

Old energy security issues, new energy security issues: the upcoming geopolitics of the circular economy

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Introduction

Starting point: energy and the sustainability transition

1. The sustainable energy transition will lead to a world where renewable sources have become “mainstream”
2. This transition is made possible in great part because of a parallel implementation of circular economy principles

Argument: far from being separate from efforts to encourage the implementation of circular economy principles, these two developments interact and influence the transition itself. In others words, foreign policy penetrates circular economy policy, and vice-versa.

The context of the transition: What we already observe

Geopolitics of transitioning energy systems

- contested critical materials
- shift of value adding activities
- patents + R&D
- other likely medium- to long-term developments

Circular economy policy

- regulation instruments
- fiscal instruments
- information instruments
- research and development support

Circular economy meets geopolitics:

- Circular economy principles are often an answer to the challenges of the transition.
- These come with geopolitical implications, which in turn affects decisions made with regard to the implementation of CE practices.

1. Recycling high tech materials

The pressures described in the trends above make more likely that recycling of raw materials will rapidly become more appealing.

Parallel geopolitical developments:

- Expansion of mining due to worries related to critical material supply vulnerabilities
- Geopolitics of making recycling the norm

Impacts:

- Alliances/ preferential terms among countries, creating “regions” of CE
- Two-tier global economy of critical materials, with some regions particularly vulnerable to supply disruptions

2. Reducing/optimizing energy use

Central role of energy-related policies to implement CE principles in support for the transition

Parallel geopolitical developments:

- ICE bans and Chinese EV industrial policy
- Race for next generation battery development
- Control over supply chain of EV batteries and EV manufacturing

Impacts:

- Worries about control over the supply chain of EV batteries
- Tariffs to help local industry?
- EPR and recycling policies for batteries manufactured within a territory

Conclusions and policy perspective

Little attention in the CE literature to geopolitical constraints facing policymakers.

- Different transition pathways are possible in this regard, with various possible configurations of the “circles” of the circular economy.
- Attention by policymakers is necessary to temper take these pressures into account so that they don't impose inefficiencies on CE support policies