

Scenarios

Predictive (prognosis, what if?), *exploratory* (external, strategic) and *normative* (preserve, change)

Model input

Demand

- 1 region
- End use groups (20+)
- 2-3 energy services (heat, cooling, electricity, vehicle-km, ton-km)

Energy prices

- Import price oil products etc.
- Export price electricity
- Taxes
- Bio energy prices

Resources

- Renewable resources (w/potentials)
- Import of bio energy (w/constraints)
- Electricity export /import

TIMES-Oslo

Conversion / Processes

- Electricity production
- Heat production
- Co-generation
- Bio mass processing
- Hydrogen production

Transmiss. / Distribution

- Electricity grid – low voltage
- District heating grid

Demand technologies

Industry sectors

- Boilers
- CHP
- Energy efficiency measures

Transport sector

- Cars
- Buses
- Trucks
- Trains etc

Residential & service sectors

- Boilers
- Stoves
- Electric heating
- District heating
- Energy efficiency measures

Model results

Energy production

- Technology
- Time

Shadow prices

- Electricity
- District heat
- Hydrogen
- Other energy carriers

Energy use

Use of energy carriers as a function of:

- Time
- Demand sub-sector

End-use technologies

- Type of cars
- Type of heating equipment
- Implementing of energy efficiency
-etc.

Other

- Total system costs
- Emissions