Council of the European Union
General Secretariat

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Brussels, 14 January 2026

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MEETING DOCUMENT

From:	General Secretariat of the Council
To:	Working Party on Energy
Subject:	European Grids Package: Impact Assessment Report - Presentation

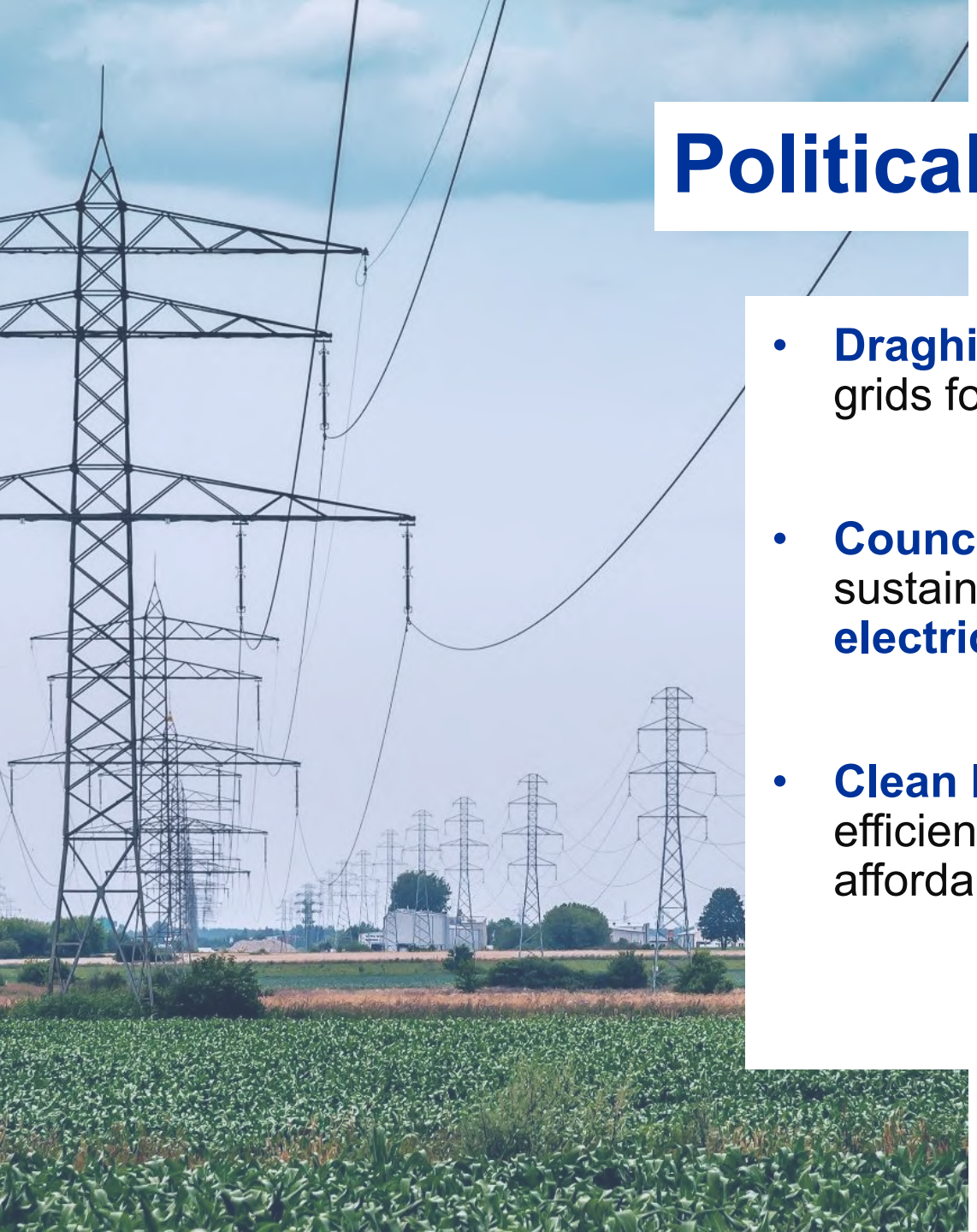
Delegations will find attached the presentation on European Grids Package: Impact Assessment Report.



European Grids Package

Impact Assessment Report

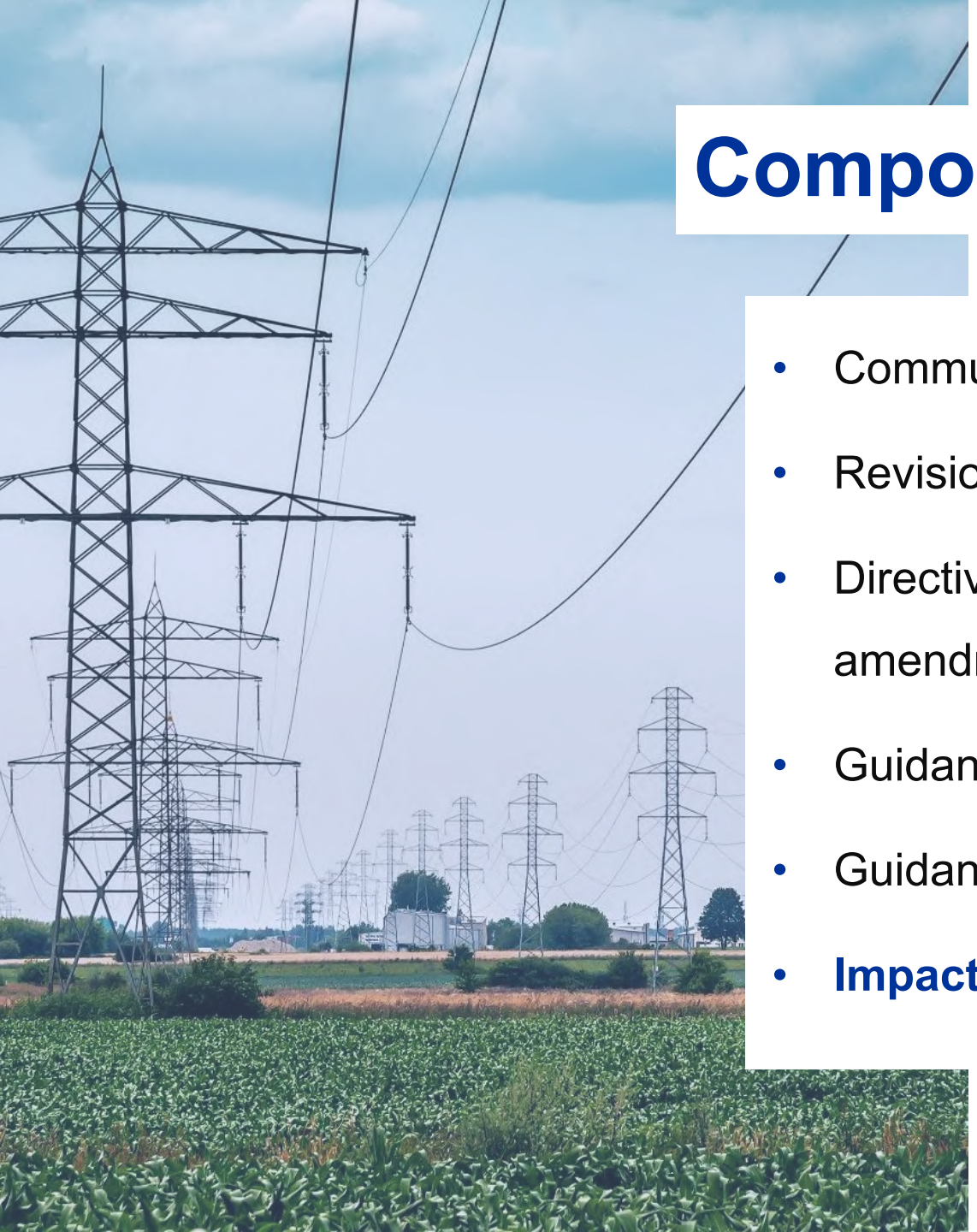
EWP, 13 January 2025



Political context

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- **Draghi and Letta reports** highlight the essential role of grids for competitiveness and the energy transition
- **Council Conclusions (20 May 2024)** on advancing sustainable electricity grid infrastructure and **EP report on electricity grids**
- **Clean Industrial Deal & Affordable Energy Action Plan** - efficient networks to help lower energy costs and support affordable living for Europeans.



Components of the package

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- Communication ‘European Grids Package’
- Revision of the TEN-E Regulation
- Directive to amend RED, EMD and Gas Directive as regards amendment of the permit granting procedures
- Guidance on efficient and timely grid connections
- Guidance on design of contracts for difference
- **Impact Assessment**

Today’s presentation

Process



13 May – 5 August
Call for Evidence / Open public consultation

May-July
Targeted consultations, e.g. Copenhagen Forum, High-Level Groups, Implementation Dialogue

27 August
IA submission to RSB

24 September
RSB meeting

10 December
Adoption of Grids Package

The proposal and its underpinning impact assessment draws on evidence from the:

- Implementation Reports on the TEN-E Regulation & permitting provisions of the RED
- ACER reports (incl. e.g. annual monitoring report on progress of electricity & gas PCIs)
- ENTSOs' TYNDP data and assessments
- JRC modelling
- Stakeholder input & extensive consultation
- External reports

Structure of the Impact Assessment Report

- Political and legal context
- Problem definition
- Why should the EU act?
- Objectives: What is to be achieved?
- What are the available policy options?
- What are the impacts of the policy options?
- How do the options compare?
- Preferred option
- How will actual impacts be monitored and evaluated?



EUROPEAN COMMISSION

Brussels, 10.12.2025
SWD(2025) 2000 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

[European Grids Package]

Accompanying the documents

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on guidelines for trans-European energy infrastructure, amending Regulations (EU) 2019/942, (EU) 2019/943 and (EU) 2024/1789 and repealing Regulation (EU) 2022/869

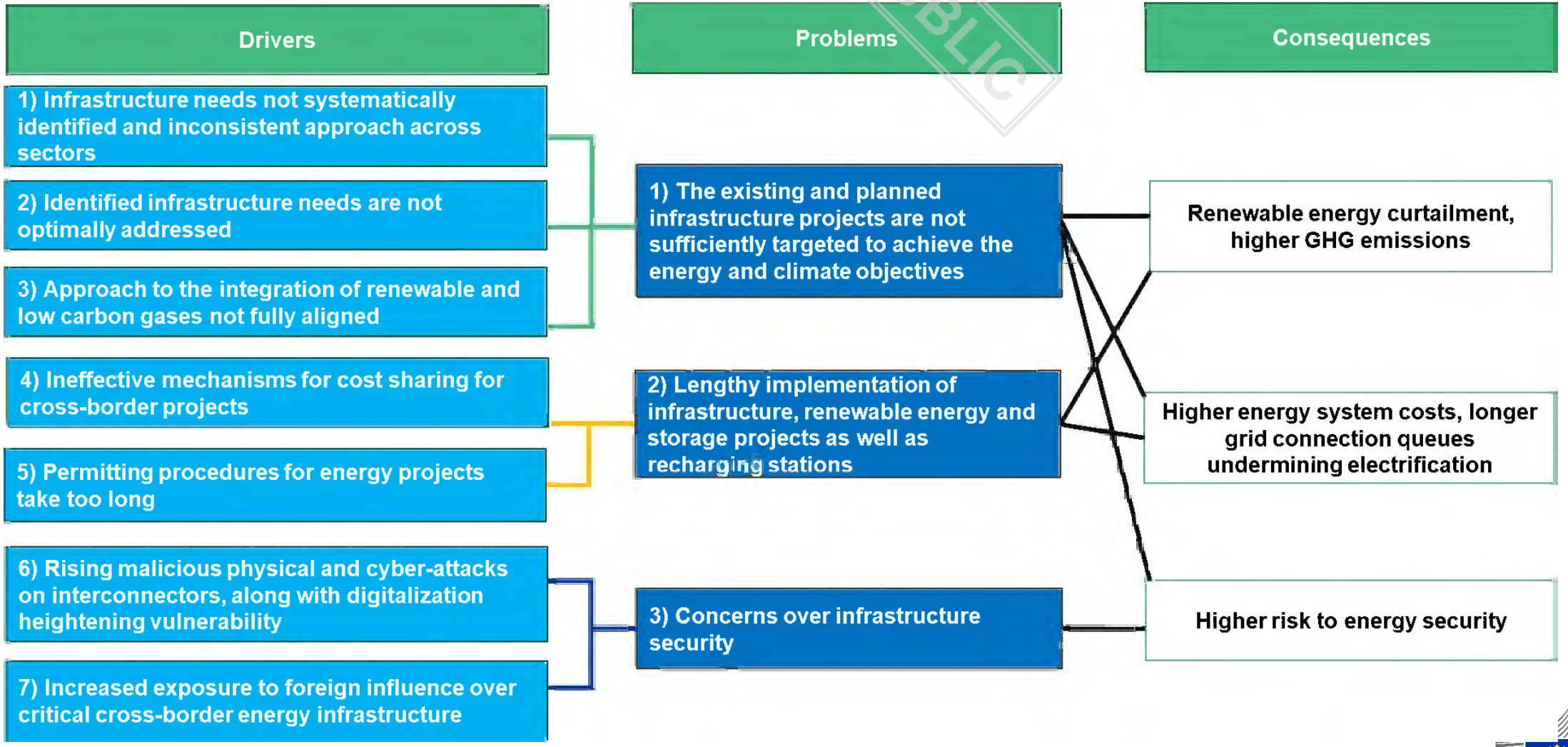
Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directives (EU) 2018/2001, (EU) 2019/944, (EU) 2024/1788 as regards acceleration of permit-granting procedures

{COM(2025) 1006 final} - {COM(2025) 1007 final} - {SWD(2025) 2001 final} - {SEC(2025) 2000 final}

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Problem definition

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Problem 1: Infrastructure planning

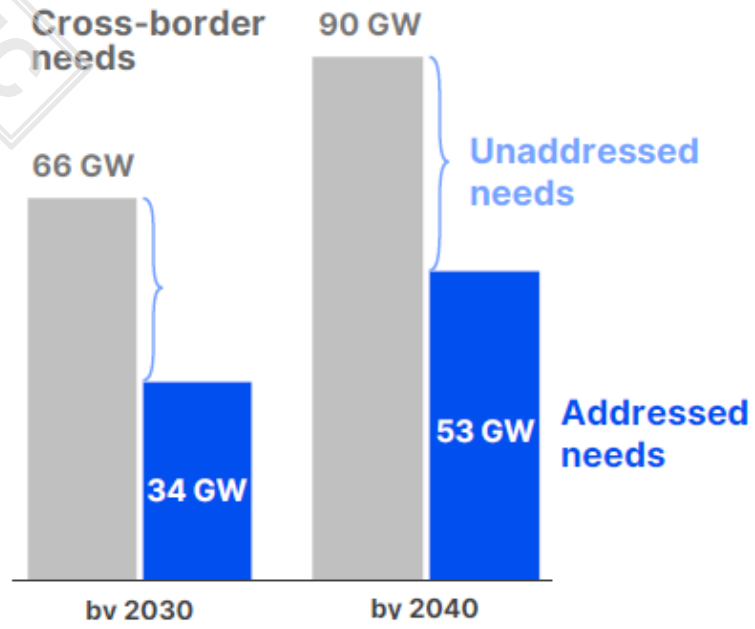
Existing and planned infrastructure projects are not sufficiently targeted to achieve the energy and climate objectives

- **Driver 1:** Infrastructure needs are not systematically identified and inconsistent approach across sectors
- **Driver 2:** Identified infrastructure needs are not systematically addressed

OPC

TYNDP falls short in addressing identified infrastructure gaps (44%).

- **Driver 3:** Approach to integration of renewable and low-carbon gases not fully aligned



€4.2 bn in congestion costs in 2023

€7.2 bn in RES curtailment costs in 7 countries alone in 2024

1700 GW of RES and hybrid projects waiting for grid connection 2024-2025

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Problem 2: Lengthy implementation (I)

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Lengthy implementation of infrastructure, renewable energy and storage projects as well as recharging stations

Driver 4: Ineffective mechanisms for **cost-sharing** for cross-border infrastructure projects

- Limited use of CBCA tool, so far only in CEF grant applications
- CBCA decisions have primarily followed territorial cost allocation principles
- Misalignment between where costs are born and where benefits of infrastructure are realised

OPC

38% respondents stated that the current framework is not fit for purpose.



Problem 2: Lengthy implementation (II)

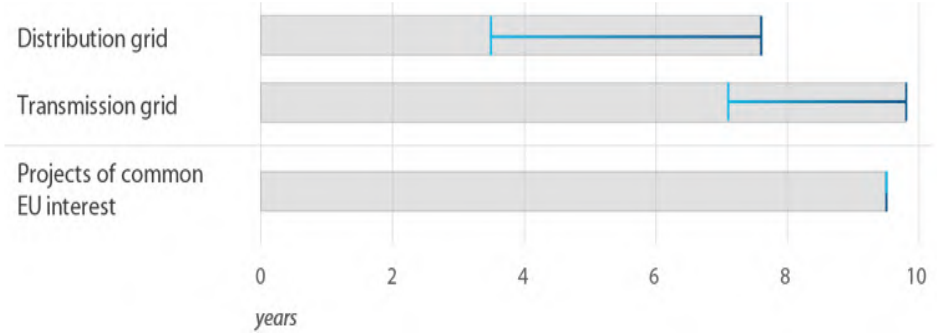
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Driver 5: Long **permit-granting times** are a key bottleneck for project completion

Ambitious energy acquis is already in place for permitting of RES (Council Emergency Regulation (expired), REDIII)

Important bottlenecks remain:

- Lack of EU-level framework for permitting of grids, stand-alone storage and recharging stations
- Issues not addressed or partially addressed in RED
- Limited resources in permitting authorities
- Long duration of environmental assessments
- Lack of digitalization of permitting procedures
- Inefficient & ineffective public participation processes



Source: ACER, Completion time of energy infrastructure projects

OPC

Permitting ranked as the leading obstacle to ensuring Europe's grid develops as needed for the energy transition (78%)

Up to **9 years** depending the RES technology & MS

1-7 years for storage projects depending on the technology

Up to **2 years** for construction or transformation of recharging stations

Problem 3: Infrastructure security

Concerns over infrastructure security

OPC

EU legal framework does not sufficiently address emerging risks (38%)

Driver 6: Rising malicious **physical and cyber-attacks** on interconnectors, along with digitalisation heightened vulnerability

Driver 7: Increased exposure to **foreign influence** due to foreign investment in EU infrastructure

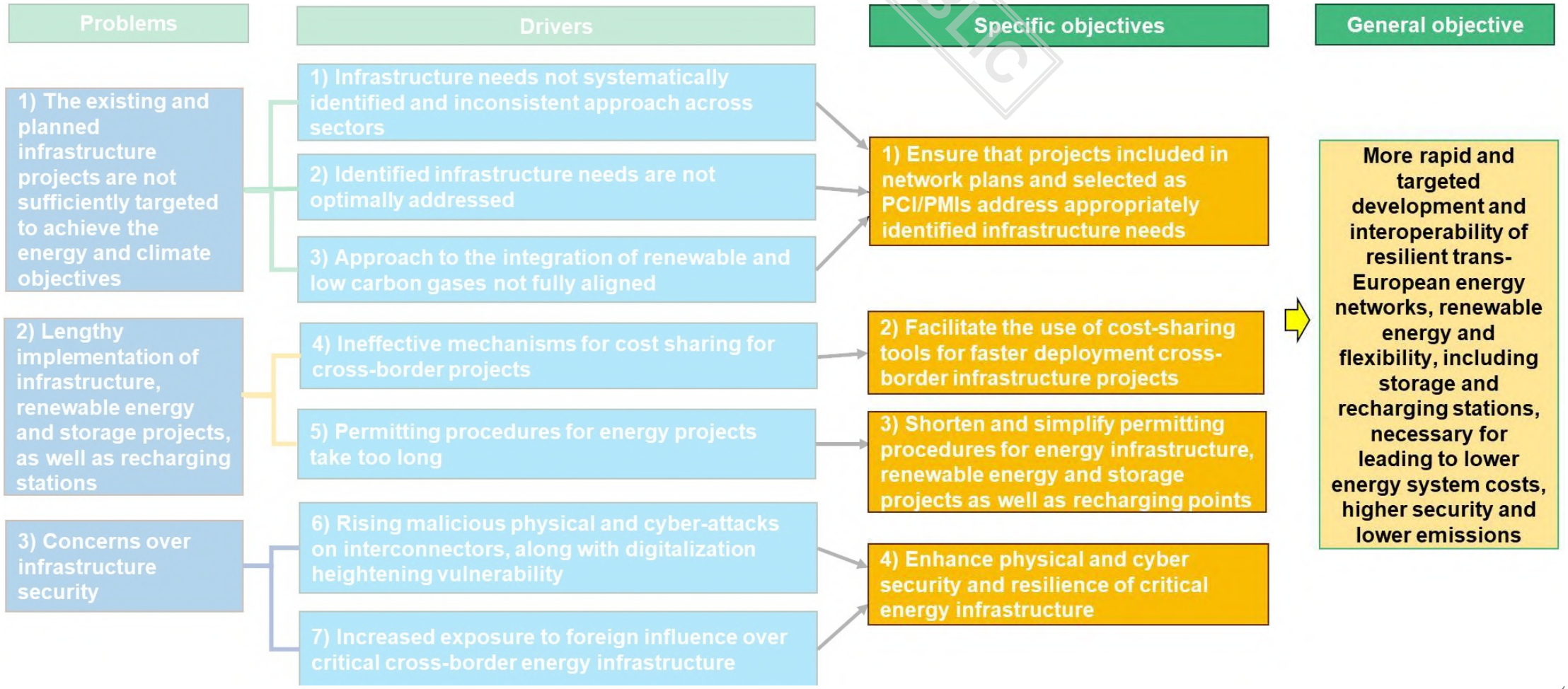
OPC

Only 14% indicate that the framework addresses the exclusion of non-trusted actors from participating in critical infrastructure projects



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Objectives

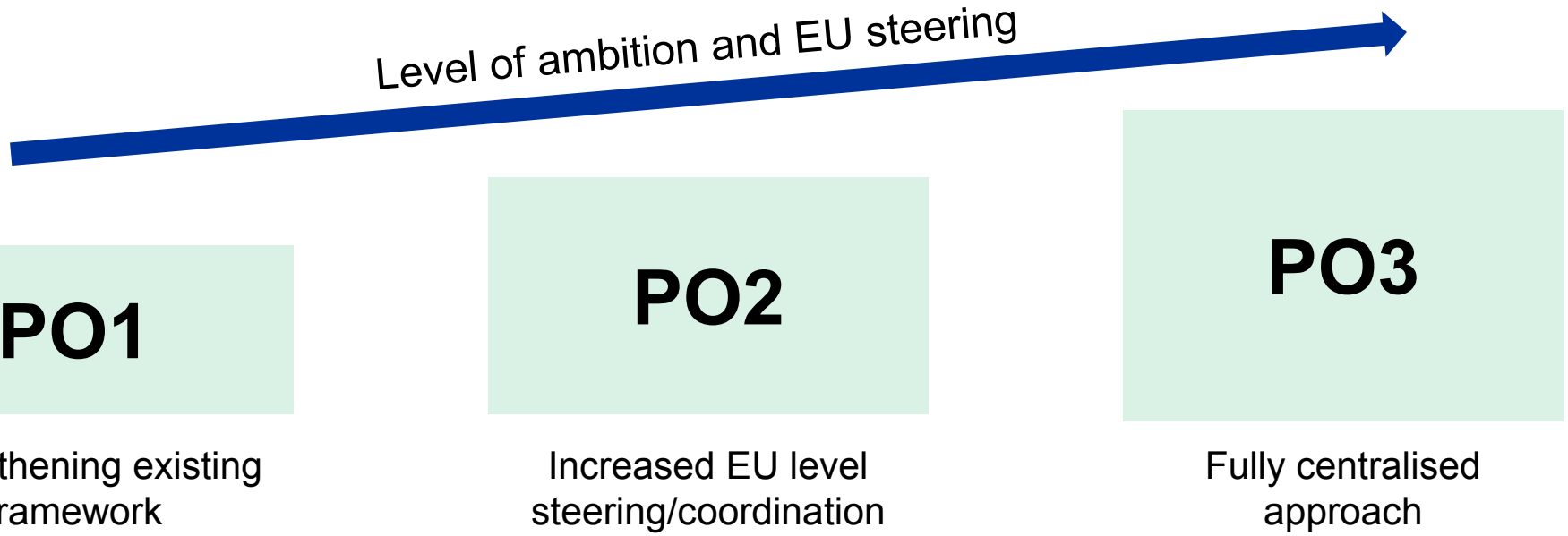


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Policy Options

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3 different policy options (PO) with different level of ambition and EU steer:



Infrastructure planning and project implementation

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Specific objective 1: Ensure that projects included in network plans address appropriately identified needs

Policy Option 1

- Strengthening the existing infrastructure planning framework, with shift to ex-ante checks by ACER, NRAs & EC
- Alignment of scope (smart gas grids, blending, electrolysers, projects of mutual interest)

Policy Option 2

- Alignment of scope (smart gas grids, blending, electrolysers, projects of mutual interest)
- **Increased EU level steering and coordination (move towards a more EU-level focused planning approach)**
- **Broaden scope of PCIs (modernization/digitalization)**

Policy Option 3

- Alignment of scope (smart gas grids, blending, electrolysers, projects of mutual interest)
- Broaden scope of PCIs (modernization/digitalization)
- **Fully centralized approach (top-down coordination and project selection at European level)**

Cost and benefit sharing

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Specific objective 2: Facilitate the use of cost-sharing framework for faster deployment cross-border infrastructure projects

Policy Option 1

- Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing
- Use of congestion income for financing of cross-border electricity infrastructure as an incentive to cost-sharing

Policy Option 2

- Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing
- Use of congestion income for financing of cross-border electricity infrastructure as an incentive to cost-sharing
- **Establishing an enabling framework for voluntary bundling of projects**

Policy Option 3

- Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing
- Use of congestion income for financing of cross-border electricity infrastructure as an incentive to cost-sharing
- Establishing an enabling framework for voluntary bundling of projects
- **Mandatory offshore regional planning and cost-sharing**

Permitting

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Specific objective 3: Shorten and simplify permitting procedures for energy infrastructure, renewable energy and storage projects as well as recharging points

Policy Option 1

- Supporting the implementation of existing legislation and issuing guidance

Policy Option 2

- Supporting the implementation of existing legislation and issuing guidance
- **Targeted legislative changes to accelerate permitting**

Policy Option 3

- Supporting the implementation of existing legislation and issuing guidance
- Targeted legislative changes to accelerate permitting
- **Centralised EU wide permitting coordination regime for infrastructure projects [28th Regime]**

Security

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Specific objective 4: Enhance physical and cyber security and resilience of critical energy infrastructure

Policy Option 1

- Including physical and cyber-risk resilience considerations in the monitoring of candidate PCIs and PMIs

Policy Option 2 & 3

- Including physical and cyber-risk resilience considerations in the monitoring of candidate PCIs and PMIs
- **Additional transparency requirements regarding the ultimate beneficial owners of candidate PCI/PMIs**
- **Broaden scope of PCIs (security and resilience-related equipment for the upgrade of existing electricity infrastructure)**

Policy options

SO1 Infrastructure planning and project implementation: Ensure that projects included in network plans address appropriately identified needs	SO2 Cost and benefit sharing: Facilitate the use of cost-sharing framework for faster deployment cross-border infrastructure projects	SO3 Permitting: Shorten and simplify permitting procedures for energy infrastructure, renewable energy and storage projects as well as recharging points	SO4 Security: Enhance physical and cyber security and resilience of critical energy infrastructure

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Policy option 1	Policy option 2	Policy option 3
A1 Maintain the current framework with ex-ante checks	**A2 Increased EU level steering and coordination**	**A3 Fully centralized approach**
A4 Alignment of scope (smart gas grids, blending, electrolysers)	A4 Alignment of scope (smart gas grids, blending, electrolysers)	A4 Alignment of scope (smart gas grids, blending, electrolysers)
B1 Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing	**A5 Broaden scope of PCIs (modernization/digitalization as well security/resilience)**	A5 Broaden scope of PCIs (modernization/digitalization as well security/resilience)
B2 Use of congestion income for financing of cross-border electricity infrastructure	B1 Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing	B1 Enhancing transparency and strengthening EU principles for cross-border energy infrastructure costs and benefits sharing
C1 Supporting the implementation of existing legislation and issuing guidance	B2 Use of congestion income for financing of cross-border electricity infrastructure	B2 Use of congestion income for financing of cross-border electricity infrastructure
D1 Including physical and cyber-risk resilience considerations in the monitoring of candidate projects	**B3 Establishing an enabling framework for project bundles**	B3 Establishing an enabling framework for project bundles
	C1 Supporting the implementation of existing legislation and issuing guidance	**B4 Mandatory offshore regional planning and cost-sharing**
	C2 Targeted legislative changes to accelerate permitting	C1 Supporting the implementation of existing legislation and issuing guidance
	D1 Including physical and cyber-risk resilience considerations in the monitoring of candidate projects	C2 Targeted legislative changes to accelerate permitting
	D2 Additional transparency requirements regarding the ultimate beneficial owners of candidate PCI/PMI projects	**C3 Impose a centralised EU wide permitting coordination regime for infrastructure projects [28th Regime]**
	D3 Broaden scope of PCIs (security and resilience-related equipment for the upgrade of existing electricity infrastructure)	D1 Including physical and cyber-risk resilience considerations in the monitoring of candidate projects
		D2 Additional transparency requirements regarding the ultimate beneficial owners of candidate PCI/PMI projects
		D3 Broaden scope of PCIs (security and resilience-related equipment for the upgrade of existing electricity infrastructure)



Assessment of impacts

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Main analytical methods:

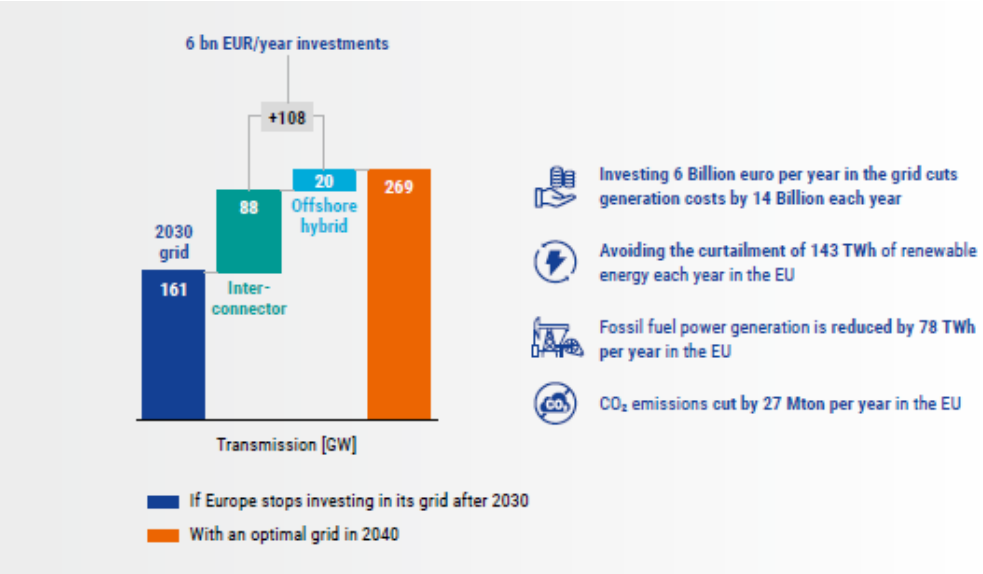
- **2024 TYNDP Infrastructure Gaps Report** which identifies potential needs in terms of increase of interconnection capacities at ENTSO-E perimeter by 2030, 2040 and 2050 time horizons.
- **Infrastructure needs assessment by JRC** using METIS 3 model and based on the National Trends + scenario 2030 and 2040.
- **Analysis of the delays in infrastructure deployment by JRC** based on the 2024 TYNDP National Trends + data and METIS model optimisation, and based on data on delays coming from 2020 to 2026 TYNDP project collections.

Results of the assessment (I)

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Impacts of the policy options are assessed against their potential to achieve the **optimal grid scenario** with estimated **€8 bn/year net energy system cost savings** by 2040:

- **BAU** estimated under assumption of timely implementation of the TYNDP projects portfolio by 2040; however, expected delays & challenges to project deployment.
- **PO1** would achieve benefits of the optimal grid scenario only to a limited extent compared to PO2 & PO3, as it would not ensure that identified cross-border infrastructure needs are addressed.
- **PO2 & PO3** would increase benefits and come closest to an optimal grid by ensuring that cross-border infrastructure needs are covered, leading to net savings of €8 bn/year in line with the optimal grid.



Source: ENTSO-E 2024 TYNDP

Results of the assessment (II)

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Energy system benefits

PO1

- Limited system benefits due to gap in projects addressing the identified needs, hence lower reduction in system costs**.**

PO2 & PO3

- Additional net savings of **€1.8 bn/year** in comparison to PO1 thanks to bridging the **infrastructure gap** of 30 GW by 2040.
- Positive impacts of **cross-sectoral planning -** integrated planning of all sectors in Europe could bring up to **€561 bn** savings 2030-2050 and up **to €200 bn** in savings from avoided back-up capacities.
- Avoided costs in delays or unrealized cross-border projects due to complex **cost-sharing** discussions.
- Avoided **welfare loss of approx. €515 mn** in 2030 due to delays of infrastructure permitting**.**
- Avoided costs of **security incidents**, such as outages and emergency repairs. **Ex.** 2024 Estlink 2 outage – €30 mn repair costs & €94 mn loss in socio-economic benefits.

Results of the assessment (III)

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Competitiveness

- Lower energy system costs & avoided network tariff increases; highest impact PO2 & PO3.
- Completion of 2024 TYNDP project portfolio by 2040 would lead to **€603 bn** mobilised in production and create **4.1 mn jobs** in the EU.

Digitalisation

- Priority treatment **in network planning and new category for non-wire** alternative solutions under PO2 & PO3, with positive implications also for innovation.
- **Deploying dynamic line rating** alone on most congested network elements in the EU would alone bring net benefits of **€2.67 bn** over 20 years, **freeing 27 GW of capacity**
- **Digitalisation of permitting** procedures under PO2 & PO3.

Results of the assessment (V)

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Administrative & adjustment costs

PO1

- Minimal additional administrative and adjustment costs, due to **limited changes** to current framework and responsibilities.

PO2

- Administrative costs for EC & ACER for the **development of the central scenario,** to some extent offset by administrative savings for ENTSO-E and ENNOH and **the reduced frequency of TYNDP process** to 4 years.
- Short-term cost increase to implement revised **permitting rules,** expected to be offset by cost-reduction in long term from streamlined and digitalised procedures.

PO3

- Substantial administrative cost for the **creation of an EU entity** for infrastructure planning
- Administrative costs for EC, MSs, NRAs and system operators to implement mandatory **regional planning and cost-sharing** framework
- Substantial administrative costs for setting up **European coordination entity for permitting.**

Results of the assessment (VI)

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Social impacts

- Optimised grid planning **limits system costs transferred to consumers** through grid tariffs. **PO2 and PO3** limit costs on consumers compared to PO1 and BAU.
- Further electrification will allow to **spread grid investment costs** over a higher number of kWh.
- Strengthened early and effective **public engagement** under PO2 and PO3**,** fostering public support for renewable energy projects.

Environmental impacts

- More positive environmental impacts in **PO2 and PO3** through proposed measures which support RES integration
- Reduced CO2 emissions of **27 Mtoe/year** in the EU from optimal grid scenario
- Reduced re-dispatching of RES could save **€37 billion/year** in 2040
- Impacts of **permitting** measures are dependent on the measures' design and the technology type.

Comparison of policy options (I)

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Preferred policy option!

Impacts	PO1	PO2	PO3
Effectiveness	+	++	++
Efficiency	+	++/+++	+/++
Coherence	+	++	+
Subsidiarity and proportionality	++	+/++	-
Summary comparison of options (contribution to general objective)	**+**	**++**	**+**

Comparison of Policy Options (II)

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Effectiveness

- More robust process for **identifying and addressing infrastructure needs** (central scenario & gap filling mechanism) under PO2 & PO3; limits to PO3.
- More comprehensive & incentives-based approach to **cost-sharing** under PO2; mandatory approach under PO3.
- Legislative changes to ensure shorter **permitting** times for broader category of assets under PO2, without introducing 28th regime (PO3)
- Stronger incentives to enhance **security** of cross-border energy infrastructure under PO2 & PO3.

Efficiency

- Most cost-efficient option by reducing the **frequency of scenarios & needs assessment** (4-year cycle) (PO2), while avoiding added costs of EU entity under PO3.
- Expected to increase the use of **cost-sharing tools** and accelerate project implementation (PO2), without imposing costs on stakeholders as under PO3. Project bundling also expected to bring efficiency gains.
- Short-term cost-increase to implement **permitting** rules with expected long-term gains from **digitalization.** Avoiding added costs of new European coordinator under PO3.

Comparison of policy options (III)

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Coherence

- Better **link national & EU planning**, by requiring the use of the central scenario (PO2 & PO3)
- Align with **simplification agenda,** by removing unnecessary steps (PO2 & PO3).
- Ensure coherence with broader EU security regulatory framework (PO2 & PO3).
- **Lower coherence of PO3** due to mandatory regional planning and cost-sharing incompatibility with the objective of a voluntary enabling framework for project bundling.

Subsidiarity & Proportionality

PO1: lowest level of intervention, but not sufficiently effective to meet objectives**.**

PO2: new responsibilities at EU-level, while strengthening competences of MS:

- New infrastructure planning responsibilities for EC & enhanced role of MSs and ACER
- Improved CBCA framework through voluntary approach.
- Measures to accelerate permitting, without imposing centralised EU level regime.

PO3:

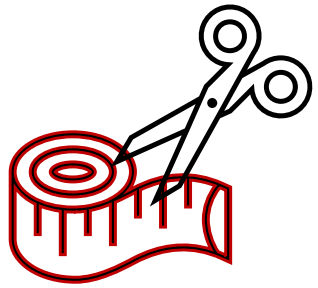
- EU-level entities & more centralised regime for cross-border infrastructure planning and permitting.
- Mandatory regional planning & CBCAs within EU sea basins.

Preferred policy option 2

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- Provides a more **robust identification of infrastructure needs & infrastructure gap filling mechanism** through further EU-level steer compared to PO1, but with less added costs and EU intervention compared to PO3.
- Ensures more effective **cost-sharing** framework compared to PO1, while maintaining a voluntary and incentives-based approach which is more cost-efficient and proportionate compared to PO3.
- Effectively addresses **permitting shortcomings** through targeted legislative measures aiming to bring efficiency gains in the longer-term compared to PO1, without adding administrative layer and associated costs compared to PO3.
- Ensures **security** concerns are more effectively addressed and reflected in infrastructure planning with broadened TEN-E scope compared to PO1.
- Aligns with **simplification agenda,** by streamlining and removing unnecessary administrative steps across intervention areas.

Simplification & admin burden reduction



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Preferred policy option (PO2):

- Reduced **frequency of TYNDP** process & simplified application for **mature PCIs & PMIs.**
- Removal of **ACER opinions** on draft scenarios and infrastructure gaps identification reports & on the draft PCI/PMI list.
- Streamlining the use of **priority corridors & Regional Groups** to have leaner and more agile approach adapted to changing circumstances.
- Streamlined **CBCA process** with enhanced transparency and updated ACER recommendation.
- Simplified and digitalised **permitting processes** with reduced administrative burden on promoters and authorities.

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