



Universität Hamburg  
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Stefan c. Aykut

Juniorprofessor of Sociology, Universität Hamburg

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# An Energy transition without societal change? three theses on the sector coupling debate

## What is sector coupling?

“...involves the increased integration of energy end-use and supply sectors with one another”

“...a strategy to provide greater flexibility to the energy system so that decarbonisation can be achieved in a more cost-effective way”

(IPOL 2018, pp.1;9)

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(IPOOL 2018, pp.1;9)

# Easter Parade on Fifth Avenue, New York, 13 years apart

1900: where's the car?

1913: where's the horse?



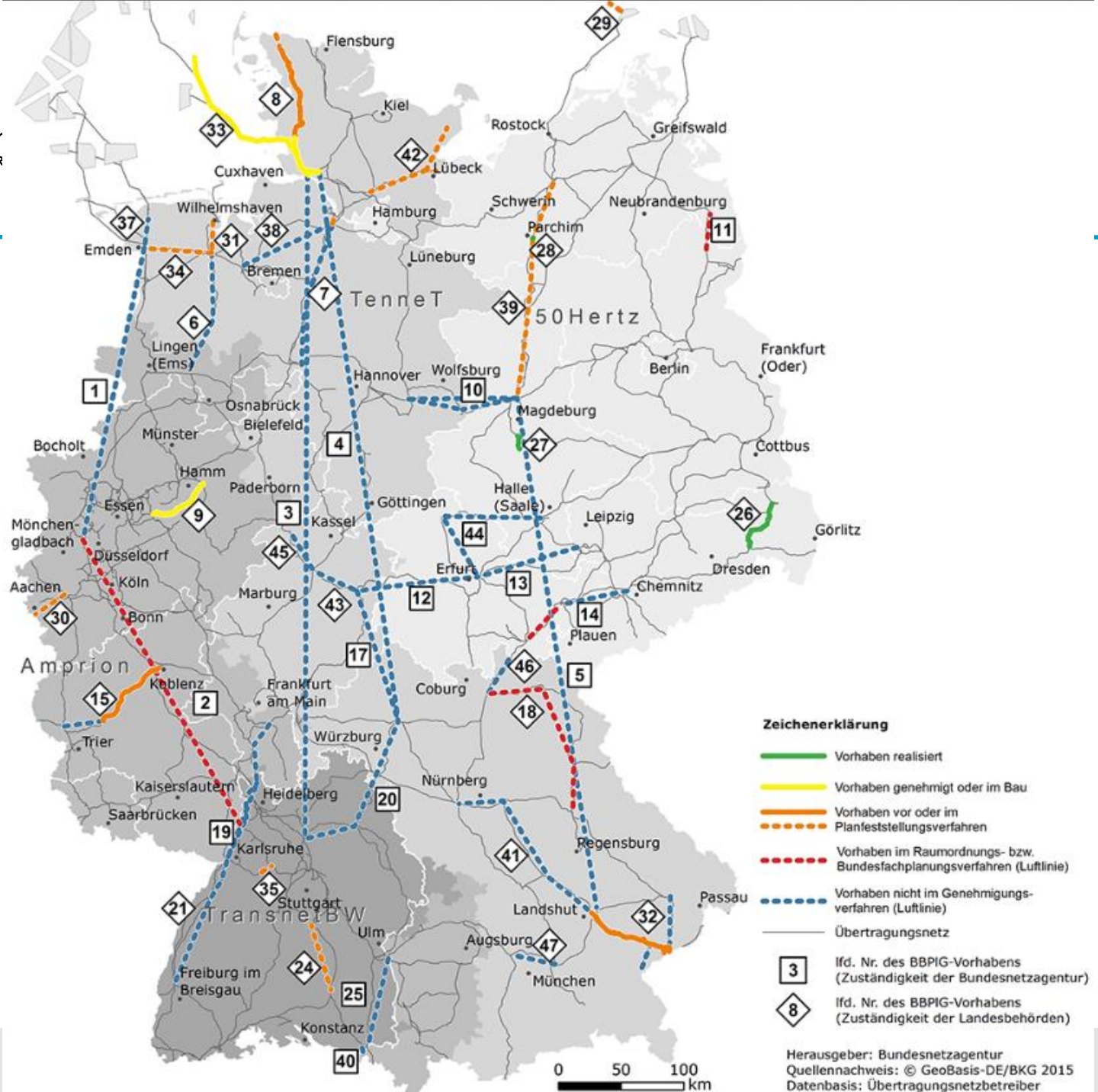
Images: L. National Archives, [www.archives.gov/research/american-cities/images/american-cities-101.jpg](http://www.archives.gov/research/american-cities/images/american-cities-101.jpg)  
R. [shoppy.com/node/204](http://shoppy.com/node/204).

Inspiration: Tera Seba's keynote lecture at AltCar, Santa Monica CA, 28 Oct 2014.  
<http://www.altcar.com/inspire-to-drive-100-electric-transportation-100-people-2014/>



# Thesis 1

The current sector coupling debate has a blind spot resulting from a one-sided focus on technological innovation, cost optimization and public acceptance. However, the energy transition is also a ***complex societal transformation project.***







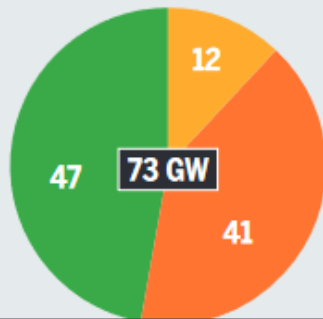
## Thesis 2

In pluralistic societies, resistance to large-scale political projects is expectable and legitimate. Majority and power relations are prone to shift dynamically. The central problem is therefore how to ignite an ultimately ***self-sustaining social dynamic for the energy transition.***

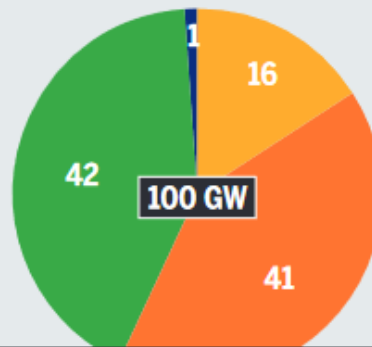
## EIN NEUES GESCHÄFTSMODELL – DAS BEISPIEL DEUTSCHLAND

Installierte Leistung zur Erzeugung von erneuerbarem Strom nach Eigentümergruppen und Energiequellen, 2012 und 2016, in Gigawatt und Prozent

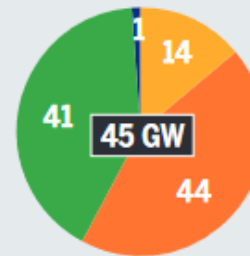
■ Beteiligte an Gemeinschaftsprojekten 
 ■ Finanz- und andere Investoren 
 ■ große Energieversorgungsunternehmen 
 ■ andere



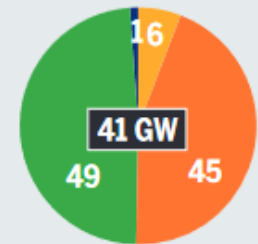
**Stromerzeugung aus Erneuerbaren  
Besitzstruktur 2012**



**Stromerzeugung aus Erneuerbaren  
Besitzstruktur 2016**



**Windkraft  
Besitzstruktur 2016**



**Photovoltaik  
Besitzstruktur 2016**

**Bürgerbeteiligungen** (z. B. Fondsbeteiligungen, Minderheitsbeteiligungen an Betreibergesellschaften)  
**Bürgerenergiegesellschaften** (z. B. regionale Energiegenossenschaften und Bürgerbeteiligung über 50 Prozent)  
**Einzeleigentümer und -eigentümerinnen** (z. B. Einzelpersonen, insbesondere Landwirtinnen und -wirte, Agrargenossenschaften)

Terminologie: Agentur für Erneuerbare Energien. Ohne Pumpspeicherkraftwerke, Offshore-Windkraftanlagen, Geothermie und biogene Anteile des Abfalls. Differenzen durch Rundung

## Thesis 3

Political instruments are not mere means-to-an-end; they interact with social dynamics. ***Instrument choice*** should therefore not only take into account criteria of cost-effectiveness and acceptance, but also how a measure affects

- existing ***power relations***;
- chances for ***sociotechnical learning***;
- opportunities for broad ***societal participation*** (democratic & economic).

# Thank you !

Aykut et al. 2019: Energiewende ohne gesellschaftlichen Wandel?  
Der blinde Fleck in der aktuellen Debatte zur „Sektorkopplung“,  
*Energiewirtschaftliche Tagesfragen*, 69(3): 20-24

Twitter: @StefanAykut