

Carbon Capture, Utilisation and Storage (CCUS) and Energy Intensive Industries (EIIs)

From Energy/Emission Intensive Industries to Low Carbon Industries

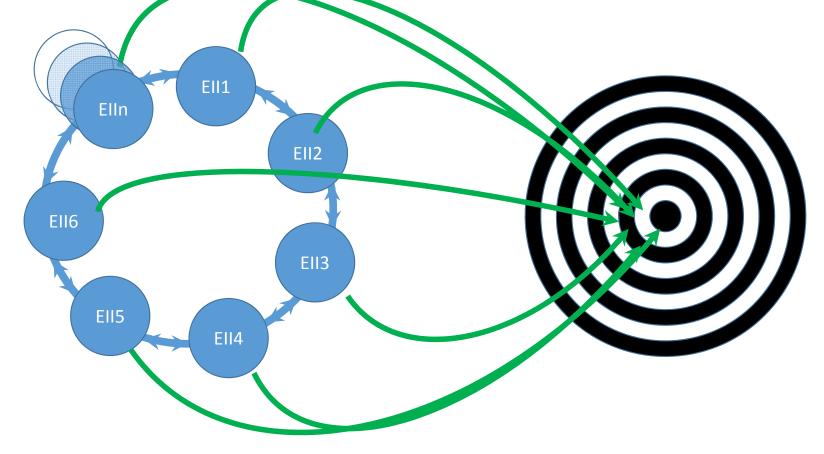
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Main conclusions

- Non-CCUS and CCUS complement each other.
- Benefits of CCUS >>> Costs of CCUS
- Its development requires strong commitments from different stakeholders.
- CO2 utilisation can play an important role for business development and for raising the level of acceptability, but it will not be enough.
- R&D must be accelerated in order to decrease costs.

Recommendations RD&D



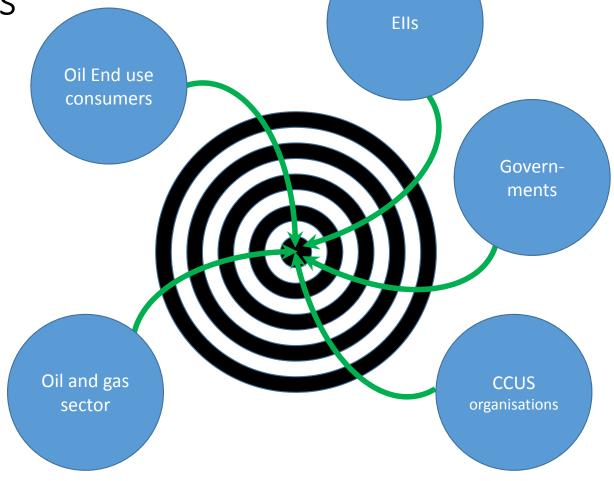
Recommendations: RD&D

- Reduce combustion related CO2 emissions by CCUS
- Take advantage of CO2 utilisations opportunities in the different Ells
- Reduce energy consumption for CO2 capture
- Develop shared transport infrastructure



Recommendations: roles of the main

stakeholers Ells Oil End use



Oil End use consumers

- Cooperation
 - With the early movers,
 - Interactions with other Ells,
- Circular models,
 - Based on CO2 utilisation,

 Interactions on the development of transport and storage infrastructures,

> Oil and gas sector

Governments

Ells

organisations

Oil End use consumers

- Supporting the business models for CCUS
 - Develop conditions adapted to the necessary commitments Governof Ells to achieve the climate change mitigation,
 - Certainty and predictability of the government continuous support for CCUS in Ells,
 - Support infrastructure developments from sources to storage or utilisation,
 - Encourage low carbon product procurements,
 - Avoid carbon leakage.

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CCUS organisations

- Bring its expertise in CO2 transport and storage,
- Its role is specific among Ells, as at the end of the day, captured CO2 from any sources will have to be transported, and in most cases stored (*)



CCUS organisations



Govern ments

- Become aware that CCUS has a relatively limited impact on the final industrial products.
- Change the perspective from each segment of the value chain to the global value chain.

Oil and gas sector

 Advocate to the main relevant stakeholders (EIIs, governments and citizens, oil and gas sector, end users...) the paramount importance of developing CCUS in EIIs in order to meet the challenge of climate change mitigation

> Oil and gas sector



 CCUS is not the only contributor to climate change mitigation, although its role is key. CCUS complements, rather than competes, with other low-carbon solutions to help the transformation to a decarbonized society.

Main contributors to this report



- France
- Norway
- Canada
- Sectorial business organisation and companies covering the full perimeter.