Renewable energies for manufacturing industries

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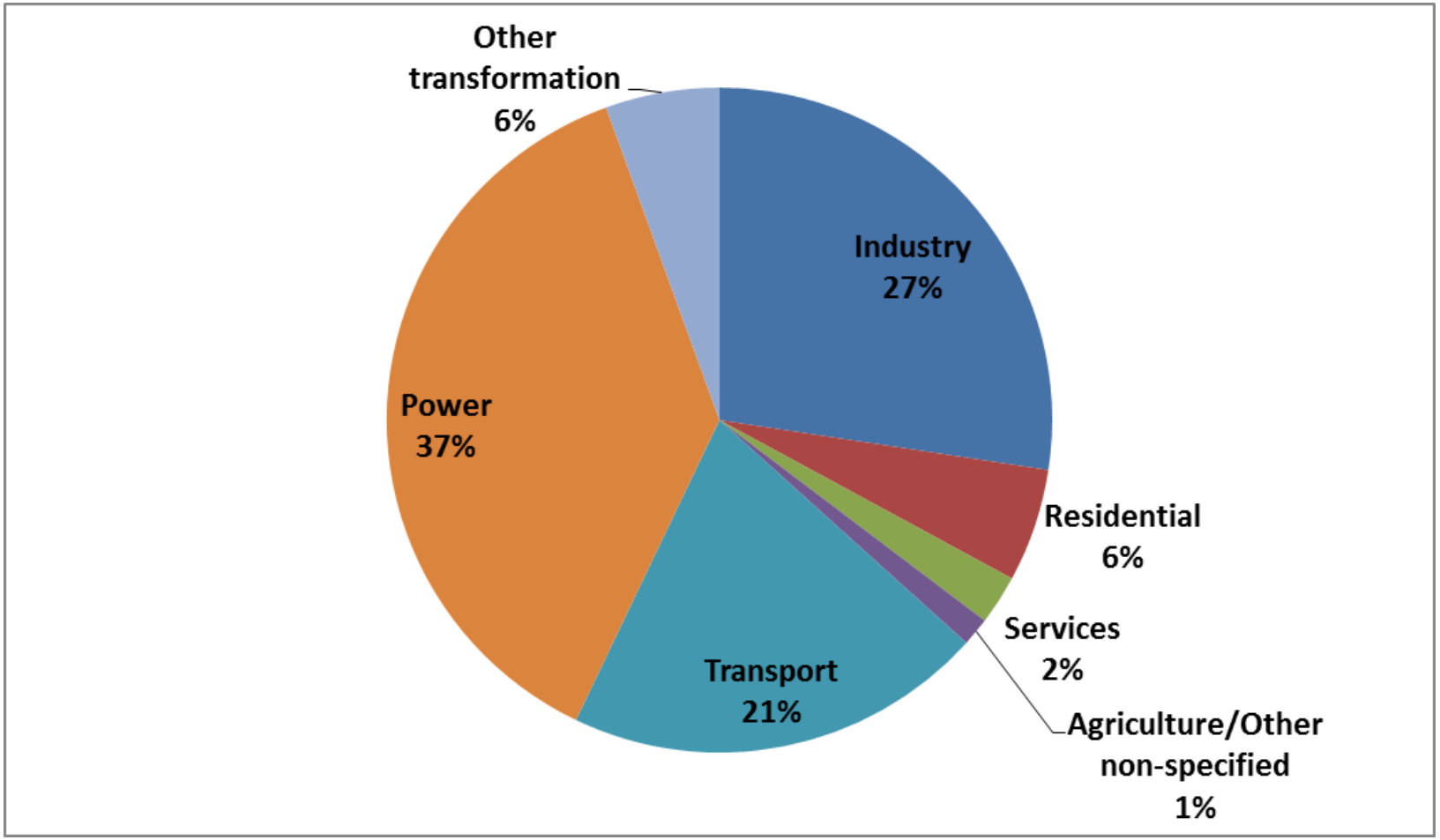
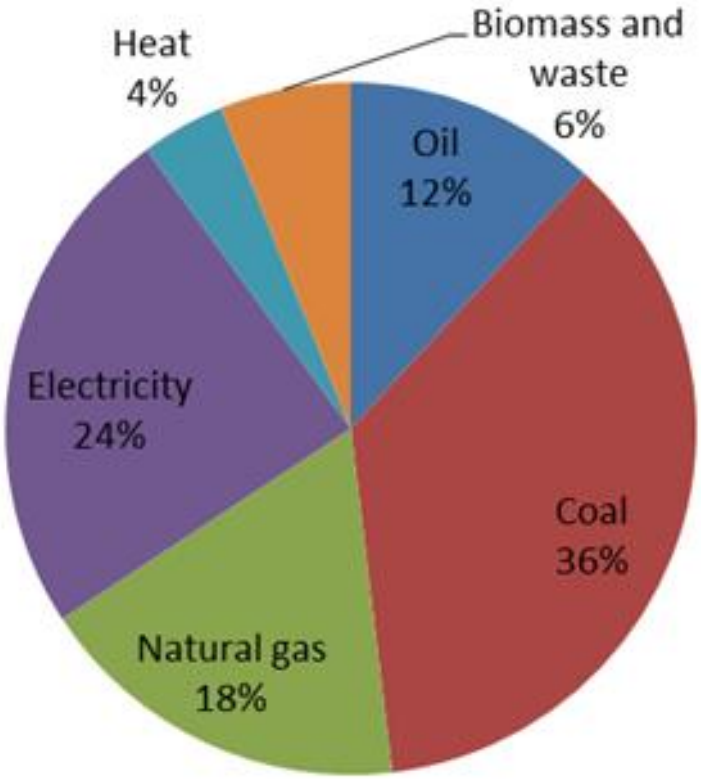
CO_2 emissions from industry second to power

Direct energy-related CO_2 emissions in 2015

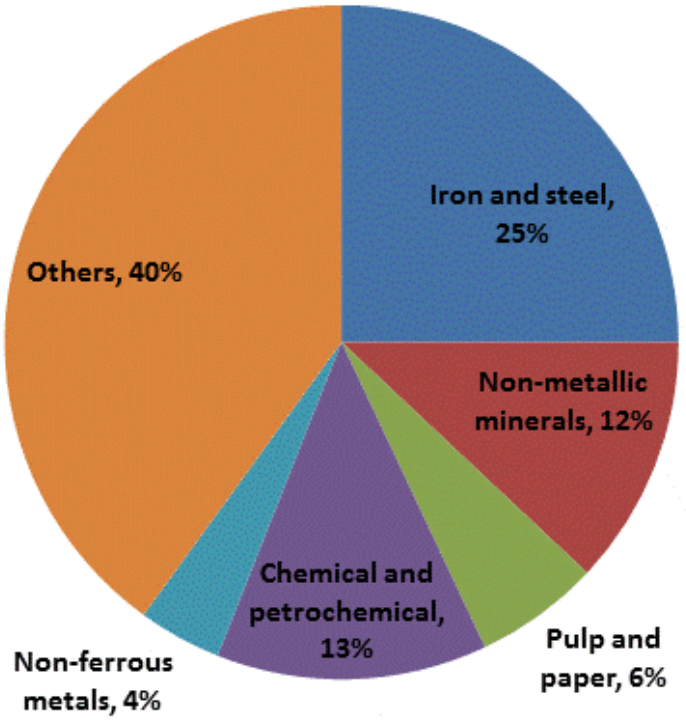


Fossil fuels dominate industrial energy use

Final industrial energy supply by sources



Final energy demand by sub-sectors



A new in-depth technology study

- Manufacting industries use ~ 30% of global energy
  - 40% including feedstock, blast furnace and coke oven
  - Fossil fuels energy sources, feedstock, processing agents…
  - Some CO_2 emissions linked to processes (e.g. steel, cement)
- Demand would grow until 2050
  - by 83% in the 6DS scenario (ETP 2014)
  - By 40% in the 2DS scenario
- Some substitution would occur
  - Biomass would grow from 6% to day to 13% in 2050 (2DS)
  - Electricity would grow from 24% today to 32% in 2050 (2DS)

How to increase the use of RE in industry?

- How to increase the use of RE as in 2DS or beyond?
  - For energy, feedstock, process agents…
  - Using biomass, solar heat, geothermal…
  - Hydrogen from renewables
  - (mostly) Renewable power, self-generated or from the grid
  - Electrification of industry help integrate more variable RE

A two-year effort

- **2015: fact-finding and case study work**
  - **Inception meeting at IEA Headquarters: 11-12 May 2015**
  - **Other « technology/economy » meetings pending resources,**
    - **possibly in China, Q4, need to consider regional specificities (e.g. carbon in electricity from the grid)**
  - **A more policy-oriented workshop**
- **2016: drafting and reviewing**