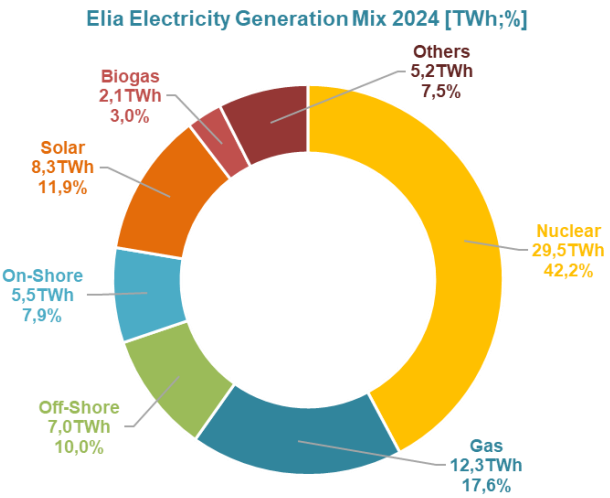
PRESS RELEASE | 2 January 2025

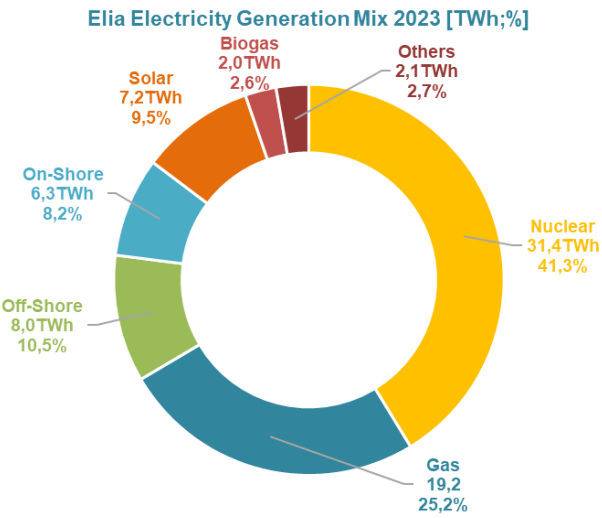
Electricity mix for Belgium in 2024: record international exchanges, significant increase in solar generation, and low use of gas-fired capacities

Trends in 2024*

- International exchanges were higher than ever with more than 44.5 TWh traded. Net imports from France reached 12.6 TWh.
- With a 23% increase in installed capacity, solar is breaking many records. Renewable generation in Belgium hit a new record, accounting for 29.8% of the electricity mix (compared to 28.2% in 2023).
- Gas-fired generation hit an all-time low, making up 17.6% of the generation mix (compared to 25.2% in 2023 and 26.9% in 2022). The share of nuclear in the electricity mix fell for the fourth consecutive year.
- Electricity consumption started slowly rising again, surpassing 80.5 TWh (compared to 78.9 TWh in 2023).
- Prices were down on average by 28% compared to 2023 but remained higher than they were prior to the gas crisis.

Belgian electricity generation mix in 2024 and 2023

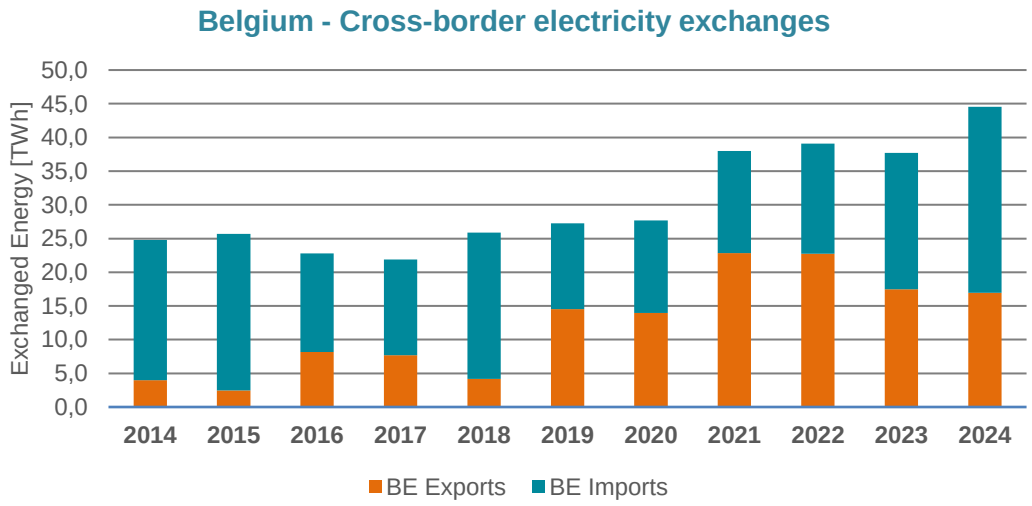




**Results based on data up to and including 29 December 2024*

International exchanges higher than ever

The year 2024 saw very high levels of international exchanges. In fact, a new record was set: 44.5 TWh of electricity exchanged between Belgium and its neighbouring countries. For the second consecutive year, Belgium was a net importer at 10.6 TWh. A key reason for this was the very high availability of French (nuclear) generation capacities. Belgium imported more than 12.6 TWh net from France and 5.9 TWh net from the Netherlands. On the other hand, Belgium exported 4.3 TWh net to the United Kingdom and 2.8 TWh net to Germany. Cross-border exchanges happened mainly at times when electricity was cheaper abroad.



New record set and peak solar generation reached in August 2024

New solar generation records were set during the year. August 2024 saw the most solar power generated, at 1254 GWh. Moreover, total solar energy generation increased significantly in 2024 at 8322 GWh, up 15.7% compared to 2023.

Solar (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total	yearly increase
2013	33	81	167	293	290	328	389	325	235	149	56	67	**2413**	
2014	67	109	295	341	368	404	357	313	269	166	96	36	**2821**	16.9%
2015	65	131	232	390	412	459	388	379	264	162	82	66	**3030**	7.4%
2016	73	135	236	325	411	332	407	380	309	171	82	64	**2925**	-3.5%
2017	80	94	257	338	412	432	397	335	262	164	84	33	**2888**	-1.3%
2018	54	195	228	364	517	464	555	422	344	242	111	57	**3553**	23.0%
2019	60	191	244	414	451	504	477	444	358	196	118	71	**3528**	-0.7%
2020	81	138	386	581	683	578	548	495	397	180	126	66	**4259**	20.7%
2021	86	214	445	596	630	655	597	517	475	274	125	64	**4678**	9.8%
2022	99	222	559	714	888	875	936	859	545	420	198	98	**6413**	37.1%
2023	125	320	471	774	1036	1170	905	848	794	444	196	110	**7193**	12.2%
2024	**234**	**244**	**601**	**842**	**989**	**1202**	**1218**	**1254**	**820**	**581**	**213**	**124**	**8322**	**15.7%**

To best manage this significant increase in solar generation capacity, Elia called on market players to be vigilant during the summer. A series of emergency measures were also proposed in collaboration with Belgium's distribution system operators to manage eventual network overload during overproduction. Ultimately, these measures were avoided thanks to the weather conditions and increased consumption.

New single-day renewable generation record of nearly 10 GW set on 22 August 2024

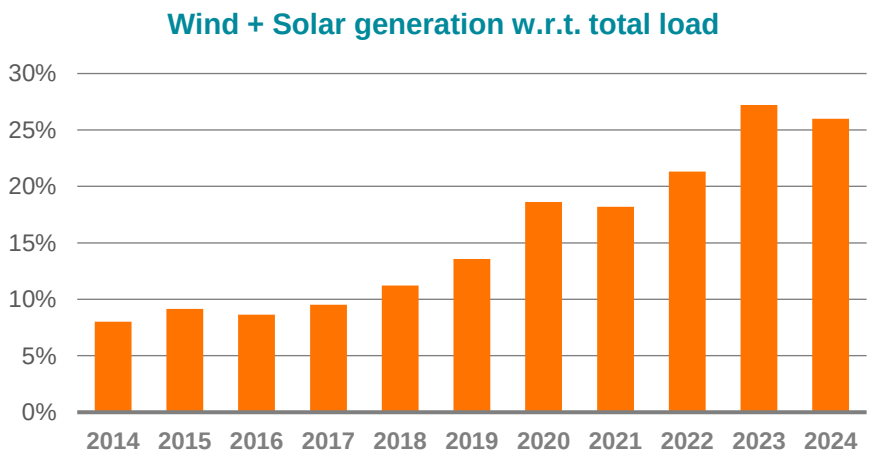
Total solar and wind generation in Belgium set a new quarter-hourly record of 9931 MW on 22 August 2024, corresponding to 93% of total consumption for that quarter-hour. It is now becoming common for half of Belgian consumption to be covered by renewable energy. In 2024, this was the case almost 11.3% of the time (compared to 12.5% in 2023).

Generation (Wind + Solar) / Total Load L 50%

Year	Frequency [h/year]	Frequency [%]	Max (Wind + Solar) [MW]	Date of Max (Wind + Solar)
2018	0	0.0%	4138	11/09/2018
2019	8	0.1%	4594	08/06/2019
2020	119	1.4%	5824	11/05/2020
2021	168	2.0%	6420	21/05/2021
2022	353	4.0%	7112	11/05/2022
2023	1108	12.6%	8078	29/05/2023
2024	**984**	**11.3%**	**9931**	**22/08/2024**

Generation from renewable energies accounts for 29.8% of the electricity mix

In absolute terms, renewables generated a total of 20.8 TWh in 2024, which is less than in 2023 (21.5 TWh) when wind conditions were exceptional. The share of renewables in the mix increased due to the fact that Belgium imported a significant amount of electricity and therefore generated less in 2024. In 2024, 29.8% of generation came from renewable sources (compared to 28.2% in 2023), setting a new record. Installed capacities for onshore wind (up 4%) and solar (up 23%) generation increased further. No increase in the generation capacity from offshore wind farms is forecast before 2028.



Belgian offshore wind power returns to normal

Offshore wind generated 6987 GWh of electricity in 2024. This is less than in 2023, when wind conditions were exceptional and resulted in a record offshore wind generation of 8011 GWh. Offshore generation was marked by the incident involving the Rentel cable (from early January to late May). Without the MOG and the three-way connection, Rentel's 309 MW of wind capacity would have been out of service for the duration of the work. Although generation had to be slowed down during very windy periods to avoid overloads, the first six months of the year nevertheless saw very good generation levels, even setting a record for that half-year. Wind conditions in 2024 were not as good as in 2023.

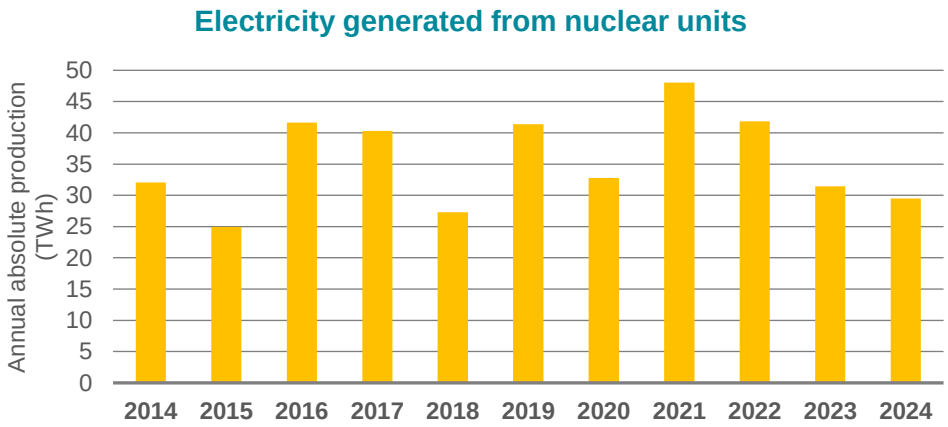
Offshore (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total	yearly increase
2013	65	66	63	66	102	124	75	55	102	165	159	195	**1237**	
2014	237	260	160	121	146	82	134	195	82	239	184	312	**2152**	74.0%
2015	280	194	233	148	194	167	204	138	185	125	331	372	**2571**	19.5%
2016	332	256	212	181	159	143	156	177	131	169	246	182	**2344**	-8.8%
2017	197	240	268	130	166	209	199	159	184	376	291	369	**2788**	18.9%
2018	364	320	274	201	169	196	131	200	281	331	393	452	**3312**	18.8%
2019	412	307	448	247	252	312	243	393	454	518	445	616	**4647**	40.3%
2020	628	803	702	340	419	361	370	357	437	881	639	793	**6730**	44.8%
2021	736	815	609	486	461	213	405	532	328	808	591	795	**6779**	0.7%
2022	657	1003	404	582	393	357	279	259	437	643	909	721	**6644**	-2.0%
2023	979	562	818	534	460	398	690	422	341	789	943	1075	**8011**	20.6%
2024	924	846	572	772	338	377	399	466	513	439	548	793	**6987**	-12.8%

Onshore wind capacities continued to progress (+4%), but none of the records set during the extremely windy year of 2023 were broken.

Onshore (GWh)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total	yearly increase
2013	152	148	152	156	142	133	80	59	87	208	192	301	**1810**	
2014	306	333	139	99	161	74	94	143	69	201	191	303	**2113**	16.7%
2015	303	201	231	149	181	136	162	116	170	93	322	379	**2443**	15.6%
2016	325	302	224	180	141	117	131	156	127	135	220	181	**2239**	-8.4%
2017	173	251	304	145	145	201	195	150	197	311	238	332	**2642**	18.0%
2018	403	277	317	226	158	157	146	185	193	237	296	367	**2962**	12.1%
2019	318	288	460	209	179	198	161	210	248	316	277	499	**3363**	13.5%
2020	444	629	439	227	244	195	204	203	185	494	394	433	**4091**	21.6%
2021	388	439	396	292	426	146	252	255	187	489	277	433	**3980**	-2,7%
2022	375	677	308	385	236	199	192	205	252	442	590	515	**4376**	9.9%
2023	804	471	702	436	321	256	464	298	290	576	784	866	**6268**	43.2%
2024	**701**	**723**	**470**	**616**	**260**	**275**	**282**	**284**	**412**	**362**	**439**	**659**	**5483**	**-12.6%**

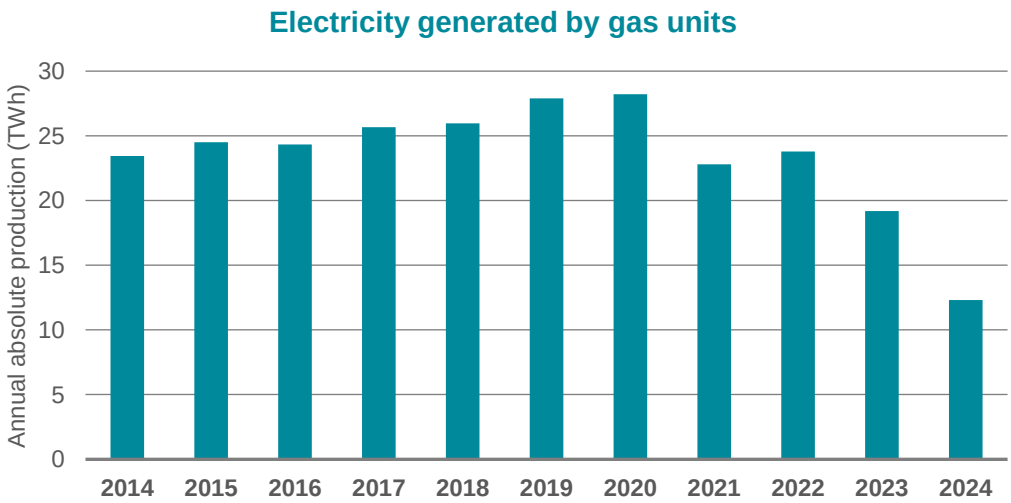
Nuclear generation slowly declining ahead of planned 2025 phase-out

Nuclear energy accounted for 42.2% of the electricity mix in 2024, making it the fourth consecutive year in which there was a decrease in nuclear generation. However, the drop was less significant than in 2023 (closure of Tihange 2) and 2022 (closure of Doel 3). No reactors were shut down in 2024, but Doel 1 (15 February), Doel 2 (1 December), and Tihange 1 (1 October) will be shut down in 2025, which will have a significant impact on Belgium's nuclear output. It should be noted that the federal government decided to extend Tihange 3 and Doel 4 by 10 years and established a capacity remuneration mechanism (CRM) to offset the shutdown of other nuclear reactors.



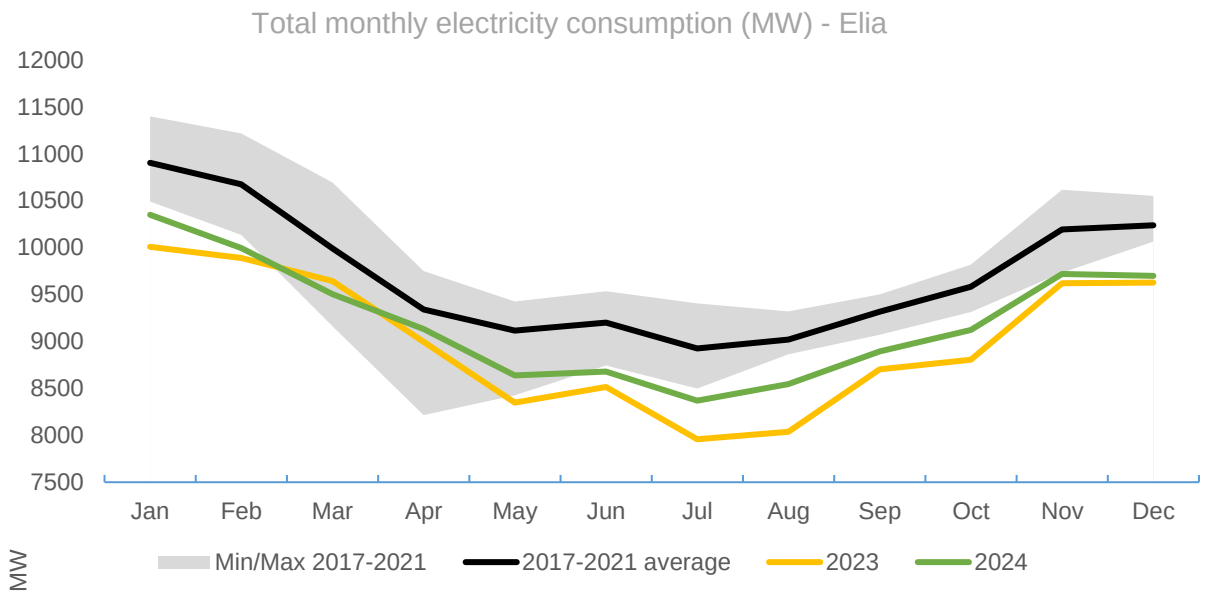
Gas-fired generation down one-third compared to 2023

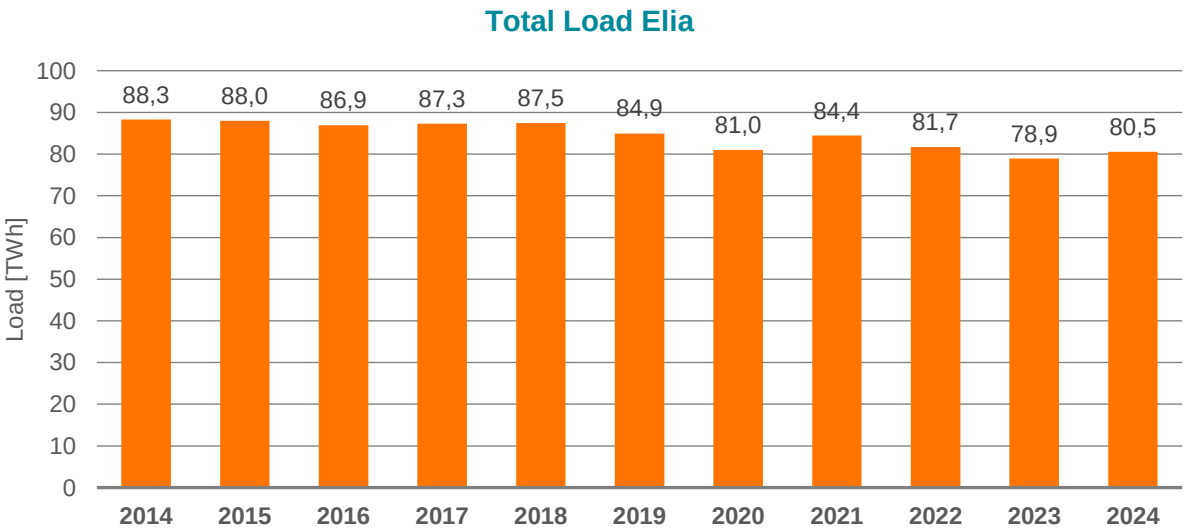
The year 2024 saw an all-time low in the share of gas-fired generation in the electricity mix. This can be explained specifically by an increase in net imports of electricity, mainly from France. Lower prices in France encouraged exports to Belgium and pushed Belgium's gas-fired generation capacity out of the market. Ongoing high gas prices, growing renewable generation, and low consumption are other factors that explain this low use of gas.



Electricity consumption gradually rising

Electricity consumption in 2024 was 80.5 TWh, up slightly compared to 2023 (78.9 TWh), but still below the average consumption seen during the five-year period from 2017 to 2021. However, this downward trend is a temporary phenomenon, and we expect to see a significant increase in electricity consumption in the coming years due to the electrification of society. Elia predicts that electricity consumption will double by 2050.



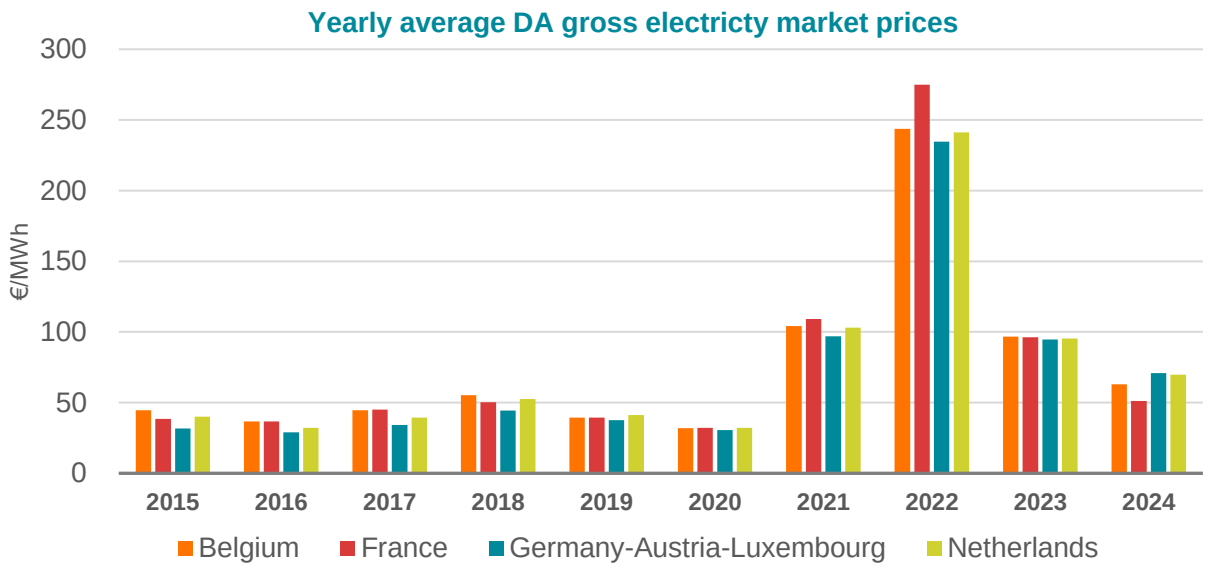


Average electricity price down 28% compared to 2023

Although the average annual price per MWh on the day-ahead market had not returned to the average levels seen before the gas crisis, the gradual decline continued. The average price was almost four times lower than in 2022. Unlike in previous years, the average price on the day-ahead market in 2024 in Belgium was lower than in the Netherlands and Germany.

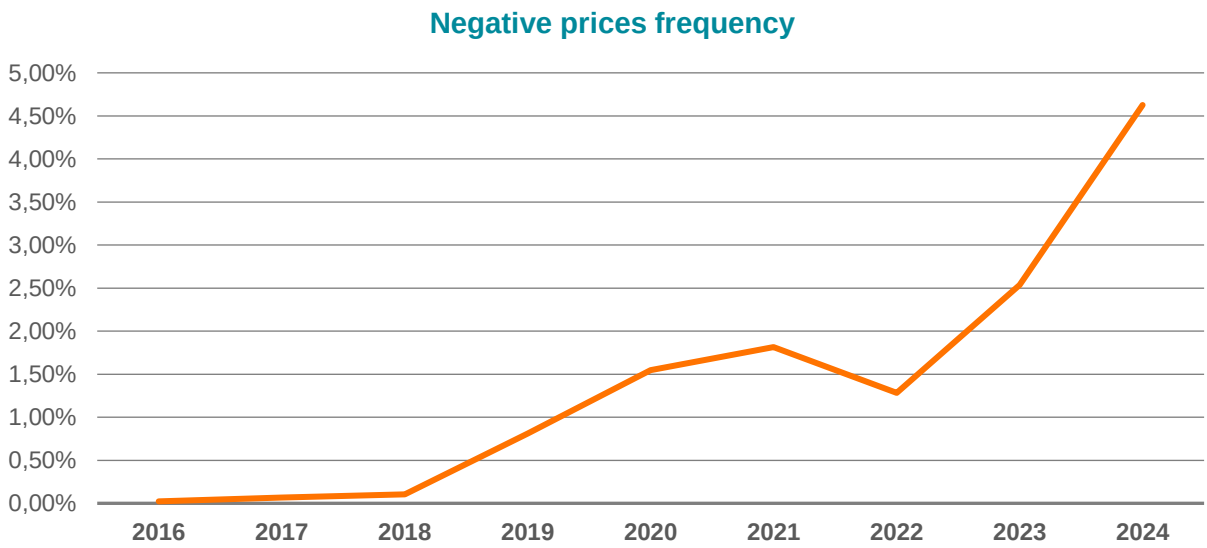
Clearing price day-ahead [€/MWh]

Month	2014	2015	2016	2017		2018	2019	2020	2021	2022	2023	2024
January	39.7	42.9	32.6	72.6		36.8	60.5	37.9	57.5	191.4	126.6	78.6
February	38.7	50.5	25.4	47.6		47.4	47.6	28.4	48.6	162.6	143.5	59.5
March	37.4	47.1	27.1	34.5		50.7	37.6	24.0	46.6	265.7	109.6	61.2
April	41.9	47.7	25.4	37.3		37.8	37.9	14.7	57.0	186.6	105.5	48.0
May	38.7	37.6	25.4	37.2		44.5	38.0	15.4	55.6	176.6	78.1	54.4
June	36.8	39.0	30.7	32.7		50.0	27.5	25.6	74.4	219.1	93.1	60.9
July	33.8	42.6	31.3	33.6		52.9	37.7	29.8	77.4	321.3	75.4	54.6
August	37.4	42.4	28.9	31.8		60.7	33.7	35.5	79.5	448.1	92.0	65.5
September	46.2	52.5	37.7	37.2		68.8	33.6	44.2	136.2	337.4	94.3	66.7
October	46.2	55.4	57.2	49.0		76.0	37.6	39.4	165.2	157.4	86.4	77.9
November	45.1	43.1	62.3	66.6		77.8	44.4	39.9	202.2	180.4	91.5	105.9
December	47.7	35.9	55.0	55.1		59.7	36.4	47.4	245.4	269.3	69.4	103.1
Grand Total	40.8	44.7	36.6	44.6		55.3	39.3	31.9	104.1	243.8	96.7	69.7



Negative prices 4.6% of the time

It should also be noted that negative prices occurred with increasing frequency, appearing 4.6% of the time in 2024 (compared to 2.5% in 2023). Negative prices appear during periods when consumption is low (such as holidays and weekends) and generation is high. Given the growing significance of renewable generation in the years ahead, prices are likely to become even more volatile. Price volatility also provides opportunities for consumers, who can adjust their consumption based on the availability of cheap renewable energy. Flexibility must play an important role in the operation of our energy system because it will enable consumption to be increased or generation to be decreased depending on the needs of the system and price indicators.



About Elia Group

One of Europe's top five TSOs

Elia Group is a key player in electricity transmission. We ensure that production and consumption are balanced around the clock, supplying 30 million end users with electricity. Through our subsidiaries in Belgium (Elia) and the north and east of Germany (50Hertz), we operate 19,460.5 km of high-voltage connections, meaning that we are one of Europe's top 5 transmission system operators. With a reliability level of 99.99%, we provide society with a robust power grid, which is important for socioeconomic prosperity. We also aspire to be a catalyst for a successful energy transition, helping to establish a reliable, sustainable and affordable energy system.

We are making the energy transition happen

By expanding international high-voltage connections and incorporating ever-increasing amounts of renewable energy into our grid, we are promoting both the integration of the European energy market and the decarbonisation of society. We also continuously optimise our operational systems and develop new market products so that new technologies and market parties can access our grid, thus further facilitating the energy transition.

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 are responding to the rapid increase in renewable energy by constantly adapting our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. In carrying out our projects, we manage stakeholders proactively by establishing two-way communication channels between all relevant parties very early on in the development process. We also offer our expertise to different players across the sector in order to build the energy system of the future.

International focus

In addition to its activities as a transmission system operator, Elia Group provides consulting services to international customers through its subsidiary Elia Grid International. In recent years, the Group has launched new non-regulated activities such as re.alto – the first European marketplace for the exchange of energy data via standardised energy APIs – and WindGrid, a subsidiary which will continue to expand the Group's overseas activities, contributing to the development of offshore electricity grids in Europe and beyond.

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

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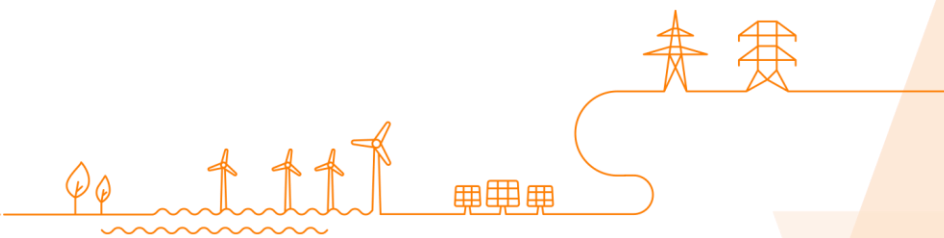

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