

Governing BECCS: 'slippery slope' or 'uphill struggle'?

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Slippery slope arguments

- It is more often the imagined undesirable impacts of large-scale climate interventions that steal the attention of those who would seek to govern them
- If we do 'A' (BECCS R&D) this will trigger a chain of events that result in an objectionable 'B' (BECCS deployment and its envisaged undesirable impacts)
- It would follow then that governance should therefore employ instruments that proscribe or at least constrain BECCS R&D in order to prevent those impacts
- Underlying the argument are two significant assumptions: (1) that research will lead to deployment, and (2) that deployment will carry undesirable impacts

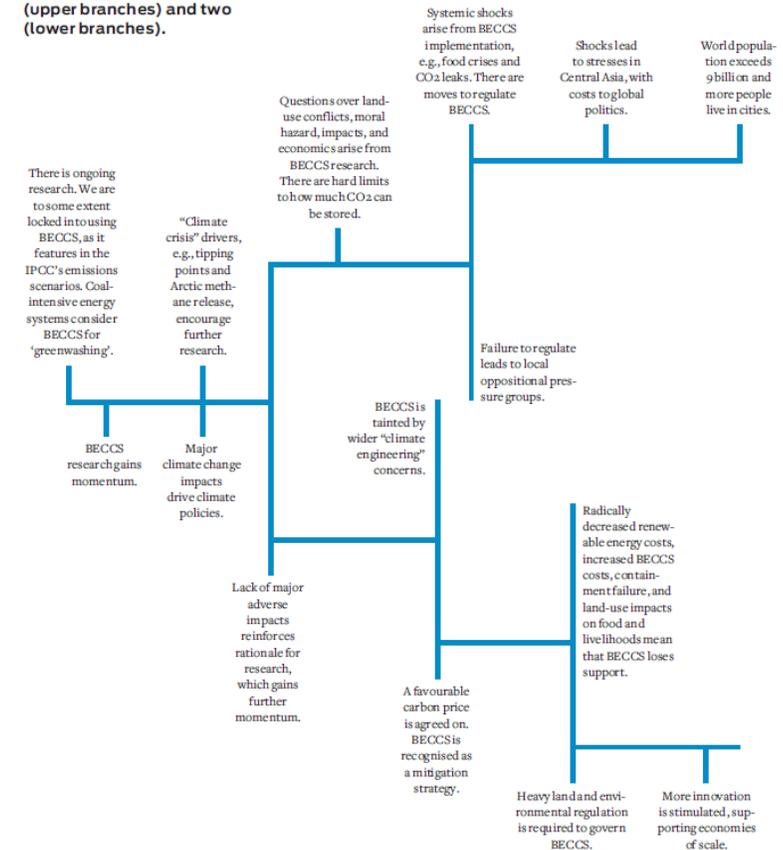
Why slippery slope arguments are flawed

- Will BECCS research lead to deployment? Not necessarily. Steve Rayner: “patent offices are the graveyards of dreams”. Flexible and corrigible governance can help
- Will BECCS deployment carry undesirable consequences? Not necessarily. There are mitigation possibilities, alternative pathways and desirability is selective
- The imprint of slippery slope argumentation is deeply engrained in the dominant ‘top-down’ governance narrative: one that seeks to constrain or proscribe
- Before we can develop appropriate governance we need to understand plausible future trajectories of R&D: if they are not slippery slopes, then what are they?

Plausible future trajectories of R&D

- To explore uncertainties and ambiguities and to generate a richer array of trajectories, two separate groups developed scenarios for BECCS
- They developed storylines for BECCS over the next 20 years, accounting for major events in technological development and governance. Each group produced a diagrammatic representation of their scenarios

Figure 5-1 | Scenarios for BECCS R&D by groups one (upper branches) and two (lower branches).



Challenges facing R&D: an uphill struggle

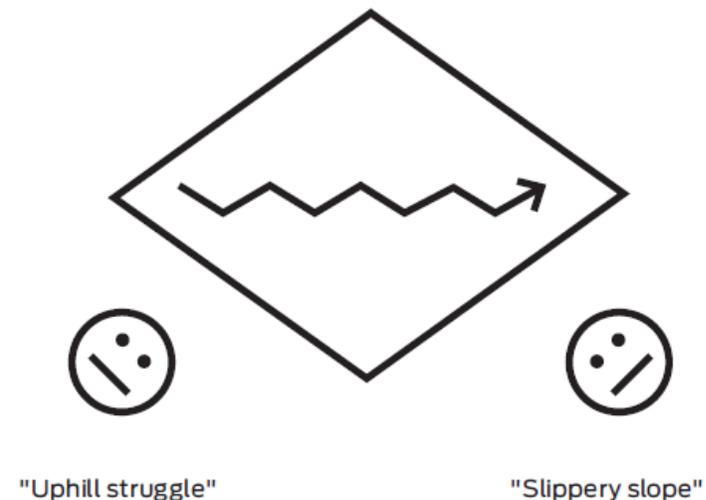
Table 5-1 | A summary of envisaged challenges facing BECCS development.

Technical challenges	Political challenges	Societal challenges
Developing infrastructure at scale	Competition from alternatives	“Climate engineering” taint
Limits to CO ₂ sequestration	Environmental regulations	Merger of unpopular technologies
Need for demonstration projects	Geopolitical disparities in uptake	Opposition from activist groups
Safety of CO ₂ storage	Need for effective carbon price	Potential for land-use conflicts
Sustainability of biomass supply	Need for government investment	Risks to food production

Framing R&D: slippery slope or uphill struggle?

- But we cannot discount the possibility of slippery slopes: BECCS remains an 'upstream' technology
- Our knowledge about what might happen with BECCS and the probabilities of those things happening is necessarily incomplete
- There is a state of uncertainty where conflicting judgements about the outcomes of BECCS R&D may be made

Figure 5-2 | Framing research into deployment: slippery slope or uphill struggle?



Governance implications of R&D framings

- Exposed flaws in slippery slope argumentation and emerging accounts of an uphill struggle suggest that a significant shift in governance is needed
- Yet just as it is problematic to see a slippery slope and constrain or proscribe without knowing more about outcomes, so too would it be problematic to see an uphill struggle and incentivise without accounting for societal concerns
- R&D must therefore be incentivised responsibly: there needs to be broad societal participation in defining the tools and terms of incentivisation

Table 5-2 | Governance implications of different research and development framings.

R&D framing	← Slippery slope		Uphill struggle →		
Governance implications	Proscribe	Constrain	Responsibly incentivize	Incentivize	Prescribe
Example proposals	(Inter)national moratoria	(Inter)national regulations	Participation in definition	Remunerative instruments	Coercive instruments

Conclusions

- 1. Slippery slope arguments about BECCS are flawed in at least two fundamental ways:** “patent offices are the graveyards of dreams”; mitigation strategies; alternative pathways; desirability is not universal
- 2. Expert scenarios suggest that future BECCS R&D resembles more of an ‘uphill struggle’:** technical, political and societal challenges lie in stark contrast with portrayals of R&D as constituting a slippery slope toward deployment
- 3. Approaches to governing BECCS need to shift towards responsible incentivisation:** there needs to be broad participation in defining the tools and terms of a governance shift in the direction of incentivisation