



Towards EU climate neutrality: progress, policy gaps and opportunities

**Key findings and recommendations of the European
Scientific Advisory Board on Climate Change**

Public webinar, 22 January 2024

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<https://climate-advisory-board.europa.eu>



European Scientific
Advisory Board on
Climate Change

Context and approach

EU climate objectives in the European Climate Law



9.7.2021 EN Official Journal of the European Union L 243/1

I
(Legislative acts)

REGULATIONS

REGULATION (EU) 2021/1119 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 30 June 2021
establishing the framework for achieving climate neutrality and amending Regulations (EC)
No 401/2009 and (EU) 2018/1999 ('European Climate Law')

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinions of the European Economic and Social Committee ⁽¹⁾,

Having regard to the opinion of the Committee of the Regions ⁽²⁾,

Acting in accordance with the ordinary legislative procedure ⁽³⁾,

Whereas:

- (1) The existential threat posed by climate change requires enhanced ambition and increased climate action by the Union and the Member States. The Union is committed to stepping up efforts to tackle climate change and to delivering on the implementation of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (the 'Paris Agreement') ⁽⁴⁾, guided by its principles and on the basis of the best available scientific knowledge, in the context of the long-term temperature goal of the Paris Agreement.
- (2) The Commission has, in its communication of 11 December 2019 entitled 'The European Green Deal' (the 'European Green Deal'), set out a new growth strategy that aims to transform the Union into a fair and prosperous society, with a modern, resource-efficient and competitive economy, where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. The European Green Deal also aims to protect, conserve and enhance the Union's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts. At the same time, this transition must be just and inclusive, leaving no one behind.
- (3) The Intergovernmental Panel on Climate Change (IPCC) provides in its 2018 Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty, a strong scientific basis for tackling climate change and illustrates the need to rapidly step up climate action

⁽¹⁾ OJ C 364, 28.10.2020, p. 143, and OJ C 10, 11.1.2021, p. 69.

⁽²⁾ OJ C 324, 1.10.2020, p. 58.

⁽³⁾ Position of the European Parliament of 24 June 2021 (not yet published in the Official Journal) and decision of the Council of 29 June 2021.

⁽⁴⁾ OJ L 282, 19.10.2016, p. 4.

- In pursuit of the **Paris Agreement 1.5°C temperature goal**:
 - EU climate neutrality by **2050 at the latest**
 - at least 55% net reduction by **2030** compared to 1990

- Reports of the Advisory Board should inform specific tasks of the European Commission:

- **2040 target** and indicative 2030-2050 emissions budget
→ *Advisory Board recommendations on an EU 2040 target*

- regular assessment of **EU progress** and of the **consistency of EU and national measures** towards EU climate goals
→ *Advisory Board report on progress and consistency*

A report to take stock and advise EU policy-makers on how to make EU policies 'fit for net zero'

- **First global stocktake**: call for accelerated action with deep, rapid and sustained GHG reductions
- Two EU policy cycles, connected but at different stages:
 - EU's **2030 target**: Fit for 55 in place, moving to **implementation**
 - EU's **climate neutrality objective**: upcoming discussions on EU's **2040 target**, then on the **next policy framework** for post-2030
- **EU elections** in June 2024: new European Commission and European Parliament by end 2024

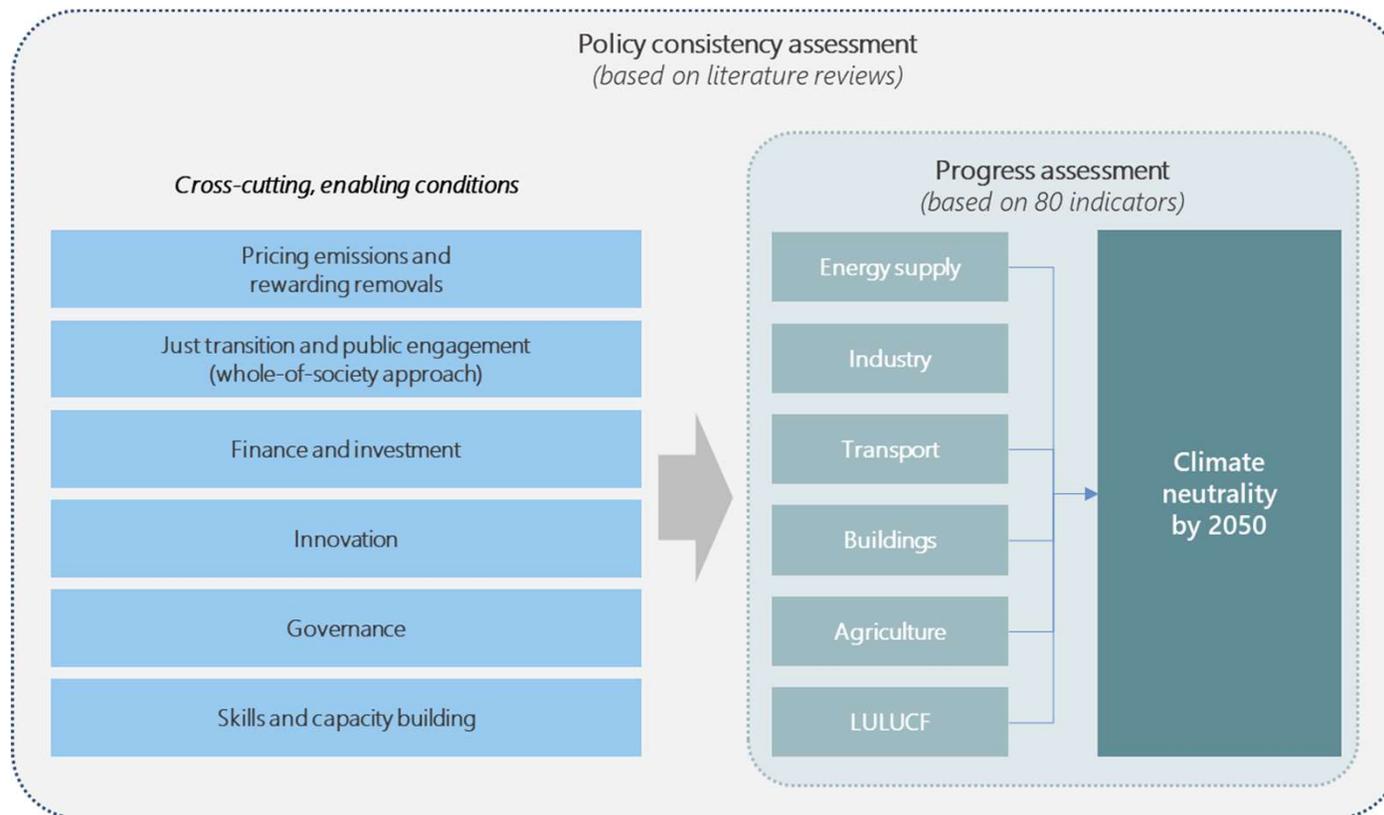
Policy consistency assessment based on needs, gaps and recommendations

The report identifies:

- **needs**: what needs to happen for the EU to remain on track to climate goals?
- **gaps**: are there any gaps in the current policy framework?
 - **policy gap** = no policy in place
 - **ambition gap** = policy in place but insufficiently ambitious
 - **implementation gap** = ambitious policy in place but poor implementation
 - **policy inconsistency** = policy in place is counterproductive
- **recommendations** to address these gaps

The report assess progress and policy consistency

Combining a sectoral perspective with an analysis of cross-cutting enabling conditions



Sectoral assessment framework: emissions, outcomes, levers and enablers

GHG emission
reductions

= expected **contribution of each sector** towards -55% by 2030 and climate neutrality by 2050

outcomes

= main results to be achieved on the **demand** side and the **supply** side to drive emissions reductions

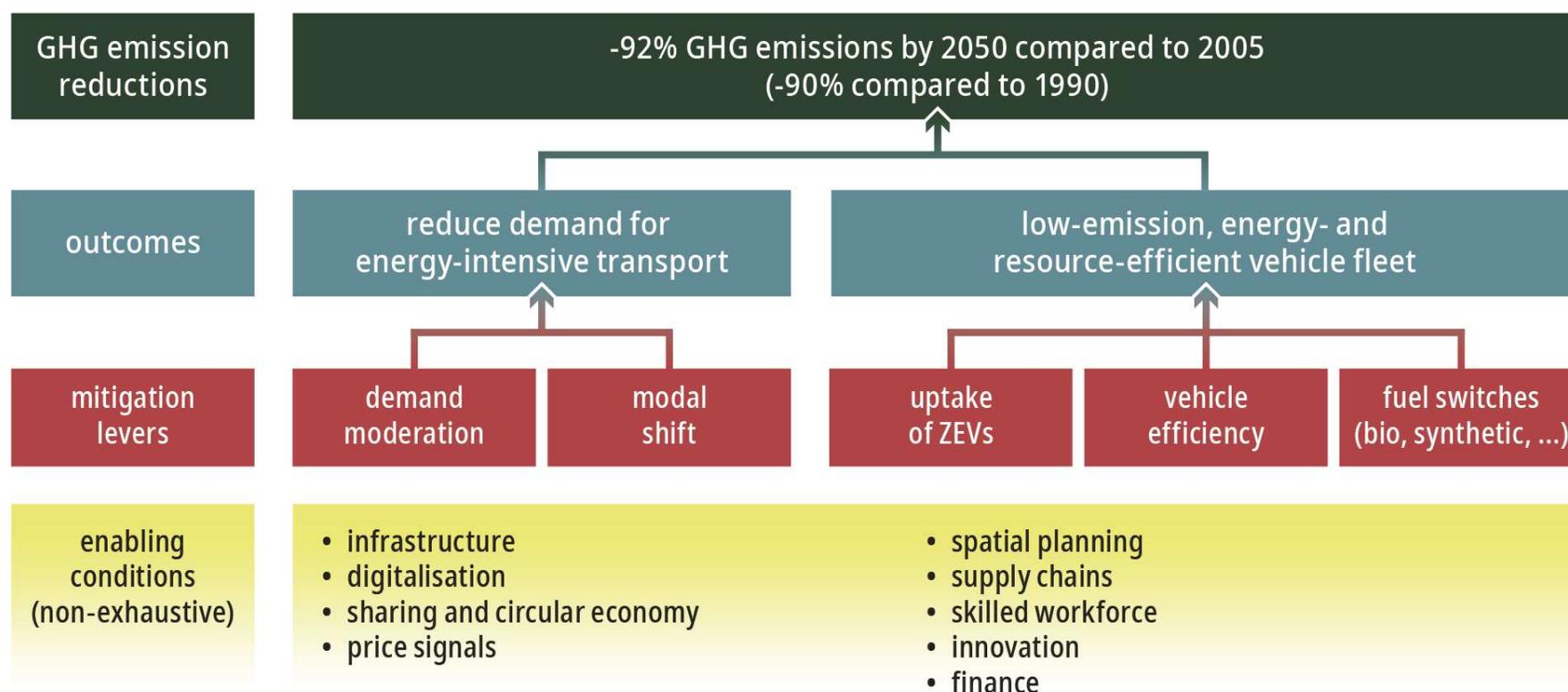
mitigation
levers

= **changes that can deliver** the desired outcomes

enabling
conditions
(non-exhaustive)

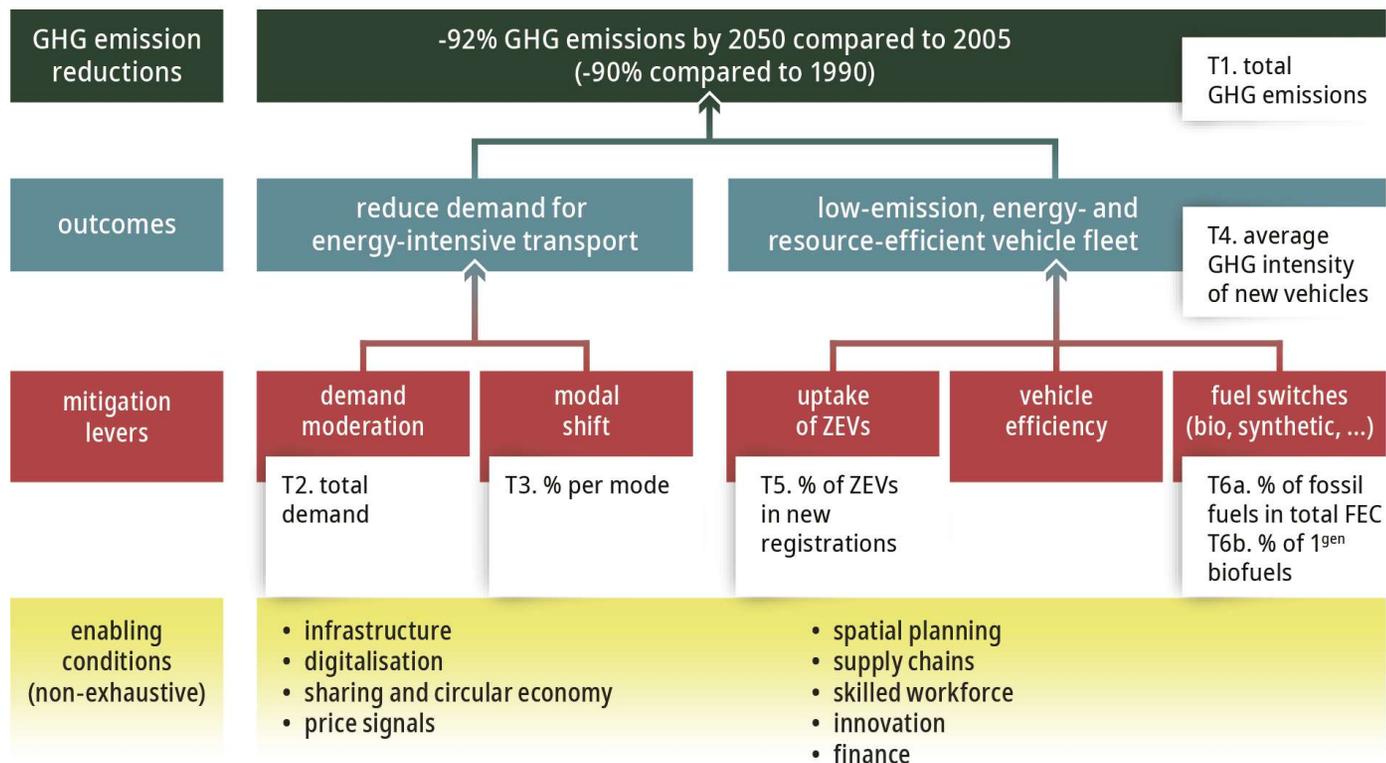
= **changes that can facilitate or are crucial to** the activation of different levers
(sector-specific or cross-cutting)

Sectoral assessment framework: emissions, outcomes, levers and enablers – e.g. for transport



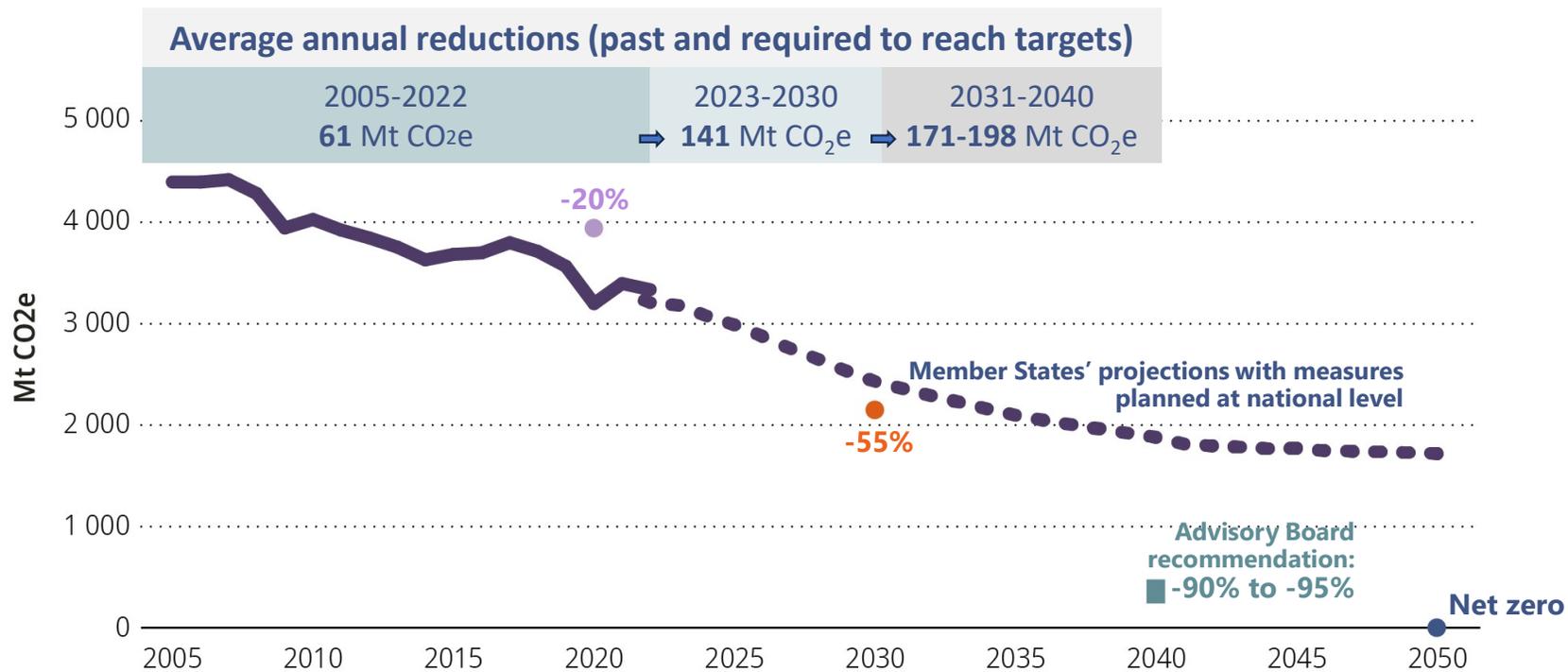
Tracking sectoral progress based on indicators

We then selected indicators to track progress along the different building blocks



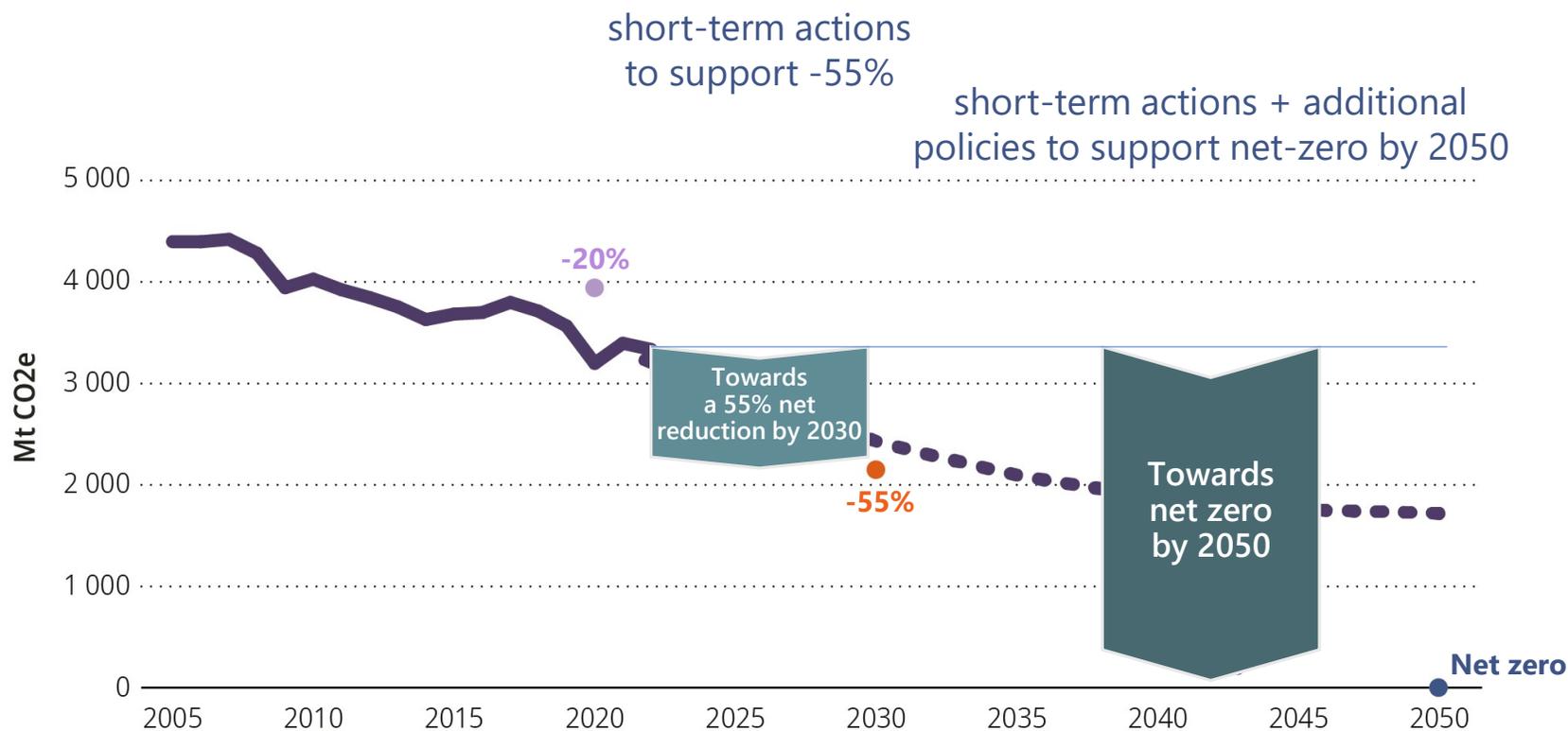
The Advisory Board structured its recommendations around policy targets and action urgency

Overall progress: EU is making progress in reducing emissions, but large gap looms post-2030



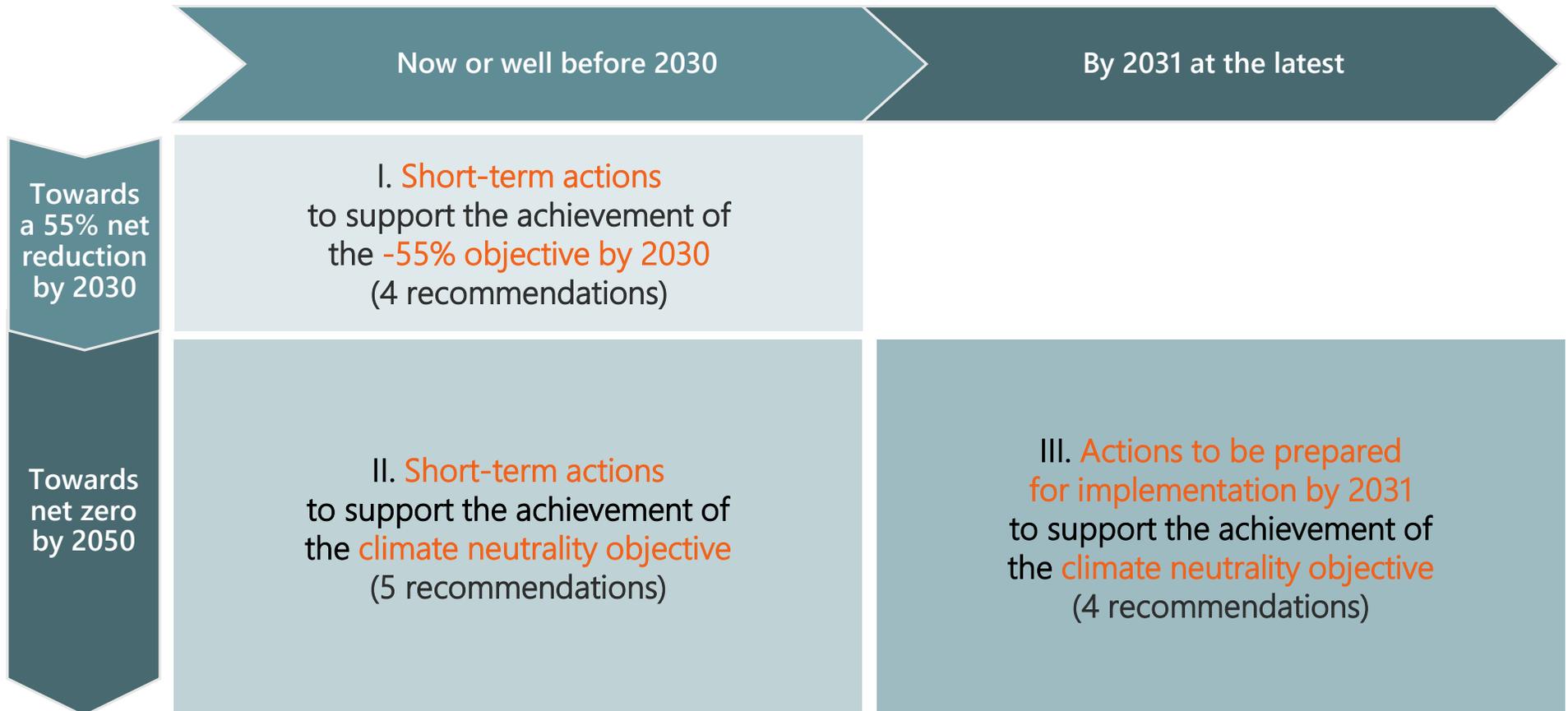
Source: Advisory Board based on GHG inventory data

Recommendations to support EU climate objectives



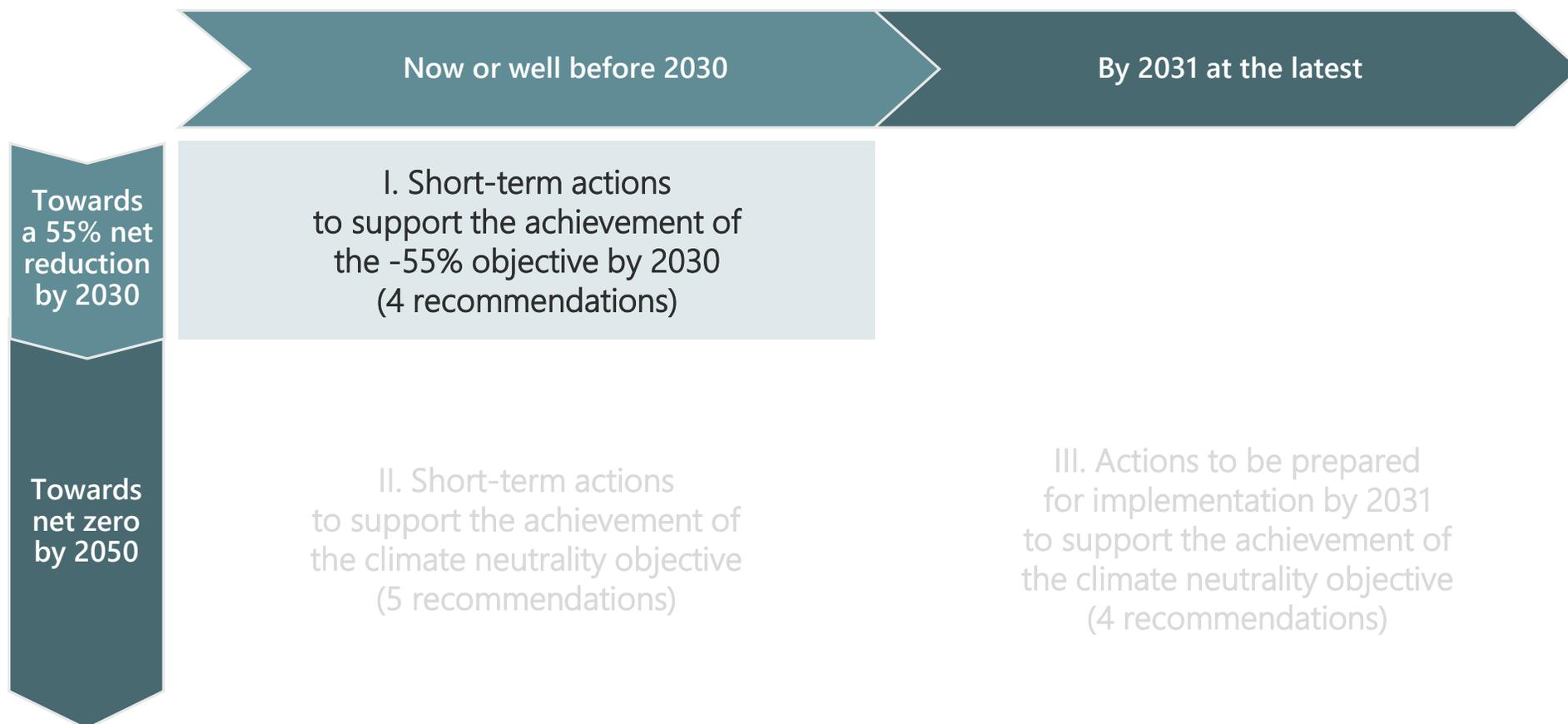
Source: Advisory Board based on GHG inventory data

Overall recommendation: focus on immediate implementation and continued action to achieve EU climate goals

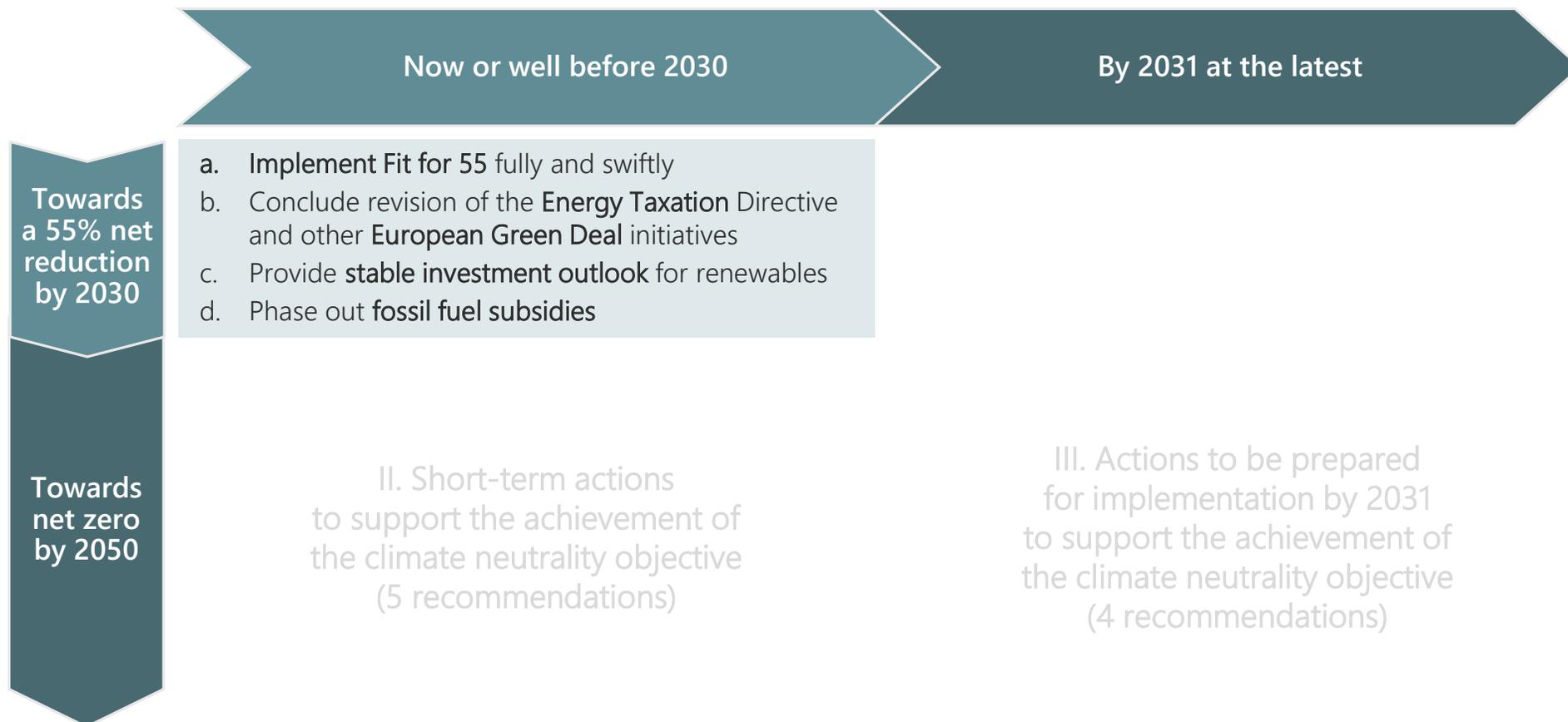


The Advisory Board's 13 key recommendations

I. Short-term actions to support -55%

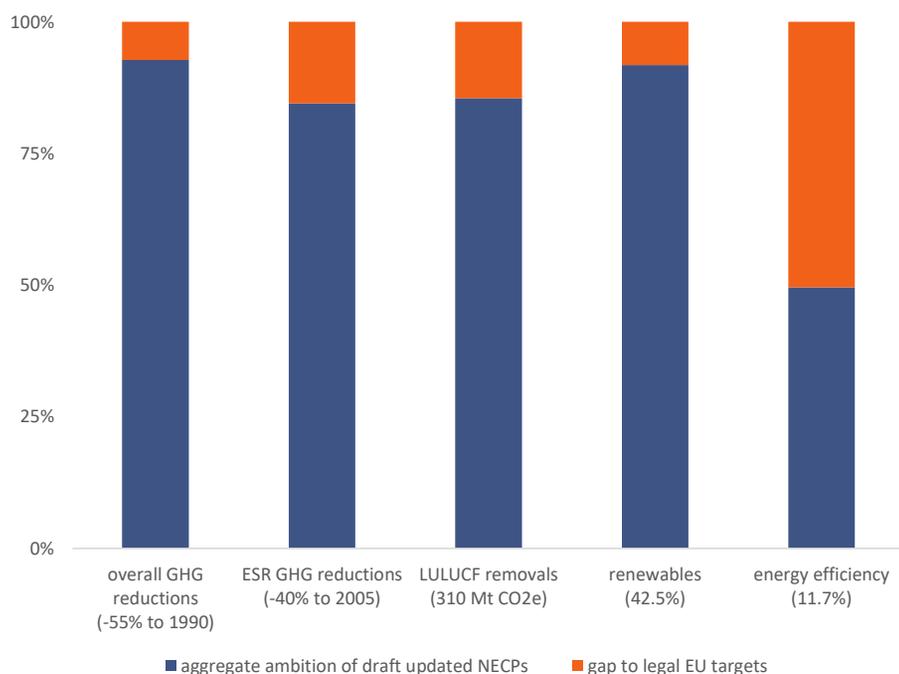


I. Short-term actions to support -55%



I.a Urgently adopt and implement Fit for 55 through national measures

Commission's analysis of gaps between draft national plans and EU 2030 objectives



- Fit for 55 largely depends on **national implementation**
 - Draft updated national energy and climate plans (NECPs) **insufficiently ambitious**
 - **Only 7 years left to 2030**
- Bring final updated **NECPs in line with 2030 targets**
- Urgently adopt and **implement national measures**
- European Commission should ensure full **compliance** of NECPs with EU laws, and enforce if necessary

Source: European Commission, EU wide assessment of the draft updated National Energy and Climate Plans (2023)

I.b Adopt pending legislation aimed at supporting greenhouse gas reductions

Examples of key legislative initiatives that remain to be adopted

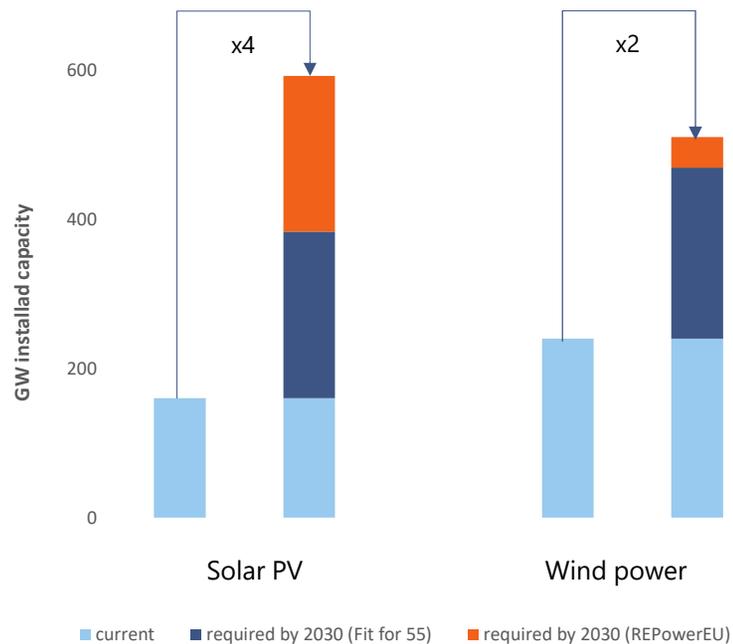
Headline strategy	Legislative initiative	Status
Fit for 55	Revision of the Energy Taxation Directive	Tabled, not yet adopted
EGD sectoral strategies	Regulation on the use of railway infrastructure capacity	Tabled, not yet adopted
	Legislative framework on Sustainable food systems	Announced, not yet tabled
Other	Net-Zero Industry Act	Tabled, not yet adopted
	Revision of the electricity market design	Close to adoption

→ Adopt **ambitious revision** of the Energy Taxation Directive

→ **Conclude** legislative process on other **pending initiatives**

I.c Provide stable investment outlooks for renewable energy

Deployment of renewables need to accelerate significantly

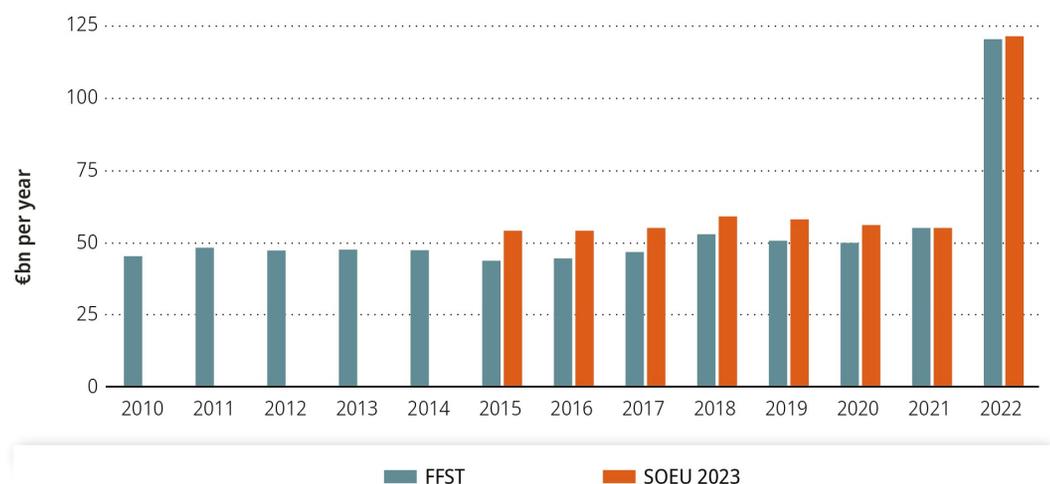


Source: Eurostat, Fit for 55 and REPowerEU scenarios

- Several **bottlenecks** hinder deployment of renewables (e.g. permits, supply chains, grid)
 - Adopt **pending legislation** (Net Zero Industry Act, electricity market reform) (*cf. previous recom.*)
 - Rapidly implement **recent legislation** (RED III, REPowerEU, EU Action plan for grids)
 - Provide **stable support mechanisms** for renewables, offer a long-term **market outlook**, and find a **balance between least-cost solutions and technological innovation**

I.d Urgently and fully phase out fossil fuel subsidies, in line with existing commitments

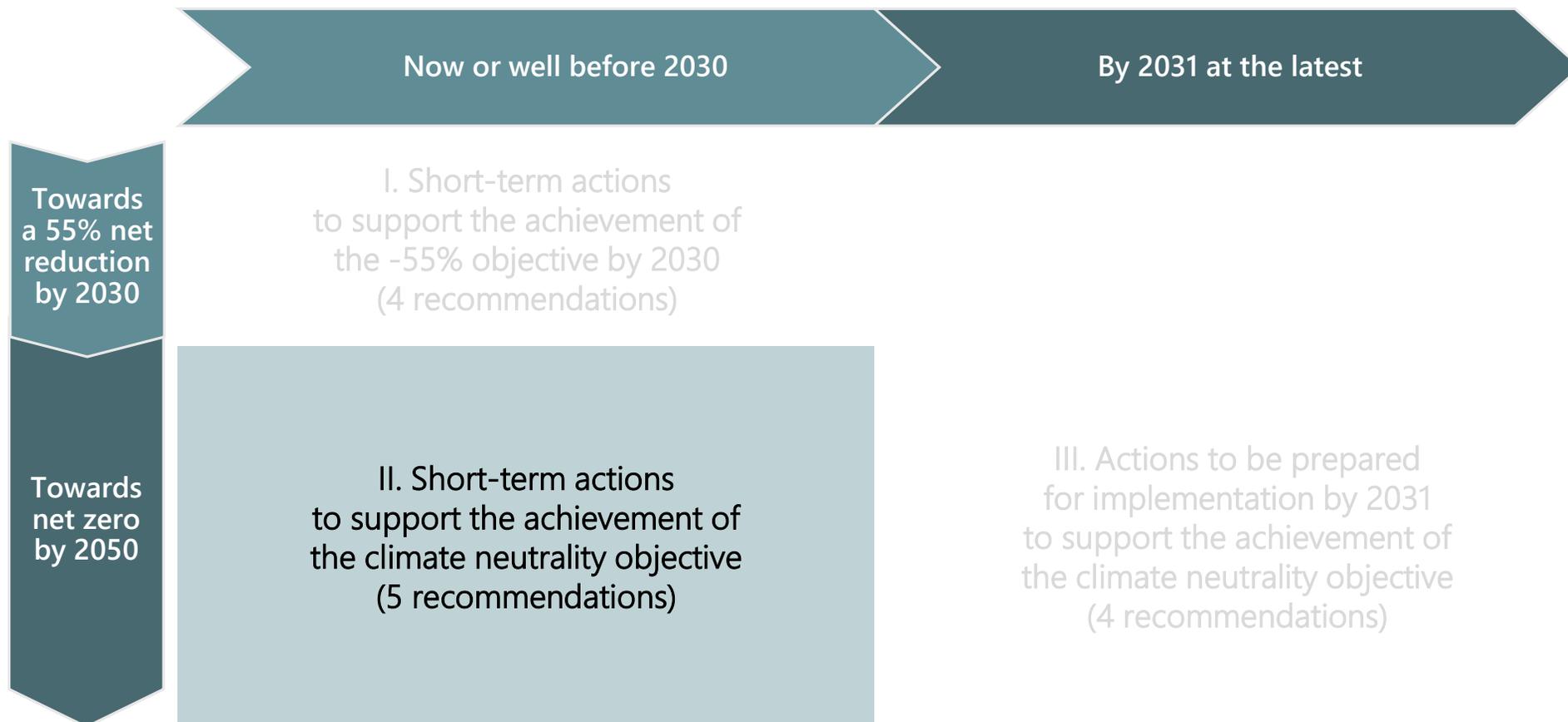
Fossil fuel subsidies persisted since 2010 and surged in 2022



Source: OECD fossil fuel subsidy tracker, European Commission state of the energy union (2023)

- Member States should set **clear plans** to urgently and fully phase out fossil fuel subsidies – as they **committed** to do
- Subsidies for **vulnerable households** should be redirected towards **well-targeted interventions** that do not undermine the incentive to reduce emissions
- **EU state aid rules** should be made consistent with the EU climate goals

II. Short-term actions to support net-zero



II. Short-term actions to support net-zero

Now or well before 2030

By 2031 at the latest

Towards
a 55% net
reduction
by 2030

I. Short-term actions
to support the achievement of
the -55% objective by 2030
(4 recommendations)

- a. Align EU policies with a **phase-out of fossil fuels** (by 2040 for public electricity and heat generation)
- b. Assess and address **socio-economic impacts** of climate policies
- c. Align the **common agricultural policy** with climate objectives
- d. Target **deployment of carbon capture and utilisation or storage, hydrogen, and bioenergy** towards activities with no or limited alternatives
- e. Support **public and private climate investments**

Towards
net zero
by 2050

III. Actions to be prepared
for implementation by 2031
to support the achievement of
the climate neutrality objective
(4 recommendations)

II.a Make EU policies fully consistent with the climate neutrality objective and phase-out of fossil fuels

Make existing policies fully consistent with the phase out of fossil fuels

- To achieve climate neutrality:
 - **Sharp decline** in all fossil fuels use by 2050
 - **Full phase out** in electricity by 2040
- Some EU **policies inconsistent with phase-out**: EU Taxonomy, proposed Gas Directive, Regulation on trans-European energy networks (TEN-E)
 - **Align** these policies with climate neutrality and fossil fuel phase-out

Ensure consistency of new policies

- European Climate Law requires that **all** relevant draft measures are **checked for consistency** with climate neutrality
- Consistency check done for **many but not all** relevant measures (e.g. delegated acts)
 - European Commission should **check consistency of all relevant measures**, including delegated and implementing acts

II.b Systematically assess socio-economic impacts of climate policies to ensure a just and fair transition, and effective implementation

- Climate action has **many benefits and co-benefits**. It can also have **regressive** socio-economic impacts
- Such impacts need to be adequately addressed to ensure a **just and fair transition**
 - **Assess** more structurally the socio-economic **impacts of climate policies** ex-ante (before) and ex-post (after)
 - These assessments should:
 - consider **specific contexts**
 - be **transparent** and include **public consultations**
 - reinforce **synergies** between social and climate policies
 - help design **compensatory measures** (e.g. Social Climate Fund, Just Transition Fund)
 - help improve climate policy **narratives**

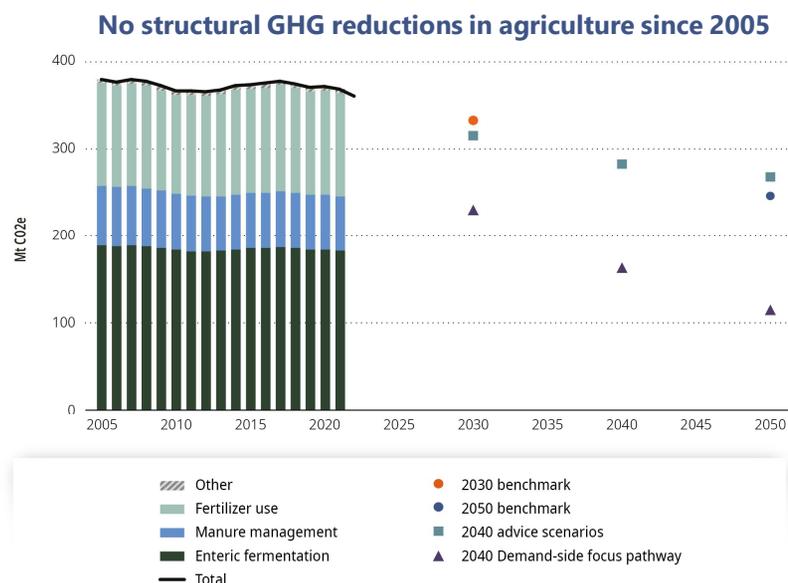
I. Short-term actions to support -55%

II. Short-term actions to support net-zero

III. Prepare for implementation by 2031



II.c Provide stronger incentives for climate action in the agricultural sector and food system



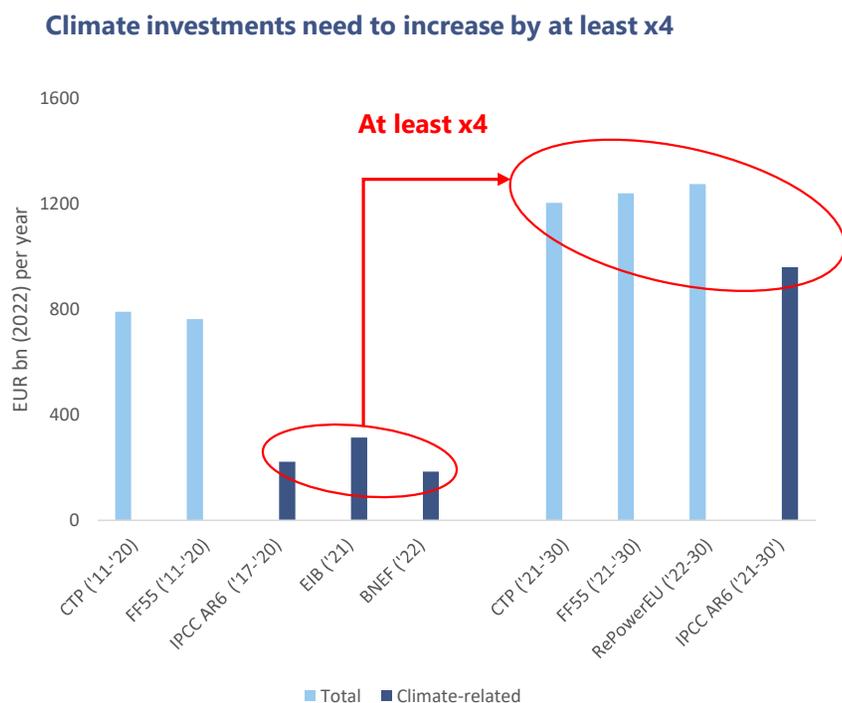
Source: Advisory Board based on GHG inventories, European Commission scenarios and Advisory Board advice for a 2040 reduction target

- Weak incentives to reduce agriculture emissions
 - Better **align common agricultural policy with climate objectives**, including by **shifting support** from GHG-intensive (e.g. livestock) to lower-emission activities
 - Encourage **healthier, more plant-based diets**
 - Develop a strategy for a **just transition of the food system**

II.d Better target the deployment of carbon capture and use (CCU), carbon capture and storage (CCS), hydrogen, and bioenergy

- **CCU/CCS:** not yet proven at scale, expensive and risks to lock in fossil fuels
- **Hydrogen:** inefficient (green hydrogen) or dependant on fossil fuels + CCS (blue hydrogen)
- **Bioenergy:** raising sustainability concerns (e.g. decreasing carbon sink and biodiversity)
 - EU policies in support of CCU/CCS, bioenergy and hydrogen should better **target applications with no, or very limited, other mitigation options**

II.e Better drive the required increase in public and private investments in climate mitigation



Source: CTP Impact Assessment, REPowerEU Staff Working Document, BNEF, IPCC AR6

- Concerted effort required from **public and private sectors** to:

- reorient existing investments
- increase total investments (+60%)

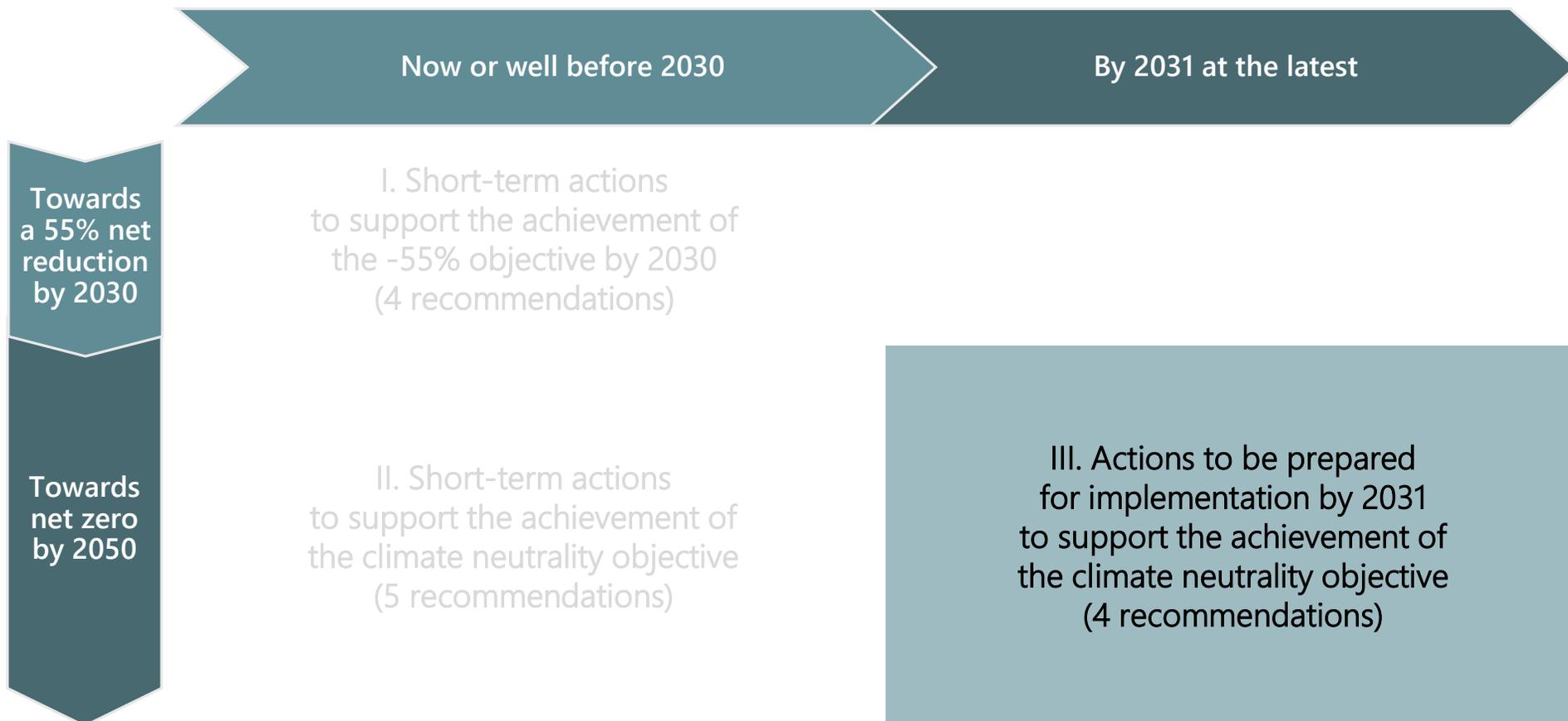
→ Better **track spending of EU budget**, including harmful spendings

→ Consider **continuation of common debt approach** under the Recovery and Resilience Facility (*)

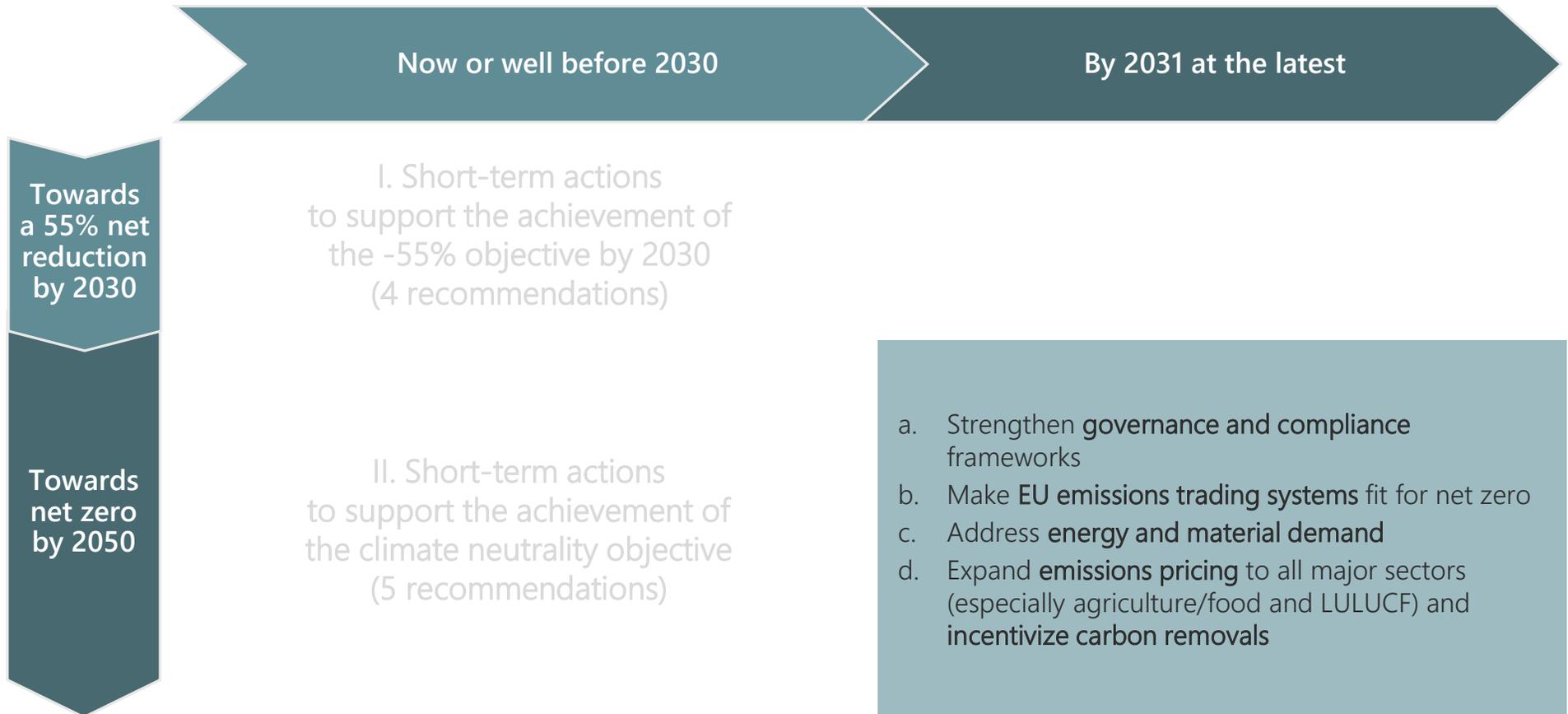
→ Address risks and funding gaps to **boost the supply of bankable climate mitigation projects**

(*) The RRF is part of EU's temporary stimulus package providing EU **grants and loans** to support reforms and **investments** in Member States

III. Actions to prepared for implementation by 2031



III. Actions to prepared for implementation by 2031



III.a Strengthen the EU frameworks on climate governance and compliance

EU Regulation on the Governance of climate action:

- Establish a **review process for national long-term strategies**, similar to National Energy and Climate Plans (NECPs)
- Strengthen **consistency** between NECPs and long-term strategies
- Strengthen requirements for **permanent multi-level energy and climate dialogues**

European Climate Law:

- Make establishment of **national climate advisory bodies** mandatory (only optional today)

Compliance framework:

- Strengthen **compliance mechanisms** for sectors under the Effort Sharing and LULUCF Regulations

III.b Make the two EU emissions trading systems fit for net zero

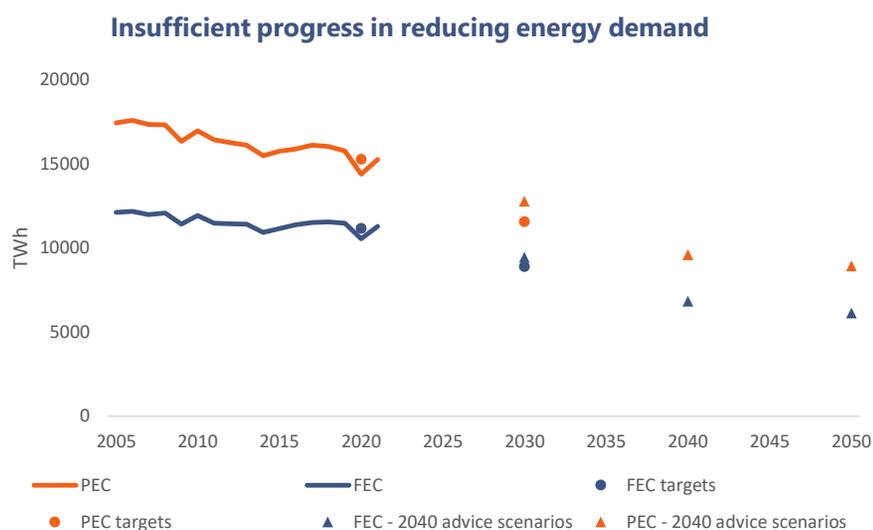
EU ETS

- Provide **clarity** on functioning when **cap** for stationary installations will go to **zero** (2039)
- Develop **alternatives to free allocation** for sectors exposed to carbon leakage but not yet covered by CBAM

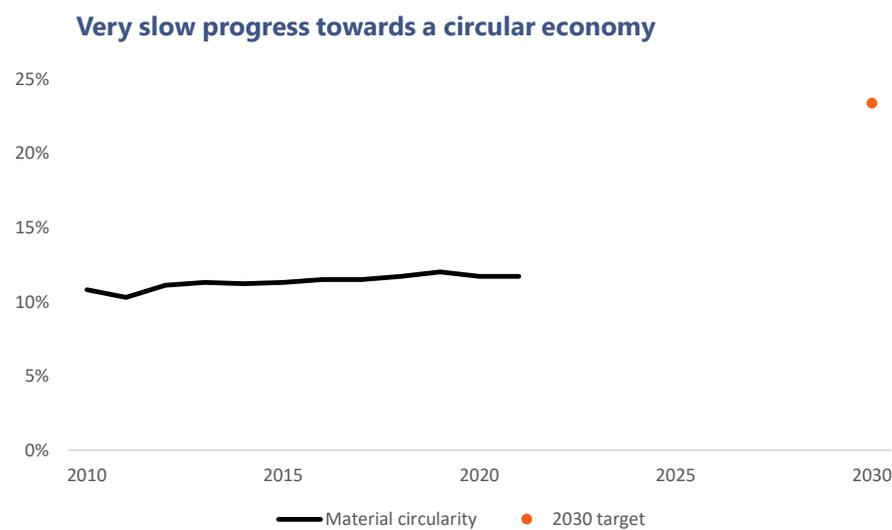
EU ETS 2 for buildings and road transport

- Post-2030: aim for a **higher carbon price**, consistent with the **climate neutrality objective**
- **Converge** carbon price with the EU ETS over time to improve cost-effectiveness and avoid distortions
- Provide well-provisioned and targeted **measures to address adverse socio-economic impacts**

III.c Pursue more ambitious reductions in energy and material demand through new and strengthened policies



Source: Advisory Board based on Eurostat energy balances, the Energy Efficiency Directive, and the Advisory Board advice for a 2040 reduction target



Source: Advisory Board based on EEA data and the 8th Environment Action Programme

- **Demand-side measures** vs “supply-side only”: faster reductions, higher co-benefits, lower trade-offs
- EU demand-side measures have been **lacking or ineffective**
 - Stronger policies needed to **reduce energy and material demand**, through efficiency and behavioural changes

I. Short-term actions to support -55%

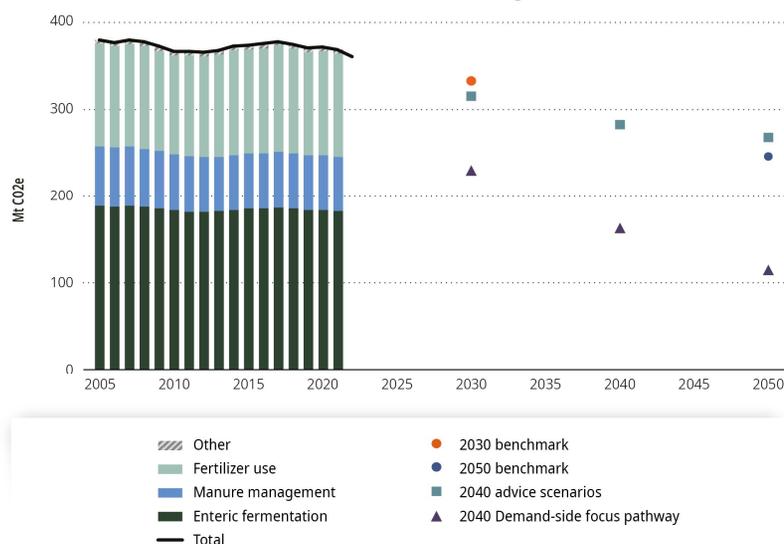
II. Short-term actions to support net-zero

III. Prepare for implementation by 2031

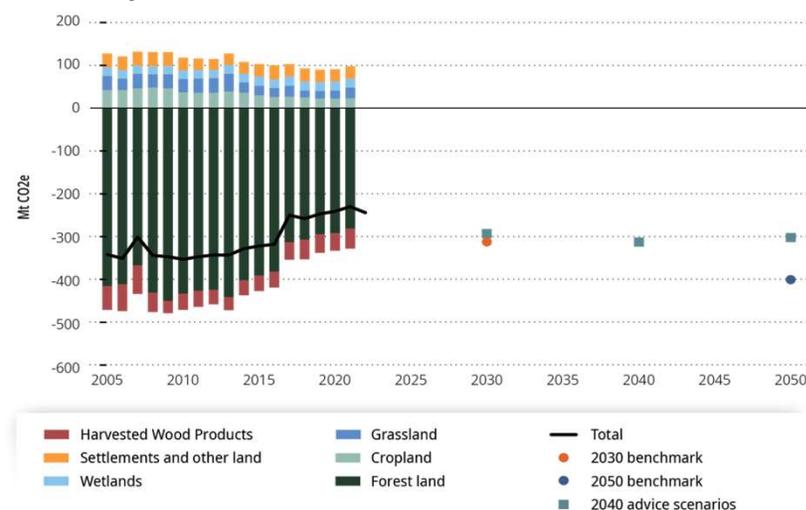


III.d Expand GHG pricing to all major sectors and provide incentives for carbon removals

No structural GHG reductions in agriculture since 2005



Rapid decline of the EU's net carbon sink since 2010



Source: Advisory Board based on GHG inventories, European Commission scenarios and Advisory Board advice for a 2040 reduction target

- Insufficient incentives for climate action in these sectors:
 - **Agriculture and LULUCF**: consider **pricing emissions and rewarding removals**, considering these sectors' specificities (e.g. monitoring challenges, permanent vs. non-permanent carbon removals)
 - **Fossil fuel industries**: consider expanding EU ETS and CBAM to **fugitive CH₄ emissions**

Summary overview of the Advisory Board's key recommendations

Now or well before 2030

By 2031 at the latest

Towards
a 55% net
reduction
by 2030

- a. Implement **Fit for 55** fully and swiftly
- b. Conclude revision of the **Energy Taxation** Directive and other **European Green Deal** initiatives
- c. Provide **stable investment outlook** for renewables
- d. Phase out **fossil fuel subsidies**

Towards
net zero
by 2050

- a. Align EU policies with a **phase-out of fossil fuels** (by 2040 for public electricity and heat generation)
- b. Assess and address **socio-economic impacts** of climate policies
- c. Align the **common agricultural policy** with climate objectives
- d. Target **deployment of carbon capture and utilisation or storage, hydrogen, and bioenergy** towards activities with no or limited alternatives
- e. Support **public and private climate investments**

- a. Strengthen **governance and compliance** frameworks
- b. Make **EU emissions trading systems** fit for net zero
- c. Address **energy and material demand**
- d. Expand **emissions pricing** to all major sectors (especially agriculture/food and LULUCF) and **incentivize carbon removals**



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