Council of the European Union
General Secretariat

Brussels, 03 July 2025

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CLIMA
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REQUEST FOR CONTRIBUTION

From:	General Secretariat of the Council
To:	Working Party on the Environment
Subject:	European Climate Law amendment: follow-up of WPE on 3 July 2025 – Call for comments and Commission presentations

As announced by the Presidency at the abovementioned WPE meeting, delegations are invited to send their written comments/questions **by 8 July 2025 cob** to the Presidency [redacted], [redacted], [redacted]), the Commission [redacted]) and the Council Secretariat [redacted], [redacted], environment@consilium.europa.eu).

Delegations will also find attached the presentations by the Commission given at the WPE meeting.

Delegations are reminded that Regulation (EC) No 1049/2001 of 30 May 2001 regarding public access to European Parliament, Council and Commission documents applies to all written comments, in whatever form provided.

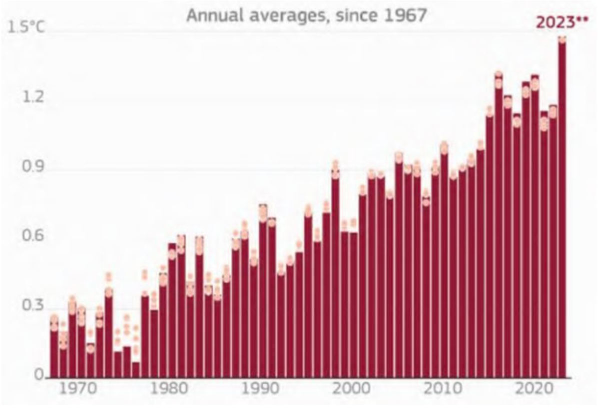
Impact assessment accompanying the 2024 Communication on the 2040 target

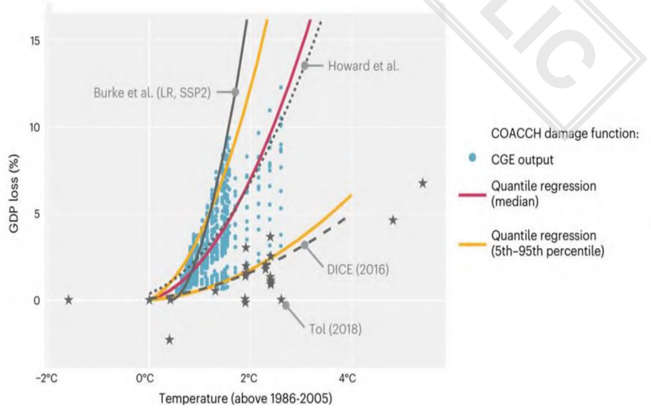
Working Party Environment

3 July 2025

DG CLIMA

The need for global climate action





- Climate change is intensifying rapidly
- Need to cut greenhouse gas emissions sharply and rapidly & prepare for impacts of climate change

Cost of inaction- recent reports

OECD (June 2025): “Investing in Climate for Growth and Development”

- **+0.2% Global GDP** in 2040 under **an Enhanced NDCs scenario** compared with current policies
- up to **+13% GDP of benefits due to avoided economic losses** by reducing the risk of climate-induced events

BCG (March 2025): “Why Investing in Climate Action Makes Good Economic Sense”:

- global warming by 3°C by 2100 will **reduce cumulative economic output by 15% to 34%**

Bilal and Känzig (2024):

- 1°C warming reduces global GDP by 12%
- **3°C warming by 2100 reduces output by 47% by 2100**
- Business as usual warming means **29% present-value welfare loss**

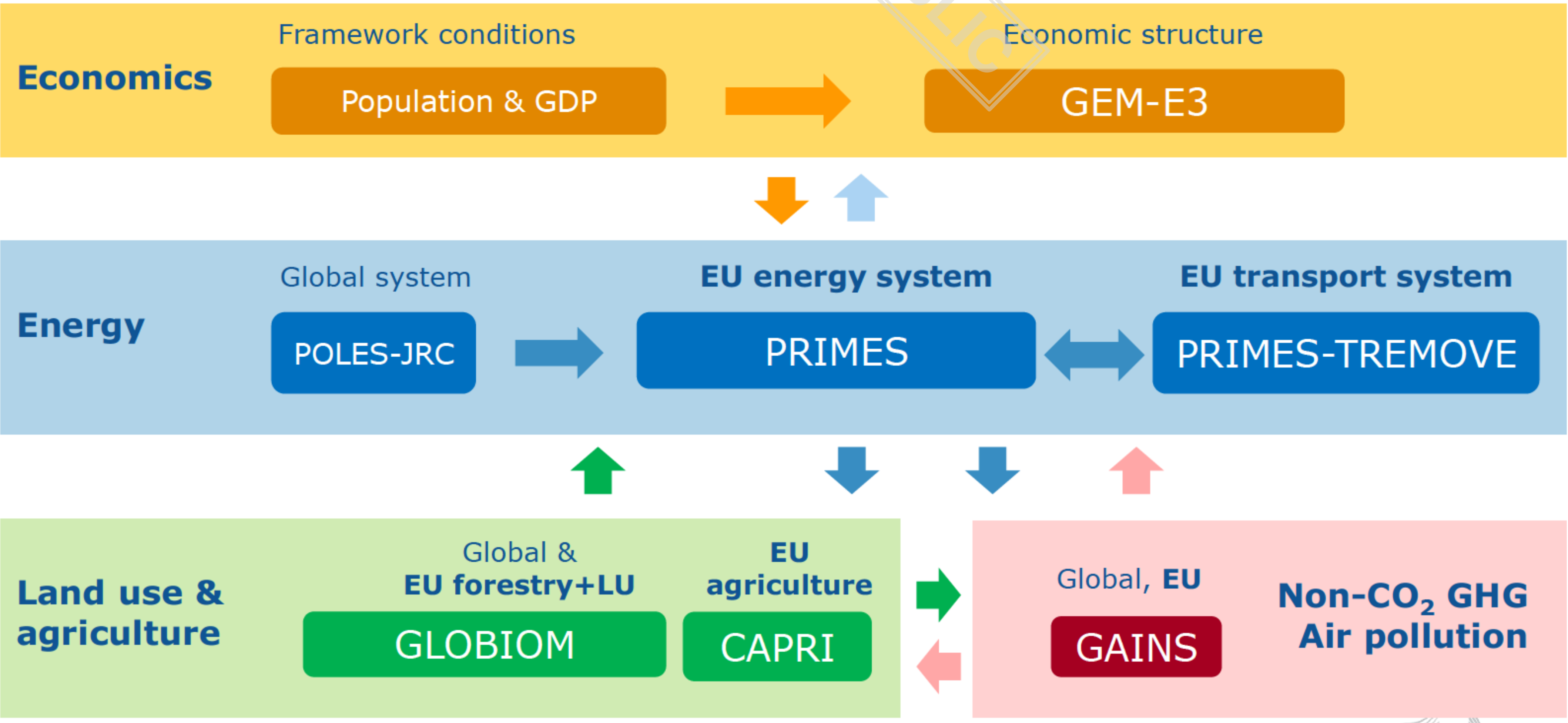
Kotz & al (2024):

- **2°C mitigation costs are 6 times lower than costs of climate change**

Impact assessment

1. Main impact assessment report + Annexes 1-5
2. Annex 6: Analytical methods
   Annex 7: Cost of climate change
3. Annex 8: Detailed analysis
4. Annex 9: Enabling framework
   Annex 10-11: Existing climate and energy policy
   Annex 12: Non-CO2 effects of aviation
   Annex 13: Litterature review of 2040 net GHG reductions
5. Annex 14: GHG Budget

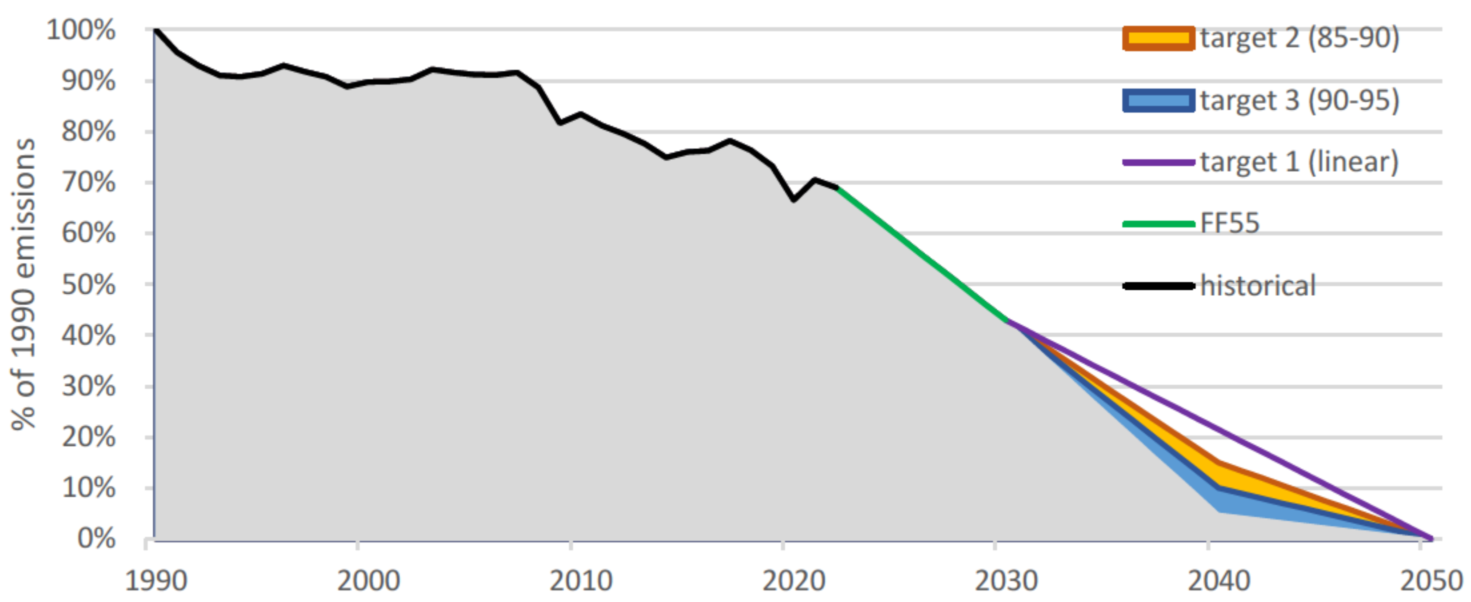
Main modelling suite used for the IA



The 2040 target and a pathway to climate neutrality

- Target Option 1: a net GHG reduction target in 2040 of up to 80%
- Target Option 2: a net GHG reduction target in 2040 of at least 85% and up to 90%
- Target Option 3: a net GHG reduction target in 2040 of at least 90% and up to 95%

Profile of the net GHG emissions over 1990-2050



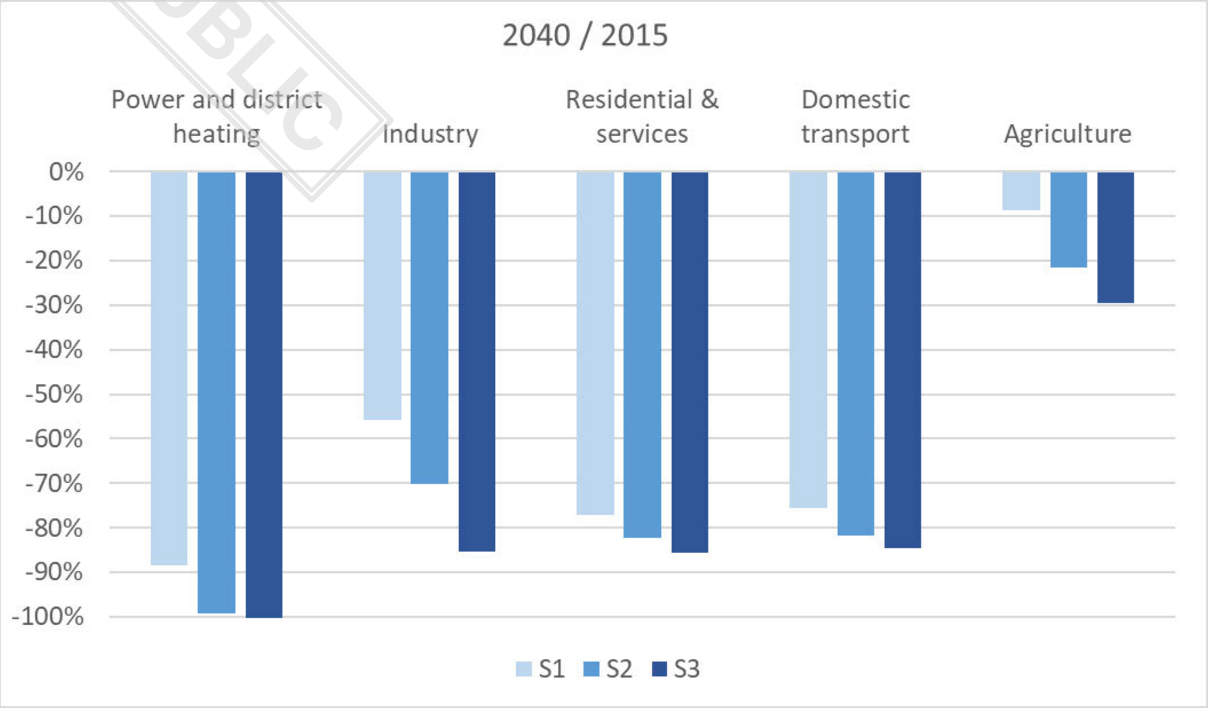
Impact Assessment

- **3 target options** assessed in detail through **3 core scenarios:** S1 (in effect reduces by *78%*), S2 (*88%*), S3 (*92%*)
- A “**lifestyle variant**” illustrates the impact of lifestyle choices
- Stakeholders were consulted and the results included
- Detailed GHG and energy modelling projections produced for key sectors, complemented socio-economic analysis

Sectoral Net GHG emissions

	2015	2040			2050
		S1	S2	S3	S3**
Reduction vs 1990 - %	-24%	**-78%**	**-88%**	**-92%**	**-101%**
Net GHG Emissions (target scope)*	3592	1051	578	356	-38
Power and district heating	1031	120	8	-10	-39
Other energy sectors	237	71	45	11	-19
Industry	605	267	181	89	16
Residential & services	519	119	92	75	19
Other non-energy sectors	130	33	26	25	22
Domestic transport	780	190	143	120	7
Agriculture	385	351	302	271	249
Waste management	120	65	52	52	28
LULUCF net removals	-322	-218	-316	-317	-333
International transport (target scope)	107	52	46	41	11
International Transport (memo items)					
	233	124	113	106	27

IA Main document (1/5), Table 5



In 2040:

- Energy supply fully decarbonizes in S2 and S3
- Industry to reduce by 70-85% vs 2015 between S2 and S3
- Buildings and transport to reduce by around 80% vs 2015
- Agriculture to reduce emissions by 22-30% vs 2015 in S2-S3

The EU's energy system is central

- Transition will significantly lower Europe's dependence on imported fossil fuels. By 2040, most remaining fossil fuels are used for non-energy purposes. In 2040, the consumption of fossil fuels for energy will be around 80% less than in 2021
- By 2040 the energy sector will be largely decarbonised
- Electrification of the economy is key to decarbonization, and the power sector is the first to decarbonize (by 2040 at the latest)
- All low carbon energy solutions are necessary, including renewables and nuclear, energy efficiency, storage, CCS, CCU, carbon removals, etc.
- Renewable energy will become the backbone of the energy system thanks to their lowering costs
- Energy consumption continues to decrease up to 2040, then reaches a plateau.
- New technologies (carbon capture, RFNBOs and low carbon fuels,…) to be deployed on a large scale by 2040.

Summary of energy indicators (1/2)

Summary of key energy indicators

	2030	2040	2050
Policy relevant indicators			
Energy-related CO2 reductions vs 2005	-58%	-94%	-103%
RES share in Gross FEC	42.4%	75%	89%
FEC reduction vs 2015	-19%	-36%	-40%
Energy indicators - Supply			
Gross Available Energy (Mtoe)	1160	1018	1032
- Fossil fuels	663	275	150
- of which for non-energy use	*96*	*96*	*80*
- of which captured	*1.8*	*13.3*	*24*
- Nuclear	139	129	142
- Renewables	328	613	691
Net imports (Mtoe)	572	267	153
Import dependency (%)	50%	26%	15%
Hydrogen production (Mtoe)	9	100	185
e-Fuels production (Mtoe)	2	37	60

Note: simplified version of the table 10 from the IA main document, section 6.2.1.

- Overall Energy Consumption decreases
- Fossil fuels use decrease substantially by 2040 (for energy use -80% vs 2020)
- By 2050 most fossil fuels used for non-energy purposes (plastic, fertilizers,…)
- RFNBOs production scales up strongly between 2030 and 2040

Summary of energy indicators (2/2)

Summary of key energy indicators

	2030	2040	2050
Energy indicators – Power generation			
Gross electricity generation (TWh)	3362	5212	6922
Net installed power capacity (GW)	1617	2525	3256
- Fossil fuels	238	156	142
- Nuclear	94	71	71
- Renewables	1285	2298	3027
Storage and flexibility options (GW)	172	275	238
Final Energy			
Final Energy Consumption (Mtoe)	764	604	555
Electricity share in FEC	33%	51%	62%
e-Fuels share in FEC	0%	5%	7%

Note: simplified version of the table 10 from the IA main document, section 6.2.1.

- Electrification of the economy: generation almost doubles between 2020 and 2040.
- Renewable energy will become the backbone of the energy system.
- Increased deployment of flexibility: battery storage and demand side flexibilities (e.g. EV).
- Due to increased efficiency, final energy consumption decreases (-20% between 2030 and 2040).

Import dependence

- Net imports of energy commodities decrease
- Import dependence drops from 61% in 2019 to 34% – 26% in 2040

Net imports by energy vector

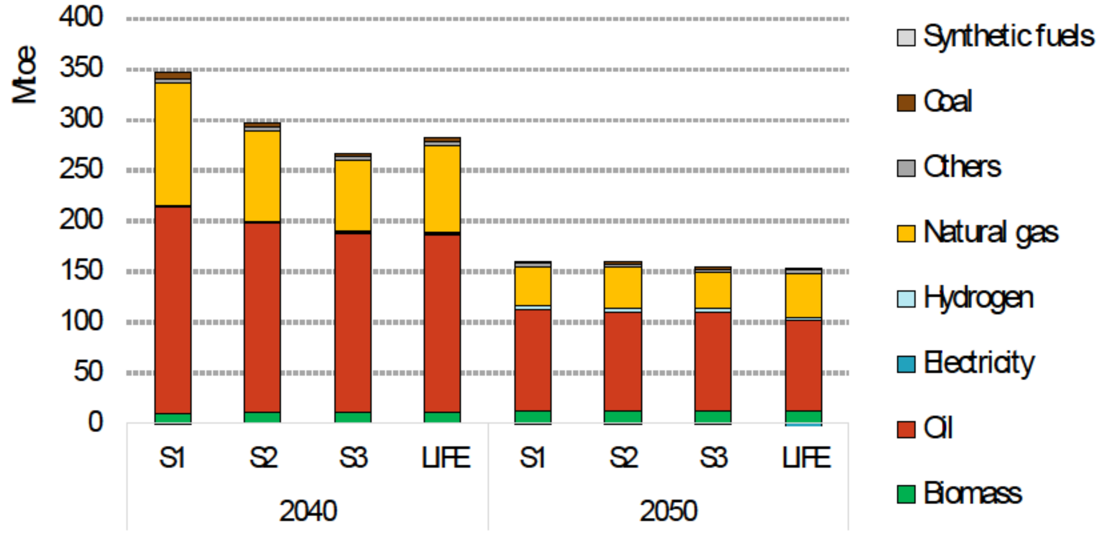


Figure 15 of the IA Annex 8, section 1.2.1

Import dependence

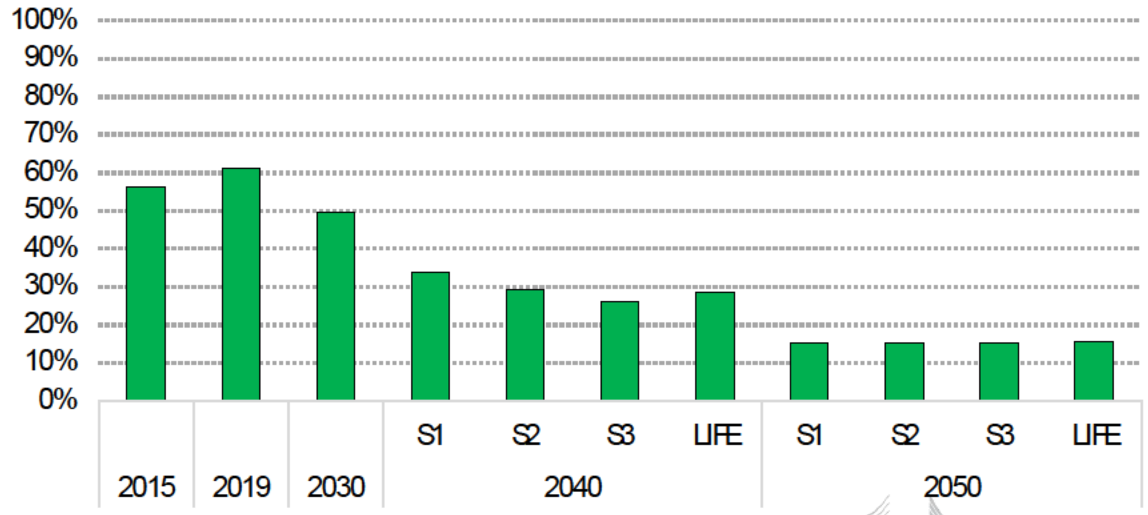
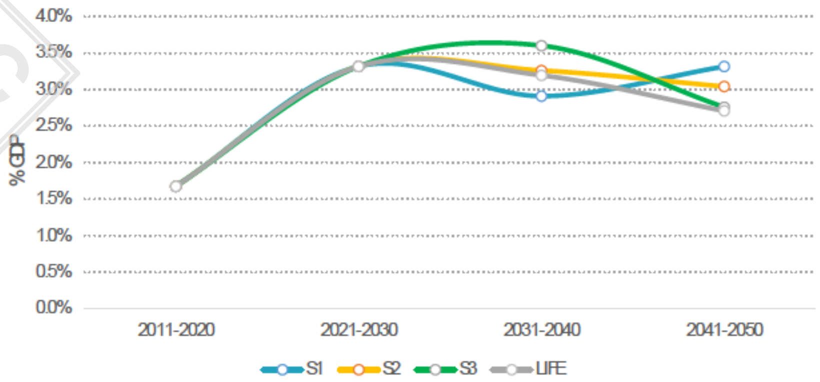


Figure 16 of the IA Annex 8, section 1.2.1

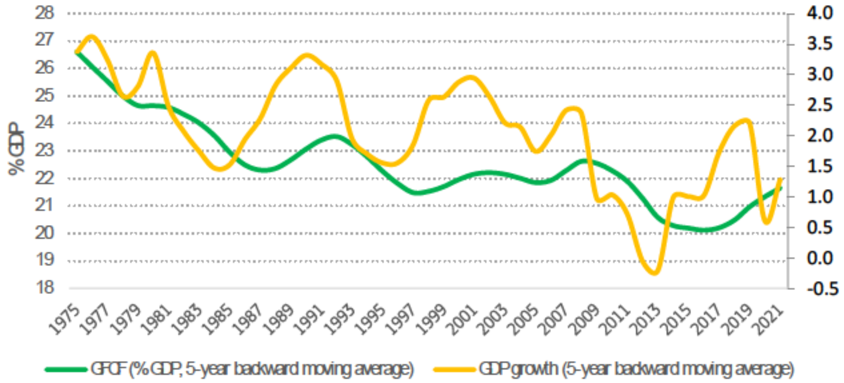
The transition is an investment agenda

- High level of investment in the energy system needs to be sustained over several decades:
  - ✓ +1.5 pp of GDP vs. 2011-2020
  - ✓ €660 billion / year in 2031-2050: €310 billion on energy supply side, €350 billion on energy demand side
- I/GDP ratio not exceptional for the EU, and investment needed in any case
- Investment means returns and benefits

Average annual energy system investment needs, excluding transport



Ratio of gross fixed capital formation to GDP and GDP growth (5-year backward moving average)



Source: PRIMES

Projected sectoral output trends

Cumulative % change vs. 2015

	S1			S2		S3	
	2030	**2040**	**2050**	**2040**	**2050**	**2040**	**2050**
Fossil fuel industries	-32.9%	-59.4%	-73.0%	-63.1%	-72.9%	-65.2%	-73.1%
Energy intensive industries	17.6%	27.6%	39.7%	25.8%	39.4%	25.5%	39.1%
Transport equipment	15.3%	30.8%	43.3%	30.0%	43.1%	29.4%	43.0%
Other equipment goods	21.5%	38.7%	58.6%	38.0%	58.3%	38.3%	58.1%
Consumer goods industries	12.6%	21.3%	31.4%	20.4%	31.3%	19.7%	31.2%
Transport	25.7%	44.5%	68.1%	41.7%	67.9%	40.2%	67.6%
Construction	27.9%	47.9%	70.7%	47.9%	70.3%	48.7%	70.2%
Market services	22.6%	40.5%	62.6%	39.9%	62.4%	39.5%	62.4%
Non-market services	21.3%	38.3%	59.7%	38.0%	59.7%	37.8%	59.7%
Agriculture and forestry	9.7%	33.6%	47.8%	36.6%	47.4%	36.3%	46.3%
Memo:							
GDP	22.8%	40.6%	62.1%	39.9%	61.9%	39.5%	61.8%

Source: IA Annex 8, table 41

- Impact of target levels on GDP is very limited
- The trends in output growth differ relatively little across scenarios
- Output from fossil fuel industries will decline sharply
- Output growth is projected to continue across all other sectors, including energy intensive industries, transport equipment and other manufacturing sectors

- Sectors are also less vulnerable to fossil fuel price shocks vs current

EU shares in global exports

EU export market shares (% of global exports)

	Fragmented					Global		
	2015	**2020**	**2030**	**2040**	**2050**	**2030**	**2040**	**2050**
Scenario 3								
All exports	17.8%	17.2%	16.8%	16.1%	15.9%	17.6%	16.6%	16.8%
Energy intensive industries	19.1%	19.7%	18.3%	17.1%	16.8%	19.8%	17.6%	17.5%
Transport equipment	28.7%	28.4%	26.4%	25.0%	24.1%	26.9%	25.0%	24.3%
Other equipment goods	22.1%	21.1%	19.2%	17.1%	16.7%	21.1%	17.8%	18.7%
Consumer goods industries	15.0%	14.1%	13.4%	12.3%	12.0%	14.1%	13.0%	13.6%
Market services	25.2%	23.9%	23.7%	22.7%	21.5%	21.4%	21.7%	19.1%
Agriculture and forestry	8.2%	7.6%	7.8%	6.7%	6.0%	9.2%	7.1%	6.3%

Source: IA Annex 8, table 43

- EU global export market shares evolve similarly under all three scenarios
- Mega-trends are the main driver over time, degree of EU climate ambition plays a minor role
- A more relevant factor is the extent to which the rest of the world acts on climate: global action beneficial for EU exporters in several sectors

Costs for households in the residential sector

Average annual energy system costs as % of private consumption and average final price of electricity for households in the residential sector

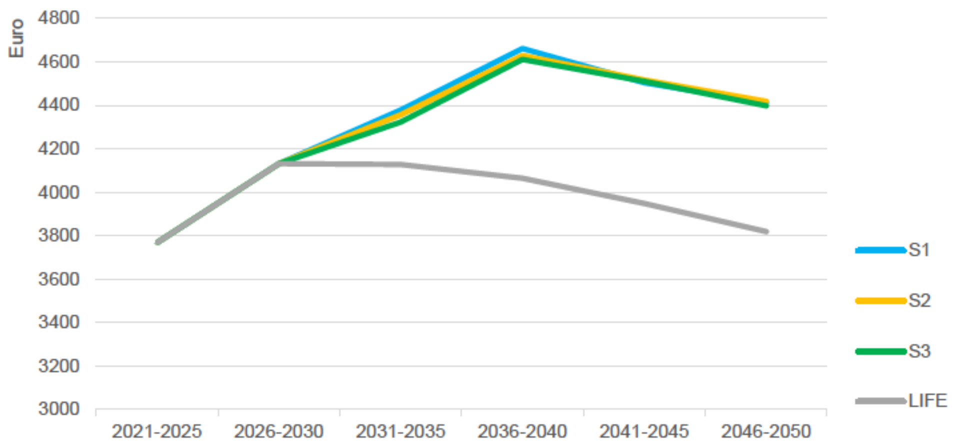
Average across all income categories	2031-2040				2041-2050			
	S1	S2	S3	LIFE	S1	S2	S3	LIFE
Total (% of private consumption)	8.0%	8.1%	8.2%	8.1%	7.1%	7.1%	7.1%	7.0%
Capital related costs*	4.5%	4.6%	4.7%	4.6%	4.1%	4.1%	4.1%	4.1%
Energy purchases**	3.4%	3.5%	3.5%	3.4%	3.0%	3.0%	3.0%	2.8%
Low Income Categories	**S1**	**S2**	**S3**	**LIFE**	**S1**	**S2**	**S3**	**LIFE**
Total (% of private consumption)	14.0%	14.3%	14.4%	14.2%	12.0%	12.0%	12.1%	11.8%
Capital related costs	*7.8%*	*7.9%*	*8.1%*	*7.9%*	*6.5%*	*6.5%*	*6.6%*	*6.6%*
Energy purchases	*6.3%*	*6.3%*	*6.3%*	*6.3%*	*5.5%*	*5.5%*	*5.4%*	*5.2%*
*Electricity price (EUR/MWh)****								
Residential	*288*	*288*	*288*	*288*	*289*	*290*	*290*	*290*

Source: IA Annex 8, Table 47

- Very comparable costs across scenarios
- Small increase in capital-related costs (investments to improve energy efficiency) with more ambition
- Same electricity price across scenarios

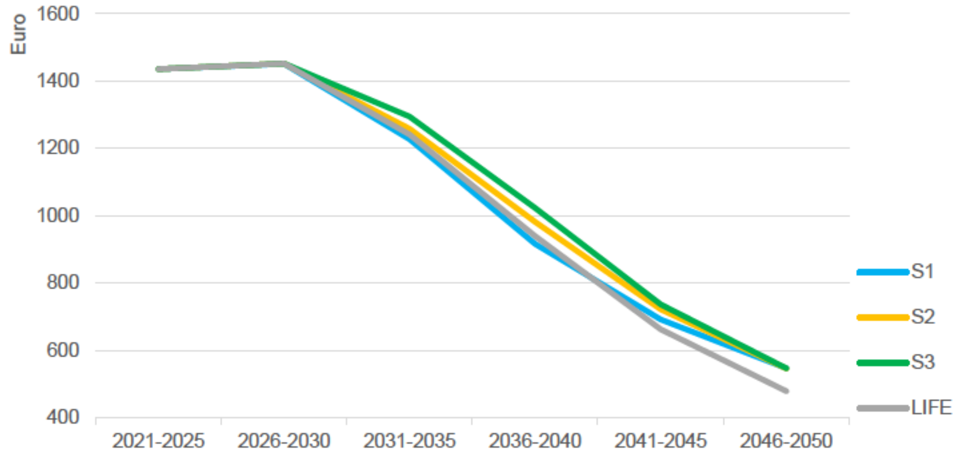
Impact on transport expenditures for households

Annual expenditures for private vehicles per household



Source: IA Annex 8, Figure 117

Annual expenditures for transport-related energy purchases per household



Source: IA Annex 8, Figure 118

- Very similar impacts across scenarios
- Increase of cost associated with the purchase of vehicles, compensated by reduced energy purchases

Cost of inaction - for the EU

Projections: conservative estimate, comparing 1.5 degree- compatible and higher warming scenarios (but not including e.g. loss of life, tipping points):

- Inaction could lower GDP by about 7% by 2100
- This could mean a cumulative cost of €2.4 trillion 2031-2050

Estimated economic impacts are large and subject to high uncertainty (Annex 7 2040 IA)

➢ **More recent reports point to even larger impacts**

Large co-benefits of ambitious climate action

- ✓ Improved air quality:
  - ✓ Lower morbidity, mortality and health care costs
  - ✓ Benefits for ecosystems and land productivity
- ✓ Open strategic autonomy, energy security and affordability, lower fossil fuel imports (€2.8 trillion saving for 2031-2050) and economic resilience
- ✓ Business and job opportunities from green tech

Thank you

Overview of the Commission's assessment of the final updated NECPs

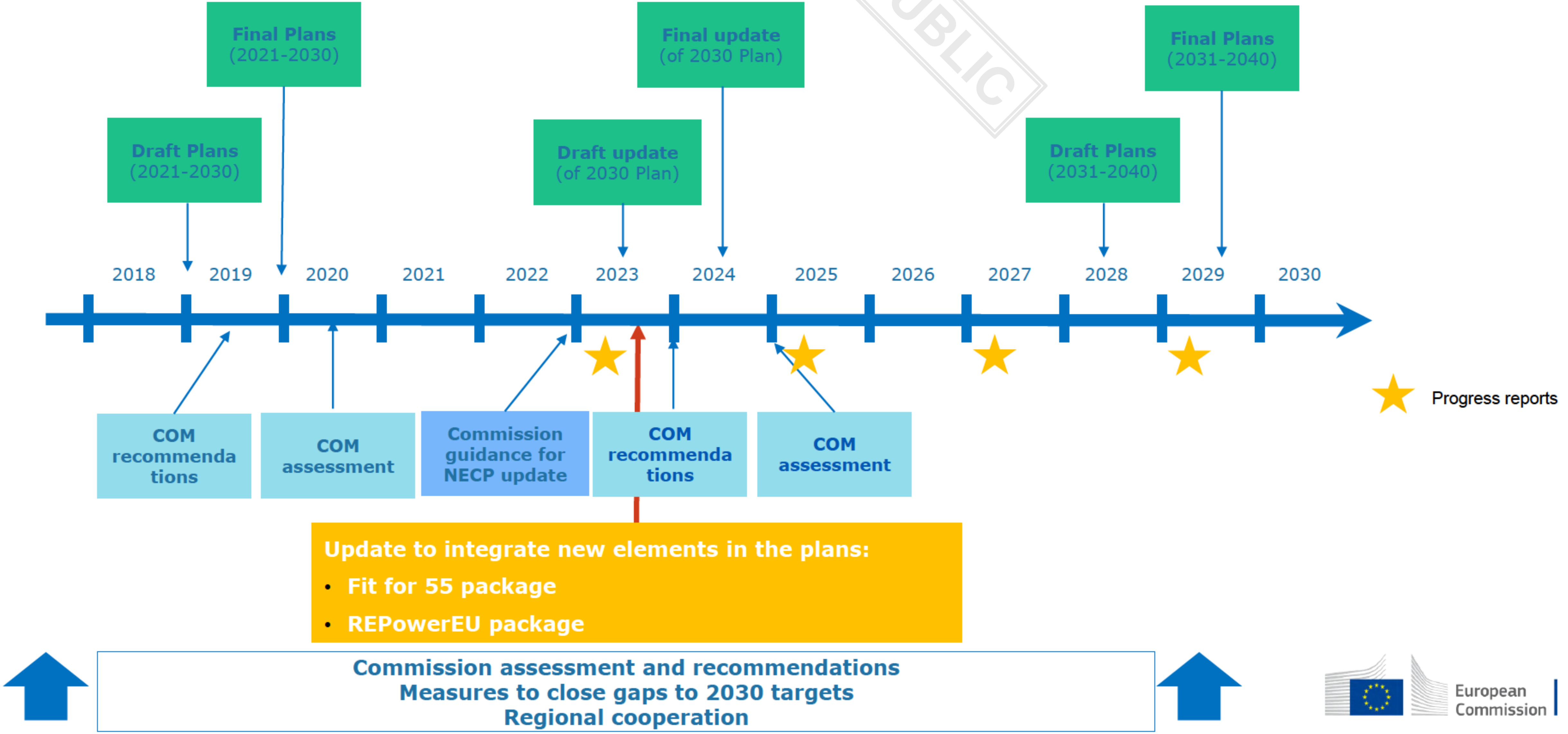
Working Party on the Environment

03 July 2025

[redacted]
Deputy Head of Unit DG CLIMA.A3, "Climate governance, plans and mainstreaming"

[redacted]
DG ENER.A1 "Strategy, Policy Coordination and Planning, Inter-institutional Relations"

TEN-YEAR GOVERNANCE CYCLE



State of play

- Final updated NECPs **due by the end of June 2024.**
- **25 plans submitted** so far, but a majority with significant delays.

23 NECPs fully considered for the EU Wide assessment.

SK NECP main figures integrated in the EU wide assessment.

EE and PL provided essential information for the EU-wide assessment (EE has now submitted).

For **BE**, the draft NECP national contributions were used.

Ongoing **Commission assessment** of SK and EE.

For the **MS that did not submit**, the Commission has opened an infringement procedure.

Towards the 2030 climate objectives: Substantial improvement of the final updated NECP

2030 FRAMEWORK FOR CLIMATE
Agreed updated targets

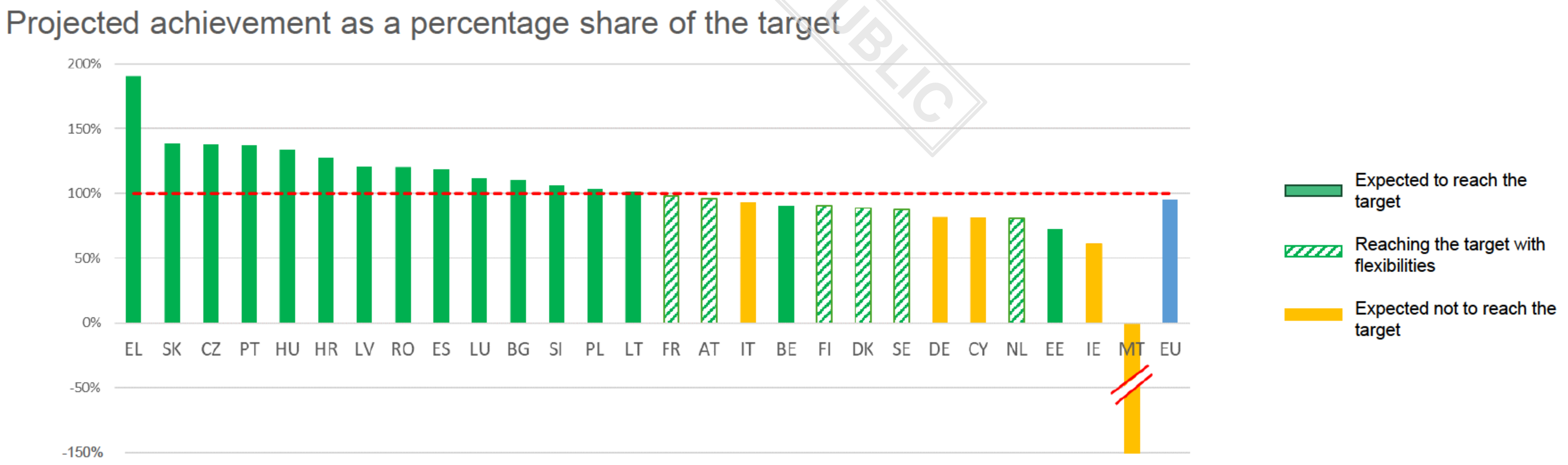
	GHG EMISSIONS (1990 baseline)	Effort sharing sectors (2005 baseline)	LULUCF sectors
2030	≤ -55%	-40%	additional 42Mt CO_2eq. of net removals
Sectors	Total Net GHG emissions (including international transport covered by EU law)	Domestic transport (excluding aviation), buildings, agriculture, small industry, and waste	Management of cropland, grassland, wetlands, forests, settlements, changes in land use including afforestation deforestation, or draining of peatlands

MEMBER STATES EXPECTED ACHIEVEMENTS

	EFFORT SHARING SECTORS	LULUCF SECTOR
Draft NECP	-33.8%	Gap of 40-50 MtCO2 eq
Final NECP	-38%	Gap of 45-60 MtCO2 eq

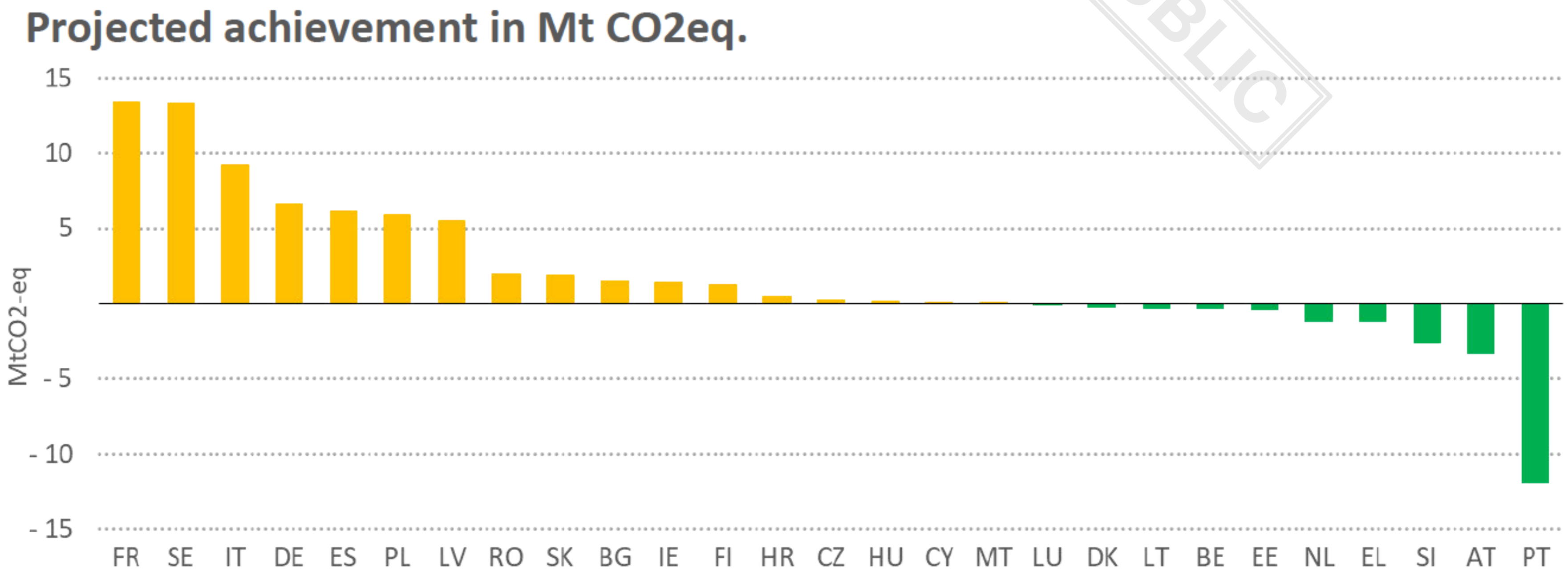
Total **GHG**: around **-54%**

Progress to 2030 ESR targets



- A gap still remains to the EU's 2030 ESR -40% target, but there is a **substantial improvement compared to the drafts NECPs**.
- 11 MS expect to reach their 2030 ESR targets (up from 8 in draft NECPs).
- 6 more MS expect to reach their targets by using available domestic flexibilities.
- 5 MS expect to have a gap to their 2030 targets.

Progress to 2030 LULUCF targets



A total gap of 45-60 Mt CO_2 eq. still remains compared to the EU's target of generating additional -42 Mt CO_2 eq. of net removals by 2030

ESR and LULUCF – how to close the gaps

The **Commission** will keep working with Member States:

- EU initiatives will support implementation (Clean Industrial Deal, Affordable Energy Action plan, CRCF, upcoming Bioeconomy strategy)
- Continue dialogue and support for Member States to facilitate implementation
- Monitor annual progress towards targets and request corrective action plans, where needed

On **LULUCF**, Member States are encouraged to:

- Use CAP strategic plans to reward farmers and foresters for sustainable practices
- Mobilise **investments** in sustainable forest management, afforestation, peatland restoration
- Invest in the bioeconomy
- Create market-based incentives for sustainable land practices, in line with CRCF

On **ESR**, Member States are encouraged to:

- Swiftly implement ETS2 and accelerate complementary national measures (e.g. more RES, decarbonise heating and cooling, support EV uptake, boost energy efficiency)
- Develop a sound strategy to combine additional measures with available flexibilities

Climate Adaptation

- Only a handful of plans are robust and properly embed adaptation in Energy Union dimensions.
- Information often missing on climate vulnerabilities and risks assessment.
- Plans often lack quantitative measurements of adaptation needs, and impacts / benefits of adaptation.

Member States are encouraged to

- improve the assessment of climate vulnerabilities and risks, in line with the EUCRA report.
- to step up their efforts to identify synergies with climate mitigation and adaptation measures and prioritise the implementation of measures accordingly.

Commission will present a European Climate Adaptation Plan in 2026 to

- Support Member States on preparedness and planning
- Ensure regular science-based risk assessment

Substantial improvement in Member States contributions to Union's energy targets

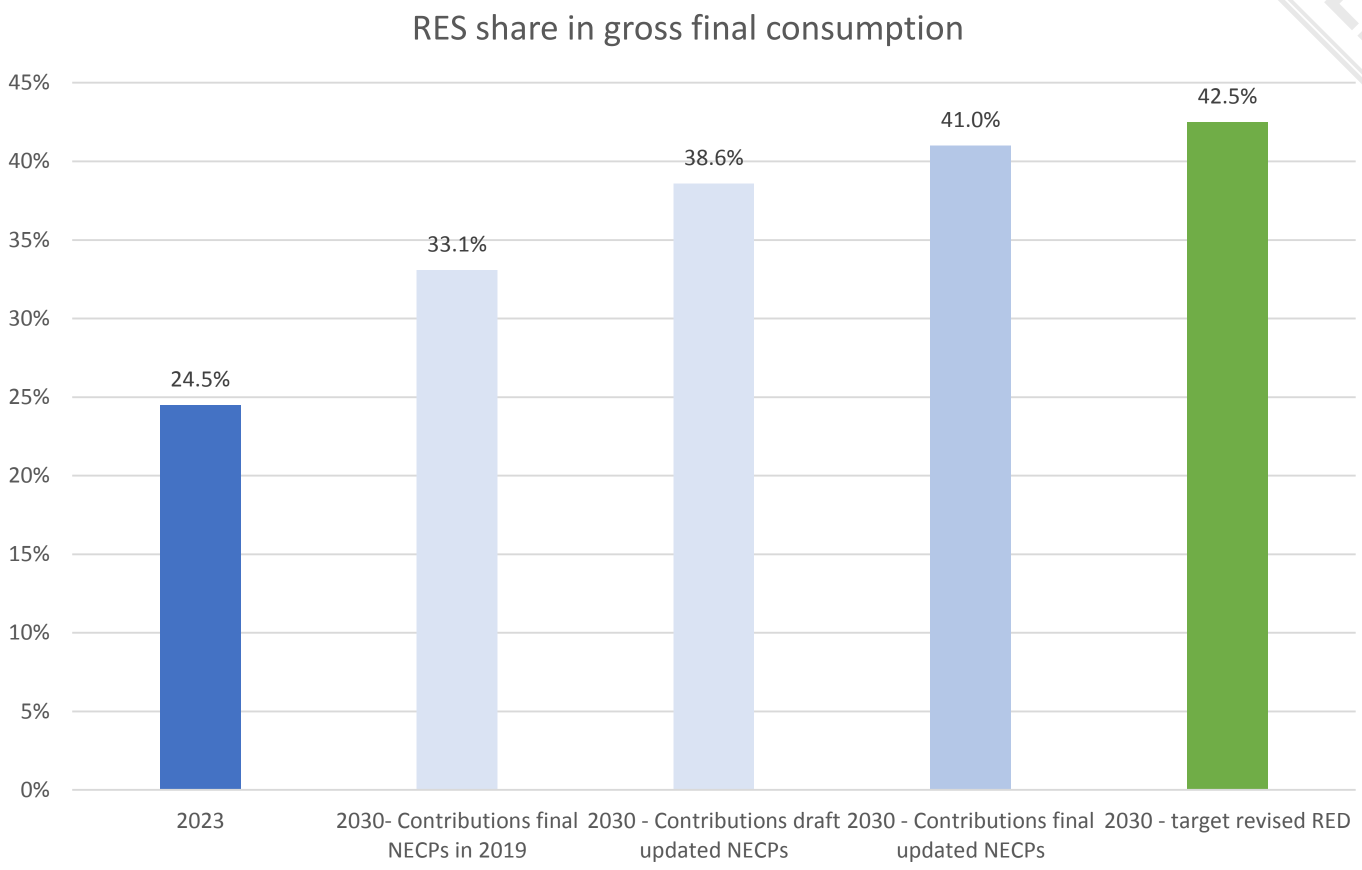
2030 FRAMEWORK FOR ENERGY
Agreed updated targets

	RENEWABLES SHARE	ENERGY EFFICIENCY
2030	≥ 42.5%	≥-11.7% (2020 baseline)

MEMBER STATES CONTRIBUTIONS

	RENEWABLES SHARE	ENERGY EFFICIENCY
Draft NECP	Between 38.6 and 39.3%	-5.8%
Final NECP	41%	-8.1%

Renewable Energy



Projected RES share of 41 % in 2030, amounting to a gap of **1.5** percentage points to the EU binding target of **42.5%***.

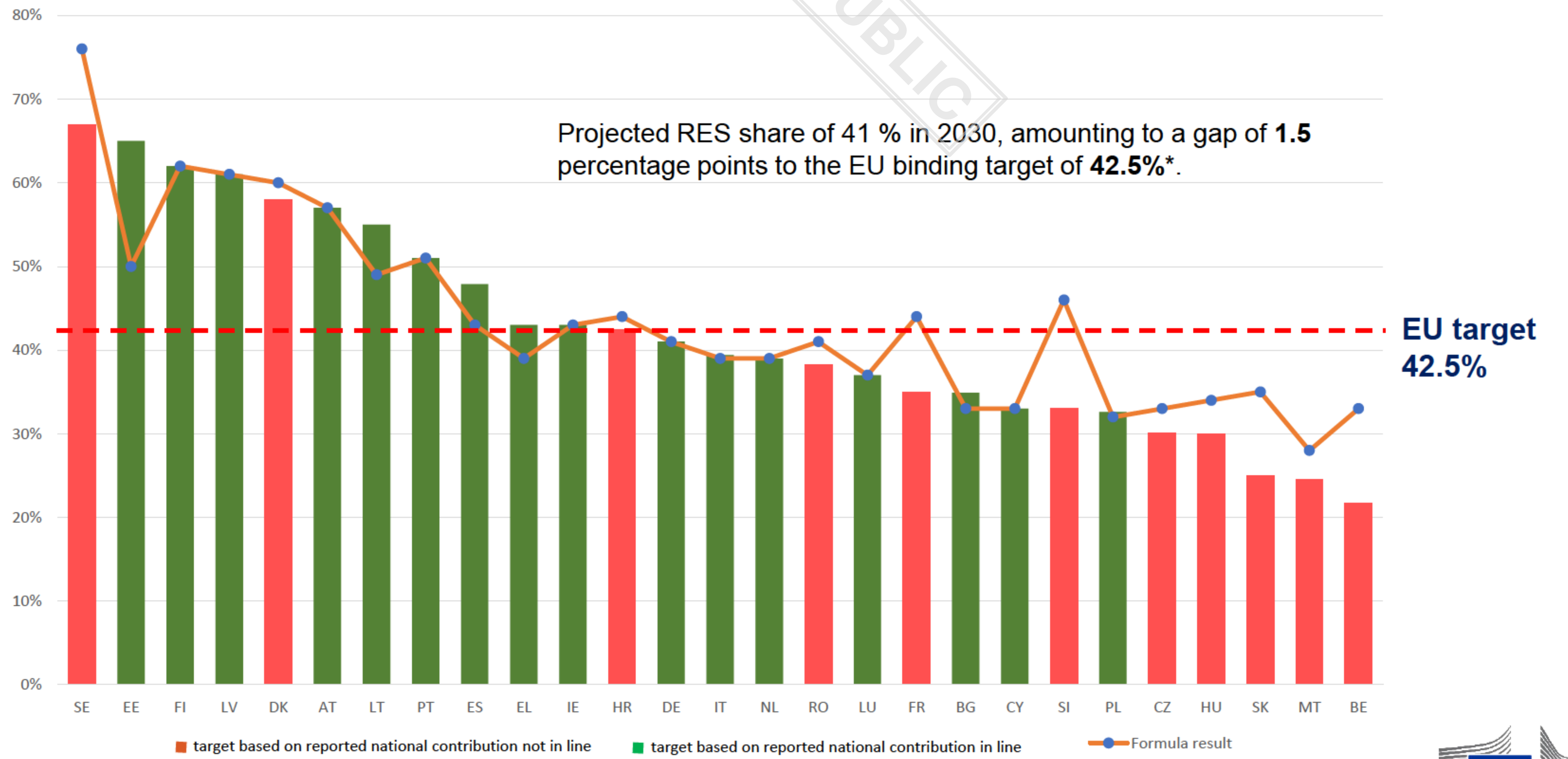
Two thirds of the Member States increased their ambition from draft to the final NECPs.

14 MS (7 MS in draft NECP)** submitted a contribution that is in line with the expected national contribution.

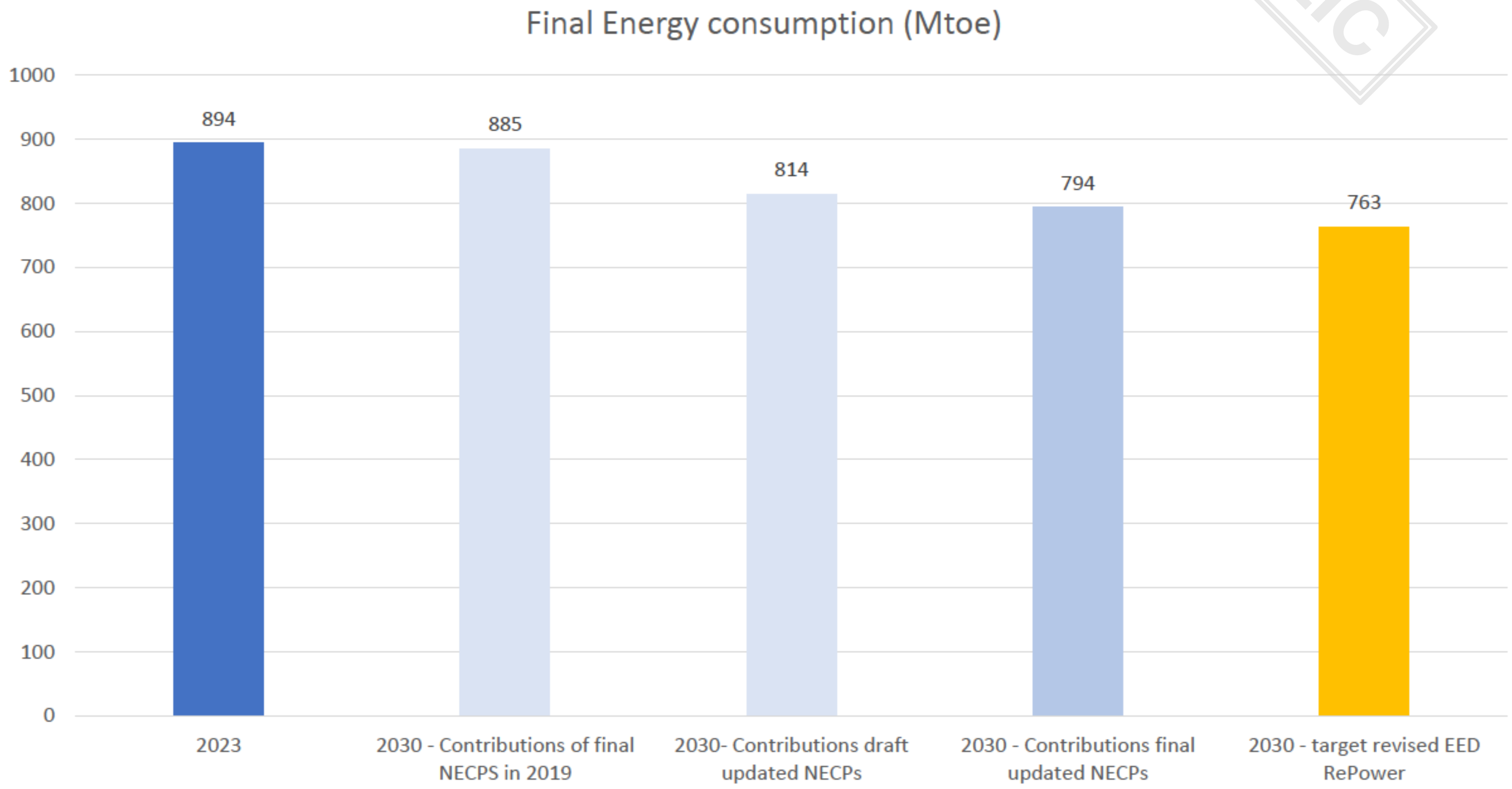
If Member States deliver on their more ambitious projections (WAM scenarios), the **EU has the potential to surpass the target**

*under the Governance Regulation and the revised RED II.
** Not considering Estonia and Poland who has not submitted their final NECPs before the assessment

Member States' alignment with renewable energy target



Energy Efficiency

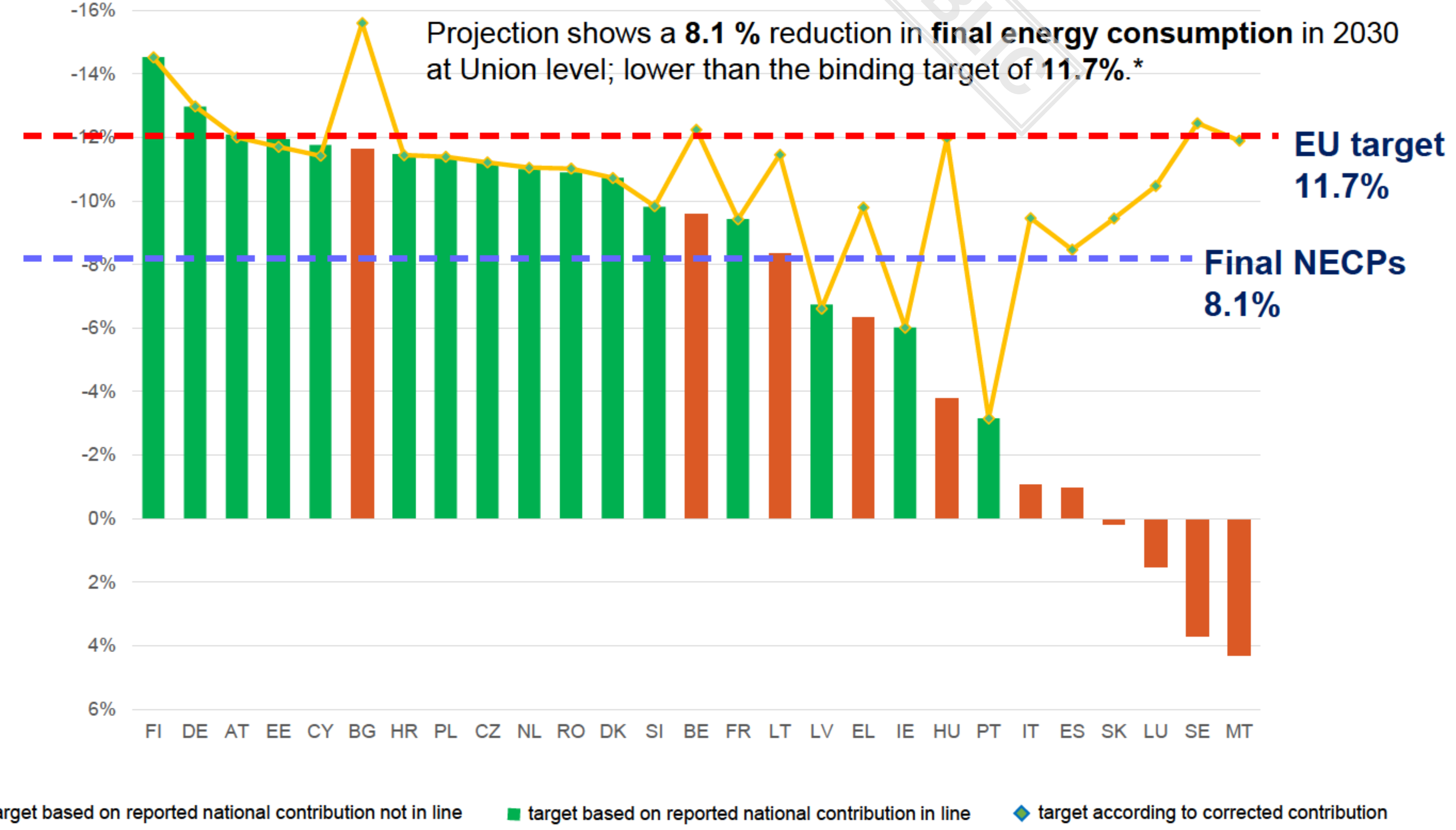


Ambition put forward by MS s
Increased with the final NECPs.
Projection to reduce **final energy consumption** by **8.1 %** in 2030 at Union level; lower than the binding target of **11.7%.***

*under the Governance Regulation and the EED recast.

10 MS (4 MS in draft NECP) submitted contributions on both primary and final energy consumption that are in line with their expected national contribution.

Member States' alignment with energy efficiency target



Renewable energy and energy efficiency – how to close the gaps

The **Commission** will keep working with Member States to:

- EU initiatives will support implementation (Affordable Energy Action Plan, European Energy Efficiency Financing Coalition, Electrification Action Plan)
- Create new impetus for energy efficiency centering work in 10 concrete areas
- Continue dialogue and support for Member States to facilitate implementation
- Monitor annual progress towards targets and where needed propose further measures to ensure collective target achievement

On **renewable energy**, Member States are encouraged to:

- accelerate the **electrification** to achieve the targets and support the uptake of renewable energy
- step up their efforts to ensure the swift and effective implementation and **enforcement of permitting rules**
- design measures to facilitate the **uptake of PPAs**
- promote the development of **renewable district heating and cooling systems**

On **energy efficiency**, Member States are encouraged to:

- Provide additional **financing to energy efficiency projects** and improve access to capital and provide financial incentives for the private sector
- speed up the pace of renovation to **decarbonize the building stock**
- Promote **electrification** of transport

Other Dimensions

An enabling framework for **NECP implementation** and to build upon for the **2040 target**.

Investments:
Need for comprehensive strategies to mobilise public and private finance

Energy security:
Need for more resilient infrastructure planning, diversification of energy supplies and reduced dependencies

Energy system flexibility
Need for infrastructure investments at all voltage levels.

Fossil fuel subsidies:
Need to phase them out swiftly

Competitiveness of industry:
Need for more support to scale up.

Energy poverty
Need for clear definitions and targets.

Just transition:
Need for:
- granular analysis of the impacts of the transition on skills and employment
- Comprehensive Social Climate Plans

Conclusions and next steps

Ambitious NECPs prove that achieving the 2030 targets is feasible.

A clear 2040 ambition will provide predictability and stability

In turn, this will support achieving the 2030 targets

Favourable environment for investments

- NECP implementation is essential
- Further efforts needed to close remaining gaps
- Use NECPs to mobilise public and private investments
- Role of NECPs to be revisited with the revision of the Governance Regulation

Commission guidance and EU initiatives to support Member States