic impacts	++ Simplification – reduced burden for both the applicant and the Commission + Elimination of the administrative effort needed to move any unspent money between budget lines
Social impacts	+ Ensuring the possibility of long term development plan to the beneficiary organisations.
Environmental impacts	No significant environmental impacts.
Other considerations	
Transparency	The organisations which would receive recurrent grants would be clearly stated in the Regulation.
• Conclusions	
Greatest positive impacts relate to the reduction of administrative burden.	

5. HOW WILL PERFORMANCE BE MONITORED AND EVALUATED?

The general and specific objectives proposed in Section 2.3 place greater emphasis on the catalytic role of LIFE and its contribution to supporting societal transformation through replication and the triggering of large-scale deployment rather than focusing on outputs at project level. Moreover the transition to clean energy has been added. Thus, while performance should still be measured at project level (building on the current monitoring and evaluation framework), additional performance criteria have been identified to strengthen the monitoring and evaluation of LIFE's catalytic effect at programme level (as defined below).

Box 8: The catalytic effect

The assessment of the catalytic effect of the Programme is extremely difficult because LIFE funds small and heterogeneous projects. Moreover, the related indicators need to incorporate the different possible dimensions of the catalytic effect delivered, which can be:

- Temporal (i.e. in leading to the replication of an activity beyond the timespan of a LIFE project) AND/OR
- Sectoral (i.e. beyond the sectoral bounds of a LIFE project – a specific technology or practice can be tested in another sector/technical context) AND/OR
- Quantitative (i.e. a "practice" which is generalised) AND/OR
- Spatial (i.e. beyond the geographic bounds of LIFE projects) AND/OR
- Financial (i.e. every LIFE project mobilises external co-financing).

In summary, the monitoring and evaluation framework is designed to facilitate the assessment of LIFE's performance in the following ways:

2. **Contribution towards meeting EU environmental, nature and biodiversity and climate targets:** measured in quantitative terms (as a direct outcome) using standard EU environmental indicators, with the metric, baseline and milestone set at project level for use as illustrative examples to assess progress at programme level in qualitative terms.
3. **Contribution towards improved environmental and climate governance:** measured in quantitative terms (as a direct output) by the extent of LIFE projects supporting the development, implementation, monitoring and enforcement of environmental and climate policies. The contribution to improved environmental and climate governance is assessed at programme level in qualitative terms against a wider policy landscape.
4. **Contribution towards socio-economic transition:** measured at programme level in qualitative terms (as an indirect outcome) by the extent of LIFE's catalytic effect according to various dimensions, including: temporal (project runs for an extended time period), sectoral (approaches or techniques are adopted across sectors), spatial (approaches or techniques are adopted across territories), quantitative (a novel or emerging technique succeeds in becoming commonplace), or financial (additional finance is secured to support large scale deployment).

The proposed monitoring and evaluation framework reflects the change in focus arising from the revised general and specific objectives as well as the lessons learned from the current programming period (section 1.2.). Notably, the reporting requirements at project level have been simplified and the application of the performance criteria (in qualitative terms) has been centralised. The reporting requirements and indicator design that inform this framework are set out in section 5.2 below.

5.1. Lessons learned related to the existing monitoring and evaluation framework

The present LIFE Regulation (Article 3.3) identifies the performance indicators against which the programme should be assessed in relation to its general objectives. It also empowers the Commission to adopt delegated acts to further define the performance indicators in relation to the programme's priority areas and thematic priorities.

Given that the MAWP establishes qualitative and quantitative outcomes, indicators and targets for each priority area and type of project, no delegated act was adopted in this respect.

As specified in the MAWP, the number and scope of successful projects within a priority area mainly depend on factors that the Commission cannot influence, e.g. the number of eligible applications per priority area and technical and socio-economic factors. Hence, expected final outcomes have also been defined at a project level in relation to project's objectives and an initial baseline.

The existing qualitative and quantitative outcomes, indicators and targets primarily address issues **in a project-centric way** and some are focused solely on project outputs, outcomes and impact because action grants correspond to the bulk of the funding (a minimum of 81% of the overall budget⁵⁵). The system was designed to assess project results for both programme and policy purposes.

Consequently, a system of key indicators has been established at project level. It ensures a good coverage of the grant monitoring and is a source of information on the effectiveness of the programme as a whole since some project level data can be aggregated at the programme level (albeit with some difficulties, as project baselines, metrics, timeframes and reporting vary between projects⁵⁶).

Experience has shown the following shortcomings in the system:

1. not only the grants, but also the results of other delivery mechanisms (e.g. procurement) should be included in the performance framework of the programme;
2. the project level indicators are too complex and numerous; the collection of data is resource-consuming and sometimes of limited use;
3. outcome indicators are only available at a late stage in the implementation of the programme, taking into account the time needed to put it in place and the multi-year duration of most projects;
4. the burden related to the collection of data for project level indicators is on the shoulders of the project beneficiaries,
5. not all the programme-level indicators defined in the Regulation are measurable;
6. the catalytic role of the programme is difficult to capture.

Moreover, the existing key project indicators would need to be up-dated:

1. to incorporate, wherever possible, the SDGs indicators, to which LIFE is expected to contribute;
2. to reflect experience gained during the first year of operation of the key project indicators database, including its suitability to meet policy development needs;
3. to ensure, as far as possible, greater harmonisation and comparability at EU level. E.g. the Commission is working on cross-cutting indicators on Natura 2000 for the ESI funds that will allow tracking the level of EU funding in support of the Natura 2000 network and marine protected areas. LIFE should also use these indicators.

⁵⁵ This is not supposed to change significantly in the post 2020 programme.

⁵⁶ As for example, under the priority area biodiversity some projects aim at increasing the population size of an endangered species while other at protecting the total captive population at a given number of animals, therefore the aggregated value related to the increase/protection from the baseline, even in percentage, does not make any sense.

5.2. Monitoring and evaluation framework for post 2020 indicators

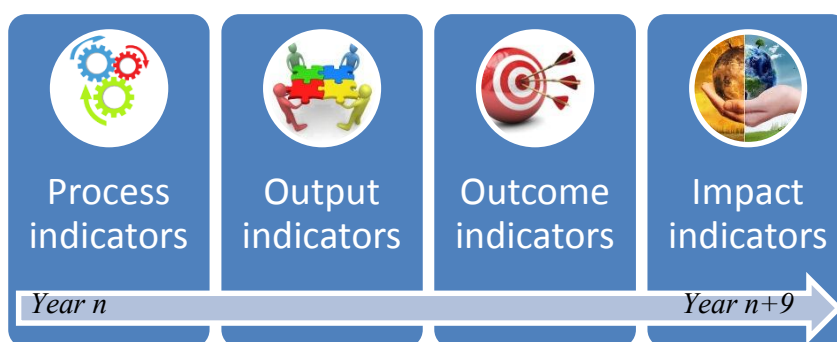
The proposed monitoring and evaluation framework for post 2020 LIFE builds directly on the existing framework, with some modifications. This general consistency should allow continuity in reporting between programming periods and enhance reporting through the application of lessons learned.

At a high level, the changes are summarised as follows:

- Programme level reporting of process and output indicators established: Extended scope of process indicators to include reporting for all delivery mechanisms and linked to financial reporting.
- Reduced number of outcome indicators: use of key project indicators.
- Reduced reporting burden for the beneficiary: only required to report process and outcome indicators, using key project indicators for the latter, where appropriate.
- Greater robustness and relevance established for impacts: targeted assessment of impacts.

More detail concerning these changes is set out below according to the reporting requirements for the monitoring and evaluation framework for the LIFE programme post 2020 which will be based on the types of indicators mentioned in the following figure. The indicators defined for the LIFE programme are aligned with those established for the wider MFF.

Figure 5-1 LIFE Programme: indicators' types and timeline



They include:

Process indicators: They measure all the resources mobilised: the financial resources, the delivery mechanisms. In the case of grants they involve data related to the demand per priority area and type of projects, in terms of number and types of applicants, country of origin, contribution requested and total project costs, time-to-grant, time-to-pay, error rate, etc..

Coverage: All the interventions

Availability: Once a year. Generally at the end of year n. No baseline.

Burden: Commission and the applicants

Tool: A database on information on grant proposals is available (cd. infoview).

Output indicators: they measure physical outputs (e.g. number of interventions per priority area and delivery mechanism). In the case of grants they include data per project

types, number and types of beneficiaries, country of origin, amount of grants and external cofinancing). Data will also be collected on the number of LIFE-financed projects which include the exploitation and deployment of research and innovation results, financed from Horizon Europe or previous R&I programmes.

Coverage: All the interventions

Availability: Once a year. Generally in year n+1. No baseline.

Burden: Commission

Tool: A database on information on grant projects is available (cd. infoview).

Outcome indicators: they measure the direct results of the interventions in terms of deliverables/achievements (e.g. a conference, persons informed, hectares of ecosystem restored, CO2 emissions reduced, etc.)

Coverage: All the interventions

Availability: At the beginning of the intervention in terms of anticipated results (usually, for projects, in year n+2) and at the end of each intervention (generally, for projects in year n+4) . Depending from its duration, the progressive achievement of the results is monitored. Baseline to be defined.

Burden: Commission, the beneficiary (in terms of grants) and the monitoring team

Tool: A database on information on indicators at project level is available (cd. KPIs database).

Impact indicators: they measure the full impact of the results of the intervention after its end, including both direct and indirect impact and, in particular, the catalytic effect of LIFE.

Coverage: Selected interventions. They can be meaningless for some interventions (i.e. study contracts)

Availability: From 3 to 5 years after the end of the intervention. Once, two times for the selected interventions. Generally in year n+7/n+9

Burden: Commission

Tool: Ad hoc

5.2.1. How the outcomes and impact/catalytic role of the programme will be assessed

The outcomes and impact of each LIFE project are currently assessed on the basis of a system of indicators developed by the Commission. At the beginning of a project, a baseline is defined according to the system of indicators, together with the results expected at its end and 3 years thereafter.

The values are defined by the beneficiaries and checked by a team of external monitoring experts with experience in the specific field and in the concerned country. They are validated by the operational officer who is entrusted with the technical supervision of the project. During the project, the results are monitored at least every year.

At the end of the project, the beneficiaries are required to update the values of the indicators, thus providing information on the final results of the project (versus the expected ones) and to prepare an after-LIFE plan to define how they intend to sustain and replicate the activities and further disseminate the project results.

The public consultation showed the need to simplify and streamline these indicators, which were found by the beneficiaries too complex to be managed.

A new evaluation framework for the projects with a reduced number of outcome and impact indicators is being defined. The work is on-going given the need to take into account the indicators related to the SDGs and to have a harmonised framework across the Commission.

The evaluation framework is composed of a system of indicators per priority with multiple levels, plus some horizontal indicators. For each indicator, the number of interventions, the beneficiaries and the amount of the related interventions will be provided.

This framework is also intended to incorporate the results other activities, related not only to grant projects. At the launch of the related procedure, the expected results will be defined. They will be confronted with the final results assessed at the end of the intervention.

To assess the impact and the catalytic role of the Programme, it is necessary to strike a balance between the need to get data and the associated costs. It is therefore proposed to combine the following sources:

1. a significant sample of projects that can be assessed on the basis of sources and tools independent from the project itself (e.g. regional data on air quality⁵⁷ or data from the register of enterprises). These projects will be systematically identified;
2. the data mentioned for each project in the KPI database and in the After-LIFE plans, will be checked after one year for the majority of projects and, on sample basis, through ex-post missions, after more than one year from project end;
3. the data provided by the beneficiaries of already ended projects on a voluntary basis⁵⁸ checked on sample basis and through ex-post missions;
4. enquiries of main actors at national and EU level.

In this way the burden related to the collection of the data will be further shifted from the beneficiaries⁵⁹ to the monitors (monitoring team, external monitors, EASME and the Commission).

5.2.2. *The timetable and the evaluations of the LIFE Programme 2021-2027*

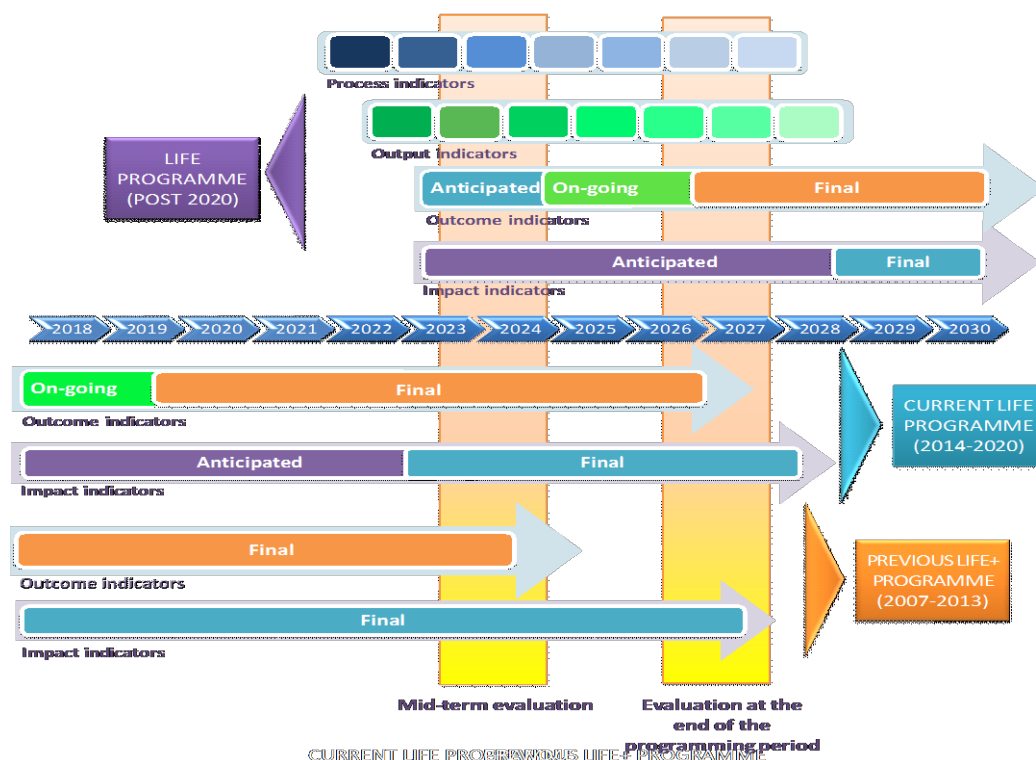
The timeline related to the availability of indicators' values is showed on the below figure.

⁵⁷ An example to clarify the idea: in the case of an integrated project in Malopolska, Poland for example, regional information on air quality, plus the value of the complementary funds that are mobilised and will be mobilised, in Malopolska and adjacent regions for a period of ten years. The same could be done on specific pieces of legislation by comparing historical trends and new trends on the key indicators after its entry into force.

⁵⁸ Legal constraints impede making this contribution mandatory after the end of the contract.

⁵⁹ The beneficiaries shall keep the ownership of the expected results that they have defined.

Figure 5.2 – Timeline on the availability of data for the assessment of the LIFE Programme



The monitoring and evaluation framework of the future Programme would have three main building blocks:

- **Continuous monitoring of the programme management and implementation** through process and output indicators starting from year 2. They allow checking of whether the programme is on track and if adjustments need to be made;

Among these indicators the ones mentioned in the following tables will be mentioned in the Draft Regulation:

Output indicators	
1.	Number of projects developing, demonstrating and promoting innovative techniques and approaches;
2.	Number of projects applying best practice in relation to nature and biodiversity;
3.	Number of projects for the development, implementation, monitoring or enforcement of the relevant Union legislation and policy;
4.	Number of projects improving governance through enhancing capacities of public and private actors and the involvement of civil society;
5.	Number of projects implementing – key plans or strategies; – programmes of action for mainstreaming Nature and Biodiversity.

Result indicators

Result indicators

1. Net change to the environment and climate, based on the aggregation of project level indicators to be specified in the calls for proposals under the sub-programmes for
 - Nature and Biodiversity,
 - Circular Economy and Quality of Life covering at least the following: Air quality, Soil, Water, Waste
 - Climate Change Mitigation and Adaptation;
 - Clean Energy Transition.
2. Cumulative investments triggered by the projects or finance accessed (million EUR);
3. Number of organisations involved in projects or receiving operating grants;
4. Share of projects having had a catalytic effect after the end date of the project..

- **Annual monitoring of the programme performance thanks to outcome and impact indicators starting from year 3:** this allows assessing to which extent the programme is progressing towards its objectives, based on predefined baselines and targets;

Moreover a regular monitor and report on mainstreaming of climate and biodiversity, including the amount of expenditure, will be ensured. The contribution of the LIFE programme to the EU budget-wide target of 25% of expenditure contributing to climate objectives shall be tracked through the EU climate marker system. Biodiversity-related spending will be tracked using a specific set of markers to quantify the commitment appropriations expected to contribute respectively to climate and to biodiversity objectives over the period 2021-2027 at the appropriate level of disaggregation.

- **Two fully-fledged evaluations** of the programme performance at mid-term and at the end of the programming period (upon completion). The evaluations will assess the Programme's effects on the ground based on the programme indicators/targets and a detailed analysis of the degree to which the programme can be deemed relevant, effective, efficient, provides enough EU added value and is coherent with other EU policies. They will include lessons learnt to identify any lacks/problems or any potential to further improve the actions or their results and to help maximise their exploitation/impact.

The mid-term evaluation would capture the first anticipated outputs and outcomes of the LIFE programme 2021-2027, as well as some of the final outcomes and impact of the current LIFE programme and the previous LIFE+ Programme. The final evaluation at the end of the programming period would capture the on-going and the final anticipated outcomes of the LIFE programme 2021-2027 and the final outcomes and impact of the current LIFE programme and the previous LIFE+ Programme.

ANNEXES

ANNEXES

Table of contents

ANNEX 1: PROCEDURAL INFORMATION	50
1.1. Organisation and timing	50
1.2. Consultation of the Regulatory Scrutiny Board	50
1.3. Evidence used in the impact assessment	52
ANNEX 2: STAKEHOLDERS CONSULTATION	55
2.1. Consultations	57
2.1.1. <i>Opinion of the Committee of the Regions (CoR) of the LIFE MTE</i>	57
2.1.2. <i>Opinion of the European Economic and Social Committee (EESC) of the LIFE MTE</i>	57
2.1.3. <i>Opinions of environmental NGOs</i>	58
2.1. Other inputs	57
2.1.4. Inputs from relevant units within DG Environment and Climate Action and with representatives from other DGs	59
2.1.5. Inputs from EASME	59
ANNEX 3: EVALUATIONS RESULTS	63
3.1. Summary of the mid –term evaluation of LIFE (2014-2020)	63
3.2. Summary of the evaluations of LIFE+ (2007-2013)	65
3.3. Summary of evaluations of IEE/Horizon 2020 Energy Efficiency	74
ANNEX 4: NEEDS ANALYSIS	79
4.1. Environmental problems and needs	79
4.2. Who is affected by unmet environment and climate needs?	79
4.3. The need to address the drivers of environmental and climate problems	80
4.4. Sector-specific Needs	85
4.5. Needs for LIFE Strategic Integrated projects:	97
4.6. Conclusions	103
ANNEX 5: DESCRIPTION OF THE PRESENT LIFE PROGRAMME AND THE BUSINESS AS USUAL (BAU) SCENARIO	104
5.1. Overview of the LIFE Programme since 1992	104
5.2. LIFE 2014 – 2020	104

5.3. Methodology for Assessing the Impact of LIFE under the Business as Usual Scenario	114
ANNEX 6. GAPS AND SYNERGIES ANALYSIS.....	151
6.1. Step one: LIFE and other EC programmes coverage of different stages	151
6.2. Step two: Potential overlaps / synergies between LIFE and other EC programmes	153
ANNEX 7: METHODOLOGY	166
7.1. Step 1: Identification and characterisation of the remaining challenges	166
7.2. Step 2: Development of the specific objectives and operational goals	166
7.3. Step 3: Identification of the options	166
7.4. Step 4: Screening of the options	167
7.5. Step 5: Impact assessment of the short-listed options	168
7.6. Step 6: Summary of conclusions	170
ANNEX 8: DESCRIPTION AND SCREENING OF OPTIONS.....	171
8.1. Options linked to programme scope and structure	171
8.2. Options linked to delivery mechanisms	178
8.3. Options related to programme management.....	190
ANNEX 9: IMPACT ASSESSMENT OF OPTION 1 - INTEGRATION OF CLEAN ENERGY TRANSITION PROGRAMME IN LIFE.....	199
9.1. Needs analysis	200
9.2. Lessons learnt from the current and past programmes and assessment of the next MFF proposal	205
9.3. Assessment of impacts of the Clean Energy Transition Programme in LIFE.....	207
9.4. Conclusion.....	212

ANNEX 1: PROCEDURAL INFORMATION

Lead DGs: Directorate General Environment (ENV) and Climate Action (CLIMA)

Commission Work Programme reference number	Short title	Foreseen adoption
CWP2018-annex1 - n° 2	Programme for the Environment and Climate Action	Spring 2018 (Commission Proposal)

1.1. Organisation and timing

In December 2017, an Inception Impact assessment on "The future of the EU Programme for Environment and Climate Action (LIFE)" was prepared and submitted to the Regulatory Scrutiny Board (RSB). An upstream support meeting was then held with the RSB on the 11th of January 2018.

As follow up of the mid-term evaluation findings, on December 2017, an Inception Impact assessment was prepared "The future of the EU Programme for Environment and Climate Action (LIFE)" and submitted to the Regulatory Scrutiny Board (RSB). An upstream support meeting was then held with the RSB on the 11th of January 2018.

The Inter Service Steering Group (ISSG) for the Impact Assessment was set up by the SG in February 2018 and includes the following additional DGs and Services: SJ, ECFIN, GROW, EMPL, AGRI, ENER, MOVE, RTD, MARE, REGIO, SANTE, NEAR, DEVCO, BUDG, OLAF, JRC.

Three meetings were organised between February 2018 and May 2018. Further consultations with the ISSG were carried out by e-mail.

The ISSG discussed the Inception Impact Assessment and the main milestones in the process, in particular the inclusion of the Energy component and the draft Impact Assessment report before the submission to the Regulatory Scrutiny Board.

This impact assessment has drawn extensively on the Mid-term evaluation of the present LIFE programme, preparation of which began on July 2015 and ended in October 2017 when the Commission Report and the staff working document were published and submitted to the European Parliament and the Council, as well as to the Committee of the Regions and the European Social and Economic Committee.

1.2. Consultation of the Regulatory Scrutiny Board

The Regulatory Scrutiny Board ("RSB") received the draft version of the present Impact Assessment report on the 21st of March 2018. The RSB gave some preliminary indications of what was required through an upstream support meeting. Further to the meeting with the RSB on the 11th of April 2018, the RSB gave a positive opinion with reservations on the 13th April 2018. The opinion included recommendations, which have been addressed in the revised IA report as explained in the table below.

Comments from the Regulatory Scrutiny Board		
<i>Main considerations</i>	<i>Further considerations</i>	<i>How these issues have been addressed in the IA Report</i>
1. The discussions of the proposed extensions of	Concerning the integration of the Intelligent Energy Europe (to be	A more in depth analysis of the options – which have been partially re-drafted - has

LIFE's scope should include a critical discussion of the implications for LIFE's philosophy, structure, objectives, delivery mechanism, etc. The discussion should also cover the feasibility of integrating those programmes into LIFE successfully, as well as any potential pitfalls.	moved from Horizon 2020 to LIFE), the report should clarify to which extent LIFE would need to adapt to accommodate this new scheme. In particular, the report needs to explain the foreseen governance of the merged programmes.	been added in Annex 8 and 9, particularly related to the options on the extension of the LIFE's scope. A table has been added providing a full list of options that have been assessed (section 3.1), along with a summary table of the options retained after initial screening (section 3.4).
	If it is confirmed, the possibility of LIFE becoming also the main instrument for financing Natura 2000 has to be clearly acknowledged as a significant departure from the current philosophy and objectives of the catalytic role of this fund, with a shift towards shared management. The report should also be more explicit on the corresponding cuts in other programmes that would be necessary to provide the necessary additional funding.	Some information have been added in par. 3.4.4. However, it was not possible to clarify which part of the other programmes should be cut, given the other IA for the future programme were all underway at the timing of writing.
2. The monitoring regime needs to improve in order to become less dependent on stakeholder views for evaluations.	The proposed indicators are not related to the specific objectives and the report does not indicate possible steps to better capture the catalytic effect of LIFE projects.	Text is added to show how the proposed changes relate to the shortcomings identified for the current programming period, including improved robustness and relevance of reporting.
	At the same time, the report should take care not to unnecessarily inflate the monitoring regime. The report should better document other characteristics of the programme, such as the envisaged synergies	Text is added to show how the proposed changes relate to the shortcomings identified for the current programming period, including improved robustness and relevance of reporting. Additional section added to establish the link between the proposed objectives and the monitoring and evaluation framework.
3. The report needs to better motivate the proposed changes to the delivery mechanisms. For example, it is not clear whether strengthening national contact points are meant to increase the quality of applications and provide support to find co-funding, or to increase the number of applications.	Additionally, the report should briefly clarify which alternatives are assessed and which are dismissed in annex 8.	Extra text has been added to the descriptions to explain the rationale for the delivery mechanisms. A table has been added providing a full list of options that have been assessed (section 3.1), along with a summary table of the options retained after initial screening (section 3.4). This table has not been repeated in section 4, but instead a reference is made to this table.
	Finally, the report would gain to refer more clearly to the analysis on the efforts to simplify the programme, in particular regarding funding applications	The options on simplification have been added back into the main report

	(currently in Annex 10).	
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1.3. Evidence used in the impact assessment

The Commission sought external expertise through a contract for a support study with RICARDO – Energy and Environment. From the deliverables of this contract, the IA report used in particular the analysis and methodology of the different policy options.

- Ricardo “Support for an ex ante impact assessment of the post 2020 (LIFE) financial instrument for environment and climate”, ongoing

In addition, the JRC provided a contribution concerning the analysis of the future indicators at programme level

The IA report and the options considered in the IA report were developed based on the following documents, sources and evidence:

A Rocha et al. (2017) Position Paper on the EU LIFE Programme in the next Multi-annual Financial Framework (MFF)

AC Teon (2012) Comparative study of pressures and measures in the major river basin management plans in the EU Task 4 b: Costs & Benefits of WFD implementation

CoR (2017) CoR opinion: Mid-term evaluation of the Programme for the Environment and Climate Action (LIFE) 2014-2020

COWI (2009) Ex-post evaluation of LIFE

Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 ‘Living well, within the limits of our planet’

EASME (2017) Annual work plan

EC (2006) Thematic Strategy for Soil Protection - Impact assessment of the thematic strategy on soil protection

EC (2011) Impact Assessment. Accompanying the document Proposal for a Regulation on the establishment of a Programme for the Environment and Climate Action (LIFE). SEC(2011) 1542 final

EC (2013) The Declaration of the Commission annexed to the Horizon 2020 Regulation (1291/2013)

EC (2013) Specific financial statement, EASME.

EC (2014) Commission Implementing Decision on the adoption of the LIFE multiannual work programme for 2014-17. (2014/203/EU)

EC (2014) Financing the energy renovation of buildings with Cohesion Policy funding

EC (2015) Roadmap for the LIFE Programme

EC (2015) Summaries of the data on the progress made in financing and implementing the financial instruments for the programming period 2014-2020 in accordance with Article 46 of Regulation (EU) No 1303/2013 of the European Parliament and of the Council

EC (2015) The State of Nature in the European Union Report on the status of and trends for habitat types and species covered by the Birds and Habitats Directives for the 2007-

2012 period as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. COM/2015/0219 final

EC (2016) Fitness Check of the EU Nature Legislation (Birds and Habitats Directives). SWD(2016) 472 final

EC (2016) Qualitative and quantitative outcome indicators for LIFE projects

EC (2017) A stronger and renewed strategic partnership with the EU's outermost regions. COM(2017) 623 final

EC (2017) Clean Energy Transition Programme Inception Impact Assessment

EC (2017) Draft General Budget of the European Union for the financial year of 2018. Working document Part I. Programme statement of operational expenditure

EC (2017) Inception Impact Assessment: The future of the EU Programme for Environment and Climate (LIFE)

EC (2017) Reflection paper on the EU finances

EC (2017) Report on financial instruments supported by the general budget according to Art.140.8 of the Financial Regulation as at 31 December 2016. COM(2017) 535 final.

EC (2017) Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE). SWD(2017) 355 final.

EC (2017) Study for the strategy for a non-toxic environment of the 7th Environment Action Programme, prepared by Okopol, Milieu, RPA and RIVM

EC (2017) The future of food and farming. COM(2017) 713 final

EC (2018) Commission Implementing Decision on the adoption of the LIFE multiannual work programme for 2018-2020. (EU/2018/2010)

EC (2018) Environment - LIFE: Toolkit. Project management tools: Standard Agreement and Common Provisions. [online] Available at: http://ec.europa.eu/environment/life/toolkit/pmtools/life2014_2020/guidelines.htm [Accessed 2 Mar. 2018]

EC (2018) Toolkit for the key project-level indicators (KPI) under LIFE

ECA (2003) Special report No 11/2003 concerning the financial instrument for the Environment (LIFE), together with the Commission's replies. OJ C292/1.

ECA (2009) The sustainability and the Commission's management of the LIFE-Nature projects. Special report No 11.

ECA (2013) Has the environment component of the LIFE programme been effective? Special Report No 15

Ecorys (2017) Support for an external and independent LIFE Mid Term Evaluation Report

EEA (2015) SOER 2015 – The European environment – state and outlook 2015

EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

EEB (2018) The EEB Memorandum to the Bulgarian Presidency of the European Union Including the Ten Green Test

EESC (2017) EESC opinion: Mid-term evaluation of the LIFE programme

EIB (2017) Energy efficiency in buildings: how to accelerate investments?

EP (2016) LIFE – How to use €3.46 billion for environment and climate protection. Study for the ENVI Committee

EP (2017) Implementation of the 7th Environment Action Programme – Mid-term review

EPRS (2017) Reducing air pollution National emission ceilings for air pollutants. Briefing EU Legislation in Progress. |European Parliamentary Research Service

European Commission Regulatory Scrutiny Board (2017) Opinion Evaluation / LIFE Programme for Environment and Climate Action

GHK et al. (2011) Combined Impact Assessment and Ex Ante Evaluation of the Review of the LIFE+ Regulation: Options Development

GHK, Arcadis & Vito (2010) Mid-Term Evaluation of the Implementation of the LIFE+ Regulation

ICF International, LDK, Hincio (2015) Evaluation of Intelligent Energy Europe Projects Supporting Sustainable Energy Communities- Final report

IEEP et al. (2017) Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future

IUCN (2014) The BEST Initiative

LIFE Indicators Database

LIFE Projects Database

Lopez, P.D. (2017) LIFE Key Project-level Indicators (KPI). Presentation by the European Commission

Milieu, IEEP and ICF (2016) Evaluation Study to support the Fitness Check of the Birds and Habitats Directives

NABU and BirdLIFE (2017) Additional information to the public consultation on Mid-term evaluation of the LIFE Programme

Neemo & EY (2016) LIFE: Contributing to employment and economic growth

Regulation (EC) No 614/2007 concerning the Financial Instrument for the Environment (LIFE+)

Regulation (EU) No 1293/2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007

Ricardo and CE Delft (2017) Report on the first results of Horizon 2020 on energy efficiency and system integration – Final report

Ricardo, IEEP and Trinomics (2017) Climate mainstreaming in the EU budget: preparing for the next MFF

Trinomics (2012) Final evaluation of LIFE+: Summary of conclusions and recommendations

WWF (2018) The EU Multiannual Financial Framework: WWF Position Paper on the next EU Budget and its application

ANNEX 2: STAKEHOLDERS CONSULTATION

As part of the mid-term evaluation of the current LIFE Programme a wide range of consultation activities were conducted, including (i) a 12-week public consultation generating more than 250 responses, (ii) six specific surveys with more than 200 responses, and (iii) over 150 interviews (and where relevant site visits) of the key stakeholder groups, including project beneficiaries, project coordinators, external monitoring experts and stakeholders related to the LIFE financial instruments.

A summary of key stakeholder messages from the above consultation activities is presented in the box below:

Box 0-1: Summary of key messages from stakeholders consulted under the MTE of LIFE

- *95% of the respondents of the public consultation confirmed the need to have an EU programme for the environment and climate.*
- *Stakeholders emphasised that the transnational nature of LIFE plays an important role in the programme's effectiveness.*
- Stakeholders highlighted that LIFE is one of the few EU funds that specifically supports the restoration and maintenance of biodiversity and thus plays an important role in funding nature conservation.
- Stakeholders welcomed the phasing out of national allocations but emphasised the usefulness of national contact points. At the same time, stakeholders highlighted that there are large differences between Member States in terms of their capacity and performance.
- Between 72% and 96% of respondents considered that all types of interventions covered by LIFE are relevant for an EU programme for the environment and climate.
- The majority of stakeholders considered LIFE to be both internally and externally coherent.
- Stakeholders also agreed that LIFE acts as a catalyst nevertheless the consultation activities showed that this potential should be further exploited.
- The LIFE Programme was considered to be relevant by stakeholders to address the needs and problems in the area of climate and environment. At the same time, the need for prioritisation and the potential inclusion of a more 'top-down' approach was highlighted. Some stakeholders also suggested putting less restrictions on thematic focus in the Regulation.
- The majority of the respondents of the public consultation undertaken in the framework of the mid-term evaluation confirmed that the programme has an important EU added value because it supports the coherent development, implementation and enforcement of EU environment and climate policy and legislation (98 % of respondents); it tackles environmental and climate problems more efficiently (98 % of respondents); it preserves EU environmental resources which, even if unevenly distributed across the EU, benefit the EU as a whole (94 % of respondents); it contributes to EU-wide sharing of 'best practices', knowledge transfer, demonstration, and awareness raising (99 % of respondents).
- Consulted stakeholders had strong views on the need for further simplification, and the excessive administrative complexity of the programme was criticised.
- The high replication potential of integrated projects was emphasised by stakeholders.
- With regards to financial instruments, consulted stakeholders highlighted the need for grant blending and further technical assistance. Some stakeholders also questioned the relevance and effectiveness of the NCFF.
- The importance of the involvement of NGOs in environmental and climate policy was highlighted by the stakeholders who pointed to the relevance of the LIFE operating grants.

Source: Ecorys (2017) Support for an external and independent LIFE Mid Term Evaluation Report

Although it was not considered necessary to organise a new, broad public consultation for this impact assessment, further opinions on the MTE results and the future of the LIFE Programme were received from environmental NGOs and some consultation activities to discuss the challenges and opportunities of the programme were undertaken with relevant stakeholders, including relevant units within DG Environment and DG Climate Action, as well as

representatives from other DGs taking part in the Inter-Service Steering Group meetings, and with EASME.

These consultations provided further justification for the conclusions of the MTE but also provided new insights into the future direction of the LIFE programme. A summary of these points is presented in the box below while Annex 3 provides more detailed information.

Box 2-2: Summary of key points from further discussions

- A wide range of environmental NGOs highlighted the importance of the LIFE Programme in funding environmental issues even if the current budget of the programme only represents 0.3% of the total EU MFF. At the same time, they called for a significant increase in the future LIFE's budget. Overall, they argued that LIFE should receive at least 1% of the total EU post-2020 MFF.
- Given the need to increase nature conservation efforts and the importance of LIFE's role in supporting biodiversity, some NGOs called to dedicate 50% of the future LIFE to the Nature and Biodiversity priority area. Furthermore, several stakeholders called for the creation of a large dedicated Nature Fund, possibly within the LIFE umbrella.
- The need to increase co-financing rates was also highlighted, particularly to facilitate participation from the MS which are participating less. Furthermore, NGOs emphasised the need to reduce administrative burden on project applicants in order to increase the effectiveness of the programme.
- Discussions with Commission services highlighted the importance to consider flexibility within the programme, synergies between LIFE and other EU funds, the potential for replicability, the need to understand critical mass and the difficulties inherent in assessing the full catalytic effect of the programme. The current unbalanced participation from certain Member States and beneficiaries was also highlighted.
- An interview in EASME covered a number of points relating to the management and scope of LIFE. In particular, the lack of value that would represent delegating procurement contracts to EASME was confirmed. Using a two-stage application process and using E-Grant were seen as positive developments. Regarding the scope of LIFE, an inclusion of the former Intelligent Energy Europe (IEE) parts from Horizon 2020 into LIFE would be beneficial in terms of coherence and size of the Programme and it would lead to management synergies within EASME.

2.1. CONSULTATION ACTIVITIES

As indicated in the main report, as part of the mid-term evaluation of the current LIFE Programme extensive consultation activities took place which included a 12-week long public consultation, six specific surveys targeting relevant stakeholders and more than 150 interviews with a wide range of LIFE stakeholders.

Given the above, it was not considered necessary to undertake a new and wide-ranging public consultation. Nevertheless, a limited set of further consultation activities were undertaken. This included some discussions on the potential challenges and opportunities relevant to the LIFE programme post-2020 with relevant stakeholders, including relevant units within DG Environment and DG Climate Action, representatives from other DGs taking part in the Inter-Service Steering Group (IISG) meetings, and with EASME.

In addition, the Committee of the Regions and the European Economic and Social Committee have adopted specific opinions on the future of the LIFE Programme after having acknowledged the results of the mid-term evaluation and certain environmental NGOs have prepared position papers outlining their views on the funding priorities under the next MFF, which included some views on the LIFE programme. While this evidence is biased towards the views of a single stakeholder group, so cannot be considered representative, the options are still useful

2.1.1. Opinion of the Committee of the Regions (CoR) of the LIFE MTE

The Committee of the Regions in its opinion⁶⁰ on the mid-term evaluation of the LIFE Programme provided the following conclusions:

- Reiterated its strong support for the LIFE Programme and called for its continuation with a significantly increased budget in the post-2020 MFF.
- Called for the increase of funds for the Nature and Biodiversity priority area and indicated the need to significantly increase the programme's contributions to the Natura 2000 network.
- Recommended to strengthen the Climate Action sub-programme of LIFE.
- Recommended to reinforce LIFE's role in tackling uneven implementation and enforcement of the EU environmental acquis in the Member States.
- Recommended the further implementation of the (strategic) integrated projects and the Governance and Information priority areas.
- Called for the increase of co-financing rates under the future LIFE programme.
- Called for revisiting the decision on the phase out of national allocations.
- Called for the introduction of further simplification of the application procedures for project applicants.
- Called the Commission to assess the opportunities for LIFE to support large-scale deployment.
- Called the Commission to assess the role of the financial instruments of the LIFE programme with the aim to attract investors related to the Environment and Resource Efficiency priority area.

2.1.2. Opinion of the European Economic and Social Committee (EESC) of the LIFE MTE

The European Economic and Social Committee in its opinion⁶¹ on the mid-term evaluation of the LIFE Programme provided the following conclusions:

- Reiterated its support to retain and further develop the LIFE Programme.
- Acknowledged the important role of the LIFE programme in supporting EU environmental policy. Particular emphasis was put on LIFE's role in directly achieving direct and tangible environmental impacts and in supporting EU citizens to understand and accept EU environmental policy.
- Highlighted LIFE's role in identifying inconsistencies in EU policy decisions in relation to environmental and climate objectives.
- Called for the need for LIFE to support the Sustainable Development Goals.

⁶⁰ CoR (2017) CoR opinion: Mid-term evaluation of the Programme for the Environment and Climate Action (LIFE) 2014-2020

⁶¹ EESC (2017) EESC opinion: Mid-term evaluation of the LIFE programme

- Recommended that the future LIFE should be the main instrument for funding the Natura 2000 network and that appropriate funds are earmarked for this.
- Recommended to further assess how LIFE projects could be better replicated.
- Recommended to establish a clearer distinction between LIFE and Horizon 2020 projects, i.e. to not provide LIFE funding for conventional research projects.
- Recommended to further develop the Climate Action sub-programme, in particular with a focus on adaptation actions.

2.1.3. Opinions of environmental NGOs

Since the publication of the mid-term evaluation of LIFE a set of position papers on the direction of the future LIFE Programme were published by a set of environmental NGOs. They included:

- A joint statement from 17 environmental NGO members⁶² of the European Habitats Forum⁶³;
- A position paper on the post-2020 MFF by WWF⁶⁴;
- A joint position paper by NABU and BirdLife on the MTE⁶⁵;
- The EEB's Memorandum on the Bulgarian Presidency⁶⁶.

2.1.3.1 *The need to significantly increase the future LIFE budget*

All environmental NGOs emphasised the important role LIFE plays in supporting environmental and climate objectives in the EU. Given the programme's importance and the continued need to tackle environmental and climate challenges the NGOs argued that the LIFE Programme should be continued in the future MFF. In addition, all NGOs agreed that the programme's budget needs to be significantly increased. LIFE currently represents 0.3% of the EU budget. The member NGOs of the European Habitats Forum suggested increasing this share to 1%. At the same time, EEB in its note on suggested priorities for the Bulgarian EU Presidency presented an argument for a ten-fold increase in LIFE's budget.

NGOs not only argued for the overall increase of the LIFE Programme but to also increase the dedicated budget to the Nature and Biodiversity priority area. NGOs re-iterated the importance of LIFE in funding biodiversity conservation and also pointed to the continuous conservational challenges within the EU. Members of the European Habitats Forum argued that 50% of LIFE should be dedicated to LIFE while earlier in a joint position paper BirdLife and NABU suggested a 10% increase in funding for nature.

2.1.3.2. *The need to increase co-financing rates*

A need for an increased co-financing rate was emphasised by all NGOs. They argued that in order to overcome the financial challenges project beneficiaries facing co-financing rates need to be increased to 75%. They argued that in some cases co-financing rates could be even increased

⁶² Including BirdLife, EEB and WWF whose individual opinions are also presented in this section. While most individual opinions are similar to those included in the case of the amount by which the LIFE programme is suggested to be increased is different. Such differences are highlighted in the sections below.

⁶³ <https://www.eurosite.org/wp-content/uploads/LIFE-EHF-Position-Dec-2017.pdf> Published in December 2017.

⁶⁴ <http://d2ouvy59p0dg6k.cloudfront.net/downloads/WWF - MFF position paper - January 2018.pdf> Published in January 2018.

⁶⁵ Not available online. Published in 2017.

⁶⁶ Not available online. Published in January 2018.

to 90%, for instance in the case of those projects that target species which are considered to be in an unfavourable-bad status under the Habitats Directive.

2.1.3.3. *The need to reduce administrative burden for applicants*

All NGOs highlighted that currently project applicants have to face complex and time-consuming processes and there is a need to reduce administrative burden. They specifically highlighted the need to introduce the two-step application process more widely under the programme.

2.1.3.4. *The need to support 'traditional' standard projects more widely*

WWF emphasised the need to increase support for 'traditional' standard projects which have a bottom-up approach and thus have potential to bring LIFE projects “closer to citizens”. WWF suggested to provide a 50% earmarking within action grants for 'traditional' standard projects.

2.2. Other inputs

2.2.1. *Inputs from relevant units within DG Environment and Climate Action and with representatives from other DGs*

The below sections provide a summary of the main points raised by Commission services in reflection on the future of the LIFE Programme.

The need to ensure synergies between LIFE and other funds

While the MTE of the LIFE Programme highlighted that there are synergies already in place between LIFE and various other financial programmes, DGs within the European Commission indicated that these synergies should be further explored and supported whenever possible. Specific references were made to the European Regional Development Fund (ERDF) and the Research and Innovation Framework Programme 9 (Horizon Europe).

In relation to research and innovation, the possibility to include the sustainable energy component of Horizon 2020 in the future LIFE Programme was discussed and it was concluded that given the suitable nature, objectives and intervention logic of this part of Horizon 2020 this could be a viable option for the post-2020 LIFE.

The need to ensure a critical mass

Commission services emphasised the need to reflect on the “critical mass” that is needed to effectively implement the future LIFE Programme. This reflection needs to take account of the identified needs. It was also highlighted that it is important to consider the need for flexibility in view of the critical mass identified.

The need to foster project replicability

The importance to continue replicating successful LIFE projects was highlighted. For instance, it was emphasised that an important feature of LIFE is that it can support projects which can then be replicated by the Structural Funds at later stages.

Other issues

In addition to the above issues, Commission services called for the need to address the unbalanced access to LIFE funds for beneficiaries within the Member States. This was asked to be addressed by relevant delivery mechanisms.

Finally, the need to assess how to deal with the participation of third countries in the LIFE Programme was requested.

2.2.2. Inputs from EASME

The discussion with EASME focussed on the management cost implications of the options for changing the scope of LIFE and also covered the options relating to reducing the administrative

burden. The interviewee was also able to offer some personal input based on his long experience of the LIFE programme.

Validity of current role of EASME in LIFE

EASME do the management of virtually all LIFE projects, including the integrated projects. They don't do procurement and some preparatory projects, and they felt that there would be little to gain from them taking these on. Procurement is policy driven and from EASME's experience in other programmes (COSME and EMFF) putting this type of action into an agency does not add value.

NGO funding

The interviewee felt that the annual budget structure is a constraint, but this is required by the financial regulations. He stated that the current two-year funding approach is enabled by signing a framework type contract with the recipients, however he did not feel that it generates that much of an administrative saving. The interviewee felt that longer framework partnership agreements should be considered

Simplification

On the benefits of a two-stage application approach, EASME doesn't have calculations on this, but the justification is to reduce applicant time. The interviewee felt that an approximate estimate of the time savings would be that a full proposal takes 2-3 person months of man days, which costs at least €10k, but could be as much as €30-40 k. In contrast preparing a short (outline (stage one)) proposal should take no more than 2-3 weeks and cost €5k at most. The interviewee thought applicants with a long history of success, who know the programme well, would not like this idea, because it loses some of the advantage their experience gives. However, this was not the case, as Birdlife (a very successful applicant) were very enthusiastic as it would allow new applicants to approach LIFE. The interviewee felt that a two-stage approach would almost definitely result in more applications. EASME asked DEVCO about their experience and the conclusion was extremely positive. The interviewee raised one down side, with the question of how the concept notes should be evaluated. There is a risk of being more subjective in evaluating them as it would be difficult to have detailed criteria that would justify an approval of a certain top ranked percentage. This risk may be addressed by carefully designing the concept note structure and associated guidelines. The interviewee stated that the two-stage application process is already used in parts of Horizon 2020, and that the approach is expanding to other programmes. For example, DG EAC also use a two-stage process. He felt that it works best in programmes that have lots of proposals, or where the level of detail (required for the full bid) is very high.

The interviewee stated that other potential simplifications for the full proposals include reusing the text entered for the concept note and reducing the level of detail in the application forms. EASME are assuming responsibility for the IT for LIFE and in due time, will have sufficient capacity to make the changes required. to the existing IT tools to introduce these simplifications. The intention is to move to the E grant tool by 2020 (as used by most other programmes). This is intended to become a single portal to access all EU financial programmes. This switch might lose a few specificities (to LIFE), but efforts will be made to keep the best (and most useful) things.

Moving some of the energy parts of Horizon 2020

The interviewee felt that the positive elements of this option are that it would boost the LIFE budget and quality and the EASME LIFE and Horizon 2020 Energy units are close in terms of approach and interests. He also felt that taking some of the energy projects (the former IEE programme) out of Horizon 2020 would give more flexibility to the projects it supports. It would also address the feeling that these projects get 'lost' in Horizon 2020. He felt that there could be some extra costs of moving the Horizon 2020 energy projects into LIFE. For example, if the monitoring approach for the Horizon 2020 projects is adjusted to be the same as for the LIFE

projects it will mean more national monitors are required, though the required growth would not be entirely linear. The project negotiation process would also add extra costs. On the positive side the interviewee stated that according to ex-post audits there is a lower error rate in LIFE projects (currently some 0.25%) than Horizon 2020 projects. He felt that the project revision process helps with this as do the national monitors. The interviewee felt that if the LIFE approach were applied to the Horizon 2020 projects the extra administrative costs would be largely offset by a lower error rate.

Third countries and outermost regions

The interviewee stated that Article 5 allows associated countries to participate in any programme if they sign an agreement and contribute to the budget of that programme. For LIFE that hasn't been taken up, largely because the likelihood of these countries getting back their contribution is low. A system to guarantee that at least a share of that money would be reinvested in the countries that contributed might be considered to make the scheme more appealing.

The interviewee stated that Article 6 of the LIFE programme allows actions to be supported anywhere in the world if they are necessary to deliver results in the EU. An obvious example is helping migratory birds in their wintering countries. This approach could be expanded to include problems clearly caused by the EU - e.g. illegal ship recycling in Asia. However, this is an exceptional approach, so clear evidence of EU relevance would be needed on a case by case basis.

Unequal geographic distribution of LIFE participation:

The interviewee felt that there is historical evidence that the approach of a certain percentage of the total number of 'traditional' standard projects for each MS is a distortive element. The evidence shows that it in no way helped low performing MSs to increase their share of take from LIFE. The only way is to work patiently on the real causes in each MS, but also in every economic or social sector. He felt that there is arguably some merit in having a geographical distribution factor for integrated projects, on the basis of numbers of projects per MS, rather than share of budget per MS.

General scope

In the traditional grant area, the interviewee felt that the bottom up approach to sourcing projects is the main success factor of LIFE. He agreed that the current mix between priorities and bottom up ideas should be maintained and improved striking the right balance between predictability and flexibility and between EU policy priorities and local capacity and perception of where problems lie. The budget for these projects could easily be doubled to better match the historic level of demand and absorption.. He also agreed that Integrated projects could be expanded to cover additional themes e.g. energy, noise, marine, etc.) and be regarded as a primary mainstreaming method for the Commission, but again this would require a significant budget increase. With regard to preparatory projects, their overall budget is small, but these are important top-down projects driven and may justify a certain increase.

The interviewee felt that the current balance of objectives between the Regulation and the annual program appears a good solution as it allows some flexibility year to year. In general, all parts of LIFE appear worthy of retention (scope and approach) with the exception of the capacity building element, and the country allocation approach. The current single MS capacity building approach should be replaced by one or two grants addressing the support of the whole network of LIFE National Contact Points

Monitoring and Evaluation

With regard to the option of changing the approach to Monitoring and Evaluation, by bringing it back into the Commission and doing it all from Brussels. The interviewee felt that this change would not only be very difficult in view of the staff figures we would be looking for (100-150), but more important we would kill the most visible and appreciated special feature of the LIFE program: the network of professional monitors. In every evaluation or audit across the years, this

special feature has been prized by beneficiaries, member States and even EU institutions. Internalising this staff in EASME could be materially possible, but they would never be able to ensure the proximity, the language coverage and the logistic flexibility that the LIFE monitors bring.

ANNEX 3: EVALUATION RESULTS

3.1. Summary of the mid –term evaluation of LIFE (2014-2020)

During its 25 years of existence, the LIFE programme has been evaluated a number of times. The current programme is the result of these evaluations and has been shaped by the lessons learnt from the programme's implementation over the years.

The mid-term evaluation

As required by the LIFE Regulation, the mid-term evaluation builds on the external study 'Mid-term analysis of the LIFE Regulation', carried out by independent contractors.

The mid-term evaluation was carried out at an early stage of the programme's implementation. This means that most projects were not started yet, and few projects were completed (the average duration of a LIFE project is 4 to 5 years).

For these reasons the mid-term evaluation focused mainly on the processes put in place (launch of calls, signing of contracts, funding of projects, etc.) to reach the LIFE programme's objectives. Where relevant, the evaluation looked at their expected results more than the results achieved. Moreover a comparison was done with the previous programme (its outputs are used as a reference) because most of the activities and the related procedures ('traditional' standard projects, operating grants and procurement) continue to be as they were under the LIFE+ programme.

3.1.1. Main findings

Overall, the mid-term evaluation provided reasonable assurance that the LIFE programme is on track to be:

- **effective**, because it is well placed to meet its targets and deliver on environmental and climate objectives and contribute to the pillars of the Europe 2020 strategy.

Ongoing projects from the 2014 calls for proposals are expecting to reach 70% of each milestone envisaged for 2017, for example, by targeting better conservation of 114 species, 59 habitats and 85 Natura 2000 sites.

Activities are in place to fulfil all the general objectives and to contribute to resource-efficiency, innovative technologies and, in a limited way, employment.

Some of the most recent policy developments have been financed by LIFE - namely the circular economy package adopted in 2015 and the 2030 climate and energy framework adopted in 2014, the implementation of the Paris Agreement ratified in 2016 as well as the EU's adaptation strategy -.

- **efficient**, because the projects are expected to provide value for money. It is estimated that the benefit to society of some of the projects from the 2014 call for proposals will amount to EUR 1.7 billion. This figure alone represents four times the cost of the overall LIFE budget for 2014.

The transfer of most of the grant management from the Commission to the executive agency EASME is well on track and it is expected to produce an overall gain in efficiency, above the EUR 8.2 million gains initially planned for 2014-2020.

- **relevant**, because the ongoing projects are addressing some crucial challenges such as halting the loss of biodiversity, deriving savings from the circular economy, reducing the costs of inaction related to the consequences and effects of climate change.
- **complementary** to and works in combination with other programmes (thus producing synergies). As confirmed by the analysis of areas with similar objectives, the fact that the different programmes do not have the same primary focus means that there is little

possibility of overlapping. Initial findings also show that the LIFE programme has encouraged using the results of the projects financed by research programmes. It has also encouraged taking advantage of the European Structural and Investment Funds, in particular through the integrated projects.

Moreover, the LIFE programme showed a substantial and unanimously recognised **EU added value**, because it helps to make the application of EU environmental and climate legislation and policies consistent across the EU. It allows a better sharing of responsibility and promotes solidarity for the management/conservation of EU environmental assets. Some evidence also confirms that the programme is successfully playing its role as catalyst, promoting activities to exchange best practice and knowledge and to improve the utilisation of project results as well as transfer of know-how.

The evaluation also highlighted aspects which need to be improved. This involves:

- simplifying grant management procedures, in particular the application and reporting processes;
- increasing the strategic focus of the demand-driven part of the programme, e.g. by targeting topics not covered by the projects funded in previous years;
- doing more to reproduce the projects and transfer their results, e.g. by developing the capacity to plan and implement investments and addressing the lack of financial resources;
- improving the communication strategy to better target audiences, deliver more objective-specific and target-specific key messages and ensure more structured coordination between players.

The results of the LIFE mid-term evaluation exercise helped to improve these aspects under the next multiannual work programme (2018-2020) and will be addressed in the next multiannual financial framework.

3.1.2. RSB Opinion

On February 2017 the Regulatory Scrutiny Board gave a positive opinion on the evaluation of the staff working document (SWD) on the mid-term evaluation, with observations on how the SWD could still be further improved. These recommendations were taken into account and several changes were made in the final version of the SWD.

Main considerations:

The Board notes that the Commission services undertook the mid-term evaluation at an early stage of the implementation of the programme (2014-2020). Therefore information on the actual impacts of projects is not yet fully available.

The Board gives a positive opinion, but considers that the report should be adjusted in order to address a number of key shortcomings, using the information from the evaluation study and incorporating the longer-term results of the LIFE+ programme:

- (1) The scope of the evaluation is unclear. It does not cover all questions of relevance for the next Multi-annual Financial Framework (MFF). It is unclear whether its focus encompasses the whole programme or only its new features.
- (2) The report does not provide evidence as to whether and how the LIFE programme has achieved a strategic focus (e.g. in thematic priorities, programme structure, Multi Annual Work Programme). 2
- (3) The report does not demonstrate the catalytic role of the LIFE programme in mobilising additional funding, integrating environmental and climate objectives into other policies, and in spreading good practices.

- (4) The report does not provide a full analysis of the programme's actual implementation costs or its simplification potential (e.g. lump sums, VAT, selection procedure).
- (5) The report does not sufficiently explain the EU added value of the LIFE programme and the synergies with other funding programmes.

3.2. Summary of the evaluations of LIFE+ (2007-2013)

3.2.1. Summary of the final evaluation of LIFE +

The final evaluation⁶⁷ of the LIFE+ Programme (2007-2013) conclude that the programme was successful in promoting the implementation of the EU's environmental policy and legislation with significant EU added value. However, it also identified a number of shortcomings concerning the action grants and the NGO operating grants. These challenges are presented below in two sections; the first shows those that were addressed in the design of the current LIFE Programme (2014-2020), and how this was achieved, according to the Mid-term evaluation (MTE)⁶⁸ of LIFE. The second section presents those challenges that do not appear to have been explicitly addressed.

The following challenges of the LIFE+ Programme (2007-2013) were identified in its final evaluation and were addressed in the current Programme:

1. There was a need for a more strategic focus. A minimum of 78% of the LIFE+ budget was devoted to action grants, so its success in addressing EU's environmental and climate policy issues was strongly influenced by the quality and quantity of the applications received, given the 'bottom-up' approach of responding to the demand for action grants.

The LIFE Programme (2014-2020) addressed this issue by:

- a) Shifting from a pure bottom-up approach to a flexible bottom-up approach, which could better steer demand, with specific thematic priorities and project topics defined for the Environment Sub-programme.
- b) Dedicating a minimum of 81% of the LIFE budget to action grants projects, funded via an annual call for proposals, and to operations grants, financed by financial instruments. While both projects and operations still depend on the quality and quantity of the application, the definition of priorities is assumed to have improved the Programme's strategic focus.
2. LIFE+ stakeholders indicated that the application process and reporting obligations should be simplified.

The LIFE Programme (2014-2020) addressed this issue by:

- a) Shifting to a two-step application procedure for the integrated projects.
- b) Waiving the requirement to submit an external audit certificate and/or a VAT certificate.

⁶⁷ Communication from the Commission to the European Parliament and the Council 'Final evaluation of Regulation (EC) No 614/2007 concerning the Financial Instrument for the Environment (LIFE+)'. COM/2013/0478 final.

⁶⁸ EC (2017) Report on the Mid-term Evaluation of the Programme for Environment and Climate. EC (2017) Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE). SWD(2017) 355 final.

- c) Streamlining the system to enable applicants to submit their proposals electronically (e-proposal).
 - However, despite the adjustments mentioned above, the MTE of LIFE (2014-2020) indicated that stakeholders still found the application process and the reporting requirements burdensome and that they need to be simplified.
- 3. The LIFE+ Programme objectives were not always clear and certain strands were lacking definition, especially the ‘Environmental Policy and Governance’ and the ‘Information and Communication’ parts.

The LIFE Programme (2014-2020) addressed these issues by:

- a) Changing the overall objective and adding two additional objectives (Objective (a) and (c) contained in Article 3(1) of the LIFE Regulation⁶⁹), which clarify the general purpose of the LIFE Programme, the importance of environmental and climate governance involving all stakeholders, and the role of LIFE in the enforcement of environmental and climate policy and legislation.
- b) Creating a sub-programme for climate action, which upgraded the thematic strand ‘climate change’ during the LIFE+ Programme.
- 4. There was a need to better utilise project results and transfer know-how by focusing on implementing and creating multipliers.

The LIFE Programme (2014-2020) addressed this issue by:

- a) Making the potential for replicability and transferability of project results one of the project award criteria.
- b) Close monitoring and organising of platform meetings during the implementation of the project, which makes it easier to disseminate and transfer project results.
- c) Drawing up ‘after-LIFE Plans’ to organise the continuation of project activities and enhancing the ex-post monitoring visits two years after LIFE financing ends.
- 5. A lack of complementarity and synergies with other EU Funds.

The LIFE Programme (2014-2020) addressed this issue by:

- a) The LIFE regulation explicitly highlights the need to develop synergies with Horizon 2020
 - EASME’s analysis⁷⁰ confirmed that LIFE and Horizon 2020 contribute to common objectives in different ways, reinforcing each other.
- b) The common provisions regulation (CPR) of the ESI Funds contains a section that promotes coordination and synergies between the ESIF and LIFE, and in particular the ERDF was mentioned in the Mid-term evaluation as complementary to LIFE.

⁶⁹ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007,

⁷⁰ Uptake of the results of EU-funded research projects in the LIFE NAT 2014-2015 portfolio. EASME Ares(2016)4835449 - 29/08/2016

6. Restrictions on funding activities in countries not directly participating in the LIFE+ Programme reduced the Programme's effectiveness

The LIFE Programme (2014-2020) addressed this issue by:

- a) Adding in the regulation of the currently running programme that interventions in countries outside the EU and participation of legal persons based in those countries in activities financed under LIFE should exceptionally be possible.
7. There was an uneven distribution of funding between the Member States. Italy, Spain and Germany received disproportionately more amounts of LIFE+ support, while newest Member States had a lower rate of success

The LIFE Programme (2014-2020) addressed this issue by:

- a) Introducing 'capacity-building projects', which aim to provide financial support to enhance the capacity of Member States, including national and regional contact points, to participate more effectively in the LIFE Programme.
 - However, the MTE of the currently running programme indicated that the uneven distribution of funds among Member States remains, with Italy, Spain and Germany receiving most of the grants.

The following weaknesses of the LIFE+ Programme (2007-2013) were identified in its final evaluation but do not appear to have been explicitly addressed in the next Programme:

1. There was room for more synergies and coherence with national, regional, and local programmes in Member States.
2. There were liquidity problems for the NGOs that received operating grants due to issues related to the speed and timing of payments.

Based on the opinions that small and new MS NGOs are not frequently supported) trialling the inclusion of a stream of funding to support new member state and small NGOs.

3.2.2. Programme coverage and Thematic choices

Results of the mid-term evaluation of the LIFE+ Programme (2007-2013) suggested a need to increase the strategic focus of the programme. This was re-iterated by the impact assessment for the 2014-2020 LIFE Programme, which stated that the "*MTE argued that LIFE could be improved, particularly in terms of a more strategic, multiannual approach that better articulated and translated the strategic EU priorities, especially in relation to the implementation and integration of environmental policy, as the basis of programme activity*". The need for a more strategic approach was considered in the Impact Assessment (IA, 2011) of the various policy options for the post-2014 LIFE Programme

With regard to future thematic choices, the IA (2011) considered the contemporaneous environmental issues and environmental policy requirements. The IA identified that major environmental issues were well defined and subject to ongoing monitoring and research by the European Environment Agency (EEA) and periodically presented by theme and Member State in the State of Environment report. The issues were briefly summarised with regard to three policy areas:

- "The physical environment", primarily related to nature and biodiversity and including climate change impacts

- “The existing acquis”, including air quality, freshwater management and implementation of the Water Framework Directive; and
- “Resource efficiency and decoupling” in terms of resource use (including climate change mitigation) and waste.

Essentially, the IA recognised a continuum of environmental issues from those specifically concerning the state of the environment, stock of environmental assets and associated ecosystem services to those more generally related to resource efficiency and decoupling of resources. The IA noted that there was also a continuum between the need to further develop environmental policies (supported by public procurement of service contracts) and policy implementation (largely supported by LIFE programme’s action grants). However, against this backdrop, none of the responses to the IA’s stakeholder survey supported restricting LIFE to addressing one particular environmental issue or policy and general consensus was that it was difficult to prioritise individual themes because of the extent of interactions between all of them. This was also the view of 75% of respondents to a Committee of the Regions survey, although the remainder were in favour of prioritising climate change, management of the Natura 2000 Network and the Habitats and Birds Directives. A separate survey conducted by the EC’s LIFE Unit in “Your voice in Europe”, also identified that 60% of respondents felt that the Commission should set thematic environmental priorities, especially for nature and biodiversity, although a wide range of other environmental policy areas were also flagged as important.

3.2.3. Territorial choices

The IA (2011) identified that the main territorial concern was the extent to which third countries should benefit from LIFE funding, in what ways and whether activities beyond the EU should be eligible. Three arrangements were considered in terms of potential scope:

- “Exclusively EU”
- “Minor allowances for third country involvement” (e.g. clear transboundary issues which affect implementation of a specific EU environmental policy)
- “Greater integration of third countries” based on defined needs and thematic focus, given Treaty requirements for international action and importance of global and European neighbourhood environmental problems. It was noted that this would require cooperation between DG ENV and former DG RELEX and DG DEV and could weaken development policy coherence.

Stakeholders across all consultations associated with the IA generally supported potential for LIFE to fund activities outside the EU provided the EU benefited. Most stakeholders also felt that the indicative 15% share of LIFE+ funds ear-marked for transnational projects was reasonable.

3.2.4. Options assessment

One of the five options (Option 5) assessed by the IA (2011) considered narrowing the thematic focus of the LIFE programme to implementation of Article 8 of the Habitats Directive, to secure the effective management and stewardship of the Natura 2000 network and the related biodiversity policy agenda. The assessment of this option concluded that expansion of the Nature component would provide increased benefits from wider biodiversity-related activity, Nature activities should not be overly constrained by a focus on Natura 2000 sites, and that associated projects should be larger with broader scope and scale.

The preferred option arising from the IA (Option 3) had a thematic focus reflecting the general objective of developing, updating and implementing EU environmental policy, i.e. addressing emerging problems of EU scale across the whole of the environmental acquis. This included action outside the EU where it provided EU added value, in cooperation with former DG RELEX and DG DEV. The ex-ante evaluation of this preferred option suggested that there would be no negative distributional effects, as environmental problems (e.g. pollution) disproportionately affect lower income households.

Ultimately, a “flexible bottom-up” approach was introduced, i.e. inclusion of thematic priorities under the Environment sub-programme.

3.2.4.1. *The need to increase catalytic role*

LIFE+ MTE

The MTE indicated that LIFE+ played an important catalytic role in leveraging MS funds that would otherwise not be allocated. It also noted that among MS, while national funding for Natura 2000 strongly varied, there was generally a heavy reliance on EU financing instruments. However, the LIFE+ MTE noted that while the programme was relevant to the specific objectives and effective at project level, it was not fulfilling its potential to realise EU added value due to lack of a strategic approach to the programme. It neither fully reflected EU policy needs in programme activity nor fully used project results in support of policy needs. While all projects were required to disseminate results and there was some synthesis of lessons by project by theme, the MTE noted that there was limited effort was made to build networks between projects and stakeholders that might apply and replicate project results more widely. The MTE advocated that LIFE+ could be improved by a more strategic, multi-annual approach to programme activity reflective of the EU’s strategic priorities, especially in relation to implementation and mainstreaming of environmental policy, as well as by improving project’s knowledge transfer to different stakeholders.

LIFE IA 2011

The LIFE IA (2011) identified three options that it identified as having extensive catalytic potential:

- Option 3 – Strategic programming option – expanding the planning and delivery of the financial instrument. This option continued with a specific financial instrument for the environment (LIFE) but that was more strategically focused and linked directly to DG ENV’s policy priorities and work programmes. The option differed from the LIFE+ instrument by having a greater emphasis on: establishing strategic priorities in the MAWP based on DG ENV’s well-defined needs; increasing its catalytic potential and synergies with other financial instruments by increasing multiplication and replication, leveraging additional funding and expanding use of project results. The option proposed that LIFE’s catalytic effect would be increased through developing projects, for example, to: improve peer-to-peer mutual learning networks between competent authorities; maximise the contribution of other EU financial instruments to environmental goals; serve as pilots for subsequent mainstreaming under the Cohesion Policy of CAP; improve synergies with other financial instruments, given LIFE’s relatively limited resources; encourage increased cross-working between financial instruments (i.e. as integrated projects).
- Option 4 – Restricted activities option – focusing on a limited set of activities. This was based on Option 3 but with a reduced range of activities by excluding specific information and communications activity and eco-innovation. The thematic focus reflected the general objective to develop, update and implement EU environmental policy across the whole acquis. Territorial focus was on the EU except, minorly, where there were specific transnational interests. The option had the same emphasis as Option 3 on maximising the catalytic value of LIFE.
- Option 5 – Restricted thematic (Nature) option – focusing the instrument on the statutory area requiring co-finance. This was a thematically focused version of Option 3 intended to meet the legal obligations to co-finance the Natura 2000 network and to address climate change.

In addition to address Environment, the LIFE Regulation 2014-2020⁷¹ subsequently introduced a sub-programme for Climate Action. In relation to the Environment sub-programme, the Regulation identified three priority areas – Environment and Resource Efficiency; Nature and Biodiversity; Environmental Governance and Information -. These encompass thematic priorities and associated activities set out in Annex III to the Regulation. The multiannual work programme (MAWP) for 2014-2017 also contained a non-exhaustive list of project topics implementing the thematic priorities under the Environment sub-programme. The Regulation also sets three priority areas for the Climate Action sub-programme – Climate Change Mitigation, Climate Change Adaptation, Climate Governance and Information. In contrast to the Environment sub-programme, no thematic priorities are established. Instead relevant policy areas are mentioned in the MAWP and key priorities are further detailed in the yearly calls for proposals.

3.2.4.2. *Delivery mechanisms*

Historically, the main delivery mechanism for the LIFE budget programme has been action grants, and this remains true for the current programming period (2014-2020) (e.g. GHK, 2011; Ecorys, 2017). Their design has evolved overtime in response to the issues encountered and to improve implementation of the LIFE budget programme across all Member States (see below). The main issues identified through previous evaluations include: complex application and implementation processes; low visibility of the budget programme; territorial imbalances concerning access to the budget programme (linked to low levels of interest and weak capacity to develop high quality project applications); low transparency in the project award process; inadequate monitoring at programme level; low sustainability of projects; and weak catalytic effect (related to dissemination as well as design aspects of operating grants) (COWI, 2009; ECA, 2009; Trinomics, 2012; 2014; Trinomics, 2012; European Parliament, 2016).

In response to the issues identified, there has been a stronger focus on improving capacity building and dissemination with a good degree of success. Particularly - efforts to establish ‘mutual learning’ through the Commission website toolkits and communication tools as well as the annual Best Projects exercise to share best practice. It is also observed that external and inter-project communication within the programme has improved, e.g. better website and project database, platform meetings, themed brochures and conferences and clustering of projects.

A key ongoing challenge appears to be territorial imbalances relating to uptake. With national allocations deemed ineffective (and having unintended adverse effects on competition within certain Member States), the conclusions from previous evaluations pointed to the need for strengthened capacity building through targeted delivery mechanisms (as established by the capacity building and technical assistance projects in the current programming period) together with greater stakeholder engagement in project design (as established through integrated projects).

Table 3-1: Overview of issues encountered through previous evaluations

Issues	Source	Actions taken to address issues
Application process too time-consuming (in comparison to other budget programmes in particular); time taken to sign a LIFE contract can be delayed by up to a year	COWI (2009); ECA (2009); Ecorys (2012)	Guidance developed and annual templates for project applications Promotion of active knowledge sharing at EU level Overtime it is observed that the electronic application process has reduced the

⁷¹ Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) (OJ L 347, 20.12.2013, p. 185); http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2013.347.01.0185.01.ENG.

Issues	Source	Actions taken to address issues
		administrative burden.
Project implementation requires considerable human resources (staff costs between 18.5 and 83.5% of action grant costs)	ECA (2014)	
Insufficient transparency in the award criteria in the selection process; in some cases applications were being approved despite failing to meet key criteria (cross reference with low project sustainability – e.g. Box 1, ECA, 2009). Particularly an issue as increasing level of rejected project applications	COWI (2009); ECA (2009; 2014); European Parliament (2016)	Details set out in the MAWP concerning the award criteria Ongoing challenge; particularly as rejection rate has increased with 1/6 or 1/7 applicants awarded action grants between 2014-2017 (previously this was 1/5 or 1/4).
Monitoring is at the project level; none at programme level. Potential identified to expand the use of electronic reporting in project monitoring.	COWI (2009); ECA (2014); Ecorys (2012)	Framework established for output and result indicators at programme level
Low visibility of the budget programme in certain Member States - accompanied by low level of interest by Member State competent authorities; and weak capacity to develop high quality project applications	COWI (2009); European Parliament (2016)	Efforts to establish ‘mutual learning’ namely through the Commission website toolkits and communication tools as well as the annual Best Projects exercise to share best practice. Additional delivery mechanisms established, namely capacity building, IPs and TAs
Low level of dissemination of project results; namely the mode of delivery (i.e. via manuals which are often available only in national languages, and not systematically made available online – especially where websites close once a project is finished). Examples of incomplete communication plans found.	COWI (2009); ECA (2009; 2014); European Parliament (2016)	Most notably actions took effect in LIFE+. Overtime it is observed that external and inter-project communication within the programme has improved, e.g. better website and project database, platform meetings, themed brochures and conferences and clustering of projects.
Insufficient attention paid to the sustainability of LIFE projects; often found to be missing in project management plans (e.g. Box 4, ECA, 2014). Failure to identify and target where there has been a good level of replicability (e.g. projects led by groups of companies).	ECA (2009; 2014)	
Unbalanced territorial coverage linked to low EU co-financing rates where public national funding is insufficient to allow access to the budget programme; and low capacity to develop high quality project applications.	GHK (2011); Ecorys (2012)	EU co-financing rates increased for all action grants. Up to 100% co-financing for capacity building projects (for which eligibility is based on LIFE absorption rate and national GDP per capita)
National allocations have been ineffective in addressing this – mainly found to be magnifying competition between projects in the same country	ECA (2014)	Phasing out of national allocations

Issues	Source	Actions taken to address issues
Disproportionately high EU co-financing rates for operational grants	GHK (2011)	EU co-financing rates for operating grants decreased
Inappropriate targeting of operating grants. E.g. could support NGOs involved in the shaping of policy; could target capacity building for small/new NGOs.	GHK (2011); Ecorys (2012)	

3.2.4.3. *Programme Management*

The management arrangements for the LIFE programme have evolved over time as lessons have been learned from previous programming phases. A brief summary of the main issues identified in previous evaluations, and the relevant actions taken to address the problems, are summarised below. The table should not be considered comprehensive as other actions may have been taken which have not been summarised in the relevant reports.

Table 3-2: Overview of issues encountered through previous evaluations

Issues	Source	Actions taken to address issues	Source
Management structure			
Room for improvement in the role of the national focal points in programme management, through their contact, support and advice to applicants	COWI (2009) GHK (2010) Ecorys (2012)	Capacity building projects were introduced in the 2014-2020 programming period to build the capacity of Member States, including LIFE national or regional contact points, with a view to enabling Member States to participate more effectively in the LIFE Programme.	
Opportunities existing to improve efficiency by the Commission outsourcing the receipt, eligibility check, selection and award phases of the selection procedure	COWI (2009)	Delegation of the management of the majority of grants to EASME	Ecorys (2012)
Some potential for duplication of tasks e.g. checks are performed by the monitors are sometimes repeated by the LIFE Unit.	GHK (2010)		
Application process			
Further improvements can be made to application guidance and application forms, e.g., by simplifying and digitalising application forms	COWI (2009)	Additional guidelines for applicants was prepared	GHK (2010)
The application for LIFE+ funding is perceived to (still) be fairly onerous, with further opportunities for simplification	GHK (2010)	An on-line application form was introduced in 2011, which after initial teething problems, allowed an efficient selection process from 2012.	Ecorys (2012)
Appraisal and selection process			
For the sake of independence, transparency and harmonisation of procedures, the	ECA (2003)	Greater involvement of independent	GHK

Commission should consider the possibility of entrusting the evaluation to outside experts.		evaluators in the selection procedure.	(2010)
Selection of projects was a slow process with cumbersome application procedures which could benefit from further optimisation and outsourcing of tasks	COWI (2009)		
Opportunities for improvements in management processes including faster response time from the Commission (e.g. evaluation of applications and of payment requests) and higher flexibility (including the use of funding, broader scope of eligible topics, implementation, budget amendments and other modifications needed throughout the project).	Ecorys (2012)		
Monitoring and selection			
On-the-spot checks should be stepped up, if need be by employing outside auditors.	ECA (2003)	Current system of ex post monitoring visits was started in 2009 to provide more in-depth ex post visits than those focussed on creating a project profile for communication purpose (which had been produced since 2001).	Ecorys (2012)
More systematic ex post monitoring system would be an improvement on current arrangements – as it would provide evidence of which projects genuinely achieve long lasting benefits.	Ecorys (2012)		
File sharing arrangements used currently are considered by some as outdated.	GHK (2010)		
Administrative burden has increased for monitoring and selection over time. This arises from an increased number of applications, the requirement for more detailed technical and financial monitoring.	Ecorys (2012)		
Administrative burden has increased for beneficiaries over time as stricter rules and procedures have been enacted.	Ecorys (2012)		
Administrative burden has increased for the Commission. Increase in the workload, and the number of projects per desk officer that have to be managed by Commission staff	Ecorys (2012)		
Monitoring indicators			
While the monitoring of the individual projects was very detailed, there was no reporting on how the LIFE instrument was	COWI (2009)		

performing at programme level.			
The use of the agreed monitoring indicators framework, including the full use of result indicators does not appear to have been implemented systematically	GHK (2010)		
Communications			
Lack of horizontal outreach and communications	(previous evaluations)	Updated and improved homepage on the internet. Publishing more tailored thematic brochures, the organisation of thematic conferences to exchange experience and disseminate project results, production of thematic reports for policy uptake, clustering of projects, compulsory obligation for project networking, and creating a discussion forum for LIFE+ projects	(Ecorys, 2012)

3.3. Summary of evaluations of IEE/Horizon 2020 Energy Efficiency

3.3.1. Evaluation overview

The IEE/Horizon 2020 Energy Efficiency activities and specific sub-sections of them (e.g. building-related projects) have been reviewed in various evaluations. These comprise:

- COWI (2016): Evaluation of the BUILD UP Skills initiative under the Intelligent Energy Europe Programme 2011-2015. Final report.
- Deloitte (2011): Ex-ante evaluation of a successor of the “Intelligent Energy – Europe II” (2007-2013). Final report.
- ICF (2015): Evaluation of building projects under the Intelligent Energy Europe II Programme. Final Report.
- PWC (2016): Evaluation of the Project Development Assistance implemented under the Intelligent Energy Europe. Final Report. Specific contract ENER/C3/2013-426
- Ricardo AEA, CE Delft (2017): Report on the first results of Horizon 2020 on energy efficiency and system integration – Final report. Contract ENER/C3/SER/2015 -659/SI2.729305/2015- 665/SI2.731474

Whereas these studies deal with the individual analysis of the IEE/Horizon 2020 Energy Efficiency, their overall macroeconomic effect is often not clearly addressed. In order to close this gap, the overall evaluations of reaching the overall EU sustainable energy goals, notably, the 30% energy efficiency objective in 2030 can serve to identify investment needs as well as economic, social and environmental impacts. These evaluations comprise:

- Impact Assessment for the Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on Energy Efficiency. SWD(2016) 405 final
- Impact Assessment for the amendment of the Energy Performance of Buildings Directive, SWD(2016) 414
- Impact Assessment for the recast of the Renewables Directive, SWD(2016) 418

- Ricardo AEA, CE Delft (2016): Study evaluating progress in the implementation of Article 7 of the Energy Efficiency Directive. ENER.C3.dir(2014)3156530
- Energy Efficiency Financial Institutions Group (EEFIG) Final Report, February 2015.
<https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report%20EEFIG%20v%209.1%2024022015%20clean%20FINAL%20sent.pdf>.

3.3.2. *Major findings addressed by the evaluations and impact assessments*

The following table lists the major findings of these evaluations that are relevant for evaluating the different options under this Impact Assessment.

Table 3-3: Overview of the relevant findings from previous evaluations

Issues	Source
Opportunity costs of missing support for massive uptake of energy efficiency	
Energy transition requires large investments in order to mitigate climate change, reduce import and fossil fuels dependency, and support coal regions in transition. The latest estimates put the annual investment gap associated with the achievement of the 2030 energy and climate goals at EUR 177 billion between 2021 and 2030, totalling EUR 1.77 trillion for the period. The biggest gaps relate to investment in energy efficiency in buildings where it amounts to -74%	Financing A Sustainable European Economy, Interim Report, High-Level Expert Group on Sustainable Finance
Without investment needs covered, EU economy would miss up to 1% increase in GDP over the next decade. Specifically the energy efficiency target of 30% will increase economic growth, leading to an increase in GDP of around 0.4% (€70 billion). Greater energy efficiency will help European companies improve their competitiveness by keeping their costs down, with electricity prices for household and industry expected to be reduced on average from 161 to 157 €/MWh. It will create local business opportunities and jobs, with an estimated 400,000 additional jobs in all sectors by 2030, especially in the construction sector, including by increasing the demand for skilled manual labour. Finally, pollution control costs & health damage costs should be reduced by €4.5 – 8.3 billion and energy security will be greatly improved, reducing gas imports by 12% in 2030	IA EED (2017)
Environmental impacts: carbon intensity of the EU's economy will be 43% lower in 2030 than now and renewable electricity representing about half of the EU's electricity generation mix. The 30% energy efficiency target represents a drop in final energy consumption of 17% compared to 2005. It will contribute to reduction of CO2 emissions and will also lead to improvements in air quality.	IA EED (2017); IA RED II (2016)
Overall social impacts: up to 900,000 new jobs, as estimated in the impact assessments of the revised legislation and indicated in Communication on the CE4AE. In particular, buildings renovation could increase employment in the construction sector by up to 5%, translating into 700.000 additional jobs.	IA EED (2017); IA EPBD (2016)
Evaluation of IEE/Horizon 2020 Energy Efficiency performance	
Impacts in terms of energy savings and deploying renewable energies can be	Ricardo AEA,

mapped by comparing Horizon 2020 and IEE achieved impacts. Ricardo AEA, CE Delft (2017): Even when scaled up to the same number of projects, the saving and renewable figures are considerably higher during the project phase for the IEE projects. For example, the 70 IEE projects triggered 38,034 GWh/yr. savings during lifetime, vs. 88 GWh/yr. for the Horizon 2020 CSA projects during project lifetime. Along the same line, the 46 IEE projects lead to 2,136 GWh/yr. of renewables produced versus 114 GWh/yr. for the evaluated 29 Horizon 2020 projects. See Ricardo AEA, CE Delft (2017), table 22, p. 34.	CE Delft (2017)
Mass rollout of existing good practices in the building sector: With IEE II building programmes, ICF identify 370 training sessions to 16,000 people, more than 750 case studies and study visits and a total of 25 tools, toolkits or databases. The outreach is estimated to have addressed over 1.3m people, more than 2,500 stakeholders (see table 4.1, p. 31 for details). It estimates that a sample of projects targeting the building sector led to some 200,000 toe primary energy savings/yr. (12m toe/yr. by 2020); 93,000 toe RES generated (1.8m toe by 2020); €1bn invested (€25bn estimated by 2020) and 840,000t of CO₂eq./yr (35m t CO₂eq/yr by 2020). An extrapolation to all 60 IEE II buildings projects would lead to 540,000 toe primary energy savings/yr. (40m toe/yr. by 2020); 450,000 toe RES generated (10m toe by 2020); €6bn invested (€270bn estimated by 2020) and 2mt of CO₂eq./yr (160mt CO₂eq/yr by 2020), see pp. 32 and Annex 5 (section A5.1).	ICF (2015)
Capacity building/social impact in the building sector: The BuildUP Skills-Initiative targets 7.6m workers (craftsmen and on-site workers) which make up 57% of the construction sector. A survey on capacity-building activities shows the most important outcomes of the initiative for the stakeholders per country (table 3, p. 46), showing that a large majority of countries gained overview of the situation in the sector, found the reach-out (creation of platform) helpful and used the roadmaps provided. Performance indicators are suggested to evaluate the performance of future pillar II projects (training etc., see p. 62 of main report) which can be used to define the impacts under this area.	COWI (2016)
Capacity building through networking: ICF review the relation of IEE support for communities and the Covenant of Mayors. Apart from quantifying the multiplier effects generated by the programmes (e.g. set-up and signing of SEAPs) they identify investments triggered by a sample of 30 projects (€8.3bn, p. 91), RES production of 935.000 toe/yr.; primary energy savings of 1,938,000 toe/yr. and 7,700,000 tCO₂eq. reduced (p. 92). The consortium estimates based on a survey that by the end of the projects some 5,470 jobs and 17,373 jobs by 2020 resulted through the projects. 78% of survey respondents confirmed that the respective project would not have been implemented in the absence of IEE funding (figure 43, p. 96).	ICF (2015); Deloitte (2011)
Availability of good practice examples for up-take by disfavoured actors or catching up regions: The IEE project database lists 16 projects related to clean energy in island settings (e.g. Promoting best practices to support energy efficient consumer behaviour on European islands – PROMISE, Removal of non-technological barriers to Solar Cooling technology across southern European islands – SOLCO, Enhancing efficient implementation of sustainable energy action plans in European islands through reinforcement of smart multilevel governance – SMILEGOV, among others). The IEE project database lists 33 projects tackling various aspects of energy poverty (e.g. Energy Ambassadors, Reduce Energy and Change Habits – REACH, European fuel Poverty and Energy Efficiency – EPEE, Actions in low income households to	IEE project database

improve energy efficiency through visits and energy diagnosis – ACHIEVE, among others).	
Financial leverage/fiscal multiplier of IEE/Horizon 2020 support: Impacts can be estimated against PWC (2016): Evaluation of the Project Development Assistance implemented under the Intelligent Energy Europe. Final Report : Total expected investments triggered of € 5.4b; 4.1 GWh/yr energy savings; 1.34 GWh/yr RES production, 1.5 Gt CO₂eq.-reductions/yr (pp. 108). At the time of this evaluation, EIB-ELENA counted 41 signed projects with a total contribution of 72.865.683 euro which are committed to mobilise 4.663.727.736 euro of investments. This spectacular result in terms of investment mobilisation of the EIB-ELENA facility represent the leverage over 1:60. According to the evaluation study: The PDA facilities played a role in strengthening the uptake of energy efficiency investments, across the time when the Energy Efficiency Directive (EED) (2012/27/EU) was issued and, therefore, when there was a need of putting energy efficiency to the attention of public and private operators.	PWC(2016)
Integration of IEE into Horizon 2020	
Need to encourage larger participation: Recommendation to reconsider lowering the level of EU support provided to some types of projects in order to: a. Increase the availability of funds to support more projects in each call and address the issue of a large number of even good proposals being rejected . This can also be enhanced by providing clearer and more descriptive calls to ensure proposals address the challenges . b. Increase EU leverage c. Increase funding for calls supporting smaller projects .	Ricardo AEA, CE Delft (2016), p. 13.
Recommendation to simplify application procedure while at the same time reintroducing the possibility to negotiate project framing through the executive agency in order to recalibrate project proposals. Clear need for better support for the applicants (survey of unsuccessful Horizon 2020 participants)	Ricardo AEA, CE Delft (2016), pp. 84 and 87
Widening access to funding has not been achieved with Horizon 2020: A key objective of the Horizon 2020 programme was to widen access and increase stakeholder engagement while ensuring that it still attract the most appropriate beneficiaries. In relation to the latter, the survey responses suggest that the programme only partly targets the best and most appropriate beneficiaries (41.5 % of total respondents said yes). Even among programme participants themselves there is significant scepticism – particularly among IA participants – with more than 55.3 % indicating that Horizon 2020 is only somewhat successful in that respect	Ricardo AEA, CE Delft (2016), pp. 90
Horizon 2020 tends to support large consortia, which excludes smaller beneficiaries and smaller project proposals.	Ricardo AEA, CE Delft (2016), pp. 90-91
Processes with Horizon 2020 are too complex. Surveyed simplification measures address a) reduction of administrative costs during application; b) reduction of administrative costs during project; c) increase project flexibility; d) improve participant portal (IT tool).	Ricardo AEA, CE Delft (2016), pp. 98

Impact on national policies: Strong impact of IEE II programmes on national policies whereas Horizon 2020 was surveyed to have a low impact on national/regional policies and programmes (69%)	Ricardo AEA, CE Delft (2016), pp. 107
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ANNEX 4: NEEDS ANALYSIS

Despite numerous benefits brought by EU environmental, clean energy and climate policy, the Union's 2050 long-term vision – to live well within the planet's ecological limits, as set out in the 7th Environment Action Programme (7EAP), is far from being achieved. Environmental problems are expected to continue to exist post-2020, as several of the 2020 targets are unlikely to be met, and new problems emerge due to human activities.

4.1. Environmental problems and needs

The European Environment Agency (EEA) in its State of the Environment⁷² and environmental indicator⁷³ reports provides a comprehensive assessment of the European environment's state, trends and prospects. Moreover, a recent review of the 7th Environment Action Programme (2017)⁷⁴ assessed the progress that had been made with respect to the implementation of environmental and climate policies in Member States. The reviews identified several thematic areas where problems persist with respect to environmental and climate policy implementation, and where they are likely to persist in the near future. A lack of adequate funding has been frequently cited as one of the main reasons for lack of progress in addressing environmental and climate problems.

Environmental problems persist across all principal environmental (or natural capital) components. The most problematic areas that have been identified as requiring action are biodiversity, chemicals and health, water quality and management, waste management, ambient air quality as well as climate change mitigation and adaptation.⁷⁵

4.2. Who is affected by unmet environment and climate needs?

A healthy environment is the fundamental prerequisite for humans to survive, their economies to develop, and their communities to thrive. Human activities, however, have led to a global and historically unprecedented transformation of nature that jeopardises their own existence, since the resulted environmental problems and climate change have far-reaching effects on individuals, businesses, civil society, and governments.

- **Individuals** experience the environmental degradation first and foremost by the increasing health problems that result from, among others, air and water pollution, the use of hazardous substances, and indirect effects of climate change. Moreover, the decreasing productivity of ecosystems adversely affect the meeting of their basic needs and the development of their economic activities. Well-being is also negatively impacted by environmental and climate hazards by, for example, health issues, heatwaves, heavy rainfalls etc that will create a more unfavourable environment for EU citizens to live in. Energy poverty creates a lock-in effect for low-income households who spend a big part of their income on energy costs, where energy efficiency improvements could provide a solution and improve both economic situation and living conditions.
- **Businesses** depend both on the state of the environment and on the policy and legislation developed to protect it. On the one hand, environmental degradation, resource depletion,

⁷² The latest reports: EEA (2015) SOER 2015 – The European environment – state and outlook 2015

⁷³ EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

⁷⁴ European Parliament (November 2017) Implementation of the 7th Environment Action Programme – Mid-term review, Brussels, European Union 2017

⁷⁵ European Commission (2017). Environmental Implementation review, COM(2017) 63 Final. For country reports, see http://ec.europa.eu/environment/eir/index_en.htm

climate hazards etc. can alter the internal and external factors of production of goods and services by either disrupting their production process or by increasing its costs. The energy price instability resulting from external (global) factors influencing fossil fuels prices have a negative impact on companies' competitiveness. On the other hand, environmental and sustainable energy policies impose significant changes in the production of goods and services so as to be aligned with the latest developments and standards in the protection of nature, human health, sustainable energy use and climate change mitigation. However, these policies can also be an opportunity for new business to be created, alternative business models to be developed, and

- **Civil society** as a whole is both majorly affected by the state of the environment and a great driving force for its protection. Firstly, local ecosystems and environmental conditions have always been the base upon which the interaction of people is taking place. This implies that climate change and degraded ecosystems will certainly have an effect on the social fabric of our communities with unknown consequences. Secondly, civil society is increasingly recognized as a key player in environmental protection and a central agent for change. A strong and active local community can ensure accountability, sustainable natural resource governance, environmental protection, and inclusive economic growth. Thus, empowering civil society helps governments to obtain effective and democratic policy-making and is critical to achieve sustainable development.
- Finally, in an increasingly globalized and interlinked world, **governments** are required to enhance their role in the protection of environment and act against the high-level problems that modern societies face. New evidence on the state of the environment and climate should be incorporated in every level of policy-making and in every sector. They are responsible for the development, implementation and enforcement of environmental clean energy and climate change regulation that addresses current and future problems.

4.3. The need to address the drivers of environmental and climate problems

There are several drivers of the aforementioned current and persistent environmental problems. These drivers (or failures) may be at the level of individuals and communities and/or at the overarching level of the market policy, or institutions. These failures highlight the need for public intervention through for example policy/regulation or programmes such as LIFE, to support a transformation of society. Environmental problems are driven by several market and institutional failures, for example:

- **Public goods failure:** A diverse and healthy nature and good environmental status are considered as public goods since their preservation benefits all, while without intervention the costs of preserving them would be borne unequally only by some. Without public intervention such as policy, legislation or financial incentives, there would be no incentive to preserve and protect the environment and uncontrolled access to and exploitation of public environmental resources would take place in favour of economic gains, regardless of the principles of a circular economy that reconciles both objectives.
- **Imperfect information:** Insufficiency or asymmetric distribution of comprehensive information on environmental degradation and climate change impacts leads to behavioural bias through incorrect signals. With respect to nature, biodiversity and climate change in particular, the long run timing of many impacts means that the full consequences of individual or market-driven actions are not appreciable today. Another application of imperfect information refers to the challenge of implementing public interventions where net emissions of polluters are difficult to efficiently monitor (making it impossible to effectively implement emission charges and/or controls).
- **Negative externalities:** Unintended negative impacts of production and consumption practices that are not fully priced into the market. This lack of pricing results in the inability of the market to value the full social and economic benefits of a healthy

environment. Pollution is again a good example here, where the health and biodiversity costs of air and plastic waste pollution are not taken into consideration in the production/consumption process despite circular economy models which provide solution to reduce them.

- **Government, institutional, regulatory or policy failure:** Although subtle differences exist across these terms, overall this failure refers to the imperfect nature of intervention by governance actors. In the case of variable/weak regulatory regimes, with poor enforcement or non-uniform implementation of rules at the Member State level, market actors may be more likely to pollute the environment or damage nature and environmental resources. This type of failure can be avoided at the EU-level by ensuring strong and coordinated policy action, with effective monitoring and enforcement. It can also be addressed by increasing support to virtuous behaviours that reduce the use of environmental resources while providing economic growth.
- **Eco-innovation failure:** By failing to assign an economic value to environmental costs and benefits, the market system also fails to fully incentivise or reward innovative ideas for reducing environmental and climate change impacts. Tailored regulation and policy-driven incentives can drive eco-innovation forward, for example through grant systems awarded for specific types of research. However, there is a fine line between stimulating and stifling the eco-innovation sector through regulation and policy and a careful balance is needed.
- **Societal failure:** The lack of societal acceptance of the need to change behaviour, reduce consumption and/or improve sustainability. This is particularly visible in cases where financial or welfare gains are dominant in producer and consumer choices. The growth in the aviation sector, with associated increase in emissions, presents an example of the divergence between societal and environmental needs, illustrating a dilemma for policy-makers.
- **Infrastructure lock-in and investment failure**

There are multiple ways of addressing the identified environmental problems and needs as well as failures. These include creating incentives for a transformative change by:

- enacting policies and legislation, mainstreaming of environmental, clean energy and climate considerations into other policies – primarily tackling market, regulatory and institutional failures, but can have behavioural impacts as well;
- raising public awareness and information – primarily tackling information asymmetry, cultural and societal failures;
- providing economic and financial incentives by market-based instruments and funding programmes, mainstreaming environmental and climate considerations into other funding programmes – primarily solving public goods and negative externalities failures but also other failures;
- providing direct financial support to the preservation or restoration public goods, such as nature and biodiversity, where this support cannot be provided through market based mechanisms or other funding programmes.

More has to be done to ensure that EU policies consistently incorporate environmental clean energy and climate objectives and/or consistently contribute to the implementation of EU environmental, clean energy and climate policy and legislation.

Lack of adequate and targeted funding, and insufficient mainstreaming of environmental, clean energy and climate objectives into other programmes and policies have been identified as two of the main reasons for a lack of sufficient progress on environmental, clean energy and climate policy implementation in the EU. Given the market and institutional failures

mentioned above, the necessary funding is not forthcoming within the market system and requires public intervention.

With regard to mainstreaming of climate objectives into EU policy and spending, a recent review⁷⁶ highlighted difficulties in ensuring effective climate mainstreaming in some programme areas, as well as a lack of a widespread understanding among policymakers of potential for mainstreaming climate in programmes or projects.

With regard to mainstreaming of environmental and climate objectives and biodiversity, a recent report of the Court of Auditors⁷⁷ highlighted that the majority of EU funding for biodiversity and the Natura 2000 network has been made available by integrating biodiversity goals into various existing EU funds or instruments. However, most of the instruments are primarily targeted on delivering the EU goals on rural, regional, infrastructural, social and scientific development. While this allows the integration of biodiversity into broader rural and regional contexts, it also makes the availability of funding dependent on the overall goals and mechanisms of the given funding instruments⁷⁸. As underlined in another recent special report, the funds made available are not sufficient and do not effectively target the achievement of the EU's biodiversity targets⁷⁹.

LIFE plays a special role in supporting the implementation of the Nature Directives, the estimated funding under LIFE to support biodiversity and nature in 2007-2013 was around EUR 750–837m (around EUR 107–120m/ year, actual and planned allocations respectively). This represented around 35-39% of the total LIFE+ budget. In comparison, for the 2014-2017 funding period, the estimated planned LIFE contribution to biodiversity and nature will be around EUR 610m (around EUR 153m/ year. This represents only 2.6% of Natura 2000 funding requirements alone, and LIFE also supports nature and biodiversity outside the Natura 2000 network. In general, LIFE funding represents less than 1% of the total EU

⁷⁶ See DG Clima. Climate mainstreaming in the EU budget. Preparing for the next MFF : final report. <https://publications.europa.eu/en/publication-detail/-/publication/1df19257-aef9-11e7-837e-01aa75ed71a1>

⁷⁷ European Court of Auditors (ECA) special report No 21/2017: Greening: a more complex income support scheme, not yet environmentally effective (https://www.eca.europa.eu/Lists/ECADocuments/SR17_21/SR_GREENING_EN.pdf).

⁷⁸ Ibidem: Executive summary "Overall we conclude that greening, as currently implemented, is unlikely to significantly enhance the CAP's environmental and climate performance". Among the reasons mentioned: because "clear, sufficiently ambitious environmental targets that greening should be expected to achieve" were not set, "the budget allocation for greening is not justified by the policy's environmental content" and "The green payment remains, essentially, an income support scheme". "Greening is unlikely to provide significant benefits for the environment and climate, mainly because of the significant deadweight which affects the policy". In particular, the Court estimates that "greening led to changes in farming practices on only around 5 % of all EU farmland. [...] The budget allocation for greening [...] was based on a political decision and not on the policy's delivery of environmental and climate-related objectives".

⁷⁹ European Court of Auditors (ECA), Special Report 2017: More efforts needed to implement the Natura 2000 network to its full potential". *While recognising the major role played by Natura 2000 in protecting biodiversity, we concluded that the Natura 2000 network had not been implemented to its full potential. Significant progress is needed from the Member States, and more efforts from the Commission, in order to better contribute to the ambitious goals of the EU 2020 biodiversity strategy*". See also Observation 83 "EU funds were not well mobilised to support the management of the Natura 2000 network. The EU's approach to financing the implementation of the Natura 2000 network has been to use existing EU funds. The use of these funds for the network is the competence of the Member States. There was a lack of reliable information on the EU funds used for Natura 2000 over the 2007-2013 programming period (paragraphs 41 to 44). There were weaknesses in the preparation of PAFs by Member States, and the assessment of funding needs for the 2014-2020 programming period was not accurate or complete (paragraphs 45 and 46). At site level, management plans often lacked an accurate and complete assessment of the costs (paragraph 47) associated with the implementation of conservation measures. The 2014-2020 programming documents for the various EU funds did not fully reflect funding needs (paragraphs 48 to 54) and the Commission did not address these weaknesses in a structured manner. EU funding schemes, in particular under the CAP and regional/cohesion policy, were insufficiently tailored to the objectives of the Natura 2000 sites (paragraphs 55 to 62)."

budget.⁸⁰ In spite of its small size LIFE fund has been of crucial importance for implementation of EU nature legislation and Natura 2000 in particular. Target LIFE projects have led to substantial improvement of the conservation status of a number of threatened habitat and species, have had catalytic effect by mobilising other funds for nature (particularly through integrated projects) and have tested a number of methods and approaches which later were replicated with great success in management of the Natura 2000 sites.

This shows that effective mainstreaming is essential but is not sufficient to solve the environmental problems. Targeted environmental, clean energy and climate funding is needed to address the additional financing needs but also to provide a catalytic effect to support relevant policy implementation and altogether more sustainable production and consumption behaviours. However, targeted funding programmes will only reach their full potential if complemented by appropriate mainstreaming.

As a result, both environmental and climate mainstreaming as well as targeted funding, such as the ones of the LIFE Programme, would be needed to adequately address the EU's environmental problems and failures.

Reporting:

The Fitness Check on Environmental Reporting and Monitoring (SWD(2017)230 and supporting study¹) looked, amongst other issues, at the effectiveness and efficiency of the current approaches to data management. This uncovered a number of cross-cutting issues which are relevant to financing needs.

- The current LIFE Regulation covers a large part of the legally required operations related to environmental reporting. On one hand, the EEA is financed by LIFE+ and has estimated that it uses €4.5 mio annually to support DG ENV on legislative reporting. This does not include staff costs but operational costs. In addition, DG ENV spent between €4-€7 mio (2014-2016) annually from its LIFE operational budget to outsource reporting-related activities to address all those legally required actions that allow the Commission to exercise its duties of “Guardian of the Treaty” (in other words, to assess Member State implementation of EU environmental laws and report the results to the European Parliament and the Council). These outsourced activities are mainly procurements with consultants or administrative arrangements with the JRC. There are also some few reporting activities related to chemicals legislation where ECHA is providing those services but no budgetary estimated was made. Finally, the Commission’s IT budget is covering a small part of these activities and the services are executed by Unit ENV A4.
- The type of activities of all these actors related to reporting are all very similar. They execute several steps of the data management chain, namely:
 - collect and store information and data provided by the Member States
 - quality assurance and control of the data
 - put together the national data into a new, consolidate European datasets
 - analyze, assess and interpret the data and information

⁸⁰ Milieu, IEEP and ICF, Evaluation Study to support the Fitness Check of the Birds and Habitats Directives, March 2016

- prepare data products such as maps, statistics, dashboards, textual summaries, etc.
- It is therefore apparent that:
 - The data management is highly fragmented and diverse.
 - The overall approach is highly inefficient. On average, the time between the moment that Member States are supposed to report the data and the Commission preparing its report to the EU institutions is 630 days. The best practices (all carried out by the EEA) are below half a year (180 days), the worst is more than 1200 days.
 - The EEA has been demonstrated as being generally more efficient and effective in reported data management.
 - The effectiveness of the data management can be improved significantly by reducing the textual information, increase the use of indicators, standardize data management procedures and allow for synergies, interoperability and coherent approaches between the different data management actors. This would involve to use more modern and standardized IT solutions. Through this, the quality of the products can be improved whilst saving time and money.
 - Currently the approaches, in particular from outsourcing to consultants, create a diversity of solutions and products and do not offer sustainability and continuity. The hosting of data products (such as databases or map viewers) is open done through the contracts. When these contracts run out, the products are either not hosted or maintained anymore or there is a indefinite need for having follow up contracts to cover such costs. This is not an effective use of the LIFE operational budget.

All the above evidence is based on the Reporting Fitness Check and therefore relates to data management that is required in 58 pieces of environmental legislation (and 181 reporting obligations). However, the issues are similar and can be extrapolated to wider environmental data management, e.g. related to policies (where no legislation exists) such as circular economy, forestry, soil, etc. or evidence-based products which do not rely only on reported data such as the EEA's SOER, the DG ENV's EIR or any evaluation or impact assessment, and by analogy to climate needs. Therefore, LIFE financing is needed to support a coherent approach to evidence gathering, data management and processing in the areas of environment and climate.

Knowledge gaps and support for Eco-Innovation:

Back in 2013, the 7th Environmental Action Programme already stressed the importance of taking further steps to maintain and strengthen our knowledge and evidence base in order to ensure that policy in the Union continues to draw on a sound understanding of the state of the environment, possible response options and their consequences. The recent (draft) evaluation of this programme⁸¹ has however revealed that significant knowledge gaps remain in a number of environmental issues, for example on environmental thresholds (tipping points), the circular economy paradigm, the combined

⁸¹ European Parliament - *Committee on the Environment, Public Health and Food Safety*, report 2017/2030(INI) from 26.10.2017

effects of chemicals, nano-materials, hazard identification methods, the impacts of micro plastics, and the interaction between systemic risks and other health determinants.

There is a need to develop an ecosystem for eco-innovation that supports the transition to a low carbon and circular economy as well as a better implementation of environmental legislation by building on the strengths of the sector – namely the local collaboration among administration, citizen and entrepreneurs. The most promising approach to build upon is provided by the European Institute of Technology (EIT) in the Climate-KIC and KIC-Inno Energy.

Innovation prizes – as piloted in Horizon2020 and likely foreseen for continuation in future – could develop into a particularly interesting tool of specific interest for encouraging collaborative innovation among administration, citizen and entrepreneur.

4.4. Sector-specific Needs

Concerning the specific needs by sector, a summary of the key environmental problems inside the EU and some of their investment needs is presented in the table below; it should be noted that there is no comprehensive information available about the total needs for most environmental sectors.

Table 4-1: Summary of environmental energy and climate problems and needs

Environmental, energy and climate problem	Indicative investment need
Nature and biodiversity Natural capital provides the basic conditions for human existence and its economic activities. The complexity of natural systems and irreversibility of some environmental damage carries significant risks with respect to continued degradation of ecosystems and their services. There is a long-term need, with a vision of up to 2050, ‘to protect, conserve and enhance the Union’s natural capital’ and ‘live within the planet’s ecological limits.’⁸² The Biodiversity Strategy to 2020 sets targets up to 2020, however, the 2015 mid-term review of the EU biodiversity strategy to 2020 concluded that biodiversity loss was continuing and that much strengthened efforts were needed to reach the 2020 target.⁸³ There has been some progress made over recent years in halting the loss of biodiversity, but the last State of Nature in the EU report indicates that overall goals of the EU nature legislation have not been met yet; a substantial proportion of species of EU interest are threatened and/or declining (around 17% of the birds species are threatened and another 15% are near threatened, declining or depleted; in case of non-bird species 60% have been found to be in unfavourable conservation status), and a substantial proportion of habitats and non-bird species have an unfavourable conservation status (habitat types, on the whole, have a worse conservation status and trend than species; across the EU-27, only 16% of habitat assessments are favourable, while more than two-thirds are unfavourable)⁸⁴. Significant progress have been made with designation of the Natura 2000 network but moderate progress has been made in establishment of conservation measures for Natura 2000 sites (e.g. through management planning and objectives setting, and practical land management agreements with owners)^{85, 86} A 20+ year outlook expects that the underlying drivers of biodiversity loss are not evolving favourably. Full	The Nature Fitness Check and the mid-term review of the Biodiversity Strategy to 2020 both concluded that lack of funding is a major issue, overall costs are in the range of 11-20 billion euro per year, as detailed below. In 2010 total funding necessary for the management of the Natura 2000 network was estimated conservatively at approximately 6 bn EUR/yr. This figure – based on a survey sent to the EU MS – risks to be substantially underestimated as it reflects rather the current level of available funds than estimation of all needs. It is estimated the EU co-financing covered only 9-19% of this estimated financing need⁸⁸. A recent re-evaluation of needs in Germany resulted in twice the amounts previously estimated. i.e. Financing needs for Natura 2000 might be up to 12bn. In addition, it was estimated that the EU biodiversity strategy target to maintain and enhance ecosystems and their services, including through restoring 15% of degraded ecosystems, would entail a total estimated additional cost ranging from € 0.5 to 11 billion per annum, with a middle scenario of around € 5 billion per

⁸² 7th Environment Action Programme, Regulation (EU) No 1293/2013

⁸³ COM/2015/0478 final; EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

⁸⁴ REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT The State of Nature in the European Union Report on the status of and trends for habitat types and species covered by the Birds and Habitats Directives for the 2007-2012 period as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive COM/2015/0219 final/

⁸⁵ Milieu, IEEP and ICF, Evaluation Study to support the Fitness Check of the Birds and Habitats Directives, March 2016.

⁸⁶ European Parliament (November 2017) Implementation of the 7th Environment Action Programme – Mid-term review, Brussels, European Union 2017

implementation of policy is needed to deliver the needed level of improvements. ⁸⁷	annum. Financing needs to continue the BEST small grants programme for biodiversity in ORs and also the OCTs (which are not part of the EU) are estimated at 8 million Euro per year.
Environment and Health (incuding Chemicals) Due to their increasing use and their potential health impacts, attention to chemicals is growing both in science and policy-making. Their use provides benefits to society, but at the same time the use of hazardous substances should be assessed and minimized by 2020. From 2006 to 2015 there was a 7.5% decrease in the consumption of both hazardous and non-hazardous chemicals.⁸⁹ However, while current legislation increasingly addresses the impacts of chemicals, concerns over their cumulative effect on human health and the environment and newly emerging chemicals are proliferating. The call for the development of a non-toxic environment by 2018 as mentioned in the 7th EAP should address these concerns but the main obstacle is the large knowledge gaps in the chemicals area. Moreover, the global trend beyond 2020 shows that chemicals production will increase, which creates a cause of concern.⁹⁰ Air Pollution remains the number one environmental cause of adverse health impacts and premature deaths in Europe. Despite decreases in emissions of air pollutants over the last decades and improved air quality, the European Environment Agency estimates that more than 400,000 premature deaths p.a. in the EU are due to air pollution and poor air quality. Currently 24 of the 28 Member States are not in compliance with the air quality standards i.e. maximum pollutant concentration levels for key air pollutants set in the Ambient Air Quality Directives. This has a significant bearing on human health and ecosystem services (notably vegetation including crops). Where the established standards for ambient air quality are not met, the Directives require Member States to prepare and implement air quality plans and measures (for a given pollutant). Guided by the principle of subsidiarity, the Directives leave the choice of means to achieve these standards to the Member States, but do explicitly require that exceedance periods are kept as short as possible. Effectively addressing this problem	When the willingness-to-pay method is used to estimate the amount that people would be willing to pay to avoid premature death due to pollution-related disease, the total is estimated to be more than US\$4.6 trillion, which is 6.2% of global economic output⁹¹. In high-income countries, health-care spending on diseases caused by air pollution alone amounted to 3.5% of total health expenditures in 2013⁹². This equals ~130€ (PPS) per person per year in the EU.

⁸⁸ EC (2017) Support for an external and independent LIFE Mid Term Evaluation Report, Luxembourg, European Union, 2017

⁸⁷ EEA (2015) SOER 2015 – The European environment – state and outlook 2015

⁸⁹ EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

⁹⁰ *Ibidem*

⁹¹ The Lancet Commission on Pollution and Health (2017) [http://dx.doi.org/10.1016/S0140-6736\(17\)32345-0](http://dx.doi.org/10.1016/S0140-6736(17)32345-0)

⁹² The Lancet Commission on Pollution and Health (2017) [http://dx.doi.org/10.1016/S0140-6736\(17\)32345-0](http://dx.doi.org/10.1016/S0140-6736(17)32345-0)

beyond 2020, considering the many non-compliance situations, will require a strengthened effort, combining LIFE instruments such as Integrated Projects at national and regional scale with standard projects addressing data monitoring and modelling, capacity building for governance, information and awareness projects as well as pilots and demonstration projects in areas where emissions can be reduced such as agriculture, mobility and energy e.g.. to demonstrate the role and relevance of innovative Zero-Emission Transport solutions, including intelligent consumer services, in urban and rural areas, with a particular view to increasing consumer buy in.

Air quality should also be mainstreamed in climate mitigation projects to maximise synergy effects.

Noise

According to the findings of the World Health Organisation (WHO), noise is the second largest environmental cause of health problems, just after the impact of air quality (particulate matter).

In the EU, more than 125 million people were exposed to high levels of road traffic noise alone, resulting in 14.1 million adults severely annoyed by environmental noise, 5.9 million adults are highly sleep disturbed, 69 000 hospital admissions and 15 900 cases of premature mortality occur annually, due to environmental noise.

The implementation of the Environmental Noise Directive, which is intended for Member States to achieve a common approach to avoid, prevent and reduce environmental noise, and to inform EU actions on noise, is delayed. In 2017, 13 years after its adoption, only around 80 % of the noise maps and not even 50 % of the respective action plans have been submitted.

Reasons for the delay vary, but include the lack of financial resources available in Member States.⁹³

Air quality

A central component of safeguarding people's health and wellbeing is ensuring good air quality.

The full implementation of the Clean Air Package is projected to enhance air quality and reduce by 2030 the health impacts by half compared to 2005, particular pollutants will still be above harmful levels, posing a threat to human and ecosystem health.⁹⁴

The National Emission Ceilings Directive (NECD, 2016/2284/EU) and the Ambient Air Quality Directives (AAQD, 2004/107/EC and 2008/50/EC) set up the legal framework for pollution control and compliance with air

MS repeatedly request financial support to implement the measures in the plans.

A rough extrapolation from German/ESTAT data indicates costs of around 1.5 billion € for EU 28.

The marginal costs related to the additional measures included in the last programme for implementation of the National Emission Ceilings Directive, which is 2.2 to 3.3 billion euros per year; this provides an indicative minimum estimate of the investment needs to tackle this problem beyond Business As Usual.⁹⁵

Although, a lot of the funding will be done by citizens

⁹³ COM2017 (175) final, at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0151&from=EN>

⁹⁴ EEA (2015) SOER 2015 – The European environment – state and outlook 2015

⁹⁵ EPRS | European Parliamentary Research Service (2017), Reducing air pollution National emission ceilings for air pollutants. Briefing EU Legislation in Progress

quality standards. The new NECD 2016/2284/EU has to be transposed by 1 July 2018. Substantial support in developing and implementing the National Air Pollution Control Programmes will be needed. Many Member States need capacity-building and other support in developing or improving a national emission inventory and projections system. The Ambient Air Quality Directives (2004/107/EC and 2008/50/EC) are currently undergoing a Fitness Check, with the aim to establish an Action Plan in 2019 or 2020. The air quality situation across Europe raises concerns that exceedance above established limit values and target values will continue beyond 2020 in many Member States. In the framework of the Clean Air Dialogues and similar initiatives with MS, it is clear that examples of good practice (e.g. LIFE projects) play an important role, as well as funding possibility - as MS feel they often lack the data (e.g. monitoring data, emission inventories, modelling), the capacity and governance to properly address the situation, or the expertise in certain areas (e.g. information to the citizen). Clean Energy policies play a substantial role in improving air quality (both indoor and outdoor), by decarbonising energy production specifically the local sources of heating and increasing energy efficiency of buildings and industry sectors. The relevant legislation is here: Renewable Energy Directive, Energy Efficiency Directive, Energy Performance of Buildings Directive and Ecodesign and Energy labelling Directives and regulations.	(e.g. replacing boilers and cars) and industry (IED), often for other reasons than air quality (e.g. reducing energy bills), and most actions will serve multiple policy objectives (energy efficiency, renewable energy, GHG emission reduction, noise, road safety, ...) ⁹⁶, it is estimated that MSs will need support around 0.7 billion EUR including the co-financing of demonstration and pilot initiatives tackling specific aspects of air quality (e.g. monitoring and modelling, emission inventories, VOCs) Article 7 of the NEC Directive requires the Commission to endeavour to make funds available: " ..., in order to support the measures to be taken with a view to complying with the objectives of this Directive. Those Union funds include present and future available funding under, inter alia: ... (c) instruments for the funding of environment and climate action such as the LIFE programme."
Circular economy, resource efficiency and waste The transition to a circular economy is required to prevent further breaching the 'limits of the planet'. New technologies like distributed manufacturing, robotics, digitalisation for tracking of substances and the internet of things are important enablers for this transition. However, support to the replication of existing best practices that have proved successful in shifting entrepreneurs investments and consumers behaviours towards more sustainable patterns are even more instrumental for the overall transition to a more resource efficient and circular economy. Massive investments are needed to support and accelerate the transformation across sectors and along	The estimated¹⁰⁴ investment needed to realise important benefits of the circular economy in three sectors (mobility, food, built environment) amounts to 1.050 billion EUR by 2025 of which 380bn are additional to current developments. Annual additional costs for top5% with highest

⁹⁶ In a Commission study from the DG for Climate Action, it was estimated that about 4% of the funding of the required mitigation measures will come from the EU. The rest will be born by third parties. As climate mitigation and air quality measures tend to be very similar, this gives a very rough indication for air quality as well of around € 2500 bn. But because of the large overlap with energy/climate mitigation, mobility and agriculture this amount can of course not be attributed to air quality alone.

value chains.

Moreover, whilst resource productivity is a benefit per se⁹⁷, the rapidity of this transformation could allow European firms to keep and increase their competitiveness. In line with the global agenda on sustainable development, circular economy and resource-efficiency are regarded as key to address global environmental challenges. Not only improvements are in demand at international level across a wide range of industrial sectors; policy measures worldwide affecting flow of materials and goods have also a direct impact on EU companies and public authorities requiring adaptations of infrastructures and of business models. Accompanying policy development and effective implementation, as well as supporting investments and the replication of best practices are therefore needed. The circular economy has a strong social dimension offering a wide variety of job opportunities including high, medium and low skilled profiles (eco-design, engineering, IT system planning, maintenance, repair, dismantling).

However, for this to happen the market barriers that prevent these opportunities from being developed and demonstrated in practice need to be overcome. Companies and public authorities may lack the information, confidence and capacity to engage in co-creating circular economy solutions along value chains. Current **investment in innovation for the circular economy** is overly focussed on recycling technologies whereas support to new business models, to eco- and modular design of products and substitution of hazardous materials in the products remains marginal⁹⁸. It is very difficult to estimate the uncovered needs – beyond the development of recycling technologies - for innovation for the circular economy transition. A major bottleneck to overcome for entrepreneurs is the opportunity to test their approaches in real life environments ('living labs for the circular economy'). Major progress could be made by orienting existing industrial innovation support infrastructures and programmes towards innovation for the circular economy transition.⁹⁹

The financial system often fails to provide for investment in efficiency improvements based on new technologies or provide financing for substantial initial investments for innovative business models (for example the initial purchase of large number washing machines to be leased to consumers), which are perceived as more risky and complex, deterring many traditional investors. Technology lock-in and resilient consumer habits can also hinder

ecological footprint of 22mio companies in EU to implement EMAS and employ new expertise: €104bn p.a + €22bn one-off initial EMAS system development;

During one year (2015/16) in 23 major EU cities to total market uptake of industrial warehouses amounted to 8mio m² equal to 800ha of land. For which opportunities for industrial symbiosis within the plots and with the surrounding were not considered.

¹⁰⁴ "Achieving 'Growth Within'", SYSTEMIQ, in collaboration with the Ellen MacArthur Foundation, 2017. (Original amounts in GBP!)

⁹⁷ Waste prevention, ecodesign, reuse and similar measures could bring net savings of € 600 billion, or 8 % of annual turnover, for businesses in the EU, while reducing total annual greenhouse gas emissions by 2-4 %.

⁹⁸ EEA (2017) Circular by design

⁹⁹ The World Economic Forum calls for "Dialogues and partnerships that bring technology developers and providers together with environmental experts to co-develop these innovations and to ensure they are developed for the public good, while minimizing risks of unintended environmental consequences. WEF (2017) "Harnessing the Fourth Industrial Revolution for the Earth"

new products and services development. Such barriers tend to persist in a context where prices do not reflect the real costs of resource use to society, and where policy fails to provide strong and consistent signals for the transition to a circular economy.

Industrial symbiosis is the use of waste material streams of one company as input material for other industrial processes – preferentially in the vicinity to avoid long distance transport of bulk materials. Realising industrial symbiosis would require taking it into account in the initial design of industrial estates, during their rehabilitation and in urban planning linked to material flows. In the absence of binding legislation in that respect one would have to count on volunteer action from real estate developers and reinforcement by planning authorities.

Various traditional and new environmental policy areas like waste and water policy but also the new specific policies on plastics, on bioeconomy and raw materials play an important role for the transition to the circular economy. Identified investment needs in these sectors are additional to the investment needs identified above.

Smart regulation, market-based instruments, research and innovation, incentives, information exchange and support for voluntary approaches as well as replication of best practices are needed to build up an overall enabling framework.

Europe has a very large ecological footprint and the EU's resource needs are increasingly met by imports from other countries. Circular economy can lower the overall consumption of resources and materials, reducing the environmental burden and increasing global competitiveness. Projections show that resource efficiency will be slightly improved by 2020, meeting the objective of the 7th EAP.¹⁰⁰ Nevertheless, this improvement is far from the anticipated progress in reducing the absolute material use, which requires a systemic change in the European production and consumption patterns, as called for by Sustainable Development Goal 12. In this respect, an integrated perspective on production-consumption systems, which entails changes in, among others, raw materials sourcing (secondary vs. Primary), waste prevention, , waste management, energy production and consumption, transportation, water use, non toxic materials cycles and industrial production, will have a central role to play in the post-2020 period. Of all the EU Member States, 9 so far have adopted resource productivity targets of which 5 include post-2020 targets¹⁰¹ and only a few have adopted circular economy policy frameworks and strategies. This indicates that MSs are strengthening their approach to material use, but still more has to be done.

In the case of land use, the pursuit of resource efficiency is often translated into land use intensification. It is essential that any such effort reflects a comprehensive ecosystem-based concept (including all ecosystem functions and services provided by land and land use) to optimise overall ecosystem condition and service

¹⁰⁰ EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

¹⁰¹ *ibid*

delivery to society and to avoid unfavourable trade-offs e.g. if intensification aims unilaterally at growing wood or food outputs, at the cost of losing biodiversity or other ecosystem functions.

Establishing an Environmental Management and Audit System (EMAS) in public and private organisations is a first step on path to reduce the environmental footprint and rethink product & services design for circularity. 1st year implementation costs for an EMAS system are estimated at 40.000€ for small and medium sized enterprises with recurrent annual costs of 20.000€. Taking more ambitious steps towards circularity would mainly require additional specialised staff (internal or external) in the company for the definition of projects that are both green and profitable.¹⁰² Implementing EMAS has a very high return on investment over time.¹⁰³

Considering the EU GDP share of public procurement, **support for the uptake of Green Public Procurement** as a voluntary scheme by national and local authorities would also generate a tangible shift towards more sustainable consumption patterns and would allow public authorities to play fully their role mode in the transition. Support for the uptake of **the EU Ecolabel**, on the other hand, would allow companies to reap the benefit of their efforts for placing on the market greener products that protect consumers and the environment.

The overarching notion of the Circular Economy paradigm is ‘nothing is wasted’, and thus, the shift to a European circular economy involves major improvements in the **prevention and management of waste**. Between 2004 and 2012 per capita waste generation fell by 7% in the EU-28. Waste management also improved during this period with recycling levels going up, which helped reduce the amount of waste deposited in landfills.¹⁰⁵ However, waste generation in the EU remains considerable and many of the Member States will have to significantly step up their waste management and prevention efforts to successfully implement the objectives of the current waste policy.¹⁰⁶ Recently revised EU waste legislation sets ambitious recycling and landfill reduction targets: 65% in 2035 for municipal waste and 70% in 2030 for packaging and a maximum of 10% of municipal waste to be landfilled in 2035. This will increase the pressure on Member States, especially those that are currently lagging behind, to deliver and rethink their approach to waste management in light of circular economy principles. The revised Waste Framework Directive also requires Member States to take action to reduce food waste generation at each stage of the food supply chain, as a contribution to UN Sustainable Development Goals, monitor food waste levels and report back on progress made. These new obligations strengthen the integration of food waste prevention as part of waste policy and call for the preparation of national

Significant investments in infrastructure are needed to ensure implementation of the revised Waste Framework Directive, including for the new requirements imposed by the 2018 waste target review on collection and recycling targets. Further efforts could be requested by the follow up review clause introduced with the same 2018 amendments (e.g. waste oil target review).

Many of the MSs need to go from 30 % recycling to 60-65% recycling in the next 10 years. This means that the necessary investments in separate collection, quality sorting and recycling infrastructure for these waste flows need to be secured, in particular for bio-waste and plastics. In addition, innovation will be needed

¹⁰² COMMISSION DECISION (EU) 2017/2285 amending the user’s guide setting out the steps needed to participate in EMAS. Annual average cost for a specialised junior staff estimated at 75.000€ p.a.

¹⁰³ Idem. Notably for medium sized enterprises with larger material throughput. Not applicable to Micro-companies (<9 employees).

¹⁰⁵ EEA (2015) SOER 2015 – The European environment – state and outlook 2015

¹⁰⁶ EEA (2017) Environmental indicator report 2017: In support to the monitoring of the 7th Environment Action Programme. EEA Report No. 21/2017

food waste prevention programmes.

An integrated approach to all the above areas is therefore needed to cover the wider scope of the transition to a circular economy

throughout the EU to boost the recyclability of more products and prevent waste. Yearly investments for waste infrastructure in the EU for the next ten years are estimated at 12.5 Billion euro (split in about one third for governments, and 2 thirds for specialised operators) [Commission services estimates on Eurostat data]. The EU should continue to financially support MS in achieving more ambitious recycling levels with the most appropriate technology and infrastructure.

Water

European freshwater resources have been under considerable pressure both in terms of their quantity and of their quality. There are three dimensions to the water challenge, namely water scarcity, flooding and water pollution. These water-problems are addressed by the Water Framework Directive, which aims to achieve good ecological status for all the surface and groundwater sources. Specific aspects of these main challenges are also addressed by other Directives (Floods Directive, Urban Waste Water Treatment Directive, Nitrates Directive, etc.). Although the quality of European water resources has improved over the last two decades, many waterbodies are still significantly affected by these problems, since only around 40% of surface waters achieved a good ecological status by 2015. Groundwaters are in a better state, with 74% in good chemical status and 89% in good quantitative status¹⁰⁷. This clearly indicates a major implementation problem, which will be further amplified by the more ambitious targets laid out in the second set of River Basin Management Plans (2016-2021) developed by the MSs. The RMBPs need to address the major challenges to water: diffuse pollution, in particular from agriculture, urban waste water, pollution by hazardous substances and hydromorphological changes to water bodies. On top of that, it is certain that additional water efficiency improvements as well as action on nutrient pollution will be needed beyond 2020 due to increasing future pressures, such as climate change, population growth and urbanisation, which will continue stressing water resources even further in the post-2020 period. Improving water efficiency will have significant effect on reaching the EU's energy efficiency targets.	Considerable additional investments are still needed to guarantee basic services such as access to water and sanitation for all European citizens and ensure full compliance. Also emerging pollutants of concern will require particular attention in the coming years (pharmaceuticals, micro plastics).¹⁰⁸
Soil Soil provides a series of essential ecosystem services and can help to tackle societal challenges such as climate change, loss of biodiversity, migration, food security or clean water and energy. Unfortunately the current pressures on land and soil are huge and expected to continue growing. Accelerating drivers behind land and soil degradation such as urbanization, expansion and intensification of agriculture, demographic growth, climate change and industrial production continue to undermine soil functions and the delivery of ecosystem services. EU policies which limit and reduce pressures on soil to safeguard its provision of services are still embryonic and uncoordinated, which implies that policy development rather than implementation needs to receive priority. Immediate action needs to be taken to meet the targets of the Agenda for Sustainable Development and especially to achieve a land degradation neutral world by 2030 (SDG 15).	Soil degradation generates costs equal to 38 billion euros per year¹⁰⁹. The estimated cost of inaction for Europe (5.652 Bio USD) largely outweighs the cost of action (945 Bio USD) on a time horizon of 30 years. The return on investment in Europe is amongst the highest in the world.¹¹⁰
Nutrients cycle	

¹⁰⁷ EEA (2015) SOER 2015 – The European environment – state and outlook 2015

¹⁰⁸ ACTeon (2012) Comparative study of pressures and measures in the major river basin management plans in the EU Task 4 b: Costs & Benefits of WFD implementation

¹⁰⁹ EU Commission (2006) Thematic Strategy for Soil Protection - Impact assessment of the thematic strategy on soil protection

¹¹⁰ Nkonya et al., 2016, Economics of Land degradation and Improvement, a global assessment for sustainable development (ELD Initiative)

Nutrients are essential for plants and intensively used as fertilizers in agriculture. The biogeochemical cycles of nutrients have been radically changed by humans as a result of many industrial and agricultural processes and by the inefficient and excessive use of nutrients, especially in the agricultural sector¹¹¹. This is problematic due to the increasing scarcity of resources (e.g. Phosphorus) and due to various environmental impacts such as contribution to climate change, eutrophication, and acidification of water. Several EU policies are in place to improve one or several aspects of nutrient management (e.g., Nitrates Directive, Water Framework Directive and daughter directives, Common Agricultural Policy) and the more sustainable and resource-efficient management of the nutrient cycle is also one of the objectives of the 7th EAP. Despite improvements in reducing nutrient losses, excess nutrients from human activities such as agriculture and wastewater and nutrients mismanagement are still damaging the natural nutrient cycle, causing pressure on both water and terrestrial ecosystems¹¹².	
Climate change adaptation The Paris Agreement on climate change recognises the importance of actions needed to help people adapt to a warmer temperatures. The minimum cost of not adapting to climate change is estimated to range from € 100 billion a year in 2020 to € 250 billion in 2050 for the EU as a whole. For coastal management, the estimate for adaptation measures (construction of dikes, beach nourishment) range from the annual expenditure of around €1 billion up to the 2020s, €2 billion in the 2050s and over €2.5 billion in the 2080s[1]. Estimates for investment needed to make critical infrastructure[2] climate resilient until 2040 go up to 25 billion EUR and to €87 billion by 2070. To make infrastructures climate resilient up to the end of the century, capital costs could exceed €200 billion and operation and maintenance costs could grow to €5.4 billion per year. These estimates reflect only a fraction of the potential climate change impacts on society in Europe. Weather-related disasters could affect two-thirds of the European population annually by 2100 with a 50-fold increase in fatalities compared to today, if no adaptation action is taken. Southern and southeastern Europe are projected (and are) the most affected hotspots, while coastal areas and floodplains are multi-sectoral hotspots. Cities are also vulnerable to climate change owing to the concentration of people and economic assets.	Limited studies on the investment need but multiple estimates, 35-62 billion per year (a narrower scope), 158-518 billion per year (wider scope), etc.
The Clean Energy Transition and Climate change mitigation The Paris Agreement on climate change sets out a long term goal to put the world on track to limit global warming to well below 2°C above pre-industrial levels – and pursue efforts to limit the temperature increase to 1.5°C. The transition to a low carbon, resource and energy-efficient economy demands a fundamental shift in	Delivering the 2020, 2030 and 2050 energy and climate targets is estimated to need 178 billion euros per year until 2030, closing the financing gap between the BAU

¹¹¹ <http://science.sciencemag.org/content/347/6223/1259855.full>

¹¹² <https://www.eea.europa.eu/airs/2017/natural-capital/agricultural-land-nitrogen-balance>

technology, energy, economics, finance and ultimately society as a whole. The EU leaders have committed to transforming Europe into a highly energy-efficient, low carbon economy – the policy package on Clean Energy for All Europeans. To reach EU's Paris agreement target the EU must cut emissions by at least 40% by 2030 (compared to 1990). EU also has a binding target of at least 27% of renewable energy and an energy efficiency increase of at least 27%. To achieve Clean Energy goals, Member States must develop long term integrated national climate and energy plans. The 2017 Report on the State of the Energy Union shows that most Member States are on track to meet their 2020 targets. However, further actions will be needed by all sectors and at all levels to achieve the EU's 2030 climate and energy targets set in the CE4AE package.	investments of 9 448 billion and the estimated need of 11 230 billion.¹¹³
Urban development Due to their high density of population and economic activity, European cities are locations where a range of environmental issues accumulate, such as high air pollutant concentrations, the majority of greenhouse gas emissions and energy use, waste management problems, etc. This situation also offers many opportunities to address issues such as air quality, noise, circular economy, water, environmental aspects of transport and housing, soil sealing, land use, and energy use and efficiency, as well as climate change mitigation and adaptation. SDG 11 has various urban targets (e.g. providing sustainable transport for all, or universal access to green spaces, 'reducing' impact of cities, 'increasing' integrated policies and plans. The 7th EAP sets an overreaching aspirational target (to ensure a majority of cities are planning sustainably by 2020) that is hard to measure and even harder to achieve, but then sets specific actions all of which are achievable and are underway. EU Ministers responsible for urban matters agreed on the Urban Agenda in May 2016 with the Pact of Amsterdam. The Urban Agenda promotes cooperation between Member States, cities, the European Commission and other stakeholders, with the goal to achieve Better Regulation, Better Funding and Better Knowledge (knowledge base and exchange) to address urban challenges. In the Urban Agenda 12 partnerships work on specific topics, such as Air Quality, Circular Economy, Sustainable Land Use, Urban Mobility, Energy Transition, and Climate Adaptation.. Habitat III – New Urban Agenda offers an amazing set of environmental commitments for sustainable urban development and planning covering all areas from climate and energy, transport, air, green spaces and much more The clean energy transition should be driven at local level as is a great opportunity for local communities to become more competitive and resilient based on local energy flows, socially fair and to which every citizen can	

¹¹³ DG Clima. Climate mainstreaming in the EU budget. Preparing for the next MFF: final report. <https://publications.europa.eu/en/publication-detail/-/publication/1df19257-aef9-11e7-837e-01aa75ed71a1>

contribute. The transition implies profound changes in energy generation, transmission and consumption, with decentralisation, bi-directional energy flows, energy efficient and flexible consumption. The key role is often played by cities smart urban energy planning for sector coupling and matching locally available sustainable energy sources and local demand and in setting ambitious strategies and delivering concrete actions on the ground. In many instances, this is done through voluntary commitments to the Covenant of Mayors, an initiative launched by the European Commission to develop and implement at local level Sustainable Energy Action plans. Support for similar activities focussing also on the resource efficiency of buildings, as well as on the disposal of construction and demolition waste would allow to have a more holistic approach to urban impacts on the environment.

4.5. Needs for LIFE Strategic Integrated projects:

Whereas the previous section outlined the overall needs for environmental financing, from LIFE and other sources, a specific analysis was carried out concerning the needs for LIFE Strategic Integrated projects under the next MFF. This analysis takes into account the experience, to date, of the initial piloting of integrated projects under the present LIFE programme.

At present, LIFE finances integrated projects in four areas, on a pilot basis. By the end of the current programme, it is expected that about 60-70 integrated projects will be financed for these four areas. An assessment of these areas demonstrates the added value of the present projects as well as the scale needed for a significant impact on the target policy areas.

Table 4-2: Existing indicative areas

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
Air quality (AQPs)	AQPs are required for all zones which are non-compliant with the air quality standards set by the AQD.	As many as 670 air quality zones across the EU for a single air pollutant (with different zones for each of the pollutants included in the AQD at varying levels of local, regional and national). Particular challenges for PM10 and NO2 (17 and 18 non-compliant zones in 2014). Upcoming challenge relating to PM2.5 expected (currently no proceedings against Member States but standards only recently entered into force).	Development of AQPs requires stakeholder engagement across multiple levels of communication (across varying levels of governance; involving different authorities across sectors and policy areas; and sometimes requiring transnational communication). To implement the AQP requires funding, monitoring and reporting frameworks. SIPs provide a framework to guide communication and can facilitate access to funding.	At a minimum, there should be a sufficient number of SIPs to support AQPs targeting different sectoral challenges (in particular transport, residential heating, agriculture and industry). In addition, SIPs should provide sufficient geographic coverage to reflect the different biophysical qualities of Member States affecting air quality; and sufficient support across different levels of governance (including local, regional, national and transnational).

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
Natura 2000 (PAFs)	PAFs are planning tools required to provide an integrated overview of the measures needed to implement the Natura 2000 network, linking them to the corresponding EU funds and specifying their financing needs.	65 PAFs were developed for the current programming period; and will need revising for the 2021-2027 period. A review found that the assessment of funding needs for the 2014-2020 programming period was not accurate or complete in PAFs. Coordination between relevant authorities, stakeholders' participation and cross-border cooperation were also found to be underdeveloped in many cases. Significant delays in the implementation of conservation measures were reported and the impact assessment of measures included in the PAFs was found to be inadequate.	Implementing the Natura 2000 network to its full potential requires cooperation between multiple stakeholders. Reporting funding needs in PAFs needs to be improved to secure the successful implementation of the measures. SIPs provide a framework to guide communication and can facilitate access to funding.	Owing to the large geographic scale of the current challenges which are expected to continue in the coming programming period, at the very least one large SIP per Member State would be needed in the 2021-2027 programming period. More realistically multiple SIPs are needed per MS to cover the different administrative and biogeographical subdivisions. In order to serve as comprehensive mainstreaming tools, the strategic projects for nature should be considerably larger than other SIPs.
Waste management (WMPs)	WMPs are required from all MS and need to cover the whole territory of the Member State. WMPs can also be developed at regional and sub-regional levels, and by sector.	A review of WMPs covered 45 plans across 18 Member States. The review found improvements in waste management because of waste management infrastructures but poor implementation of supporting measures. Of regions with improved waste management infrastructures, only 25% achieved EU waste policy objectives; and this was through the supporting measures. Waste collection strategies were found to have positive impact on performance of waste management infrastructures. The development of supporting information,	Supporting organisational, strategic needs and implementation of waste management plans is a higher priority than infrastructural needs. The focus on regional waste management should be expanded. Greater focus is needed to improve supporting measures to waste management infrastructures. SIPs could help address these needs.	To meet the need for greater strategic planning at national level (taking into account waste management at regional levels), one SIP per Member State might be an appropriate level. This could span both the 2014-2020 and 2021-2027 programming periods. Owing to the nature of the challenges facing WMPs, the number of stakeholders involved in each SIP will likely be limited to the waste sector and competent authorities.

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
		administrative and economic measures varied significantly between regions and Member States. One observation made is that regional waste management is often overlooked at EU level as the focus is on waste management at a national level.		
Water (River basin management plans)	RBMPs set out measures to be implemented over six-year cycles aimed at improving the status of waterbodies. RBMPs link with other key policy areas such as agriculture, land use, biodiversity, tourism, recreation and flood protection.	A total of 128 RBMPs are designated in the EU (of which 49 are international). In 2015, 76 RBMPs were reported as not meeting their targets. Two thirds of the RBMPs reported that the basic measures are not sufficient to tackle diffuse pollution from agriculture, indicating a need to take supplementary measures. Around three quarters of the RBMPs indicated that basic measures are not sufficient to address water flow regulation and morphological alterations, indicating a need to take supplementary measures. The type of basic measures more often reported as significantly delayed are those related to water abstraction (31 RBMPs) predominantly due to funding/financial obstacles. In 2012, the total, European wide costs for the implementation of only WFD dependent measures for the first planning cycle are lying	Progress on the first implementation phase indicates that there is still a large investment gap. In addition, SIPs help to support the measures that are not yet started, and to some extent, the on-going ones. There is a need for supplementary measures to address agriculture diffuse pollution, as well as flow and morphological alterations. Delays concerning abstraction measures need to be addressed, mostly through additional funding. There has been an overall low use of ESIF to implement measures. SIPs assist in facilitating access to these funds.	With 76 RBMPs not meeting their targets in 2015, the scale of SIPs required to support their development might be, at the very least, one per Member State. Additional SIPs should target a selection of international RBMPs.

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
		between 111 billion Euros and 444 billion Euros. In 2015, at EU level, 23% of WFD-specific basic measures were reported as completed, 66% on-going and 11% not started. The figures reported for supplementary measures were 29% completed, 54% on-going and 17% not started.		
Climate action	To implement the Paris agreement and the resilient Energy Union, plans, strategies and actions are needed at all levels.	Climate change adaptation plans have been developed at national level across Member States (with 25 strategies and 15 plans in place). Challenges facing the implementation of these strategies and plans include low public awareness and political commitment, need for improved understanding (including best practice examples and data, particularly at a regional level), and investment needs. Development of National Energy and Climate Plans for 2021-2030 are underway with most Member States in the initial planning phase (and just 7 at the advanced stage of development). A key challenge for climate change mitigation is expected to be meeting the investment needs with the average EU28 annual additional investments for the 2030 climate and energy programme estimated at €38 billion (between 2011-30). More than half of the investments are needed in the residential and	Ensuring efficient implementation of climate mitigation and adaptation plans at a larger territorial scale by coordinating the actions and leveraging substantial financing from other sources. .	.Many regions could benefit from having climate action coordinated through SIPs. Based on the current level of applications for SIPs for climate mitigation and adaptation at least doubling the number of SIPs would be appropriate.

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
		tertiary sectors.		

SIPs could also play a similar role in more policy areas than the four that are targeted under the current programme. Similar to the above table the needed scale of SIPs for new indicative areas is assessed in view of the identified challenges. **This analysis shows that in view of the challenges related to the new indicative areas around 70 additional SIPs would be needed.**

Table 4-3: New indicative areas

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
Emission reductions (NEC directive)	MS are required to develop National Air Pollution Control Programmes and report them by April 2019	Projected emissions based on policies and measures currently in place indicate that 18 Member States are not on track towards meeting their reduction commitments set for 2020 for NO_x, NH₃, NMVOCs, SO₂ and/or PM_{2.5}. Similarly, 22 countries are not on track for one or more of their 2030 commitments. For some Member States, the exceedance of emission ceilings is due to advanced monitoring techniques which have improved projections since current policies and measures were adopted. The Commission aims to set a Clean Air Forum to work closely with stakeholders to identify best practices and to support with monitoring and reporting. There is a significant overlap between the NEC Directive and the Air Quality Directive and coordination between their implementation is required.	SIPs could be used as a strategic tool to support the development of NAPCPs – relating to projections, the development and implementation of policies and measures, monitoring and reporting across all Member States. In addition, SIPs could be used to enhance coordination between policies and measures developed under the NEC Directive and the Air Quality Directive.	There are various components within the development of a NAPCP; support could be provided to targeted components within the NAPCP (e.g. support with projections, selection and adoption of policies and measures, or monitoring and reporting), or at a whole programme level. SIPs would add value through better coordination between stakeholders and with measures implemented under the AQD. At the very least, 22 SIPs are needed to support with the NAPCPs in those Member States facing challenges.
Marine (MCPs)	Marine conservation plans are required for the established European marine regions and sub-regions	Ensuring that monitoring approaches are compatible between Member States is challenging (a recent assessment found that 4 Member States had implemented an inadequate monitoring framework, and 13 a partially	SIPs could be used as a strategic tool to support the development of compatible monitoring programmes and ensure adequate coverage of all regions. SIPs	A minimum of 4 SIPs are needed to support those coastal Member States with inadequate monitoring plans. A further 13 SIPs would add

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
	based on geographical and environmental criteria in the 23 coastal Member States. Reviewed every 6 years.	complete framework). Further coordination among Member States at regional and sub-regional level is needed to deliver consistent and comparable data and improve the spatial scope of monitoring programmes. This could potentially reduce costs, through more effective monitoring across disciplines and among Member States. Cooperation between Member States is also needed to improve cross-boundary issues.	could be further used to assist Member States in accessing funds to support implementation of strategic measures where needed. Finally, SIPs may be used for the development of a platform to support cooperation between neighbouring Member States.	value targeting those Member States with partially complete monitoring plans.
Nitrate Programmes	Member States are required to establish a national action programme that contains a suite of measures applying within designated vulnerable zones or to the whole territory. Member States may choose to implement the requirements through an overall regulation of fertilisation or via an integrated approach (i.e. via joint implementation with the Water Framework Directive or the Common Agricultural Policy).	Action plans are adopted at a national level but implemented at a regional/ local level according to the different soil and climate zones – or administrative organisation of the Member State. Action plans include measures to reduce or prevent pollution from agricultural sources, such as: periods when mineral and organic fertilisers application is prohibited, minimum required storage capacity for livestock manure, limitation of land application of fertilisers, and land application near waters and on slopes. Despite driving improvements in nitrates concentrations and eutrophication levels, there remain 'hotspots' where nitrate pollution remains a challenge (namely in relation to intensive livestock or horticultural production, and to soil and geological formations). A particular challenge is the eutrophication of the Baltic Sea (owing mainly to intensive agriculture practices). Member State are required to report every 4 years on the status of nitrate levels and the Commission closely monitors the content and application of the action programmes. However, very little information concerning the effectiveness of programmes is reported by	Ongoing strategic support is needed for Member States with hotspots for nitrate pollution to address the challenges they face. Where an action programme is deemed inadequate, SIPs could be used to revise the action programme (amend measures included in the programme; strengthen implementation through enhanced capacity building for farmers and land managers carrying out the measures; strengthen integrated implementation of the programme, where relevant). SIPs could also be used to strengthen the monitoring and reporting frameworks at national level to help with reporting to the Commission; particularly to support with reporting on the effectiveness of programmes.	SIPs are needed at a national level; although the extent of interaction at local or regional level will vary considerably depending on the number of zones established in a Member State. The latest Member State reporting is due imminently and should be used to inform the scale of action needed – based on the results from the Environmental Implementation Review, SIPs are needed at the very least for Member States in the Baltic regions.

Indicative area	Requirements	Current challenge	Added value of SIPs	Scale needed
		Member States at the time of the latest reporting (2008-2011; as reported by the Commission in 2013).		
Noise (NAPs)	The Directive requires Member States to prepare and publish, every 5 years, noise maps and noise management action plans for: agglomerations with more than 100,000 inhabitants; major roads; major railways; and major airports.	A total of over 5,000 plans are adopted across the EU. Implementation challenges vary, in sum: insufficient guidance and support in the obtaining of data resulting in low levels of good quality data (experience in 23 Member States); low coordination between different authorities responsible for the development and implementation of noise action plans leading to significant delays. (experience in 9 Member States); inadequate human resources in terms of trained experts (17 Member States); and insufficient financial resources (15 Member States).	SIPs could be used to assist the development of sufficient noise mapping tools and to support the access to funds required for that. The added value provided by SIPs would be the framework it provides to local authorities in improving the coordination between different stakeholders, facilitating discussions to access financial resources, and developing an expertise in noise action planning through networking and sharing of best practices.	A minimum of 23 SIPs are needed to support Member States with noise mapping (each SIP would need to take a multi-plan approach as noise plans are adopted at local level). The 23 SIPs would also need to provide a framework to enhance communication between stakeholders, secure access to funding, and ensure adequate training among personnel in competent authorities in noise action planning.

4.6. Conclusions

From the above, it becomes evident that SIPs have already managed to mobilize resources to achieve the LIFE Programme's objectives and to address the identified challenges. The table also suggest that, in order to address all the identified challenges through the generation of a critical mass of projects, **allocations to SIPs should be scaled up by at least four-fold**.

ANNEX 5: DESCRIPTION OF THE PRESENT LIFE PROGRAMME AND THE BUSINESS AS USUAL (BAU) SCENARIO

The baseline scenario for this report is 'business as usual' based on a continuation of the existing LIFE programme. The main body of this report presents the net expected impact of deviations from this baseline. The purpose of this annex is to describe the existing programme and to identify the key environmental, economic and social outcomes and impacts of the LIFE programme according to this business as usual (BAU) scenario.

5.1. Overview of the LIFE Programme since 1992

The LIFE Programme is the EU's funding instrument for environment and climate action. Since 1992, there have been four complete phases of the LIFE Programme: LIFE I (1992-1995), LIFE II (1996-1999), LIFE III (2000-2006), and LIFE+ (2007-2013). The current LIFE Programme began in 2014 and will run up until 2020.

During the first four phases (1992-2013), LIFE co-financed 3954 projects across the EU, contributing approximately €3.1 billion to the protection of the environment.¹¹⁴ Under the present programme to date, LIFE has co-financed more than 400 projects addressing environment- and climate-related issues. A number of audit reports and evaluations have highlighted the strengths and weaknesses of past phases. Some examples of the achievements during the first four phases of LIFE include: improved conservation and restoration of some 4.7 million hectares of land; higher air quality for some 12 million people; waste prevention of around 300,000 tonnes; and annual CO₂ emissions reduced by 1.13 million tonnes.¹¹⁵

The LIFE programme has evolved through its phases to reflect the lessons drawn from its implementation and to adapt to the ever-changing policy environment. One of the main lessons from the two decades of LIFE programmes is that for the environment (and for climate action), specific approaches are required which can tackle the uneven integration of objectives into Member States' practices, the uneven and inadequate implementation of relevant legislation in Member States, and the insufficient dissemination of information about, and promotion of, policy goals. LIFE has consistently focussed on achieving a substantial impact, close synergies with EU other programmes and a high EU added value.

5.2. LIFE 2014 – 2020

5.2.1. Programme scope and structure

The LIFE Programme has the following general objectives:

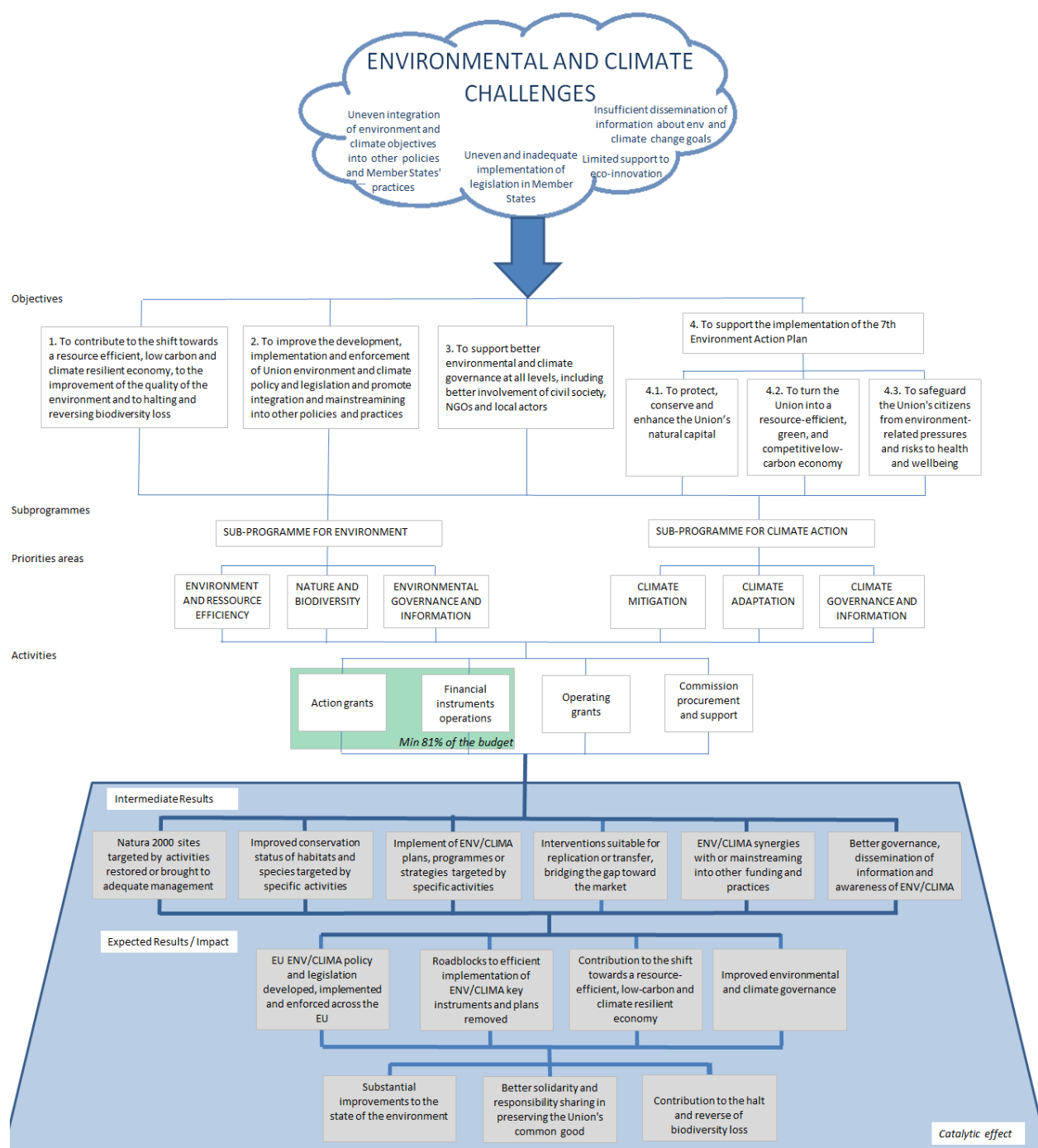
- (a) to contribute to the shift towards a resource-efficient, low- carbon and climate- resilient economy, to the protection and improvement of the quality of the environment and to halting and reversing biodiversity loss, including the support of the Natura 2000 network and tackling the degradation of ecosystems;
- (b) to improve the development, implementation and enforcement of Union environmental and climate policy and legislation, and to act as a catalyst for, and promote, the integration and mainstreaming of environmental and climate objectives into other Union policies and public and private sector practice, including by increasing the public and private sector's capacity;
- (c) to support better environmental and climate governance at all levels, including better involvement of civil society, NGOs and local actors;
- (d) to support the implementation of the 7th Environment Action Programme.

¹¹⁴ <http://ec.europa.eu/environment/life/about/index.htm>.

¹¹⁵ SEC(2011) 1541, p3. Point 2: Current structure and performance of LIFE

In pursuing those objectives, the LIFE Programme aims to contribute to sustainable development and to the achievement of the objectives and targets of the Europe 2020 Strategy and of relevant Union environment and climate strategies and plans.

Figure 5-1: The intervention logic of the current LIFE Programme



Source: European Commission (2017)¹¹⁶

¹¹⁶ Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE){COM(2017)642final. SWD(2017)356final.

LIFE is meant to act as a catalyst, providing leverage that promotes changes in the development and implementation of environmental and climate policies, among others by offering a platform for exchanging best practices and knowledge-sharing.

The LIFE programme is comprised of two sub-programmes, one for Environment and a second for Climate Change.

The Climate Action subprogramme, with €864 million (25% of the total budget), targets climate change mitigation, climate change adaptation, and Climate Governance and Information. The Environment sub-programme, with €2593 million (75% of the total budget) targets the priority areas of Environment and Resource Efficiency, Nature and Biodiversity, and Environmental Governance and Information; under the Environment programme, thematic priorities are established for each priority area in an annex to the Regulation, and for each thematic priority, project topics (which are favoured in the project selection process) are established through a delegated act.

The Intervention logic of the present LIFE programme is illustrated in Figure 5-1

The two sub-programmes of LIFE use the same delivery mechanisms to mobilise LIFE funding. These delivery mechanisms are described in Table 5-2.

Table 5-2: Types of projects and activities by delivery mechanism and their key features

Type of project	Key features
Action grants	
Pilot, demonstration, best practice, information, awareness and dissemination projects ('traditional' projects)	• Projects supporting pilot and demonstration actions on the ground • Best practice projects (nature and biodiversity only), in which at least 25% of the budget within each project must be dedicated to concrete conservation actions. • Information and governance projects • Favours projects which apply results from Horizon 2020 and European Innovation Partnerships (EIPs). • All projects must show EU added value, including replicability • Projects are proposed and selected via an open, bottom-up delivery mechanism, with earmarking only for the nature and biodiversity priority area (55% from 2014 to 2017 and 60.5% since 2018).
Strategic Integrated Projects (IPs, also known as SIPs)	• Designed to support Member State implementation of key environmental or climate plans and strategies (design and action on the ground). • Limited to four indicative areas in the environment sub-programme (relating to specified environmental policies). • Capped: Maximum of 30% of the annual budget allocated to action grants. • Indicatively 3 per MS, one of which should be under the Climate Action Subprogramme
Technical assistance (TAs)	• Fast track application process • Provides technical assistance to prepare a future IP proposal. • Maximum of 1% of the annual budget allocated to IPs may be made available to technical assistance projects (€100,000/ project).
Capacity building (CAP projects)	• Fast track application process with no competition • Projects to enable eligible Member States to participate more effectively in the LIFE programme.
Preparatory projects (PREP)	• Targeted support for policy needs identified annually by the Commission.

Type of project	Key features
projects)	Maximum of 1% of the annual budget allocated to action grants for the period 2014-2017.
Operating grants	
Annual operating grants/ Framework partnership agreements for NGOs	Annual/ multi-annual support for operational and administrative costs for non-profit making entities primarily active in the development, implementation and enforcement of Union environmental and climate policy and legislation.
Financial instruments	
Private Finance for Energy Efficiency (PF4EE)	- Risk sharing facility for private sector financial institutions; expert support for financial intermediaries (managed indirectly by the EIB). - Projects supported: energy efficiency.
Natural Capital Financing Facility (NCF)	- Debt and equity instrument - supports upfront investment and operating costs (managed indirectly by the European Investment Bank (EIB)). - Projects supported: payments for ecosystem services (PES); green infrastructure; biodiversity offsets; innovative pro biodiversity and adaptation investments.
Public procurement contracts	
Public procurement	Procurement of services linked to implementing policies (includes: TA, research and policy appraisal and evaluation and environmental monitoring and funding of DG ENV mission costs).
Support expenditure (ATA)	Expenditure relating to preparatory, monitoring, control, audit, communication and evaluation activities. May also include the organisation of seminars and workshops, dissemination of project details or facilitating information exchange.

5.2.2. LIFE Programme Uptake between 2014 and 2016

A total of 344 projects were awarded funding under the LIFE budget programme between 2014 and 2016. Although the main delivery mechanism to award this funding is the 'traditional' standard action grant; as illustrated below, both in terms of the number of projects awarded and the volume of EU contribution, the integrated projects have played a substantial role in terms of mobilisation of funding for environmental and climate objectives (see the table below).

Table 5-3: Overview of LIFE integrated projects and complementary sources of financing (2014-2016)

Project	Strand	Year	LIFE IP		EU										Public	Private	Total
Funding by source (in million EUR)			LIFE	Total	EAFRD	ERDF	CF	INTERREG	ESF	EMFF	H2020	n/other EU	Other LIFE	EIB			
Belgium	Nature	2014	11,4	19,0	33,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	169,8	0,0	222,5
Germany	Water	2014	8,5	15,7	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	26,6	0,0	43,3
Finland*	Nature	2014	12,0	20,0	3,2	4,0	0,0	0,0	0,0	2,1	0,0	4,2	8,9	0,0	3,6	1,6	47,5
Italy	Nature	2014	10,0	15,9	75,2	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,1	5,8	100,6
Poland	Air	2014	9,9	15,0	0,0	757,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	37,0	0,0	809,3
UK	Water	2014	12,0	20,0	10,5	21,0	0,0	2,5	1,0	0,6	0,8	0,0	0,0	0,0	139,5	52,5	248,3
Germany	Nature	2015	10,1	16,9	43,2	28,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	63,9	0,0	152,1
Spain	Nature	2015	13,4	27,3	0,0	0,0	0,0	0,0	10,3	11,0	0,0	0,0	0,0	0,0	0,0	1,2	49,8
Finland	Waste	2015	11,1	18,8	0,2	2,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	7,2	0,0	28,2
Italy	Air	2015	10,0	16,8	130,2	679,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	41,1	0,0	867,2
Netherlands	Nature	2015	10,5	17,4	0,8	0,0	0,0	3,4	0,0	0,0	0,0	0,0	0,0	0,0	50,3	90,3	162,3
Sweden	Water	2015	9,7	30,0	9,1	0,0	0,0	5,4	0,0	0,3	0,2	0,0	0,0	0,0	56,0	0,0	101,0
Belgium	Water	2015	9,8	18,1	1,9	0,0	0,0	0,0	0,0	13,7	0,0	0,0	0,0	22,7	238,0	0,0	294,4
Denmark	C. adaptation	2015	7,0	13,4	0,0	2,7	0,0	2,7	0,0	0,0	0,0	0,0	0,0	0,0	180,8	11,6	211,2
Germany	C. mitigation	2015	8,2	19,0	65,1	29,9	0,0	20,1	0,0	0,0	16,2	0,0	0,0	0,0	166,6	6,3	323,1
Greece	Nature	2016	10,2	17,0	231,2	82,6	43,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,0	0,0	375,4
France	Nature	2016	12,9	22,3	0,3	0,3	0,0	0,0	0,0	5,0	0,0	0,0	0,0	0,0	43,2	0,0	71,1
Denmark	Nature	2016	10,5	17,4	7,4	0,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,3	1,4	26,9
Sweden	Nature	2016	9,7	16,7	31,7	0,8	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,0	16,4	0,5	66,4
Lithuania	Nature	2016	10,2	17,0	6,6	1,4	18,2	1,3	0,0	0,0	0,1	0,0	0,0	0,0	2,1	0,0	46,8
Malta	Water	2016	10,2	17,0	5,2	5,0	131,8	3,3	0,0	1,6	0,0	2,8	0,0	0,0	19,0	0,4	185,9
Spain	Water	2016	6,7	12,5	0,0	1,4	0,0	0,0	0,0	0,0	0,2	0,0	0,0	0,0	6,9	0,0	21,1
France	Waste	2016	9,9	34,2	0,0	1,2	0,0	1,1	0,0	0,0	0,2	0,0	0,0	0,0	45,9	10,0	92,6
Belgium	CCM	2016	8,6	14,3	0,0	0,0	0,0	3,0	0,0	0,0	0,2	4,4	0,0	0,0	776,1	0,0	798,0
Spain	CCA	2016	9,3	15,6	0,0	350,7	0,0	17,2	0,0	0,0	5,5	0,9	0,0	0,0	1,9	1,5	393,2
			251,7	467,3	656,5	1.968,5	193,5	60,1	11,3	34,4	23,3	12,7	8,9	22,7	2.096,0	183,1	5.738,1
Total complementary EU														2.991,8			

The number of SIPs supported is expected to increase in line with their intended use for the 2014-2020 programming period.

Capacity building projects and preparatory projects account for the smallest share in terms of both budgetary and project numbers behind support for governance and information and operating grants.

Figure 5-4: EU28 overview of LIFE expenditure and number of projects supported by delivery mechanism (2014-2016)

EU contribution (EUR million)		Number of projects	
Traditional action grants	Other action grants	Traditional action grants	Other action grants
			SIPs (15)
			CAP projects (14)
			PREP projects (5)
			Operating grants
Traditional action grant (exc. G&I) (613)			
G&I (51)	Operating grants (90)	Traditional action grant (exc. G&I) (247)	G&I (32)
			Operating grants (31)

Source: LIFE Projects Database

In the same period, the first phase of financial instruments was underway (2014-2017). The total planned EU allocation for this first phase was €30 million for the NCFF; however, uptake was slow initially. Following increased efforts to expand the pipeline, there were three projects signed by mid-March 2018, and more projects in the pipeline (see www.eib.org/ncff). Going forwards, the NCFF is intending to execute between 3 to 4 projects a year. For the PF4EE, 4 operations were signed off at the end of 2016 with €14.1 million committed from the LIFE budget programme (with a total €80 million planned for the first phase). The PF4EE was intending to execute 10 projects in the first phase of financial instruments under LIFE.

By project theme, the greatest number of projects is awarded to biodiversity and nature, followed by resource efficiency and waste. The smallest number of projects are awarded to air quality and

emissions; while for all other environmental and climate themes, the number of projects awarded is fairly similar. **Note that project themes are reported by the LIFE Projects Database and do not correlate exclusively to the corresponding thematic priority.**

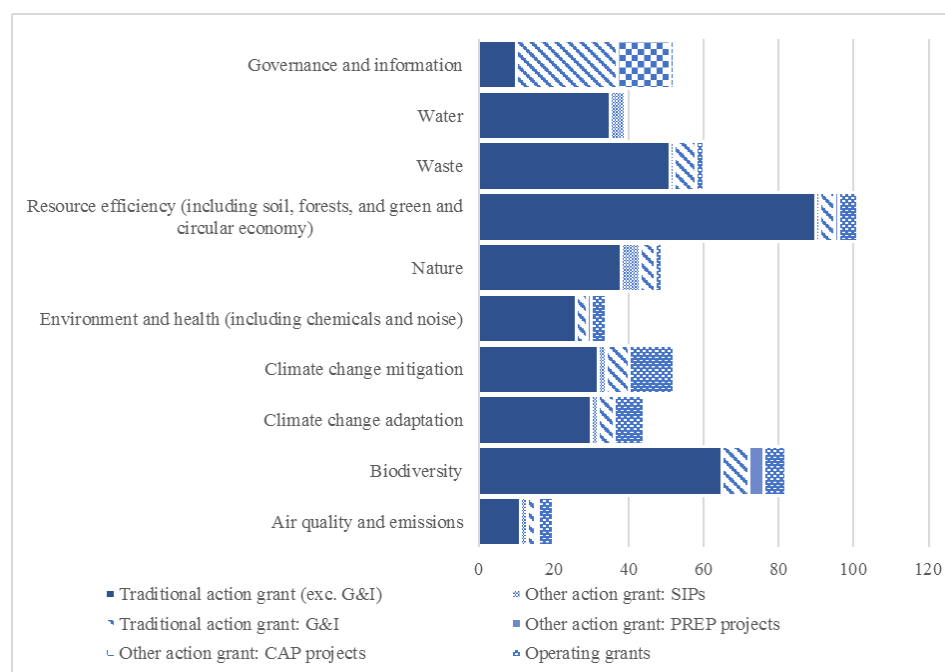
Within 'traditional' standard action grants the most significant sub-programme is Environment (relating primarily to environment across multiple themes, and to a lesser extent nature which is mainly supporting projects relating to biodiversity and nature). Climate change adaptation and mitigation comprise a much smaller share of the total 'traditional' standard action grants awarded and were typically found to contribute to fewer multi-objective projects.

SIPs are contributing to air quality and emission reduction, climate action, nature, water and waste (including one which considers waste and the circular economy). This is aligned with the indicative areas set by the LIFE Regulation.

Operating grants were found to be supporting a higher share of climate change projects compared to other delivery mechanisms (almost 50%).

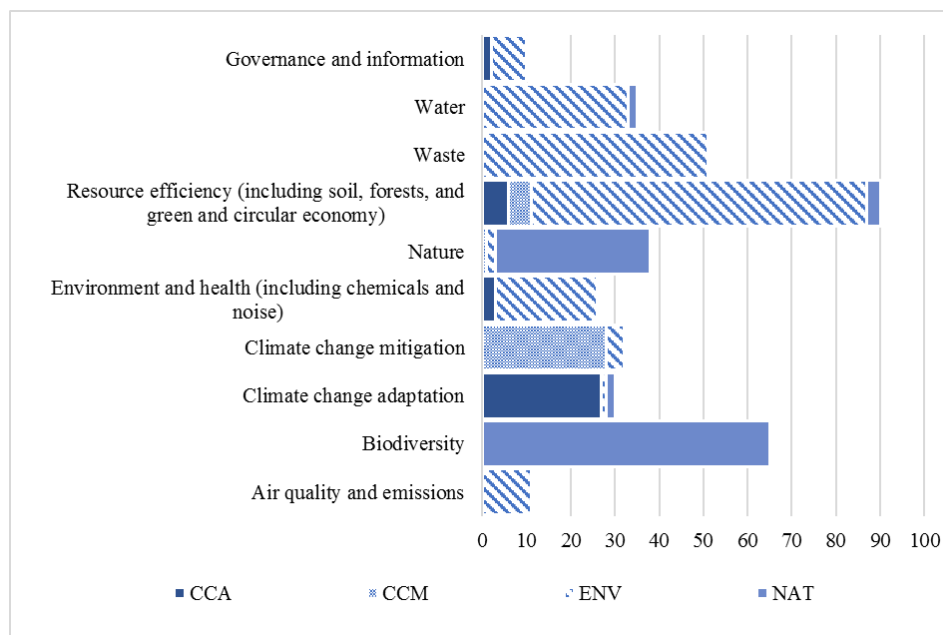
Financial instruments are targeted to energy efficiency and natural capital (including biodiversity, nature and climate change adaptation projects).

Figure 5-5: EU28 overview of awarded projects by theme and delivery mechanism (2014-2016)



Source: LIFE Projects Database

Figure 5-6: EU28 overview of awarded 'traditional' standard action grants by sub-programme and according to themes (2014-2016)

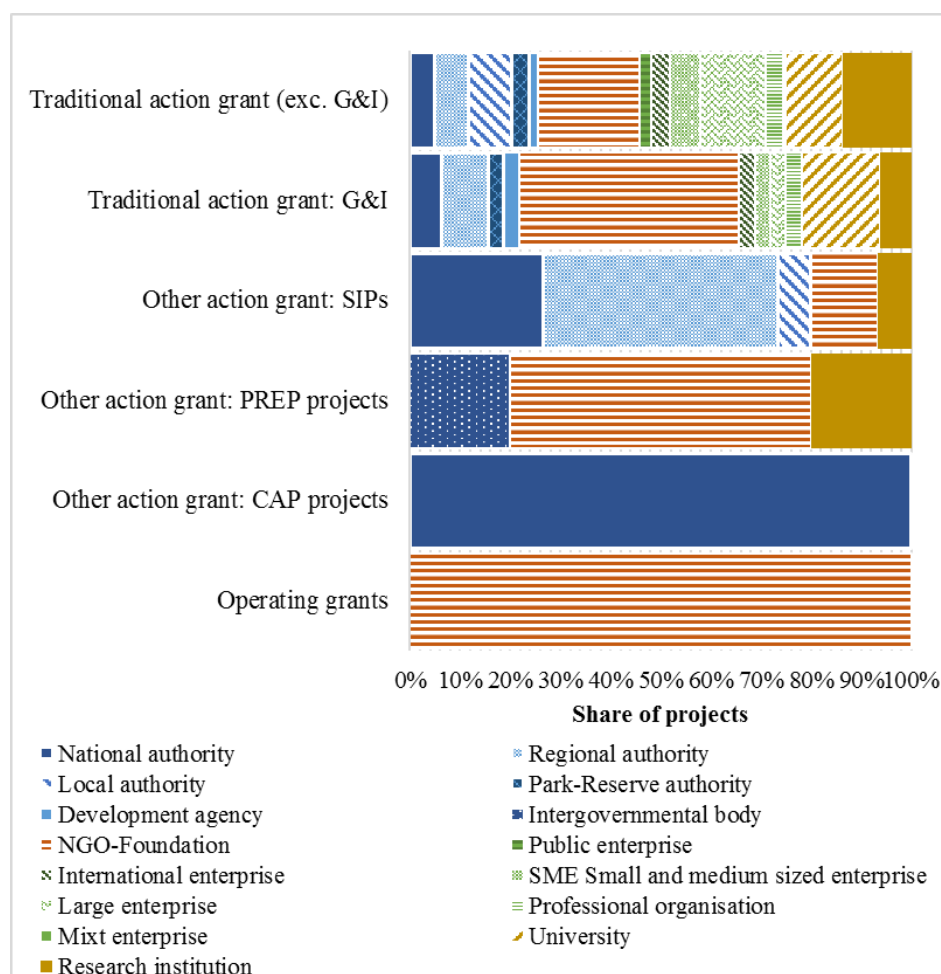


Source: LIFE Projects Database

Concerning beneficiary type, 'traditional' standard action grants are awarded to a relatively even split of beneficiary groupings (with competent authorities, NGOs, private sector, and research accounting for ~25%, respectively). It is interesting to observe that private sector and research bodies are key beneficiary groupings. Integrated projects are awarded primarily to competent authorities (~80%); together with NGOs (~15%) and research bodies (~5%). As to be expected, NGOs are the sole beneficiary awarded operating grants. They are also awarded a significant share of preparatory projects and governance and information projects (the latter via 'traditional' standard action grants); again, as these delivery mechanisms support capacity building type activities, it is to be expected that NGOs will form a key beneficiary.

The slow uptake of financial instruments in their first phase makes it difficult to determine any trend in beneficiary groupings; however, the NCFE has thus far received applications led mainly NGO and non-profits while the PF4EE has received applications led by the private sector.

Figure 5-7: EU28 overview of LIFE number of projects awarded by type of beneficiary (2014-2016)



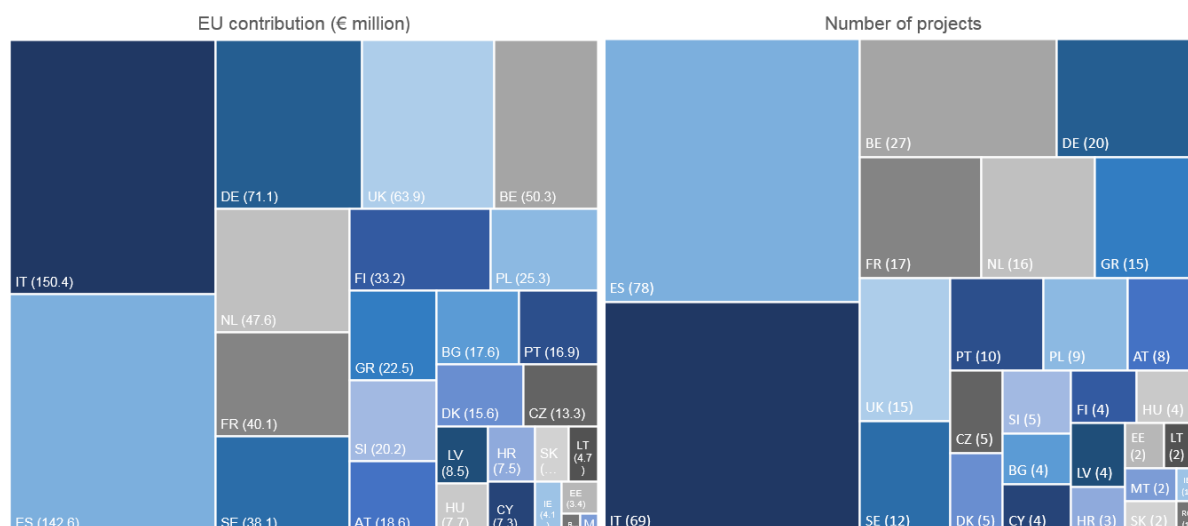
Note: Blue denotes competent authorities; orange, NGOs; yellow, research bodies; and green, private sector.

Source: LIFE Projects Database

According to the mid-term evaluation, from 2014 to 2016, more than a third of the financed LIFE projects have a co-ordinating beneficiary situated in Spain and Italy, moreover, no projects were awarded to Luxembourg. The share of project proposals received from beneficiaries from Italy and Spain is even higher and the success rate in these countries is below average. However, the strong concentration of project proposals from two Member States and the absence of project proposals from beneficiaries in other Member States indicate that the accessibility to the LIFE Programme is unequal.

There is evidence that a few Member States (Poland, Portugal and Greece) which previously had a below average adsorption rate of LIFE funding have now increased their rate to be above the EU average, which is indicative of a trend towards improved territorial balance between Member States.

Figure 5-8: EU28 overview of LIFE expenditure and number of projects supported by Member State (2014-2016)



Note: No projects awarded to Luxembourg between 2014 and 2016

Source: LIFE Projects Database

The uptake of financial instruments is limited to a handful of Member States owing to the slow uptake.

5.2.3. Management of the Programme

The **European Commission** (DG Environment and DG Climate Action) is responsible for the Programme. On the operational level, most of the LIFE programme is directly managed and implemented by the Executive Agency for Small and Medium-sized Enterprises (EASME). At the strategic level, DG Environment and DG CLIMA both remain involved in the management of each respective sub-component¹¹⁷. Specifically, DG Environment and DG CLIMA are responsible for the following activities:

- Preparing the multi-annual work programme;
- Managing the LIFE committee;
- Supervision of EASME for each sub-component;
- Defining eligibility, selection and award criteria for implementation of calls;
- Definition of activities necessary to ensure smooth and effective integration of the programme results into policy (programme-policy integration);
- Definition of communication strategy;
- Reporting on implementation to the Council and to the EP; and,
- Policy development based on project results.

The main activities of EASME for both sub-programmes include:

- Implementation of calls, including drafting terms of reference, evaluating proposals, awarding grants and analysis of final reports;
- Ex-post monitoring, including financial ex-post audit and technical ex-post monitoring;

¹¹⁷ EASME Financial Statement (2013)

- Implementation of communication activities;
- Follow up of audits; and,
- Development and maintenance of IT applications.

External organisations are also contracted to assist the Commission and EASME with the delivery of some of the programmes' activities, including project selection, monitoring and communication.

The European Investment Bank (EIB) manages the two financial instruments (PF4EE and NCFF) associated with the programme.

The decision to outsource programme management to EASME was taken on the following grounds¹¹⁸:

1. To allow the Commission to focus on policy making in view of the development, implementation and enforcement of Union environmental and climate policy and legislation and to catalyse and promote integration and mainstreaming of environmental and climate objectives into other Union policies and practices.
2. Considering the high degree of complementarity across programmes, delegation to EASME facilitates the practical development of synergy and coordination between the sub-programme for Environment and the one for Climate Action and with Horizon 2020, as envisaged by the Life Regulation.
3. Since EASME is focused exclusively on project management rather than a wider range of activities this increases the potential for identification of efficiency gains and simplification opportunities.

Public procurement is most managed by DGs ENV and CLIMA directly and is found to add substantial value to LIFE. The procurement includes:

- studies producing evidence for policy making incl. Impact Assessments
- activities directly supporting the implementation of legislation and policy instruments
- communication/ dissemination activity (including platforms, helpdesks, secretariats)
- ex-post evaluation or REFIT
- translation interpretation Technology/ IT assistance.

With respect to the overall management structure, the MTE found that the overall costs for the management of the LIFE programme were relatively low, for example they were perceived to have decreased compared to previous Programme periods. The MTE estimated that the total economic cost for EASME and NEEMO of implementing and running the whole programme for the period 2014-2017 was €82m (3.6% of the managed budget for the period of €2.3bn), with €8.2m savings having been realised through outsourcing specific activities to EASME.

Currently, according to the EASME Annual Work Program for 2017, the operating budget for EASME is €4.6m, with an additional €0.71 budget for management and administrative support, making a total budget of €5.3m. This figure covers staff related costs (Title 1), overhead costs (Title 2) and programme support expenditure/ other costs (Title 3) budget for LIFE. This does not include EC costs.

5.2.4. Monitoring of the Programme

Developed in 2016, the LIFE Project Indicators Database¹¹⁹ contains information concerning all LIFE projects financed by grants starting in 2015, as well as certain projects from the 2007-2013

¹¹⁸ EASME Financial Statement (2013)

programme. The contents of this database are based on self-reporting from the project beneficiaries, which is checked by the LIFE programme monitors and then validated by the operational desk officer in EASME. Although aggregated data should be treated with caution due to differences in assumptions, they can be used in some cases to produce programme impact indicators. Programme output indicators are derived from financial reporting.

5.3. Methodology for Assessing the Impact of LIFE under the Business as Usual Scenario

The assessment of the impact of LIFE under the business as usual scenario is based on the following assumptions:

- Scale and scope of mechanisms:
 - The volume of EU expenditure and number of awarded projects are similar to those from the 2014-2016 period. (It should be noted that SIPs, capacity building projects and financial instruments were newly introduced in the current programming period so the scale at which they are used between 2014 and 2016 is limited compared to their intended use.)
 - **'traditional' standard action grants:** continue to be the prevalent delivery mechanism.
 - **Integrated projects (strategic integrated projects, SIPs):** continue to be the second most significant delivery mechanism in terms of budgetary volume; supporting comparatively few projects in relation to 'traditional' standard action grants but the scale of their use will be greater as they become more established.
 - **Preparatory projects:** continue to support targeted needs, representing a minor share of LIFE projects and spending.
 - **Governance and information activities:** continue to play supporting role (accounting for ~10% of projects in terms of numbers and spend).
 - **Capacity building projects:** continue to support targeted Member States, representing a minor share of LIFE projects and spending¹²⁰.
 - **Operating grants:** continue to play supporting role (accounting for ~10% of projects in terms of numbers and spend).
 - **Financial instruments:** will become a more prominent delivery mechanism in their second phase, albeit still playing a supporting role.
- Average EU contribution per project according to the various delivery mechanisms:
 - 'traditional' standard action grants: €2.5 million (and €1.6 million for governance and information activities within this delivery mechanism)
 - Integrated projects (strategic integrated projects, SIPs): €10.2 million
 - Preparatory projects: 0.5 million
 - Capacity building projects: €0.7 million

¹¹⁹ life.idom.com

¹²⁰ Based on current progress, of the 14 Member States accessing the capacity building projects, 3 reported above EU average adsorption rates for 2014-2016 (excluding outliers from this average). This is indicative of a ~1/5 success rate. Assuming that capacity building projects continue to be used in the second half of the programming period with a similar rate of success, the number of Member States with a below average adsorption rate would reduce by ~1/5 per half a programming period (so that 9 Member States are eligible at the beginning of 2020). The amount of EU expenditure which would be allocated for eligible Member States is based on the current average cost of a capacity building project (~€170,000 and the maximum cost allowed by the Regulation for second half of the current programming period (€750,000 per Member State).

- Operating grants: €2.9 million
 - Financial instruments: insufficient uptake to generate an average
- Project themes:
 - **'traditional' standard action grants:** (including governance and information activities): continue to be awarded across all thematic priorities, contributing to multiple priorities where relevant. A larger share of projects will be awarded under the Environment and Nature sub-programmes (54% and 28%, respectively) compared to climate change (10% and 9% for adaptation and mitigation, respectively).
 - **Integrated projects (strategic integrated projects, SIPs):** continue to target waste, water, nature, air and climate action.
 - **Preparatory projects:** continue to support a range of thematic priorities, on a needs basis.
 - **Capacity building projects:** continue to support untargeted to thematic priorities.
 - **Operating grants:** continue to support a range of thematic priorities with an even split between the environment and climate change sub-programmes.
 - **Financial instruments:** continue to target energy efficiency and natural capital (including biodiversity, nature and climate change adaptation).
- Beneficiary type per project according to the various delivery mechanisms:
 - **'traditional' standard action grants:** continue to be awarded to an even mix of beneficiary groupings (competent authorities, NGOs, private sector, and research. Within 'traditional' standard action grants, governance and information activities continue to support NGOs primarily, and private sector, competent authorities and research bodies to a lesser extent.
 - **Integrated projects (strategic integrated projects, SIPs):** continue to be primarily awarded to competent authorities, with support from NGOs and research bodies.
 - **Preparatory projects:** continue to support NGOs primarily, and competent authorities and research bodies to a lesser extent.
 - **Capacity building projects:** continue to support competent authorities.
 - **Operating grants:** continue to support NGOs, only.
 - **Financial instruments:** the NCCF will continue to support projects led mainly NGO and non-profits while the PF4EE will continue to support projects mainly led by the private sector.
- The territorial balance would be similar to that occurring during the period 2014 to 2016 with a minimum of 6 to 8 **projects per year** per Member State

The impact of the individual projects was based on data available in the LIFE Indicator Database for a selected number of indicators and projects during 2014 and 2015. (Later data was not broadly available at the time of conducting this analysis.) Project details supported by financial instruments under the LIFE budget programme are gathered from the MTE and other sources. Procurement contracts are not considered in the analysis as they are not expected to have a significant environmental, economic or social impact. Where relevant, additional data sources have been used to fill gaps or provide context. It should be stressed that the data should not be treated as comprehensive for a programming period but rather indicative of main trends.

The indicators selected for analysis are set out in the following table:

Table 5-9: Selected indicators from the LIFE Indicator Database used to assess environmental and social impacts

Thematic priority	Selected indicators
Environmental impacts	
Water	Humans influenced (1.6) Terrestrial extent affected by the pressure or risk addressed (2.1) Aquatic extent affected by the pressure or risk addressed (2.2.)
Waste	Humans influenced (1.6) Waste management (3.1)
Resource efficiency	Humans influenced (1.6) Energy consumption (4.1.1) Renewable energy production (4.1.3)
Environment and health	Humans influenced (1.6) Noise level / frequency – terrestrial (5.2.1)
Air quality and emissions	Humans influenced (1.6) Air emissions (6.1)
Biodiversity and nature	Humans influenced (1.6) Natural or semi-natural habitats (7.3) Wildlife species (7.4) Invasive alien species (7.5.1)
Climate mitigation	Humans influenced (1.6) CO2 emission savings (8.1.1) Other GHG emission savings (8.1.2)
Climate adaptation	Humans influenced (1.6) Particularly vulnerable areas (9.2) Infrastructures targeted for climate resilience (9.3)
Social impacts	
Governance	Involvement of non-governmental organisations (NGOs) and other stakeholders in project activities (10.2)
Information and awareness	Website (11.1)
Capacity building	Networking (12.1)
Jobs	Jobs (full time equivalent) (13)
Note: Selected indicators are defined within the LIFE framework for Key Project- level Indicators (KPIs). Indicator references are included in the table in parenthesis.	

Source: European Commission (2017)¹²¹

The main metrics used for each of the indicators include the intended improvement achieved during the lifetime of the project, and beyond it. (Note that since the projects are still underway, only the 'intended' improvement is known; the actual improvement can only be measured after the end of the project.) The improvement beyond the project duration and/or area is intended to reflect the sustainability of the effects, as well as the catalytic effect e.g. further scaling up activities. Another metric is the intended persons affected or influenced by the project. This is also reported both for the lifetime of the project and beyond it.

The metrics described above vary considerably between projects. There are several reasons for this, not least the baseline and units used can vary, along with the timeframe considered. As such, it is not possible to aggregate the results and impacts reported; rather the data is used to ascertain the ratio of intended improvements, comparing between the intended impact during the lifetime of a project and the period beyond it.

On this basis, the environmental and social impacts were determined. The economic impacts are derived from data provided by EASME, as the main management body for LIFE. Aggregated results and impacts are included where derived as part of the MTE and details concerning their methodology are set out in the MTE.

It should be noted that financial instruments are not included in the LIFE Projects Database. The EU contribution to these projects should also be treated differently to the action and operating grants as they comprise mainly debt and equity instruments.

5.3.1. Environmental Impacts of the Business as Usual Scenario

Environmental impacts can be determined at project level where a direct chain of causality between the project intervention and the impact can be established, i.e. where the outcome has a direct environmental impact. Difficulties also arise when determining impacts beyond a project – where the LIFE project is no longer the sole factor influencing the impact.

Where the project intervention is one of several factors influencing an environmental impact, it is not possible to quantify the impact of the LIFE project alone, i.e. where the outcome facilitates another outcome which may have a direct environmental impact. Thus, environmental impacts are more generally limited to LIFE projects supporting action on the ground and do not reflect the impact arising as a result of improved capacity or project replicability. Where environmental impacts can be monitored, difficulties then arise when aggregating these impacts at programme level, as outlined previously. Thus, environmental impacts are discussed in aggregate form in relation to their broad trends, and where relevant, illustrative examples are included to give an indication of environmental impacts.

The following sections present the environmental impacts reported by **thematic priority** for the current programming period, i.e. **where a project is explicitly addressing a thematic priority identified in the MAWP (which is not always the case)**. For each thematic priority a series of corresponding targets were developed for the MAWP. Progress against these targets was reported in the MTE and is summarised here, where available.

5.3.1.1. Environmental impacts - sub-programme for Environment

A. Air quality and emissions

Programme Level:

¹²¹ Qualitative and quantitative outcome indicators for LIFE projects.
http://ec.europa.eu/environment/life/toolkit/pmttools/life2014_2020/monitoring.htm

For air quality and emission reductions the MTE reported a total of 3 projects explicitly within this **thematic priority**; there are another 22 projects within other thematic priorities which are also contributing to air quality and emission reduction.

Progress towards targets is positive against many of the MAWP targets set for air quality and emissions as shown below.

Table 5-10: Progress towards air quality and emission reduction targets (2014-2015)

Indicator	Progress towards target (%)	Target 2017
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards reaching or surpassing the relevant Union air quality target on project level	77	80%
Percentage of ongoing or finalised projects implementing replicable or transferable actions in Air Quality zones where pollutant levels are above targets established by law: projects foresee to reach/ surpass these targets on project levels;	38	80%
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing - where Air Quality policies are being developed and implemented: projects foresee to develop new measures, methods or techniques that can serve as models for Union policy development.	77	80%
Persons covered by ongoing or finalised projects implementing replicable or transferable actions progressing towards reaching or surpassing the relevant Union air quality target.	99	1 million persons

Source: MTE

At a programme level, the environmental impacts were aggregated for selected pollutants – as illustrated below. The impacts relate to improvements in pollutant concentrations and/ or reductions in emissions, comparing the beginning of a project to its end. Emission reductions were more commonly reported than improvements to air quality; and only two projects reported impacts relating to deposition. NO_x and particulate matter are the most common pollutants impacted by LIFE projects, both being key pollutants at an EU level for air quality improvements (NO₂) and emission reductions, and particularly relevant to the transport sector. For air quality, the impacts reported relate to 3 of the 12 pollutants with air quality standards. Despite this comparatively low pollutant coverage, the fact that the projects improve air quality with respect to NO₂ and PM_{2.5} and PM₁₀ is important as these are the most challenging pollutants at EU level with respect to air quality.

Table 5-11: Projected impacts concerning air quality and emissions (2014-2015)

Indicator	Measurement unit	Value	Sector
Humans influenced by the project	number	206 192 231	-
PM10 reduction	Gg/ year q/ hour	9,01 2	Transport
PM 2.5 reduction	kg/ day Gg/ year	0,00013 17,61	production, transport, energy production
PM reduction	Gg/ year Kg/ day	0,01183 72,9	Transport
NO2/ NOX reduction	q/ hour Gg/ year	0,00658 36,77	Transport
NH3 reduction	kg/ day	0,5005	agriculture, production
CH4 reduction	Gg/ year kg/ day	0,07 0,03	agriculture
VOC reduction	q/ hour	1	landfills
Benzene reduction	q/ hour	92	transport
CO reduction	kg/ day q/ hour	0,0065 0,01575	transport, production
SO2/ SOx reduction	Gg/ year q/ hour	0,013 0,0055	production

Source: MTE

The sectoral split of air quality improvements and emission reductions, as reported in the MTE, indicates that both transport and industry (comprising energy, landfills and production) are well targeted by LIFE projects, supporting a shift towards a more sustainable mobility system and energy/ production system. However, agriculture is less well targeted.

Among the indicators used for air quality and emissions, the ones discussed in the following sections include the emissions to air only (indicator 6.1).

Note that air emission environmental objectives are not among the themes targeted by FIs in the current programming period.

'traditional' standard action grants:

'traditional' standard action grants support 14 projects contributing to emission reductions (in relation to the following pollutants: VOC, CH₄, NH₃, SO₂/SO_x, particulate matter (PM), NO₂/NO_x). The grants were awarded across the Environment (10), Nature (1) and Climate Change Mitigation (CCM) (3) sub-programmes.

The average co-financing rate for these projects was 55% (owing to a low average reported for those under the Environment sub-programme of 53%). The projects are awarded across 4 EU15 Member States with a majority in Italy (8).

Across all the sub-programme areas, the extent of improvement achieved through the project is larger beyond the project lifetime compared to during it (at a ratio of ~0.7:1). Whereas the extent of humans influenced or benefiting from the projects is the same between the two project phases.

In terms of outreach, of the projects reporting the environmental impacts described above, the following impacts were also reported:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 2 projects (all within the CCM sub-programme).

- Website use (indicator 11.1): 5 projects (within the Environment and CCM sub-programmes).
- Networking (indicator 12.1): 5 projects (within the Environment and CCM sub-programmes); the most common group of individuals involved in networking activities are professionals. The impact of networking in terms of persons influenced is greater during the lifetime of a project compared to beyond it (by a factor of ~3:1).

According to the projects database, 11 projects contribute to air quality and emission reductions; all of which are funded under the Environment sub-programme (with an average co-financing rate of 54%). Thus, it is understood that the lower co-financing rate reported by the indicators database is primarily led by projects under the CCM; moreover, it is observed that there are a number of projects under the thematic priority of air which are not reporting impacts to the indicators database.

For the 2021-2027 programming period therefore, it is understood that in the BAU scenario, environmental impacts for emission reductions will:

- Be achieved mainly by 'traditional' standard action grants with a strong overlap between air emissions and climate change mitigation
- Have a greater environmental impact beyond the lifetime of the project compared to during it; with the same number of persons affected/ influenced by the projects between this time
- Projects will have a relatively low reporting rate of environmental impacts to the indicators database
- Greater uptake in EU15 Member States; and comparatively low co-financing rates in relation to other thematic priorities
- Environmental impacts will continue to be supported by a limited level of outreach activities and at a much lower rate compared to action on the ground with limited evidence of networking and online activities

In addition, between 2014 and 2015 two governance and information 'traditional' projects were supported with an average co-financing rate of 60%.

The greatest impact is reported for the transboundary project, CLEAN HEAT (operating grant); affecting ~214 million residents across 7 Member States. The project aims to reduce PM caused by wood burning through information awareness. Immediate improvements occur in the lifetime of the project; although improvements in air quality are expected to be ongoing, to a lesser extent (improvements are estimated at ~4:1/ ~5:2 during the lifetime of the project compared to beyond, depending on the Member State).

The accuracy of the impacts quantified for CLEAN AIR is questionable as information awareness relies on uptake which cannot be guaranteed. Other governance and information activities include monitoring and information exchange tools and the impacts are be quantified.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for air quality and emissions will:

- Be accompanied by small number of governance and information projects, with high co-financing rates compared to 'traditional' standard action grants supporting this thematic priority.

Strategic integrated projects (SIPs):

A total of 2 SIPs were signed for air quality in 2014 and 2015 (in Poland and Italy) with an average co-financing rate of 60%. Neither project reported environmental impacts to the indicators database. In terms of outreach, no reporting was provided by the indicators database for SIPs.

The project will be completed in 2023 and while impacts cannot be quantified a qualitative discussion of the Polish SIP (providing support for the implementation of an Air Quality Plan in the Małopolska region) is included to give an indication of planned environmental impacts. The

main area of activity targeted by the AQP, and the SIP, is the combustion of solid fuels in obsolete household boilers. Specifically, the SIP intends to facilitate:

- A reduction of the concentration of PM₁₀, PM_{2.5} and NO₂/ NO_x emissions with 34% for the PM and with 26% for the NO₂/ NO_x emissions.
- Immediate improvements in the lifetime of the project; although improvements in air quality are expected to be ongoing, to a lesser extent (improvements are estimated at ~4:1 during the lifetime of the project compared to beyond)
- Number of persons affected considers residents in the region, which amounts to 3.3 million. (MTE)
- The project has secured a further €798 million for large scale deployment of the plan (sourced primarily from ESIF and the National and Regional Fund for Environmental Protection and Water Management). Thus, for every €1 from LIFE, the project has secured approximately €50.
- Improved design of air quality plans elsewhere, following the approach adopted for the Małopolska region
- Number of persons affected does not consider residents in adjacent areas including the province of Silesia, and regions in Slovakia and the Czech Republic; which will also benefit from improved air quality as a result.
- The project is expected to attract private investment; with additional and ongoing benefits for air quality which are not included in the current estimations

For the 2021-2027 programming period therefore, it is understood that in the BAU scenario, environmental impacts for air quality will:

- Be targeted by SIPs at a reduced scale compared to 'traditional' standard action grants
- Impacts will be greatest during the lifetime of the project compared to beyond it
- Co-financing rates will be high compared to other delivery mechanisms targeting air quality, and more widely in relation to other indicative areas (for which the average co-financing rate is 55%)

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

B. Biodiversity and Nature

Programme Level:

According to the MTE, 47 projects were awarded in the area of nature and biodiversity. An additional 17 projects awarded were found to also be contributing to nature and biodiversity relevant indicators (amounting to 64 projects reporting biodiversity and nature environmental impacts).

For the 64 projects reporting against biodiversity and nature indicators, the following impacts were planned at the beginning of the projects (MTE):

- Over an area of 1,012,136 ha including 73 ecosystems supporting 237 ecosystem services, almost half of the ecosystem services were assessed as very poor/ poor/ moderate/ deteriorating the beginning of the project; and were expected to improve as a result of the project.
- Of the 167 natural or semi-natural habitats (over an area of 10,878,700 ha) targeted by LIFE projects, 129 were assessed as being less than favourable/ secure conservation

status at the beginning of the project; and of these 129, 46% were planned to reach an improved conservation status by the end of the LIFE project.

- Of the 174 wildlife species targeted by LIFE projects, 66% (114 species) were planned to reach an improved conservation status by the end of the LIFE project.

Table 5-12: Progress towards biodiversity and nature targets (2014+2015)

Indicator	Progress towards target	Target
Set up to improve conservation status within the meaning of the habitats and birds Directives	98	100%
Share of habitats targeted by ongoing/ finalised projects that are progressing towards an improved conservation status	46	10% of the habitats targeted
Share of species targeted by ongoing or finalised projects that are progressing towards an improved conservation status	66	10% of the species targeted
Percentage of Natura 2000 sites targeted by ongoing or finalised projects that are progressing towards an improved conservation status	26	10% of Natura 2000 sites targeted
Percentage of ecosystem types targeted by ongoing or finalised projects implementing replicable or transferable actions and progressing towards improvement or restoration	30	80%
Percentage of ecosystem surfaces targeted by ongoing or finalised projects implementing replicable or transferable actions and progressing towards improvement or restoration	45	10% of the ecosystem types targeted
Percentage of projects that report on continuation/ transfer/ replicability indicators	21 of 64 (67%)	-

Source: MTE

Among the indicators used for biodiversity and nature, the ones discussed in the following sections include the area or length of land within a project targeting the improvement of natural/ semi-natural habitats (indicator 7.3) or wildlife species (indicator 7.4) and protection from invasive alien species (indicator 7.5.1).

The only projects reporting against these indicators are supported via 'traditional' standard action grants (62) and SIPs (2). According to the projects database, in addition to 'traditional' standard action grants (as the main delivery mechanism) and integrated projects (environment only), a handful of governance and information projects (4) have also been awarded in relation to this environmental objective.

'traditional' standard action grants:

Between 2014 and 2015, 27 'traditional' standard action grants were reporting against the indicator, improvement of natural/ semi-natural habitats; the majority of which were Nature 'traditional' standard action grants (23). Projects were also supported by the Environment 'traditional' standard action grant (2) and Climate Change Adaptation (2). Note that for this indicator, 'traditional' standard action grants were the only delivery mechanism reporting impacts between 2014 and 2015.

The average co-financing rate for these projects was 62% - with climate change adaptation at the low end of this range (50%) and Nature at the high end (63%). The greatest number of projects

are in Italy and Spain which have an average co-financing rate of 60% and 61%, respectively. The highest co-financing rates are reported for projects in new Member States (75%) - with the exception of Poland which has a low co-financing rate of 50% for the 1 project awarded.

Across all the sub-programme areas, the extent of improvement achieved through the project is larger during the project lifetime compared to beyond the lifetime of the project (at a ratio of ~3:1). However, the extent of humans influenced or benefiting from the projects is constant between this time.

Between 2014 and 2015, 27 'traditional' standard action grants were reporting against the indicator, improvement of wildlife species (indicator 7.4); all of which are within the Nature sub-programme.

The average co-financing rate for these projects was 64%. The projects span 15 Member States, with a fairly even split in biophysical terms but a minority based in new Member States (5). The greatest number of projects is in Italy; with an average co-financing rate of 62%. Co-financing rates are generally in the region of 70-75% across Member States - with lower than average rates only reported for projects in Austria, Croatia, Denmark, Germany, Italy, Malta, Spain and the UK.

The extent of improvement achieved through the project is larger during the project lifetime compared to beyond the lifetime of the project (at a ratio of ~2:1). However, the extent of humans influenced or benefiting from the projects is constant between this time.

Comparatively few projects reported impacts concerning invasive alien species (9). The majority of these are 'traditional' standard action grants and follow the same trends as described above for habitats and species, namely: an average co-financing rate of 61%; an average ratio of ~5:1 for improvements in the lifetime of a project compared to beyond; however, the extent of humans influenced or benefiting from the projects is constant between this time..

In terms of outreach, of the projects reporting the environmental impacts described above, the following impacts were also reported:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 23 projects (all within the Nature sub-programme); NGOs are the main stakeholder engaged in biodiversity and habitat projects (13) with an average co-financing rate of 66%. Public bodies and other civil society organisations were awarded the highest rates of co-financing (75 and 70, respectively).
- Website use (indicator 11.1): 33 projects (within the Environment and Nature sub-programmes, but primarily the latter) with an average co-financing rate of 59 and 63%, respectively. Website traffic is greater during the lifetime of a project compared to beyond it (by a factor of ~2:1).
- Networking (indicator 12.1): 36 projects reported networking activities; the most common group of individuals involved in networking activities include professionals, followed by members of interest groups. The extent of humans influenced or benefiting from the projects is constant for the project duration and the time period beyond it.

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for biodiversity and nature will:

- Primarily be carried out by 'traditional' standard action grants
- Have a greater environmental impact during the lifetime of the project compared to beyond it; with some evidence of networking and online activities, but not comprehensive across all projects
- Have a good territorial balance in biophysical terms; but limited projects across Member States in terms of numbers. Average co-financing rates will continue to vary between Member States.
- Be led primarily by NGOs (despite having below average co-financing rates), with networking activities involving professionals and civil society organisations to a greater extent than laymen and

In addition, a total of 10 projects were reported in the projects database in relation to governance and information projects for biodiversity and nature with an average co-financing rate of 59% (below the averages reported for 'traditional' standard action grants; but greater than the integrated projects).

Environmental impacts are not reported for these projects.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for biodiversity and nature will:

- Be accompanied by small number of governance and information projects, with low co-financing rates compared to 'traditional' standard action grants.

Strategic integrated project (SIPs):

At the time of the MTE, 3 SIPs for nature and biodiversity had been awarded. Environmental impacts are only reported for 1.

According to the projects database a total of 5 SIPs were awarded between 2014 and 2015, in Belgium, Italy, Germany, Spain and the Netherlands. Of these, 3 provided support to the further development of regional Priority Action Frameworks (PAFs); strengthening the targets set and designing measures to meet the targets and facilitating discussions between different stakeholder groups representing various sectoral concerns; and between different governing bodies. Only a few SIPs provided targeted support to specific habitat types within PAFs, including wetlands and marine habitats; while one was found to target green infrastructure within the Natura 2000 network.

The average co-financing rate for these SIPs is 56%; which is much lower than the other delivery mechanisms contributing to biodiversity and nature objectives.

Of these SIPs, only 1 (in Germany) reported environmental impacts according to the indicators discussed here (with respect to the area or length of land within a project targeting the improvement of wildlife species (indicator 7.4) and protection from invasive alien species (indicator 7.5.1)). Of note, the extent of impacts achieved in terms of the improvement in area are expected to be greater beyond the project lifetime compared to during it (at a ratio of 0.7:1).

In terms of outreach, no reporting was provided by the indicators database for SIPs.

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for biodiversity and nature will:

- Be targeted by SIPs at a reduced scale compared to 'traditional' standard action grants
- Impacts will be greatest beyond the lifetime of the project compared to during it; with little evidence during the lifetime of the project to indicate the environmental impact had
- Co-financing rates will be low compared to other delivery mechanisms

Preparatory projects:

The MTE reported 3 preparatory projects in relation to this delivery mechanism for biodiversity and nature; while only 2 are reported to the projects database for the same time-period (2014-2015), with an average co-financing rate of 60% (below the averages reported for 'traditional' standard action grants; but greater than the integrated projects).

Environmental impacts are not reported for these projects.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for biodiversity and nature will:

- Be accompanied by a very small number of preparatory projects, with low co-financing rates compared to 'traditional' standard action grants.

Other:

No capacity building projects reported environmental impacts in the programming period reviewed.

The slow uptake of funding via the Natural Capital Financing Facility (NCFF) in first few years of the current programming period has meant that there are few examples of signed projects, and even fewer of monitoring and reporting of environmental impacts.

However, the NCFF has evolved over the past year and starts to show successes. For instance, the first NCFF operation, a € 6 million loan to Rewilding Europe, was signed in April 2017. It will support over 30 nature-focused businesses across Europe. In addition, to the creation and consolidation of nature-based businesses, new nature-related business models will be supported in sectors like forestry, water management, sustainable fisheries and tourism. The agreement is expected to create 250 jobs.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for biodiversity and nature will:

- Carried out by an increasing number of projects funded via the NCFF (assuming that uptake is faster once the NCFF is more established)
- Monitoring and reporting of environmental impacts will improve as the number of projects increase and the timeframe of activity continues

C. Environment and health (including chemicals and noise)

Programme Level:

The MTE reported a total of 17 projects reporting against chemical indicators (7 relating specifically to chemicals and REACH legislation) and 3 projects reporting against noise indicators. In sum:

- Chemicals: 370,000 persons influenced by projects relating to chemicals; of which 240,000 are expected to be influenced in terms of implementing replicable actions during the lifetime of the project. Beyond the project (3-5 years): 1.3 million persons influenced; 1.6 million are expected to be influenced in terms of implementing replicable actions.
- Noise: Planned noise reduction by at least 3 dB for 2 of the 3 projects, influencing 4,319 persons which is expected to increase slightly after 3-5 years.

Table 5-13: Progress towards environment and health targets (2014+2015)

Indicators	Progress towards target	Target
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards reaching or surpassing the relevant Union chemical substance target on project level	76	80 %
Percentage of persons covered by ongoing or finalised projects implementing replicable or transferable actions set up to reduce adverse effects of chemicals on	78	50 ,0

Indicators	Progress towards target	Target
health and environment, including estimates over the long term effects - after 3 or 5 years		00 persons
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards reaching or surpassing the relevant Union noise reduction target on project level	67	80 %
Percentage of ongoing or finalised projects implementing replicable or transferable actions targeting noise reduction progressing towards reducing noise exposure by at least 3 dB	33	80 %
Number of the persons benefitting from ongoing or finalised projects implementing replicable or transferable actions set up to reduce noise levels by at least 3 dB	4000	10,000

Source: MTE

Note that environment and health environmental objectives are not among the indicative areas targeted by SIPs or the themes targeted by FIs in the current programming period.

Furthermore, the number of projects contributing to noise is much greater in the projects database although this is because it is grouped together with air quality and emission reductions. Owing to this discrepancy in reporting, no comparison with the projects database is made for this environmental objective. There is no separate reporting for chemicals as this is grouped with industrial production and is more closely aligned with resource efficiency. Of the 41 LIFE projects concerning industrial production, 12 include aspects relating to chemicals.

Among the indicators used for noise, the one discussed in the following sections include the noise level/frequency – terrestrial (indicator 5.2.1).

'traditional' standard action grants:

Environmental impacts are only reported by 4 'traditional' standard action grants under the Environment sub-programmes in Belgium, Spain and Italy (with an average co-financing rate of 56%).

The environmental impact is expected to be greater beyond the lifetime of the project (compared to during it), at a ratio of ~0.4:1; while the number of persons affected or influenced is expected to remain constant.

In terms of outreach, no reporting was provided by the indicators database for these projects.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for environment and health will be:

- Relatively few in number compared to other environmental objectives; although environmental impacts will have long-standing effects beyond the lifetime of the project.
- Carried out by 'traditional' standard action grants, under the Environment sub-programme.

In addition, a total of 2 governance and information projects reported environmental impacts, 1 relating to energy efficiency and the other to renewable energy. Both projects are based in EU15 Member States and sit within the climate change programme with an average co-financing rate of 60%.

The extent of the impacts in relation to renewable energy are expected to be greater beyond the lifetime of the project (at a ratio of ~0.7:1). The type of renewable energy is not specified by the indicators database. Energy efficiency impacts are only reported in terms of the number of person influenced by the project, which is expected to be greater during the project lifetime compared to beyond it (at a ratio of ~3:1).

The projects database indicates an additional 2 governance and information projects are relevant to the resource efficiency thematic priority. These projects concern industrial production and sit within the environment sub-programme. The average rate of co-financing is lower at 56%.

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

D. Resource efficiency (including soil, forests, and green and circular economy)

Programme Level:

According to the MTE a total of 15 projects directly target resource efficiency between 2014 and 2015; although 51 projects were found to contribute to relevant indicators in the indicators database (with 39 projects contributing to energy efficiency and 24 to achieving a circular economy).

The MTE reports the combined planned impacts of these projects as follows:

- Reduction in energy consumption from electricity [120,000 MWh/year]
- Reduction in energy consumption from methane [500,000 MWh/ year]
- Increase renewable energy production [300,000 MWh/year from unspecified sources; 190,000 MWh/year from biomass; 7 MWh from solar]
- Plan to sustainably manage 1,900 ha of forests, and provide data for 71 forests to the European Data Centre
- Projects covering 344 ha of soil

Progress towards targets is positive against many of the MAWP targets set for resource efficiency as shown below.

Table 5-14: Progress towards resource efficiency targets (2014-2015)

Indicators	Progress towards target	Target
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards implementing aspects of green circular economy	76	80%
Percentage of additional companies covered by ongoing or finalised projects implementing replicable or transferable actions set up to implement green circular economy	77	10 companies
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards maintaining or improving soil	91	80%

functions		
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards implementation of the European Forest Strategy	67	80%
Percentage of ongoing or finalised projects implementing replicable or transferable actions set up to provide data for the European Forest Data Centre (EFDAC)	70	80%

Source: MTE

The following analysis focusses on two of the indicators included in the indicator database, including energy efficiency – energy (indicator 4.1.1) and renewable energy (indicator 4.1.3). Of the two, energy efficiency relating to consumption is the most common indicator used to report the environmental impact of resource efficiency projects.

Note that resource efficiency environmental objectives are not among the indicative areas targeted by SIPs or the themes targeted by FIs in the current programming period.

'traditional' standard action grants:

'traditional' standard action grants are the primary delivery mechanism used by resource efficiency projects (according to the indicators database and the projects database). In relation to energy efficiency, projects are typically funded via the Environment sub-programme (total of 22 and to a lesser extent the climate change mitigation (7). Renewable energy 'traditional' standard action grant projects are funded by the full suite of sub-programmes: Environment (7), Nature (1), Climate Change Adaptation (CCA) (1) and Climate Change Mitigation (CCM) (3).

The average rate of co-financing is comparatively low next to other thematic priorities; and the territorial balance favours EU15 Member States with no projects awarded to new Member States between 2014-2015. Projects under the climate change programmes receive a much lower rate of co-financing (averaging 49% for energy efficiency under CCM; 50% and 58% for renewable energy under CCA and CCM, respectively). For energy efficiency projects, between Member States, the rate is lower still at 32% for a project funded in Sweden and 39% for two projects funded in Belgium. For renewable energy projects the rate of co-financing is more balanced between Member States; albeit still low compared to other thematic priorities.

Under energy efficiency, electricity is the main source of energy targeted by the projects funded (16 under the Environment sub-programme and 3 under CCM). The extent of the impact is on average greater during the lifetime of the project compared to beyond it (at a ratio of ~2:1 for those under the Environment sub-programme and ~5:1 under CCM).

Under renewable energy, the source of energy is largely undefined and only solar and biomass are specified by the indicators database. The extent of the impact and the extent of persons influenced are on average the same during the lifetime of the project compared to the time period beyond it.

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 9 projects (across all sub-programmes except CCA).
- Website use (indicator 11.1): 15 projects (across all sub-programmes except CCA). Planned website traffic is greater beyond the lifetime of a project compared to during it (by a factor of ~0.9:1).
- Networking (indicator 12.1): 15 projects reported networking activities; the most common group of individuals involved in networking activities is professionals. The

impact of networking in terms of persons influenced is similar during the lifetime of a project compared to beyond it.

The projects database indicates a larger number of projects are contributing to the resource efficiency thematic priority, taking into account a wider range of activities (rather than focussing on energy). By theme, the following observations can be made:

- Energy: 1 project awarded under the Environment sub-programme with a co-financing rate of 58%
- Environmental management: 11 projects awarded under the Environment sub-programme with an average co-financing rate of 58%
- Industry – production: 56 projects awarded across the full scope of sub-programmes (primarily under the Environment sub-programme) with an average co-financing rate of 56%
- Land-use: 21 projects awarded across the full scope of sub-programmes (of which, 19 under the Environment sub-programme) with an average co-financing rate of 54%. The remaining 2 projects fall under the CCA programme and have an average co-financing rate of 38%.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for resource efficiency will be:

- Primarily awarded via 'traditional' standard action grants, across all sub-programme areas but primarily under the Environment sub-programme
- Projects have a particular focus on energy efficiency and overlap with the CCM programme (and CCA to a lesser extent)
- Greater uptake in EU15 Member States (presumably new Member States are accessing regional funds for energy efficiency projects); and comparatively low co-financing rates in relation to other thematic priorities.
- Environmental impacts will continue to be supported by outreach activities but at a lower rate compared to action on the ground. Private for profit and public bodies will continue to be the key stakeholders engaged in outreach activities.

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

E. Waste

Programme Level:

The MTE reports that 16 projects were funded under the waste thematic priority between 2014-2015; and that a total of 30 projects were found to be contributing to relevant indicators. The combined planned impact of indicators of these 30 projects was reported to be 218,275 tonnes/year in waste prevention and 141,906 tonnes/year in recycling with impacts covering 43 municipalities and regions. Progress against targets was not reported in the MTE.

The following analysis focusses on one of the indicators included in the indicator database, waste management (indicator 3.1).

Note that waste management environmental objectives are not among the themes targeted by FIs in the current programming period.

'traditional' standard action grants:

'traditional' standard action grants are the main delivery mechanism relating to waste management projects. Of these projects, 40 reported to the indicators database against the waste management indicator between 2014 and 2015. Of these, 34 are supported under the Environment sub-programme, 3 under Nature, 1 under CCA and 2 under CCM. The majority

relate to non-hazardous waste management with just 3 concerning hazardous waste management. Across all waste management 'traditional' standard action grants the extent of waste management is much greater during the lifetime of the project compared to beyond (at a ratio of ~10:1). The extent of the persons influenced are on average the same during the lifetime of the project compared to the time period beyond it.

The rate of co-financing is relatively low compared to other thematic priorities (at 57%); the average is brought lower by the 3 hazardous waste management projects (46%). Territorial coverage is limited with projects in EU15 Member States only.

By sector the greatest number of projects are supported in the industry and agriculture sectors (17 and 12 projects, respectively). This followed by household (5), mining (4) and construction (1). The rate of co-financing is greatest for mining projects (average of 59%) while the lowest is for industry and construction (averages of 56%). The relatively large ratio of improvement achieved during the project lifetime compared to beyond is driven by projects in the industry and agriculture sectors (at a ratio of ~15:1 and ~10:1, respectively).

The projects database reports a similar number of projects as the indicators database, with the rate of co-financing also relatively low compared to other thematic priorities (at 55%).

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 22 projects (across all sub-programmes except CCM); an equal number of private for profit and NGO represent the main stakeholders engaged (6, respectively) with an average co-financing rate of 50% and 54%, respectively.
- Website use (indicator 11.1): 33 projects (across all sub-programmes). Planned website traffic is expected to be greater during the lifetime of the projects compared to beyond it (at a ratio of ~2:1).
- Networking (indicator 12.1): 38 projects reported networking activities; the most common group of individuals involved in networking activities include members of interest groups. Across all groups of persons, planned activity is expected to be greater during the lifetime of the projects compared to beyond it (at a ratio of ~2:1).

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for waste management will:

- Be led by 'traditional' standard action grant projects
- Environmental impacts will be greatest during the lifetime of the project
- Greater uptake in EU15 Member States; and comparatively low co-financing rates in relation to other thematic priorities.
- Strong uptake by industry and agriculture sectors and focussing on non-hazardous waste management
- Environmental impacts will continue to be supported by outreach activities but at a lower rate compared to action on the ground. Networking activities will continue to be the most common outreach activity across projects.

In addition, the projects database reports 6 governance and information within the Environment sub-programme projects relating to waste management between 2014 and 2015 with a co-financing rate of 59%. Of these projects, none report to the indicators database on waste management.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for waste

management will be:

- Governance and information projects will continue to play a relatively minor support role to waste management environmental impacts.

Strategic integrated project (SIPs):

One SIP was awarded between 2014 and 2015 to support with the national waste management plan of Finland with a co-financing rate of 60%. The project supports with the updating of the 2017-2022 plan. It does not report any environmental impact in relation to waste management and in terms of outreach, no reporting was provided by the indicators database for SIPs.

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for waste management will:

- Be targeted by SIPs at a reduced scale compared to 'traditional' standard action grants
- Environmental impacts will vary according to the project; based on SIPs in other indicative areas, it is likely that the environmental impacts will continue beyond the lifetime of the project.
- Co-financing rates will be average compared to other delivery mechanisms contributing to waste management; and higher than average compared to other indicative areas (average co-financing rate of 55%).

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

F. Water

Programme Level:

According to the MTE, 16 projects targeted water as a thematic priority between 2014 and 2015. Although in total 40 projects reported relevant environmental impacts in the indicators database.

At the time of the MTE, progress towards the MAWP targets was below target but not significantly – as shown below.

Table 5-15: Progress towards water targets (2014-2015)

Indicators	Progress towards target	Target
Percentage of ongoing or finalised projects implementing replicable or transferable actions and progressing towards good ecological status at project level	63	80 %
Number and percentage of water bodies (inland/ transitional/ coastal) covered by ongoing or finalised projects implementing replicable or transferable actions set up to improve their ecological status	49 (70 total); 70%	100 (number)

Source: MTE

The following analysis focusses on two of the indicators included in the indicator database, including terrestrial extent affected by the pressure or risk addressed (indicator 2.1) and aquatic extent affected by the pressure or risk addressed (indicator 2.2).

Note that water environmental objectives are not among the themes targeted by FIs in the current programming period.

'traditional' standard action grants:

A total of 12 projects reported the terrestrial extent affected by the pressure or risk addressed and 16 projects reported the aquatic extent affected by the pressure or risk addressed. These are mainly under the Environment sub-programme (17) and to a lesser extent the CCA sub-programme (5).

For projects reporting the terrestrial extent affected by the pressure or risk addressed, the main pressures targeted include flood protection, diffuse pollution from industry, morphological changes and water quality. The average ratio of improvement during the lifetime of projects compared to beyond it is greater (~5:1); this is primarily due to projects targeting flood protection and diffuse pollution from industry.

For projects reporting the aquatic extent affected by the pressure or risk addressed, the average ratio of improvement is reportedly the same for the time period beyond the project and the lifetime of the project.

For projects reporting the terrestrial extent affected by the pressure or risk addressed, the average co-financing rate is 55%. For projects reporting the aquatic extent affected by the pressure or risk addressed, the average co-financing rate is 56%. Across all projects, there is a greater number of projects in EU15 Member States (5) compared to new Member States (2).

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 13 projects (across all sub-programmes except CCM); public bodies are the most common stakeholders engaged across projects (4), followed by an equal number of private for profit and NGOs (3, respectively). Co-financing rates are lowest for the projects involving NGOs (52%)
- Website use (indicator 11.1): 16 projects (across all sub-programmes except CCM). Planned website traffic is expected to be greater beyond the lifetime of the projects compared to during them (at a ratio of ~2:1).
- Networking (indicator 12.1): 38 projects reported networking activities across all groups of stakeholders at a relatively even split. The extent of networking activity is greater during the lifetime of a project compared to beyond it (at a ratio of ~2:1).

A much greater number of projects are reported by the projects database in relation to the water thematic priority (35 under the Environment and Nature sub-programmes) and with a slightly higher co-financing rate comparatively (58%).

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for water quality will:

- Be led by 'traditional' standard action grant projects
- Environmental impacts are typically ongoing beyond the lifetime of the project
- Greater uptake in EU15 Member States; and comparatively low co-financing rates in relation to other thematic priorities.
- Environmental impacts will continue to be supported by outreach activities but at a similar rate to action on the ground. Networking activities will continue to be the most common outreach activity across projects.

Strategic integrated project (SIPs):

A total of 2 SIPs reported environmental impacts to the indicators database between 2014 and 2015 in Germany and the UK; all reporting the aquatic extent affected by the pressure or risk addressed, and of which 1 also reported pressures relating to flood protection (in Germany).

The average co-financing rate was 56%. The project which reported the aquatic extent affected by the pressure or risk addressed average, reported that planned impacts was much greater during the lifetime of the project compared to beyond it (~10:1). Whereas the projects reporting the aquatic extent affected by the pressure or risk addressed was, reported a greater planned impact beyond the lifetime of the project compared to during it (~0.4:1).

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): only one SIP reported planned impacts against this indicator, with greater stakeholder engagement planned beyond the project compared to during its lifetime (at a ratio of ~0.1:1).
- Website use (indicator 11.1): both SIPs reported planned website traffic, which is expected to be greater during the lifetime of the projects compared to beyond them (at a ratio of ~4:1).
- Networking (indicator 12.1): both SIPs reported planned networking activities relating to members of interests groups in the case of the UK and to laymen in Germany.

The projects database reported 4 SIPs between 2014 and 2015 (with an average co-financing rate of 50%), covering Belgium and Sweden in addition to Germany and the UK.

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for water management will:

- Be targeted by SIPs at a reduced scale compared to 'traditional' standard action grants
- Environmental impacts are expected to continue beyond the lifetime of the project
- Co-financing rates will be lower than average compared to other delivery mechanisms contributing to water management; and average compared to other indicative areas (average co-financing rate for SIPs in this time-period is 55%).

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

5.3.1.2. *Environmental impacts – sub-programme for Climate action*

Programme Level:

According to the MTE, there were 11 ongoing projects within the climate change adaptation sub-programme and an additional 17 projects contributing to projects from other sub-programmes. The total area targeted is 35 million ha; with 50% of projects funded so far addressing particularly vulnerable areas and 61% of projects supporting the development of infrastructures targeted for climate resilience.

With regards to climate change mitigation, the MTE reported that within the CCM sub-programme, 15 projects are planned to contribute to GHG mitigation and 11 to carbon capture and sequestration. An additional 48 projects outside the CCM sub-programme contribute to the relevant indicators with 41 of 48 projects planning to reduce GHG emissions and 14 to sequester carbon. An overview of these planned mitigation impacts is provided below.

Table5-16: Climate change mitigation impacts reported to the indicators database (2014-2016)

Measurement units	Sector	CO ₂	Other GHG
kg GHG/ unit produced	Production of material products or environmental outcomes	1 618 842 611	37 135
kg CO ₂ / kg produced	Agriculture	31	17
kg CO ₂ / 1000 ha	Agriculture	36 331 000	10 047 311 000
kg GHG/ kwh	Energy	690 570	37
kg GHG/ m ²	Building (housing)	1387	
kg CO ₂ / person	Administration/ Private responsibility	35 343	329

Measurement units	Carbon capture and sequestration
kg/ ha/ year	3 451 731
metric tons CO ₂ / km ²	13 000 150
Tons	200

Source: MTE

The following analysis focusses on 4 of the indicators included in the indicator database, including particularly vulnerable areas (indicator 9.2) and infrastructures targeted for climate resilience (indicator 9.3) for climate change adaptation; and CO₂ emissions (indicator 8.1.1) and other GHG emissions (indicator 8.1.2) for climate change mitigation.

'traditional' standard action grants:

'traditional' standard action grants are the primary delivery mechanism used by climate action projects (according to the indicators database and the projects database).

A. Climate change adaptation

Programme Level:

In relation to climate change adaptation, projects are typically funded via the CCA sub-programme (total of 6 in relation to resilience and 8 for infrastructures). However, adaptation 'traditional' standard action grant projects (namely those relating to infrastructure) are also funded by the following sub-programmes: Environment (8) and Nature (3).

Under the CCA sub-programme, the average rate of co-financing is 57%; and it is observed that very few Member States have ongoing projects under this sub-programme. Climate resilience projects mainly target flood management (and in this respect, overlap with flood protection activities funded with respect to the water thematic priority (where the co-financing rate is generally higher; between 60 and 75%). Climate infrastructure projects most commonly relate to non-specified buildings and water and sewage facilities. The average rates of co-financing are 57%, respectively.

The extent of the impacts are greater beyond the lifetime of the project for building resilience (~0.8:1 across all projects).

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 4 projects (within the sub-programme CCA). The extent of planned engagement is greater beyond the lifetime of the projects compared to during it (~0.5:1).

- Website use (indicator 11.1): 6 projects (within the sub-programmes Environment and CCA). Planned website traffic is greater during the lifetime of a project compared to beyond it (by a factor of ~2:1).
- Networking (indicator 12.1): 7 projects (within the sub-programmes Environment and CCA). The planned extent of networking activities is greater during the lifetime of a project compared to beyond it (by a factor of ~2:1).

The projects database indicates a larger number of projects are contributing to climate change adaptation with 36 projects awarded under the CCA sub-programme with a co-financing rate of 57%. Thus indicating that a relatively large share of climate adaptation projects are not reporting impacts to the indicators database in relation to resilience and infrastructures.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for climate change adaptation will be:

- Primarily awarded via 'traditional' standard action grants, primarily under the CCA sub-programme
- Low level of reporting impacts to the indicators database
- Comparatively low co-financing rates in relation to other thematic priorities
- Environmental impacts will continue to be supported by outreach activities but at a lower rate compared to action on the ground. The full extent of outreach activities is not well captured with the current approach as it relies on reporting of environmental impacts.

B. Climate change mitigation

Programme Level:

In relation to climate change mitigation, projects are funded via the CCM sub-programme (total of 12 in relation to CO₂ mitigation and 3 for other GHG emission mitigation). However, mitigation 'traditional' standard action grant projects (CO₂ mitigation) are primarily funded by the Environment sub-programmes (21), and to a lesser extent other GHG emission mitigation (4). For CO₂ mitigation, the CCA sub-programme also included projects reporting CO₂ savings (2).

Under the CCM sub-programme, for projects contributing to CO₂ savings, the average rate of co-financing is lower compared to the Environment sub-programme (53 and 56%, respectively); and it is observed that fewer Member States have ongoing projects under CCM in this respect.

The greatest CO₂ savings are achieved through industrial production projects (11 under the Environment sub-programme and 5 under the CCM). The planned extent of savings achieved during the lifetime of the project are reportedly higher under the CCM sub-programme compared to beyond it (at a ratio of ~21:1) whereas the ratio is less exaggerated under the Environment sub-programme (at a ratio of ~2:1).

With regards to other GHG emissions, between 2014 and 2015, mitigation only concerned CH₄. Again, it is observed that the Environment sub-programme funded a greater number of projects reporting against this indicator compared to the CCM. The planned extents of savings achieved during the lifetime of the projects are reportedly the same as those achieved in the time period beyond the projects.

The following impacts were also reported in terms of outreach related to these projects reporting environmental impacts:

- Stakeholder engagement (indicator 10.2; involvement of non-governmental organisations (NGOs) and other stakeholders in project activities): 3 projects (across multiple sub-programmes).
- Website use (indicator 11.1): 4 projects (also across multiple sub-programmes and with the greatest number under the Environment sub-programme).
- Networking (indicator 12.1): 4 projects (also across multiple sub-programmes and with the greatest number under the Environment sub-programme).

The projects database indicates a larger number of projects are contributing to climate change adaptation with 28 projects awarded under the CCM sub-programme with a co-financing rate of 55%. Thus, indicating that a relatively large share of climate mitigation projects are not reporting impacts to the indicators database in relation to CO₂ and other GHG savings.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for climate change mitigation will be:

- Primarily awarded via 'traditional' standard action grants, primarily under the Environment sub-programme, rather than the CCM
- Low level of reporting impacts to the indicators database of CCM supported projects
- Comparatively low co-financing rates in relation to other thematic priorities
- Environmental impacts will be supported to a minor extent by outreach activities. The full extent of outreach activities is not well captured with the current approach as it relies on reporting of environmental impacts.

In addition, for adaptation, of the projects reporting impacts to the indicators database, 2 relate to governance and information activities. The planned impact in terms of improvements to particularly vulnerable areas is expected to be greater beyond the lifetime of the project compared to during it at a ratio of ~0.3:1.

For mitigation, 3 projects reported planned CO₂ savings to the indicators database with an average co-financing rate of 60% (higher than the rate provided for 'traditional' standard action grants relating to climate change mitigation). The planned impact in terms of CO₂ savings is expected to be greater during the lifetime of the project compared to beyond it at a ratio of 2:1.

According to the projects database, 6 governance and information projects under the climate sub-programme were awarded between 2014 and 2015 with an average co-financing rate of 60% (higher than the rate provided for 'traditional' standard action grants relating to climate change action).

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for climate action will be:

- Governance and information projects will continue to play a relatively minor support role to climate actions.

Strategic integrated project (SIPs):

The projects database reported 2 SIPs between 2014 and 2015 (with an average co-financing rate of 54%), covering Denmark and Germany. No environmental impacts are reported to the indicators database for the projects concerned.

The Danish SIP provides support to municipalities in the development of their CCA plans, relating to all spatial areas and intended to provide a comprehensive base for implementation, evaluation and planning in light of the uncertainties of future climate change. The German SIP supports to a societal transition to renewable energies and energy efficiencies. It aims to facilitate a large-scale change based on changes to consumer behaviour and land use strategies. There are no planned environmental impacts reported for either SIP.

For the 2021-2027 programming period therefore, it is understood that in the BAU, environmental impacts for climate actions will:

- Be targeted by SIPs at a reduced scale compared to 'traditional' standard action grants
- Environmental impacts cannot readily be quantified owing to the nature of the projects

Other:

No capacity building or preparatory projects reported environmental impacts in the programming period reviewed.

An update on PF4EE operations is provided below (up to and including 2017). It shows the number of operations signed and approved together with the planned energy savings and CO₂ mitigation per year for each operation.

Table 5-17: PF4EE operations (November 2017)

Operation	Country	Status	EIB loan (EUR m)	Energy savings (MWh/year)	CO2 (tons/year)
Belfius	Belgium	Signed	75.0	75,900	3,031
BPER	Italy	Signed	50.0	n.a.	n.a.
BPI	Portugal	Signed	50.0	35,571	14,174
CC	France	Signed	75.0	94,750	7,837
Kormercni	Czech Republic	Signed	75.0	126,000	68,531
Santander	Spain	Signed	50.0	24,600	8,017
Zaba	Croatia	Signed	40.0	26,300	8,979
CCB	Cyprus	Approved	25.0	35,665	27,058
Piraeus	Greece	Approved	100.0	35,215	25,750
Total (signed)			415.0	383,121	110,569

Source: EIB (2017)¹²²

The NCFF is also relevant to climate action with respect to climate change adaptation although the environmental impacts are as yet not quantifiable as no operation has been signed at the time of reporting in relation to climate change adaptation.

For the 2021-2027 programming period, it is understood that in the BAU, environmental impacts for climate action will be:

- Carried out by an increasing number of projects funded via both the PF4EE and the NCFF (particularly assuming that uptake is faster once the NCFF is more established)
- Monitoring and reporting of environmental impacts will improve as the number of projects increase and the timeframe of activity continues

5.3.2. Economic Impacts of the Business as Usual Scenario

The economic impacts in the BAU are assumed to be similar to the current implementation of the LIFE programme. There are two main economic impacts:

1. The economic impacts on applicants
2. The economic impacts on EASME/ EC.

These two main impacts are assessed quantitatively in the next sections. Additional economic impacts include:

1. The economic impact on Member States – the involvement of MS is not expected to change in the future, hence there will be no difference from the business as usual scenario.

¹²²

EIB (2017) Energy efficiency in buildings: how to accelerate investments? Paris, December 2017.
https://ec.europa.eu/energy/sites/ener/files/documents/015_2a_isidoro_tapia_seif_paris_11-12-17.pdf

2. The economic impact on SMEs – the extension of the scope, change in delivery mechanism, simplification of procedures might provide differing impacts on SMEs. These are explored in the individual options.
3. The impact on research and innovation – the extension of the scope, change in delivery mechanism might incentivise different type of projects under LIFE and hence could have an impact on research and innovation catalysed through LIFE programme. These are explored in the individual options.

5.3.2.1. *Economic impacts on applicants*

Application procedure costs – Action grants

LIFE stakeholders have expressed their concerns regarding the application process in the mid-term evaluation. EASME experts mentioned that the application process is overly complex, extensive and lacking purpose, and both NEEMO monitoring experts and project beneficiaries agreed that it is a burdensome procedure for the applicants.¹²³

Since 2018, there are two project submission procedures for **'traditional' standard action grants**. Under the **Environment sub-programme**, a two-stage process is followed according to which, in the first stage, applicants have to submit a brief concept note (approximately 10 pages) that will summarise key information about the proposed project and subsequently only the applicants with the best ranked concept notes are invited to submit a full proposal. Under the **Climate Action sub-programme**, however, the application procedure involves only the submission of a full proposal.

These two procedures have different implications for the costs that both the applicants and the Commission have to bear in the application phase. According to an interview with EASME, developing a full proposal requires work equivalent to approximately 44 to 66 person-days (2 – 3 months, assuming 22 working days per month), which, assuming an average person-day cost of €400, will cost the applicants from €17,600 to €26,400. On the other hand, preparing a short concept note would only take around 10 to 15 person-days, which entails a significantly lower cost that ranges between €4,000 and €6,000, assuming €400 per day, and it will reduce the work needed to prepare a full proposal in the second stage. See Table 5-1 for the overview of calculations and assumptions.

During the 2014-2016 period, 3,239 traditional project proposals were submitted in total, 2,797 (86%) of which were under the Environment sub-programme and only 442 (14%) of them were under the Climate Action sub-programme.¹²⁴ If we assume that the number of applications each year will be approximately the same and that 1/3 of the submitted applications under the Environment sub-programme would be eligible to be invited to the second stage and submit a full proposal, then the estimated total application cost for 'traditional' standard projects for the 2014-2020 period under both sub-programmes is around €73 to €115 million, or around €10 to €16 million per year. This cost includes the preparation of concept notes from all the applicants under the Environment sub-programme and full proposals for those that made it through the second stage (assuming one third), and the preparation of full proposals from all applicants under the Climate Action sub-programme. These estimates are presented in more detail in Table 5-11 below.

¹²³ EC (2017) Support for an external and independent LIFE Mid Term Evaluation Report, Luxembourg, European Union, 2017

¹²⁴ Based on data on 'traditional' standard action grants provided by the Commission

Table 5-18 Estimated application cost for 'traditional' standard action grants

Type of project	Type of application procedure	Stage I time needed - days (min)	Stage I time needed - days (max)	Stage II time needed - days (min)	Stage II time needed - days (max)	No. proposals 2014-2016	Total cost 2014-2016 (min)	Total cost 2014-2016 (max)
'traditional' standard action grants (ENV)	Two-stage procedure	10	15	34	56	2797	€23,867,733*	€37,666,267*
		person-day cost: € 400						
		Stage I – concept note cost (min)	Stage I – concept note cost (max)	Stage II – full proposal cost (min)	Stage II – full proposal cost (max)			
		€4,000	€6,000	€13,600	€22,400			
'traditional' standard action grants (CLIMA)	One-stage procedure			Project proposal time needed - days (min)	Project proposal time needed - days (max)	442	€7,779,200	€11,668,800
				44	66			
				person-day cost: € 400				
				€17,600	€26,400			
Per year application cost for 'traditional' standard projects for both sub-programmes							€10,548,978	€16,445,022
Estimated total application cost for 'traditional' standard projects (2014-2020)							€ 73,842,844	€115,115,156

* It was assumed that 1/3 of the concept notes were eligible to submit a full proposal

The **integrated projects** follow the same two-stage approach as described for the 'traditional' standard projects under the Environment sub-programme. This means that the applicants first submit a shorter concept note and after their evaluation the highest ranked applicants are invited to submit a full project proposal. Therefore, the total application cost for these projects depends on the number of concept notes received and the success rate, i.e. how many pass to the second stage. The total application cost for integrated projects per year was estimated to be between €2.8 to €4.3 million or around €400,000 to €600,000 per year, assuming that more person-days are needed for the preparation of a full proposal for integrated projects than for 'traditional' standard projects due to the higher complexity of the former. For the overview of these calculations see Table 5-1. The importance of the **technical assistance** projects in the preparation of integrated projects has to be highlighted here. The stakeholders' interviews in the mid-term evaluation have revealed that it would be very difficult for integrated project applicants to find sufficient internal resources to successfully apply without technical assistance.

The project selection process for the **operating grants** is based only on the submission of a full proposal, so the total cost for applicants can be estimated by the number of the submitted applications and the average cost of preparing a full proposal. However, according to the mid-term evaluation, the biannual framework partnership agreements for operating grants, which requires the submission of an application for each year and an overall application, increases the administrative burden of the application process. There is also the possibility under the operating grants to be awarded a project without a call for tender. This applies to specific cases, such as to IMPEL. In this case, the application procedure cost for the grant beneficiary is negligible.

Table 5-19 Estimated application cost for integrated projects

Type of project	Type of application procedure	Stage I time needed - days (min)	Stage I time needed - days (max)	Stage II time needed - days (min)	Stage II time needed - days (max)	No. concept notes (2015-2016)	No. full proposals (2015-2016)	Total cost 2015-2016 (min)	Total cost 2015-2016 (max)
		10	15	40	60				
		person-day cost: € 400							
		Stage I – concept note cost (min)	Stage I – concept note cost (max)	Stage II – full proposal cost (min)	Stage II – full proposal cost (max)				
Integrated projects (ENV)	Two-stage procedure	€4,000	€6,000	€16,000	€24,000	41	27	€596,000	€894,000
Integrated projects (CLIMA)						16	10	€224,000	€336,000
Per year application cost for integrated projects for both sub-programmes								€410,000	€615,000
Estimated total application cost for integrated projects (2014-2020)								€2,870,000	€4,305,000

For the two LIFE **Financial instruments**, the Private Finance for Energy Efficiency (PF4EE) and the Natural Capital Financing Facility (NCFF), the mid-term evaluation provides some insights on the application costs. Regarding the NCFF, and although acknowledging that only a limited number of FTEs are allocated for this instrument, the MTE suggested that it was too early to assess the administrative burden for the EIB and applicants. Specifically, however, the MTE suggested that an extensive amount of time is used inefficiently in practice by the EIB for discussing and supporting non-mature project ideas with project applicants. The MTE also stated that according to the EIB and evaluators, the reporting requirements could be high based on the large number of indicators that the final beneficiaries should report on. On the other hand, although also too early to come to conclusions, for PF4EE the MTE suggests that it is on the right efficiency track, despite the limited number of EIB staff involved in implementation. Interviewed intermediaries indicated that there were no excessive administrative requirements in the application process for PF4EE. However, reporting requirements are also considered too cumbersome in the PF4EE, creating an administrative burden to intermediaries.

The costs of reporting requirements:

As for the reporting requirements, the majority of the NEEMO monitoring experts and more than 80% of the beneficiaries interviewed during the mid-term evaluation found them to be very high, as beneficiaries have to prepare and submit five reports in total during the implementation phase,¹²⁵ and report on output indicators. An **inception report** has to be delivered within 9

¹²⁵ EC.europa.eu. (2018). Environment - LIFE : Toolkit : Project management tools : Standard Agreement and Common Provisions. [online] Available at: http://ec.europa.eu/environment/life/toolkit/pmttools/life2014_2020/guidelines.htm [Accessed 2 Mar. 2018].

months after the start of the project, and contains information regarding the implementation of the project, the work plan, its financial state, and a self-assessment of the viability of the project. A **progress report** has to be submitted no later than 18 months between consecutive reports and should include similar information to the inception report with the addition of concise statements regarding the undertaken tasks, encountered problems, possible deviations from the plan, and a forecast for the next reporting period. In the end of the project, beneficiaries have to submit the **final report** of the project, which is particularly lengthy, and has to include administrative, technical, and financial information. A **mid-term report**, which contains the same information as the final report, is also required for projects that last for more than 24 months or the EU contribution they receive is higher than €300,000. After the end of the project and as part of the final report, a **layman's report** has to be submitted, which aims to summarise the work of their LIFE project for a general audience, serving as a marketing tool for promoting and extending the impact of the project beyond the area of implementation.

In order for the actual impact of the LIFE Programme to be evaluated applicants and beneficiaries have to measure and monitor the qualitative and quantitative environmental and climate action outcomes. Hence, each project has to report on **key indicators** according to the sector or priority area on which the project focusses and on further key indicators which depict its societal and economic outcomes. In addition to these mandatory indicators, the applicants and beneficiaries have to report on at least one **complementary key indicator** that reflects the multipurpose character of the project and the synergies it generates. Except for the application phase, the relevant indicators and related descriptors have to be reported in the end of the project and 3-5 years after its completion. NEEMO stated that the indicator database used is too complicated and requires enormous resources from the beneficiaries to report on them.¹²⁶ Most of the beneficiaries expressed the same concern regarding the indicator set in the interviews of the mid-term evaluation, claiming that they are difficult to comprehend and very time-consuming.

Assuming different person-days for the respective reports, based on their length and on the effort required to complete them, and following the same average person-day cost used above (€400 per person-day), we can approximate the cost per report and hence the total cost of reporting. It is assumed that the inception report would take approximately 5 person-days to be prepared, which would cost around €2,000. The progress report should be no longer than 20 pages and normally contains about 10 pages, therefore, 3 person-days should be sufficient, which would cost around €1,200. The final and mid-term reports are especially lengthy and thus it is assumed that 10 person-days are necessary, amounting to €4,000 each. The layman's report would need 3 person-days to be completed since it is usually short and not very demanding in terms of the effort needed, so it would cost €1,200. Finally, reporting the qualitative and quantitative outcome indicators has been described by beneficiaries as a cumbersome and time-consuming process, therefore, the cost of reporting them would be roughly €3,200. This makes a total of over €12,000, as the approximate total cost of reporting per beneficiary. The table below summarizes the abovementioned information.

Table 5-20 Estimated cost of reporting requirements (including indicators)

Type of report	Estimated time needed (person-days)	Person-day cost	Total cost per report
Indicator reporting	8	€ 400	€ 3,200
Inception report	5	€ 400	€ 2,000

¹²⁶ EC (2017) Support for an external and independent LIFE Mid Term Evaluation Report, Luxembourg, European Union, 2017

Progress report	3	€ 400	€ 1,200
Midterm report*	10	€ 400	€ 4,000
Final report	10	€ 400	€ 4,000
Layman's report	3	€ 400	€ 1,200
Total			€ 12,400

* For projects longer than 24 months or with more than €300,000 EU contribution

5.3.2.2. *Economic impacts on EASME / European Commission*

In order to estimate the annual management costs of LIFE in the baseline post-2020, we build upon the actual costs and staff needs reported in the EASME Annual Work Programme for 2017 (2017 AWP), and the EASME Financial Statement (2013), as discussed in the next sections.

We have used FTEs for the calculation of indicative operational costs based on the 2017 AWP¹²⁷. For the day rates per FTE, we referred to the indicative data provided by the Commission during a phone conversation. Although the 2017 AWP indicates accurate figures for the 2017 programme, it does not include indicative FTE data for the European Commission. Based on the EC data that had been recorded in the EASME Financial Statement (2013), we make the additional assumption that 1 Commission FTE is needed per year to supervise the Agency¹²⁸.

Furthermore, it is expected that programme operational costs will change from year to year depending on the assigned budget and the prioritisation of different projects and themes. However, we have assumed that the FTE data used from the 2017 AWP represents a sufficiently up to date and average indication of the operational costs per year. One final assumption was that National Contact Points continued to be funded by Member States themselves, rather than by LIFE, and are therefore excluded from the calculations.

Finally, in our calculations we have assumed only Title 1 budget is included. Conversely, the estimate for overall EASME operational cost mentioned in the 2017 AWP include Title 2 and Title 3 budgets (operational + other costs) post-2020 would be expected to be around €, and at €5.7million, , whereas the 2017 AWP reports €5.3 million.

Calculation - Operational budget for staff:

Based on the assumptions made, the total operational cost of EASME is in the order of €2m per year (specifically for 2017, the number is calculated to have been €2,170,200) although this is limited to only the Title 1 budget. Our data is shown in Table 5-14 below.

Table 5-21 Calculated operational budget for staff

	EC	2017 - CLIMA	DG	2017 - ENV	DG	2017 - TOTAL
Officials and temporary agents (FTEs)	1		1.7		4.3	7

¹²⁷ The data tables that we have referred to can be found in section 4-10.

¹²⁸ The data tables that we have referred to can be found in section 4-10.

Officials and temporary agents (Rate, €/day)	143,000	143,000	143,000	143,000
Officials and temporary agents (€)	143,000	243,100	614,900	1,001,000
Seconded national agents (FTEs)	n/a	n/a	n/a	n/a
Seconded national agents (Rate, €/day)	82,000	82,000	82,000	82,000
Seconded national agents (€)	n/a	n/a	n/a	n/a
Contractual agents (FTEs)	n/a	4.5	11.3	15.8
Contractual agents (Rate, €/day)	74,000	74,000	74,000	74,000
Contractual agents (€)	n/a	333,000	836,200	1,169,200
Total (FTEs)	1	6.2	15.6	22.8
Total (€)	143,000	576,100	1,451,100	2,170,200

Source: FTE numbers taken from EASME Financial Statement (2013), day rates provided by DG Environment.

Other costs:

The other costs, i.e. management and administrative support cost, overhead cost (title 2) and programme support costs (title 3) are assumed to be the same as today.

Table 5-22: Other costs

Cost element	Annual cost € million
LIFE management and administrative costs	0.71
Overhead (Title 2)	0.4
Programme support expenditure (Title 3)	2.4
Total	3.51

Source: EASME Annual Work Programme 2017

The total annual management budget for LIFE (operational + other costs) post-2020 would be expected to be around €5.71 million.

5.3.3. Social Impacts of the Business as Usual Scenario

In line with the Commission's Better Regulation guidelines, the social impacts included in this assessment of the LIFE budget programme relate to:

- Employment (job creation)
- Education and training (outreach to those in education and professionals)

- Governance and good administration (involvement among public administrations, civic organisations and other stakeholders; and public engagement)

Social impacts relating to public health and safety overlap with the environmental impacts considered and therefore are not included here.

5.3.3.1. *Employment*

The social impact of the LIFE budget programme in relation to employment is measured by the number of jobs created as a result of its intervention.

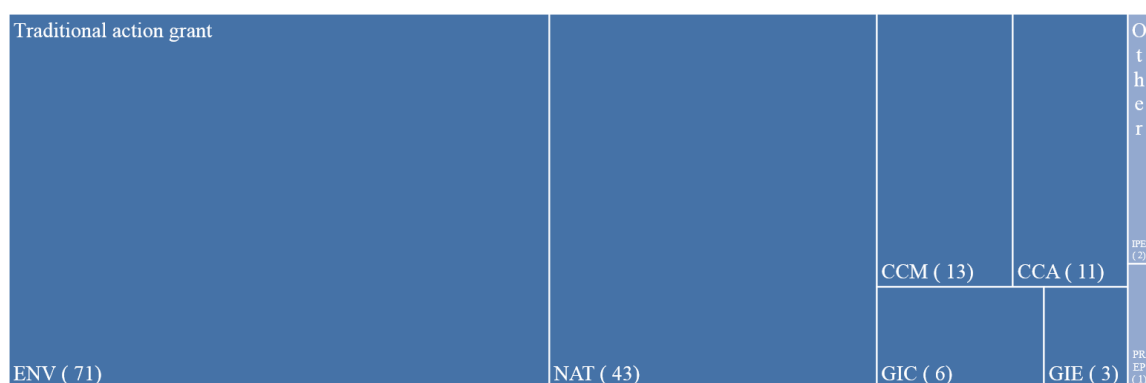
At a project level, between 2014 and 2015, a total of 150 projects reported the number of jobs created (in terms of Full Time Employment) to the indicators database. On average, the number of jobs created during the lifetime of the project is 14 FTE; compared to 8 FTE for the period beyond it.

At a programme level, it is estimated that implementation of projects supported by the LIFE budget programme create 31,000 jobs (FTE) throughout an entire programming period; and that an additional 43,500 jobs (FTE) are created in the 5 years after a programming period as a result (NEEMO and Ernst & Young, 2016) (i.e. assuming that job creation beyond a LIFE project has grown by a factor of 0.7 compared to during its lifetime).

In contrast, the MTE found that the significance of LIFE projects in relation to planned job creation was not considered to be very great by stakeholders responding to the public consultation. The main reason for this was that LIFE projects are generally not intended to create jobs and that job creation is an indirect result occurring from other intended results such as a change in policy, legislation or behaviours; and that indirect results are too difficult to quantify with any certainty.

By delivery mechanism, the greatest number of projects contributing to job creation are associated with 'traditional' standard action grant projects (namely within the Environment and Nature sub-programmes). Comparatively few 'traditional' standard action grant projects have reported job creation within the climate action sub-programmes; and fewer still under other delivery mechanisms. The number of projects reporting against this indicator is indicative of the overall share of jobs created (with the largest number of jobs created via 'traditional' standard action grants within the Environment and Nature sub-programmes).

Figure 5-23: Number of projects reporting job creation (2014-2015)



Source: Indicators database

For the 2021-2027 programming period, it is understood that in the BAU scenario, social impacts in relation to job creation will be:

- 'traditional' standard action grants will be the main delivery mechanism driving job creation; and the number of jobs created by delivery mechanism will largely reflect the number of projects funded by the respective mechanisms
- The ratio of jobs created is greater beyond the lifetime of a LIFE project compared to during its

5.3.3.2. *Education and training*

To gauge the impact of the LIFE budget programme on education, reporting on networking is used, measured at project level based on the number, and type of individuals that have been included in or participated in any of the different networking activities (indicator 12.1).

Of the 159 total projects reporting against this indicator (for the years 2014 and 2015), 34 included networking activities among those in education (referring to students and pupils of school age). The majority of these projects were supported via 'traditional' standard action grants within the Environment (16) and Nature (14) sub-programmes. The 3 remaining projects were supported via 'traditional' standard action grants and governance and information action grants within the climate action sub-programmes.

In qualitative terms, the MTE highlighted the significance of SIPs to capacity building, training of involved stakeholders and skills development and capacity building projects. The latter were also found to deliver benefits in this regard – namely for implementing and setting up training (relating to further education on and dissemination of environmental and climate action best practices).

While the monitoring and evaluation framework for the LIFE budget programme includes an indicator for professional training or education (indicator 12.2), the results are not included in the impact assessment as they were deemed too unreliable.

For the 2021-2027 programming period, it is understood that in the BAU scenario, social impacts in relation to education and training will be:

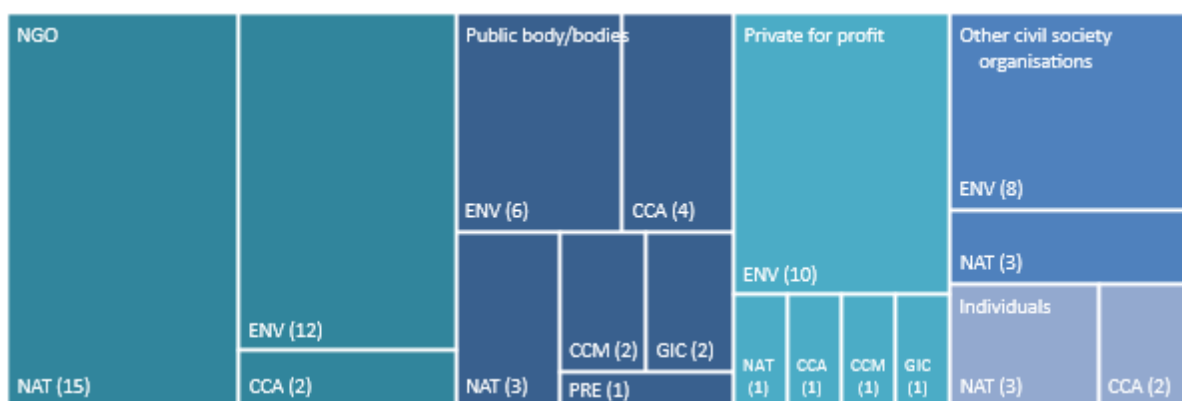
- 'traditional' standard action grants will be the main delivery mechanism supporting networking activities among those in education; and compared to other stakeholders involved in networking activities, those in education are comparatively few
- SIPs and capacity building projects will provide the greatest added value in terms of training activities compared to other delivery mechanisms

5.3.3.3. *Governance and good administration*

Reporting on stakeholder involvement (indicator 10.2) and website traffic (indicator 11.1) is used to gauge the impact of the LIFE budget programme on governance and good administration.

Of the 96 projects reporting against the stakeholder involvement indicator (for the years 2014 and 2015), NGOs comprise the largest stakeholder group. The majority of these projects were supported via 'traditional' standard action grants within the Environment (42) and Nature (28) sub-programmes.

Figure 5-24: LIFE projects according to the types of stakeholder involvement



Source: Indicators database

Website traffic relates to the number of unique site visits, average site duration, number of individuals and number of downloads. Overall 140 projects reported planned impacts relating to website traffic (of which all reported the number of individuals but between 90 and 94% reported against the other metrics). The number of individuals visiting the project websites is on average greater during the lifetime of the projects compared to beyond it (at a ratio of 2:1). The majority of the projects reporting against this indicator are 'traditional' standard action grants; as concluded in the MTE, the majority of governance and information activities reported by LIFE projects is occurring in projects outside the corresponding sub-programmes and delivery mechanisms.

For the 2021-2027 programming period, it is understood that in the BAU scenario, social impacts in relation to governance and good administration will be:

- NGOs will be the main type of stakeholder involved in in LIFE projects, followed by public bodies
- Stakeholder involvement by delivery mechanism reflects the number of projects awarded by the respective delivery mechanism (whereby a greater number of projects under 'traditional' standard action grants report a larger share of stakeholder involvement)
- Governance and administration activities will be funded across all delivery mechanisms, and will not be limited to the governance and information sub-programmes
- Website traffic for LIFE projects is greatest during the lifetime of a project

Supporting evidence: LIFE management costs

EASME 2017 AWP:

4.2. Operating budget, staff and operational appropriations

4.2.1. Operating budget

Budget title		EU contribution	EFTA/EEA contribution	Third countries' contributions	Total appropriations (€ million)
Title 1	Staff expenditure	30,91	0,52	n/a	31,44
Title 2	Infrastructure and operating expenditure	6,07	0,10	n/a	6,17
Title 3	Programme support expenditure	5,37	0,05	n/a	5,42
TOTAL		42,35	0,68	n/a	43,03

Programmes	DG	TITLE 1 (€ million)			TITLE 2 (€ million)			TITLE 3 (€ million)			TOTAL (€ million)
		EU Budget	EFTA /EEA	Third countries contrib.	EU Budget	EFTA /EEA	Third countries contrib.	EU Budget	EFTA /EEA	Third countries contrib.	
Programme - COSME											
COSME	GROW	5,587	0,006	n/a	1,100	0,001	n/a	0,443	0,000	n/a	7,137
Subtotal		5,587	0,006	n/a	1,100	0,001	n/a	0,443	0,000	n/a	7,137
Programme - H2020											
Innovation in SME's	GROW	0,814	0,022	n/a	0,156	0,004	n/a	0,079	0,002	n/a	1,076
SME instrument	AGRI	0,180	0,005	n/a	0,038	0,001	n/a	0,019	0,000	n/a	0,244
	CNECT	0,970	0,026	n/a	0,208	0,005	n/a	0,105	0,003	n/a	1,316
	ENER	0,282	0,007	n/a	0,060	0,002	n/a	0,031	0,001	n/a	0,383
	GROW	0,208	0,005	n/a	0,044	0,001	n/a	0,022	0,001	n/a	0,282
	HOME	0,115	0,003	n/a	0,025	0,001	n/a	0,012	0,000	n/a	0,156
	MOVE	0,191	0,005	n/a	0,041	0,001	n/a	0,021	0,001	n/a	0,259
	RTD	2,989	0,079	n/a	0,640	0,017	n/a	0,323	0,009	n/a	4,056
	Sub-total	4,933	0,130	n/a	1,056	0,028	n/a	0,534	0,014	n/a	6,696
Fast track to innovation	AGRI	0,020	0,001	n/a	0,004	0,000	n/a	0,002	0,000	n/a	0,027
	CNECT	0,108	0,003	n/a	0,023	0,001	n/a	0,012	0,000	n/a	0,146
	ENER	0,031	0,001	n/a	0,007	0,000	n/a	0,003	0,000	n/a	0,043
	GROW	0,023	0,001	n/a	0,005	0,000	n/a	0,003	0,000	n/a	0,031
	HOME	0,013	0,000	n/a	0,003	0,000	n/a	0,001	0,000	n/a	0,017
	MOVE	0,021	0,001	n/a	0,005	0,000	n/a	0,002	0,000	n/a	0,029
	RTD	0,332	0,009	n/a	0,071	0,002	n/a	0,036	0,001	n/a	0,451
	Sub-total	0,548	0,014	n/a	0,117	0,003	n/a	0,059	0,002	n/a	0,744
Energy - Secure, clean and efficient energy	ENER	2,775	0,073	n/a	0,524	0,014	n/a	0,265	0,007	n/a	3,658
Energy - CIP legacy	ENER	1,410	0,037	n/a	0,266	0,007	n/a	0,135	0,004	n/a	1,859
LEIT (SILC II)	GROW	0,000	0,000	n/a	0,000	0,000	n/a	0,000	0,000	n/a	0,000
Eco new	RTD	1,735	0,046	n/a	0,314	0,008	n/a	0,159	0,004	n/a	2,266
Climate - Action	GROW	0,436	0,012	n/a	0,079	0,002	n/a	0,040	0,001	n/a	0,569
	RTD	1,464	0,039	n/a	0,265	0,007	n/a	0,134	0,003	n/a	1,912
	Sub-total	1,900	0,050	n/a	0,344	0,009	n/a	0,174	0,005	n/a	2,481
Climate - Raw material	GROW	0,137	0,004	n/a	0,025	0,001	n/a	0,013	0,000	n/a	0,179
	RTD	0,460	0,012	n/a	0,083	0,002	n/a	0,042	0,001	n/a	0,601
	Sub-total	0,597	0,016	n/a	0,108	0,003	n/a	0,055	0,001	n/a	0,779
CIP Eco-I legacy	ENV	1,026	0,027	n/a	0,202	0,005	n/a	0,102	0,003	n/a	1,366
Subtotal		15,738	0,416	n/a	3,087	0,082	n/a	1,561	0,041	n/a	20,925
Programme - LIFE											
LIFE	CLIMA	0,505	n/a	n/a	0,115	n/a	n/a	0,689	n/a	n/a	1,309
	ENV	1,259	n/a	n/a	0,287	n/a	n/a	1,720	n/a	n/a	3,265
Subtotal		1,764	n/a	n/a	0,402	n/a	n/a	2,409	n/a	n/a	4,575
Programme - EMFF											
EMFF	MARE	1,967	n/a	n/a	0,364	n/a	n/a	0,098	n/a	n/a	2,429
Subtotal		1,967	n/a	n/a	0,364	n/a	n/a	0,098	n/a	n/a	2,429
Management and administrative support											
COSME		1,325	0,001	n/a	0,255	0,000	n/a	0,103	0,000	n/a	1,684
H2020		3,839	0,101	n/a	0,717	0,019	n/a	0,363	0,010	n/a	5,048
LIFE		0,281	n/a	n/a	0,061	n/a	n/a	0,569	n/a	n/a	0,711
EMFF		0,413	n/a	n/a	0,083	n/a	n/a	0,022	n/a	n/a	0,519
Subtotal		5,858	0,103	n/a	1,116	0,019	n/a	0,856	0,010	n/a	7,963
TOTAL											
TOTAL per Source of Financing within each Title		30,914	0,524	n/a	6,069	0,102	n/a	5,368	0,051	n/a	43,028
TOTAL per Budget Title		31,438			6,170			5,419			43,028

4.2.2. Human resources

The following figures are indicative³².

OPERATIONAL STAFF		Staff (EU Budget)					
		TAs	Of which Seconded officials	CAs	SNEs	Total	Percentage
Programme - COSME							
COSME	GROW	15,5	4,4	65,3	N/A	80,8	18,1%
Subtotal		15,5	4,4	65,3	N/A	80,8	18,1%
Programme - H2020							
Innovation in SME's	GROW	2,3	0,6	8,1	N/A	10,4	2,3%
SME Instrument	AGRI	0,5	0,2	2,3		2,7	
	CNECT	2,5	1,0	12,3		14,7	
	ENER	0,7	0,3	3,6		4,3	
	GROW	0,5	0,2	2,6		3,2	
	HOME	0,3	0,1	1,5		1,7	
	MOVE	0,5	0,2	2,4		2,9	
	RTD	7,6	3,1	37,8		45,4	
	Sub-total	13,0	5,3	64,6	N/A	77,6	17,4%
Fast track to innovation	AGRI	0,1	0,0	0,3		0,3	
	CNECT	0,3	0,1	1,4		1,7	
	ENER	0,1	0,0	0,4		0,5	
	GROW	0,1	0,0	0,3		0,4	
	HOME	0,0	0,0	0,2		0,2	
	MOVE	0,1	0,0	0,3		0,3	
	RTD	0,9	0,4	4,3		5,1	
	Sub-total	1,5	0,6	7,3	N/A	8,8	2,0%
Energy – Secure, clean and efficient energy	ENER	9,0	2,2	33,8	N/A	42,8	9,6%
Energy – CIP Legacy	ENER	4,6	1,1	17,4	N/A	22,0	4,9%
LEIT (SILC II)	GROW	0,0	0,0	0,0	N/A	0,0	0,0%
Eco new	RTD	6,6	2,7	19,0	N/A	25,6	5,7%
Climate Action	GROW	1,8	0,8	5,3		7,1	
	RTD	6,1	2,5	17,8		23,9	
	Sub-total	7,2	3,0	20,8	N/A	28,0	6,3%
Raw Materials	GROW	0,6	0,2	1,7		2,2	
	RTD	1,9	0,8	5,6		7,5	
	Sub-total	2,3	0,9	6,5	N/A	8,8	2,0%
CIP Eco-I Legacy	ENV	1,5	0,2	5,7	N/A	7,2	1,6%
Subtotal		47,9	16,7	183,3	N/A	231,2	51,7%
Programme – LIFE							
LIFE	CLIMA	1,7	0,1	4,5		6,3	
	ENV	4,3	0,3	11,3		15,7	
Subtotal		5,3	0,4	13,9	N/A	19,2	4,3%
Programme – EMFF							
EMFF	MARE	7,8	3,5	18,6	N/A	26,4	5,9%
Subtotal		7,8	3,5	18,6	N/A	26,4	5,9%
Subtotal OPERATIONAL		76,4	25,0	281,2	N/A	357,6	80,0%

³² 'Following the agreement by the EASME Steering Committee on 17 February 2017, the Agency can reallocate on a temporary and limited basis the resources where they are most needed in function of priorities and workload. Prior consultation of the Steering Committee in concrete cases will take place and a detailed account of the actual use of resources will be provided in the mid-year report and the annual activity report.'

Management and Administrative Support		Staff (EU Budget)					
		TAs	Of which Seconded officials	CAs	SNEs	Total	Percentage
Programme - COSME							
COSME	GROW	7,6	1,8	12,6	N/A	20,2	4,5%
Subtotal		7,6	1,8	12,6	N/A	20,2	4,5%
Programme - H2020							
Innovation in SME's	GROW	1,1	0,2	1,6	N/A	2,6	0,6%
SME Instrument	AGRI	0,2	0,1	0,5		0,7	
	CNECT	1,1	0,3	2,5		3,7	
	ENER	0,3	0,1	0,7		1,1	
	GROW	0,2	0,1	0,5		0,8	
	HOME	0,1	0,0	0,3		0,4	
	MOVE	0,2	0,1	0,5		0,7	
	RTD	3,5	1,0	7,8		11,3	
	Sub-total	6,0	1,8	13,3	N/A	19,4	4,3%
Fast track to innovation	AGRI	0,0	0,0	0,1		0,1	
	CNECT	0,1	0,0	0,3		0,4	
	ENER	0,0	0,0	0,1		0,1	
	GROW	0,0	0,0	0,1		0,1	
	HOME	0,0	0,0	0,0		0,0	
	MOVE	0,0	0,0	0,1		0,1	
	RTD	0,4	0,1	0,9		1,3	
Sub-total	0,7	0,2	1,5	N/A	2,2	0,5%	
Energy – Secure, clean and efficient energy	ENER	4,2	0,7	6,5	N/A	10,7	2,4%
Energy – CIP Legacy	ENER	2,2	0,3	3,3	N/A	5,5	1,2%
LEIT (SILC II)	GROW	0,0	0,0	0,0	N/A	0,0	0,0%
Eco new	RTD	2,8	0,8	3,6	N/A	6,4	1,4%
Climate Action	GROW	0,8	0,2	1,0		1,8	
	RTD	2,6	0,8	3,3		6,0	
	Sub-total	3,1	0,9	3,9	N/A	7,0	1,6%
Raw Materials	GROW	0,2	0,1	0,3		0,6	
	RTD	0,8	0,2	1,1		1,9	
	Sub-total	1,0	0,3	1,2	N/A	2,2	0,5%
CIP Eco-4 Legacy	ENV	0,7	0,1	1,1	N/A	1,8	0,4%
Subtotal		21,7	5,2	36,1	N/A	57,8	12,9%
Programme – LIFE							
LIFE	CLIMA	0,6	0,1	1,0		1,6	
	ENV	1,5	0,4	2,4		3,9	
Subtotal		1,8	0,4	3,0	N/A	4,8	1,1%
Programme – EMFF							
EMFF	MARE	2,5	0,6	4,1	N/A	6,6	1,5%
Subtotal		2,5	0,6	4,1	N/A	6,6	1,5%
Subtotal HORIZONTAL		33,6	8,0	55,8	N/A	89,4	20,0%
TOTAL STAFF		110,0	33,0 *	337,0	N/A	447,0	100,0%

2013 Life Financial Statement

EU programme: < Programme for the Environment and Climate action (LIFE) >

a. Estimated human resources need (in full time equivalents)

❖ "Commission" (or in house) scenario	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Total
Establishment plan posts	4	9	13	15	20	24	26	
External personnel	2	5	7	8	11	12	13	
Total number of human resources	6	14	20	23	31	36	39	

❖ Executive agency scenario	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		Total	
	COM	EA	COM	EA	COM	EA	COM	EA	COM	EA	COM	EA	COM	EA	COM	EA
Establishment plan Posts	1.0	1.0	1.0	2.5	1.0	3.5	1.0	4.5	1.0	6.0	1.0	7.0	1.0	7.5		
External personnel	0.0	4.0	0.0	8.5	0.0	11.5	0.0	13.5	0.0	18.0	0.0	22.0	0.0	23.5		
Total of number of human resources	1.0	5.0	1.0	11.0	1.0	15.0	1.0	18.0	1.0	24.0	1.0	29.0	1.0	31.0		
	6.0		12.0		16.0		19.0		25.0		30.0		32.0			

b. Comparison of the operating (administrative) appropriations linked to the implementation of the EU programme*

EUR million (to 3 decimal places)

❖ "Commission" (or in house) scenario	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Total
Total of administrative appropriations under Heading 5/outside Heading 5 (Administrative expenditure)	0.698	1.551	2.238	2.735	3.691	4.460	4.833	20.206

❖ "Executive agency" scenario	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Total
- Under heading 5/outside Heading 5 (Administrative expenditure for supervision of delegated tasks)	0.132	0.132	0.132	0.132	0.132	0.132	0.132	0.924
- Under heading 2: Operating subsidy to the executive agency, financed from the total envelope of the EU programmes concerned (without title 3 expenditure)	0.274	0.920	1.259	1.527	2.036	2.447	2.617	11.080
Total of administrative appropriations	0.406	1.052	1.391	1.659	2.168	2.579	2.749	12.004

*The comparison is made for the salary related costs and overheads. The expenditure related to the Title 3 are not included.

ANNEX 6 : GAP AND SYNERGIES

This annex provides an overall picture but it is not complete because of the need to take into account of the scope of the new generation of programmes after 2020.

ANNEX 6. GAPS AND SYNERGIES ANALYSIS

This annex adopts a two-step approach, as follows:

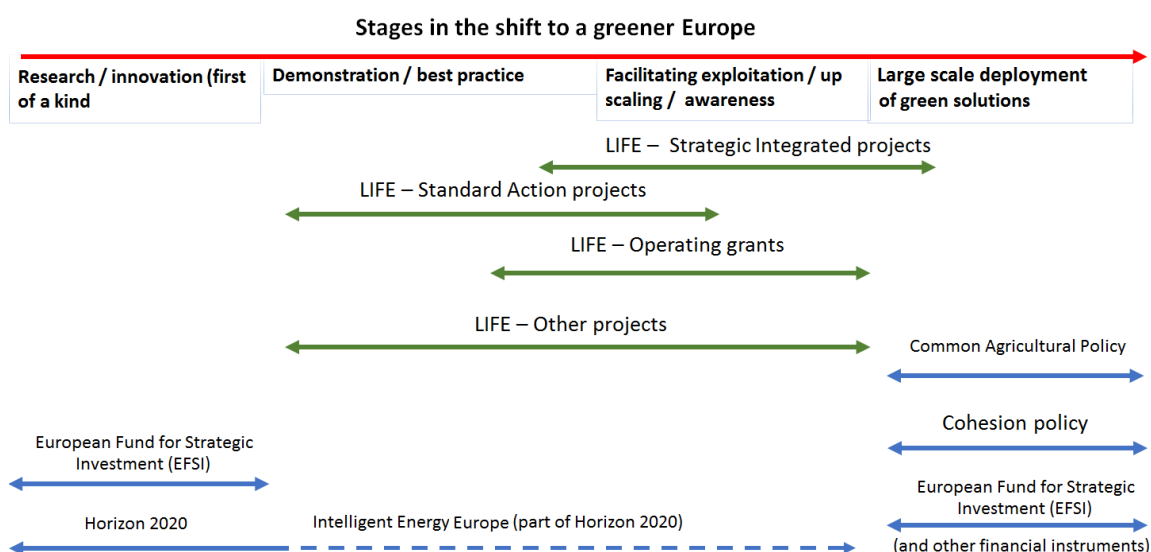
- **Step one** – Assessing which aspects of needs for policy support on the route from research, through demonstration, to market uptake and financing full scale implementation, are covered by the various components of the LIFE programme cover, which are those covered by other major EU programmes and funds.. Concluding with the gaps in coverage and the areas of potential overlap with regard to the stages being supported.
- **Step two** - Discussion of these areas of overlap and potential synergy taking into account the issues targeted by the support and finance. This is split into the current overlaps based on the current LIFE approach and the current approach in the other programmes (including the mainstreaming efforts in these other programmes), and the future potential synergies - based on the information available at the time of preparation of this impact assessment for the future of the other programmes (where this is available).

6.1. Step one: LIFE and other EC programmes coverage of different stages

The following diagram shows the main coverage of the LIFE programme and other major EC programmes and funds in terms of how they can contribute to transforming Europe's approach to the climate and environment.

It is important to stress that this diagram only refers to coverage by stage, it should not be interpreted as implying that there is duplication between the programmes. This is because the subject and nature of what is being funded by LIFE is (virtually always) different to that being funded by the other programmes. This point is illustrated in the following sections.

Figure 6-1. The coverage of LIFE and other major EC programmes and funds



Source: European Commission

The steps in the figure are relevant to both nature and climate, and cover approaches as well as technologies:

Research / Innovation (first of a kind) – This includes primary research, i.e. pure science that may or may not result in a technology, approach or policy that improves the environment or climate, including basic scientific activities to identify and characterise environmental and climate problems. Taking research and applying it to a problem, for technology, this would include first prototypes; for policies / approaches, this would include, *inter alia*, modelling and analysis.

LIFE does not currently cover this area. The only activities that LIFE could currently support under this stage is work supported by procurement (directly let consultancy projects). However, these activities are focussed on new policy development rather than the technology development or basic research that lies at the heart of what Horizon 2020 supports, so there is no inherent overlap. LIFE can also finance small-scale, focussed research work in support of other objectives in projects, but this is on a scale which could not be supported by Horizon 2020.

Demonstration/ best practice – Testing, demonstrating and piloting the effectiveness of new technologies, approaches or policies. Public subsidy may well be needed to overcome the costs associated with displacing an incumbent technology or approach, by demonstrating a technology/ practice from laboratory/ demonstration plant in large-scale industrial application. Best practice refers to refining and encouraging the broader take up of technologies and approaches, by promoting the existence and effectiveness of (already demonstrated) new technologies, approaches or policies in small scale projects, which also serve to experiment with, and improve on, best practice.

A significant amount of what LIFE currently offers comes under this stage, in particular under the traditional standard action grants. For example, there are projects developing innovative ways of conserving and protecting nature and its habitats or demonstrating concrete solutions for reducing the environmental impact of the housing sector by testing innovative solutions.

This includes both sub-programmes.

Facilitating exploitation/awareness – Preparing the ground for the large-scale deployment of new approaches / technologies, this includes helping to overcome barriers, such as difficulties in accessing finance or overcoming lack of knowledge and expertise.

A significant amount of what LIFE currently offers comes under this stage, in particular from the 'traditional' standard action grants and the NGO operating grants. Most of the 'traditional' standard action grants have a communication/ awareness raising component as part of the project. NGO operating grants aim to strengthen the participation of NGOs in the dialogue process in environmental and climate change policy-making and in its implementation.

Large scale funding of green solutions – This is the final stage where technology/ approach / policy is credible, and ready to be widely applied, and one of the main barriers is access to funds.

The LIFE financial instruments (Private Finance for Energy Efficiency (PF4EE) and Natural Capital Finance Facility (NCFF)) are active in this area. Currently, these financial instruments are pilots, and operate at a relatively small scale. The NCFF is specifically targeted on projects demonstrating that natural capital projects can generate revenues or save costs, while delivering on biodiversity and climate adaptation objectives. The PF4EE aims to increase the availability of private finance for investments

in energy efficiency. To date the PF4EE has been more successful in completing projects but the NCFF is starting to attract more applicants.

6.2. Step two: Potential overlaps / synergies between LIFE and other EC programmes

The following sections discuss where there appear to be overlaps and synergies between what LIFE is attempting to do and what is being done (and what could be done in the future) by other programmes.

6.2.1. LIFE and CAP

Programme description

The Common Agricultural policy (CAP) of the EU supports three main types of activity:

- Income support, to farmers, based on market orientation (i.e. production that meets consumer demands), and linked with environmental sustainability, animal health and welfare, and food safety
- Market measures, to balance impacts on vulnerable common agricultural due to external factors such as weather conditions or a high price volatility
- Rural development, responding to the specific needs for rural development of each of the 28 EU countries.

The CAP annual budget is roughly €59 billion, with measures financed through the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). The EAGF and EAFRD have numerous sub programmes. Each Member State administers its own share of the CAP budget, against a strategic direction and set of rules set at EU level.

Overlap

The potential for overlap exists because the CAP includes numerous sub programmes and schemes designed to influence land management by farmers and land owners, and finance (via subsidies to farmers) the uptake of certain known land management practices. These programmes and schemes have a clear influence on nature and the environment. The CAP also includes climate relevant actions, such as using known land management techniques for flood prevention (climate adaptation) and improving energy and resource efficiency among farmers (climate mitigation).

However, LIFE does not seek to directly finance these widespread changes to operational practices but mainly focuses on the (relatively small scale) development and demonstration of new and best practice. There is therefore some overlap (or synergy) in objectives between LIFE and aspects of the CAP, but there is not an overlap in terms of duplication of actions.

The only potential overlap between the CAP and LIFE is in the area of large scale deployment, where the LIFE financial instrument NCFF could be used to support some of the same actions that the CAP finances. However, the financial instruments provide loans whereas the vast majority of the CAP actions provide (in effect) direct grants. The scale is also vastly different, the LIFE NCFF is very small in comparison to the CAP. The nature of the projects likely to attract support under the LIFE NCFF is also very different to what the CAP supports. As such, the LIFE NCFF acts more as a complementary financial instrument rather than a substitute in terms of nature protection and climate adaptation.

Current synergies and mainstreaming

The relevant actions carried out under CAP in order to meet the objectives it shares with LIFE can be described as mainstreaming because the environment / climate relevant aspects are linked to achieving the objectives that are central to the CAP – primarily the support and protection of farmers income.

The EAFRD is currently the largest source of EU funding for nature and biodiversity (amounting to around 75% of the total EU funding). The mid-term review of LIFE (2014-2015) mentioned: “A link between LIFE and EAFRD has been successfully established for 12 Member States that have opted for integrated projects on nature, air and water. This is mobilising a total budget of EUR 373 million of which EUR 153 million from LIFE”. Other synergies exist with respect to demonstration projects, where the results of a LIFE demonstration project could be taken up by farmers.

This shows that better synergies and complementarities between LIFE and EAFRD should be explored, as there are good examples which could be replicated, if the relevant stakeholders can be engaged and convinced.

A recent report¹²⁹ for DG ENV on the need for a dedicated **biodiversity** fund considered the issues of mainstreaming of objectives to protect and enhance biodiversity in EU funding. “Since 2007, EU funding for biodiversity and the Natura 2000 network has been made available by integrating biodiversity goals into various existing EU funds or instruments. The EU funds available for financing Natura 2000 during the periods of 2007-2013 and 2014-2020 include EAFRD. However, the report also specified that under this integrated framework only LIFE provides dedicated support to biodiversity and Natura 2000; whereas all other EU funding instruments, including CAP, are primarily targeted to deliver the EU goals on rural, regional, infrastructural, social and scientific development. “While this allows the integration of biodiversity into broader rural and regional contexts, it also makes the availability of funding dependent on the overall goals and mechanisms of the given funding instruments, thereby creating a need to demonstrate compliance with each funds' specific rules.”

Future synergies

There is a strong potential for improved future synergy in that the results of relevant LIFE projects could be implemented using CAP support and vice-versa, in particular for 'traditional' standard action grants and integrated projects. The orientation of the future CAP post 2020 should enhance the level of ambition of environment and climate action.

The strategic direction of the future of the CAP includes numerous suggestions as to how the objectives it shares with LIFE can be better operationalised and to how the potential (more practical) synergies between the programmes can be improved.

Linking LIFE to CAP (which is maybe easier in Natura 2000 areas) offers better linkages and consideration of environmental issues, which is an ambition for the future of the CAP, provided the specific and operational objectives of the CAP will be aligned with

¹²⁹ Kettunen, M., Illes, et al (2017) Summary report - Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London. http://ec.europa.eu/environment/nature/natura2000/financing/docs/Kettunen_2017_financing_biodiversity_summary.pdf

those of EU environment policy that are reflected in LIFE.¹³⁰ The CAP can draw on and 'operationalise' the best practice 'library' of LIFE. For example, LIFE-Nature projects have developed and tested land management approaches which have then been integrated in the CAP as specific measures in the Operational Programmes.

For the next MFF, Natura 2000 funding could come solely under the EAFRD (part of CAP) for 'rural' areas, with the cohesion fund no longer funding nature actions outside of urban areas. This generates a concern about nature intervention in non-urban areas which are not covered by the CAP meaning of 'rural areas', and would risk thus of not being funded anymore.

According to the Food and Farming Communication (2017), MSs would have to take more account of EU environmental and climate strategies in their CAP strategic plans¹³¹, and Member States will set their own targets and do their own monitoring¹³². According to DG AGRI, high level targets will be set at EU level, with Member States more free to set their own local targets to achieve EU and national environmental objectives, which should make them more appropriate to national standards and nature needs.

Creating a separate fund for nature or re-enforcing the existing funding in a new LIFE programme should be carefully assessed. From the CAP perspective it could be counter-productive with the integration principle of environment and climate into sectorial policies. Furthermore, it is not certain if it could solve the issue of lack of existing funds if there is not a sufficient critical mass of funding. However, a separate fund for nature would increase the effectiveness of the EU action for nature and biodiversity in rural areas, with more targeted and effective measures, compared to a system such as the one of the CAP 2014-20. A more pragmatic solution could be to use strategic projects for nature under LIFE, conceived as expanded SIPs, to improve the mainstreaming of nature and biodiversity in other funding instruments such as the CAP.

¹³⁰ Food and Farming Communication 2017 "a modernised CAP should enhance its EU added value by reflecting a higher level of environmental and climate ambition, and address citizens' concerns regarding sustainable agricultural production." "Any new CAP should reflect higher ambition and focus more on results as regards resource efficiency, environmental care and climate action."

¹³¹ Food and Farming Communication 2017. "When preparing CAP strategic plans, the Member States will take into account their planning tools adopted emanating from EU environmental and climate legislation and policies. Such as the Management Plans and Prioritised Action Frameworks for Natura 2000, River Basin Management Plan, Air Quality and Air Pollution Programmes, Biodiversity Strategies." "The current green architecture of the CAP, that primarily relies on the complementary implementation of three distinct policy instruments –cross compliance, green direct payments and voluntary agri-environmental and climate measures will be replaced and all operations integrated into a more targeted, more ambitious yet flexible approach. The new delivery model will allow Member States to devise a mixture of mandatory and voluntary measures in Pillar I and Pillar II to meet the environmental and climate objectives defined at EU level."

¹³² Food and farming communication, 2017. "The granting of income support to farmers will be conditioned to their undertaking of environmental and climate practices, which will become the baseline for more ambitious voluntary practices. The new conditionality will rely on the implementation of a streamlined set of environmental and climate conditions, providing environmental and climate public goods. These practices would be further defined by Member States in order to better take account of their specific situation, climate risks and needs, while ensuring that these practices adequately contribute to the objectives agreed at EU level. Member States would have to ensure that the agreed targets are met and monitor performance in a robust and credible way. Additional environmental / climate benefits will be achieved through voluntary entry level schemes and more ambitious agro-environment-climate schemes that will allow Member States/Regions to target their specific concerns". "However, to ensure coherence with the overarching EU objectives, all actions and targets put forward by the Member State will be approved by the Commission within an EU framework agreed as part of the CAP strategic plan."

6.2.2. *LIFE and the European Structural and Investment Funds (ESIF)*

Programme description

The ESIF for the 2014-2020 period is made up of five different funds: the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF), the European Maritime and Fisheries Fund (EMFF), and the European Agricultural Fund for Rural Development (EAFRD).

The purpose of putting these five funds within a framework is to improve coordination and harmonisation between them. The ESIF establishes a common framework with 11 thematic objectives which determine the use of all five funds. These objectives include several of relevance to nature and climate, for example:

1. Strengthening research, technological development and innovation
4. Supporting the shift towards a low-carbon economy in all sectors
5. Promoting climate change adaptation, risk prevention and management
6. Preserving and protecting the environment and promoting resource efficiency
7. Promoting sustainable transport and removing bottlenecks in key network infrastructures
11. Enhancing institutional capacity of public authorities and stakeholders and efficient public administration

ESIF includes support for the development of physical infrastructure, including energy infrastructure via the Cohesion Fund contribution the Connecting Europe Facility (CEF) (which is not eligible under LIFE) as well as for large-scale land management and economic development activities. As with the CAP, ESIF shares some objectives with LIFE, and as such there are opportunities for the projects funded under ESIF to take account of environmental and climate objectives. The ERDF spends over a quarter (28%) of its expenditure on various environmental measures, including projects in traditional sectors like waste and water, as well as actions to support the transition to the low carbon economy. The ERDF also funds the Interreg programme, which is a framework for exchanging experience and best practice between regional and local bodies in different countries, including on energy and environmental topics. The Cohesion fund is also able to support environmental projects, and the EMFF finances environmental actions in the context of implementation of the maritime policy.

ESIF includes direct support for developments where environmental or climate objectives are a significant part of the rationale, for example improving the energy efficiency of existing housing stock as well as water and waste infrastructure projects. ESIF also includes development of soft infrastructure, for example skills (via the ESF), which can include environmental and climate issues. The ESIF also includes financial instruments mainly under the ERDF, but also in the EMFF) to provide finance (preferential loans) for infrastructure and other development.

Overlap

Parts of ESIF (the FIs under the ERDF and to a lesser extent the EMFF) potentially overlap with the LIFE Financial Instruments in large scale deployment. However, the nature and scale of the majority of what the LIFE FIs look to support are not similar to what the (nationally managed) ESIF FIs typically support, with the possible exception of some energy efficiency projects. A recent DG Regio publication¹³³ describes the methods by which Cohesion funding can be used to support energy efficiency investments. This

¹³³ http://ec.europa.eu/regional_policy/en/information/publications/guides/2014/financing-the-energy-renovation-of-buildings-with-cohesion-policy-funding

support is aimed at energy efficiency in buildings and given that this is an area of substantial need, there appears to be more than enough demand to avoid duplication.

Overall LIFE and ESIF are complementary in terms of scale and permanence of interventions. As with the CAP, LIFE projects can develop models which could then be implemented at a large scale with ESIF support

Current synergies and mainstreaming

There are some good examples of existing synergies. With regards to LIFE and the European Maritime and Fisheries Fund (EMFF), the original proposal for the 2014-2020 EMFF, included a mandatory requirement to develop integrated projects between the EMFF and LIFE. This was removed from the programme but illustrates the willingness and potential to continue encouraging the integrated approach to EMFF-LIFE funded projects and reflects the fact that the EMFF Managing Authorities have been encouraged to embrace the concept of LIFE-EMFF integrated projects. The intent was picked up in the Common Provisions Regulation instead, which requires the programmes under the relevant funds to take into account LIFE integrated projects and ensure complementarity.

With regard to the skills links, between LIFE and the European Social Fund (ESF). DG EMPL have highlighted the potential regarding the skills needed for emerging environmental and circular economy occupations. They particularly highlight the role social enterprises can play in the repair and reuse sectors, and that these can be supported via the future European programme for employment and social innovation, (EaSI). DG EMPL has recently signed a 4-year framework partnership agreement with RREUSE, the European network for social enterprises in the circular economy, who is currently running LIFE-funded projects (BIOHEC, ReWEEE).

According to evaluations quoted in the draft IAs, Cohesion Policy has provided a major contribution to achieving EU water and waste targets, in particular for EU13, although there is, and there will continue to be, a need for Cohesion Policy co-funding to projects in these areas.

Future synergies

The proposals for the ERDF and CF Regulations continues to recognise the need for a greener, low-carbon economy Europe by including this as a specific objective, so the alignment of objectives between LIFE and ERDF and CF should be strengthened in future. Further there is an increased emphasis on improving institutions and governance, cooperation with partners within and outside a given Member State, and urban aspects.

All of these issues are potentially relevant to the future of LIFE as they offer opportunities for synergies, in that the good practice library of LIFE, particularly in its activities in environment and climate institutional capacity building (such as via the Integrated projects), could be taken up by future ERDF/Cohesion funding. There is also a need to ensure that future activities in these areas do not duplicate with any activities planned under ERDF/Cohesion Fund. However, given that LIFE focussed on demonstrative actions, whereas the ERDF/Cohesion Fund finance mainly large scale operational actions, the actual overlap is less prominent.

In the future, LIFE could also potentially support platforms for joint learning and experience sharing, to network ambitious local projects along value chains financed by the ERDF/Cohesion fund.

6.2.3. *LIFE and Horizon 2020 / Horizon Europe*

Programme description

Horizon 2020 supports research and innovation from pure science through to demonstration and market uptake. The concept of ‘scientific excellence’ needs to be evident in projects for Horizon 2020 to support them. Horizon 2020 covers the full range of fields and includes many strands of relevance to the environment and climate. It also includes a group of objectives that were in the Intelligent Energy Europe (IEE) Programme in the previous MFF – these are discussed under a separate heading. There are also financial instruments within Horizon 2020 designed to provide finance for developing research into a commercial proposition.

Overlap

The non-energy part of Horizon 2020 has very limited potential overlaps with LIFE, as LIFE does not support early stage research, except where it is incidental to the main orientation of the project.

Current synergies and mainstreaming

As with the CAP and the ESIF, there are clearly shared objectives between Horizon 2020 and LIFE. There are also clear potential synergies in that LIFE could take more of the ideas and innovations developed under Horizon 2020 and help developing and demonstrate this research where it can help address environmental and climate issues. As a general rule Horizon 2020 will cover activities that support the development, demonstration and market uptake of innovative, first-of-a-kind solutions (through co-creation, financial instruments under EIC, public procurement) that have a cross-border dimension. There is also arguably some potential for LIFE to highlight the areas where it sees a research need, and for these to have some influence on what Horizon 2020 is covering in its Work Programmes..

A synergy which currently exists is the potential for results from Horizon 2020 projects to feed into LIFE projects focussed on the demonstration and dissemination (i.e. promotion of best practice) of these results.

Future synergies

The draft impact assessment for Horizon Europe recognises the links between it and LIFE, and says “The future LIFE programme will continue to act as a catalyst for implementing EU environment and climate policy and legislation, including by taking up and applying R&I results from the FP. The future FP will contribute to tackling environmental challenges in particular through the clusters on [Climate, Energy and Mobility] and [Food and Natural Resources] through R&I activities.

For the future of Horizon Europe a need to simplify the number of EU programmes supporting R+I has been recognised. As a general rule the Framework Programme will cover activities that support the development, demonstration and market uptake of innovative solutions that have a trans-national dimension, and which are first-of-a-kind for the EU and have a potential for replication in the Union. LIFE will take more of the ideas and innovations developed under the Framework Programme and help deploying them where it can help address environmental and climate issues. The catalytic effect of the traditional LIFE projects will be to develop, test or showcase suitable technologies or methodologies for implementation of EU environment and climate policy within a Member State or region, which can subsequently be deployed at large scale, funded by other sources, including the Framework Programme.

Through strategic programming LIFE will contribute to highlight the areas where it sees a research and innovation need. LIFE will continue to incentivise synergies with the Framework Programme through the award of a bonus during the evaluation for proposals which feature the uptake of Framework Programme results.

As regards the integration of Clean Energy Policy Enabling programme in LIFE, which will continue the actions funded under Intelligent Energy Europe III/Horizon 2020-Societal Challenge

III, it will focus on capacity building and policy support activities, while the Framework Programme will continue focusing on technology and non-technology related research and innovation for clean energy transition.

DG RTD has suggested a possible future additional synergy, where post-LIFE projects partners could find support for scaling up and commercialising their ideas. This could occur via channelling relevant successful LIFE projects into the European Innovation Council mechanism¹³⁴, which is being piloted from 2018 to 2020 and possibly into the proposed European Innovation Council in Horizon Europe. This would be relevant for those innovators, beneficiary of the LIFE programme's grants, whose projects, having demonstrated a direct environmental impact in the regional or national context, which also have a high growth potential and ambition to accelerate the transition to a low-carbon, energy efficient and circular economy through sustainable innovation.

6.2.4. LIFE and the IEE III/Horizon 2020 (future Clean Energy Transition programme)

As regards the possible integration of Clean Energy Transition programme in LIFE (option 1 in the impact assessment), which is intended to continue the actions funded under IEE III/Horizon 2020-Societal Challenge III, there is a presumed overlap, non-confirmed in a closer assessment, as well as possibilities for exploiting synergies better.

The aim of is to enable socio-economic transformation for Clean Energy transition by developing and spreading best practice, mobilising investments and providing support to reduce development gaps.

15% of the Societal Challenge 3 budget was dedicated to so-called 'market uptake' actions. "The Commission will endeavour to ensure that at least 85 %, of the energy challenge budget of Horizon 2020 is spent in non-fossil fuels areas, within which at least 15 % of the overall energy challenge budget is spent on market up-take activities of existing renewable and energy efficiency technologies in the Intelligent Energy Europe III Programme"¹³⁵

The IEE programme supports development of Sustainable Energy Communities across the continent in order to build institutional capacity at a local and regional level. Support has been given by associations or active networks such as Local Governments for Sustainability in the 1990's, Climate Alliance and Energy Cities. Projects influenced 650 local authorities to join the Covenant of Mayors and helped to develop more than 500 SEAPs (Mayors in Action, 50000&1 SEAPs, CASCADE, BEAST, ManagEnergy)¹³⁶.

Overlap

There is a presumed overlap between the actions financed under IEE III/Horizon 2020 and the LIFE climate sub-programme because LIFE, inter alia, aims at facilitating large scale deployment of climate mitigation measures, which include energy efficiency. However, the implementation modalities make both programmes very distinctive and complementing each other. The IEE types

¹³⁴ <https://ec.europa.eu/research/eic/index.cfm?pg=about>

¹³⁵ According to Declarations of the Commission (2013/C 373/02) annexed to Horizon 2020 regulation (EU) N°1291/2013

¹³⁶ ICF International, LDK, Hincio (2015): Evaluation of Intelligent Energy Europe Projects Supporting Sustainable Energy Communities- Final report. ICF review the relation of IEE support for communities and the Covenant of Mayors. Apart from quantifying the multiplier effects generated by the programmes (e.g. set-up and signing of SEAPs) they identify investments triggered by a sample of 30 projects (€8.3bn, p. 91), RES production of 935.000 toe/yr.; primary energy savings of 1,938,000 toe/yr. and 7,700,000 tCO₂eq. reduced (p. 92). The consortium estimates based on a survey that by the end of the projects some 5,470 jobs and 17,373 jobs by 2020 resulted through the projects. 78% of survey respondents confirmed that the respective project would not have been implemented in the absence of IEE funding (figure 43, p. 96).

of actions are targeting very specific fields and policy provisions, which are seen as the most challenging and risk to hamper the effectiveness of the policy action in the field. This requires 'top-down' prescriptive programming, policy steering and close monitoring of the implementation as well as very intensive feedback interactions. Under the LIFE Climate Action, energy efficiency is a part of a broad climate mitigation action, where a bottom-up approach allows the market to arrive with the best solutions to address this broad challenge. Indeed, the focus of the LIFE Climate sub-programme is much broader than energy efficiency. It covers all climate gases and all sectors and it not only financing projects. Moreover, large shares of LIFE projects are demonstration projects or best practice projects that are not directly targeting 'market uptake action' and its specific barriers. Thus in practice the scale of the LIFE budget used on projects facilitating market uptake of energy efficiency solutions is very limited compared to the budget used under IEE III/Horizon 2020. Finally, the way the support is given is different under LIFE and under IEE III/Horizon 2020 and is thus likely to accommodate a larger variety of groups.

Future synergies

There is a potential for exploiting synergies between actions supporting capacity building for clean energy transition on the one hand and strategic LIFE integrated projects focusing on implementing climate mitigation plans at a larger scale. These synergies could be more easily exploited if these actions were funded under the same programme.

Furthermore, experience has shown that IEE III is not fitting well into the structure of Horizon 2020 and it is currently explicitly excluded from the proposed scope of its successor, for more detail on coherence and synergies related to the option of including the Clean Energy Transition programme in LIFE see Annex 9.

6.2.5. LIFE and Financial Instruments (including EFSI)

Programme description

There is currently no agreed definition or list of all EU financial instruments (FIs). The two EU reports which collate information on large groupings of EU FIs are the annual '140.8' report¹³⁷ on centrally managed financial instruments and the annual report on financial instruments under the European Structural and Investment funds (ESIF)¹³⁸.

The most recent report on centrally managed instruments quotes a 2014-20 budget envelope for financial instruments of EUR 8.4 billion which is targeted to support the financing of EUR 87.8 billion, implying an average leverage of 10.5 and an investment amount of EUR 137.6 billion. This budget excludes appropriations for successor instruments to certain instruments established for Enlargement and Neighbourhood or Development Cooperation countries.

There are a number of FIs which are not included in either of these reports. These exclusions include the European Fund for Strategic Investments (EFSI)¹³⁹, also known as the 'Junker fund') the European Development Fund (EDF) and the Guarantee fund for External Actions. The Commission's explanations for excluding these funds from the Art 140.8 report are as follows:

¹³⁷ COM(2017) 535 final. Report on financial instruments supported by the general budget according to Art.140.8 of the Financial Regulation as at 31 December 2016. <https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-535-F1-EN-MAIN-PART-1.PDF>

¹³⁸ EC (2015). Summaries of the data on the progress made in financing and implementing the financial instruments for the programming period 2014-2020 in accordance with Article 46 of Regulation (EU) No 1303/2013 of the European Parliament and of the Council. http://ec.europa.eu/regional_policy/sources/thefunds/fin_inst/pdf/summary_data_fi_1420_2015.pdf

¹³⁹ https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/investment-plan-europe-junker-plan/european-fund-strategic-investments-efsi_en

- EFSI was designed with its own reporting requirements as a stand-alone instrument and does not fall under the scope of Chapter VIII on financial instruments of the current Financial Regulation. As a result, EFSI may not need to fully comply with provisions on financial instruments under Art.139 and Art.140 which also include requirements for reporting, state aid or exclusion of contingent liabilities.
- The ‘Guarantee fund for external actions’ has a contingent liability implied and thus the instrument is not a financial instrument in the sense of the Financial Regulation. It also predates the Financial Regulation.
- The EDF (oversea aid focussed) is excluded because it is not part of the MFF.

There are other relevant financial and funding mechanisms which the EC is involved in. A key example here is the EU Emissions Trading System (EU-ETS) and its associated NER 300 fund. NER 300 is so called because it is funded from the sale of 300 million emission allowances from the New Entrants' Reserve (NER) set up for the third phase of the EU emissions trading system (EU ETS). The funds from the sales are to be distributed to projects selected through two rounds of calls for proposals. Under the first and second calls the EU distributed €2.1 billion of funds to support 39 renewable energy projects, with this expenditure leverage additional private funding of over €2.8 billion¹⁴⁰. The NER 300 is not strictly speaking a Financial Instrument but a grant scheme and it is funded by EU-ETS income (mainly from electricity generators, and ultimately their customers) and not by the EU budget. However, the future ETS innovation Fund (funding Innovation) and the ETS modernisation Fund (funding use) are relevant but note the characteristics of these projects are very different from the small project financed by LIFE.

European Fund for Strategic Investments

The European Fund for Strategic Investments (EFSI) is a EUR 16 billion guarantee from the EU budget, complemented by a EUR 5 billion allocation of the EIB's own capital. The total amount of EUR 21 billion aims to unlock additional investment of at least EUR 315bn by 2018. EFSI is implemented by the EIB Group and projects supported by it are subject to usual EIB procedures. EFSI is demand-driven and provides support for projects everywhere in the EU, including cross-border projects. There are no geographic or sector quotas. As of November 2017¹⁴¹, EFSI has committed some €251.6 billion of finance (of which 21% is classified as energy relevant).

The EIB applies energy lending criteria to assess projects that approach it requesting financial support. These criteria were adjusted on the basis of a 2013 review¹⁴² to ensure that the banks' lending in the energy sector reflects EU energy and climate policy, as well as current investment trends. Their energy lending focuses on energy efficiency, renewable energy, energy networks, as well as related research and innovation. The EIB has also introduced an Emissions Performance Standard which it applies to all fossil fuel generation projects to screen out investments whose carbon emissions exceed a threshold level which reflects existing EU and national commitments to limit carbon emissions.

Overlap

It is clear that the EU is involved in a large (and growing) number of Financial Instruments, and that many of these FIs could support projects of a very similar nature to those supported by the PF4EE initiative of LIFE. The Impact assessment for PF4EE contains a number of design features that make the projects it seeks to support somewhat specific and distinct from the energy

¹⁴⁰ NER300 programme description https://ec.europa.eu/clima/policies/lowcarbon/ner300_en

¹⁴¹ Provisional and unaudited figures available at <http://www.eib.org/efsi/index.htm>

¹⁴² EIB (2013). European Investment Bank Energy Lending Criteria. http://www.eib.org/attachments/strategies/eib_energy_lending_criteria_en.pdf

efficiency projects that other FIs might support. The specific target groups and objectives of the PF4EE FIs are as follows:

- The PF4EE instrument targets projects which support the implementation of National Energy Efficiency Action Plans or other energy efficiency programmes of EU Member States. The PF4EE also includes an Expert Support Facility to support participating financial institutions to develop financial products for the financing of the national/regional EE schemes.
- To date the EIB have signed operations in The Czech Republic, Spain, France, Belgium, Italy, Portugal, Croatia, Greece and Cyprus generating a portfolio worth of €720M of investment. The investment leverage effect would be 14.6 against an initial target of 8.

With regard to the PF4EE the Mid-term evaluation of LIFE states that ‘There are issues regarding the complementarity of the instrument with other funding mechanisms supporting energy efficiency, especially in some Member States.’. Potential overlap with EBRD and ERDF loans was highlighted. The overlap with ERDF loans is also mentioned in the section on ESIF. However, although there are an increasing number of FIs active in the energy efficiency area, the size and importance of the potential market is very large. According to DG ENER it is estimated that an additional €177 billion per year will be necessary over the period 2021-2030 to reach the EU's energy and climate objectives for 2030¹⁴³. Therefore, the risk of these FIs crowding each other out appears minimal.

The type of projects sought by the NCFF, as described in its original Impact Assessment, are much less mainstream than those sought by the PF4EE. The NCFF centres on developing projects so that a revenue or a cost saving stream can be generated from natural capital. This is a new approach and as such there are no other sources offering a comparable service. Under the NCFF, LIFE provides 10M EUR of technical assistance, and a guarantee of 50M EUR to support EIB investments (loans and equity) of up to 125M EUR that contribute to biodiversity and/or climate change adaptation objectives. It aims at establishing a pipeline of some 9 to 12 replicable, bankable operations that will serve as a "proof of concept" and demonstrate to private and public investors the attractiveness of such investments. This represents an innovation which, if successful, could drive the architecture of natural capital financing. Although development of the pipeline has been slow, the pace is picking up with a first operation signed in 2017, 4 in the pipeline, and 12 more currently under scrutiny by EIB.

The pilot nature of the NCFF is reflected in the apparently low take up reported in the Mid Term Evaluation. The NCFF has progressed since then with one project now signed, two at the contracting phase and nine to twelve projects in the pipeline.

Recommendations from the LIFE mid-term review have been implemented including increasing visibility and promotion, and operationalisation of the support facility. The implementation period had been extended until 2021 and the 2018-2020 LIFE programme foresees a new guarantee window. Experience so far with NCFF shows that there is a niche for investments in ecosystem-based natural capital investments, though it is important to develop a pipeline to share the experience and demonstrate the opportunities more widely. The Impact Assessment of the future LIFE instrument will also explore the option of specific blending mechanisms.

Current Synergies and Mainstreaming

A recent study for DG CLIMA¹⁴⁴ considered the extent to which climate issues are mainstreamed within the FIs that the EC supports. This report highlighted inconsistencies in approaches and

¹⁴³ <https://ec.europa.eu/energy/en/topics/energy-efficiency/financing-energy-efficiency>

¹⁴⁴ Climate mainstreaming in the EU budget. Preparing for the next MFF : final report – Study. <https://publications.europa.eu/en/publication-detail/-/publication/1df19257-ae9-11e7-837e-01aa75ed71a1/language-en>

gaps in coverage, which means that the information that is available on the climate finance that is mobilised/leveraged by EU financial instruments is incomplete and inconsistent. There is also a risk of double counting with other public sources. These problems mean the Commission is unable to generate a single mobilised/leveraged finance figure for the EU financial instruments. The problems can be associated with the following issues:

- *Lack of definition of what constitutes an EU FI* – no complete list of FIs and no agreed criteria to populate such a list.
- *Lack of consistency (or existence) of climate ‘windows’ in FIs* – no consistent way of defining how much (if any) of each FI should be directed towards climate relevant action. This issue is covered in more detail in Annex 3 as it crosses over both programmes and FIs
- *Lack of consistency (or existence) of procedures to report climate relevant outputs and impacts* – this is covered in much more detail in Annex 5 as the issue crosses over both programmes and FIs
- *Lack of consistency on measurement and reporting of leverage* – to indicate the additional funds made available in addition to those supplied by the EU.

Future synergies

If the IEE/Clean Energy Transition parts of Horizon 2020 are brought into LIFE these include a number of activities that are of a similar nature to the PF4EE. Care will need to be taken that these activities are complimentary. In some case this appears to naturally be the case, such as with the technical assistance type activities for helping potential energy efficiency project developers make their projects finance ready (e.g. the ELENA programme¹⁴⁵ and the PDA Horizon 2020¹⁴⁶).

There is an ongoing Impact Assessment into the merits and impacts of potentially merging all centrally managed Financial Instruments and Budgetary Guarantees into a single InvestEU Fund. This includes an initial analysis on the scope and potential size of the proposed policy windows. The IA is also exploring the possible inclusion of technical assistance/ project development assistance (PDA) resources under the policy windows.

This single fund would also include the EFSI. There are also suggestions that the EU-ETS and NER funds could come within the single fund, or at least more directly within the EU budget (at EU level rather than MS level¹⁴⁷).

The proposed structure of the InvestEU Fund includes the following four windows:

- Social, skills and human capital,
- SME Window,
- Research & Innovation,
- Infrastructure & Climate.

¹⁴⁵ <http://www.eib.org/products/advising/elena/index.htm>

¹⁴⁶ ELENA, managed by the EIB, supports private and public promoters to develop and launch large-scale bankable sustainable energy investments (above €30 million), including in sustainable transport. ELENA covers up to 90% of project development costs. PDA Horizon 2020, which helps public and private promoters develop model sustainable energy projects, focusing on small and medium-sized energy investments of at least €7.5 million and up to €50 million, covering up to 100% of eligible project development costs.

¹⁴⁷ <https://www.euractiv.com/section/future-eu/news/plastic-tax-and-ets-tinkering-could-plug-brexit-hole-suggests-eu-budget-chief/>

The LIFE FIs could potentially fit within the Sustainable Infrastructure window. Available information on this window indicates that it would need to take account of all the EU's targets and objectives in the climate and environment areas, including the need to address 'lack of knowledge of investors in certain areas such as the blue economy' (also true for the issues targeted by the NCFF). The following challenge / driver is:

- environmental and socio-economic costs and benefits are not (sufficiently) internalised due for example to pricing related market failures and/or poorly designed or conflicting policy frameworks (for instance simultaneously subsidising green and grey or brown activities, contribution to modal shift, air quality improvements, long term biodiversity benefits, GHG emissions reductions);

The work done by LIFE, is also recognised in this framework given that LIFE Integrated Projects mobilise complementary finance for major investments including in green infrastructure but also highlights the relatively small scale of the LIFE programme.

The ability to combine the proposed InvestEU fund with the support offered by programmes such as LIFE, e.g. to enable blending of grants and loans, is useful as it reflects the variety of needs, and it should therefore continue.

Therefore, flexible arrangements will be needed in terms of blending and bundling of different means of support. This will allow building EU experience and best practice with effective and efficient cost-sharing.”

The exact nature of InvestEU is still under development, and could have a considerable added value to the existing EU solutions, if it offered as a mix of dedicated thematic products (e.g. CEF Debt Instrument, PF4EE and the NCFF) as well as broader financial products backed by EU guarantee (e.g. EFSI). If this approach is adopted it would imply that the present LIFE FIs would effectively continue to operate, just under a different heading.

There is the willingness to ring fence some funding for issues such as natural capital, the ambition to improve mainstreaming of climate and environment issues into all spending and a willingness to make technical assistance available to lenders to help with these (and other) issues. All of these issues appear positive for retaining and improving the FI offer currently under LIFE.

6.2.6. LIFE and Overseas Aid in the Outermost Countries and Territories

Programme description

The voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas (BEST programme) aims to support the conservation of biodiversity and sustainable use of ecosystem services including ecosystem-based approaches to climate change adaptation and mitigation in the EU Outermost Regions (ORs) and Overseas Countries and Territories (OCTs). BEST is financed under DEVCO's global goods programme, complemented by finance from REGIO's OR programme and also from additional EP pilot funds.

The programme offers grants via call for proposals to fund actions on the ground, both at the local and regional level. Projects can target one or more of the EU OCTs, and the grant can cover costs related to actions implemented in the OCTs only.¹⁴⁸ Regional projects involving actions in the OCTs may also involve actions in EU Outermost Regions and/or independent neighbouring countries, but these actions cannot be covered by the BEST funds. In this case projects must have additional financing to cover the cost

¹⁴⁸ BEST portal, <http://www.best2portal.org/>

of actions implemented in EU Outermost Regions and/or independent neighbouring countries.

Overlap

There are theoretical overlaps between LIFE and BEST in terms of thematic and geographical coverage. Art. 6 of LIFE Regulation¹⁴⁹ allows LIFE to finance activities in OCTs (and outside the EU) provided these activities are necessary to achieve EU environmental and climate objectives. The obvious example of this is the protection of migratory birds in their non-European winter locations. With regard to the Outermost Regions, although LIFE can support actions in these areas, most interventions financed by BEST do not meet the requirements of article 3. Furthermore, the fact that the BEST facility offers a higher intervention rate than LIFE, means that projects from Outermost Regions have not submitted to LIFE.¹⁵⁰ As such, in reality there is no overlap as the applicants are making a clear choice.

Current synergies and mainstreaming

BEST projects contributed to improving biodiversity conservation and climate change adaptation in Europe overseas through strengthening strategic partnerships, elaborating on governance and financial mechanisms, mobilising support for action using targeted communication and awareness raising events at the EU and international levels.¹⁵¹

Future synergies

In the future, an instrument for the cooperation with Greenland and OCTs is proposed. However, no Impact Assessment will be done for them. Overall, the future external instruments will be regrouped and defined on the basis of geographic rather than thematic coverage.

¹⁴⁹ Regulation (EC) No 614/2007

¹⁵⁰ Interview with EASME

¹⁵¹ BEST initiative brochure 2017,
http://ec.europa.eu/environment/nature/biodiversity/best/pdf/BEST_Brochure_2017-brochure_complete_WEB.pdf

ANNEX 7: METHODOLOGY

This appendix provides a brief description of the methodology that has been applied in the preparation of the impact assessment.

The initial step in the process is the identification of the remaining challenges that the LIFE programme needs to address in the next MFF, and the specific objectives associated with these needs. For each of these challenges, individual options to address the need were then identified. Each option was then screened in relation to how effectively and efficiently it would address the need, along with any coherence issues. The screening allowed the identification of the most promising options. In the final step, the short-listed options were assessed in more detail, including the likely economic, environmental and social impacts.

Each of these steps is described more fully below.

7.1. Step 1: Identification and characterisation of the remaining challenges

A literature review was performed to identify and characterise the remaining challenges that the LIFE programme needs to address in the next MFF. The starting point was the Mid-Term Evaluation of the current LIFE programme¹⁵², which explored the extent to which the current programme was effective and efficient in delivering its objective. This identified some potential areas where the programme could be strengthened.

The review of current performance was supplemented with a review of potential new challenges which may need to be addressed in the next MFF. This considered emerging environmental issues and new political priorities.

The output from this step was the identification of a series of specific remaining challenges which the LIFE programme should respond to in the next MFF (see Section 3.1 of the main report).

7.2. Step 2: Development of the specific objectives and operational goals

The overall rationale for the LIFE programme, as reflected in the programmes' intervention logic, has remained relatively unchanged over the lifetime of the programme, and remains equally relevant for the next MFF. Likewise, the general objectives of the programme remain relevant. However, the specific operational objectives of the LIFE programme have been modified over time, to reflect change in the specific priorities of the programme.

The next step in the impact assessment was to define specific objectives for the programme which would be relevant for the next MFF. These objectives took into account the need for the programme to address the remaining challenges in Step 1. The specific objectives are described in Section 2.3.2 of the main report.

Taking into account the remaining needs and the opportunities for LIFE to enhance its EU added value, a number of operational goals were defined for the reform of LIFE under the next MFF.

7.3. Step 3: Identification of the options

For each of the challenges that were identified for the LIFE programme specific options were identified to address each challenge, taking into account the operational goals. Several individual options were identified in relation to each challenge, resulting in a long-list of options overall. Some of these options derive directly from the findings or recommendations of previous evaluation of the LIFE programme, and others were developed by the study team in discussion with the European Commission.

¹⁵² In addition, the finding from previous evaluation of the LIFE programme, including earlier programming periods, were also taken into account.

7.4. Step 4: Screening of the options

In accordance with Tool 14 of the Commission’s Better Regulations toolbox, each of the individual options was screened in qualitative terms in order to provide a first high-level assessment of the expected performance of the options. The aim of screening was to identify those options that were most promising, and therefore should be considered for inclusion in the LIFE programme in the next MFF. Equally, the screening identified those that were less promising and therefore not worth considering further.

Each of the options was evaluated against a consistent set of criteria. These were:

- **Effectiveness:** The extent to which the options can achieve the relevant specific operational objective.
- **Efficiency:** The resources or effort associated with the delivery of the relevant strategic objective. It may already be possible to conclude that some options would achieve a worse cost-benefit balance than others.
- **Coherence:** Certain options may be ruled out early due to poor coherence with other general EU policy objectives.

In the case of effectiveness, **each of the options was assessed in relation to the relevant specific operational goal to which the option relates**. For example, some options were designed to address the need for further simplification, and therefore effectiveness was assessed in relation to the objectives “To introduce simplification measures, where possible”. The scoring of each option against each criterion has used a three-point scale (low – medium – high, see key below), with the assessment based on expert judgement. The scores are designed to describe the performance of the options relative to each other (i.e. to show the most/least effective, efficient and coherent options) and do not represent absolute estimates (e.g. on the cost of implementing the options). However, to the extent possible the scores do aim to reflect the expected magnitude of the impacts on the relevant criterion. Therefore, the scoring is made by firstly reviewing the performance of all options against the criteria, and then scores are assigned which reflect the relative performance of the options (so those options that are expected to have a greater impact will receive a higher score) but also the magnitude of the impact (so those options that have a very large impact are more likely to be given a score at the upper or lower range).

Table 7-1: Screening scoring system

Key	Low	Medium	High
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An example is below

Table 7-2: Screening scoring system: an example

Policy option	Scoring			Potential for inclusion?
	Effectiveness	Efficiency	Coherence	
Business as usual (BAU)	Low: <i>Summary of assessment</i>	Medium: <i>Summary of assessment</i>	High: <i>Summary of assessment</i>	No

The output from this step was the identification, for each of the individual challenges, of those options that were most promising, and therefore worth further consideration.

7.5. Step 5: Impact assessment of the short-listed options

The final step in the assessment was the impact assessment of the short-listed option. This was performed for those options which passed the screening.

Each of the individual options has been assessed against each of the impacts in the impact assessment framework to determine for each of the impact categories whether an impact is expected, the direction of the impact, and the significance of the impact. For this exercise, we used the screening framework presented in the table below.

The impacts were assessed relative to the BAU i.e. they represent the net impacts.

Table 7-3: Impact categories

Impact	Key questions
Economic	
Macroeconomic environment	Does is impact economic growth? Does it contribute to improved conditions for investments?
Regulatory burdens on businesses	Does it affect the application process to access LIFE? What is the impact on reporting? Does it affect running costs for businesses (e.g. is there an impact on energy supply or other raw materials)?
Operation/ conduct of SMEs	Consider the impacts on businesses with particular regard for SMEs
Regulatory burdens on authorities	What is the impact on institutions processing, granting and checking applications?
Innovation and research	What is the impact on research and development? Does is facilitate the introduction and dissemination of new approaches? What is the impact on resource efficiency?
Social	
Employment	What is the impact on job creation?
Public health and safety	What is the impact on life expectancy, mortality and morbidity? What is driving the impact on health? E.g. noise, air, water, soil, climate, waste. Are the impacts targeting particular risk groups (determined by age, gender, disability, social group, mobility, region, etc.)?
Education and training	What is the impact on training and education outcomes? What is the impact on skills?
Governance and good administration	What impact is on public institutions and administrations carrying out their implementation responsibilities? What is the impact on public awareness and public access to information? What is the impact on political parties and civic organisations?

Impact	Key questions
Environmental	
The climate	What is the impact on GHG emissions? Or on ozone depleting substances? What is the impact on economic incentives set up by market based mechanisms such as the EU ETS? What is the impact on capacity to adapt to climate change?
Efficient use of resources	What is the impact on renewable resources? What is the impact on land use?
Quality of natural resources/ pollution control	What is the impact on: air quality and/ or emission reductions; water quality; and soil quality?
Biodiversity management	What is the impact on species count? What is the impact on endangered species? What is the impact on landscape (and the protection of green infrastructure and valuable landscapes)?
Waste management	What is the impact on waste generation and disposal of waste?
Minimising environmental risks	What is the impact on minimising risks such as fire, explosions, accidental emissions, etc? What is the impact on unintentional dissemination of alien organisms or genetically modified organisms?
International environmental impact	What is the impact on environment in third countries?

Source: Tool #19¹⁵³

An example is provided below

Table 7-4: Impact categories

	Economic impacts	Social impacts	Environmental impacts
Programme coverage			
Option A	++ Describe significant positive economic impacts + Described marginal positive economic impacts - Describe marginal	++ Describe significant positive social impacts + Described marginal positive social impacts - Describe marginal negative social impacts	++ Describe significant positive environmental impacts + Described marginal positive environmental impacts - Describe marginal

¹⁵³ European Commission Better Regulation Toolbox: Tool #19 – Identification/ Screening of Impacts , https://ec.europa.eu/info/files/better-regulation-toolbox-19_en

	negative economic impacts -- Described significant negative economic impacts	-- Described significant negative social impacts	negative environmental impacts -- Described significant negative environmental impacts
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Where the initial assessment identified significant impact against any assessment area, some further analysis of the impacts was performed.

7.6. Step 6: Summary of conclusions

In the final step, conclusions were drawn on the pros and cons option based on the screening but also the impact assessment

ANNEX 8: DESCRIPTION AND SCREENING OF OPTIONS

This annex provides a description of all the policy options that were identified as possibilities to resolve the challenges and address the operational goals described in the main body of the report. It proceeds with a screening of these options, following the methodology described in annex 7.

8.1. Options linked to programme scope and structure

In considering the environmental and climate needs that must be addressed in the next MFF, several challenges and opportunities were identified in relation to the scope and structure of the LIFE programme. A series of potential gaps as well as some possibilities to increase coherence among EU programmes were highlighted. This section describes the relevant issues and the options that were identified to address them. An initial screening was performed on the effectiveness, efficiency, and coherence of the options.

8.1.1. Issue: Gaps and opportunities for increasing coherence among programmes addressing environmental and climate needs inside the EU

An operational goal was established to avoid gaps and ensure coherence with other EU programmes. Based on the present instruments and considering the existing stage in the development of proposed instruments under the next MFF, potential gaps were identified in relation to support for research to address specific environmental and climate policy issues and also regarding large scale deployment activities for nature. Opportunities to enhance synergies between programmes were also identified. In each case, specific options were developed to address the gaps and opportunities, as described below.

Screening of the options

Each of the individual options to address gaps and enhance coherence in relation to the thematic scope was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the specific operational goals to address relevant gaps in coverage of environment and climate needs within the EU territories and to increase coherence between EU instruments.

Table 8-1: Screening of options to address gaps and ensure coherence among EU programmes addressing environmental and climate issues

Policy option	Scoring			
	Effectiveness	Efficiency	Coherence	Potential for inclusion ?
Business as usual (BAU)	Medium: Current technical scope is designing the fill the niche between “upstream” research activities, and “downstream” large-scale implementation. It is therefore effective in addressing this	Medium: Current programme is efficient in delivering its objectives within the current scope. However, there may be opportunities to improve efficiency with an expanded scope.	Medium: Current scope is focussed on catalytic role, building upon research activities and project implementation activities funded through other programmes, so coherence is generally good. However, there is scope for greater coherence in some specific areas e.g.	No

	niche, but there are some areas of overlap e.g. LIFE is currently supporting some sustainable energy projects that could be funded under Horizon 2020, and some perceived gaps in the overall MFF financing for environment and climate. Limited influence over programming of research for environment policy.		sustainable energy	
Extend the scope of the LIFE programme to include capacity building projects related to energy efficiency and renewable energy	High: Greater concentration of financial resources would improve capacity to have a greater catalytic effect. Also easier to optimise synergies between climate and energy thematic areas.	Medium: Opportunity to align funding and improve monitoring for projects currently outside LIFE. Some initial costs arising from administration and alignment of procedures but relatively straightforward to incorporate as both already managed by EASME.	High: The extension is aligned with the rest of LIFE in that it supports action facilitating large scale deployment (like some standard LIFE action grants) and aims at contributing to a transformation of society (in line with the catalytic objectives of LIFE). Energy policy objectives are aligned with climate objectives in existing policy framework. It will contribute to the synergies between capacity building activities for energy, environment and climate	Yes
Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity	High: Funds will be targeted on specific objective and meet objectives more effectively that the present 'greening' approach, while still largely targeting the same end	Medium: some initial costs arising from administration, increased coordination and alignment of procedures but relatively straightforward to incorporate	High: Internally coherent as it would reinforce coordination of all targeted nature funding into one plan, addressing the gap in financing for nature and biodiversity.	Yes

	recipients (ie farmers, landowners/managers). Involvement of the environmental authorities who will be better placed to ensure uptake			
Extend the scope of the LIFE programme to include large scale deployment activities for nature	High: Funds will be targeted on specific objective and meet objectives more effectively that the present 'greening' approach, while still largely targeting the same end recipients (ie farmers, landowners/managers). Involvement of the environmental authorities who will be better placed to ensure uptake Smoother transfer of best practices from the LIFE projects to large scale implementation	Low: Need to establish new management authorities, and requiring extra overheads inside the Commission for oversight. e	High: Internally coherent as it would bring together all targeted nature funding into one instrument, addressing the gap in financing for nature and biodiversity.	No

Description of options

Table 8-2: Options to address gaps and ensure coherence among EU programmes addressing environmental and climate issues

Options	Description
Business as usual	This would involve the continuation of the current thematic scope of the LIFE programme, i.e. two sub-programmes (Environment and Climate) supporting catalytic projects that build up and improve capacity, speed up the development and implementation of EU environment and climate legislation and policy including through helping stakeholders to test technologies and methodologies on the

Options	Description
	ground. The type of projects supported under the LIFE programme would be unchanged. This would include projects that help to mobilise, at a small scale, new and emerging techniques as well as putting into practice research. However, research and technology funding per se in the environment and climate areas would continue to be funded primarily through the dedicated framework programme for research and innovation, with large scale deployment funded primarily through the CAP, ERDF, CF, EMFF, as well as financial instruments like EFSI (among others). Some sustainable energy projects would continue to be supported through LIFE's climate sub-programme (in relation to pioneering a post carbon society); and to a lesser extent through the environment sub-programme (in relation to sustainable mobility projects, urban planning and resource efficiency). However, the primary mechanism for supporting catalytic projects in the clean energy area would be a separate dedicated programme funded and managed by DG Energy under the umbrella of Horizon Europe. Synergies between LIFE and the DG Energy programme would be maximised, but the programmes would remain separate.
Extend the scope of the LIFE programme to include capacity building projects related to renewable and sustainable energy (the Clean Energy Transition Programme as far as not retained in Horizon Europe, excluding market uptake of first of a kind innovations)	Subject to budget being available, this option would involve an extension in the scope of projects supported through LIFE to include capacity building projects related to renewable and sustainable energy. Horizon 2020 currently supports the implementation on the ground of energy efficiency and renewable energy policies through capacity building (project development assistance) and procurement of products and services. These specific types of projects would be brought under LIFE except projects concerning market uptake of first of a kind innovations, which you be under Horizon Europe. The Horizon 2020 sustainable energy capacity building projects are currently managed by EASME and currently sit within the Horizon 2020 budget programme with an allocation of ~€130 million per year. The option could take into account the planned expansion of the allocated annual budget for these projects to ~€171 million. This option would extend the current thematic coverage of LIFE to explicitly include energy efficiency and renewable resources.
Extend the scope of the LIFE programme to improve mainstreaming for nature and biodiversity	Subject to budget being available, in this option LIFE would be restructured to include a specific sub-programme for 'nature and biodiversity' (in addition to sub-programmes on 'climate action', and 'circular economy and quality of life'). This 'nature and biodiversity' sub-programme would consist of a reinforced centrally managed component funding actions similar to those presently implementing the Nature and Biodiversity priority area of LIFE, as well as strategic nature projects. These projects will implement coherent programmes of action to mainstream EU nature and biodiversity objectives and priorities into other policies and financing instruments, including through coordinated implementation of the priority action frameworks established pursuant to Directive 92/43/EEC. As such they will help

Options	Description
	ensure that appropriate funds are mobilised for implementing these policies. Through these SNP's the programme should in particular ensure the mobilisation and efficient use of funds earmarked for nature protection as part of the EARDF programme. This option would not obviate the need for actions, particularly under the second pillar, of the CAP (which presently provides 75% of EU funding for nature), SF and EMFF that target direct investments in nature conservation and biodiversity and it would not replace other elements of these programmes that contribute indirectly to protect nature and biodiversity, nor remove the need for cross-compliance of actions under these programmes with environmental and climate legislation.
Extend the scope of the LIFE programme to include large scale deployment activities for nature	Subject to budget being available, in this option LIFE would be restructured to include a specific sub-programme for 'nature and biodiversity' (in addition to sub-programmes on 'climate action', and 'environment'). This 'nature and biodiversity' sub-programme would consist of a centrally managed component funding actions similar to those presently implementing the Nature and Biodiversity priority area of LIFE. In addition, there would be a shared-management component to address large-scale implementation actions in the Member States, covering nature and biodiversity objectives, with a particular focus on N2000 and implementing the Nature Directives. The dimension of this sub-programme would require a very significantly larger budget for LIFE. This option would obviate the need for actions, particularly under the second pillar, of the CAP (which presently provides 75% of EU funding for nature), SF and EMFF that target direct investments in nature conservation and biodiversity. It would not, however, replace other elements of these programmes that contribute indirectly to protect nature and biodiversity, nor remove the need for cross-compliance of actions under these programmes with environmental and climate legislation. Mainstreaming will therefore still be needed, to ensure policy coherence and the overall sustainability.

Summary: This initial screening highlights that the LIFE programme could be effective in directly addressing potential gaps in the funding landscape post 2020 in relation to large scale deployment activities for nature, through a shared management component. However, this would require the programme to significantly broaden the focus of the activities it currently supports, which would present challenges in terms of the efficiency of delivery, and coherence with the current project portfolio, as well as with the overall mainstreaming approach. A better approach is to create the capacity inside LIFE to reinforce and support the mainstreaming process through strategic nature projects. Extending the scope of the LIFE programme to include capacity building projects related to renewable and sustainable energy may enhance the catalytic effect of the programme, and has the potential to increase coherence of funding. In this case the operational challenges would be few, as the nature of the activities supported are similar to

projects already financed under LIFE, with the expansion concerning only the thematic subject of the projects.

8.1.2. Issue: Gaps in meeting needs for financing of biodiversity in Overseas Countries and Territories (OCTs)

The Overseas Countries and Territories of the EU are rich in biodiversity, and represent a significant portion of the EU's contribution to the global patrimony of natural capital. The BEST programme, developed in response to a European Parliament request to establish a pilot project to finance small scale and demonstrative biodiversity projects in the OCTs and Outermost Regions (ORs), has a successful track record, but does not clearly fit into any single existing or proposed EU financing programme as neither the relevant external instrument, nor the Regional Fund instruments can cover its entire geographic scope.

Description of options

Table 8-3: Options to address gaps in relation to financing for biodiversity in the OCTs

Options	Description
Business as usual (BAU)	This would involve the continuation of present provisions (Article 6) allowing LIFE to support activities outside the Union or in overseas countries and territories (OCTs) and to cooperate with relevant international organisations (Article 7). Under Article 6 of the current regulation, financing of the activities in OCTs is conditional that <i>“those activities are necessary to achieve Union environmental and climate objectives and to ensure the effectiveness of interventions carried out in Member State territories to which the Treaties apply”</i>. Therefore, under the BAU scenario some projects would continue to be supported in OCTs, but only where they directly contribute towards Union environmental and climate objectives in the territories of the EU that are subject to the EU Treaties (including the ORs). This means that the BEST programme per se could not be integrated into the LIFE programme.
Extend full eligibility of LIFE to the EU's Overseas Countries and Territories across all sub-programmes	Subject to budget being available, this would involve a change in the Article 6 provision, modifying the requirement for the projects to make a direct contribution towards the Union environmental and climate objectives. Projects would instead need to deliver a catalytic effect with respect to the LIFE programme priorities, either within the OCTs, or within the territories to which the Treaties apply.
Extend eligibility of LIFE to the EU's Overseas Countries and Territories specifically for nature and biodiversity actions within the Environment sub-programme	Subject to budget being available, this would involve a change in the Article 6 provision, modifying the requirement for the projects to make a direct contribution towards the Union environmental and climate objectives, as in the previous option. However, the extension of the eligibility would only apply to nature and biodiversity projects.

Screening of the options

Each above option to address gaps in relation to financing for biodiversity in the OCTs was screened to assess its relative effectiveness, efficiency, and coherence. The effectiveness of the options was assessed in relation to the operational goal to avoid gaps and ensure coherence with other EU programmes, particularly in relationship to finance for biodiversity in the OCTs, but also considering the overall effectiveness of the LIFE instrument.

Table 8-4: Screening of options to address gaps in relation to financing for biodiversity in the OCTs

Policy option	Scoring			
	Effectiveness	Efficiency	Coherence	Potential for inclusion?
Business as usual (BAU)	Low: LIFE funding can complement other EU funds in OCTs, but scope is limited by current Article 6 provisions.	Medium: Cost is limited, but effectiveness is low	High: OCT finance is provided almost exclusively through a dedicated external instrument, while LIFE focuses on internal EU policies	No
Extend full eligibility of LIFE to the Overseas Countries and Territories across all sub-programmes	Low: Would allow greater use of LIFE funds in OCTs, but may come with a large risk that funding would not be available to other projects which deliver greater added value	Low: Additional management resources required to respond to applications across all sub-programme, and project proposals may not offer most added value	Medium: Article 6 would remain aligned with the EU's domestic environment and climate policy objectives, while also contributing towards its international policy objectives. Potential overlap with dedicated OCT instrument although LIFE would only finance demonstration type projects	No
Extend eligibility of LIFE to the Overseas Countries and Territories specifically for nature and biodiversity actions within the Environment sub-programme	Medium: Would allow greater use of LIFE funds in OCTs for biodiversity. May come with a risk that funding be less available to other projects which deliver greater added value, although restricting scope to nature and biodiversity should limit this risk	High: Would allow the continuation of the positive synergies among the activities in ORs and OCTs Management resources required for just nature and biodiversity are in place	Medium/High: Article 6 would remain aligned with the EU's domestic environment and climate policy objectives, but also better contribute towards its international objectives. Restricting the scope of the OCT eligibility ensures a higher coherence with the dedicated	Yes

		OCT instrument, which could upscale the demonstration projects that would be financed in LIFE.
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Summary: This initial screening highlights that the option to extend eligibility to overseas countries and territories exclusively for the nature and biodiversity component of the Environment sub-programme would be most efficient and effective whilst also ensuring coherence. This option would help address a potential gap in funding in the next MFF. Increasing accessibility across all sub-programmes would potentially be less targeted and therefore less effective and efficient overall. The BAU would not address the gap in support for funding for OCTs adequately.

8.2. Options linked to delivery mechanisms

Several challenges and opportunities were identified in relation to the effectiveness of the delivery mechanisms under the present LIFE programme. The relevant issues, and the options that were identified to address the related operational goals are described below. An initial screening was performed on the effectiveness, efficiency, and coherence of the options.

8.2.1. Issue: Improving the catalytic effect of LIFE projects and building on successes

LIFE already plays a catalytic role in financing projects which stimulate further actions to develop and implement EU environment and climate policy, through demonstration of good practice, awareness raising and coordination of complementary actions. However, the problem analysis identified that there are some opportunities to further improve the catalytic effect of the LIFE projects, and enhance the sustainability and magnitude of impacts of the programme.

Description of options

Table 8-5: Options to improve the catalytic effectiveness/sustainability of projects

Options	Description
Business as usual	This would involve a continuation of the current delivery mechanisms, at the same scope and scale as the current programming period. With respect to strategic integrated projects, the indicative allocation that was introduced in the current LIFE programme was established to pilot the concept; under the regulation a maximum of 30% of the budgetary resources allocated to action grants may go to integrated projects, with an indicative allocation of three integrated projects per Member State. In practice, integrated projects have been introduced gradually since 2014 under the environment sub-programme and since 2015 under the climate action sub-programme. The 30% ceiling is expected to be attained in 2017 and the remain stable during the period 2018-2020 in view of reaching the indicative allocation of three integrated projects per Member States. The proposals received for integrated projects for 2014-2016 represent a combined total of LIFE and non-LIFE co-financing of EUR 437,5 million.

	Under the environment sub-programme, integrated projects have been supported in relation to water, waste, air and nature and for the climate sub-programme in relation to climate mitigation and adaptation. This thematic distribution is assumed to remain the same in the business as usual scenario. With respect to sustainability, within the current LIFE Programme, project sustainability and the potential for replicability are considered in the project selection process through a specific award criterion. While this has resulted in a shift towards “close-to-market” projects, in particular for environment and climate mitigation projects, there is a need to provide comprehensive support for the most successful projects and more systematic follow-up to develop replication and upscaling possibilities for all types of successful LIFE projects. At present, during the implementation phase, platform meetings are held to foster replication, and sustainability and replicability are also checked during the monitoring phase before projects end. Sustainability and replicability are also highly correlated.¹⁵⁴ The BAU is a continuation of the level of targeted support during project implementation, but no subsequent follow up support to successful LIFE projects
Expand the scope and scale of strategic integrated projects (SIPs)	The proposed option is an expansion in both the scope and scale of the strategic integrated projects in the post-2020 programming period. This option would acknowledge that the IPs have shown an extremely good potential for catalytic effect, facilitate the coordinated use of funds and stakeholders ownership and have a strong demonstration effect. Subject to budget being available, strategic integrated projects should therefore be reinforced through both an expansion of their number for the presently eligible thematic areas, as well as an increase in the scope of eligible topics for strategic integrated projects (to include indicatively also plans for national emissions ceilings, noise, marine environment and nitrates in accordance with the relevant legislation). Specifically to respond to the considerable needs for financing in the area of nature as identified in the Nature Fitness check, and to ensure that LIFE SIPs can play the necessary role in coordinating actions related to nature and biodiversity under the mainstream EU funds, the number of SIPs for nature should be significantly increased. While the funds allocated for integrated projects in the current programming period has been at a level appropriate to piloting the concept, the level is not sufficient for recognising the full potential of the mechanism. This option therefore requires a significant increase in the funds available for SIPs. This would require an overall increase in the LIFE budget.
Systematically define and develop synergies with other instruments	This option concerns development of more systematic mechanisms to define and develop synergies with other EU programmes that can support sustainability, upscaling and replication of relevant LIFE results. This includes, for example, synergies with structural funds and rural development programmes which can support the large scale implementation of project results, and synergies with European Innovation Council (EIC) who can support the up-scaling of innovations. This option would not require any specific modifications

¹⁵⁴

EC (2017) Report on the Mid-term Evaluation of the Programme for Environment and Climate Action (LIFE). SWD(2017) 355 final.

Targeted support (e.g. technical assistance) to upscale and replicate successful results	to the LIFE legal base, but would require coordination at the level of programming. This option would also continue the present practice of giving preferential treatment in standard LIFE project applications to projects which build on the result of Horizon 2020 project results. Furthermore, the results of Horizon Europe projects would continue to influence the development of EU environment and climate policy and therefore of the steering of the LIFE programme orientation. This option would involve targeted support which would strengthen the overall impact of the LIFE programme. It would consist of a range of mechanisms to be defined subject to budget being made available, including follow-up technical assistance grants to provide coaching and finance to develop plans and undertake measures to ensure the upscaling and replication of successful LIFE project results. Targeted support could help to facilitate access to grants or blending with financial instruments under mainstream instruments as a means of enhancing project results sustainability. Attention would be taken to ensure that this option does not have unintended adverse effects for decreasing actions to ensure project sustainability during the project duration (where it encourages projects to deprioritise sustainability in the knowledge that additional funding will be made available if the project is successful in other ways).
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Screening of options

Each of the individual options to improve the catalytic effectiveness/sustainability of projects was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the operational goal to improve the performance and catalytic role of LIFE.

Table 8-6: Screening of options to improve the catalytic effectiveness/sustainability of projects

Policy option	Scoring				Potential for inclusion?
	Effectiveness	Efficiency	Coherence		
Business as usual	Low: Unmet need for more sustainability and upscale of LIFE results. Greater strategic focus needed to step up to this challenge.	Medium: No additional effort required, but since effectiveness is low, efficiency is medium	Low: Strategic focus is needed to ensure LIFE funding is mobilised in line with wider policy objectives	No	
Expand the scope and scale of SIPs	High: Piloting of SIPs suggests they are being effective.	High: Process for SIPs is established at least at a pilot scale. Overall cost-effectiveness expecting to good, particularly	High: Facilitates strategic focus allowing LIFE funding to be mobilised in line with wider policy objectives, and in synergy with	Yes	

		considering leverage effect.	other EU instruments.	
Systematically define and develop synergies with other instruments	Medium: Activity is likely to increase catalytic effect, but scale is uncertain	Medium: Additional process may need to set up to develop the synergies	High: Will build coherence with other funding programmes	Yes
Targeted support (e.g. technical assistance) to upscale and replicate successful results	High: Since focus in enhancing the replicability of good projects, the catalytic effect should be strong.	Medium: Resources required and overall cost-benefits is uncertain.	High: Contributing to enhanced synergies with other budget programmes	Yes

Summary: This initial screening highlights that all of the alternative options have merits. In particular the option to expand the scope and scale of SIPs would support the ongoing evolution of LIFE as a support to compliance with EU legislation and policies, in a constantly evolving environmental and climate policy landscape. It also provides an efficient option to improving the catalytic effect of LIFE projects and is well aligned to options improving the strategic focus of LIFE. The option to systematically define and develop synergies with other programmes scores well in relation to coherence. The overall effectiveness of this option, and the relative cost-effectiveness is though unproven. The package of targeted support is expected to be effective in enhancing the replicability of projects, and would also provide strong coherence.

8.2.2. Issue: Positioning of financial instruments to best leverage finance

While LIFE grants support a large range of catalytic actions, and are complemented through grant financing for large scale implementation under mainstream EU instruments, there is a potential for large scale implementation of certain environmental and climate objectives through alternative financial mechanisms including loans, guarantees and equity. The financial instruments presently operating under LIFE are starting to show the potential of such mechanisms, and should be continued in order to reach their full potential in supporting revenue-generating actions. There is however a question of the best positioning of these instruments within the MFF.

8.2.3. Issue: Unbalanced accessibility for beneficiaries in different Member States

According to the mid-term evaluation, more than a third of the financed LIFE projects have a co-ordinating beneficiary situated in only two Member States. The share of project proposals received from beneficiaries from these Member States is even higher.

However, the strong concentration of project proposals from two Member States and the absence of project proposals from beneficiaries in other Member States indicate that the accessibility to the LIFE Programme is unequal.

The Final Evaluation of LIFE+ underlined that the efforts from the national contact points play a role in the level of participation registered from some Member States and concluded on the need to develop their capacity.

According to the results of the public consultation undertaken in the framework of the mid-term evaluation, the high demand in the two Member States is also partly linked to the difficulties to get environmental and climate initiatives funded by other sources at national/local level.

In several countries, the difficulty in getting the needed co-financing, which is relatively high in LIFE, represents an important obstacle to their participation, particularly in countries from Eastern European.

In terms of reaching environmental and climate policy objectives of the LIFE programme, it is not necessarily decisive where the coordinating beneficiary is situated. LIFE projects have per definition an EU-added value. They aim at demonstrating new solutions that can be replicated as well as catalysing action at a broader scale. Their benefits are not confined and in some cases not even related to the beneficiary (see example in the box). Furthermore, 30% of LIFE projects have co-beneficiaries in one or more of the other Member States

Box 8-7: Example of a LIFE traditional project	
REAL Alternatives 4 LIFE - Refrigerant Emissions Alternatives and Leakage - blended learning for low GWP refrigerants LIFE16 GIC/UK/000007	
EU contribution: € 422,076.00 € Coordinating beneficiary: Institute of Refrigeration	Thematic priority: Climate Governance and Information External link: http://www.realalternatives.eu/partners
The European F Gas Regulation encourages wider adoption of alternatives to high GWP HFC refrigerants. Industry groups are joining to gether to help provide information on the safe use of alternatives such as ammonia, hydrocarbon, carbon dioxide and low flammables though the REAL Alternatives learning programme. The lack of training of personnel handling climate friendly equipment is considered a barrier for achieving the EU phase-down of hydrofluorocarbons¹⁵⁵, which are highly warming climate gases that traditionally have been used in refrigeration. Resources developed as part of the project offer innovative blended learning - a mix of e-learning, face-to-face training materials, practical exercises, assessments and an e-library of learning resources - the programme has brought together industry knowledge and expertise from across Europe about alternative refrigerants. Industry stakeholders drawn from employers, manufacturers, trade associations and professional institutes have contributed learning material, advised on content, helped to pilot and to promote the programme as it developed. The free multi-lingual learning materials are available for individual development or use as classroom training materials. They include e-learning content, electronic tools, a comprehensive library gathered from existing resources. The e-library contains over 100 useful industry resources.	

Moreover, aiming at an equal Member State distribution during the selection phase would jeopardise the competition between the projects and would undermine the effectiveness of the programme, given that the best projects having the highest EU-added value will not necessarily be selected).

Nevertheless, having a broader geographic distribution is important for some types of projects, including nature projects which bring concrete conservation benefits to the project sites, as well as demonstrating methods or techniques which are specific to certain geographical or climatic conditions. Furthermore, the co-benefits of the LIFE programme in terms of communications and outreach on environment and climate policy issues are better delivered through a less concentrated geographical location of the projects.

These are the reasons why an improved geographical participation is expected to improve the catalytic effect of the programme

Description of options

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<http://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/COM-2016-748-F1-EN-MAIN-PART-1.PDF>

Table 8-8: Options to enhance participation for beneficiaries in different Member States

Options	Description
BAU	This would involve a continuation of the current delivery mechanisms, including the on-going use of capacity building projects to address the imbalance between Member States. Capacity building projects are action grants that are used to finance training, capacity-building activities, external expertise, the dissemination of information and administrative support. They were put in place in anticipation of the phasing-out of the national allocations by 2018. Under the first multi-annual work programme (MAWP) of the current LIFE programming period, 15 Member States were eligible to receive funds for capacity building projects. In 2014 and 2015 the Commission financed 14 capacity building; one Member State did not submit any proposal. In the business as usual scenario it is assumed that capacity building projects will continue at the same scope and scale as in the 2014-2020 programming period, as described above.
Replace capacity building projects with a reinforced network of LIFE contact points	In this option the current capacity building projects will no longer be supported, and instead the budget allocated to these projects at present would instead be reallocated to support a reinforced network of LIFE contact points. The funding for the network would be managed centrally by the European Commission or EASME, and participation would be open to all Member States. The funding would be used to target the specific capacity building needs of the National Contact Points (NCPs), including bringing together NCPs to facilitate mutual learning. It would also include a component targeting barriers to uptake specifically in Member States with a low absorption rate.
Increase the co-financing rate	In this option the maximum EU co-financing rates that are included in the LIFE Regulation are increased subject to budget being made available. Project beneficiaries are therefore required to provide less co-financing. This will alleviate one of the barriers to participation, and thereby encourage projects from some of those countries that currently have low participation rates.

Screening of options

Each of the individual options to enhance accessibility for beneficiaries in different Member States was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to improve the performance and catalytic role of LIFE, particularly as regards enhancing accessibility for beneficiaries in different Member States.

Table 8-9: Screening of policy options to enhance accessibility for beneficiaries in different Member States

Policy option	Scoring			
	Effectiveness	Efficiency	Coherence	Potential for

				inclusion?
Business as usual	Low: Limited evidence to suggest that the existing mechanisms (i.e. Capacity Building projects) are improving the quality of applications or amount of funding awarded to countries with low absorption rate.	Low: Each concerned MS has to submit an application which is evaluated by the Commission	Medium: it contributes to wider policy objectives concerning regional development (external coherence)	No
Replace capacity building projects with a reinforced network of LIFE contact points	High: Based on lessons learned from IPs, stakeholders have identified the high level of capacity and engagement as an important feature contributing to improved effectiveness (improving project design, quality of projects and capacity). Effectiveness is also linked to the possibility to customise the action to the need. It will depend to some extent on the willingness of participants to engage. The overall effectiveness of the LIFE programme would be increased by addressing a broader set of environmental	Medium: Some additional effort required to consolidate networks and ongoing effort to maintain network and ensure working effectively. However, if expenditure is more effective, then overall cost-efficiency will be good.	High: Contributes to internal coherence (learn from good practices - balanced territorial coverage contributes achieving a catalytic effect). Contributes to wider policy objectives concerning regional development (external coherence)	Yes

	conditions on the ground.			
	Option may address all the barriers to participation.			
Increase the co-financing rate	Medium: More EU co-financing will help address one of the barriers to participation, but may not address them all. Increasing the co-financing means that fewer projects can be supported in total unless the overall budget is increased.	Medium: Higher contribution per project. In some cases, higher rates might also artificially inflate the demand, increasing the number of less relevant applications, which nevertheless need to be evaluated. Less management costs involved with the decrease in the number of projects	Medium/High: If increased co-financing rate ensure greater harmonisation related to financing similar projects in other fields	Yes

Summary: This initial screening highlights that no single option is likely to be fully effective in addressing the problem, but the replacement of capacity building projects with a reinforced network of LIFE contact points and an increase in co-financing rates, would address two specific barriers. The most efficient option is expected to be the replacement of capacity building projects with a reinforced network of LIFE contact points. This will be more effective in improving geographic distribution of LIFE projects, but would not require any more resources than the current capacity building projects. An increase in the co-financing rates could also help to address a barrier to participation in some Member States, but its main limitation is that would mean that fewer projects would be supported in total, as high co-financing would mean the budget is spread across fewer projects.

8.2.4. Issue: Improving the leverage effect through financial instruments

Description of options

Table 8-10: Options to improve the leverage of additional finance

Options	Description
Business as usual	This would involve a continuation of the current delivery mechanisms. Specifically, the current or similar FIs will continue to be under the umbrella of the LIFE programme and budget, and will continue to be managed indirectly by EIB.

Financial Instruments delivered through a central fund	Under this option the current or similar FIs would be delivered through a central funding instrument. They would continue to be managed indirectly by the EIB. Technical assistance to relevant stakeholder could be provided through LIFE.
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Screening of options

Each of the individual options to leverage additional finance through financial instruments was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the relevant specific objective to improve the performance and catalytic role of LIFE.

Table 8-11: Screening of policy options to improve the leverage of additional finance

Policy option	Scoring				Potential for inclusion?
	Effectiveness	Efficiency	Coherence		
Business as usual	High: Need for ongoing funding to support large scale deployment even if slow uptake has affected capacity of FIs to contribute to this.	Medium: A big investment is necessary for the setting up of a pilot instrument Operational expertise is available in house to define the conditions	Low: Increased risk of overlap		No
Financial Instruments delivered through EU Invest fund	High: Need for ongoing funding to support large scale deployment even if slow uptake has affected capacity of FIs to contribute to this.	Medium: specificity of the financial instruments but offset in the long run by improved economy of scale in the use of FIs.	High: Economies of scale. Single entry point across the EU for project promoters and potential investors. Medium: Risk of NCFF not fitting with other FIs. Risk of PF4EE being lost amongst other EE focussed FIs.		Yes

Summary: Maintaining the FIs within the scope of the LIFE programme would provide some internal coherence with the other programme activities. Conversely, delivering the FIs through a central fund would enhance coherence with other FIs and would facilitate upscaling of the approaches tested through the present pilot FIs under LIFE. At the same time it might reduce the synergies between the LIFE grants and the FIs on similar technical issues.

8.2.5. *Issues: Limited flexibility to target new and key environmental and climate priorities*

The bottom-up design of LIFE facilitates a process whereby the best ideas and projects, across all topics, are financed, maximising the overall impact of the sum of the individual projects. However, this process has resulted in a dispersion of effort and the inability to target effort on key or emerging priorities. Under the present programme, for the environment sub-programme, a set of priority areas were established in the annex to the Regulation, and project topics, which were favoured in the evaluation process, were defined in the multi-annual work programmes. This allowed a certain focussing of effort, however, neither has it had sufficient focussing effect, nor has it allowed the flexibility to introduce new priorities in a timely manner.

Description of options

Table 8-12: Options to increase the capacity of the programme to target new and key environmental and climate priorities

Options	Description
Business as usual	This would involve the continuation of the current approach in which priorities are set within the programme. Specifically: • The LIFE Regulation sets out the two sub-programmes - Environment and Climate Action – and three priority areas under both sub-programmes (e.g. priority area for Nature and Biodiversity under the Environment sub-programme). The LIFE Regulation sets the budget lines for the two sub-programmes, while the budgetary envelopes devoted to the priority areas are set out in the MAWP. • The LIFE Regulation also establishes thematic priorities for each of the three priority areas of the Environment sub-programme (Annex 9) and Annex III sets out these thematic priorities in more details and establishes relevant actions. For instance, under the priority area for Nature and Biodiversity one of the thematic priorities are for Nature, and one of the activities is to provide support for the Natura 200 network bio-geographical seminars. • Annex 9 of the LIFE Regulation provides a list of criteria according to which the Commissions is empowered to amend these thematic priorities. • No thematic priorities and activities are set under the Climate Action sub-programme. • The LIFE Regulation identifies the eligibility and awarded criteria in Article 19 one of which is “being of Union interest by making a significant contribution to the achievement of one of the general objectives of the LIFE Programme set out in Article 3 as well as the specific objectives for the priority areas listed in Article 9, the thematic priorities for the Environment sub-programme are set out in Annex III, or the specific objectives for the priority areas listed in Article 13”. • Other than the allocation of funds for the nature and biodiversity priority areas under the Environment sub-programme, and between the types of funding within each sub-programme, Article 24.2(a) of the LIFE Regulation prohibits any further pre-allocation for project action grants between or within each priority area.

	• There are numerous ceilings on the portion of the budget that may be allocated to specific delivery mechanisms or project types. • The MAWP contains a non-exhaustive list of project topics implementing the thematic priorities and activities under the sub-programme for the Environment. For instance, under the Nature and Biodiversity priority area within the Nature thematic priority one of the project topics is to support projects implementing one or several actions foreseen in the relevant Prioritised Action Framework (PAF). As the list is non-exhaustive project applicants are allowed to deviate from the project topics but they need to be in line with the thematic priorities and activities established in Annex III of the Regulation. For the Climate Action sub-programme, relevant policy areas are listed. • The yearly calls for projects include a list of project topics, which are prioritised during the project selection. The calls under the Climate Action sub-programme specifies key priorities closely linked to the current policy needs and projects proposals addressing these key priorities to a large extent are rewarded with higher points within the project selection process.
Reduce the priority areas	Reduce the number of priority areas covered by the programme to allow focus on a limited number of key priorities, in order to focus the effort.
Removal of thematic priorities and activities from Annex III of the Regulation for the Environment sub-programme	This would involve the removal of the current list of thematic priorities and related activities under the Environment sub-programme from the Annex of the LIFE Regulation. The thematic priorities could be included in the MAWP which would provide increased flexibility for the LIFE Programme to address new and key environmental challenges.
Remove prohibition of further pre-allocation in the MAWP or annual calls and reduce number of budget ceilings in the Regulation	This option would remove most restrictions on specific delivery mechanism and thematic areas in the Regulation while allowing for further earmarking within the MAWP and/or in yearly calls for proposals. It would create the opportunity to increase the strategic focus of the programme and align its priorities with new and emerging challenges. In order to retain the benefits of the bottom-up approach in rewarding excellence, only a limited portion of the budget would be thus pre-allocated.

Screening of options

The tables below present the screening of the options identified above. The effectiveness of the identified options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the operational goal to improve the strategic focus of LIFE.

Table 8-13: Screening of options to increase strategic flexibility in providing funds for new and key environmental and climate challenges

Policy option	Scoring				Potential inclusion? for
	Effectiveness	Efficiency	Coherence		
Business as usual	Low: Limited flexibility to	Low: No additional effort	Medium: Maintains the		No

	address new and emerging issues.	required, but does not fully achieve the objective so low efficiency.	current level of coherence with other EU policies.	
Reduce priority areas	Low: Reduces overall impact of the programme in terms of its global objectives	Low: No additional effort required, but does not fully achieve the objective so low efficiency.	Low: Reduces coherence and compromises the integrity of the LIFE Programme.	No
Removal of thematic priorities and activities from Annex III of the Regulation for the Environment sub-programme	High: Introduces strategic flexibility and ensures the alignment of the MAWP with new and emerging policy priorities.	Medium: Change in the structure of the Regulation but with details potentially included in the MAWP; no significant administrative burden.	High: Increases coherence with other EU policies as it creates more room for flexible response to priorities.	Yes
Remove prohibition of further pre-allocation in the MAWP or annual calls and reduce number of budget ceilings in the Regulation	High: Introduces a delivery mechanism to ensure strategic flexibility within the MAWP for yearly calls on specific challenges.	Medium: Additional effort is required and creates some administrative burden.	High: Ensures an option to align the focus of the LIFE Programme within the MAWP with the most pressing priorities.	Yes

Summary: This initial screening highlights that two of the options would each contribute, in complementary manners, to improving the strategic focus on the programme on key and emerging priorities. These options involves the removal of thematic priorities and activities from Annex III of the Regulation for the Environment sub-programme which would ensure the right level of flexibility and provide an option for the MAWP to align the thematic priorities of the Environment sub-programme with the most topical environmental challenges. In addition, the option to introduce the possibility for targeted calls for proposals would introduce delivery mechanisms within which the LIFE Programme's current bottom-up approach could be complemented with a top-down process to target key policy priorities. In the current LIFE Programme, there is no option to introduce further pre-allocations and hence the business as usual scenario would not be able to address the lack of flexibility to steer funding with a strategic focus.

8.3. Options related to programme management

Several remaining challenges and opportunities were identified in relation to the management of the LIFE programme. Options were identified to address the operational goal to optimise the programme management. An initial screening was performed on the effectiveness, efficiency, and coherence of the options.

8.3.1. Issue: Opportunities may still exist to improve specific elements of the programme management arrangements

While the MTE concluded that the present programme management arrangements are suitable, the problem analysis identified that there may be opportunities to improve the effectiveness and efficiency of the management of the programme in the post-2020 framework.

Description of options

Several options were identified to explore where the management of the programme could be made more effective or efficient post-2020.

Table 8-14: Options relating to the programme management arrangements

Options	Description
Business as usual	This would involve a continuation of the current management arrangements. Specifically: • DG Environment to manage the preparatory projects and procurement under the environment sub-programme as well as the ongoing LIFE+ projects. • DG Climate Action to manage the preparatory projects and procurement under the climate action sub-programme. • EASME to manage the call for proposals, all of the operating grants, the standard, integrated and technical assistance projects under the two sub-programmes. <i>For the Clean Energy projects transferred to the LIFE programme from the Horizon 2020 programme the responsibility for the management of the projects will remain with EASME, as is the case under Horizon 2020¹⁵⁶.</i>
Further delegation of management responsibilities to EASME	This would be similar to the business as usual scenario, but with the further delegation of management, as responsibility for the preparatory projects and the procurement would move from DG Environment and DG Climate Action to EASME.
Retraction of management responsibilities from EASME	This would involve bringing the management responsibilities for all elements of the programme back in-house to the Commission. DG Environment would be responsible for the nature and biodiversity elements and DG Climate Action the climate-related projects <i>For the Clean Energy projects transferred to the LIFE programme from the Horizon 2020 programme the responsibility for the management of the projects would be transferred to DG Energy.</i>

¹⁵⁶

This is only relevant where the new programme is expanded to include these projects.

Screening of options

Each of the individual options to improve the programme management arrangements was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the operational goal to increase the efficiency of the management of LIFE.

Table 8-15: Screening of policy options relating to the programme management arrangements

Policy option	Scoring				Potential for inclusion?
	Effectiveness	Efficiency	Coherence		
Business as usual	High: The current management arrangements received a positive assessment in the MTE, and are currently effective	High: The management costs of the programme are already low in comparison to other programmes and allow for economies of scale when implementing a large number of homogenous and standardised operations to manage grants.	Medium: The majority of grants are already managed by EASME which provides internal coherence	Yes	
Further delegation of management responsibilities to EASME	Low: The further delegation of the preparatory projects and the procurement to EASME may restrict the Commission's oversight of these projects and therefore limit their relevance to the policy making process. This is particularly relevant for the preparatory projects given their policy focus.	Medium: Some further cost-efficiencies may be achieved but these are likely to be small as these grants and contracts represent only a small proportion of the total administrative effort.	High: Coherence may be increased slightly as an even greater share of the grants will be managed by EASME.	No	
Retraction of management	Medium: Provided	Low: This will result in an	Medium: The Commissions	No	

responsibilities from EASME	adequate human resources were made available, this option would be at least as effective as the status quo.	increase in the cost of managing the programme This will result in the Commission's time being taken up by grant management activities, which will limit their inputs to the development, implementation and enforcement of policies	will be more directly involved in grants, so in theory will provide greater coherence with policy making. However, the possibility to ensure synergies between LIFE grants and those of other programmes managed by EASME would decrease, reducing coherence.
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Summary: This initial screening identified that the current business as usual scenario is the strongest option. This is consistent with the finding from the MTE, where the existing arrangement received a favourable evaluation. There may be some scope for further efficiencies by further delegating the management responsibility for the preparatory projects and the procurement to EASME, however, there will be a trade-off here in relation to effectiveness. In particular, the preparatory projects have a strong policy focus, so it is particularly important that the Commission continues to have a strong input into these projects to ensure they are most effective. The further delegation of responsibility to EASME is therefore also a potential option, but would require an additional process to be introduced to ensure that the Commission is able to receive the necessary inputs from the preparatory projects and vice versa. The retraction of management responsibilities from EASME is not considered a feasible option, on the basis that it will incur additional costs.

8.3.2. Issue: Opportunities may still exist to improve specific elements of budgetary and administrative procedures

While the existing procedures respect all of the relevant financial rules and regulations, the problem analysis indicated that there were opportunities for changes that would meet the operational goal to simplify the administration of the LIFE programme.

Description of options

Table 8-16: Options relating to the use of simplified financial and budgetary procedures

Options	Description
Business as usual	This would involve a continuation of the current procedures. Specifically: Grant management: The current procedures allow for the award of grants to be made without the need for a call for proposals in exceptional cases (see Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the financial rules applicable to the general budget of the Union, Article 190 thereof). However, this requires an annual financing decision, even for recurrent cases (e.g. IMPEL).

	Budget lines: Individual budget lines are specified at a relatively granular level for different areas of expenditure. In cases where the full location of funding to a budget line has not been spent, an administrative process has to be followed to reallocate the unspent budget to another budget line. Application and reporting procedures: For standard LIFE grants, the call for proposals is a one-step process, with a two-steps process being piloted from 2018. The reporting requirements (textual, financial and indicators) are the same for all projects regardless of their size or complexity, providing a maximum amount of information.
Allocation of grants to selected organisation without the need for a call for proposals	This option is designed to reduce the administrative burden for selected organisations by naming in the regulation those organisations where grants can be offered without the need for a call for proposals. This will be restricted to a few organisations who have been funded on a recurrent basis under the current programme, such as the IMPEL network.
Reducing budget lines	The financial statement attached to the LIFE Regulation establishes the budget lines. It takes administrative effort to move any unspent money between budget lines, so reducing the number of budget lines to one line per parent DG would simplify this process.
Package of measures to simplify the life of applicants/beneficiaries (e.g. simplified costs options, output based payments, two-step approach, cascading grants, etc.)	This package includes changing some of the processes and systems that are used in the programme management, including - waiving for all applicants the requirement to submit at the start of the process a complete proposal by introducing a two-step award procedure for standard projects. This would reduce administrative for applicants. - adapting reporting requirements in proportion to the length and complexity of projects and the value of the grant. - simplifying the indicators database, based on project focus - use of Simplified Cost Options, payments based on output, limitation of eligible costs for grants. - use of cascading grants with limited reporting, with the involvement of the monitoring team - simplification of the application process, including rationalised forms and supporting documents

Screening of policy options

Each of the individual options to simplify the procedures was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the operational goal to introduce simplification measures, where possible.

Table 8-17: Screening of policy options relating to the application procedures for certain beneficiaries

Policy option	Scoring
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	Effectiveness	Efficiency	Coherence	Potential for inclusion?
Business as usual	High: Current procedures allow for the effective management and reporting of projects	Medium: Some unnecessary administration effort for applicants/beneficiaries is associated with the current arrangements	High: Coherent procedure	Yes
Allocation of grants to selected organisation without the need for a call for proposals	High: same effectiveness as for the status quo	High: By reducing the need for an annual financing decision, it reduces the administrative burden; some cost reduction for the selected organisations as there is no more need to prepare a proposal	Medium: Would treat certain organisations differently to others – albeit a very small number	Yes
Reducing budget lines	High: same effectiveness as for the status quo	High: Low effort to implement	Medium: Coherence with other programme will depend on how they approach the issue	Yes
Package of measure to simplify the life of applicants/beneficiaries	High: Similar to the status quo, although In particular cascading grants would improve the effectiveness of the programme by expanding the type of actions that could be financed to include small scale actions	Medium: Some effort to develop and implement the procedures in short term. Admin burden for some applicants (and EASME) will go down.	Medium: More complexity in the variety of procedures but opportunities to align procedures with other EU programmes.,	Yes

Summary: The business as usual scenario allows the relevant organisation to be funded on a recurring basis, but requires for an annual financing decision. The allocation of grants to selected organisations without the need for a call for proposals would achieve the same outcome, whilst reducing administration burden. However, there may be some difficulties naming specific organisations in the regulation, as it gives them preferential treatment. Reducing budget lines is a very simple measure that will reduce effort required when any reallocation of budgets is required. The final package of measure to simplify the life of applicants/beneficiaries, involves a number of simplification options. There may be some initial effort to put in place the procedures.

Being not mutually alternative options, these measures can and will, as far as possible, be introduced to simplify the programme's management independently from the budget size which will be assigned to the Programme.

8.3.3. Issue: Opportunities may still exist to improve specific elements of the monitoring and evaluation processes

While the MTE concluded that the present project monitoring arrangements are suitable, the problem analysis identified that there may be opportunities to improve the effectiveness and efficiency of the overall monitoring and evaluation processes in the post-2020 framework.

Description of options

In view of the main challenges identified in the sections above, the following options was identified to address the issues around monitoring and evaluation. The below tables first describes the baseline, i.e. the approach in the current LIFE Programme, and then provides a description of the identified options.

Table 8-18: Policy options relating to the monitoring and evaluation processes

Issue	Options	Description
Opportunities may still exist to improve specific elements of the monitoring and evaluation processes	Business as usual	This would involve a continuation of the current monitoring and evaluation arrangements. Specifically: • External contractors provide support to evaluation, monitoring and communication services to the Commission and EASME. • The evaluation team provides a pre-assessment of the proposals • The evaluation team has experts per country and per sector • The monitoring team closely monitors each ongoing LIFE project, and is the interface between the LIFE projects and the Commission/EASME. • The external monitoring team has experts per country • The communication team supports the Commission and EASME for all communication activities related to the LIFE programme and its projects (web-site, brochures, ...). <i>For the Clean Energy projects transferred to the LIFE programme from the Horizon 2020 programme the responsibility for the monitoring and evaluation of the</i>

		<i>projects will remain with EASME, as is the case under Horizon 2020¹⁵⁷.</i>
	Retraction of monitoring and evaluation activities into EASME	This would involve the monitoring and evaluation activities for all elements of the programme being brought into EASME. This will require the recruitment of relevant experts to support the monitoring and evaluation. Country-level visits would not be possible without additional resources being made available.
	Retraction of monitoring and evaluation activities in the Commission	This would involve the monitoring and evaluation activities for all elements of the programme being brought back in-house by the Commission. DG Environment would be responsible for the nature and biodiversity elements and DG Climate Action the climate-related projects. This will require the recruitment of relevant experts to support the monitoring and evaluation. Country-level visits would not be possible without additional resources being made available. <i>For the Clean Energy projects transferred to the LIFE programme from the Horizon 2020 programme the responsibility for the monitoring and evaluation of the projects will be transferred to DG Energy.</i>
	Alignment of LIFE project and programme indicators with Commission-wide indicators for EU financial programmes	This would involve revision of the existing project indicator database and the definition of programme indicators that would align with cross-programme indicators which are under development.

Screening of policy options

Each of the individual options to improve the programme management arrangements was screened to assess its relative effectiveness, efficiency and coherence. The effectiveness of the options was assessed in relation to the overall effectiveness of the LIFE instrument as well as in relation to the operational goal to increase the efficiency of the management of LIFE.

Table 8-19: Screening of policy options relating to the monitoring and evaluation processes

Policy option	Scoring			
	Effectiveness	Efficiency	Coherence	Potential for inclusion?
Business as usual	High: Current arrangements enable the monitoring and	Medium: External monitoring contractors were	Medium: Using separate contractors for monitoring and	Yes

¹⁵⁷

This is only relevant if the new programme is expanded to include these projects.

		evaluation requirements of the programme to be fulfilled, and were generally well received in the MTE	perceived by some stakeholders as a kind of “third” layer of management in the MTE, suggesting the potential for improvements in efficiency	evaluation and communication, while management responsibility lies with EASME may create some incoherence of monitoring with programme aims.	
Retraction of monitoring and evaluation activities into EASME		Low: Providing EASME has the necessary skills (thematic, geographic and linguistic) and resources, the current monitoring and evaluation arrangements could be largely fulfilled inside EASME. However, EASME does not have local offices, so the regular site visits would be more difficult to implement.	Low: The costs of delivering the evaluation activities are likely to be greater than the business as usual due to the higher staff and overhead costs, as well as the travel required to maintain the same level of monitoring.	High: Should lead to greater coherence between monitoring and evaluation and general grant management.	No
Retraction of monitoring and evaluation activities in the Commission		Low: Providing the Commission has the necessary skills (thematic, geographic and linguistic) and resources, the current monitoring and evaluation arrangements could be largely fulfilled. However, the Commission does not have local offices, so the regular site visits would be	Low: The costs of delivering the evaluation activities are likely to be greater than the other options due to the higher staff and overhead costs.	Low: Unlikely to lead to greater coherence if EASME will still be responsible for grant management.	No

more difficult to implement.		
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Summary: The business as usual scenario currently delivers on monitoring and evaluation requirements. Even though some issues were identified in the MTE with respect to the perceived efficiency and coherence, the alternative option related to 'repatriating' the monitoring responsibilities to either EASME or the Commission services are not expected to greatly improve these elements. The retraction of monitoring and evaluation activities in the Commission is not considered to be feasible due to the costs of doing so, and issues with coherence would remain. Retraction of monitoring and evaluation activities into EASME may be more feasible, but would require the recruitment of additional staff with new expertise to support the monitoring, and unless further resources are made available, in-country site visits would no longer be part of the monitoring. The option to align the indicators with Commission-wide indicators is a promising option for the future that would ensure effectiveness and efficiency while increasing coherence, although it is not immediately applicable.

ANNEX 9: IMPACT ASSESSMENT OF OPTION 1 - INTEGRATION OF CLEAN ENERGY TRANSITION PROGRAMME IN LIFE

Introduction

The Commission is facilitating a clean energy transition, which is at the heart of climate and energy policies and leads towards a competitive and sustainable European economy. This transition requires new technologies and infrastructure, but also socio-economic adjustments, mobilisation of investments and preparation of actors in private and public sectors. It has a systemic nature and its success depends on synergetic actions on all the underlying elements: policy, markets and finances, society, infrastructure and technology.

The enabling framework supporting the clean energy transition requires a comprehensive approach and synergetic actions through a coherent set of programmes and instruments.

Despite significant progress in implementing clean energy policies that support the overall EU's energy and climate objectives for 2050, the energy system of the EU remains fossil fuel-locked. Throughout all regions and sectors, **barriers** impede the up-take of energy efficiency solutions and the deployment of renewable energies (a systematic overview of these barriers is included in the table in Appendix 1).

In the absence of further action, the barriers will continue to hamper the economic, social and environmental benefits of the clean energy transition. This is especially relevant with public and private actors not having the institutional capacity or the financial means to implement clean energy solutions. The reasons for these impediments are multi-fold: a persisting lack of public finance as a consequence of the economic crisis; structural lock-ins on the use of fossil energy carriers hinder taking up clean energy solutions. Especially vulnerable citizens do not have the financial capacity to improve energy performance of their houses and experience the 'vicious cycle' of fuel poverty.

Already today frontrunner cities at all sizes engage to zero carbon emissions within the next decade for individual town quarters¹⁵⁸ or the city environment as a whole.¹⁵⁹ The technology for implementing this already exists on the market. This demonstrates that there is a need to focus on rolling-out these clean energy technologies and solutions. This is especially important for these actors, communities and territories which at present do not belong to this frontrunner group.

There is a need to tailor support for energy efficiency and distributed renewable energies to those who are in the phase of catching-up with the frontrunners of the clean energy transition.

¹⁵⁸ See for example the Amsterdam Zuidoost project; <https://www.smartcities-infosystem.eu/newsroom/news/how-amsterdam-building-zero-emissions-city>

¹⁵⁹ The Danish town of Sonderborg already launched in 2007 its "Project Zero" plan aiming at a zero-carbon municipality by 2029. <http://www.projectzero.dk/da-DK/Forside.aspx>

9.1. Needs analysis

9.1.1. Clean energy transition: problems and needs

The Communication “Clean Energy for all Europeans”¹⁶⁰ (CE4AE) and the Third Report on the State of the Energy Union¹⁶¹ and its supporting analyses¹⁶² comprehensively review and assess the status quo of clean energy policies and the progress made by the Member States. The current energy system is largely based on fossil fuels. This entails CO₂ emissions and thus climate change, together with multi-fold negative socio-economic and geopolitical consequences and macroeconomic import-dependence. On the other hand, the fossil-fuel energies remain cheap. Not acting on this carbon-lock-in of the European energy system would entail substantive opportunity costs, not only in terms of environmental damage but also in terms of losses for national and local economies.

The energy transition requires large investments in order to mitigate climate change, reduce import and fossil fuels dependency, and support the transition. The latest estimates put the annual investment gap associated with the achievement of the 2030 energy and climate goals at EUR 177 billion between 2021 and 2030, totalling EUR 1.77 trillion for the period¹⁶³. If mobilised, this investment in clean energies, mostly in energy efficiency and distributed renewable energy sources, would trigger up to 1% GDP increase over the next decade. The Impact Assessment for the revised EED and its supporting background studies show that especially in the case of energy efficiency the synergies between clean energy policies and overall environmental improvement are substantive (a detailed description of synergies is in point 3.1. *Increased synergies and impacts*). Unlocking these potentials does not only require new technologies or techniques but rather a massive up-take of existing good practices throughout Europe. Especially disadvantaged actors or territories such as energy poor households need special attention to enable them to catch up with the frontrunners in Europe.

9.1.2. Overall failures and specific barriers impeding a clean energy transition

As discussed in Annex 4, there are several overall failures and specific barriers of the aforementioned persistent problems. Many of the failures concerning climate and environmental policies similarly exist with the deployment of clean energy solutions, but there are also the specific barriers to energy efficiency and small-scale renewables, which require a distinctive approach.

9.1.2.1. Overall failures against a clean energy transition, which are in common with climate and environmental policies

Overall failures against a clean energy transition exist at the level of individuals and communities and/or at the overarching governance levels. These failures are especially pronounced with catching-up actors and territories, which do not have the institutional capacity or the financial leverage to roll out existing clean energy blueprints. This underlines the need for public intervention to support a clean energy transformation

¹⁶⁰ COM(2016) 860 final

¹⁶¹ COM(2017) 688 final

¹⁶² COM(2017) 688 final Annexes 2-4

¹⁶³ Financing A Sustainable European Economy, Interim Report, High-Level Expert Group on Sustainable Finance

especially with these stakeholders. Clean energy problems are driven by several market and institutional failures, for example:

- **Public goods failure:** As discussed above, diverse and healthy nature and good environmental status are considered as public goods since their preservation benefits all, while without intervention the costs of preserving them would be borne unequally only by some. This is especially true in combination with the external effects caused by the use of fossil fuels (see below). Without public intervention such as policy, legislation or financial incentives, there would be no incentive to internalise the external costs. This failure is especially pronounced with regions facing a lock-in on fossil fuels where additional social and economic concerns cement the barriers against clean energy.
- **Negative externalities:** Unintended negative impacts of production and consumption of energy are often not fully internalised into the market price. This lack of pricing results in the inability of the market to value the full social and economic benefits of clean energy solutions. Local pollution caused by fossil fuel use is a classic example for this case. Often the external effects occur in cross-border situations, necessitating intervention on EU level.
- **Imperfect information:** Insufficient or asymmetric distribution of comprehensive information on available clean energy solutions leads to behavioural bias through incorrect signals. This barrier against clean energy both acts on the macroeconomic as well as on the individual, microeconomic level. Creating networks and sharing information on best practices on energy efficiency can strongly mitigate this failure.
- **Government, institutional, regulatory or policy failure:** As described in Annex 4, this failure refers to the imperfect nature of intervention by governance actors. In the case of poor enforcement or non-uniform implementation of rules at the Member State level the clean energy transition and the EU's clean energy and climate objectives are hampered. Sub-optimal or delayed implementation of the clean energy policy framework might lead to missing up to 1% increase in GDP over the next decade.¹⁶⁴ A clear support with capacity building and deployment can facilitate the setting and implementation of clean energy policies. This type of failure can be avoided at EU-level by ensuring strong and coordinated policy action, with effective monitoring and enforcement. Furthermore, capacity-building, best practice sharing and financial support for market-uptake are needed to address this failure.
- **Innovation up-take failure:** By failing to take up existing good practices on clean energy solutions, governments and economic agents miss out on cost-savings, growth incentives and the related environmental and social benefits. Tailored support such as the Clean Energy Transition programme can ensure the systematic and comprehensive up-take of these solutions at European level.
- **Socio-cultural failure:** The lack of societal acceptance of the need to change behaviour, reduce consumption and/or improve sustainability. This is particularly

¹⁶⁴

This economic growth would be achieved by mobilising up to an additional 177 billion euro of public and private investment per year from 2021, as estimated in the impact assessments of the revised legislation and indicated in the Communication on the CE4AE.

visible in cases where financial or welfare gains are dominant in producer and consumer choices.

- **Infrastructure lock-in** and investment failure: Lack of capacity to scale up the investment in energy efficiency and small-scale renewables to leverage finance and to improve access and de-risk financing for the energy transition. Clean energy financing is often seen as high-risk investment or the institutional capacity for the up-take of finance is missing.

9.1.2.2 Specific barriers against energy efficiency and distributed renewable energy solutions, which require a dedicated approach

The table included in Appendix 1 reviews the specific market barriers acting against taking up energy efficiency or distributed renewable energy. This review complements the overall review performed in Annex 4 to mirror the additional needs regarding the clean energy transition. It should be noted that only major barriers have been taken up in the following review. In many cases, a combination of the barriers identified exists, especially in situations where territories or actors are still in the process of catching up.

9.1.3. Who is affected by barriers against the clean energy transition

As identified in Annex 4 of this Impact Assessment, running short on implementing environmental and climate policies seriously affects several groups in the EU. The same is true for not acting on the impediments that stand against the clean energy transition. The following analysis complements the need analysis presented above from the clean energy perspective. As is the case with the other two policy fields, acting on the uptake of clean energy solutions can contribute to comprehensive positive effects on individuals, businesses, civil society, and governments. It should be noted that these effects are often addressing environmental and climate change problems in a synergetic way.¹⁶⁵ (For a detailed description of synergies see point 3.1. *Increased synergies and impacts.*)

- **Individuals** are affected by low level of deployment of clean energy solutions in multiple ways. They face the environmental degradation and local pollution from the use of fossil fuels, exposing them to health risks and damages. The environmental and climate hazards described above in Annex 4 are largely caused by the use of fossil fuels. Energy poverty creates a lock-in effect for low-income households who spend a large part of their income on energy costs leaving in low energy performance houses, whereas energy efficiency improvements could provide a solution and improve both economic situation and living conditions. Lowering households' energy demand and the share of energy costs in households' budgets through improved buildings' energy performance¹⁶⁶ will contribute to reduce energy poverty and support Europe's most vulnerable consumers.
- **Businesses** depend on the use of energy to produce goods or services, but they also provide on the market energy related products and services. The clean energy business (such as EE and RES technology and services providers) is still underdeveloped. Missing awareness, skills, and lacking access to capital impede a

¹⁶⁵ IEA (2014): Capturing the Multiple Benefits of Energy Efficiency.

¹⁶⁶ COM(2016) 860 final. Accelerating clean energy in buildings.

stronger up-take of energy efficiency and small-scale renewables. Regulatory barriers persist in MS to develop and scale-up sustainable clean energy business models. Taking up business models in these fields would translate into economic growth and additional creation of jobs.¹⁶⁷ European companies can improve their competitiveness by further developing local sustainable energy business and improving energy efficiency of their own business operation to protect themselves against energy price differentials that occur with importing fossil fuels. This is especially relevant for SMEs with a high share of energy costs related to total production costs.

- **Local communities** are affected strongly by the absence of clean energy solutions. Air pollution from fossil fuel use causes damages with the local population and infrastructure alike, provoking out-migration or making it harder to attract new inhabitants, thereby safeguarding a balanced age structure in the community. Applying energy efficiency and distributed renewable energies reduces local pollutants and greenhouse gas emissions. They create locally available jobs in the high-quality segment. These jobs are not subject to increased pressure of global economic competition. The savings on fossil fuel imports can be channelled to projects supporting a further up-take of clean energy. By this, they can create economic multiplier effects and socially inclusive growth. With high-skilled jobs available throughout Europe, the social fabric of especially vulnerable territories can be expected to improve, leading to synergies with environmental and climate policy issues as well as economic and social benefits. As has been described above with the environmental and climate effects, a strong and active local community can ensure accountability, sustainable natural resource governance, environmental protection, and inclusive economic growth. Thus, empowering local communities helps governments to obtain effective and democratic policy-making and is critical to achieve sustainable development.
- **Governments** can benefit from lowering energy imports and macroeconomic effects of global energy price instability by supporting energy transition to benefit from energy efficiency and locally available renewable energy resources. This leads to overall positive effects on employment and improved energy security of supply.
- **Financial sector actors and institutional investors** increasingly face the risk of investing in stranded assets such as fossil-based infrastructure. Shareholders are increasingly reluctant to support non-clean energy financing. With the development of sustainable finance properly valuating the green value of clean energy investments, these investors can add new type of investments, attract additional shareholders and create an overall green investment portfolio. A broader move towards clean energy finance allows to develop methods of de-risking, increasing investment security and broad public support. This in turn will attract new clients, enlarging the business area for the sustainable finance sector.

¹⁶⁷ Without stringent energy efficiency deployment, up to 900,000 new jobs would not be created, as estimated in the impact assessments of the revised legislation and indicated in Communication on the CE4AE. In particular, industrial production could increase in the construction sector by up to 5%, in the engineering, iron and steel sectors by up to 3.8 and 3.5% respectively, translating into 700,000 additional jobs in construction, 230,000 in engineering and 27,000 in the iron and steel sectors. Impact Assessment for the amendment of the Energy Efficiency Directive, SWD(2016) 405 (detailed results derived from the macroeconomic analysis).

9.1.4. Addressing the barriers - intervention logic of the Clean Energy Transition Programme

There are multiple ways of addressing the identified problems and needs as well as failures concerning the implementation of clean energy solutions. Further to the options discussed above in Annex 4, the Clean Energy Transition Programme will continue the successful approach of Intelligent Energy Europe programme by acting on the:

- **Political and regulatory environment:** Facilitating Clean Energy policy setting and implementation can provide different governance levels with the non-financial capacity to clean energy policy-making; ambitious political commitment, strategic planning and policy development; support at different levels for developing and spreading good practice in clean energy policy implementation; support for a continuous dialogue with Member States' authorities on the question related to EU legislation transposition and implementation; and support to joint surveillance actions for market surveillance by the Member states with the aim to strengthen coordination between the relevant authorities, explore synergies in product testing and improve compliance with legislation.
- **Financial environment:** Developing and mainstreaming financing for Clean Energy to leverage finance and improve access to finance for energy transition by acting on both: clean energy financing supply and demand; public investment mainstreaming through Technical Assistance Grants, with or without leverage obligation, which aim at supporting development of technical and financial expertise of public authorities; Private investment mainstreaming through Technical Assistance Grants, which aim at supporting development of technical and financial expertise of project promoters to launch large-scale investments in sustainable energy; developing a large offer of Clean Energy financing products to help financiers and investors consider sustainable energy investments as a specific market segment offering clear incentives and new business opportunities; installing a de-risking framework with new valuation methods and new risk assessment methods.
- **Business environment:** Developing Clean Energy business to prepare the market players to the new conditions required for the clean energy transition; developing new markets for Clean Energy services and business models; improving existing business processes and value chains; improving skills of the workforce; empowering and engaging 'influencers'
- **Socio-cultural environment:** There is a clear need to enable societal transformation for the clean energy transition. This can be supported by: Awareness raising, targeted education; consumers' activation and engagement to change their energy consumption behaviour and increase their uptake of different forms of active demand solutions and services, including collective actions; addressing energy poverty by applying existing good practices¹⁶⁸ throughout Europe.

¹⁶⁸ For example the Irish pilot action of the project EPISCOPE has produced an interactive map of north Dublin that combines data from Energy Performance Certificates with other data from the population census. In this way it is possible to map areas of fuel poverty, by identifying districts that overlap poor energy performance with low income

9.2. Lessons learnt from the current and past programmes and assessment of the next MFF proposal

9.2.1. Current and past programmes and their results

Intelligent Energy Europe III (IEE III) programme is a part of Horizon 2020- Energy Challenge (Societal Challenge 3) **representing 15% of overall energy challenge budget**, according to Declarations of the Commission (2013/C 373/02) annexed to Horizon 2020 regulation (EU) N°1291/2013¹⁶⁹.

Intelligent Energy Europe II (IEE II) programme, which was part of the CIP, ran from 2007-2013. The programme supported sustainable energy policy development and implementation to create right market conditions for energy transition. The results were monitored using common KPIs based on EU 2020 targets for EE and RES (primary energy savings compared to projections (GWh/year); reduction of greenhouse gas emissions (t CO₂e/year); renewable energy production triggered (GWh/year); cumulative investment made by European stakeholders in sustainable energy (M Euro). The results reported under IEE II programme regarding the common KPIs are shown in the table included in Appendix 2.

To ensure coherence and continuity of monitoring with the predecessor programme, the following indicators are reported in Horizon 2020-SC3-Energy Efficiency market uptake (IEE III) by the beneficiaries after the end of a project and in the mid-term reporting:

- Primary energy savings triggered by the market uptake project (GWh/year per EUR million)
- Total amount of money invested by the stakeholders in sustainable energy as direct or indirect result from the measures developed by the market uptake project (amount in EUR million)

These indicators will only be available after the mid-term reporting has been accomplished.

However, at the proposal stage, the market uptake projects indicate the estimated values for the indicators (see the figures reported in Horizon 2020 Monitoring report 2015, page 148).¹⁷⁰

9.2.2. Lessons learnt from the current MFF

The integration of IEE III in Horizon 2020 followed the logic of installing a comprehensive programme covering all steps from basic research to market uptake and

households. Additionally, the UK partner BRE supported the annual UK housing surveys, which track both energy performance and fuel poverty. In ACHIEVE project over 150 people were trained and carried out about 3000 home visits in Bulgaria, Germany, France, Slovenia, United Kingdom where they provided free-of-cost installation of devices to save water and energy and gave advice on energy saving behaviour. The project achieved primary energy savings of just under 250 toe/year, with an average decrease of 10% for electricity, 6% for heating, and 18% for water consumption per household. Some 920 kWh were saved annually by each household in electricity and heating.

¹⁶⁹ The Commission will endeavour to ensure that at least 85 %, of the energy challenge budget of Horizon 2020 is spent in non-fossil fuels areas, within which **at least 15 %** of the overall energy challenge budget is spent on market up-take activities of existing renewable and energy efficiency technologies in the **Intelligent Energy Europe III Programme**. This Programme will be implemented by a dedicated management structure and will also include support for sustainable energy policy implementation, capacity building and mobilisation of financing for investment, as been undertaken until today.

¹⁷⁰ <https://ec.europa.eu/programmes/horizon2020/en/news/horizon-2020-monitoring-report-2015>

deployment. However, delivering capacity building under the R&I framework, with different intervention logic, clients and delivery modes, proved to be difficult. In the report on the first results of Horizon 2020 on energy efficiency¹⁷¹ the evaluators point out that mainly large consortia are funded. Especially higher barriers to participate in Horizon 2020 than in IEE actions are mentioned. As one of them the evaluators see the need to include a larger number of stakeholders into the funding actions and a complex application process. These impediments can be expected to be significantly higher with disfavoured actors and territories.

9.2.3. Rationale of the proposal to integrate the Clean Energy Transition Programme in LIFE

9.2.3.1. The Horizon Europe programme does not specifically cover 'capacity building' activities in its scope

The R&I programme objective is to **fund excellent research and innovation, supporting pioneers** who will show the way. But the EU has also the responsibility to help laggards and followers 'catching up' by **building the capacity** in order to quickly narrow the gap. There is also a need to address specific **barriers hampering the wide uptake** of the existing clean energy solutions. For the massive **market roll-out**, 'expected impact' and 'quality of implementation' criteria should outweigh the criterion of 'scientific excellence', which has less of relevance for capacity building.

As stated in the Horizon Europe impact assessment improving market uptake of innovative solutions is a broad concept encompassing various activities, which help R&I-driven innovation to succeed on the market and create new value for market players and consumers/citizens alike. However, market uptake goes beyond research and innovation. Therefore, activities under the Framework Programme alone cannot suffice to incentivise broad market uptake and dissemination of innovative solutions. Other EU programmes need to also play a key role (see Horizon Europe Impact Assessment Annex 7 on Synergies).

9.2.3.2. LIFE provides the best suitable framework, while the differences in the implementation know-how will be mutually enriching when integrating the Clean Energy Transition window.

Integrating the Clean Energy Transition Programme into LIFE would address the key shortcoming of the current approach and increase the coherence of the intervention logic.

LIFE has a suitable nature, objectives and delivery mechanisms aiming to support the transition processes by building capacity, removing barriers and addressing environmental and climate related vulnerabilities. As the development of clean energy solutions would rest with Horizon Europe, the clear distinction between excellent research and innovation, including technology development, socio-economic innovation and first of a kind approaches on the one side, and supporting capacity building for the rolling-out and catching-up processes, barriers removal and market shaping on the other side, leads to **improving the coherence of EU funding landscape**. This coherence will allow the Clean Energy Transition Programme to tailor its interventions more closely to the often limited capacity of catch-up actors and territories and lower the barriers for participation in the programme. Finally, it would enable **comprehensive multiplier**

¹⁷¹ Ricardo AEA, CE Delft (2017): Report on the first results of Horizon 2020 on energy efficiency and system integration – Final report

effects, which can be triggered by the projects implemented under the common framework (tackling energy efficiency, greenhouse gas emissions and local air pollutants at the same time). The potential synergies are assessed in detail in the chapter below and appendix 3.

The integration of the clean energy transition capacity building actions would extend the current thematic coverage of LIFE to explicitly include: energy efficiency and small-scale renewable energy sources. These funding priorities will be included in as a dedicated window of LIFE, complementing the environment and climate change sub-programmes.

The objective of the clean energy transition capacity building actions is to enable socio-economic transformation for the clean energy transition in Europe, especially with those regions, sectors and actors who need to catch up. This objective is fully aligned and contributing to LIFE programme objectives of supporting and catalysing the transition towards sustainable and low-carbon economy. In line with the LIFE intervention logic, the Clean Energy Transition Programme's activities address four elements of the market environment by developing and spreading best practice in policy implementation, mobilising investments, improving skills, creating market conditions for technology deployment and providing support to address underperformance.

However these actions funded under IEE and continued under H2020 have developed their own specific implementation intelligence, know-how and close interactions with policy-making, which are unique and exemplary across all the centrally-managed EU funding activities. This precious experience luggage needs to be preserved, while the implementation modalities and instruments available in LIFE are definitely worth exploring.

Implementation knowledge cross-fertilization would be facilitated by the fact that both LIFE and IEE/H2020 EE are implemented by EASME and the frequent interactions and common initiatives (e.g. common projects feedback workshops) are already in place between the units implementing both programmes.

9.3. Assessment of impacts of the Clean Energy Transition Programme in LIFE

9.3.1. Assessment of increased synergies and impacts

The proposed integration of the Clean Energy Transition Programme in LIFE would produce synergies between the funded actions enabling a multiplier effect of environmental, climate and clean energy policies on the ground. Such a synergetic action between the projects and the underlying policies is already observed and will be further strengthened¹⁷². Some examples of such synergies are described in Appendix 3 *Examples of synergies in the projects and initiatives for environment, climate and clean energy*.

The assessment of the proposed integration of the Clean Energy Transition Programme into LIFE in comparison to the business as usual scenario showed the following pros and cons:

¹⁷² With the implementation of clean energy policies, environmental vulnerabilities such as local air pollutants are addressed as well. The same is true for economic synergies, such as the creation of jobs. Whereas these economic and environmental indicators have not been systematically addressed by the present programmes KPIs, several projects have identified these co-benefits.

- + Increased synergies in energy, environmental and climate policies implementation on the ground and improved coherence of the EU funding landscape.
- + Expanded range of beneficiaries, reaching out to those who are currently discouraged by difficulties to form large-size consortia and a complex application process under Horizon 2020.
- + Better tailored interventions to the limited capacity of catch-up regions and actors, thereby fostering social, economic and environmental inclusion.
- + Increased coherence in the overall MFF structure since the actions to be financed under this extension correspond better to the other actions financed by LIFE, as compared to projects financed under the R&I framework.
- A transition period for necessary adjustments and harmonisation of rules and procedures, however leaving a sufficient degree of flexibility in implementation modalities to ensure effectiveness of the actions and the continuity in their modus operandi. Creating a dedicated sub-programme or delimited part for clean energy with clearly attributed budgets will allow the required flexibility in implementation modes.
- Increased communication efforts and close coordination with other sub-programmes will also have to be made to provide clear and coherent information to external stakeholders on the funding opportunities under LIFE.

Overall the positive expected impacts, resulting from synergies and increased coherence of the intervention logic, largely outweigh the potential risk factors.

Therefore the impacts in the following areas are expected to be strengthened in comparison to the business as usual scenario:

1) Economic impacts

The Clean Energy Transition Programme will contribute to timely and effective implementation of the Clean Energy policy package and, as a consequence, achieving its economic impacts estimated in the policy impact assessment up to 1% increase in GDP over the next decade by mobilising up to an additional 177 billion euro of public and private investment per year from 2021. Greater energy efficiency will help European companies improve their competitiveness by keeping their costs down, with electricity prices for household and industry expected to be reduced on average from 161 to 157 €/MWh. It will create local business opportunities and jobs, with an estimated 400,000 additional jobs in all sectors by 2030, especially in the construction sector, including by increasing the demand for skilled manual labour. Finally, pollution control costs & health damage costs should be reduced by €4.5 – 8.3 billion and energy security will be greatly improved, reducing gas imports by 12% in 2030.¹⁷³

Specifically the contribution of the Clean Energy Transition programme to achieving these results can be quantified based on the positive experience of the Intelligent Energy Europe programme. Based on IEE projects reporting it can be estimated that each year calls of total 100 M€ EU funding generated around EUR 500 million investments in sustainable energy. Specifically the project development assistance grants were required to secure a minimum of EUR 15 of investments for each euro of public support

¹⁷³ Impact Assessment for the amendment of the Energy Efficiency Directive, SWD(2016) 405 (detailed results derived from the macroeconomic analysis).

provided¹⁷⁴. These grants turned out to be very effective to mobilise large scale investments in sustainable efficiency. ELENA reaches a leverage ratio largely above 20, it means that each euro spent from European funds triggers more than 20 euro investment into clean energy.¹⁷⁵

2) Social impacts

The Clean Energy Transition programme will contribute to timely and effective implementation of the Clean Energy policy package and, as a consequence, achieving its social impacts of up to 900,000 new jobs, as estimated in the impact assessments of the revised legislation and indicated in Communication on the CE4AE. In particular, buildings renovation could increase employment in the construction sector by up to 5%, translating into 700.000 additional jobs.

Specifically the social impacts of the Clean Energy Transition Programme can be estimated based on the past experience of its predecessor IEE. Skills improvement was supported through the projects belonging to the BUILD UP Skills initiative. The BUILD UP Skills target group (craftsmen and on-site workers) in the participating countries can be estimated at a total of about 7.6 million workers and make up for around 57% of the construction sector.

In terms of awareness-raising among consumers/market actors, the outreach of these projects was of 1 300 000 people reached through media and 5000 organisations.

3) Environmental impacts

The Clean Energy Transition Programme will contribute to timely and effective implementation of the Clean Energy policy package and, as a consequence, achieving its environmental impacts: the carbon intensity of the EU's economy will be 43% lower in 2030 than now and renewable electricity representing about half of the EU's electricity generation mix. The 30% energy efficiency target represents a drop in final energy consumption of 17% compared to 2005. It will contribute to reduction of CO2 emissions and will also lead to improvements in air quality.

Specifically the contribution of the Clean Energy Transition programme to achieving these results can be quantified based on the IEE project results in this area presented in the table in Appendix 2.

4) Impacts on fundamental rights

Energy is the first necessity service and not a commodity as others. Therefore the services provided by energy, which are an inherent part of our modern lifestyle, should be affordable to all the citizens.

The Clean Energy package not only empowers the energy consumers and strengthen their rights, but also protects the consumers, specifically their vulnerable groups. Therefore the

¹⁷⁴ Between 2011 and 2017 a total of 33 projects were supported with a total EU contribution of EUR 27.685.068 which are committed to mobilise EUR 782.613.739 of energy related investment.

¹⁷⁵ According to the evaluation study requested by the Commission and carried out by PWC in 2016:

At the time of this evaluation, EIB-ELENA counted 41 signed projects with a total contribution of 72.865.683 euro which are committed to mobilise 4.663.727.736 euro of investments. The planned investments are expected to generate 2.860.369 MWh/y of energy saving and 618.580 MWh/y of renewable energy production leading to a GHG reduction of 875.565 t CO2/y. This spectacular result in terms of investment mobilisation of ELENA shows the leverage over 1:60.

proper implementation of these policies will strengthen the energy consumers in their rights for clean and affordable energy services.

The ambitious target on energy efficiency will specifically contribute to addressing energy poverty issues by lowering energy consumption and the energy cost share in household's budget.

9.3.2. EU added value

The Clean Energy Transition Programme follows the successful intervention logic of the Intelligent Energy Europe I and II as well as IEE III in Horizon 2020 Energy Efficiency programmes, which have demonstrated the EU added value of supporting the achievement of the EU sustainable energy policy goals (see point 2.1 and Annex 3.3 for evaluation results). The feedback obtained from participant surveys (successful and unsuccessful participants as well as national contact points) highlights the clear value-added of the projects. This positive feedback comprises the fact that without EU funding almost 70% of the implemented projects would not have been initiated.¹⁷⁶ These projects have led to a successful spread and up-take of best practices in energy efficiency policy implementation by supporting their pan-European outreach while tailoring to national/regional or local conditions¹⁷⁷. The EU-added value consists in more harmonised approaches to clean energy transition across Europe: 1) in terms of supporting a swift and effective implementation of EU policies in the Member States; 2) in supporting the national level in legislation transposition and enforcement through networks (Concerted Actions on the Energy Efficiency Directive; Energy Performance of Buildings Directive and on the Renewable Energy Directive; support to Market Surveillance Authorities) and engaging local level by developing policy dialogue and experience exchange through projects and initiatives (Covenant of Mayors, projects for Sustainable Energy Communities¹⁷⁸). Both aspects combined ensure that solutions and successful approaches are transferred across borders to all EU Member States in order to accelerate the uptake and scaling up of good practices.

In terms of mobilising investment, IEE/Horizon 2020 projects generate high quality solutions and good practices and trigger additional financing from the side of the Member States and private actors. This is demonstrated by the high co-financing rates that help to attract numerous beneficiaries.

Finally, an indirect EU value-added occurs: with the grassroot feedback on barriers and impediments to clean energy solutions and markets development, EU policies can be fine-tuned to address these barriers and tailor support for actors, regions and Member States in line with the subsidiarity principle.

¹⁷⁶ Ricardo AEA, CE Delft (2017)

¹⁷⁷ It should be noted that this intervention logic is distinct to the one of the Clean Energy Transition Programme in comparison to the present approach taken in LIFE.

¹⁷⁸ The IEE programme and its continuation under Horizon 2020 supported projects focusing on developing Sustainable Energy Communities across the continent in order to build institutional capacity at a local and regional level. Support has been given by associations or active networks such as Local Governments for Sustainability in the 1990's, Climate Alliance and Energy Cities. Projects influenced 650 local authorities to join the Covenant of Mayors and helped to develop more than 500 SEAPs (Mayors in Action, 50000&1 SEAPs, CASCADE, BEAST, ManagEnergy)

9.3.3. Simplification efforts

The impact reviews of the IEE I-III programmes¹⁷⁹ suggest that there is a clear potential for simplifying the presently complex Horizon 2020 application procedures. The reviews showed that the Horizon 2020 framework favours bigger projects and large consortia, putting forward resource-intensive research and innovation efforts. This crowds out smaller participants and projects. In consequence there is not only a need for simplified administration on the side of the Commission, but also the need to guarantee simple and open access to the programmes for the potential beneficiaries, especially catching-up actors with limited capacities.

Surveyed simplification measures address reduction of administrative costs during application and during project. The reviewers recommended to reconsider lowering the level of EU support provided to some types of projects in order to increase the availability of funds to support more projects.

It was suggested to simplify the application procedure while at the same time reintroducing the possibility to negotiate project framing through the executive agency in order to recalibrate project proposals and guarantee a successful implementation.

In line with the overall efforts to streamline LIFE (see Annex 9), the following simplification measures are foreseen for the implementation of the Clean Energy Transition Programme:

- Simplification of the application process, including rationalised forms and supporting documents
- Adapting reporting requirements in proportion to the length and complexity of projects and the value of the grant.
- Simplifying the indicators database, based on project focus with clearly traceable indicators (primary energy savings, installed capacity of renewable energy, investments triggered) that still follow a clear linking to the Sustainable Development Goals.

The detailed assessment of the impact of these measures in comparison to the business as usual scenario follows the overall assessment for the LIFE programme presented in Annex 5.

9.3.4. Complementarities with other EU programmes

The Clean Energy Transition Programme and LIFE

As discussed above, the proposed integration of the Clean Energy Transition Programme into LIFE, a multitude of synergies and complementarities between the three sub-programmes on environment, climate change and clean energy can be activated.

The Clean Energy Transition Programme and Horizon Europe

A clear complementarity exists to the funding of research and innovation action in the clean energy field under Horizon Europe. The research and innovative solutions developed in Horizon Europe through the support of front-runners will provide the next generation of technologies and good practices that at a later stage can be replicated with the capacity-building support of the Clean Energy Transition Programme.

¹⁷⁹ Ricardo AEA, CE Delft (2017)

The Clean Energy Transition Programme and ESIF

IEE/Horizon 2020 support helped to absorb ESIF funds directing them towards the clean energy investments, also, in some cases, developing successfully financial instruments¹⁸⁰. Especially the project development assistance grants are the example where IEE/the Clean Energy Transition Programme activities can trigger a considerable leverage to mobilise investments in clean energy at a very high level.

Please see the examples of IEE projects which developed synergies with ESIF funding in Appendix 4

The Clean Energy Transition Programme and InvestEU

In the same manner the Clean Energy Transition Programme will not overlap with the Financial Instruments provided under InvestEU, but will catalyse the investments in clean energy, which then could use InvestEU funds. Capital needs to be channelled towards sustainable energy investments often of highly distributed nature (EE and small-scale RES), in which context the key bottleneck is projects' development and aggregation capacity. This has been highlighted at a number of fora, and is an important message of the High-Level Expert Group on Sustainable Finance, whose recommendations the Commission has expressed its willingness to take into strong consideration.

Please see the examples of IEE projects which developed synergies with EFSI funding in Appendix 4.

The Clean Energy Transition Programme and CEF

There is no overlap between the Clean Energy Transition sub-programme and CEF, neither in terms of nature and size of projects funded nor the underlying intervention logic. CEF supports the investment stage, its scope addresses large-scale trans-European energy infrastructure projects. The Clean Energy Transition sub-programme aims at mobilising and preparing the investments or aggregating small-scale energy efficiency and RES related projects mainly in buildings or local infrastructure. The possible integration of RES window under CEF will not increase the risk of overlaps, because still the focus under CEF will remain on the cross-border projects in the field of planning, development and cost-effective exploitation of renewable energy sources.

9.4. Conclusion

The enabling framework supporting the energy transition requires a **systemic approach** and **synergetic actions** through a **coherent set of programmes and instruments**. In this process the EU will support front-runners in showing the way and providing new solutions. But the EU has also the responsibility to help those 'lagging behind', by building the capacity, where there is underperformance, in order to help quickly narrow the gap.

The Clean Energy Transition Programme, building on the positive experiences of the former programmes, Intelligent Energy Europe (IEE), is proposed to build capacity, stimulate investments and support policy implementation in the most challenging fields and areas of clean energy transition.

¹⁸⁰ For example the IEE project MLEI MARTE helped the Italian Region of Marche to set up the Energy and Mobility Fund, blending in ERDF and private funds. (<http://www.marteproject.eu/en>)

The proposed integration of the Clean Energy Transition Programme into LIFE would trigger numerous economic, environmental and social benefits by addressing key barriers which presently stand against the up-take of clean energy solutions. The main arguments can be summarized as follows:

- LIFE follows the same objectives, intervention logic and delivery mechanisms as the Clean Energy Transition Programme, building capacity, removing barriers and addressing environmental and climate related vulnerabilities.
- This coherence would allow The Clean Energy Transition Programme to tailor its interventions more closely to the often limited capacity of catch-up regions and actors and lower the barriers for their participation in the programme.
- The proposed integration would allow developing stronger synergies in energy, environmental and climate policies implementation on the ground.
- Finally, it would enable comprehensive multiplier effects, which can be triggered by the projects implemented under the common framework (tackling energy efficiency, greenhouse gas emissions and local air pollutants at the same time).

1 Appendices

Appendix 1: Barriers against energy efficiency and distributed renewable energies

(1.) Energy efficiency barriers¹⁸¹

**Legend: I – individuals; B – business; C – communities; G – governments; F – Financial sector and investors*

Environment/ barrier	Feature/description	Who is affected ?*
Economic		
Information barriers	Market fails to operate properly due to: imperfect information, incomplete markets (lack of knowledge, awareness, information)	I/B/C/G/F
Lack of appropriate market structure	Limited suppliers of energy efficiency solutions, such as ESCOs	I/B/C/G/F
Principal-agent-	Imperfect competition and uncertainty; Difficulty	I/B/C/F

¹⁸¹ Literature review based on: Kowalska-Pyzalska (2018): What makes consumers adopt to innovative energy services in the energy market? A review of incentives and barriers Renewable and Sustainable Energy Reviews 82, pp. 3570–3581; Sorrell S. Reducing energy demand: a review of issues, challenges and approaches. Renew Sust Energy Rev 2015;47:74–82; Nygren AN, Kontio P, Lyytimäki J, Varho V, Tapio P. Early adopters boosting the diffusion of sustainable small-scale energy solutions. Renew Sust Energy Rev 2015;46, pp.:79–87; Hu Z, Kim JH, Wang JH, Byrne J. Review of dynamic pricing programs in the U.S. and Europe: status quo and policy recommendations. Renew Sust Energy Rev 2015, pp. 743–51; Good N, Ellis KA, Mancarella P. Review and classification of barriers and enablers of demand response in the smart grid. Renew Sust Energy Rev 2017;72, pp. 57–72; Bukarica V, Tomsic Z. Energy efficiency policy evaluation by moving from techno-economic towards whole society perspective on energy efficiency market. Renew Sust Energy Rev 2017;70, pp. 968–75; Karakaya E, Hidalgo A, Nuur C. Diffusion of eco-innovations: a review. Renew Sust Energy Rev 2014;33:pp. 392–9; Gadenne D, Sharma B, Kerr D, Smith T. The influence of consumers' environmental beliefs and attitudes on energy saving behaviors. Energy Policy 2011;39, pp. 7684–94; Bertoldi, P., Boza-Kiss, B. (JRC) (2017): Analysis of barriers and drivers for the development of the ESCO markets in Europe. Energy Policy, 107, pp. 345–355.

Environment/ barrier	Feature/description	Who is affected ?*
problems	in proper pricing of energy efficiency services	
Limited access to capital and high transaction costs	Lack of appropriate long-lasting financial and legal support; high costs for negotiating and enforcing energy efficiency solutions	I/B/C
Financial cost	High up-front investment costs; fear of additional service and maintenance costs	I/B/C
Perceived high risks	Energy efficiency seen as high-risk investment, thereby leading to high interest rates to cover risk factor.	I/B/C/F
High uncertainty on payback	Up-front investments occur directly, whereas benefits only refinance these investments in future periods. This leads to high discount rates for future benefits, making energy efficiency investments less attractive.	I/B/C/F
Split incentives/investor user dilemma	Landlord-tenant problem: Investment costs for e.g. building refurbishment would need to be shouldered by landlord, whereas benefits (energy cost savings) would be fully on the tenant side.	I/B/C
Organizational barriers		
Lack of agreement	E.g. how dedicated provision of energy service should be measured and remunerated	I/B/C/G
Lack of supporting networks/structures	Missing fora/formats for gaining access to best practices in terms of technologies, policies or solutions	I/B/C/G
Missing qualifications or knowledge management	Unavailability of trained and qualified experts to implement energy efficiency solutions.	B/C/G
Political and regulatory barriers		
Missing or insufficient capacity to implement energy efficiency solutions	E.g. insufficient staffing	B/C/G
Limited availability (e.g. program unavailability, inaccessibility)	Missing or insufficient support structures (e.g. energy agencies) to implement capacity building.	I/B/C/G/F

Environment/ barrier	Feature/description	Who is affected ?*
Lack of supply chains, services and conventions	Missing standardization of applying, measuring or monitoring energy efficiency; missing standards on training and qualification schemes	I/B/C/G/F
Technological barriers		
Limited supply of energy efficiency technologies	Limited availability of technological choice.	I/B/C/
Technological ‘lock-in’	Path-dependency on fossil fuels.	I/B/C/G
Need of technological standardization	Missing technological solutions for metering and computing the large number of data to determine energy savings.	I/B/C/
Communication and private data security	Delay in taking up energy efficiency solutions based on smart metering.	I/B/C/G
Behavioral barriers		
Cognitive biases in decision-making process	Potential factors are bounded rationality, resistance to change, confusion of choice (lack of professional advice)	I/B/C/G/F
Credibility and trust	Unwillingness to adopt unknown energy efficiency solution.	I/B/C/G/F
Negative perceptions (negative values, not understanding)	Perceived idea that energy efficiency necessarily implies sufficiency or reduction of comfort	I/B/C
Negative word-of-mouth (i.e. negative information shared within a social network about the innovation)	E.g. negative press reports on energy efficiency solutions (energy-efficient lighting, building refurbishment options)	I/B/C/G/F
Lacking information	non-awareness of saving options leading to suboptimal consumer choices	I/B/C

(2.) Barriers against distributed renewable energy sources¹⁸²

¹⁸² Literature review based on: Pirlogea, C. (2011): Barriers to Investment in Energy from Renewable Sources. <http://www.management.ase.ro/reveconomia/2011-1/12.pdf>; Negro SO, Alkemade F, Hekkert MP. Why does

*Legend: I – individuals; B – business; C – communities; G – governments; F – Financial sector and investors

Field/barrier	Feature/description	Who is affected*
Economic barriers		
High upfront investment costs	Investment costs occur at the beginning of the project, benefits to cover up-front investments only with following periods.	I/B/C
High economic risk	Several distributed RES installations are still seen as high-risk projects, leading to higher interest rates to compensate for this higher risk.	I/B/C/ F
High transaction costs	Costs of assembling project partners, information on project or approval procedures.	I/B/C/ F
Missing finance	Lack of financial support, especially in catching-up regions; missing capacity to provide financial support	I/B/C/G
Missing information on business models to deploy distributed renewables	Sharing of distributed renewables between neighboring buildings/among tenants of the same building is a relatively new concept with limited experience in catching-up regions.	I/B/C
Missing supply structure, market imperfections	Especially in catching-up regions limited choice of suppliers of distributed RES options.	I/B/C/G
Market barriers for new competitors	Market access can be blocked for newcomers by incumbent energy companies.	I/B/C
Missing/imperfect information on cost-sharing models	E.g. with the use of distributed renewables in multi-owner buildings where cost-sharing agreements have to be found.	I/B/C/G/F
Lack of possibility to achieve economies of scale	Depending on the technology, solutions have to be adapted to the individual situation. This makes installations overly costly, compared to standard solutions where economies of scale in the production can be achieved.	I/B/C
Political/regulatory		

renewable energy diffuse so slowly? A review of innovation system problems. *Renew Sust Energy Rev* 2012;16, pp. 3836–46; Hobman EV, Frederiks ER. Barriers to green electricity subscription in Australia: “love the environment, Love renewable energy...but why should I pay more?”. *Energy Res Soc Sci* 2014;3, pp. 78–88; Nygren AN, Kontio P, Lyytimäki J, Varho V, Tapio P. Early adopters boosting the diffusion of sustainable small-scale energy solutions. *Renew Sust Energy Rev* 2015;46, pp. 79–87; Ma Ch, Rogers AA, Kragt ME, Zhang F, Polyakov M, et al. Consumers' willingness to pay for renewable energy: a meta-regression analysis. *Resour. Energy Econ* 2015;42, pp. 93–109.

Field/barrier	Feature/description	Who is affected*
/ barriers		
Imperfect/missing framework for deploying distributed RES solutions	E.g. political preference for centralized RES installations as this fits better with the existing centralized production structure.	I/B/C/G/F
Insufficient spatial planning	Duration and procedures for installing e.g. wind turbines; barriers against solar PV use on multi-owner buildings.	I/B/C/G/F
Lack of experience	Lack of experience on good practice regulation on deploying distributed RES or adopting a financing framework scheme allowing private investors to take this up as a business model	I/B/C/G/F
Appreciation against other values	Resistance due to considerations of local interest such as tourism, landscape, or reluctant attitude to take up project of general interest (NIMBY – not in my backyard)	I/B/C
Shattered actor barrier	Too many authorities involved in implementation of project (licensing etc.)	I/B
Information barriers	Lack of information/transparency about administrative procedures	I/B
Uneven application of law	Different legal provisions depending on territory where the installation is set up	I/B
Technological barriers		
Infrastructure needs	Need to invest/find technological solutions for supporting infrastructure for distributed renewables energies (storage, smart grid)	I/B/C/G
Lack of technical skills	Missing qualification/specialization of smaller distributed renewable energy projects	I/B/C
Lack of information on best available technology	Missing/inadequate information on available schemes especially in catching-up territories	I/B/C/G
Inadequate supporting technologies/technological skills	E.g. incorrect measurements of solar radiation with disfavoured sites leading to lower yields.	I/B/C
Lock-in effects	Path dependency on past choices such as fossil fuels for energy generation or heating systems	I/B/C/G/F

Field/barrier	Feature/description	Who is affected*
Behavioural barriers		
Credibility and trust	Unwillingness to adopt unknown RES solution	I/B/C/G/F
Lacking information	Non-awareness of installation options leading to suboptimal consumer choices	I/B/C

Appendix 2 IEE impacts

IEE Project data/ Indicator	Call 2009	Call 2010	Call 2011	Call 2012	Call 2013
Number of projects funded	52	46	56	57	63
EU funding (Million Euro)	54,10	57,30	64,80	71,60	73,00
Total investment in sustainable energy triggered by the projects (Million Euro)	500	500	491	498	530
Cumulative reductions of GHG emissions by the projects (tCO ₂ e/yr)	350.000	400.000	496.000	498.000	458.423
Renewable energy production triggered per million Euro funding (GWh/year)	11	11	9	9	7
Primary energy savings triggered per million Euro funding (GWh/year)	13	17	16	18	25

Appendix 3: Examples of synergies in the projects and initiatives for environment, climate and clean energy

1. Enhancing Energy efficiency to improve the Air Quality in Małopolskie i Śląskie regions under the 'Poland Catching-Up Regions' TA programme-building on the project 'LIFE IP MALOPOLSKIE'

The project 'IP MALOPOLSKIE' funded from LIFE aimed to support the Małopolskie region, the neighbouring Śląskie region and adjacent regions in Slovakia and Czech Republic in the development and implementation of the regional air quality plans and the regional and local air quality policies. This project provided also 'a mine' of useful technical and statistical recent data from the surveys conducted in 2016 on number and

type of individual heating systems based on coal in single family houses, as well as a thorough analysis of their impact on air pollution and energy consumption¹⁸³.

The analysis carried out by the project has provided a meaningful input to the initiative run by DG REGIO in partnership with the World Bank: *Enhancing Energy efficiency to improve the Air Quality in Małopolskie i Śląskie regions under the Poland Catching-Up Regions TA programme*. This initiative is strongly supported by DG ENER for the potential synergies it can develop with the Smart Finance for Smart Buildings initiative. Indeed, this large-scale support initiative is designed to deliver its ultimate objective, which is the improvement of air quality, by carrying out deep renovation of single family houses in Poland together with incentives for installing cleaner heating sources. This initiative, designed on the conclusions of the LIFE-funded project, fully applies the 'energy efficiency first' principle. 'IP MALOPOLSKIE' developed also the scientific evidence of the environmental benefits of the EE Ecodesign legalisation¹⁸⁴.

2. Covenant of Mayors

Many local authorities have adopted ambitious sustainable energy strategies and, in many instances, this was done through voluntary commitments to the Covenant of Mayors, an initiative launched by the European Commission in 2008. As of today, this successful initiative counts over 7700 local authorities and 6000 Sustainable Energy Action Plans submitted. The IEE programme overall supported more than 34 projects focusing on developing Sustainable Energy Communities across the continent in order to build institutional capacity at a local and regional level. Projects influenced at least 650 local authorities to join the Covenant of Mayors and helped to develop more than 500 SEAPs¹⁸⁵. This support continues to be provided under Horizon 2020- Energy Efficiency calls focusing on capacity building of local public authorities.

As of 2015 Covenant of Mayors integrated climate & energy policies under one initiative, which became the “world’s biggest urban climate and energy initiative” bringing together thousands of local and regional authorities voluntarily committed to implementing EU climate and energy objectives on their territory.

Future projects and initiatives supporting Covenant of Mayors should aim at strengthening the synergetic action of energy and climate policies at the local level and therefore should be provided under a common capacity-building EU framework programme for energy and climate.

2 Appendix 4: Synergies of IEE projects and ESIF and ESFI

IEE II and its continuation under Horizon 2020 developed the following links with ESIF and EFSI funding:

The project "LEMON" (Less Energy More OpportuNities) funded under Horizon 2020/EE/PDA focuses on the energy retrofit of 622 dwellings in the social housing sector of two regions of Emilia-Romagna to achieve 40% energy savings guaranteed by ESCOs (Energy Service Companies). The envisaged investment volume amounts to approximately EUR 15 million. The financing structure involves loans to be repaid, inter

¹⁸³ Also taking into consideration of the upcoming entering into forces of the Ecodesign regulations for solid fuel boilers (EU) 2015/1189

¹⁸⁴ Ecodesign for solid fuel boilers (EU) 2015/1189

¹⁸⁵ ICF International (2015) Evaluation of Intelligent Energy Europe Support for Sustainable Energy Communities

alia, within the framework of 'Energy Performance Tenancy Agreements' and combines different financing instruments available at National and Regional level (ERDF funds, National financing, National incentive 'Conto termico' and loans). Website: <http://www.lemon-project.eu>

The project "SUNShINE" (Save your bUildiNg by SavINg Energy) funded under Horizon 2020/EE/PDA addresses the poor conditions of the around 28 000 multi-family buildings in Latvia which have a huge untapped energy savings potential. To support owners in renovating, the project offers a solution by bundling the renovations in 'Energy Performance Contracts'. The project aims at boosting the ESCO market for deep retrofit by building a pipeline of 80 refurbished multifamily buildings and establishing a forfeiting fund in support of ESCOs cash flows. Projects are eligible for ERDF (European Regional Development Fund) support which reduces the payback time of the investment for deep refurbishment. Website: <http://sharex.lv/en>

The project "Transition Zero" funded under Horizon 2020/EE aims at establishing the right market conditions for the wide-scale introduction of net zero energy homes across Europe. It builds on the success of Energiesprong in the Netherlands and intends to kick-start net-zero energy refurbishment markets in the UK and France, using the social housing sector as a catalyst. The Energiesprong initiative has also secured EUR 5.4 million of European funding through the Interreg Northwest Europe (NEW) programme, with a view to further spread concept. The grant will be used in the UK, France, Luxemburg and the Netherlands to stimulate the market for net-zero energy refurbishments. Website: <http://sharex.lv/en>

Energies POSIT'IF was one of the first projects validated under EFSI, along with Picardie Pass Renovation, both projects were developed through technical assistance grants provided by IEE II and scaled up by EFSI.

Energies POSIT'IF acts as a one-stop-shop for deep energy renovation. Just finalised, it supported the Ile-de-France Region in launching a semi-public Energy Service Company, Energies POSIT'IF, which developed an all-inclusive "Design-Implement-Operate" package with guaranteed energy savings and provision of Third Party Finance through Energy Performance Contracting. The delivered €37m of investments for the refurbishment of 8 condominiums comprising 2.000+ dwellings and created nearly 600 jobs. By 2020, Energies POSIT'IF plans to renovate 10,000 dwellings triggering an investment of €175m.

Energies POSIT'IF was first to benefit from a €400m support programme for energy refurbishment in France set up under the European Fund for Strategic Investment (ESFI). EFSI provided a guarantee for a €100m loan from the European Investment Bank used to implement the Third Party Finance offer. The project has been a showcase across Europe and particularly in France where several regions replicated the project's approach. Website: [http://www.energiespositif.fr /](http://www.energiespositif.fr/)

The project MLEI MARTE has supported the set-up of an innovative financial instrument - Energy and Mobility Fund (EMF) - in the Region of Marche, Italy. The EMF combines private financing by energy service companies (ESCOs) based on energy performance contracting (EPC) and public financial resources provided, in particular, under the Regional Operational Programme of the European Regional Development Fund 2014-2020 (ROP Marche ERDF 2014-2020 – Intervention 13.1.1) in the form of grants by the Managing Authority and further public (budgetary) resources; and soft

loans by the revolving Energy and Mobility Fund (EMF) established. At least energy investments of EUR 10.6 m are documented by signed contracts with ESCOs.

Website: <http://www.marteproject.eu/en>