Supply-side and TIMES integration

CHP/DHC Collaborative meeting

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Luis Munuera
Long-term ETP-TIMES model for the power sector (and linkages with heat, fuel production, DSM)

Flexible uses in conversion sector

Fuel supply
- Fossil supply
- Nuclear supply
- Renewable supply

Energy storage
- District heat storage
- Process heat storage
- Electricity storage
  - Pumped storage
  - CAES

Flexible generation

Electricity plants (only)
- Fossil
- Nuclear
- Variable renewables
- Dispatchable renewables

Public CHP & heat plants
- Fossil
- Renewables

Autoproducer CHP and heat plants
- Fossil
- Renewables

Transmission and distribution
- Transmission and distribution
- District heat grid

Demand side management
- Transport DSM
  - Rail
  - EV/PHEV

Buildings DSM
- Elec. appliances
- Elec. water boiler + storage
- Heat pumps

Industry DSM
- Chloralkali electrolysis
- Aluminium electrolysis
- Electric arc furnace
- Compressed air

Flexible uses in conversion sector
- Elec. DH boilers
- H2 electrolysis + storage

Potential
- Fuel costs
- Electricity and heat demands

Load curves
- Electricity and heat demands
- Load curves
Establish tranches of potential DH loads
How the collaborative could assist

- Revision of technology-economic input data for CHP/district heating
  - Costs for heat and electricity technologies
  - Performance, efficiency
  - Costs for DH technology (e.g. distribution costs, heat exchangers)
- Global energy investment report (recent cost tracking)
- Local heat mapping studies / economics of DH with new technologies
- Technology and economics of flexibility from power to heat
Thanks!
luis.munuera@iea.org