



The Electric Power system

BELGIUM



cigre

For power system expertise

Power system of COUNTRY

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Basic facts

- Area: 30.528 km²
- Population: 11,46 millions (2019)
- 6 million consumers
- 1 TSO : Elia
- 7 DSOs :
 - Fluvius
 - Ores
 - Resa
 - Sibelga
 - AIEG
 - AIESH
 - REW
- Peak load : approx. 13 GW (on transmission grid)



Global map of the grid and of its interconnections

- Interconnectors with:
 - France
 - Luxembourg
 - Netherlands
 - UK
 - Germany (under development)



Source : Elia Transmission Belgium

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Grid facts and characteristics

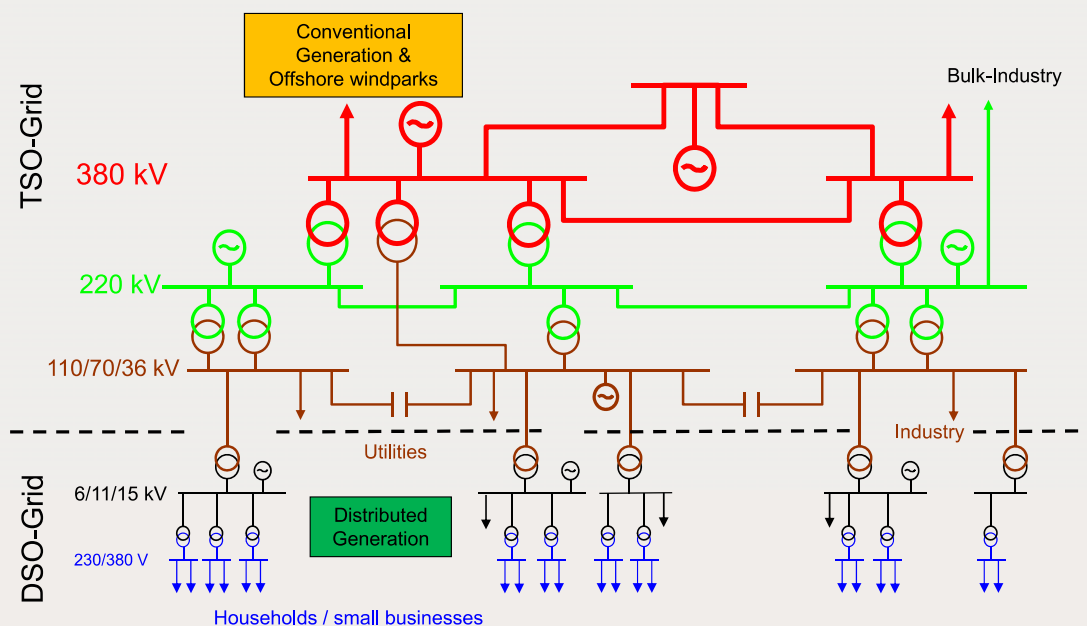
- The electricity grid in Belgium is sub-divided into transmission grids (very high and high voltage) and distribution grids (medium and low voltage)

	Voltage Level	Total length (approx.)	Responsibility
Very high voltage	220 and 380kV	1 320 km	TSO
High Voltage	36 kV to 150 kV	7 340 km	TSO
Medium Voltage	6 kV to 15 kV	76 870 km	DSO
Low Voltage	230 V or 400 V	127 840 km*	DSO

Source : Synergrid

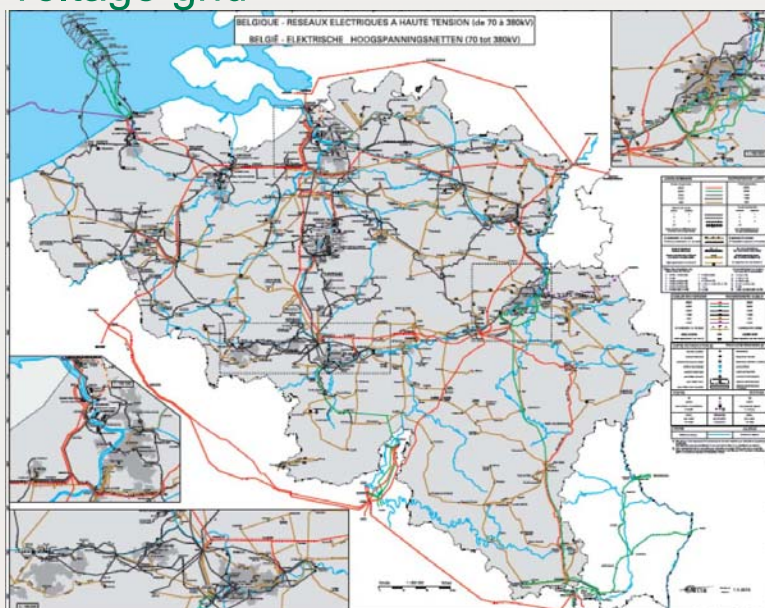
- More details available on <http://www.synergrid.be/index.cfm?PageID=18029>

Structure of electrical power system



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Map of the high voltage grid



Source : <https://www.elia.be/en/infrastructure-and-projects/our-infrastructure>

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Information on TSO(s)

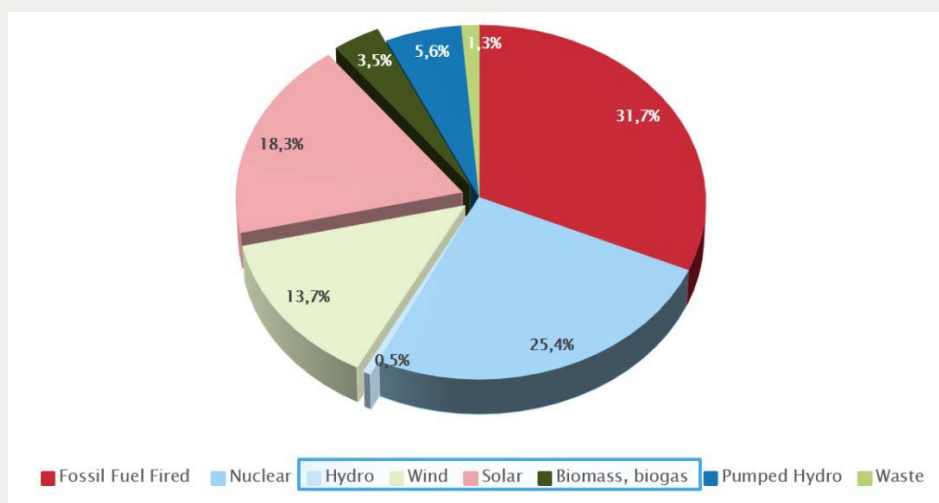
- Name: Elia Transmission Belgium
- Network length (km) : 8.660 km (2019)
- Served area (km²) : 30.528 km²
- Annual transmitted energy (TWh) : 77,7 TWh (2019)
- website: www.elia.be

Cooperation of TSO and DSOs

- The TSO and the DSO's cooperate closely and effectively via their common national federation: Synergrid (www.synergrid.be).

Installed capacity with reference to primary resources

- Installed capacities (GW) : 23,3 GW (2018)

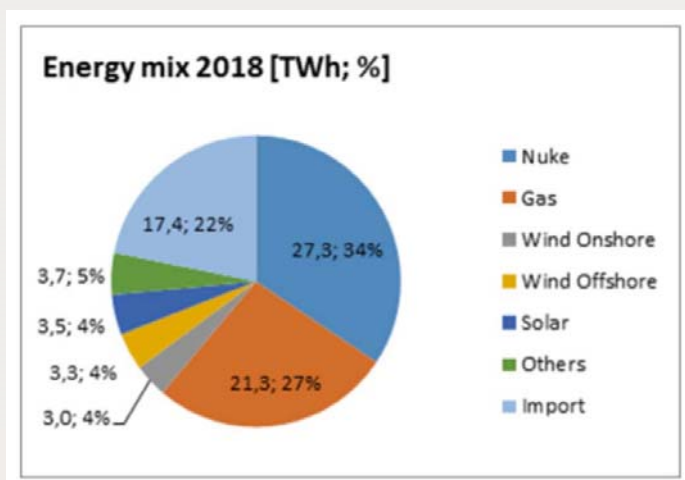


Source : FEBEG

Power system of COUNTRY

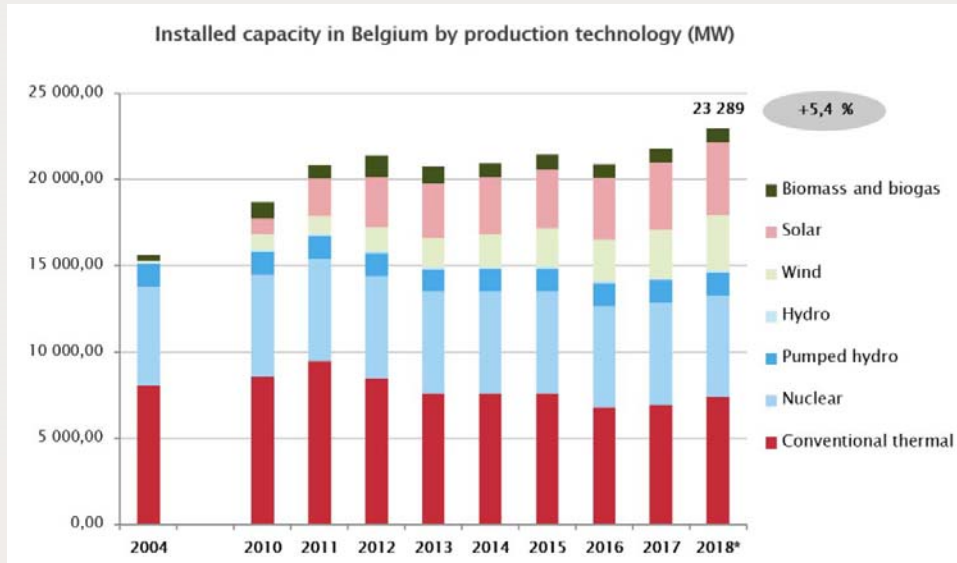
Energy production with reference to primary resources

- Electricity generated (TWh) : 62,1 TWh (2018)



Source : Elia

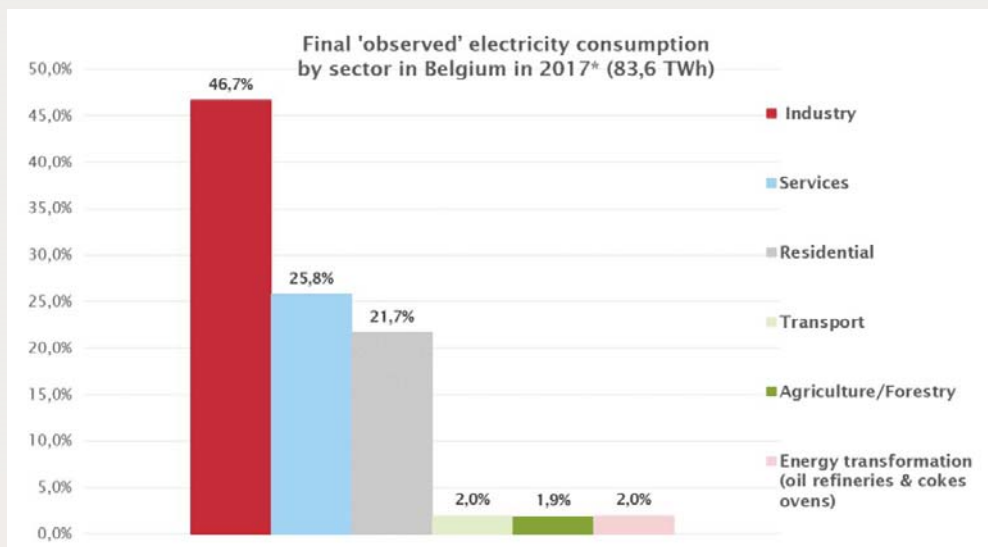
Development of generation capacity



Source : FEBEG

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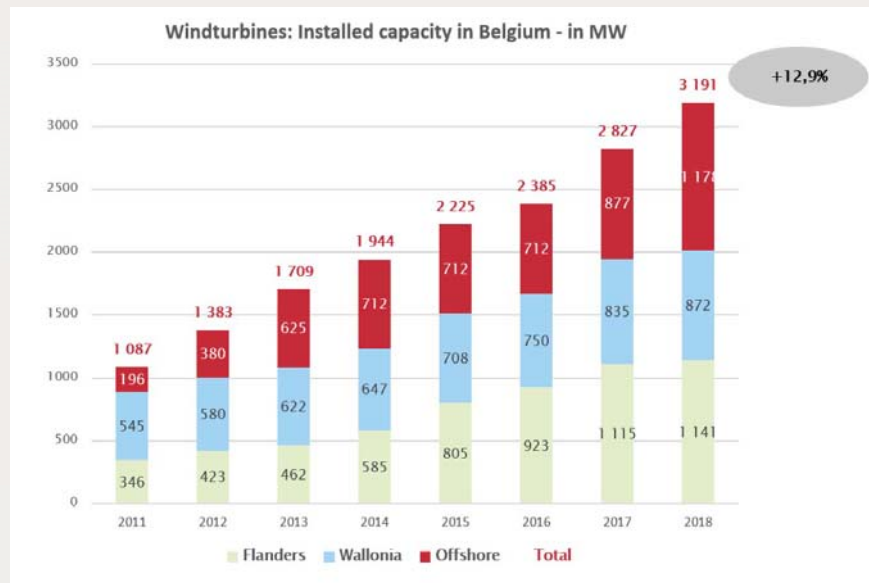
Consumption per customer groups



Source : FEBEG

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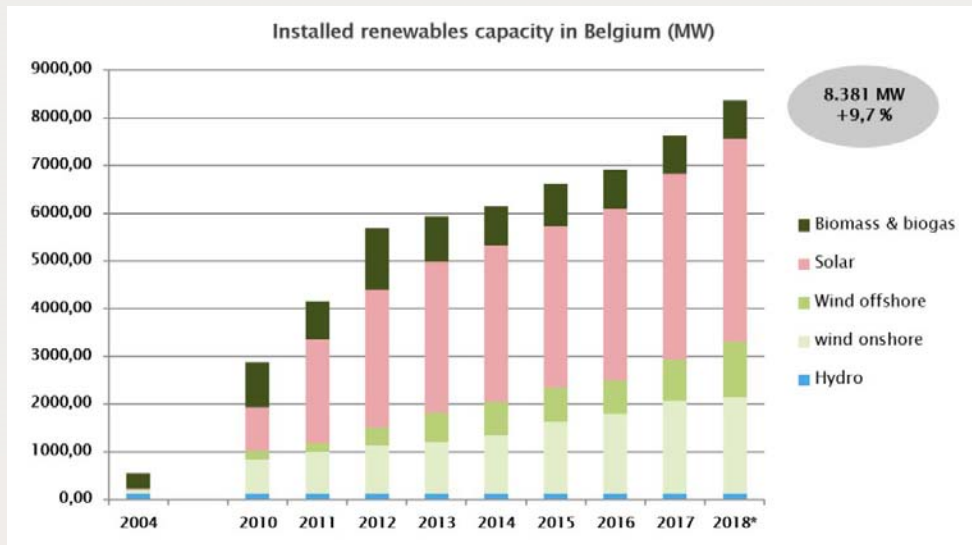
Development of wind power



Source : FEBEG

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RES installed capacity and production per annum



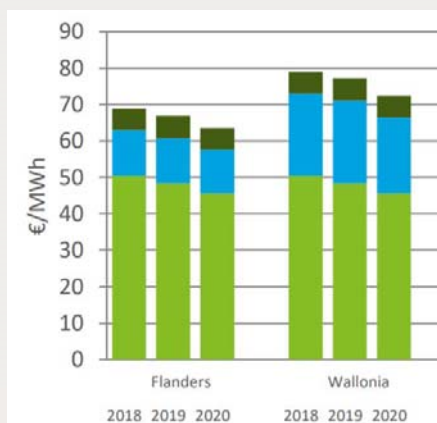
Source : FEBEG

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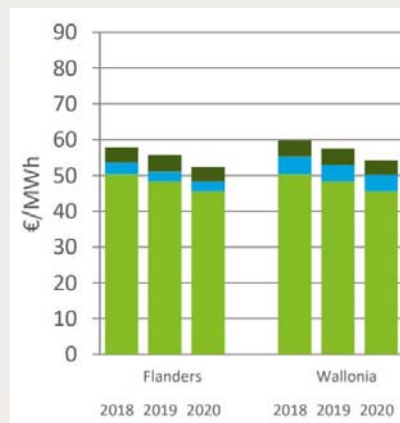
Price development for industry consumers

- All-in electricity prices

Baseload profile (100 GWh)



Baseload profile (1.000 GWh)



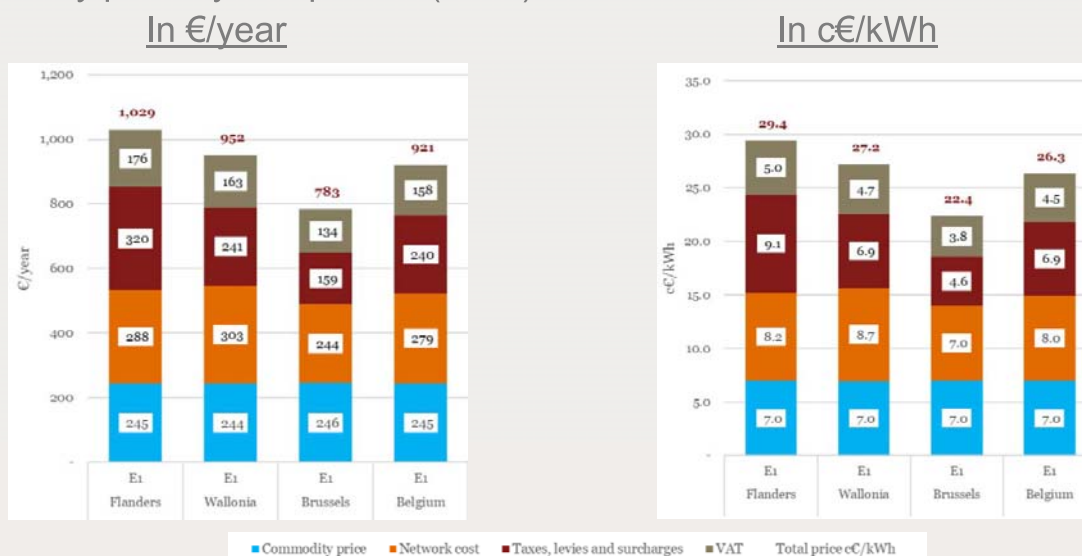
■ Commodity price ■ Taxes ■ Network

Source : Febeliec

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Price development for households

- Electricity price by component (2018)



Source : CREG

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Power balance in 2019

Source : Synergrid

- Numbers in TWh
- % = difference vs 2018

Power

