How to deal with energy taxes in Article 7 EED

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Sweden's approach to energy efficiency

- **Address market imperfections through a combination of *complementary* policy instruments**
- **General economic instruments (taxes, EU ETS), price signals**
- **Energy performance regulations**
- **Informative instruments**
- **RD&D, incl. technology deployment**

Energy taxes

- **Introduced in 1970's**
- **Since 1991 a policy tool in energy and climate policy**
- **Taxation of energy use *and* emissions of CO_2**
- **Price differences compared to EU mimimum tax levels, e.g.**
  - transport fuels: +36-42%
  - electricity non-commercial use: +38%

Complementary policy instruments

- Municipal energy and climate advisors
- Support to energy efficiency in local authorities
- Regional energy and climate strategies
- Energy audit vouchers
- Programme for energy efficiency in industry
- Network management
- Technology procurement
- Information
- Environmental Code

Calculating effects of different policy instruments

- **Taxes: top-down**
- **Regulations, informative instruments etceteras: bottom-up**

Challenges:

- **Combining top-down and bottom-up calculations**
- **Avoid double counting**

Sweden's approach

- **Effects of different policy instruments have been estimated**
- **To avoid double counting, effects of all policy instruments combined calculated is if effect of taxes only**
- **Rationale: energy taxation is the core policy instrument**
- **This will not disqualify the need for complementary policy instruments**

Calculating effects of energy taxation

- **Contrafactual analysis: What if MS would lower tax levels to EU minimum tax levels**
  - energy taxes
  - VAT
  - $\Delta P=(p+ET_{MS})\ VAT_{MS} - (p+ET_{EU})\ VAT_{EU}$
- **Price elasticities**
  - short term
  - long term
  - cross elasticities

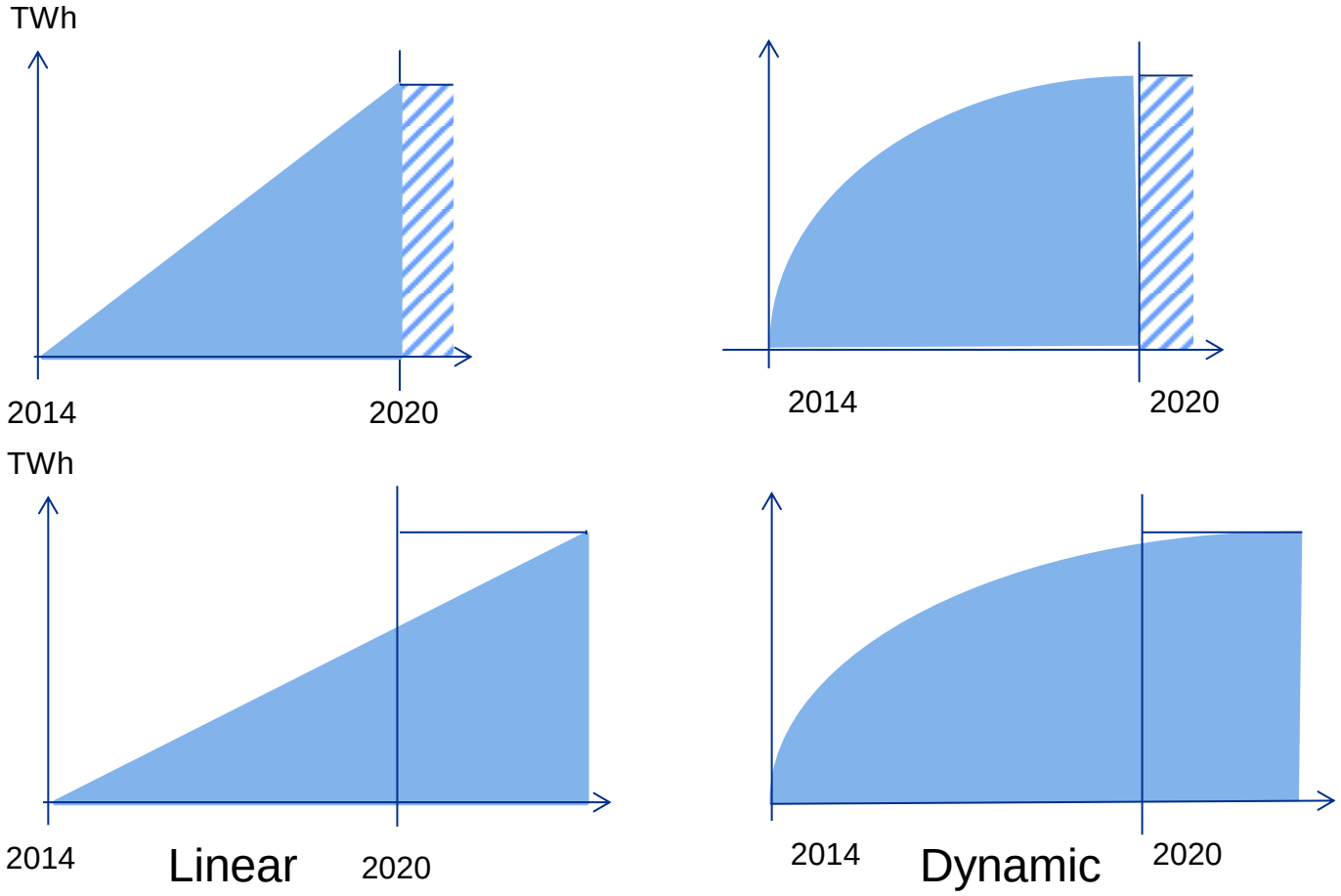
How to use price elasticities when calculating cumulative effects?

- **Long term effects are estimated over long time periods**
- **Full effect is reached after several years, but what about the years before?**
- **Relationship between short and long term effects?**
  - behavioural changes, drive less, change mode of transportation
  - investment in new, more energy efficient car

How to use price elasticities when calculating cumulative effects?

- **Model effects dynamically, as far as possible, accounting for short and long term elasticities and cross elasticities**
- **Effect is increasing each year, and cumulates, until full effect is reached**
- **If dynamic modelling not possible, use ”linear” increase anually, assuming:**
  - short term effects
  - when full effect is reached

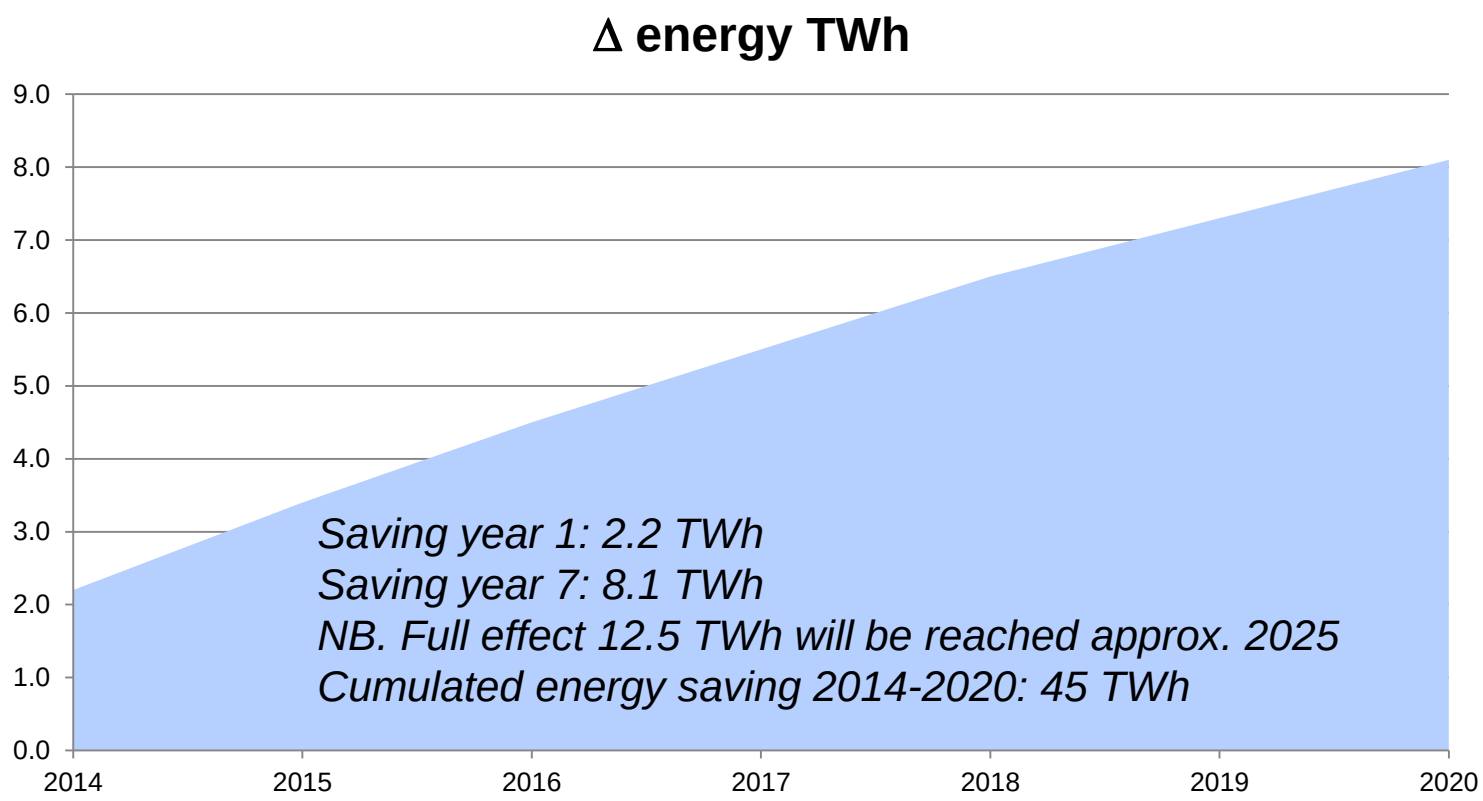
Paths to full effect



Example: households and services

- **10 % price increase electricity**
  - 0.7 % short term reduction of energy consumption
  - 5.0 % long term reduction of energy consumption

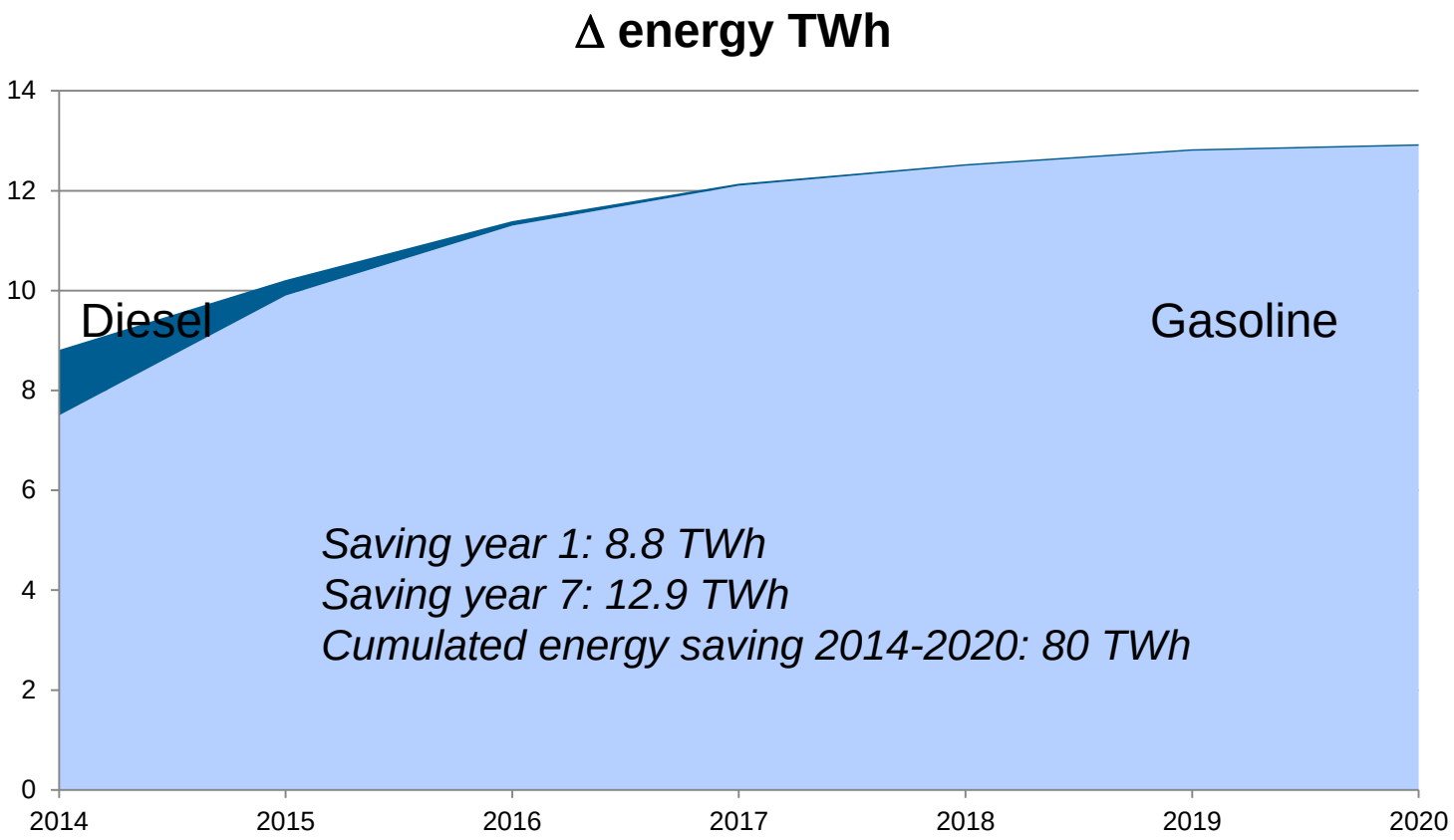
Dynamic modelling households and services



Example: transport sector

- **10 % price increase gasoline and diesel**
  - 4.0 % short term reduction of gasoline consumption
  - 6.4 % long term reduction of gasoline consumption
  - 0.5 % short term reduction of diesel consumption
  - 0.0 % long term reduction of gasoline consumption
  - 1.9 % short term reduction of energy consumption
  - 2.6 % long term reduction of energy consumption

Dynamic modelling transport sector



Questions?