

November 14th, 2023  
Brussels, Belgium



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# PUBLIC PERCEPTION AND BUSINESS MODELS JOINT EVENT

Organised by the Carbon Capture,  
Utilisation and Storage (CCUS) &  
Alternative Fuels Horizon 2020/  
Horizon Europe CLUSTER projects

Supported by CINEA - European Climate,  
Infrastructure and Environment Executive Agency

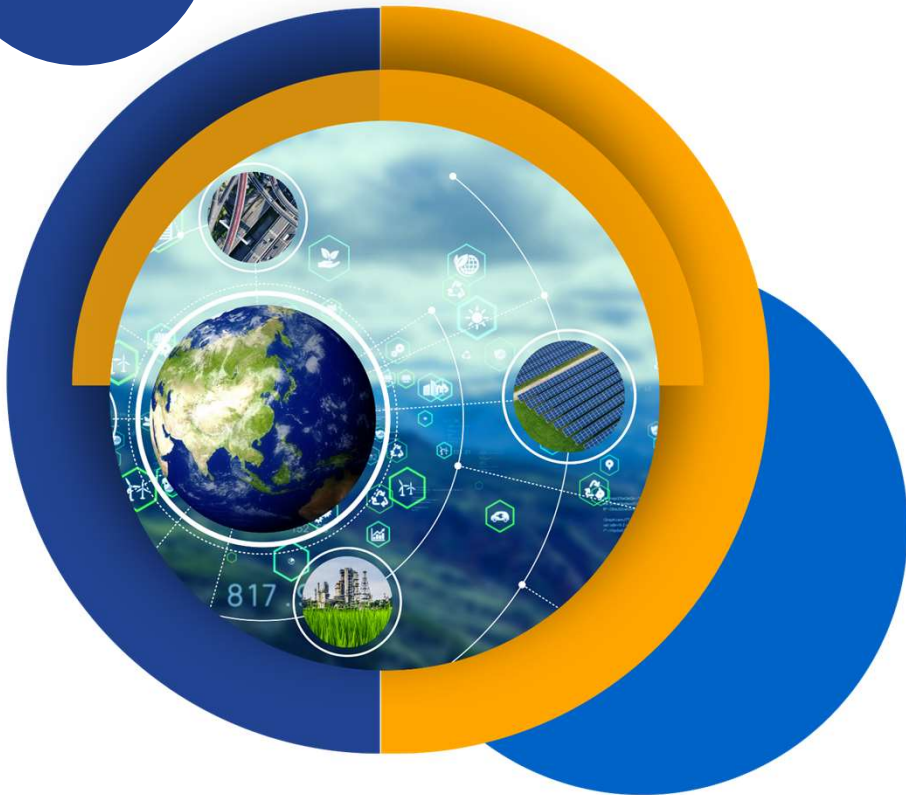
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# NEGEM AND AURORA

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# Baseline



**Quantifying and  
Deploying  
Responsible  
Negative Emissions**

NEGEM WP on Public and Social Acceptability: The goal of our work package is to carry out an integrated qualitative and quantitative assessment of attitudes among the public and other stakeholders towards different Negative Emissions Technologies and Processes (NETPs). This can help inform policy-makers and more directly inform the NEGEM partners involved modelling NETP pathways. (ETHZ, ICL, PIK, VTT)



**Accelerated  
deployment of  
integrated CCUS chains  
based on solvent  
capture technology**

AURORA WP on Commercial, social and political readiness and acceptance: Investigate pathways to industrial decarbonisation and perceptions of alternative pathways at regional, national and European levels.

# Methodologies - NEGEM

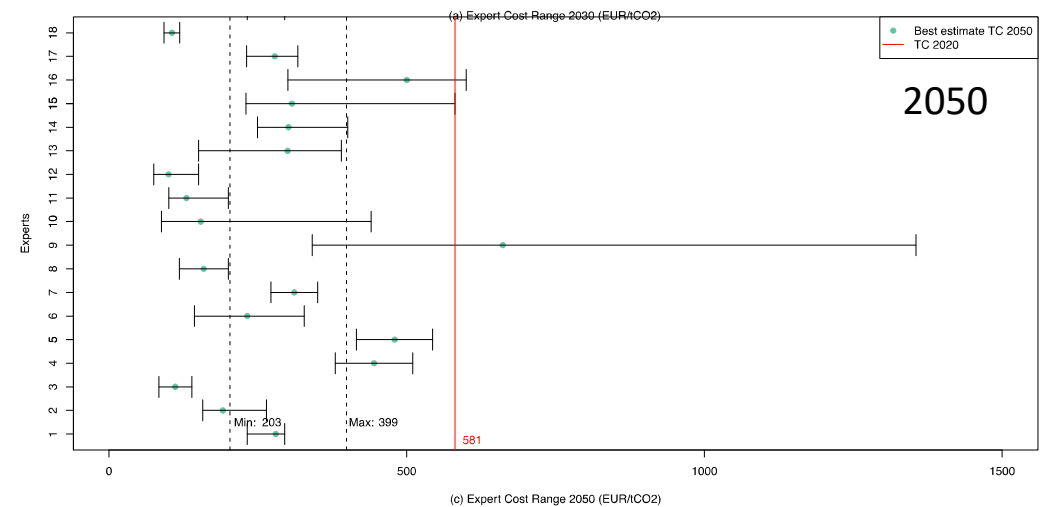
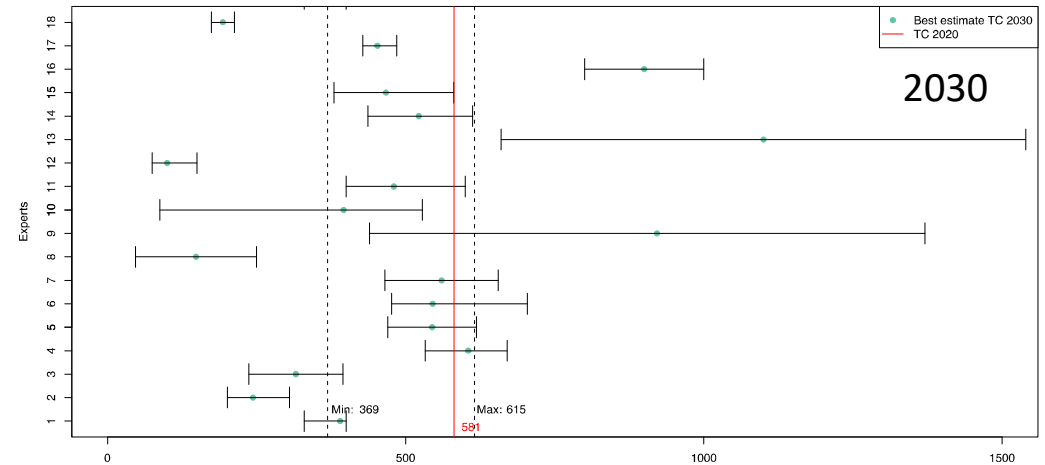


## Completed Deliverables

- 5.1 – Social License to Operate (Textual sentiment analysis of 200+ CDR reports)
- 5.2 – Stakeholder Views on Business Case (Stakeholder Interviews - 45 of which roughly half NGO, half firms)
- 5.3 – Stakeholder Views on NETP governance (5 workshops with experimental design with 100+ stakeholders)
- 5.4 – Expert Elicitations (21 expert interviews for DACCS and 13 for BECCS) →

## Forthcoming Deliverables

- 5.6 – Stakeholder Perception Survey (European survey of 300-500 stakeholders)
- 5.5 – Public Perception Survey - Led by University of Groningen (RUG)



# Methodologies - AURORA



- **Identify** potential commercial, social and political barriers to and opportunities for scaling up (within the AURORA clusters and at wider European level)
- **Develop** materials to present these different approaches and a sense of the scaling up required in a manner that can be understood by non-technical stakeholders
- **Carry out** detailed interviews with project partners, policy-makers, NGOs and community groups and actors up and down the supply chain
- **Convene** series of workshops to share different perspectives on deployment and upscaling
- **Conduct** public surveys in Greece and Belgium and also oversample in the immediate vicinity of the clusters to see if there are any differences of view at the regional level

# Summary

- Expert elicitations found for that for DACCS, cost estimates declined more rapidly over time from a higher base between 2030 and 2050 but cost estimates diverged wildly among the experts consulted and these values did not converge over time. Costs for BECCS started lower but declined more slowly over time.
- Stakeholder interviews identified some of the key barriers to NETP development and scaling as being: (i) uncertainty about the development of market mechanisms and policies, (ii) the coexistence of different perceptions and framings among stakeholders: (iii) the dangers of unidimensional targets by focusing exclusively on climate change rather than other high-priority social or environmental goals (e.g. fairness/food security or biodiversity); and (iv) the need to adopt a systemic perspective
- Our stakeholder workshops highlighted how the frames used to discuss NETPs (i.e., moral versus scientific) can influence stakeholders' overall perceptions and found significant differences in opinion across geography and sector.
- Although AURORA has only just started, the project places social, political and economic considerations as key elements in exploring pathways to industrial decarbonisation. We will focus in particular on those locations where the industrial partners' plants are located (Port of Antwerp and Greece).



# Policy impact

- Negem social science activities have benefited from engagement with its industrial partners (e.g., Drax, Stockholm Exergi) and NGOs (Bellona and Carbon Market Watch) who facilitated introductions and dissemination of surveys and technical validation of materials
- Participation of DG Clima and DG ENER officials help incentivise stakeholder participants to join our Negem workshops because of the opportunity to engage with EC
- The Negem project established clear links between our stakeholder engagement exercises and other partners carrying out techno-economic modelling – the expert elicitations were used to derive learning curves (or expected cost reductions) for BECCS and DACCS, which can also now be used by the modelling partners at PIK, VTT, ICL and ETHZ
- Our stakeholder interviews on the business case highlighted the need for long-term certainty in regulatory frameworks, industrial clusters & incentives for radical change
- On AURORA, we have already begun to engage with our industrial partners (Umicore, Total, Motor Oil and LafargeHoilcim/Heracles) and industrial cluster leaders in the Port of Antwerp and Greek authorities


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# Thank You

## For Your Attention

### GET IN TOUCH

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