



Belgium's electricity mix in 2020: Renewable generation up 31% in a year marked by the COVID-19 crisis

- In Renewable generation breaks multiple records, accounting for 18.6% of the electricity mix
- Average monthly price on the short-term (day-ahead) market at a historic low of €31.9/MWh due to the COVID-19 crisis
- Electricity consumption in Belgium down 7% in 2020 compared with the average for the previous five years.

BRUSSELS – Elia, Belgium's electricity transmission system operator, has collected the available information concerning the electricity generation mix in Belgium in 2020 based on the data currently at its disposal. These initial figures highlight the main trends in 2020, but have yet to be consolidated. The main developments over the past year were an increase in renewable power generation (due in part to offshore wind development), a reduction in nuclear generation, stable generation from gas-fired power plants and a near balance between electricity imports and exports. Many records were broken again this year, with the average monthly MWh price on the day-ahead market reaching a historic low.

KEY DEVELOPMENTS IN 2020

18.6% of electricity from renewables and new records set

Renewable generation (offshore/onshore wind and solar power only) accounted for 18.6% of the electricity generation mix in 2020, an increase of 31% in absolute terms compared with 2019 (15.1 TWh in 2020 as against 11.5 TWh in 2019). This rise was driven by many factors, including the weather and the increase in installed capacity (with wind power up from 3,796 MW at the end of 2019 to 4,670 MW at the end of 2020 and photovoltaic up from 3,887 MW at the end of 2019 to 4,788 MW at the end of 2020). Once again, a relatively high level of solar energy was generated in the summer, with higher wind generation during the winter.

New records set in 2020

- At 12 noon on 11 May 2020, 3,196 MW was generated from wind combined with 2,628 MW from solar, bringing the Wind + Solar value to 5,824 MW, an all-time record for absolute generation.
- At around 9 p.m. on 26 December 2020, 3.8 GW was generated solely from wind in Belgium, another new record.
- A new monthly solar generation record of 683 GWh was set in May 2020 (beating the previous record of 504 GWh from June 2019). This was due to the sunny weather that month, but also, primarily, to the increase in installed photovoltaic capacity.



For further information

Jean Fassiaux (FR) | M +32 474 46 87 82 | jean.fassiaux@elia.be

Marie-Laure Vanwanseele (NDL) | M +32 499 86 51 58 | marielaure.vanwanseele@elia.be

Marleen Vanhecke (ENG) | M +32 486 49 01 09 | marleen.vanhecke@elia.be

Solar (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	73	135	236	325	411	332	407	380	309	171	82	64
2017	80	94	257	338	412	432	397	335	262	164	84	33
2018	54	195	228	364	517	464	555	422	344	242	111	57
2019	60	191	244	414	451	504	477	444	358	196	118	71
2020	81	138	386	581	683	578	548	495	397	180	126	63

- The commissioning of new offshore wind farms in 2020 (Northwester 2 and SeaMade) marked the completion of the first phase of offshore development, and pushed capacity up to 2,262 MW from 1,548 MW at the start of the year.

This led to a new monthly generation record being set in October 2020, with 881 GWh generated by offshore wind (the previous record being 616 GWh in December 2019).

Offshore (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	332	256	212	181	159	143	156	177	131	169	246	182
2017	197	240	268	130	166	209	199	159	184	376	291	369
2018	364	320	274	201	169	196	131	200	281	331	393	452
2019	412	307	448	247	252	312	243	393	454	518	445	616
2020	628	803	702	340	419	361	370	357	437	881	639	789

- Installed onshore wind capacity also increased, making February 2020 Belgium's most productive month ever in this category, with absolute generation of 629 GWh (compared with 499 GWh in December 2019).

On Shore (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	325	302	224	180	141	117	131	156	127	135	220	181
2017	173	251	304	145	145	201	195	150	197	311	238	332
2018	403	277	317	226	158	157	146	185	193	237	296	367
2019	318	288	460	209	179	198	161	210	248	316	277	499
2020	444	629	439	227	244	195	204	203	185	494	394	431

- One final point to note is that there were 119 hours in 2020 when over 50% of the electricity consumed in Belgium was generated from renewable sources. This threshold had almost never been reached before.

Wind + Solar > 50%

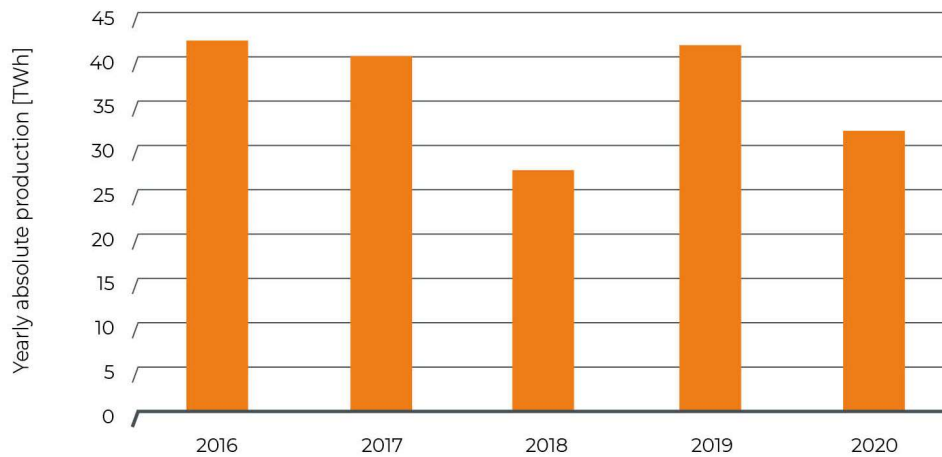
Year	Hours	%
2018	0	0,0%
2019	8	0,1%
2020	119	1,4%



Less nuclear generation than in 2019

In 2020, 39.1% of Belgium's electricity needs were met by nuclear power. This is a lower figure than in 2019 (48.7%), due in particular to a number of scheduled and unscheduled maintenance overhauls. The share of nuclear generation was still well above that of 2018 (31.2%), a year marked by the significant unavailability of several reactors, especially in the last few months of the year.

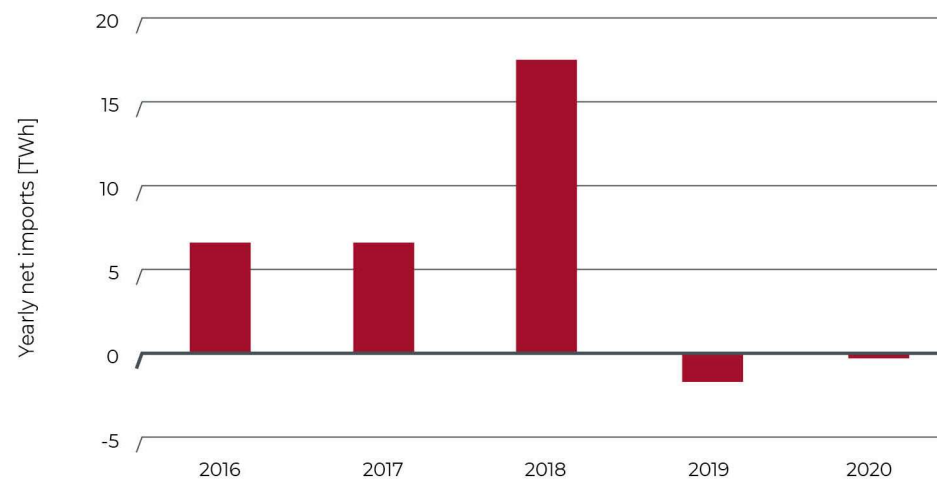
Electricity generated from nuclear units



Balanced electricity imports and exports

2020 was virtually neutral in terms of annual net imports, with Belgium exporting slightly more than it imported. Historically, electricity import levels have been at their highest in years when nuclear generation was lower, but 2020 was somewhat unusual in this respect, with low nuclear generation but no net imports. This can be explained by two main factors: a lower annual load (as a result of measures to tackle the COVID-19 pandemic) and an increase in renewable energy.

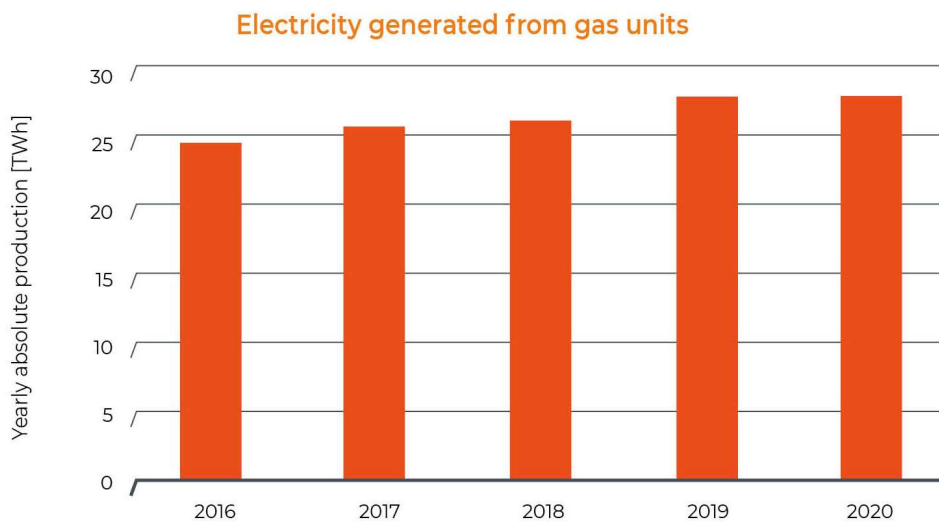
Electricity imported



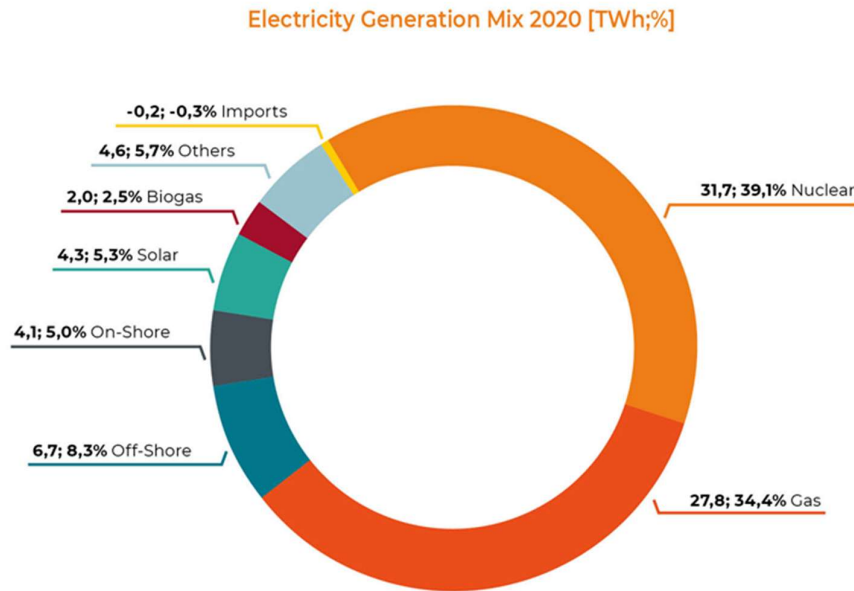
Stable generation from gas-fired power plants

Gas-fired power generation has been fairly stable for several years. Aside from Vilvoorde (255 MW) and Seraing (470 MW), which both came back on stream in October 2018, the fleet of gas-fired power plants has not changed much in recent years.

However, it should be noted that the method has changed slightly this year since we now have access to more detailed information about small units. As a result, natural gas-fired units have been taken out of the 'Others' category and moved into the 'Gas' category. While this new method better reflects the actual situation, it also means that the volume in the 'Gas' category is higher than in previous years' publications. Note that in the graph below this method has been applied retroactively from 2016 onwards.



Electricity generation mix in 2020



* The method has changed this year because of the availability of more detailed information about small units. As a result, biogas and natural gas-fired generation units have been removed from the 'Others' category, giving a clearer and more accurate picture. Natural gas-fired units are now included in the 'Gas' category, and a new 'Biogas' category has been created.

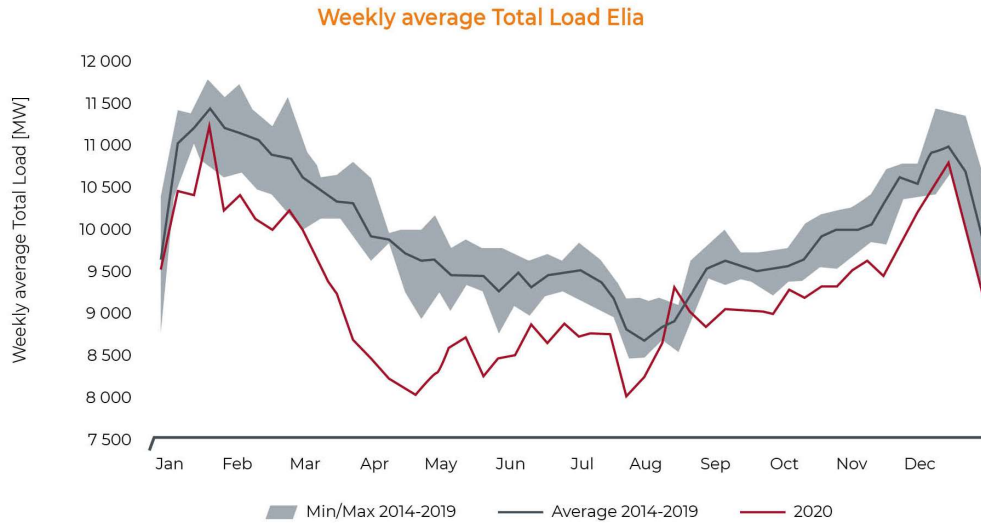
Impact of the COVID-19 crisis

2020 was an unusual year, marked by an unprecedented public health crisis. However, it is difficult to detect any direct impact from this crisis on Belgium's electricity generation mix. For example, in Belgium, unlike other countries, there were no power-plant shutdowns linked directly to COVID-19.

However, our electricity system was impacted in two key ways:

- Total consumption in 2020 was lower than in other years, standing at 81 TWh, 7% below the average for the previous five years. At the height of the lockdown during the first wave, consumption was 25% below normal at certain times of day. In August, consumption was sometimes back up to, and even above, the average for the previous five years, mainly due to the heatwave. It should be remembered that load is heavily weather-dependent, making it difficult to say exactly how much of the decrease was due to the pandemic. 2020 was warmer on average than the previous five years, and this may account for part of the decline in power consumption.





- Average MWh prices on the day-ahead market were below normal at times. For example, an all-time record was set in April, when the lowest average day-ahead price was recorded (€14.7/MWh). The average for the year was also the lowest since 2016. This is mainly due to high renewable generation during the lockdowns, when electricity consumption was lower, as well as to lower fuel prices (particularly gas).

Monthly average day-ahead prices on gross market [€/MWh]

Month	2016	2017	2018	2019	2020
January	32,6	72,6	36,8	60,5	37,9
February	25,4	47,6	47,4	47,6	28,4
March	27,1	34,5	50,7	37,6	24,0
April	25,4	37,3	37,8	37,9	14,7
May	25,4	37,2	44,5	38,0	15,4
June	30,7	32,7	50,0	27,5	25,6
July	31,3	33,6	52,9	37,7	29,8
August	28,9	31,8	60,7	33,7	35,5
September	37,7	37,2	68,8	33,6	44,2
October	57,2	49,0	76,0	37,6	39,4
November	62,3	66,6	77,8	44,4	39,9
December	55,0	55,1	59,7	36,4	47,4
	36,6	44,6	55,2	39,4	31,9



About Elia Group

One of Europe's top five players

Elia Group is active in electricity transmission. We ensure that production and consumption are balanced around the clock, supplying 30 million end-users with electricity. With subsidiaries in Belgium (Elia) and north-east Germany (50Hertz), we operate 19,271 km of high-voltage connections. As such, our group is one of Europe's top 5. With a reliability level of 99.999%, we give society a robust power grid, which is important for socio-economic prosperity. We also aspire to be a catalyst for a successful energy transition towards a reliable, sustainable and affordable energy system.

We make the energy transition happen

By expanding international high-voltage connections and integrating ever-increasing amounts of renewable energy production, Elia Group promotes both the integration of the European energy market and the decarbonisation of our society. Elia Group is also innovating its operational systems and developing market products so that new technologies and market parties can access our grid, thus making the energy transition happen.

In the interest of society

As a key player in the energy system, Elia Group is committed to working in the interest of society. We respond to the rapidly changing energy mix, i.e. the increase in renewable energy, and constantly adapt our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. When we carry out our projects, we manage stakeholders proactively by establishing two-way communication with all affected parties very early on in the development process. We also offer our expertise to our sector and relevant authorities to build the energy system of the future.

International focus

In addition to its activities as a transmission system operator, Elia Group provides various consulting services to international customers through its subsidiary Elia Grid International (EGI). Elia is also part of the Nemo Link consortium that operates the first sub-sea electrical interconnector between Belgium and the UK.

The Group operates under the legal entity Elia Group, a listed company whose core shareholder is the municipal holding company Publi-T.

More information: elia.be & eliagroup.eu

Contact

Corporate Communication

Jean Fassiaux (FR) | M +32 474 46 87 82 | jean.fassiaux@elia.be

Marie-Laure Vanwanseele (NDL) | M +32 499 86 51 58 | mariel Laure.vanwanseele@elia.be

Marleen Vanhecke (ENG) | M +32 486 49 01 09 | marleen.vanhecke@elia.be

Elia Transmission Belgium SA/NV

