

FORECAST

Model purpose

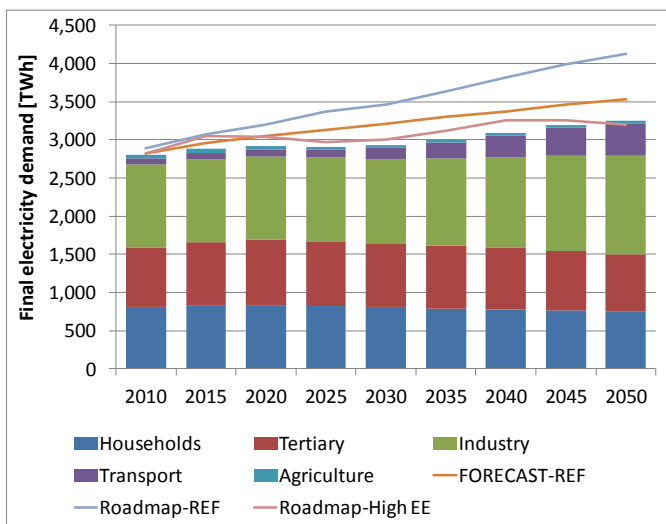
- Long-term final energy demand forecast until 2050 on an annual basis of the EU-27+3 (Norway, Switzerland, Turkey) region by energy carrier, technologies and country
- Detailed analysis of energy policies on a technology level (e.g. Eco-Design Directive, incentive schemes)

Main characteristics

- Simulation algorithm designed as a detailed bottom-up approach
- Main input:
 - Socio-economic drivers: Population, GDP, wholesale prices and physical production
 - Techno-economic drivers: Parameters of all technologies considered in the industry, residential, tertiary, transport and agriculture sector

Exemplary Results from the report “Shaping our energy system – combining European modelling expertise”:

Electricity demand in the EU27 analysing the impact of a combined energy efficiency and renewable energy supply strategy (compared to the results of the EU Energy Roadmap 2050)



- Very ambitious emission reduction targets lead, on the one hand, to a significant long-term decrease of final energy demand, but on the other hand to a disproportionately strong increase of electricity demand due to its potential for decarbonisation.
- The saving potentials exploited are mainly compensated through increasing demand from electric vehicles and electrification in the industry sector (e.g. electric arc furnaces replacing blast furnaces).
- In the residential and tertiary sector only a slight electricity decrease is noted, since most of the savings from white appliances and ICT appliances are compensated by the sharp proliferation of heat pumps.

Exemplary References

Energy System Analysis Agency: Shaping our energy system - combining European modelling expertise, Brussels, 2013.

Elsland, R.; Schlomann, B.; Eichhammer, W.: Is enough electricity being saved? Impact of energy efficiency policies addressing electrical household appliances in Germany until 2030, Summer study on energy efficiency (ECEEE 2013), Hyères, 2013.

Elsland, R.; Divrak, C.; Fleiter, T.: The Turkish energy efficiency strategy – an ex-ante assessment for the residential sector, 7th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL), Coimbra, 2013.

Jakob, M.; Catenazzi, G.; Fleiter, T. (2013): Ex-ante estimation of the EU Ecodesign Directive's impact on the long-term electricity demand of the tertiary sector: eceee summer study 2013, June 3-8, Presqu'île de Giens.