

A social and political energy transition

The example of the Norwegian electricity system

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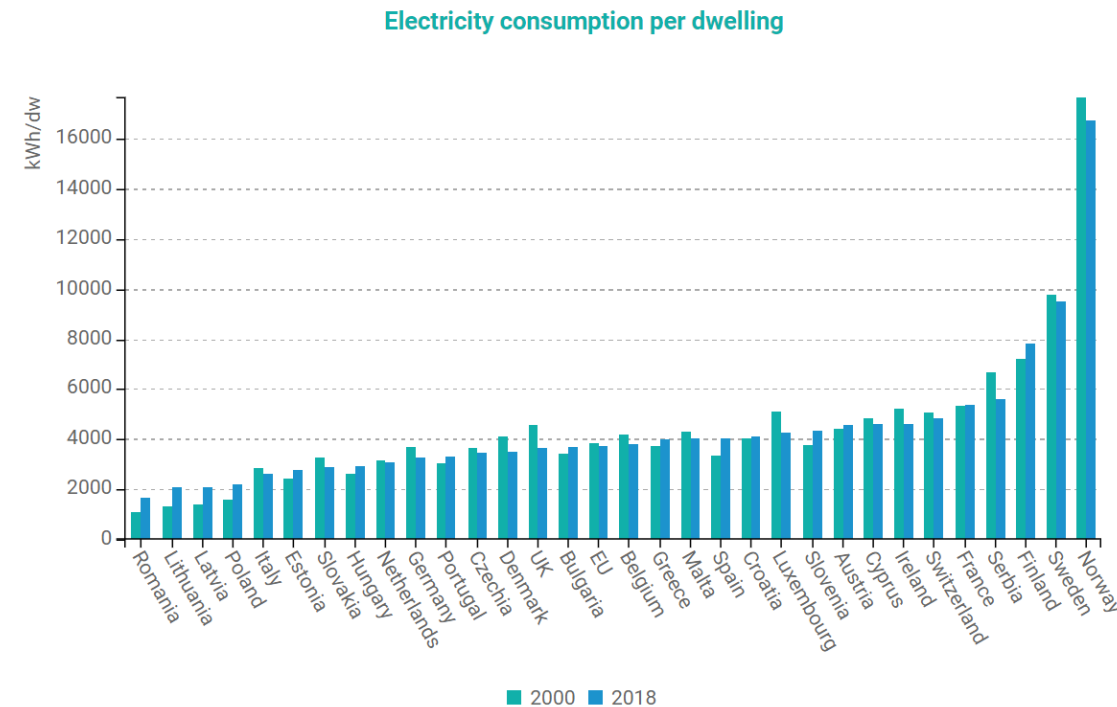
Argument

1. Norway is undergoing several interrelated energy transitions
2. These transitions have significant social implications – which again (should) influence political measures
3. Key transition shaping factors are political. The understanding of the links between energy policy and social implications need to be further developed



Fun facts on Norway's electricity system

- Fully renewable electricity generation
- 50% of Europe's hydropower storage capacity
- Electricity main source of heating for 73% of households
 - 16,000 KWh average consumption
 - 4,000 in the UK; 10,000 for Sweden
- Traditionally low electricity prices



Ongoing *electricity* system transitions

- *Several* transitions, not one:
 - **Electrification** of new sectors (transport; petroleum, industry, etc.)
 - **Digitalization** and ‘smart’ tech developments
 - **Diversification** of energy carriers and electricity generation technologies
 - **Decentralization** developments changing **production and consumption** patterns
 - **EU integration**: Norway adopts most electricity related EU regulations
- However, specifically for Norway:
 - *Not* decarbonization of the electricity sector itself
 - Weaker energy citizen/community trends than elsewhere in Europe



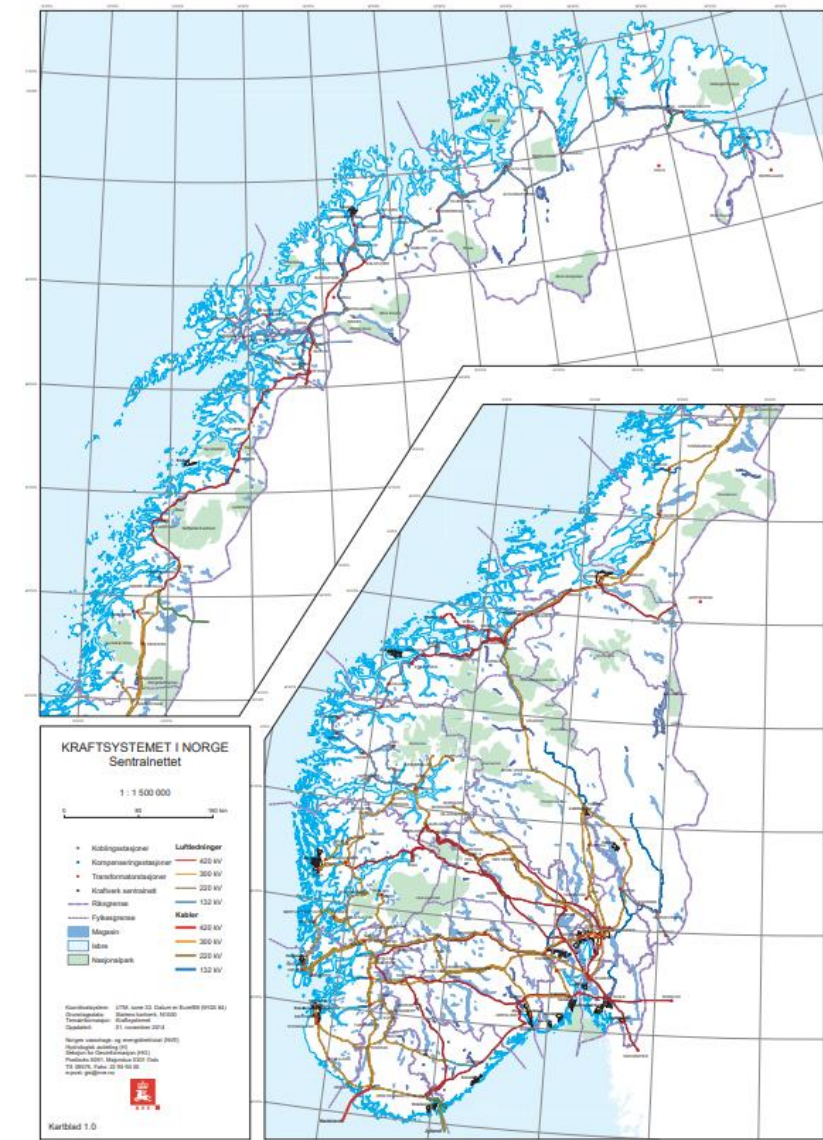
Norway's energy decarbonization strategies

1. Electrification pathway
 2. The hydrogen pathway
 3. Biofuels pathway
 4. Energy savings pathway
- Not mutually exclusive, feasible in different ways
 - The result will depend on national strategies and policy decisions, vested interests, technology and price developments



Energy transitions are social

- ***Socio-technical*** transitions involve multiple social groups, who engage in multiple types of activities, in the context of the rules and institutions of society, including belief systems and norms (Geels et al 2017.):
 - Electrification puts pressure on prices; requires new generation, energy saving, change in practices
 - Industry is significantly impacted, and grid sector is under pressure to adapt
 - Land-based windpower has become highly controversial, with political ramifications
 - Household energy vulnerability and inequities may increase

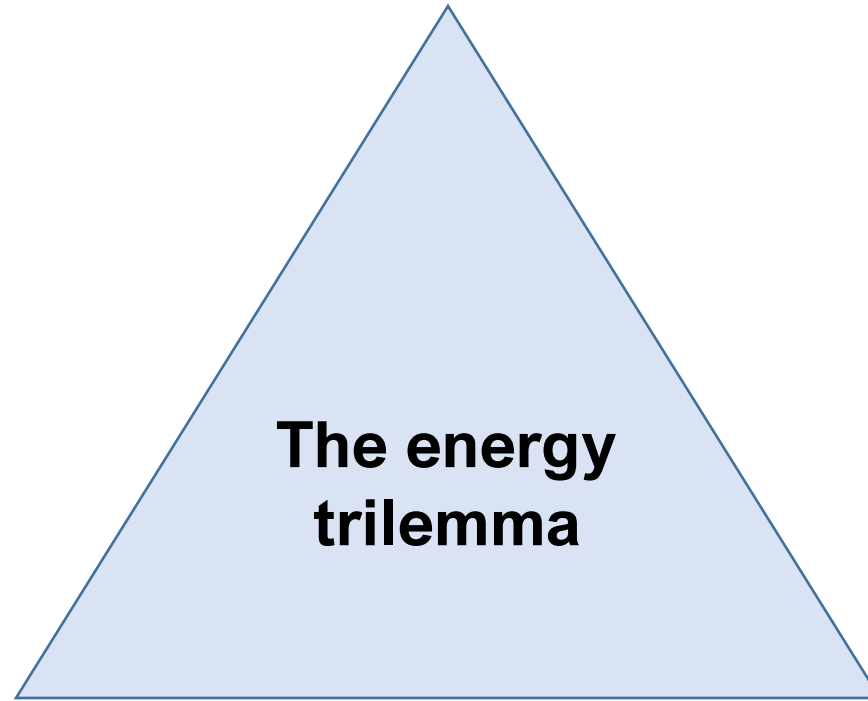


...and therefore, also political

- Transitions require negotiations, political decisions, benefits/disadvantages
 - The worst social consequences and inequities need to be avoided
 - ‘Social factors’ may influence energy transitions
- Social impacts of change: material inequities, participation and political influence
 - Individuals, groups, citizens, industry, geographical differences
- The political feasibility and design of measures to navigate these transitions
 - Who influences them and under what conditions? Who’s not at the table?
 - How public sentiments and perceptions about legitimacy influence policy



**Environmental
sustainability**



**The energy
trilemma**

Energy security

**Equitable access and
affordability**



SUMMARY

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- Social implications of the changes span the whole range from citizens, organizations, geographies, and other entities
 - ‘The social’ can also be significant in shaping or barring transitions
- Transitions have historically been shaped by and required policy interventions
- Balancing system requirements with public and social needs is crucial
 - Understanding social and political dynamics is needed to politically navigate ongoing transitions

