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How social and political drivers may impact BECCS deployment? A socio-technical analysis of innovative transition technology

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LANDSCAPE

What is BECCS? **Bio Energy Carbon Capture** & Storage could generate electricity from biomass and store permanently carbon in underground storage areas. Its a part of **C**arbon **D**irect Removal that could remove between 30-780 GtCO₂ by 2100 (IPCC 6th AR)

The climate emergency pushes towards CDR deployments while Study & Methodology respecting the energy trilemma (security, viability, sustainability) in a world economic competition. Offsetting carbon emissions will prevail for many industries

Framed within Multi Level Perspective on 3 levels (landscape, regime, niche), we study the **controversies** and socio-political components of BECCS deployment through 2 ongoing cases in United-Kingdom and Sweden

Économic Conditions 🖒

Cost of electric KWh is higher with biomass Subsidies and long term guarantees are mandatory for

REGIME Social Acceptance Territorial integration matters with **residents** living near exploitation areas Industrial hazards perceptions NICHE «How is it deployed?»

Techno Competition

• For carbon neutral electricity with solar panels and windfarms For NET with

investing

Industrial Dependency

All necessary links in the value chain, mostly upstream Impact of the source on the **image** United-Kingdom

Governance, public dialogue, trust in project leaders, location

DEFINITION

«What is it deployed?» Who support this technology? What are its objectives? Who benefit from it? Electricity or negative emissions?

ARTEFACT «The materiality of BECCS» Existing infrastructure and needs of new ones

afforestation

Administrative

Obstacles

Delays and weight of

procedures to obtain

licenses

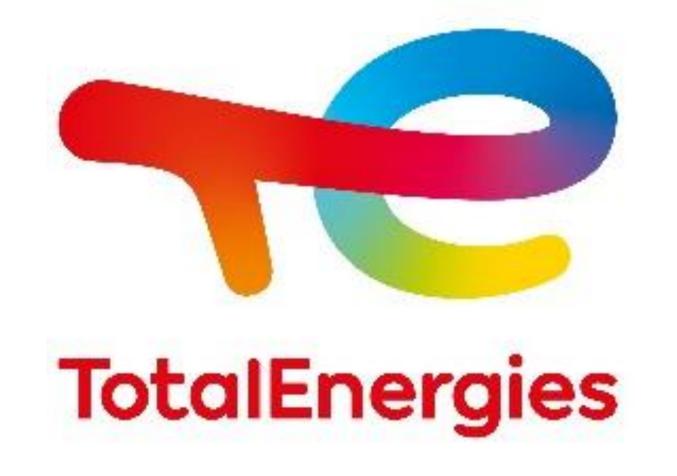
Auditing and

accounting for

biomass



Drax



Air pollution for the regeneration of capture solvents Access limits to

Material

Considerations

storage area



OneTech

Stockholm Exergi

Sweden

En