

# 1: Inertia and Instability of Energy Governance

## Policy discontinuities in a multipolar world: Global best practices and the governance of Indian coal mining in Mozambique

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### Abstract

Over the past decade multinational mining giants, international consultants and aid agencies have arrived in the Mozambican coalfields of Tete with dramatic effects on the use and governance of a key national asset with profound consequences for local and global sustainability. This paper reflects on the global best practices supposed to govern the coal industry in Mozambique. This bundle of policies, regulations and approaches on closer examination appears as a patchwork developed in great haste based on individual donor programs, or adopted under the influence of the World Bank or investor CSR programs, with unclear fit for the country and little overall coherence. The Indian coal mining companies have in many cases signed up to use global best practices when acquiring coal assets in Tete but have little experience, or even understanding, of these models which they see as Western innovations. In an increasingly multipolar world it is difficult to imagine that the existing dominance of Western economic policy models and extractive industry practices will be able to continue. Alternative approaches are at the moment challenging to imagine explaining the discontinuities experienced in Mozambique.

## Carbon risk as institutional challenge: The case of Norway

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### Abstract

Norway is widely recognized for having established a strong regulatory framework for oil and gas production, ensuring that the control over and benefits from fossil fuel extraction largely belongs to the government, and by extension the Norwegian population. Norway's institutional arrangements have been credited for avoiding the "resource curse" and thus establishing fossilized carbon as *benevolent* – as a basis for welfare and prosperity.

However, the impending climate crisis has cast Norwegian oil and gas production in a new light. While attempts to separate oil policy from climate policy have been rather successful over the past two decades (Asdal 2014), recent knowledge about the limits of the world's "carbon budget" and how this might render some fossil fuel reserves "unburnable" (McGlade and Ekins 2015) now presents an alternative understanding of carbon as a potential *risk*. Carbon risk may be climatic, in that extraction could affect global greenhouse gas emissions; or economic, in that current investments might end up as "stranded assets" in a world seeking to move beyond oil. It may even be cultural, as

a threat to the Norwegian reputation and self-perception as a front-runner in the field of climate policy.

In the face of this fundamental change in the understanding of fossilized carbon from benevolent to risky, a key question is how the governance structures currently managing Norwegian fossil fuel extraction will respond: Will the institutions that were established to manage *oil as welfare* contribute to inertia in the shift towards understanding *oil as risk*, and what are the barriers to institutional change in response to this challenge?

Based on an analysis of the institutions and main stakeholder groups in Norwegian petroleum policy, we identify three potential responses to the emergence of carbon risk in the politics of Norwegian oil extraction: One in which the market is seen as the prime solution, with climate policies focusing explicitly on the demand side of fossil fuels; one that seeks a “managed decline” (Muttitt 2016) of Norwegian oil production through direct government intervention; and one where the possibility of decline is actively anticipated, opening for the possibility that the government should intervene in otherwise market-led decisions in order to minimize carbon risk.

The paper draws on structured workshops with a wide range of stakeholders and institutions, supplemented by interviews and document analysis. After identifying the three stylized responses to carbon risk that can currently be discerned among the stakeholder, we discuss how they align with existing institutional structures, and how they allow for different futures to be imagined and discussed in the management of Norwegian oil extraction.

## **Energy landscapes and scaling energy systems change in Mozambique**

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### **Abstract**

Sustainable energy provision is often framed as a predominantly technical matter, a challenge of increasing connections and ‘plugging’ consumers into a grid infrastructure. Accordingly, improving access to energy is a process dependent on achieving economies of scale and one that can be managed in a socially-neutral manner. Critical geographers and other social scientists studying energy have unsettled this view, pointing to the political dimensions of energy provision and energy infrastructures as key sites of contestation. From this perspective, energy production and use translates into control over space, and energy and its infrastructures become a means for states to express authority and visions of the future, while citizens invest energy with various meanings and understandings. In this paper, we draw on these insights into the production, circulation and consumption of energy as “an important physical medium through which to tilt the balance of power and exert social control” (Calvert, 2016: 7). Through examining the processes of electrification in Mozambique, we suggest that while there is growing recognition of the efficacy of decentralised and renewable energy sources, the Mozambican state is pursuing high and low carbon energy pathways at multiple scales. These pathways are unfolding concurrently, yet largely in isolation from one another. We suggest a need for bridging the gap between macro and micro scales and for promoting greater institutional integration from the community-scale upwards. We conclude by reflecting on the ways that the needs of lower-income

households and communities are often overlooked by both micro and macro-scale processes and argue for a more inclusive approach.

## **The end of carbon lock-in and the lock-in of decarbonization: lessons from the power sector for the disruption of oil**

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### **Abstract**

Inertia-oriented perspectives on decarbonization suggest that, rather than a long steady shift, decarbonization can be accelerated once we overcome “carbon lock-in”, the pervasive pro-carbon biases of existing systems. However, existing approaches usually focus on technology *or* politics *or* finance, and so may underestimate the role of interactions across these systems. This paper, grounded in the theory of critical transitions, presents a conceptual model and a preliminary analysis which describe how such interactions can form a feedback cycle between (a) the weakening of carbon regime lock-in and (b) the formation of clean-decarbonisation regimes; a cycle that can accelerate to produce a rapid shift into the lock-in of decarbonization. Synthesizing from across fields and jurisdictions, this paper decomposes sub-steps in this overarching feedback pattern and presents evidence for them, comparing changes in and around the power sector (coal and renewables) and transportation (oil and electric vehicles). Lessons are drawn for oil and electric vehicles from the more developed transition in electricity. The comparison covers similarities in the industrial scaling of clean energy as well as the impact of its entanglement with climate politics, policy and finance, both on the momentum of decarbonization and the resilience of carbon regimes. Per critical transitions, the potential of feedbacks to “snowball” is described as stemming from the oppositional relationship between the organizing logics and network structures of carbon and (forming) decarbonization regimes. This paper also discusses the differences between the disruption of coal and the potential disruption of the much more strategically important and powerful oil regimes. It suggests that scholars, policy makers and other actors should consider scenarios of abrupt systemic change more carefully because, unlike the typical steady-change scenarios, they offer templates for ratcheting in decarbonisation, and highlight the dangers of cascading instabilities in a rapid transition.