

International Comparison of Energy Transition in the EU. Informal rules and structures.

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France – some figures, culture and history

- Nuclear energy for electricity, stable for the last 25 years, app. 77%.
- Nuclear – third value chain, 220 K jobs
- Coal, petroleum products, natural gas halved to 4.7% in 2014
- RE has been growing slowly to 14.3% in 2014

- Oil crisis in 1973, shift to nuclear, constant improvement of thermal regulations for buildings
- 1980 – momentum for decarbonisation goes down with oil prices
- EU environmental policy – major driver
- Strong pressure from citizens' movements
- Quasi-government energy players like EDF recognised the enormous potential of RE and started investing in it

France – policy pillars and targets

- **Factor 4** - reduce the national GHG emissions by a factor 4 until 2050 compared to the 1990 level
- **Four pillars:** energy economy in all sectors; use of low-carbon energy in transport, heating and industry; strengthening of natural carbon storage and bio-sourced products; and decarbonisation of the energy mix.
- **Transport:** improved fuel economy to 2l/100km in 2030; 2.5 million hybrid rechargeable cars in 2030; 1.9 million electric cars by 2030; 20% rail freight by 2030; behavioural changes such as 10% of telework in 2030,
- **Industry:** improvement of efficiency (energy audits) - 20% reduction in energy consumption in 2030; reusing of a part of final heat (10 TWh by 2030).
- Visibility and predictability of the carbon price (Perthuis Report)
- **Future of nuclear** – ADEME daring vision of 100% RES future by 2050, shared by many associations

technopolis_{|group|} Governance of Energy Transition (1)

- The **Grenelle of the Environment** - exercise in participative democracy, consultation between players in the environment: the gov, local authorities, enterprises, trade unions and NGOs.
- **Government** pursues international obligations. This also brings political benefits.
- **Big industrial players** are positioning themselves with regards to the energy transition by buying into the ongoing processes and through diversifying their businesses. They need to align with the government policy in energy
- **Associations** participate in all important policy debates: pressure groups with concrete agendas (Sortir du nucléaire)
- **RE trade unions** push for development in different RES without necessarily attacking the nuclear industry sector.
- **ERDF/Enedis** has been developing an intelligent electricity meter Linky aiming the shift to a smart grid
- **EDF Energies Nouvelles (EDF-EN)** was an early starter in developing renewables more than 20 years ago.
- **Total** – solar panel leader
- **Engie** – since 2016 proposes green energy from RES only

- **Energy Transition Actors** - some 200 organisations gathered in the energy transition actors initiative
- **MoE** - dedicated website on participatory democracy or environmental dialogue
- **Democratisation** – high on the agenda possible for local authorities and individual citizens to invest in energy projects.
- **Citizens** - more opportunities to participate in energy projects as local shareholders, appropriation of energy issues by the citizens.
- **Factors:** social acceptance of RES; sensibilisation on energy management; and development of local economic democracy.
- **Regulation on participative financing (2015)** - crowd funding much easier, 2.5 million EUR could be crowded compared to 100K before. 2,500 EUR per person to avoid concentration of shares.
- **Electranova Capital**, EDF invests in new energy sector start-ups
- **Competitiveness clusters** - DERBI - enterprises, laboratories, financiers, professional organisations and local authorities involved in the development of RE

technopolis_{group} Law on Energy Transition - France

- More than 1,000 consultations
- 50% GHG emission reduction between 1990 and 2030 and Factor 4 reduction between 1990 and 2050.
- Reduce Final Energy Consumption (FEC) by 50 % in 2050 compared to 2012 with an intermediary objective of 20 % in 2030;
- Reduce the primary energy consumption of fossil fuels by 30 % in 2030 compared to 2012;
- Reach a RE share of 23 % from Final Gross Energy Consumption (FGEC) in 2020 and by 32 % of FGEC in 2030;
- Reduce the share of nuclear energy in the energy production from 77% to 50% in 2025;
- By 2050, the real estate park in line with the low energy consumption norms through renovation mainly concerning the low and modest income households;
- Multiply by five the RE heating and cooling by 2030;

Energy Autonomy in France

- **Bigger autonomy for local authorities** in terms of defining their energy priorities (LET). First - through the planning process (Schemes for development of renewable energy)
- Shared vision that rural territories can take back the energy management power from central government with the participation of a wide circle of actors.
- *Teritoires à énergies positives (TEPOS) (Territories with positive energy)* - territories with very ambitious goals to use 100% of RE.
- **Territoire à énergie positive pour la croissance verte (TEPCV)** is a similar concept. (*Territories with positive energy for green growth*)

Denmark

- Post 1973 – Strong interventionist policy (Keynesianism) during the last 40 years in the energy sector
- A strong grass-roots opposition to nuclear power plants
- Shared ownership and cooperative ownerships of wind turbines and district heating plants
- Later – Vattenfall took over – public acceptance and grassroots support went down
- Merging of energy and environment portfolios - Svend Auken. Rasmussen separated them again in 2001.
- Energy Strategy 2050 – fossil fuel independence, review of the entire DK legislation to make it concrete and target-focused
- Climate Change Act (2014) - Independent Climate Council
- Energy taxes, district heating and subsidies for renewable energy
- One of the strictest building codes in the world

- Energy policy based on consensus between the main political parties
- The bottom-up perspective perceived as typical and reflected in the development towards decentralisation of energy production.
- Strong history of grassroots movements, in the energy and environment areas
- Rationale behind the wind energy adventure - costs in the short term, but that in the long term - competitive advantage to country and companies
- Energy policy and industrial policy go hand in hand
- Dialogue between parts of the industry, politicians, and NGOs is an important part of this system
- Industry associations and independent environmental organisations seek to be and are often represented in the energy related law and regulation formulating processes

- Energy competences delegated to the regions
- Market liberalisation in 1999; National targets for RE production (2001)
- Decision to phase out nuclear till 2025 (2003)
- Drivers: wide range of actors: NGOs, political parties, green cooperatives
- Barriers: energy intensive industries and business federations ; indecision on nuclear phase-out
- Energy transition on the agenda: when green parties got into federal or regional governments
- Cooperatives, civil society shaped public opinion in favour of RE
- Suppliers 'delay' energy transition – postponed nuclear phase-out
- Pressure from SMEs and cooperatives to develop RE, often blocked by municipalities
- APERe - association that accompanies citizens and territories for an energy independence; REScoop.be

Conclusions

- Energy transition is a complex interaction between different stakeholders
- An ambitious strategic vision is a powerful driver for action now
- The rationale behind energy transition should be very clear for stakeholders and the wide public
- EU energy, environment and climate policy remains a major driver
- Presence of green parties in local and national governments speeds up the transition
- There is a clear trend in democratisation of energy and the legal framework should not be an obstacle
- Big government players need to buy into the energy transition

Thank you!

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