



# How long can natural gas play a role?

Electricity production 2,641 TWh<sub>e</sub>  
(40 % RE) in 2022

- Zero CO<sub>2</sub> emission low-cost energy system will be based on electricity (need about 12,000 TWh<sub>e</sub> in Europe)
- Core characteristic of energy in the future: **Power-to-X Economy**
  - Primary energy supply from renewable electricity: mainly solar and wind power
  - Direct electrification wherever possible: electric vehicles in transportation, heat pumps in heating, desalination, etc.
  - Indirect electrification for e-fuels (marine, aviation), e-chemicals, e-steel, power-to-hydrogen-to-X
- Bio-methane should be utilized and maybe boosted with synthetic one → Backup for peaks in electricity production or district heating sectors → **methane might not have a big role in the future even if it is based on renewable electricity (SNG)**
  - Need of hydrogen in several industrial sectors, e-methanol in the future marine sector, heat pumps upgrade electricity to heat, methane is about 80 times worse greenhouse gas than CO<sub>2</sub>

## Europe

Source:  
[Greens/EFA, 2022](#)

