Austria

Austria's renewable energy targets are mainly set in the Integrated National Energy and Climate Plan 2021-2030 (NECP) and its #mission2030 plan. Because the targets in the latter are less concrete, the data in this document is mainly extracted from the NECP.

Targets

Austria's main target in the period between 2021 and 2030 is to reduce GHG-emissions in the sectors not included in the Emissions Trading System (ETS) by 48% compared to 2005.[1] Further, by 2030, Austria's total electricity consumption should be powered by 100% renewable sources, and by 2040, Austria plan to reach climate neutrality.[2] Austria also has a legally determined target of at least 57% renewable energy share in gross final energy consumption by 2030.[3] Austria has also committed to not exceed 904 PJ of final energy consumption by 2030.[4]

According to the "With Additional Measures"-scenario[5], WAM for short, to reach the target of 100% renewable electricity by 2030, it is necessary to build out 35 TWh of renewable energy. This is higher than the target path set in the Austrian Renewable Build-out Law (EAG), which sets a target of 27 TWh. [6] However, there are no technology specific targets, and the only development path is created by using modelling based on the WAM-scenario.[7] According to this scenario, the Austrian government expects a build out of 17 TWh of photovoltaic, 12 TWh of wind, 5 TWh of hydro power, and 1 TWh of biomass.[8]

Energy demand projections

Austria has also developed projections for future energy demand. This projection is based on existing measures and policy, and is divided into transportation, industry, household and services, and LW (I don't know what this is). Information for these is in petajoule and includes projections until 2050. The actual energy consumption for 2020 and the predicted energy consumption for 2030, 2040 and 2050 can be seen in Table 2 below. The NECP also includes projections of energy demand based on the WAM-scenario, which takes into account planned measures and policies.[9] The WAM

---

[1] BKUEMIT, 'Integrierter Nationaler Energie- Und Klimaplan Für Österreich', 79.
[2] BKUEMIT, 94.
[3] BKUEMIT, 28.
[4] BKUEMIT, 30.
[5] "With Additional Measures" is a scenario that builds upon the introduction of measures planed measures that might come into effect in the future. The other commonly used scenario is the "With Existing Measures" (WEM) which only includes measures and policies already in effect. European Environmental Agency, 'Greenhouse Gas Emission Trend Projections and Target'.
[6] BKUEMIT, 'Integrierter Nationaler Energie- Und Klimaplan Für Österreich', 52.
[7] BKUEMIT, 99.
[8] BKUEMIT, 94.
[9] BKUEMIT, 278.

projections can be seen in Table 3 below, and predicts lower energy use than the WEM. There is unfortunately no breakdown for electricity consumption.

Table 1: Renewable electricity targets[10]

TWh	**Electricity supply from renewable sources in 2020**	**Electricity supply from renewable sources in 2030 [WAM]**	**Electricity demand in 2030 [WAM]**	**Effective increase from 2020 to 2030**
Target of 100% renewable electricity[11]	56 TWh (78%)	91 TWh (103%)	89 TWh	+35 TWh
Hydro	39 TWh (2021)	47 TWh		+8 TWh
Wind	7 TWh (2021)	19 TWh		+12 TWh
Photovoltaic	3 TWh (2021)	19 TWh		+17 TWh
Hydrogen	0 TWh (2021)	2 TWh		+2 TWh

Table 2: Future energy demand [WEM]

PJ	*Actual* **2020**	*Projection* **2030**	*Projection* **2040**	*Projection* **2050**
Transport (including off-road)	355 PJ	357 PJ	297 PJ	280 PJ
Industry	295 PJ	340 PJ	348 PJ	347 PJ
Household and services	392 PJ	395 PJ	389 PJ	393 PJ
LW	13 PJ	15 PJ	17 PJ	17 PJ
Total (Final energy consumption)	1056 PJ	1106 PJ	1052 PJ	1038 PJ

Heat pumps

Heat pumps is a growing market in Austria, however there are no national targets for installations. In the NECP, heat pumps are only described in vague terms, and then mainly focusing on research and development. In this respect, the Austrian government wants more focus on integrating heat pumps with other technologies, like solar thermal

[10] BKUEMIT, 94., BKUEMIT, 99.
[11] Parentheses indicate percentage of demand met by renewable energy. BKUEMIT, 'Integrierter Nationaler Energie- Und Klimaplan Für Österreich', 98.

or photovoltaic, using heat pumps to offset new energy use in cooling and climatization, and building heat pumps for district heating or low temperature district heating (i.e., cooling; Anergienetz).[12]

Table 3: Future energy demand [WAM]

PJ	*Actual* **2020**	*Projection* **2030**	*Projection* **2040**	*Projection* **2050**
Transport (including off-road)	355 PJ	337 PJ	268 PJ	238 PJ
Industry	295 PJ	320 PJ	320 PJ	297 PJ
Household and services	392 PJ	365 PJ	348 PJ	337 PJ
LW	13 PJ	11 PJ	12 PJ	13 PJ
Total (Final energy consumption)	1056 PJ	1033 PJ	948 PJ	884 PJ

Transportation

Austria has seen an increase in emissions from transport between 1990 and 2022 of about 50%. The reason for this increase is a growth in milage (i.e., more kilometres transported), especially personal transport on roads, and export of fuel in fuel tanks (I don't actually know what this is supposed to mean). According to a study, the reduction measures have all been offset by counteracting trends.[13] Austria's main priority is to strengthen public transport[14], pedestrian and cycling infrastructure[15], and increasing goods transport on rails.[16] However, Austria also has a target that by 2030, 14% of the energy consumption in the transport sector[17] should be produced by renewable energy.[18] This also includes increasing the EV share in road transport. However, there are no concrete measures described, the target hinging on building more charging infrastructure and the EU fleet-wide CO_2 emission reduction target of zero emissions by 2035.[19]

[12] BKUEMIT, 267.
[13] BKUEMIT, 41–42.
[14] BKUEMIT, 136–39.
[15] BKUEMIT, 141–42.
[16] BKUEMIT, 146–47.
[17] The definition of transport sector includes roads, rails, air, and marine transport (BKUEMIT, 136–54).
[18] BKUEMIT, 54.
[19] BKUEMIT, 144; European Commission, 'Light-Duty Vehicles'.

Hydrogen and batteries

Austria has a target of 1 GW of climate neutral electrolysis capacity by 2030,[20] corresponding to about 2 TWh of production.[21] Further, 80% of hydrogen created with fossil fuels for heavy industry should be climate neutral by 2030.[22] Austria also plans to build out renewable gas to somewhere around 7.5 TWh by 2030.[23] Batteries are mentioned, however, this is mainly in the context of battery production and for photovoltaics.[24] But no targets are mentioned.

[20] BKUEMIT, 'Integrierter Nationaler Energie- Und Klimaplan Für Österreich', 29. This is according the Hydrogen Promotion Law (Wasserstoffförderungsgesetz).
[21] BKUEMIT, 99.
[22] BKUEMIT, 29.
[23] BKUEMIT, 110.
[24] BKUEMIT, 264.