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INDUSTRIAL PRODUCTION TO 2050 : THE PEPITO MODEL

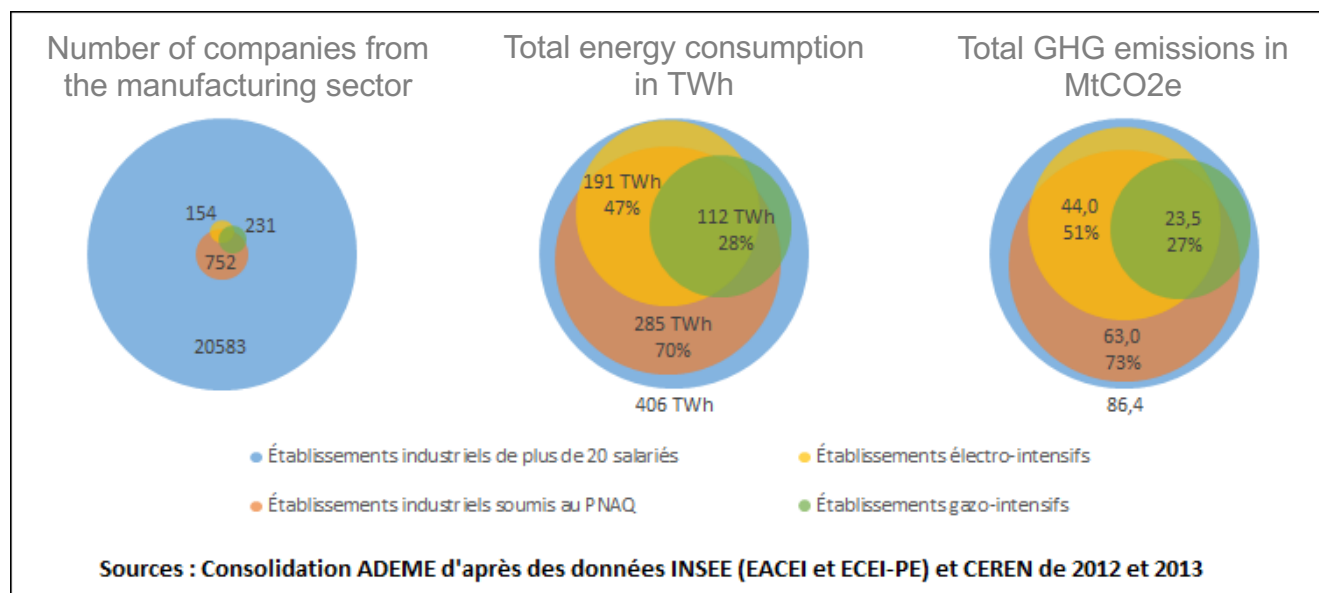
Panel 5 - Business models and finance in the age of digitalisation

The industrial sector in France

- $\approx 20\%$ of the total energy consumption et $\approx 20\%$ of the overall GHG emissions in France
- + 250 sectors of activity
- + 40 000 industrial units

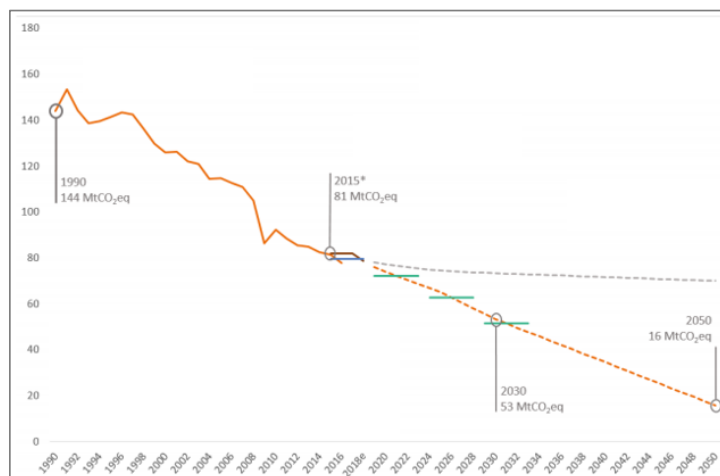
For the heavy industry:

- Only 3% of companies with more than 20 employees, but...
- 70% of energy consumption
- 73% of GHG emissions



Horizon 2050

- **SNBC:** -81% of GHG emissions compared to 2015 level
- Macroeconomic frame : **GDP growth**



- **ADEME scenarios:** energy demand and energy mix pathways of the consuming sectors
- Specific consumption and **production level as determinants of energy demand in industry**



Perspectives d'Evolution de la Production Industrielle pour une Trajectoire 0 carbone: the PEPIT0 model

- Main goal:

Modelling interactions between industrial production and final demand for materials

- Beyond:
 - Open debate regarding industrial production levels to consider in prospective scenarios
 - Initiate discussions with companies about the « output issue »

Which sectors ?



Metals

- Steel
- Aluminium



Minerals

- Clinker
- Glass



Chemicals

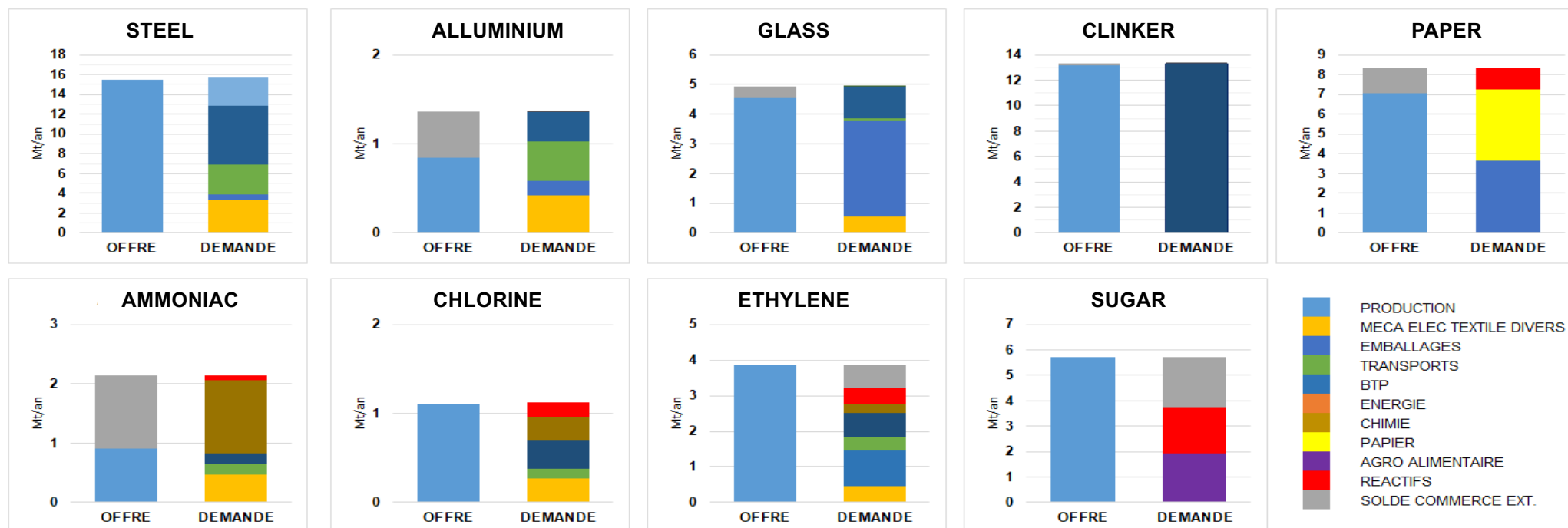
- Ammoniac
- Ethylene
- Chlorine



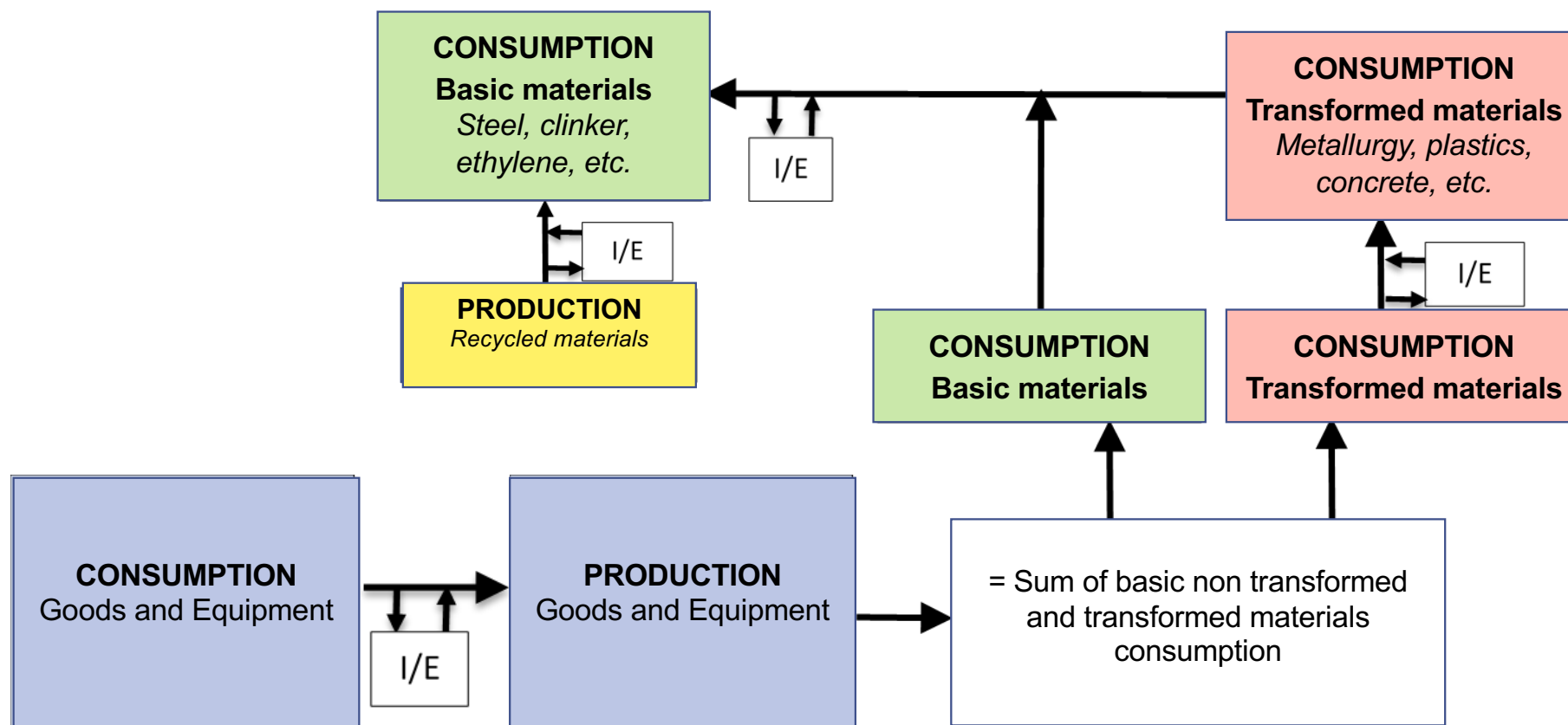
Others

- Paper
- Sugar

Mapping of flows in 2014

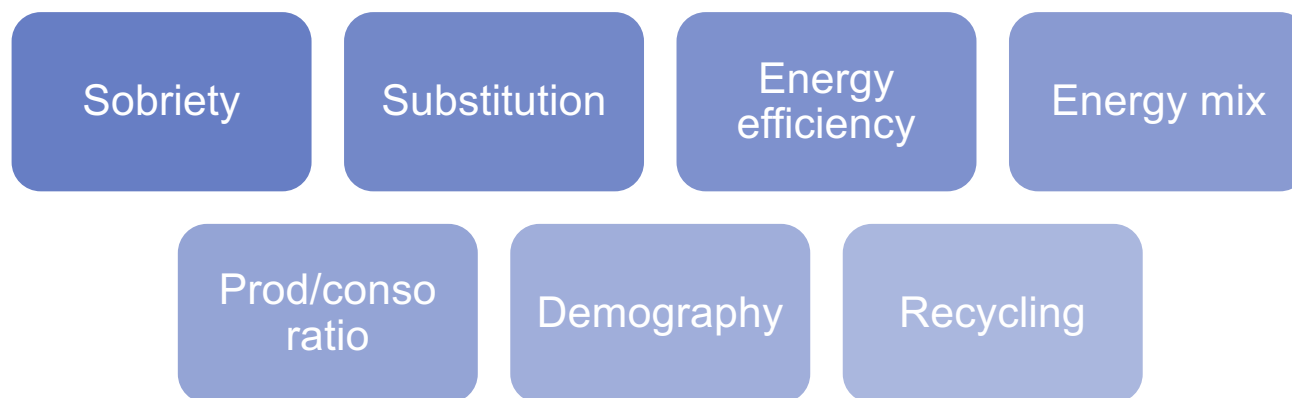


Prospective to 2050

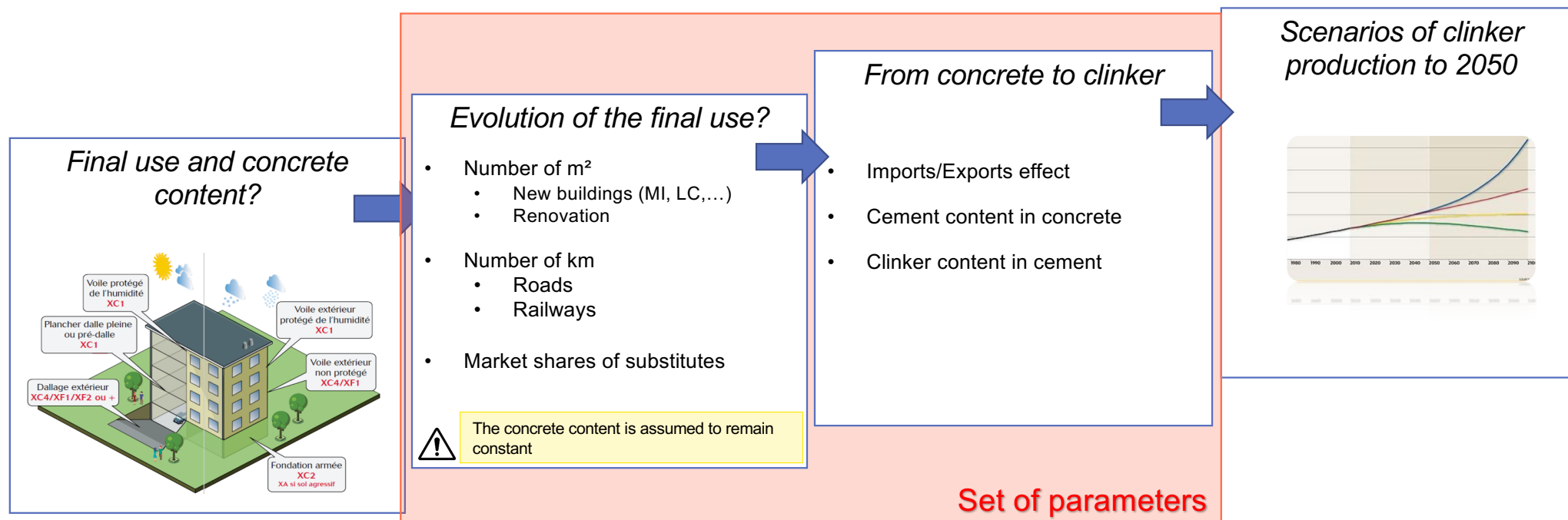


Demand parameters

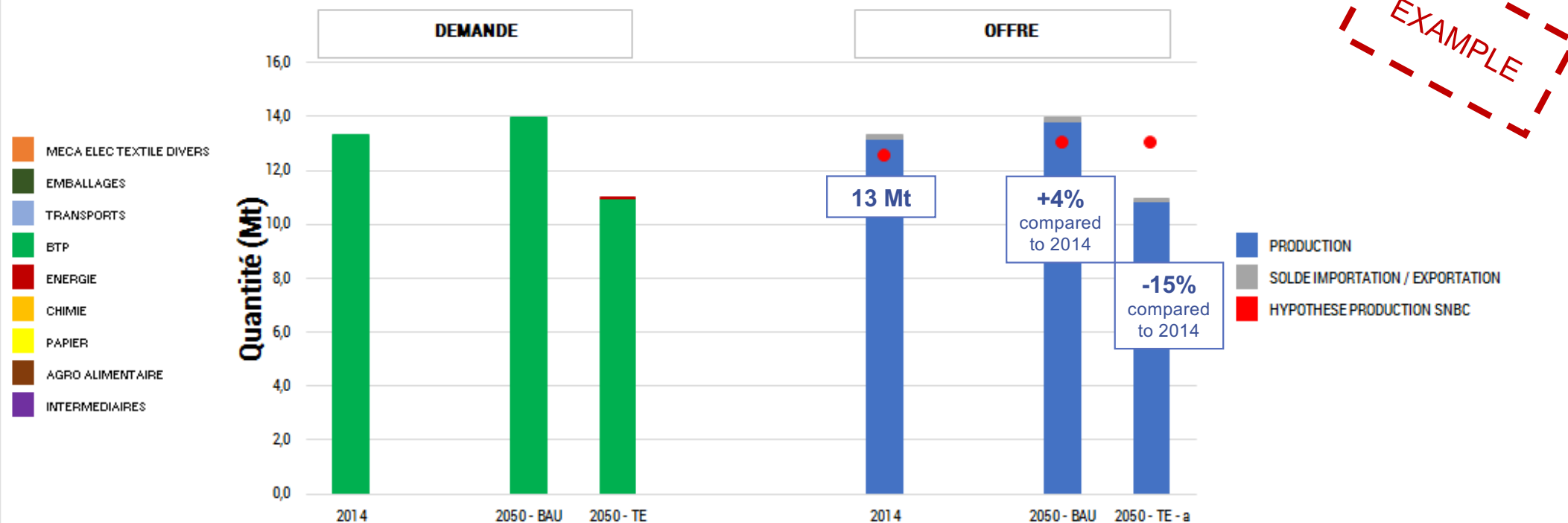
- + 200 parameters



Production of clinker to 2050: how is it estimated?

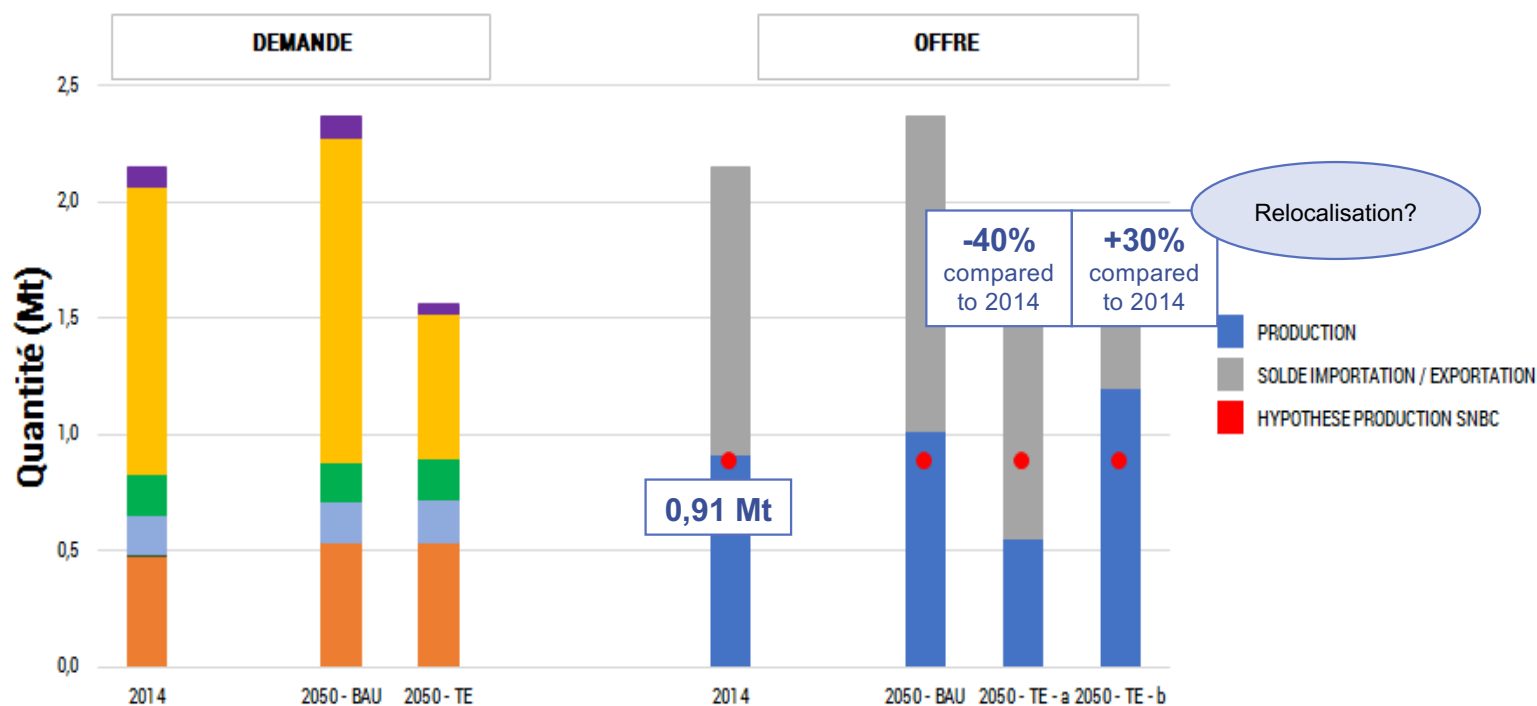


Clinker: how to decarbonize the cement industry?



Ammoniac: the nitrogen fertilizers issue

EXAMPLE





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Industry Department

