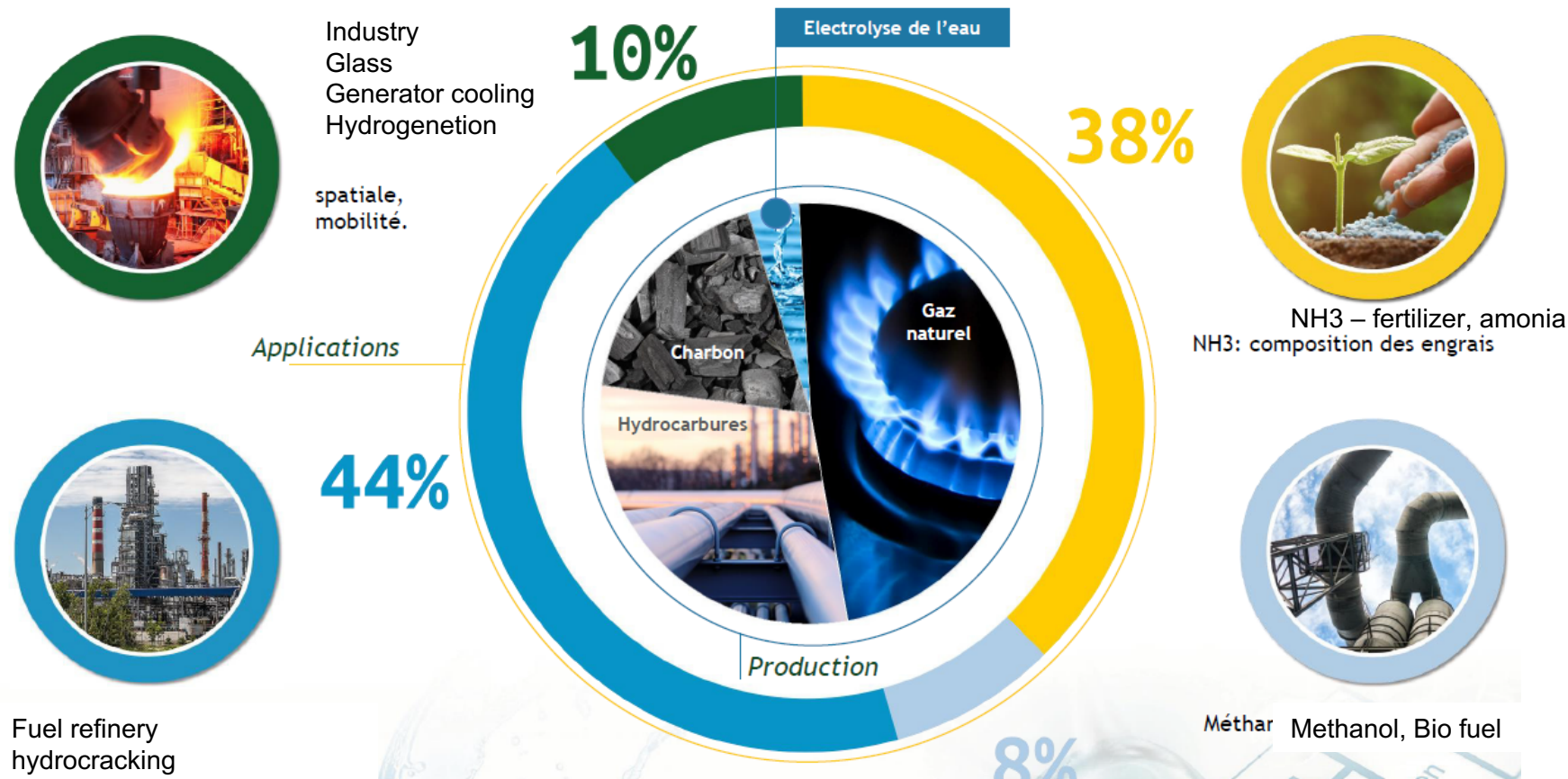


Applications industrielles

- Solutions intégrées de l'hydrogène vert

Worldwide Hydrogen Consumption

the global Energy Demand VS Production

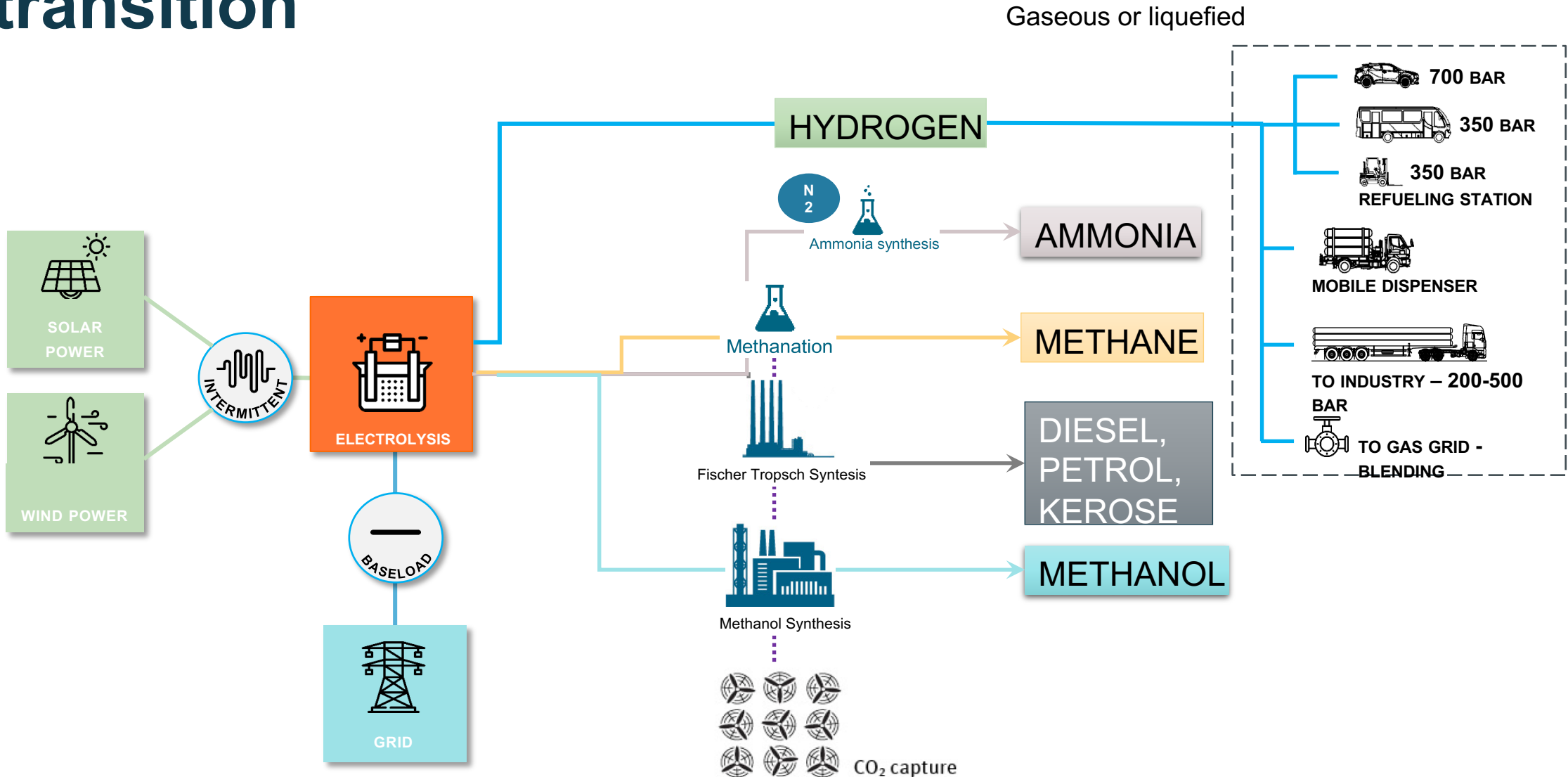


The hydrogen industry is well established and has decades of experience in industry sectors using hydrogen as a feedstock. **(68 Mt/y)**

The hydrogen feedstock market is expected to grow significantly in the coming years, reaching **USD 155 billion** by 2022. **(+25%)**

Over **95 %** of current hydrogen production is fossil-fuel based. Steam-methane reforming (SMR)
Only around **4 %** of global hydrogen supply is produced via electrolysis, mainly with chlor-alkali processes

Hydrogen is key driver to enable the energy transition



Turning to +100MW units

OIL REFINERY

- AVERAGE REFINING CAPACITY OF 10,4MT OIL PER YEAR
- REQUIRES 50KT /H₂
- **340MW ELECTROLYSER**
- EU : **24 GW**
- WORLD - 98 MBBL/DAY : **142 GW**

STEELMAKING PLANT

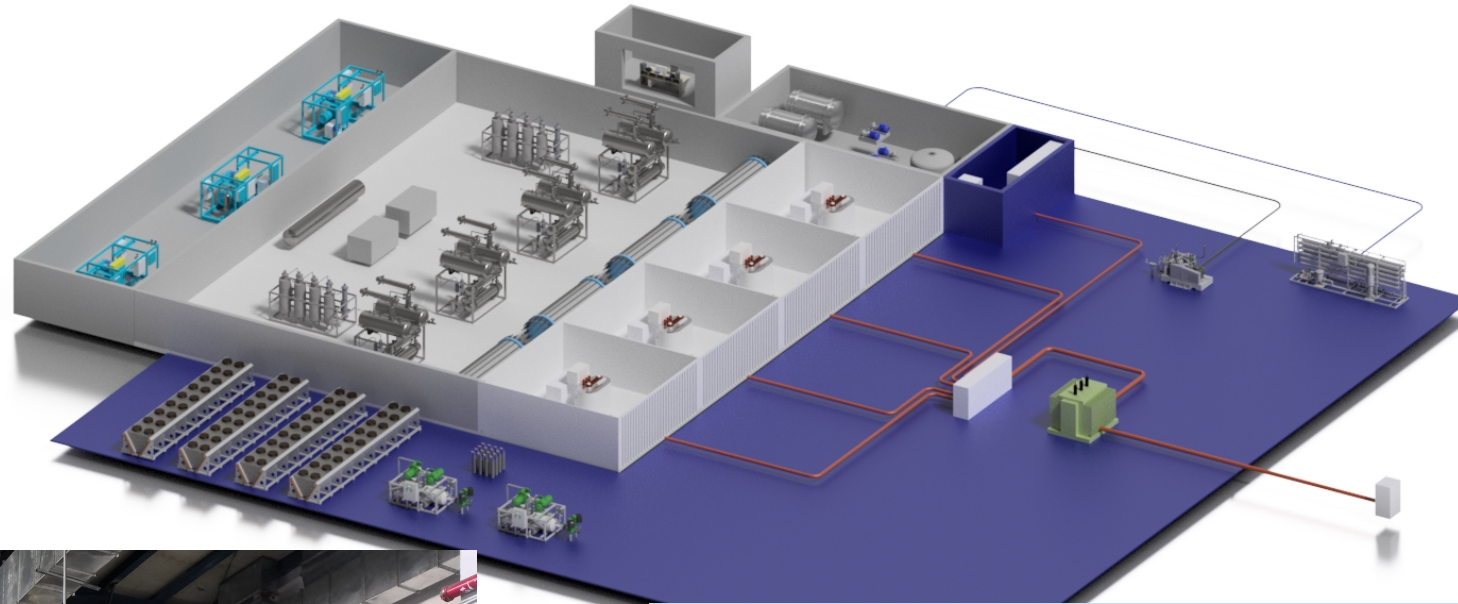
- 85 KG OF H₂ TO PRODUCE 1 TON OF STEEL
- AVERAGE PRODUCTION PLANT OF 4MT/YEAR
 - **1,8 GW OF ELECTROLYSIS**
- EUROPEAN PRODUCTION OF 168MT : **76 GW**
- GLOBAL STEEL PRODUCTION OF 1700MT: **765 GW**

AMMONIA PLANT

- AVERAGE PLANT CAPACITY OF 800KT PER YEAR REQUIRES 144K TONS H₂
- ~8TWH OF ELECTROLYSIS PER YEAR
- **0,9-1 GW ELECTROLYSER**
- EU PRODUCTION OF ~20MT PER YEAR: **25 GW**
- WORLD PRODUCTION OF 180-200MT PER YEAR: **225-250GW**



Green H2 mass production projects have started



20MW AND 1
GIGA WATT
HYDROGEN
PLANTS

