Scaling up carbon dioxide removals

Recommendations for navigating risks and opportunities in the EU

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European Scientific
Advisory Board on
Climate Change

The EU needs to rapidly scale up removals to reach net zero by 2050, and net-negative emissions thereafter

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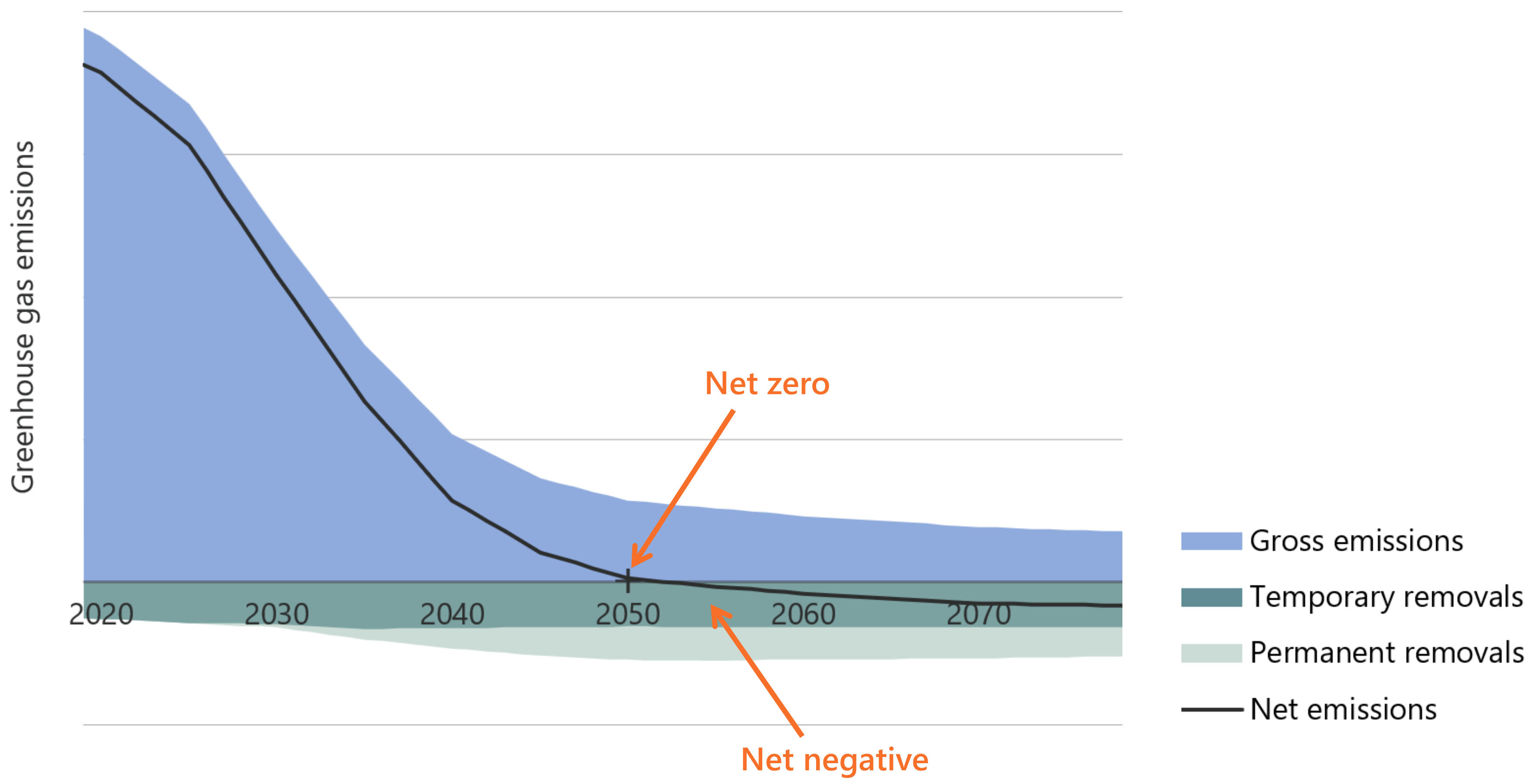

Example of pathway within the recommended range 90-95% net GHG emission reductions in 2040 vs 1990, Source: Advisory Board

Removals

Today we rely on land carbon sinks

These have decreased by about 1/3 the last 10 years

Building a diverse portfolio of methods can help accelerate the scale-up and manage trade-offs - how do we get them into play?

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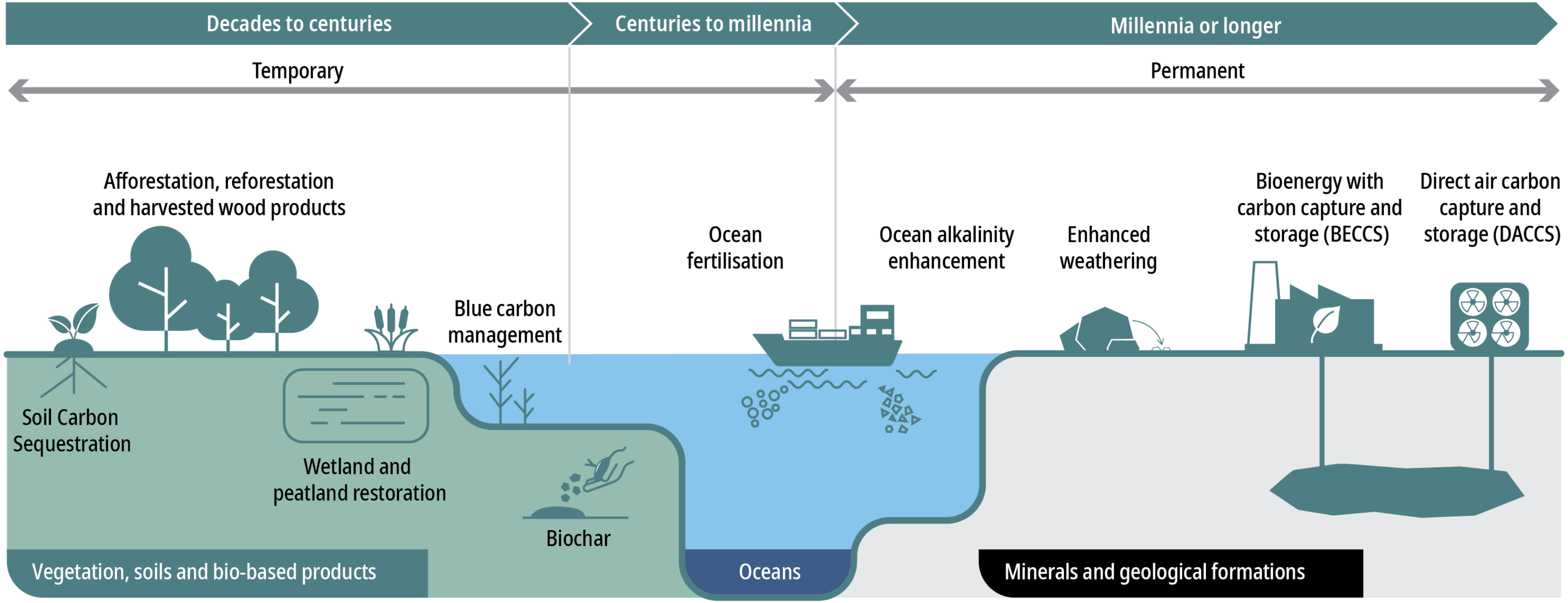

We have provided 9 recommendations. Here I will address a few

Recommendation 1

Set separate legally-binding targets for:

- gross emission reductions
- permanent removals
- temporary removals

Why separate targets?

- Avoid mitigation deterrence
  - Public support for infrastructure is needed
  - Externalities
- Non-permanent removals

Recommendation 6

Price permanent removals

Consider a progressive integration of permanent removals into the EU ETS, under strict conditions to:

- prevent mitigation deterrence
- address environmental risks
- support distributional fairness
- enhance dynamic cost-effectiveness

Price permanent removals

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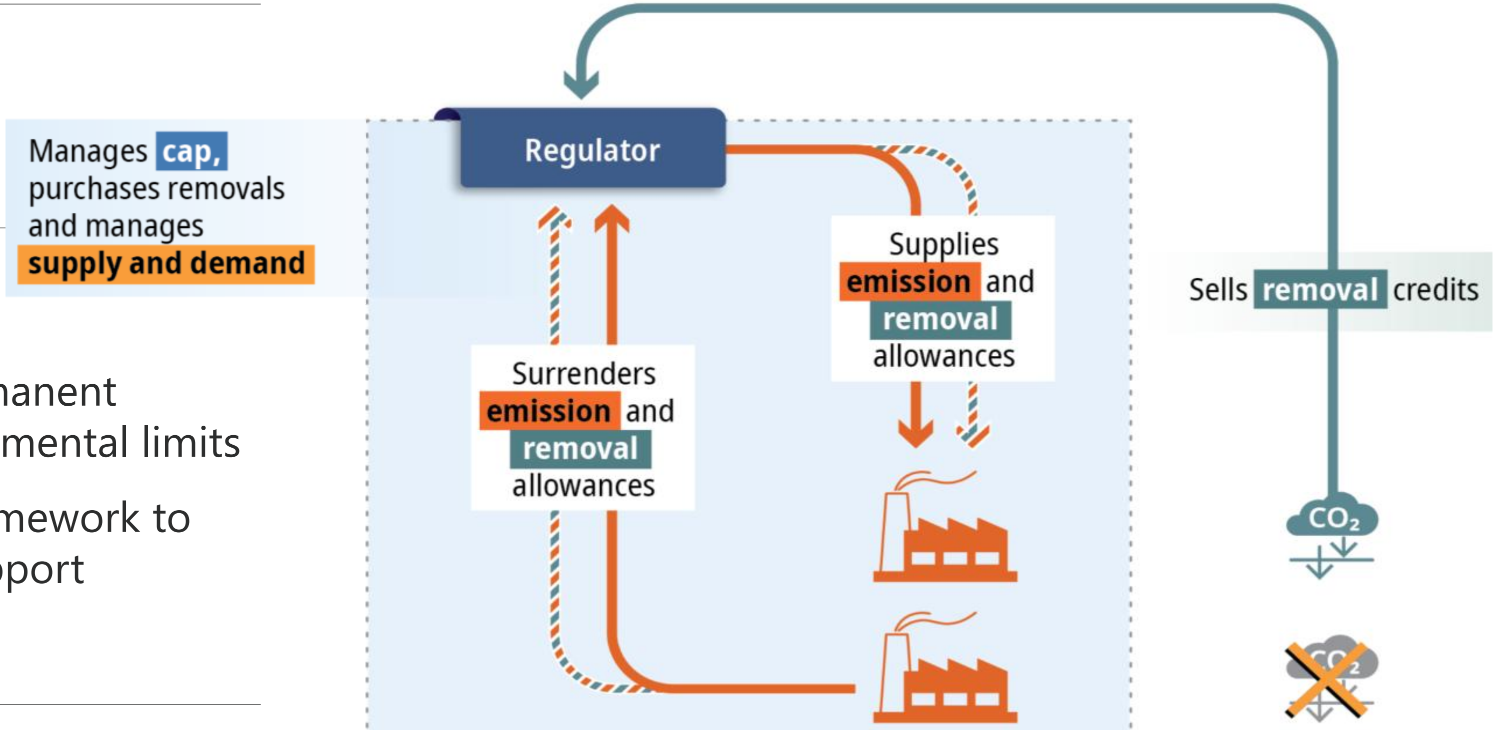
Certification Regulation (CRCF)	→	Ensure robust certification before market integration
EU ETS Directive	→	Secure viability after 2040, for net zero, net negative
	→	Progressively integrate permanent removals, subject to environmental limits
	→	Establish an institutional framework to manage integration and support early-stage



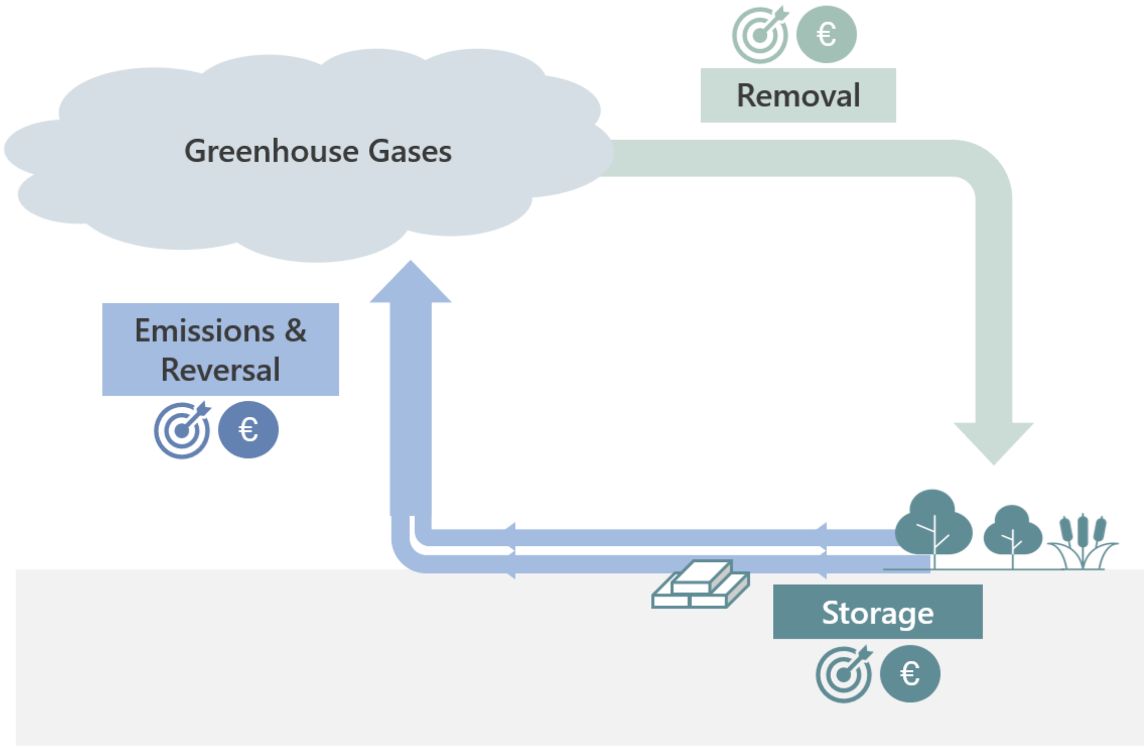
Recommendation 7

Price temporary removals

Introduce new instruments to price emissions and reward removals in the LULUCF sector, and to ensure coherence with the broader climate policy framework

Price temporary removals

TBD GHG pricing in the land sector	→ Develop a separate system to price emissions/removals in the land sector → Potentially integrate with other pricing in the future under specific conditions
Sectoral policies	→ Ensure the funding of land sink maintenance and enhancement → Support ecosystem restoration and increase adaptive practices



Recommendation 8

Recognise an extended emitter responsibility

Require today's emitters to contribute to the removal of the greenhouse gases they emit

Extended emitter responsibility

- To increase ambition (if removals/emissions>1)
- Intertemporal flexibility =>Lower cost over time

- Ways to implement it has recently been proposed in the literature

Requirements for these extended emitter responsibility to work

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- It is a governmental decision to decide on the amounts – and their role relative to a given budget
- A financial instrument to underpin the emitter responsibility
- Strong institutional governance
- Secondary markets to allow trade

- The earlier implemented, the bigger the potential gain
- Recommend to investigate further, and if judged feasible, set up structures herefore

Conclusion

The Advisory Board calls for a rapid and sustainable scale-up of carbon dioxide removals in the EU

Scaling up removals rapidly while managing associated opportunities and risks

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- **Separate targets** for gross emissions, permanent and temporary removals, supported by **robust monitoring**
- Increased public support to urgently reverse the decline of the **land sink**, accelerate **innovation** and **infrastructure** deployment
- **Gradual integration of permanent removals** in the **EU ETS** and **new pricing** instruments to reward removals in the **land sector**
- Creating new instruments to operationalise the **extended emitter responsibility** and achieve **net-negative emissions**

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