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In search of comprehensiveness: socio-political challenges and drivers of CC(U)S development

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Content



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Background



- CC(U)S technology has received more attention in recent years as an alternative solution.
- Multidimensional journey, intertwining technology, economics, society, and politics.
- Dynamic and evolve with shifts in public perception, national and regional politics, regulatory frameworks, etc.

Background



How do we really look to the CCUS?

- A temporary technology to respond to an urgent need

Or

- A socio-technical infrastructure that is a part of our mid-term future



Methodology

Qualitative inductive approach



Extensive literature review



Online stakeholder workshop
with 20 participants*



Qualitative questionnaire
48 of 27 responded**

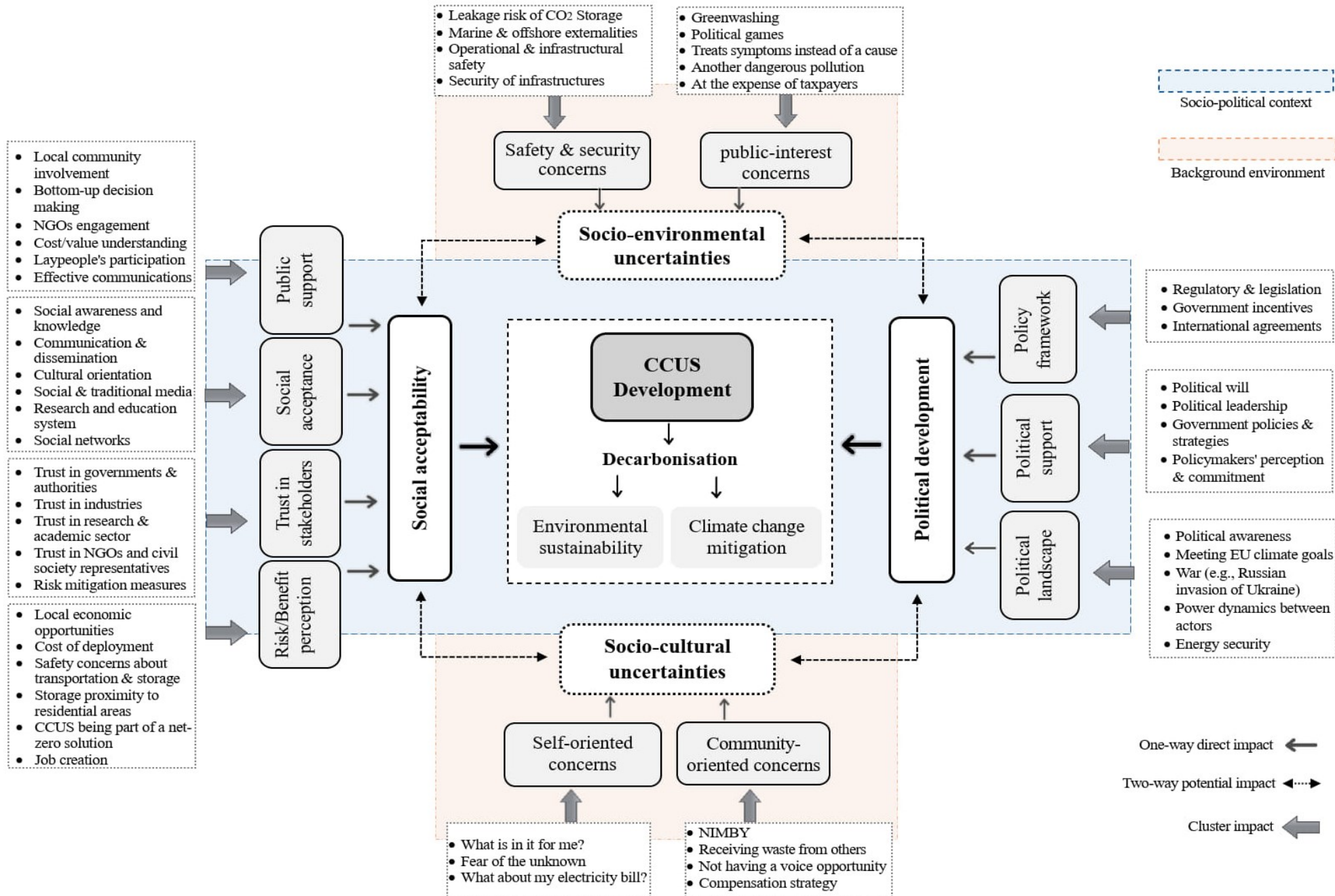


A thematic analysis to achieve a
conceptual model

*stakeholders from diverse countries; researchers, legal professionals, businesses, and government officials.

**Experts' affiliations included academia, research centres, governmental bodies, NGOs associations, industry, and companies.

Conceptual model for social and political dimensions of CC(U)S development



Results



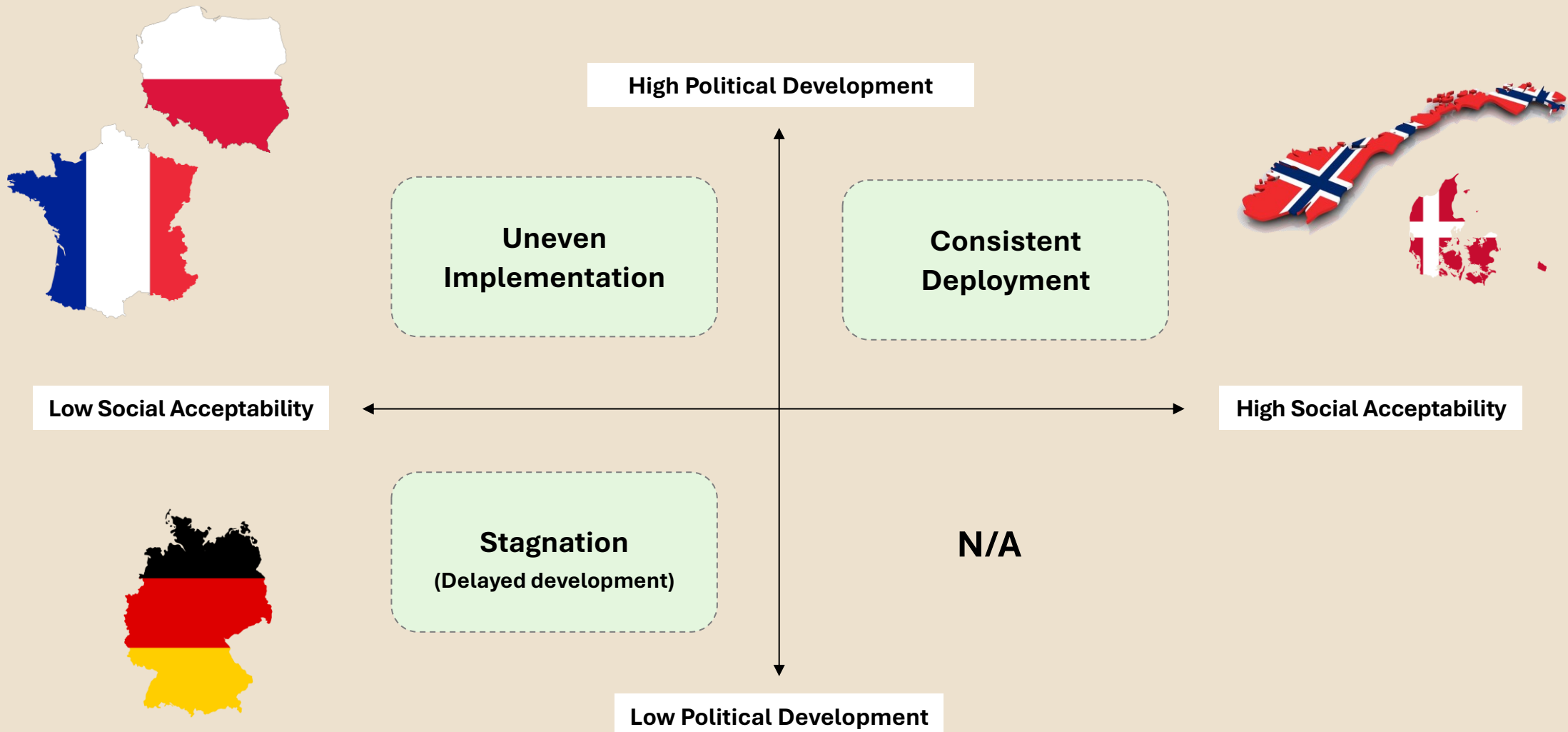
- Core conceptual domains: Socio-political context Background environment
Themes: ***Political Development
and
Social Acceptability*** ***Socio-cultural Uncertainties
and
Socio-environmental Uncertainties***

The most commonly recognized themes among the participants

The key foundations of our analysis

- In total, 11 categories were recognized as the most significant drivers of CC(U)S development.

Possible Scenarios of CC(U)S Deployment



A framework to assess the CC(U)S socio-political readiness

Discussion



- Two main factors have been changing the political landscape vis-à-vis CC(U)S in Europe: meeting the climate goals set by the EU and recent crises related to the Russian invasion of Ukraine.
- Governments are increasingly linking energy security to national security focusing on leveraging technologies like CC(U)S with, e.g., coal to reduce reliance on external energy sources (while still meeting the climate commitments)
- Trust, is a factor highlighted in the research: mistrust towards politicians, policymakers, and major industry players (trust in governments and industry is higher in the Nordic countries than in the Southern and Eastern European countries)



Conclusions I

1. We suggested a primary evaluation framework to examine the situation of European countries in terms of the socio-political readiness level for CC(U)S deployment. The significance and status of these factors vary in different European countries.
2. While the existing studies largely focused on social acceptance, our analysis suggested that we should shift the focus to studying social acceptability instead
3. Political support is considered the determinant factor in encountering non-technical challenges

Conclusions II



4. The political developments in Europe favour the large-scale deployment of CC(U)S. Although there's a gap between social acceptance and political development in some European countries: the level of social acceptance is likely to evolve around more positive attitudes.
5. Research institutions and NGOs enjoy higher public trust and should lead in disseminating accurate information on CC(U)S to counter the existing disinformation campaigns on national and European levels.
6. In strategic geopolitical regions such as the Baltic Sea Region, the security of energy infrastructures has become a significant concern: this may lead to the prioritization of onshore projects over offshore ones to minimise the risk of sabotage.

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