

Belgium

Belgium's energy targets are mainly found in the Integrated National Energy and Climate Plan 2021-2030 (NECP). The main problem with this Plan is that it is based on targets made by both federal and sub-federal entities, which makes the targets hard to square at times. It is also hard to know where the jurisdiction of one entity ends and another starts. This is particularly problematic when it seems like measures overlap between the federal and state level.

Targets

Belgium's national target is a 47% reduction in greenhouse gas emissions (non-Emission Trading Sector [ETS] sector) from 2005-levels by 2030.¹ However, the NECP estimates that Belgium will only achieve a 42.6% reduction with the 'With Additional Measures,' WAM, projections.² For renewable energy, the target for 2030 is set at 21.7% (82 209 GWh) of gross final energy consumption. The breakdown is in Table 1.

Table 1: Renewable share (GWh) [WAM]³

GWh	RES (Belgium)	Federal state	Flanders	Walloon	Bussels	FEC	RES (%)
2020	51067	8358	25210	17026	879	392820	13.0
2021	55161	8372	27338	18498	942	423347	13.0
2022	55574	8034	26537	20280	723	433186	12.8
2023	57019	8061	26818	21415	725	429701	13.3
2024	58906	8038	27596	22551	720	426246	13.8
2025	60783	8038	28303	23802	716	422810	14.4
2026	62939	7667	28963	25668	718	415175	15.2
2027	66204	7921	30107	27534	718	407532	16.2
2028	69209	8269	30800	29513	703	399199	17.3
2029	73174	9649	31405	31493	703	389799	18.8
2030	82209	16165	31974	33472	675	379541	21.7

Table 2 offers a more detailed breakdown for what type of energy is produced, for each of the regions. These seems only to be projections.

¹ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 102.

² The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 105.

³ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 128.

Table 2: Renewable/green energy production breakdown (GWh)⁴

		Electricity	Heat	Transportation	GFEC ^A - renewable	GFEC ^A
Flanders ^B	2021	10406	9794		25822	
	2030	16255	11574		31974	
Walloon						
	2030	14000	18000		33472	
Brussels	2020	268.16	139.32		407.47	
	2030	419.69	165.72		585.42	
Belgium						
	2030	30675	29740		82209	

A: Gross final energy consumption

B: Flanders operates with green targets, and it is unclear whether this means renewable or not.

Belgium's targets are as follows: 5.8 GW of offshore wind by 2030,⁵ rising to 8 GW by 2040.⁶ Offshore wind is the responsibility of the federal state. 6.052 GW of onshore wind to be realised by 2030. This is divided into the Flemish *Eolien* plan which targets 2.642 GW⁷ of capacity and the Walloon target of 6.2 TWh,⁸ translating to about 3.41 GW of installed capacity.⁹ To achieve this (?) the government intends to lessen restrictions on wind farms, leading to a potential capacity increase of 1.5 GW.¹⁰ For solar power, Flemish government has approved the *Solaire* plan, which envisions installed capacity rising to 8.9 GW by 2030.¹¹ The Walloon region targets 5.1 TWh of photovoltaic by 2030, and estimates a renewable electricity generation capacity of 5.553 GW.¹² The Brussels region is small and does not have much room to build out capacity, but it has set itself a target of producing 1.25 TWh of renewable energy by 2030.¹³ Belgium also plans to decommission all its nuclear power plants, however, the government has decided to keep 2 GW of capacity for 10 more years (from 2022).¹⁴

⁴ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 135–39.

⁵ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 141.

⁶ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 26. However, the 2040 target includes other electricity generators, like floating solar (The Government of Belgium, 130).

⁷ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 424.

⁸ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 427. This is based on the *Pax Eolienica II* plan.

⁹ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 719.

¹⁰ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 129.

¹¹ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 423.

¹² The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 719.

¹³ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 430.

¹⁴ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 14–15.

Energy demand projections

The ‘With Existing Measures,’ WEM, projections are hard to interpret, at least in the English version, however, the WAM-projections are fairly easy to find. This is shown in Table 1 below. This is for total energy use, not electricity.

Table 1: Primary and final energy consumption in the economy and by sector (WAM)¹⁵

ktoe	2005	2010	2015	2020	2021	2025	2030
<i>Primary Energy Consumption (PEC)</i>	51801	53622	45952	44206	49073	42930	36522
<i>Final Energy Consumption (FEC)</i>	35358	36809	34550	32005	34504	33722	29934
<i>Industry</i>	10571	10954	10572	9995	10579	11259	11179
<i>Residential</i>	9144	9609	8198	7774	8435	7595	6444
<i>Tertiary</i>	5693	5818	5344	5255	5383	4731	4065
<i>Transport</i>	9884	10331	10357	8911	10043	10137	8247

Transportation

The federal government aims to tackle maritime, aviation, and rail emission, while at the same time following the EU plan of decarbonising the vehicle fleet.¹⁶ Thus, the total energy demand for transportation should include all modes of it. Flanders aims to reduce vehicle kilometres, introduce a mileage levy for vans, greening the fleet, installing more chargers, and better public transport.¹⁷ The aim is for 100% zero-emission driving by 2035.¹⁸ Wallonia’s plan is not that different, with more focus on car-pooling, changing parking rules.¹⁹ The Brussels region is much the same again.²⁰ There are no specific targets for EVs for any of the regions, and the goals are quite vague.

Heat pumps

¹⁵ The Government of Belgium, ‘National Energy and Climate Plan 2021-2030 (Draft Update)’, 679.

¹⁶ The Government of Belgium, ‘National Energy and Climate Plan 2021-2030 (Draft Update)’, 222–36.

¹⁷ International Energy Agency, *Belgium 2022 Energy Policy Review*, 236–50.

¹⁸ The Government of Belgium, ‘National Energy and Climate Plan 2021-2030 (Draft Update)’, 239.

¹⁹ The Government of Belgium, ‘National Energy and Climate Plan 2021-2030 (Draft Update)’, 250–68.

²⁰ International Energy Agency, *Belgium 2022 Energy Policy Review*, 268–72.

Heat pumps have incentives, however, as electricity is expensive in Belgium, they have struggled to gain market share.²¹ The target for 2030 is rather ambitious, with a target of 2.073 TWh. This is up from about 0.4 TWh in 2020.²²

Hydrogen and batteries

Belgium also plans to build out hydrogen capacity, with a target for low-carbon hydrogen being 3-6 TWh by 2030 and 100-165 TWh by 2050. The first stage of the hydrogen plan also sets a target of 150 MW of installed capacity by 2026.²³ Belgium will apparently be 'bold' in the deployment of batteries,²⁴ however, there are no concrete targets for deployment.

²¹ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 60.

²² The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 138–39.

²³ International Energy Agency, *Belgium 2022 Energy Policy Review*, 29.

²⁴ The Government of Belgium, 'National Energy and Climate Plan 2021-2030 (Draft Update)', 27.