

The cultural political economy of technical fix promises:

The (mis)alignment of CC(U)S, geoengineering and
neoliberalism

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Raging weather



Geoengineering

Carbon Dioxide Removal, CDR

biomass CCS,
biochar, forestry,
ocean fertilisation...



Met Office

Solar Radiation Management, SRM

white roofs, modified plants,
tropospheric & stratospheric clouds,
space mirrors...

Controversial

**ARCTIC
METHANE
EMERGENCY
GROUP**

We have to do it now
to stave off climate emergency!

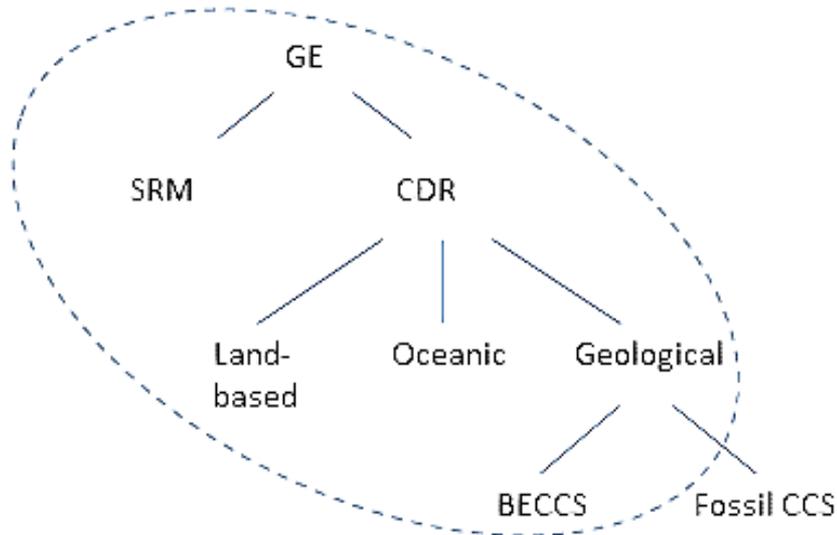
Promise/threat

It's about conserving carbon capitalism,
and white, male, Northern privilege



A neoliberal technical fix?

Clean fossil (CF) - 1960s to now



Seemingly neoliberal (NL)

- Technical fix promise!
- The perfect offsetter, (many variants) even materially disconnected
- But, Tyfield (2014) showed how poorly Fossil CCS actually fits with NL, so what about GE?

Technological fixes: Origins and meanings

Optimistic original coinage (Weinberg 1967)

- Cheap, reliable shortcuts, when compared to difficult *social* change
- A re-framing of the problem

Immediately critiqued

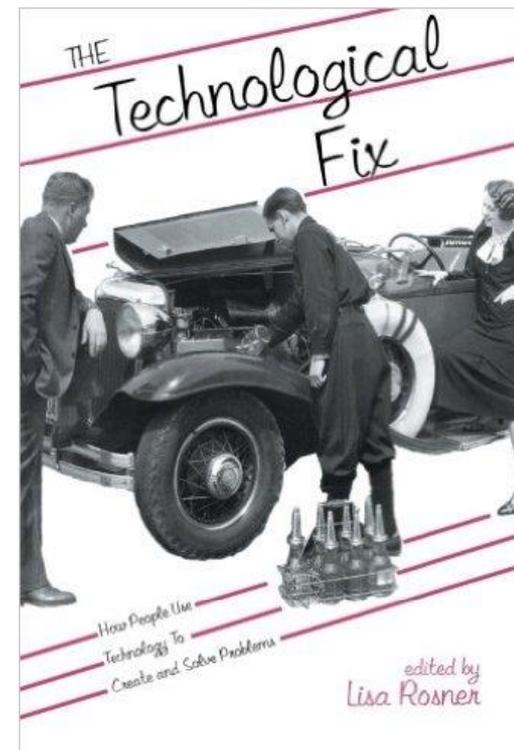
- And soon reduced to a slur (Rosner 2004)

Yet, a paradox

- Despite disillusionment, persist as solutions to socio-natural ills
- Existing literature can't explain paradox



https://en.wikipedia.org/wiki/Alvin_M._Weinberg

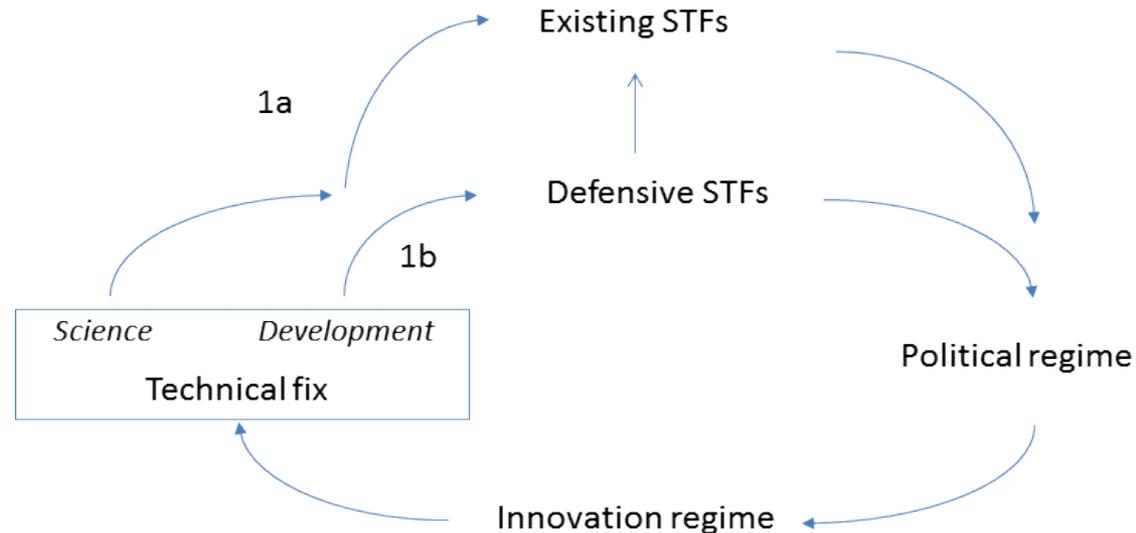


TFs are productive *how*?

Co-evolutionary cycle:

- Political/innovation regimes selectively support TFs
- Promise-making *and* development of TFs legitimize spatio-temporal fixes (STFs) underpinning political regime
- Defensive STFs

A cultural, non-determinist pol econ of TFs



Which regimes do promises of technological fixes favor? And vice versa?
And does the cycle work?

TFs are productive *how*?

Ideal-typical political (innovation) regimes:

■ *Social-liberal (coal-based):*

- State as regulator/protector
- Market interventions: public funding, regulation, ownership/control

■ *Neoliberal (oil-based):*

- Reliance on markets, private ownership
- State as market creator, market-based policy/emissions trading

Clean fossil – a brief history

SL GE

1. Early GE articulation in relation to CC policy (1965)

Rise (and fall?) of NL CCS

2. Norwegian CO₂ tax (1991)
3. IPCC Special Report on CCS (2005)
4. US policy shift from CCS to CCUS (2009)

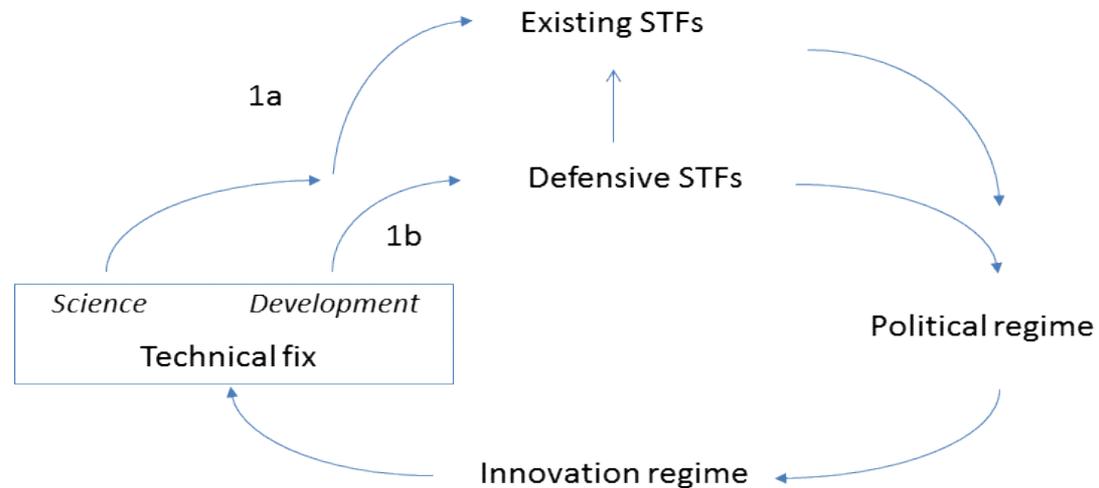
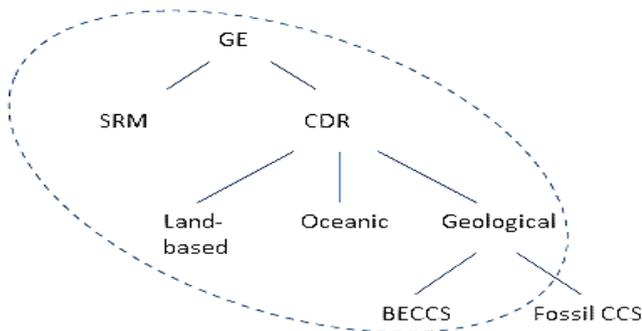
Political ambivalence of GE

5. Royal Society report on geoengineering (2009)
6. GE in IPCC's 5th assessment report (2014)

CCS - NL

- **Has remained a promise for 30 years**
 - Defensive TF promise – As long as STF not realised
 - Able to sustain NL climate policy, for a time
 - Stable because of misalignment

- **CDR (BECCS) lined up for this role now**



Conclusions

- Applied a cultural political economy conceptualisation of 'TF promises' to CF
- Imagined 'defensive justifications of STFs'
- Explained stability of promises – not in spite, but because of misalignments
- Trump, Brexit...
- 'Mitigation deterrence' project
<http://wp.lancs.ac.uk/amdeg/>

Our publications

Markusson, N. Dahl-Gjefsen, M. Stephens, J. and D.P. Tyfield (2017) **The political economy of technical fixes: the (mis)alignment of clean fossil and political regimes**, *Energy Research and Social Science*. 23, p. 1-10. DOI: [10.1016/j.erss.2016.11.004](https://doi.org/10.1016/j.erss.2016.11.004)

Markusson, N. Dahl-Gjefsen, M. Stephens, J. and D.P. Tyfield (submitted) **Promises of climate engineering after neoliberalism** – book chapter

Sources

IPCC (2005). *IPCC Special Report on Carbon Dioxide Capture and Storage*. Geneva: Intergovernmental Panel on Climate Change, Working Group III.

IPCC (2014) (A set of reports)

SYR (2014) *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

WG1 (2013) *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F. et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

WG3 (2014) *Climate Change 2014: Mitigation of Climate Change*. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O. et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Jessop, B. (2002) Liberalism, neoliberalism, and urban governance: a state–theoretical perspective, *Antipode* 34 (3): 452–472.

Mirowski, P. (2013) *Never Let a Serious Crisis Go to Waste: How Neoliberalism Survived the Financial Meltdown*, Verso

Mitchell, TY. (2011). *Carbon Democracy, Political Power in the Age of Oil*, Verso, London and New York.

Narita, D. (2010). *Managing uncertainties: The making of the IPCC's: Special Report on Carbon Dioxide Capture and Storage*. Public Understanding of Science.

PSAC (1965). *Restoring the Quality of our Environment*, Report of the Environmental Pollution Panel, President's Science Advisory Committee, Washington DC: The White House. Science Advisory Committee.

Royal Society (2009). *Geoengineering the climate: science, governance and uncertainty*. London, The Royal Society.

Rosner, L. (Ed.) (2004). *The technological fix: how people use technology to create and solve problems*. Routledge.

Tyfield, D. (2014). King Coal is Dead! Long Live the King!: The Paradoxes of Coal's Resurgence in the Emergence of Global Low-Carbon Societies. *Theory, Culture, and Society*. 31(5): p. 59-81.

Weinberg, A. M. (1967). Can Technology Replace Social Engineering? *American Behavioral Scientist*: 7-10.