Annex Spain - Climate Targets

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1 Spain

Spain wants to get net-zero carbon emission by 2050. The difficulties with the translation is present here as well. The main assumption made is that "objectives" is translated as targets.

1.1 Supply

1.1.1 Percent targets

n/a

1.1.2 Capacity targets

The capacity targets are given in MW[1, 71].

Table 1: Evolution of gross installed electrical power (MW)

Years 2019 2020 2025 2030 Wind 25,583 26,754 36,149 62,054 Solar Photovoltaic 8,306 11,004 46,501 76,277 Solar thermoelectric 2,300 2,300 2,304 4,804 Hydraulic 14,006 14,011 14,261 14,511 Biogas 203 210 240 440 Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289	O		1	,	
Solar Photovoltaic 8,306 11,004 46,501 76,277 Solar thermoelectric 2,300 2,300 2,304 4,804 Hydraulic 14,006 14,011 14,261 14,511 Biogas 203 210 240 440 Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Years	2019	2020	2025	2030
Solar thermoelectric 2,300 2,300 2,304 4,804 Hydraulic 14,006 14,011 14,261 14,511 Biogas 203 210 240 440 Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Wind	25,583	26,754	36,149	62,054
Hydraulic 14,006 14,011 14,261 14,511 Biogas 203 210 240 440 Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Solar Photovoltaic	8,306	11,004	46,501	76,277
Biogas 203 210 240 440 Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Solar thermoelectric	2,300	2,300	2,304	4,804
Other renewables 0 0 25 80 Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 28,784 1,830 2,847 1,830 3,784 342 2,847 1,830 3,42 3,660 2,847 1,830 3,42 3,660 3,784 3,739 3,181 3,739 3,739 3,181 3,739 3,739 3,739 3,739	Hydraulic	14,006	14,011	14,261	14,511
Biomass 413 609 1,009 1,409 Coal 10,159 10,159 0 0 Combined cycle 26,612 28,784 1,830 2,847 1,830 2,847 1,830 3,784 3,42 2,847 1,830 3,42 2,847 1,830 3,42 2,847 3,42 3,42 3,42 3,4	Biogas	203	210	240	440
Coal 10,159 10,159 0 0 Combined cycle 26,612 26,612 26,612 26,612 Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Other renewables	0	0	25	80
Combined cycle 26,612 <th< td=""><td>Biomass</td><td>413</td><td>609</td><td>1,009</td><td>1,409</td></th<>	Biomass	413	609	1,009	1,409
Cogeneration 5,446 5,276 4,068 3,784 Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Coal	10,159	10,159	0	0
Fuel and Fuel/Gas (Non-Peninsular Territories) 3,660 3,660 2,847 1,830 Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Combined cycle	26,612	26,612	26,612	26,612
Waste and other 600 609 470 342 Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Cogeneration	5,446	5,276	4,068	3,784
Nuclear 7,399 7,399 7,399 3,181 Storage 6,413 6,413 9,289 18,913	Fuel and Fuel/Gas (Non-Peninsular Territories)	3,660	3,660	2,847	1,830
Storage 6,413 6,413 9,289 18,913	Waste and other	600	609	470	342
	Nuclear	7,399	7,399	7,399	3,181
Total 111,100 115,015 161,173 214,236	Storage	6,413	6,413	9,289	18,913
	Total	111,100	115,015	161,173	214,236

Off shore wind targets [2, 1].

1.2 Demand

Here is the general demand for the different energies where 2025 and 2030 are estimated given in ktoe[1, 79].

Table 2: Evolution of final energy consumption(ktoe)

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Years	2019	2020	2025	2030
Coal	446	396	241	189
Petroleum Products	44,373	34,133	36,237	28,035
Natural gas	14,456	13,819	13,272	11,085
Electricity	20,166	18,887	20,758	23,543
Renewable	5,895	5,511	7,351	8,449
Other non-renewables	217	193	353	408
Total	85,553	72,939	78,213	71,709

1.2.1 EV targets

n/a

1.2.2 Heat pumps targets

n/a

1.3 Hydorgen

There are some writing on hydorgen but no conceret numbers are found.

References

- $[1]\,$ NECP. Spain Final updated NECP 2021-2030 (submitted 2024) European Commission.
- [2] Petr Novak. Spain issues plan for up to 3 GW offshore wind by 2030 in perfect time for WindEurope 2022 in Bilbao!, December 2021.