

# Carbon continuity

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## **Carbon Continuity: Explaining the Changing Energy Mix of Taiwan's Power System after the Second World War**

Tsaiying Lu

### **Propositions**

1. The materiality of different energy carriers helps determine what kind of other non-electrical infrastructure and social elements are or would be required to harness their power. Together, the intertwined relations among carriers, infrastructure, and social elements generate lock-in effects that make it difficult to undo certain energy choices.
2. "Carbon continuity" refers to the hard-to-break relations and operational logic of utilities, industrial users, and supportive infrastructure that are accustomed to harnessing coal, oil, and natural gas.
3. Critical events such as the oil crises in the 1970s should not be seen as once-and-for-all explanations for ensuing developments in the energy system.
4. The current renewable transitions should be understood as how the new energy technologies adapted to the existing carbon-intensive-infrasystems, and vice versa.
5. Energy transitions are planned or occur within a sociotechnical context, sometimes coinciding with political transition (for example, Taiwan's democratization in the late 1980s). Therefore, energy choices and implications should be understood from a long-range and systemic perspective.
6. Historians can utilize research materials such as the TPC's in-house journal to avoid explanation bias and make sense of their impressions of energy technologies that might seem "conventional." For instance, Taiwan's energy transitions from hydro- to coal- or oil-were, in fact, debated between engineers with different training backgrounds over time.
7. The concept of infrasystems can help researchers in transition studies track the interdependence between electricity and industrial sectors and understand what made past (attempted) transitions away from specific energy sources difficult.
8. Revisiting the past has enabled us to see why nuclear power's usage is especially debated in Taiwan. Taiwan's capability in dealing with the technical requirements and social acceptance of nuclear power is not only about the feasibility of geological or technical conditions but also about the capacity of existing infrasystems, diplomatic influence, and the trust issue between the government and the public over time.
9. Controversies surrounding newly introduced energy technologies often indicate long-standing issues or conflicts of interest that were not revealed to the public until then, providing scholars the opportunities and resources to tackle them.