Diversification and the energy transition

By

Rudy Van Beurden, Senior Vice President Public Affairs, FluxSwiss

The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.
Diversification and the energy transition

Rudy Van Beurden │ Senior Vice President Public Affairs at FluxSwiss

11 October 2023
Who we are?
4 facts about Fluxys

1. Fully independent infrastructure partner headquartered in Belgium
2. Strong European presence with associated companies across Europe and entities in LatAm
3. A growing group of 1,300 employees
4. Purpose-driven company committed to the green transition

shaping together a bright energy future
Fluxys’ highly interconnected network in Belgium offers optimum source diversification options for security of supply.

Total transit to surrounding countries: 440 TWh (2021: 195 TWh)

161 TWh (2021: 190 TWh)

145 TWh (2021: 68 TWh)

256 TWh (2021: 20 TWh)

In
Out
Consumption
Belgium
Storage

Reference year: 2022
We need a robust energy mix that comprises both clean electrons and molecules to meet all energy needs

**Very challenging**
- Limited potential of domestic sun & wind power generation
- Sun & wind power generation not always available: balancing supply and demand key challenge
- Mid to high temperature industrial processes better served through green molecules

**A balanced energy mix**
- Clean molecules vital to provide sufficient energy and flexibility to balance supply & demand
- High energy intensity of molecules allows for efficient storage and long-distance transport
- Clean molecules address both energy and feedstock needs

* 360 TWh final energy demand
  81 TWh electricity

(ref: EU energy datasheets 2022 Belgium 2020)
We believe in the **power of molecules** and an integrated energy system with both electricity and molecules, in line with Europe’s Green Deal.
We are ready to sustainably re-use and develop its infrastructure into a multi-molecule system

Sources for expected demand: S&P Global (IHS) base case, ETS database, Fluxys analysis
With our infrastructure we can make a key contribution to decarbonisation

Today

- CO₂ emissions: 100 million tonnes/year (2018)
- Energy use:
  - Power: 8.5
  - Industry: 39.1
  - Residential heating: 22.1
  - Transport: 16

Carbon-neutral energy carriers progressively replace natural gas in our infrastructure

- Hydrogen (H₂)
- Ammonia (NH₃)
- Synthetic/biomethane (CH₄)

CO₂ transport from hard-to-decarbonise industrial processes to reuse locations or permanent storage

Natural gas = key energy bridge to a carbon-neutral society

2050

0 net CO₂

UNCTAD Multi-year Expert Meeting on Commodities and Development - Geneva - 11 Oct 2023
Always 3 important variables to keep in balance

1. Sustainability
2. Affordability
3. Security of supply
The import of low carbon molecules from outside EU likely to become necessary

Wind and sun rich regions outside Europe: hydrogen export through different carriers

Liquified Hydrogen
L-H₂

Ammonia
NH₃

Methanol
CH₃OH

LNG – methane
CH₄
Belgian hydrogen import coalition demonstrating technical and economical feasibility of imports

**Extensive logistics chain analysis** for several regions with promising conditions for efficient hydrogen production.