E-CONTROL
Energy for our future.

KEY STATISTICS 2022
REPORTING YEAR 2021

OUR ENERGY
IN NUMBERS AND FIGURES.

www.e-control.at

Table of contents

Preface

E-Control is mandated by law to draw up the Austrian electricity and gas statistics and to publish them at www.e-control.at. Among these publications are our annual statistical reports, which have become key tools for all those who work in the areas of electricity and gas.

The statistics brochure at hand presents general information on the economy and energy industry as a whole, as well as operational numbers and figures in a clear and concise way. In addition, it provides extensive market statistics, such as the effects of liberalisation on the Austrian electricity and gas markets, figures relating to wholesale and retail, and much more.

This brochure is meant as a quick introduction to the most important statistical information for all those who are interested in finding out about developments and interrelations on the Austrian energy market.

Wolfgang Urbantschitsch
Executive Director
E-Control

Alfons Haber
Executive Director
E-Control

Austrian energy statistics

Energy supply is crucial for our daily lives and for our economy, and energy statistics carry particular importance as well; this is also reflected in the way powers and duties in this field are distributed. While Statistics Austria is involved, most statistical duties lie directly with the Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology. By virtue of section 92 Electricity Act 2010 and section 147 Gas Act 2011, the Minister entrusts the statistical duties related to electricity and gas to the regulatory authority, E-Control.

Though this construction deviates from the usual Austrian distribution of competences, the operational statistics produced by E-Control are firmly integrated into the Austrian statistical system and represent the main primary statistical source for the electricity and gas part of the Austrian energy balance.

A major difference between statistics drawn up by Statistics Austria and those produced by E-Control consists in that the former must comply with the rules for energy balances and in particular for international comparability, while the latter depict commodity flows and the Austrian market.

This means different approaches to reflecting energy transformation and an exclusive focus of the energy balance on the energetic use of primary energy sources.

For instance, any use of electrical energy or gas is counted as consumption in E-Control's operational statistics, i.e. we consider that it forms part of the market. The energy balance e.g. counts gas used in power plants as part of transformation when looking at primary energy use but as part of the electricity/heat balance (depending on what it is transformed into) when looking at final energy. When gas is used e.g. by the chemical industry, it appears as non-energetic use (not as energetic use in chemical processes).

The documentation accompanying the energy balance for 2015 for the first time contained detailed references that enable going back and forth between the two approaches.

The economic situation in 2021

The Austrian GDP grew by 4.8% compared to the previous year. Statistics Austria detected a 2.8% rise in prices overall, while, in terms of consumer price index, gas prices increased by 7.8% and electricity prices by 7.0%.

Consumption trends in 2021

Electricity and gas consumption moved in step in 2021. Gas use rose by 6.2% to 96.2 TWh or 8.5 billion (bn) normal cubic metres (n cu m), electricity use in Austria increased by 3.9% or 2.5 TWh, and stood at 67.2 TWh. This brought domestic consumption back to pre-pandemic levels.

Household electricity consumption from the public grid was up by 5.5% compared to 2020, non-households with an annual consumption of up to 4 GWh drew 1.6% less from the public electricity grid than in the year before. Larger non-households, with an annual consumption of up to 20 GWh, used 2.6% more, and the largest non-households 7.1% more than in 2020.

Overall, households consumed 18.8 TWh gas in 2021, non-households 77.6 TWh.

Energy inputs in 2021

Domestic natural gas production declined further, by 9.9% or 0.8 TWh, and made for a total of 7.6 TWh in 2021. Withdrawals from storage stood at 96.2 TWh (up by 45.2%) and there were injections of 54.6 TWh (an increase of 10.7%). Net imports dropped by 26.6% to 51 TWh.

Domestic electricity production edged down by 3% to 70.2 TWh, resulting from a 6.4% slowdown in electricity generated from hydropower and a 1.8% rise in output from thermal power plants. Electricity generated from biofuels made for 4.3% less than previously.

Net imports rose by 5.3 TWh and stood at 7.5 TWh. The physical imports climbed by 1.9 TWh or 7.8%, while exports retracted by 3.4 TWh or 15.4%.

Storage situation at year-end 2021

Austrian gas storage held 32.5 TWh at year-end 2021, making for a 33.9% fill level. This corresponds to 33.7% of domestic gas consumption in 2021.

Overall, gas storage facilities with a capacity of 95.7 TWh or 8.5bn n cu m are located on Austrian territory. The hourly withdrawal capacity is 45 GWh or 4bn n cu m.

Fill levels of Austrian electricity storage at year-end 2021 stood at 1.9 TWh (57.8%).

Electricity storage in Austria has an overall capacity of 3.3 TWh.

Market structures and consumer behaviour in 2021

About 93% of the over 1.2m customers on the Austrian gas market are households, but they only account for 20% of consumption. Non-households (including gas-fired power plants) make for more than 80% of the gas consumed.

A total of 73,400 final gas customers (metering points) switched suppliers in 2021, which results in a 5.7% switching rate. Most switchers (68,000) were households. The switching rate of 5.5% among non-household customers was a little below the household switching rate. The highest rates were found in Upper Austria (8.5%), Carinthia (7.2%), and Lower Austria (6.3%).

On the electricity side, Austria has 6.3m electricity metering points for 4.8m customers. 81% of these metering points, and 87% of customers, are households, which means the non-household sector accounts for no more than 19% of metering points and 13% of customers. Looking at consumption, the picture is reversed: non-households account for about 73%, households are just shy of 27%.

Overall, more than 258,000 electricity metering points were switched to different suppliers in 2021, i.e. the overall switching rate was 4.1%. Non-household customers with an annual consumption of 4 – 20 GWh were most active, with a switching rate of 7.5%, followed by non-households with a lower annual consumption, which had a 5.3% switching rate. Households came next at 3.8%, while the rate for non-households with an annual consumption of more than 20 GWh was, at 2.1%, considerably lower than the Austrian average. Overall, 2021 saw the third-highest electricity switching rate since market liberalisation.

In terms of regional differences, the highest switching rates were observed in Upper Austria (6.5%), Carinthia (5.1%) and Vienna (4.4%).

Overview

Economic indicators

Consumer price index, Jan 2010 = 100

	Total		Electricity		Gas	
	Annual average	Change in % (*)	Annual average	Change in % (*)	Annual average	Change in % (*)
1995	78.2		73.9		58.6	
2000	83.8	1.4	78.3	1.2	66.1	2.4
2005	92.7	2.0	83.0	1.2	82.8	4.6
2010	101.5	1.8	100.3	3.9	99.9	3.8
2015	112.3	2.0	106.5	1.2	112.9	2.5
2018	118.0	1.7	102.7	–1.2	103.3	–2.9
2019	119.8	1.5	106.6	3.8	103.9	0.6
2020	121.5	1.4	112.8	5.8	102.4	–1.5
2021	**124.9**	**2.8**	**120.6**	**7.0**	**110.4**	**7.8**

(*) average / from 2019 year-on-year rates of change
Source: Statistics Austria

Gross domestic product

	m€ (rate of 2010)	Change in % (*)
1995	219 276	
2000	254 069	3.0
2005	277 307	1.8
2010	295 897	1.3
2015	311 856	1.1
2018	333 380	2.2
2019	338 351	1.5
2020	315 565	–6.7
2021	**330 086**	**4.6**

(*) average / from 2019 year-on-year rates of change
Source: Statistics Austria, calculations by E-Control

The economic context for the electricity and gas statistics

Population, annual average		
	Population numbers	Change in % (*)
1995	7 948 278	
2000	8 011 566	0.2
2005	8 225 278	0.5
2010	8 361 069	0.3
2015	8 629 519	0.6
2018	8 837 707	0.8
2019	8 877 637	0.5
2020	8 916 845	0.4
2021	**8 951 520**	**0.4**

(*) average / from 2019 year-on-year rates of change
Source: Statistics Austria

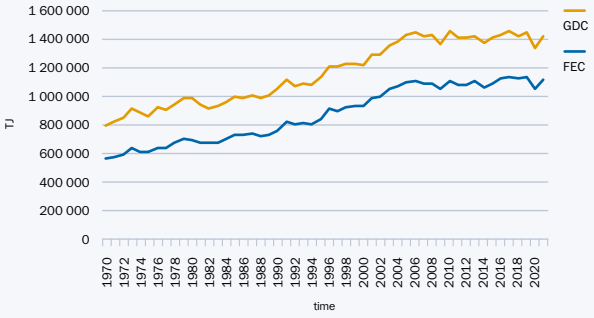
Households				
	Single-person households	Multi-person households	Total	Average household size (persons)
1995	892 546	2 200 689	3 093 235	2.54
2000	976 630	2 260 453	3 237 083	2.45
2005	1 198 477	2 276 865	3 475 342	2.34
2010	1 300 166	2 323 587	3 623 753	2.28
2015	1 418 449	2 398 317	3 816 766	2.22
2018	1 456 593	2 459 500	3 916 093	2.22
2019	1 480 122	2 469 741	3 949 863	2.21
2020	1 505 720	2 482 720	3 988 440	2.20
2021	**1 525 735**	**2 494 009**	**4 019 744**	**2.19**

Source: Statistics Austria

Relevant Austrian population indicators

Energy industry indicators

Gross domestic consumption (GDC) and final energy consumption (FEC)



Source: Statistics Austria

Gross domestic consumption and final energy consumption

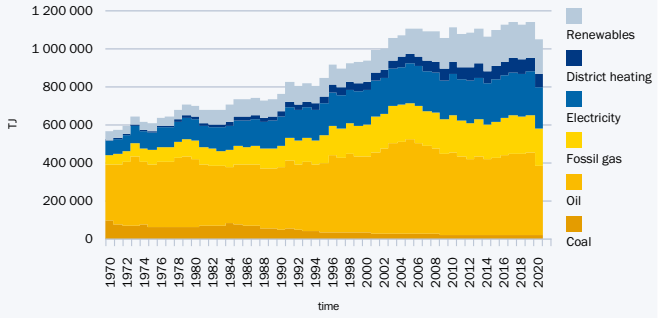
in TJ	Gross domestic consumption	Final energy consumption
1995	1 140 024	845 280
2000	1 224 964	935 834
2005	1 438 116	1 105 486
2010	1 458 261	1 116 143
2015	1 412 385	1 096 979
2018	1 424 202	1 126 034
2019	1 456 384	1 139 349
2020	1 345 609	1 052 858
2021(*)	**1 426 429**	**1 120 760**

(*) provisional figures
Source: Statistics Austria

Main economic and energy consumption indicators

ENERGY BALANCE

Energy mix in final energy consumption



Source: Statistics Austria

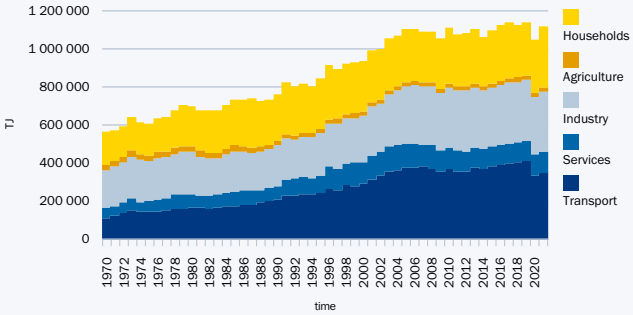
Energy mix in final energy consumption

in TJ	Coal	Oil	Fossil gas	Electricity	District heating	Renewables	Total
1995	36 723	364 903	144 211	166 122	35 015	98 307	**845 280**
2000	32 838	401 577	167 279	182 901	41 689	109 550	**935 834**
2005	24 939	496 351	195 354	206 998	51 008	130 836	**1 105 486**
2010	19 800	434 045	198 478	215 763	66 100	181 956	**1 116 143**
2015	18 401	409 786	190 971	220 155	69 516	188 151	**1 096 979**
2018	17 018	430 864	194 919	228 402	71 515	183 315	**1 126 034**
2019	17 291	437 406	199 720	228 644	71 379	184 908	**1 139 349**
2020	**18 093**	**367 246**	**194 064**	**220 334**	**71 933**	**181 188**	1 052 858

Source: Statistics Austria

The input side of the Austrian energy balance

Final energy consumption by sectors



Source: Statistics Austria

Final energy consumption by sectors

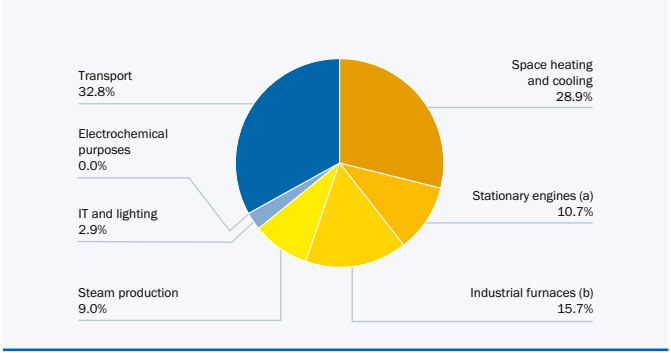
in TJ	Households	Agriculture	Industry	Services	Transport	Total
1995	264 155	22 674	220 038	93 907	244 506	**845 280**
2000	261 352	22 389	249 718	109 829	292 547	**935 834**
2005	275 510	22 240	301 423	126 180	380 134	**1 105 486**
2010	296 012	22 531	317 224	109 938	370 438	**1 116 143**
2015	278 096	22 621	308 797	103 830	383 635	**1 096 979**
2018	273 743	22 438	317 132	107 963	404 758	**1 126 034**
2019	279 894	22 086	316 287	110 895	410 187	**1 139 349**
2020	280 125	21 670	307 100	107 634	336 329	**1 052 858**
2021(*)	**322 846**	**23 261**	**314 784**	**108 848**	**351 021**	**1 120 760**

(*) provisional figures
Source: Statistics Austria

The output side of the Austrian energy balance

USEFUL ENERGY

Useful energy consumption in 2020



Source: Statistics Austria

Useful energy consumption in 2020

	TJ	Share in %
Space heating and cooling	304 264	28.9
Stationary engines (a)	112 197	10.7
Industrial furnaces (b)	165 264	15.7
Steam production	94 836	9.0
IT and lighting	30 607	2.9
Electrochemical purposes	479	0.0
Transport	345 211	32.8
Total	**1 052 858**	**100.0**

(a) Cooling and freezing, and electrical appliances in the household sector
(b) Warm water and cooking in the household sector
Source: Statistics Austria

Uses of energy in Austria as reflected in the energy balance (this and next page)

Gas – useful energy consumption in 2020

	TJ	Share in %	Share in total in %
Space heating and cooling	79 815	41.1	7.6
Stationary engines (a)	2 308	1.2	0.2
Industrial furnaces (b)	53 574	27.6	5.1
Steam production	49 062	25.3	4.7
IT and lighting	6	0.0	0.0
Electrochemical purposes	0	0.0	0.0
Transport	9 300	4.8	0.9
Total	**194 064**	**100.0**	**18.4**

(a) Cooling and freezing, and electrical appliances in the household sector
(b) Warm water and cooking in the household sector
Source: Statistics Austria

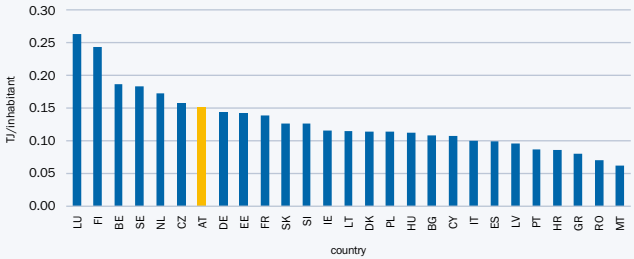
Electricity – useful energy consumption in 2020

	TJ	Share in %	Share in total in %
Space heating and cooling	25 187	11.4	2.4
Stationary engines (a)	99 903	45.3	9.5
Industrial furnaces (b)	49 836	22.6	4.7
Steam production	3 193	1.4	0.3
IT and lighting	30 601	13.9	2.9
Electrochemical purposes	479	0.2	0.0
Transport	11 136	5.1	1.1
Total	**220 334**	**100.0**	**20.9**

(a) Cooling and freezing, and electrical appliances in the household sector
(b) Warm water and cooking in the household sector
Source: Statistics Austria

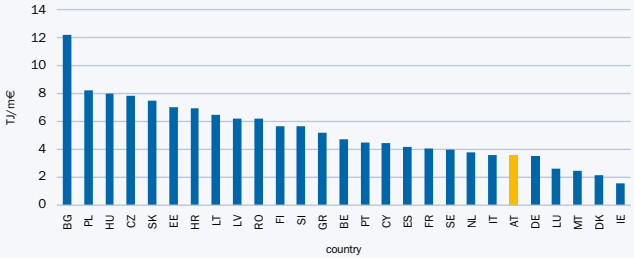
INTERNATIONAL ENERGY INDICATORS

Per capita energy consumption in EU countries in 2020



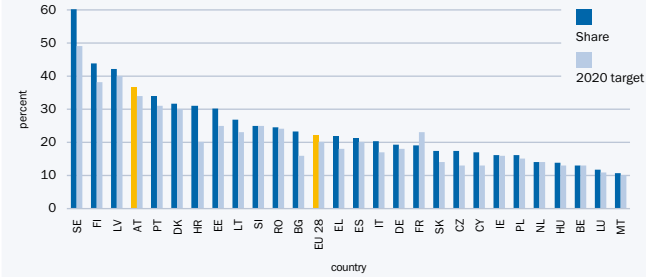
Source: Eurostat

Gross domestic consumption of energy divided by GDP in 2020



Source: Eurostat

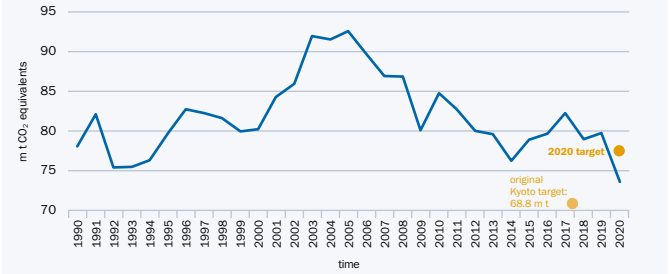
Renewables shares in the EU in 2020 and the 2020 target



Source: Eurostat

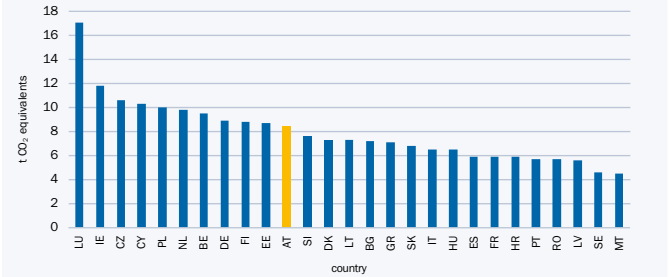
GREENHOUSE GAS EMISSIONS

Emissions in Austria and the 2020 target, 1990–2020



Source: Environment Agency Austria

Per capita emissions in EU countries in 2020



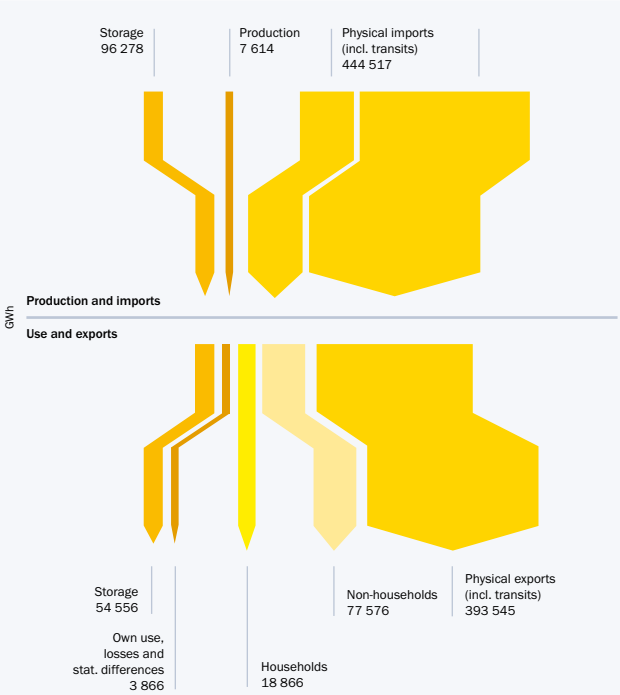
Source: Eurostat

Austrian emissions compared to emissions in other countries

Operational statistics

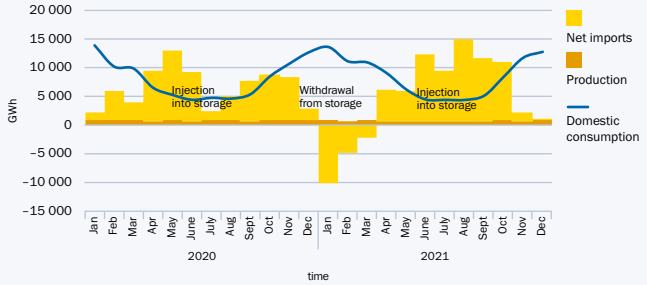
Fossil gas in Austria

Simplified energy flow chart for 2021



Flow chart for fossil gas in Austria

Gas balance

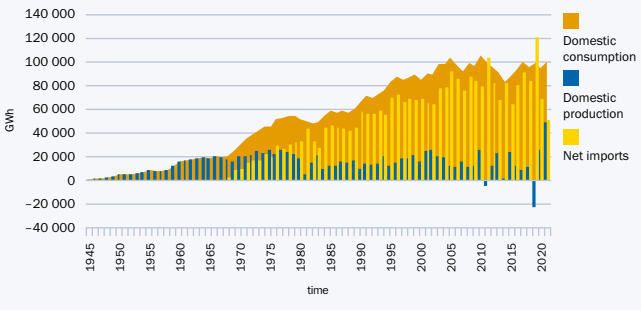


Gas balance for 2021

	m Nm³	GWh	Year-on-year change in %
Supply to consumers (a)	**8 511**	**96 260**	**6.2**
Own use and losses (b) and statistical differences (c)	358	4 048	
Domestic consumption	**8 869**	**100 308**	**5.7**
Injection into storage (d)	4 824	54 556	10.7
Exports (d)	34 796	393 545	–5.1
Consumption and exports = production and imports	**48 489**	**548 410**	**–1.9**
Imports (d)	39 303	444 517	–8.2
Production (d)	661	7 478	–10.0
Injection of biogas (d)	12	136	–1.1
Withdrawal from storage (d)	8 513	96 278	45.2

(a) Supply to consumers (here: households, industry, chemical industry, refineries, thermal power plants etc.)
(b) For production, storage operation and transports (including transits)
(c) Statistical difference between calculated and metered supply to consumers
(d) Physical flow data (imports and exports include transits)

Gas consumption and supply

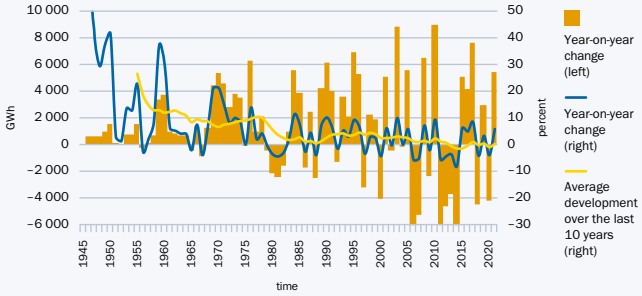


Gas balance

in GWh	Supply to consumers (d)	Statistical difference (c)	Own use and losses (b)	Domestic consumption	Net imports	Domestic production (a)
1995	79 631	1	3 265	82 897	70 275	12 621
2000	80 514		4 612	85 126	68 635	16 491
2005	100 420	–401	4 065	104 083	92 019	12 065
2010	102 093	803	2 873	105 769	79 817	25 952
2015	84 585	–343	4 398	88 641	64 091	24 550
2018	90 720	278	5 046	96 044	84 632	11 413
2019	94 238	–16	4 825	99 047	121 408	–22 361
2020	90 604	–15	4 297	94 885	69 400	25 485
2021	**96 260**	**136**	**3 912**	**100 308**	**50 972**	**49 336**

(a) Production and net storage movements
(b) For production, storage and transports (including transits)
(c) Statistical difference between calculated and metered supply to consumers
(d) Supply to consumers (here: households, industry, chemical industry, refineries, thermal power plants etc.)
Sources: Federal Ministry of Economics and Labour (for data up to 2002), E-Control (for data from 2002 onwards)

Gas consumption trends



Physical imports and exports of gas in 2021

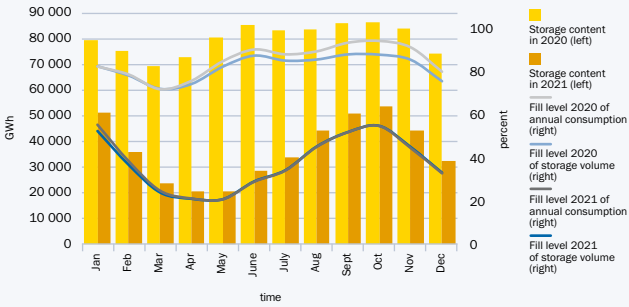
	Imports (*)		Exports (*)	
	in m Nm³	in GWh	in m Nm³	in GWh
Germany	4 796	54 238	5 055	57 178
Switzerland	0	0	63	710
Italy			26 289	297 329
Slovenia			1 049	11 869
Hungary			1 192	13 481
Slovakia	34 507	390 278	1 148	12 979
Czech Republic				
Total	**39 303**	**444 517**	**34 796**	**393 545**

(*) Physical flows metered at Austrian borders (including transits)

Main gas indicators for Austria (pages 19 – 21)

Gas infrastructure in Austria

Gas storage at month end (*) in 2021



(*) Includes all storage facilities on the Austrian territory.

Gas storage facilities (*)

	Storage volume in GWh	Max. injection rate in MWh per hour	Max. withdrawal rate in MWh per hour
2005	32 202	13 254	14 887
2010	51 906	21 966	25 905
2015	92 685	36 272	44 817
2018	91 774	35 830	44 596
2019	93 684	35 458	45 058
2020	95 792	36 093	45 142
2021	**95 691**	**36 054**	**45 097**

(*) Includes all storage facilities on the Austrian territory.

Domestic gas production		
	Max. production rate in MWh per hour	Max. production rate in 1,000 Nm^3 per hour
2010	2 319	207
2015	1 982	176
2018	1 743	154
2019	1 391	123
2020	1 134	100
2021	**1 046**	**92**

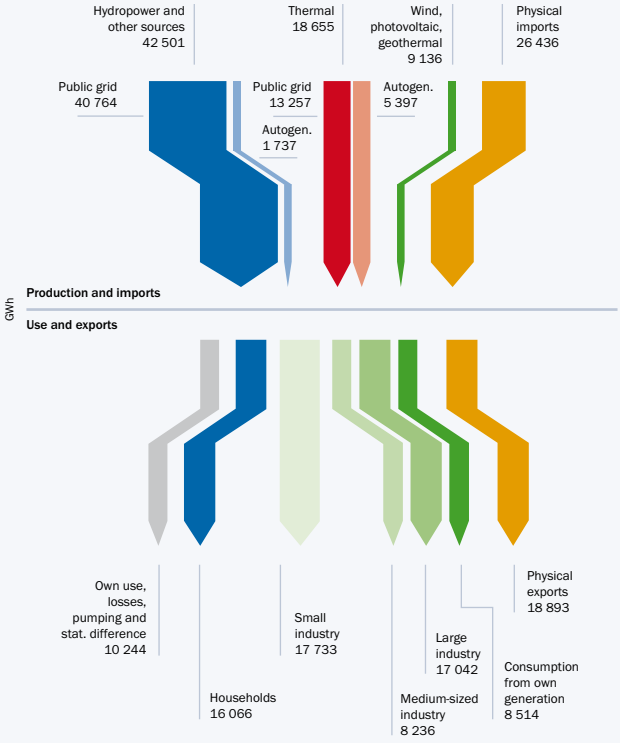
Network length at year end			
in km	Grid level 1, including transmission lines	Distribution lines at grid level 2	Local grids and distribution lines at grid level 3
2000 (*)	2 377	3 266	
2005	2 757	3 425	30 195
2010	3 143	3 685	33 027
2015	3 089	4 096	35 115
2018	3 091	4 100	38 998
2019	3 404	3 801	39 228
2020	3 405	3 793	39 363
2021	**3 406**	**3 797**	**39 502**

(*) Partly estimated based on year of start of operation

Key figures on gas infrastructure in Austria (pages 22 and 23)

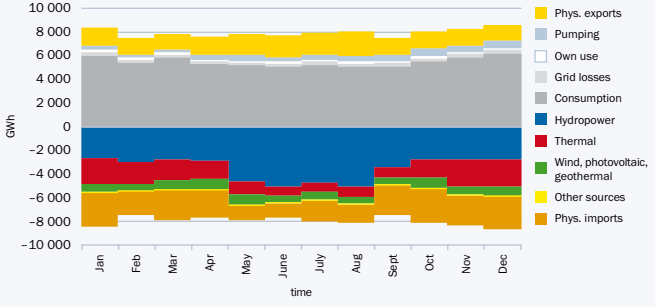
Electricity in Austria (total electricity supply)

Simplified energy flow chart for 2021



Electricity flow chart for Austria

Electricity balance 2021

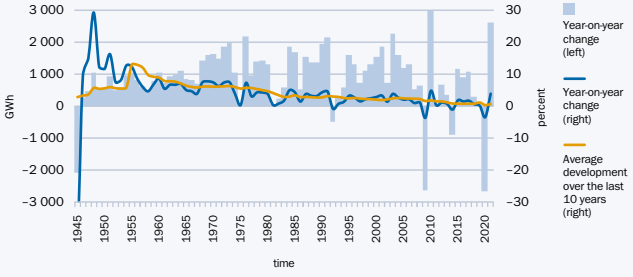


Electricity balance 2021

		2020 in GWh	2021 in GWh	Year-on-year change in GWh	in %
Consumption (1)		64 704	67 242	2 539	3.9
Grid losses		3 191	3 236	46	1.4
Own use		1 936	1 944	8	0.4
Domestic consumption		**69 830**	**72 423**	**2 593**	**3.7**
Pumping		4 780	5 412	632	13.2
Physical exports		22 327	18 893	−3 434	−15.4
Use and exports = generation and imports		**96 937**	**96 728**	**−209**	**−0.2**
Gross generation	Hydro	45 386	42 478	−2 908	−6.4
	Thermal	18 329	18 655	326	1.8
	Renewables (2)	8 661	9 136	475	5.5
	Other sources	39	23		
Physical imports		24 523	26 436	1 914	7.8

(1) Includes final energy consumption and the electricity consumption of the non-electricity energy sector
(2) Photovoltaics, wind and geothermal

Electricity consumption trends

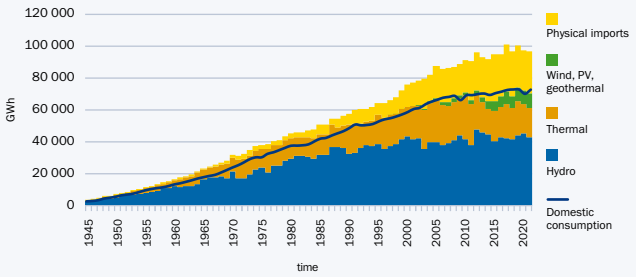


Electricity balance

in GWh	Supply to final consumers	Own use	Grid losses	Domestic consumption	Electricity for pumping	Physical exports	Use and exports = generation and imports
1995	47 722	1 556	3 328	**52 606**	1 511	9 757	**63 874**
2000	53 752	1 566	3 195	**58 513**	1 990	15 216	**75 720**
2005	60 469	2 051	3 567	**66 087**	3 276	17 732	**87 094**
2010	63 314	2 089	3 534	**68 936**	4 576	17 472	**90 985**
2015	64 846	1 980	3 443	**70 269**	4 907	19 328	**94 504**
2018	67 256	2 117	3 147	**72 520**	5 025	19 129	**96 674**
2019	67 096	2 093	3 306	**72 494**	4 826	22 918	**100 238**
2020	64 704	1 936	3 191	**69 830**	4 780	22 327	**96 937**
2021	**67 242**	**1 944**	**3 236**	72 423	**5 412**	**18 893**	96 728

Austrian electricity indicators (pages 25 – 28)

Domestic consumption and supply



Electricity balance

in GWh	Gross generation					Physical imports	Generation and imports = use and exports
	Hydro-power	Thermal	Wind, PV, geothermal	Other sources	Total		
1995	38 477	18 110			**56 587**	7 287	**63 874**
2000	43 461	18 270	69		**61 800**	13 920	**75 720**
2005	39 574	26 126	1 350	–312	**66 739**	20 355	**87 094**
2010	41 575	27 384	2 101	16	**71 076**	19 909	**90 985**
2015	40 465	18 833	5 773	43	**65 114**	29 389	**94 504**
2018	41 184	19 899	7 469	46	**68 598**	28 076	**96 674**
2019	44 206	20 960	9 010	15	**74 191**	26 047	**100 238**
2020	45 386	18 329	8 661	39	**72 414**	24 523	**96 937**
2021	**42 478**	**18 655**	**9 136**	**23**	**70 292**	**26 436**	**96 728**

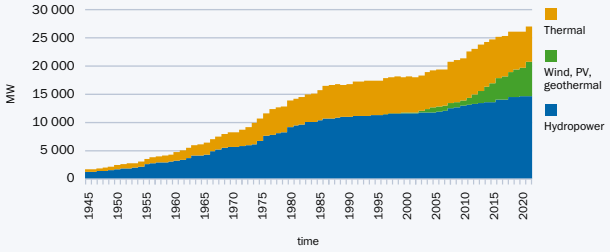
Gross generation mix in 2021

Energy source			GWh	Share in %		
Hydropower	Run of river	up to 10 MW	5 086	7.2	12.0	
		over 10 MW	23 385	33.3	55.1	
	Pumped storage	up to 10 MW	499	0.7	1.2	
		over 10 MW	13 508	19.2	31.8	
	Total hydro		**42 478**	**60.4**	**100.0**	
Thermal	Fossil fuels and derivatives	Hard coal	109	0.2		0.6
		Lignite				0.0
		Coal derivatives (1)	2 019	2.9		10.8
		Oil derivatives (1)	622	0.9		3.3
		Fossil gas	10 751	15.3		57.6
		Total	13 502	19.2		72.4
	Biofuels	Solid (2)	2 438	3.5		13.1
		Liquid (2)	0	0.0		0.0
		Gaseous (2)	561	0.8		3.0
		Sewage and landfill gases (2)	29	0.0		0.2
		Total (2)	3 029	4.3		16.2
	Other biofuels (3)		1 338	1.9		7.2
	Other fuels		786	1.1		4.2
	Total thermal (of which CHP)		**18 655** (17 411)	**26.5** (24.8)		**100.0** (93.3)
Renewables	Wind (4)		6 738	9.6	73.7	
	Photovoltaics (4)		2 398	3.4	26.3	
	Geothermal (4)		0	0.0	0.0	
	Total renewables (4)		**9 136**	**13.0**	**100.0**	
Other sources (5)			23	0.0		
Total			**70 292**	**100.0**		

(1) Coal and oil derivatives used for electricity generation
(2) Only biofuels as defined by Austrian law
(3) Biofuels as defined by Union law, except for (2)
(4) Injection by certified renewable power plants as defined by Austrian law
(5) Generation that can neither be broken down by primary energy source nor assigned to a type of power station

Power plants in Austria

Installed capacity at year end

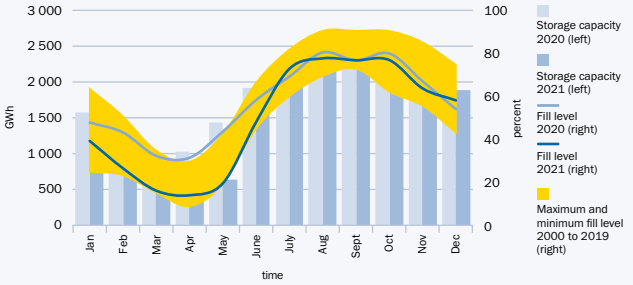


Installed capacity at year end

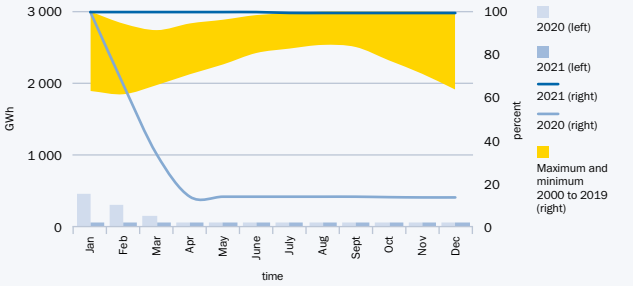
	Gross maximum capacity						
	Hydropower plants						
in MW	Run of river	Pumped storage	Total	Wind, PV, geothermal	Thermal	Total	Net maximum capacity
1995	4 873	6 433	11 306		6 134	**17 440**	**16 959**
2000	5 202	6 461	11 663	49	6 315	**18 028**	**17 532**
2005	5 347	6 491	11 837	841	6 534	**19 213**	**18 703**
2010	5 412	7 520	12 932	1 054	7 433	**21 419**	**20 844**
2015	5 662	7 987	13 650	3 362	7 768	**24 780**	**24 177**
2018	5 723	8 795	14 517	4 505	7 192	**26 214**	**25 637**
2019	5 797	8 803	14 599	4 824	6 743	**26 166**	**25 616**
2020	5 803	8 844	14 647	5 140	6 379	**26 166**	**25 637**
2021	**5 837**	**8 910**	**14 747**	**6 058**	**6 251**	27 056	26 533

Key figures on electricity infrastructure in Austria (pages 29 – 34)

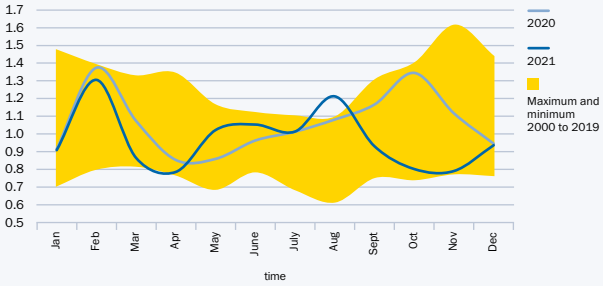
Storage capacity and fill levels at month end – large reservoirs of public generators



Fossil fuel stocks at month end – thermal power plants of public generators



Energy capability factor – run-of-river power plants of public generators



Annual energy capability factor – large run-of-river power plants of public generators

2020	2021	2000 to 2019 maximum	2000 to 2019 minimum
1.04	0.97	1.16	0.87

Energy availability – power plants of public generators (*)

	Thermal power plants			Pumped storage power plants		
in %	Availability factor	Utilisation factor	Outages	Availability factor	Utilisation factor	Outages
2000	76.7	32.6	5.9	93.6	18.6	2.6
2005	85.3	42.7	5.3	93.3	19.7	1.1
2010	84.3	35.9	15.0	84.2	18.7	7.7
2015	80.4	12.1	13.7	93.0	17.3	2.3
2018	83.6	18.5	16.4	93.2	15.7	4.3
2019	80.4	26.1	9.4	91.0	16.0	6.1
2020	81.7	23.1	16.4	90.4	15.4	6.4
2021	**82.2**	**27.8**	**11.1**	**90.0**	**17.8**	**4.4**

(*) Power plants with a capacity of at least 25 MW that inject into Austrian control areas

Combined heat and power (CHP)

	Efficiency of thermal power plants in %			Capacity of thermal power plants in MW		
	With CHP		Without CHP	With CHP		Without CHP
	Overall efficiency (1)	Effective electric efficiency (2)	Efficiency (3)	Thermal capacity	Maximum capacity	Maximum capacity
2000	68.9	49.5	42.8	6 648	3 964	2 351
2005	69.9	52.9	41.5	7 545	4 511	2 023
2010	72.7	57.2	40.2	8 680	5 761	1 672
2015	72.0	52.5	37.7	8 667	6 063	1 705
2018	74.9	57.7	33.3	9 083	6 460	731
2019	73.3	56.6	32.7	8 957	6 307	436
2020	73.9	56.1	33.1	8 766	5 942	437
2021	**74.1**	**56.4**	**33.0**	**8 371**	**5 613**	**638**

(1) Electricity and heat output divided by total fuel input
(2) Electricity output divided total by fuel input minus heat output
(3) Electricity output divided by fuel input

Firm capacity in 2021 – run-of-river plants of public generators (*)

Type of power plant	Up to 50 MW	50 MW to 100 MW	100 MW to 250 MW	Over 250 MW	Total
			Capacity in MW		
Run-of-river plants with pondage	204	250			**454**
Run-of-river plants without pondage	126	83	444	310	**963**
Total run-of-river plants	**330**	**333**	**444**	**310**	**1 418**
			Share in maximum capacity in %		
Run-of-river plants with pondage	40.3	46.3			**43.4**
Run-of-river plants without pondage	34.7	53.6	38.5	34.1	**37.3**
Total run-of-river plants	**38.0**	**47.9**	**38.5**	**34.1**	**39.1**

(*) Power plants with a capacity of at least 25 MW that inject into Austrian control areas

Public grid in Austria

Route length (*) of the public grid at year-end 2021

	Overhead lines		Cables		Total
Voltage level	km	Share in %	km	Share in %	km
380 kV	1 386	0.6	54	0.0	**1 440**
220 kV	1 911	0.8	7	0.0	**1 918**
110 kV	6 124	2.5	748	0.3	**6 872**
1 kV to 110 kV	22 870	9.5	42 594	17.6	**65 464**
Up to 1 kV	28 228	11.7	137 415	56.9	**165 644**
Total	**60 520**	**25.1**	**180 817**	**74.9**	**241 337**

(*) Including high and ultra-high voltage lines of public generators

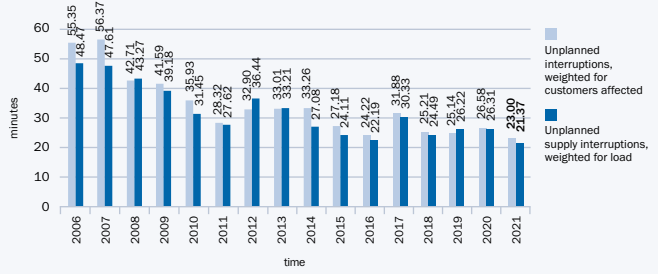
High voltage substations in the public grid at year-end 2021

Voltage level	Number of transformers	Total capacity in MVA
Primary voltage up to 200 kV	1 048	46 070
Primary voltage over 200 kV	89	31 915
High voltage to high, medium and low voltage	**1 137**	**77 985**

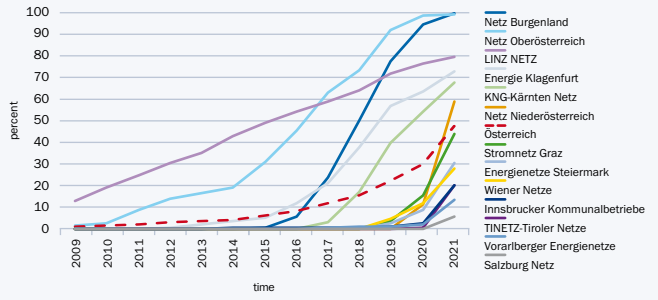
Medium voltage substations in the public grid at year-end 2021

Voltage level	Number of transformers	Total capacity in MVA
Medium voltage to medium and low voltage	**81 126**	**34 286**

Interruption of electricity supply
Average duration of unplanned interruptions, excluding extraordinary regional events



Smart meter roll-out, per network operator, 2021



The figure above testifies to the quality of electricity supply in Austria. The figure below provides an overview of the smart meters installed until the end of 2021.

Market statistics

Austrian gas market

Consumption structure

		Supply to final customers			
Final customer category	**Unit**	**2020**	**2021**	**Change** absolute	**Change** in %
Households	GWh	17 204	18 866	1 662	9.7
Non-households (1)	GWh	8 306	8 653	347	4.2
Non-households (2)	GWh	7 980	7 686	–294	–3.7
Non-households (3)	GWh	57 200	61 237	4 037	7.1
Statistical difference	GWh	–86	–182		
Total supply to final customers	**GWh**	**90 604**	**96 260**	**5 656**	**6.2**

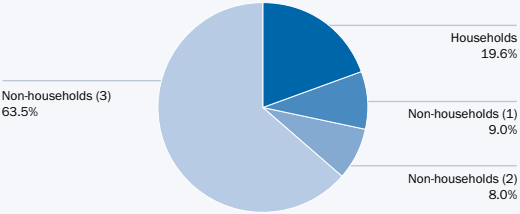
		Number of metering points		Number of final customers	
Final customer category	**Unit**	**2020**	**2021**	**2020**	**2021**
Households	1 000	1 213.1	1 202.8	1 160.0	1 149.4
Non-households (1)	1 000	86.2	85.7	68.6	68.5
Non-households (2)	1 000	7.3	7.4	0.9	0.9
Non-households (3)	1 000	2.2	3.0	0.2	0.2
Total number of metering points	**1 000**	**1 308.8**	**1 298.9**	**1 229.7**	**1 219.0**

		Average consumption per metering point		Average consumption per final customer	
Final customer category	**Unit**	**2020**	**2021**	**2020**	**2021**
Households	kWh/..	14 181	15 684	14 830	16 414
Non-households (1)	kWh/..	96 400	100 967	121 076	126 271
Non-households (2)	MWh/..	1 098.0	1 036.3	8 827.8	8 229.6
Non-households (3)	MWh/..	26 035.4	20 439.6	302 644.8	287 497.2
Total	**kWh/..**	**69 228.5**	**74 106.1**	**73 678.1**	**78 964.7**

(1) Consumption up to 2 778 MWh/a
(2) Consumption from 2 778 MWh/a to 27 778 MWh/a
(3) Consumption exceeding 27 778 MWh/a
Statistical difference: Difference between metered consumption and individual reporting. Negative values may result from discrepancies between the settlement period and calendar year

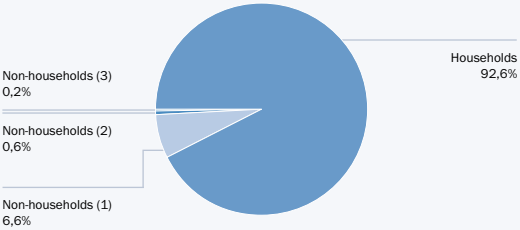
Structure of the Austrian gas market in terms of final customer groups and areas within Austria (pages 36 – 38)

Consumption structure – supply to final customers 2021



(1) Consumption up to 2 778 MWh/a
(2) Consumption from 2 778 MWh/a to 27 778 MWh/a
(3) Consumption exceeding 27 778 MWh/a

Consumption structure – number of metering points 2021



(1) Consumption up to 2 778 MWh/a
(2) Consumption from 2 778 MWh/a to 27 778 MWh/a
(3) Consumption exceeding 27 778 MWh/a

Consumption structure – supply to final customers by grid zone

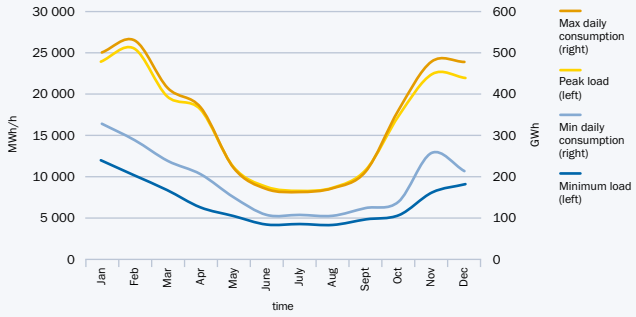
Federal province / grid zone		2020 in GWh	2021 in GWh	Change absolute	Change in %
Burgenland		2 310	2 603	293	12.7
Carinthia		1 890	2 021	131	6.9
Lower Austria		18 930	19 830	900	4.8
Upper Austria		22 362	23 603	1 241	5.5
Salzburg		3 047	3 382	334	11.0
Styria		13 666	15 947	2 282	16.7
Tyrol		4 203	4 465	261	6.2
Vorarlberg		2 380	2 612	233	9.8
Vienna		21 902	21 979	77	0.4
Austria	Statistical difference	–86	–182		
	Total supply to final customers	**90 604**	**96 260**	**5 656**	**6.2**

Statistical difference: Difference between metered consumption and individual reporting per final customer category

Consumption structure – number of metering points by grid zone

Federal province / grid zone	2020 in 1 000 MP	2021 in 1 000 MP	Change in 1 000 MP	Change in %
Burgenland	52.8	52.9	0.1	0.2
Carinthia	13.6	13.5	–0.1	–0.9
Lower Austria	294.4	291.8	–2.6	–0.9
Upper Austria	142.2	140.3	–1.9	–1.3
Salzburg	36.8	36.7	–0.1	–0.2
Styria	67.6	67.5	–0.1	–0.2
Tyrol	56.3	57.4	1.1	2.0
Vorarlberg	37.2	37.5	0.3	0.7
Vienna	607.8	601.3	–6.5	–1.1
Austria	**1 308.8**	**1 298.9**	**–9.8**	**–0.7**

Load indicators for 2021



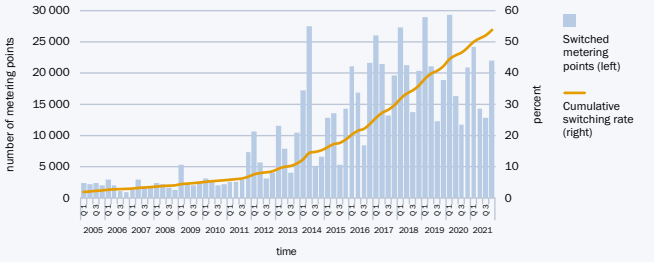
Load indicators

Year	Annual peak load MWh/h	Annual minimum load MWh/h	Maximum daily minimum load MWh/h	Maximum daily consumption GWh	Minimum daily consumption GWh	Peak load utilisation period h
2017	27 115	3 510	22 280	604	96	3 510
2018	27 169	3 470	21 113	596	96	3 339
2019	24 029	3 625	18 900	513	96	3 922
2020	23 638	3 668	17 891	506	99	3 833
2021	**25 527**	**4 054**	**18 463**	**528**	**103**	**3 771**

Load indicators of gas supply in Austria

THE EFFECTS OF LIBERALISATION: GAS SWITCHING RATES

Supplier switches and switching rates (*)



(*) By number of metering points

Supplier switches and switching rates (*)

	2005	2010	2015	2020	2021
			Number of supplier switches		
Households	8 058	8 018	42 662	72 028	**68 061**
Non-households (1)		1 711	3 330	5 935	**4 885**
Non-households (2)	837	54	58	242	**421**
Non-households (3)		16	9	14	**27**
Total	**8 895**	**9 799**	**46 059**	**78 219**	**73 394**
			Switching rates in %		
Households	0.6	0.6	3.4	5.9	**5.7**
Non-households (1)		2.2	4.3	6.9	**5.7**
Non-households (2)	1.2	6.0	6.9	3.3	**5.7**
Non-households (3)		8.5	4.6	0.6	**0.9**
Total	**0.7**	**0.7**	**3.4**	**6.0**	**5.7**

(*) By number of metering points
(1) Consumption up to 2 778 MWh/a
(2) Consumption from 2 778 MWh/a to 27 778 MWh/a
(3) Consumption exceeding 27 778 MWh/a

Supplier switches (*) by grid zone					
Federal province/grid zone	2005	2010	2015	2020	2021
Burgenland	50	139	1 160	2 769	**2 401**
Carinthia	37	28	585	1 031	**972**
Lower Austria	2 180	3 142	12 557	20 370	**18 390**
Upper Austria	1 273	1 582	7 972	12 523	**11 908**
Salzburg	78	65	568	1 386	**1 403**
Styria	158	643	3 172	4 405	**4 108**
Tyrol		2	400	1 880	**1 943**
Vorarlberg		2	304	1 036	**941**
Vienna	5 119	4 196	19 341	32 819	**31 328**
Austria	**8 895**	**9 799**	**46 059**	**78 219**	**73 394**

(*) By number of metering points

Switching rates (*) by grid zone					
Federal province/grid zone in %	2005	2010	2015	2020	2021
Burgenland	0.1	0.3	2.3	5.2	**4.5**
Carinthia	0.3	0.2	4.2	7.6	**7.2**
Lower Austria	0.8	1.1	4.3	6.9	**6.3**
Upper Austria	0.9	1.1	5.5	8.8	**8.5**
Salzburg	0.3	0.2	1.6	3.8	**3.8**
Styria	0.3	1.0	4.7	6.5	**6.1**
Tyrol		0.0	0.8	3.3	**3.4**
Vorarlberg		0.0	0.9	2.8	**2.5**
Vienna	0.7	0.6	2.9	5.4	**5.2**
Austria	**0.7**	**0.7**	**3.4**	**6.0**	**5.7**

(*) By number of metering points

Gas switching rates (pages 40 – 41)

Austrian electricity market (public grid)

Consumption structure

		Supply to final customers			
Final customer category	**Unit**	**2020**	**2021**	**Change** absolute	**Change** in %
Households	GWh	15 222	16 066	844	5.5
Non-households (1)	GWh	18 023	17 733	–291	–1.6
Non-households (2)	GWh	8 030	8 236	205	2.6
Non-households (3)	GWh	15 919	17 042	1 123	7.1
Own use from the public grid	GWh	–429	–498		
Statistical difference	GWh	132	150		
Total supply to final customers	**GWh**	**56 898**	**58 728**	**1 830**	**3.2**

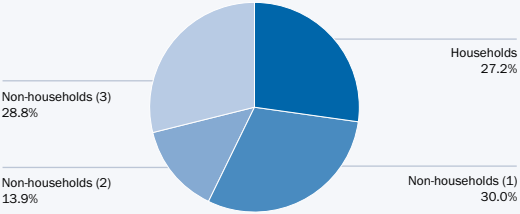
		Number of metering points		Number of final customers	
Final customer category	**Unit**	**2020**	**2021**	**2020**	**2021**
Households	1 000	5 087.5	5 128.7	4 125.9	4 174.5
Non-households (1)	1 000	1 095.2	1 103.9	615.1	618.0
Non-households (2)	1 000	37.0	37.5	1.0	1.0
Non-households (3)	1 000	32.0	29.0	0.2	0.2
Total number of metering points	**1 000**	**6 251.6**	**6 299.2**	**4 742.2**	**4 793.8**

		Average consumption per metering point		... per final customer	
Final customer category	**Unit**	**2020**	**2021**	**2020**	**2021**
Households	kWh/...	2 992	3 133	3 689	3 849
Non-households (1)	kWh/...	16 457	16 064	29 299	28 692
Non-households (2)	kWh/...	217 121	219 415	8 177 644	8 268 581
Non-households (3)	kWh/...	496 756	586 799	67 166 891	69 558 456
Total	**kWh/...**	**9 101**	**9 323**	**11 998**	**12 251**

(1) Consumption up to 4 000 MWh/a
(2) Consumption from 4 000 MWh/a up to 20 000 MWh/a
(3) Consumption exceeding 20 000 MWh/a
Own use from the public grid is no final consumption (no further breakdown)
Statistical difference: Difference between metered consumption and individual reporting.

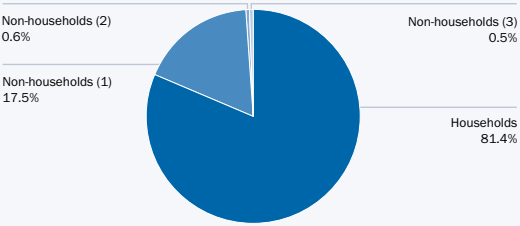
Remarks:
– The breakdown by the two consumer categories households and non-households starts only with the reporting year 2016. An assignement to these two consumer categories before this date can only be modelled.
– Consumer (Sites) are to be reported from 2016 onwards.

Consumption structure – supply to final customers, 2021



(1) Consumption up to 4 000 MWh/a
(2) Consumption from 4 000 MWh/a up to 20 000 MWh/a
(3) Consumption exceeding 20 000 MWh/a

Consumption structure – number of metering points 2021



(1) Consumption up to 4 000 MWh/a
(2) Consumption from 4 000 MWh/a up to 20 000 MWh/a
(3) Consumption exceeding 20 000 MWh/a

Consumption structure – supply to final customers by grid zone

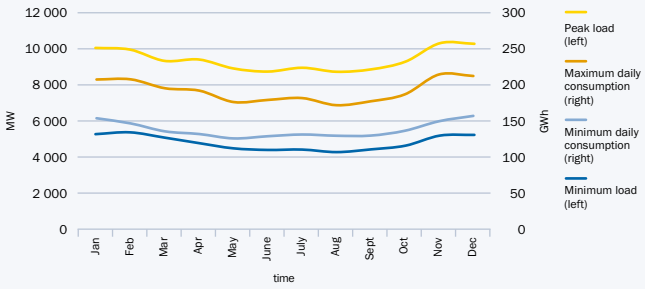
Federal province / grid zone		2020 in GWh	2021 in GWh	Change in GWh	Change in %
Burgenland		1 648	1 705	57	3.5
Carinthia		4 140	4 372	231	5.6
Lower Austria		8 529	8 936	407	4.8
Upper Austria		10 789	11 311	522	4.8
Salzburg		3 560	3 659	99	2.8
Styria		8 481	8 739	258	3.0
Tyrol		5 429	5 443	14	0.3
Vorarlberg		2 611	2 718	107	4.1
Vienna		12 008	12 193	185	1.5
Austria	Own use from the public grid	–429	–498		
	Statistical difference	132	150		
	Total supply to final customers	**56 898**	**58 728**	**1 830**	**3.2**

Own use from the public grid is no final consumption (no further breakdown)
Statistical difference: Difference between metered consumption and individual reporting.

Consumption structure – number of metering points by grid zone

Federal province / grid zone	2020 in 1 000 MP	2021 in 1 000 MP	Change in 1 000 MP	Change in %
Burgenland	218.8	221.8	3.0	1.4
Carinthia	397.2	399.6	2.4	0.6
Lower Austria	868.5	868.6	0.1	0.0
Upper Austria	1 049.2	1 055.1	5.9	0.6
Salzburg	445.2	446.8	1.6	0.4
Styria	955.5	960.1	4.6	0.5
Tyrol	496.0	499.9	3.9	0.8
Vorarlberg	248.7	251.9	3.2	1.3
Vienna	1 572.6	1 595.5	23.0	1.5
Austria	**6 251.6**	**6 299.2**	**47.6**	**0.8**

Load indicators for 2021



Load indicators

	Annual peak load	Annual minimum load	Maximum daily min. load	Daily baseload supply	Peak load utilisation time	Load factor (M)
	MW	MW	MW	GWh	h	
2017	10 578	4 085	7 170	47 687	5 919	0.68
2018	10 721	4 255	7 351	48 040	5 862	0.67
2019	10 671	4 138	7 152	47 592	5 860	0.67
2020	10 437	3 981	7 147	45 981	5 784	0.66
2021	**10 270**	**4 276**	**7 207**	**48 608**	**6 067**	**0.69**

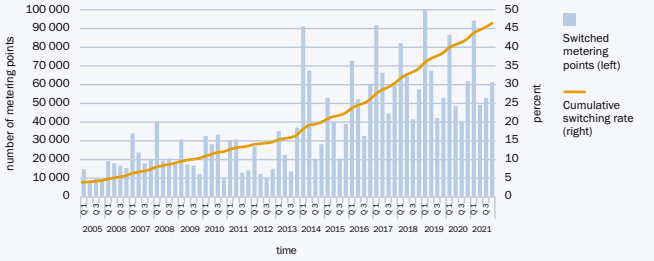
Peak load utilisation time = consumption / peak load [during reference period]
Load factor = peak load utilisation time / number of hours [in the reference period]

Structure of the Austrian electricity market in terms of final customer groups and areas within Austria (pages 42 – 44)

Load indicators of electricity supply in Austria (this page)

THE EFFECTS OF LIBERALISATION: ELECTRICITY SWITCHING RATES

Supplier switches and switching rates (*)



(*) By number of metering points

Supplier switches and switching rates (*)

	2005	2010	2015	2020	2021
	Number of supplier switches				
Households	22 768	69 781	102 571	189 706	**196 117**
Non-households (1)	19 686	34 387	50 039	47 965	**58 344**
Non-households (2)	164	224	163	367	**2 809**
Non-households (3)	21	10	35	24	**620**
Total	**42 639**	**104 402**	**152 808**	**238 062**	**257 890**
	Switching rates in %				
Households	0.6	1.7	2.3	3.7	**3.8**
Non-households (1)	1.2	2.1	3.0	4.4	**5.3**
Non-households (2)	6.3	12.2	8.2	1.0	**7.5**
Non-households (3)	11.0	5.2	16.7	0.1	**2.1**
Total	**0.8**	**1.8**	**2.5**	**3.8**	**4.1**

(*) By number of metering points
(1) Consumption up to 4 000 MWh/a
(2) Consumption from 4 000 MWh/a up to 20 000 MWh/a
(3) Consumption exceeding 20 000 MWh/a

Supplier switches (*) by grid zone					
Federal province/grid zone	2005	2010	2015	2020	2021
Burgenland	335	1 402	3 826	6 739	**6 702**
Carinthia	5 078	3 760	13 795	15 963	**20 552**
Lower Austria	6 322	21 580	17 570	35 305	**35 549**
Upper Austria	11 952	20 077	36 731	60 995	**68 843**
Salzburg	1 057	1 476	3 757	7 008	**8 187**
Styria	3 502	26 180	32 533	31 985	**33 060**
Tyrol	2 028	1 706	4 140	11 610	**12 600**
Vorarlberg	240	607	2 221	3 185	**2 864**
Vienna	12 125	27 614	38 235	65 272	**69 533**
Austria	**42 639**	**104 402**	**152 808**	**238 062**	**257 890**

(*) By number of metering points

Switching rates (*) by grid zone					
Federal province/grid zone in %	2005	2010	2015	2020	2021
Burgenland	0.2	0.7	1.9	3.1	**3.0**
Carinthia	1.4	1.0	3.5	4.0	**5.1**
Lower Austria	0.8	2.6	2.1	4.1	**4.1**
Upper Austria	1.3	2.1	3.6	5.8	**6.5**
Salzburg	0.3	0.4	0.9	1.6	**1.8**
Styria	0.4	2.9	3.5	3.3	**3.4**
Tyrol	0.5	0.4	0.9	2.3	**2.5**
Vorarlberg	0.1	0.3	1.0	1.3	**1.1**
Vienna	0.8	1.9	2.5	4.2	**4.4**
Austria	**0.8**	**1.8**	**2.5**	**3.8**	**4.1**

(*) By number of metering points

Electricity switching rates (pages 46 – 47)

Green electricity injection and support payments
(Austria, 2021 and 2020)

Primary energy source	Injection in GWh	Net support in m €	Supported green electricity share in total supply, in %	Average support in cent/kWh
2021			(1)	
Supported small hydro	**1 093.5**	**79.2**	**1.9**	**7.25**
Other renewables	**7 269.9**	**833.3**	**12.4**	**11.46**
Wind	4 948.0	462.3	8.4	9.34
Wastes with high biog. fraction	838.6	104.9	1.4	12.51
Biogas (*)	542.9	96.3	0.9	17.74
Liquid biomass	0.0	0.0	0.00	6.64
Photovoltaics	933.5	169.2	1.59	18.12
Sewage and landfill gas	6.8	0.5	0.01	7.24
Geothermal	0.0	0.0	0.00	7.01
Total small hydro and other renewables	**8 363.4**	**912.5**	**14.2**	**10.91**
2020			(2)	
Supported small hydro	**1 455.7**	**81.0**	**2.5**	**5.56**
Other renewables	**8 092.9**	**905.1**	**13.8**	**11.18**
Wind	5 590.8	510.4	9.5	9.13
Wastes with high biog. fraction	1 094.7	136.7	1.9	12.49
Biogas (*)	570.5	99.6	1.0	17.45
Liquid biomass	0.1	0.0	0.00	5.30
Photovoltaics	826.9	158.1	1.41	19.11
Sewage and landfill gas	9.7	0.4	0.02	4.50
Geothermal	0.1	0.0	0.00	3.98
Total small hydro and other renewables	**9 548.6**	**986.1**	**16.2**	**10.33**

(*) incl. operation markups
(1) Relating to the total electricity supplied to final customers from the public grid in 2021, i.e. 58 771 GWh (as of 07/2022)
2) Relating to the total electricity supplied to final customers from the public grid in 2020, i.e. 56 915 GWh (as of 07/2022)
Source: Green power settlement agent OeMAG, E-Control, July 2022 – preliminary values

Wholesale markets

Electricity forward prices

Source: EEX

Electricity spot prices

Source: EXAA

Price developments in a variety of relevant wholesale markets (pages 49 – 55)

Electricity forward and spot prices				
in €/MWh	EEX Base		EEX Peak	
	Day-ahead average	Y 2023 average	Day-ahead average	Y 2023 average
2020	33.08	48.36	36.00	59.43
2021	109.02	73.33	118.05	88.26
2022	210.24	193.79	215.67	238.59
January 2021	57.76	51.94	65.55	62.32
February 2021	50.97	54.45	57.23	65.26
March 2021	52.95	56.92	55.79	67.40
April 2021	61.76	58.85	62.47	69.32
May 2021	56.23	63.19	52.98	74.00
June 2021	74.22	63.43	73.66	74.43
July 2021	83.67	65.71	84.52	77.46
August 2021	82.09	72.01	83.38	84.36
September 2021	135.47	80.56	142.05	96.64
October 2021	174.05	89.00	191.92	110.08
November 2021	206.52	93.37	234.69	116.45
December 2021	268.34	124.21	307.78	153.56
January 2022	192.32	130.90	218.24	163.69
February 2022	167.98	149.22	181.19	182.99
March 2022	290.70	175.52	298.98	215.44
April 2022	194.88	206.93	192.85	247.94
May 2022	185.33	237.32	176.83	287.73
June 2022	226.19	260.52	222.05	329.89

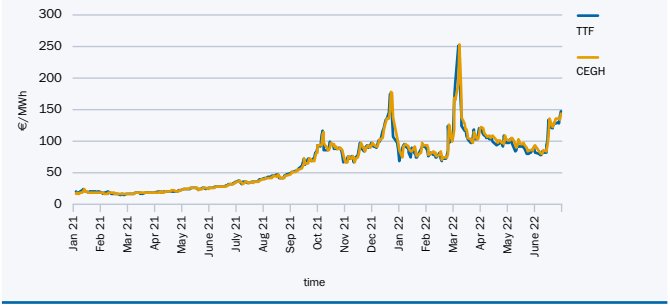
Source: EXAA, EEX

Gas spot market prices

in €/MWh	TTF (NL) average	CEGH (AT) average		TTF (NL) average	CEGH (AT) average
2020	9.43	10.03	September 2021	65.29	63.41
2021	47.34	47.15	October 2021	90.66	92.39
2022	100.84	102.70	November 2021	82.16	80.71
January 2021	20.45	18.98	December 2021	113.84	116.34
February 2021	17.56	17.62	January 2022	85.41	87.80
March 2021	17.72	17.90	February 2022	81.10	82.46
April 2021	20.82	20.92	March 2022	132.96	132.63
May 2021	25.32	25.35	April 2022	102.52	106.13
June 2021	29.23	28.68	May 2022	89.52	93.83
July 2021	36.32	35.86	June 2022	109.36	109.48
August 2021	44.34	43.37			

Sources: ICIS Heren, CEGH

Gas spot market prices



Sources: ICIS Heren, CEGH

Gas and coal forward prices

Y 2023					
	Gas (€/MWh) average	Coal (€/t) average		Gas (€/MWh) average	Coal (€/t) average
2020	15.21	58.06	September 2021	25.89	84.21
2021	23.46	70.37	October 2021	32.15	86.52
2022	70.04	172.10	November 2021	32.14	85.29
January 2021	15.42	56.80	December 2021	44.77	90.35
February 2021	16.03	53.58	January 2022	47.47	92.33
March 2021	16.63	58.12	February 2022	55.26	105.24
April 2021	17.11	59.98	March 2022	70.51	177.21
May 2021	18.35	62.64	April 2022	78.06	207.48
June 2021	18.73	63.81	May 2022	78.69	223.30
July 2021	19.60	66.60	June 2022	88.94	223.57
August 2021	22.18	72.87			

Source: EEX, ICE

Gas and coal forward prices

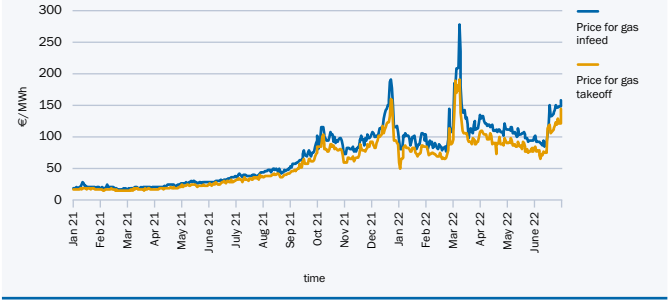
Source: ICE

Gas import price (2010 = 100)

	Import index	Change in %		Import index	Change in %
2010	100.00		2019	77.32	–21.40
2011	119.44	19.44	2020	52.01	–32.73
2012	131.84	10.38	2021	134.96	159.48
2013	132.50	0.50	January 2022	356.91	586.23
2014	109.93	–17.03	February 2022	337.64	–5.40
2015	98.02	–10.83	March 2022	289.53	–14.25
2016	69.87	–28.72	April 2022	478.35	65.22
2017	80.20	14.79	May 2022	402.94	–15.77
2018	98.37	22.66	June 2022	357.81	–11.20

Source: Statistics Austria

Balancing gas procured by players in the daily regime



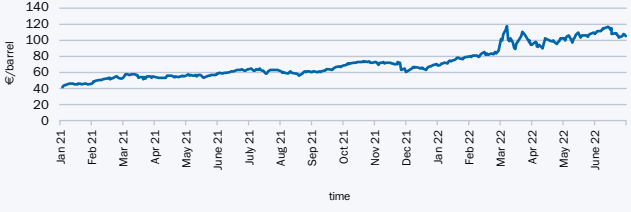
Source: Austrian Gas Clearing and Settlement (AGCS)

Brent oil forward market (next month)

	€/ barrel	$/ barrel	Month-on-month change of € in %
2020	38.67	44.07	
2021	60.08	70.86	
2022	95.60	104.26	
January 2021	45.40	55.24	
February 2021	51.40	62.20	13.23
March 2021	55.16	65.64	7.31
April 2021	54.60	65.26	–1.01
May 2021	56.24	68.31	3.01
June 2021	60.89	73.34	8.27
July 2021	62.77	74.21	3.08
August 2021	59.80	70.40	–4.73
September 2021	63.57	74.81	6.31
October 2021	72.04	83.57	13.32
November 2021	70.62	80.61	–1.97
December 2021	66.16	74.78	–6.31
January 2022	75.35	85.25	13.90
February 2022	82.26	93.29	9.17
March 2022	101.54	111.85	23.43
April 2022	97.17	105.67	–4.30
May 2022	104.91	110.99	7.97
June 2022	110.26	116.51	5.10

Source: ICE, Oesterreichische Nationalbank (OeNB)

Brent oil forward market



Source: ICE, Oesterreichische Nationalbank (OeNB)

CO_2 emissions forward prices

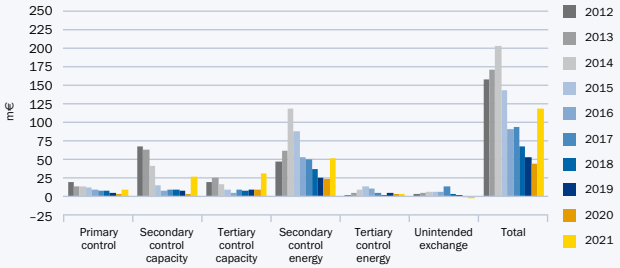
	EEX CO_2 Y23 (MidDec) in €/t		EEX CO_2 Y23 (MidDec) in €/t
2020	25.88	September 2021	62.31
2021	54.70	October 2021	60.58
2022	85.48	November 2021	67.25
January 2021	34.10	December 2021	81.06
February 2021	38.62	January 2022	85.45
March 2021	41.78	February 2022	92.57
April 2021	46.34	March 2022	76.42
May 2021	53.69	April 2022	83.37
June 2021	54.05	May 2022	88.70
July 2021	54.45	June 2022	87.13
August 2021	57.67		

Source: EEX

CO_2 emissions forward prices

Source: EEX

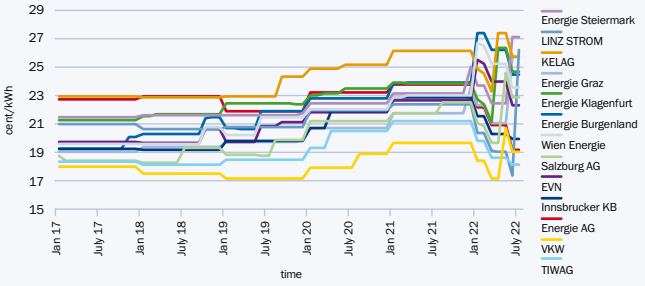
Cost of balancing services



Source: APG, own calculations

Retail markets

Development of incumbents' electricity retail prices (3 500 kWh)
(energy, system charges, taxes and surcharges)



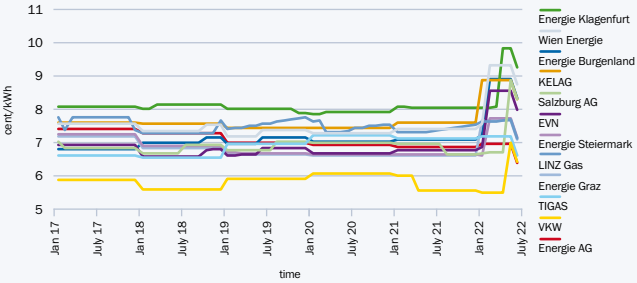
Source: E-Control, tariff calculator

Development of electricity retail prices

	Energy prices of all suppliers in cent/kWh			
	1st quartile	Median	3rd quartile	Weighted average
January 2017	5.433	6.094	6.981	6.031
July 2017	5.346	5.940	6.986	6.021
January 2018	5.157	5.814	6.515	6.044
July 2018	5.295	5.920	6.710	6.201
January 2019	5.680	6.311	6.940	6.542
July 2019	5.838	6.490	7.125	6.948
January 2020	6.057	6.769	7.521	7.162
July 2020	6.306	7.039	7.717	7.256
January 2021	6.359	7.062	7.583	7.191
July 2021	6.662	7.223	7.941	7.445

Retail price developments for electricity and gas (pages 57 – 58)

Development of incumbents' gas retail prices (15 000 kWh)
(energy, system charges, taxes and surcharges)

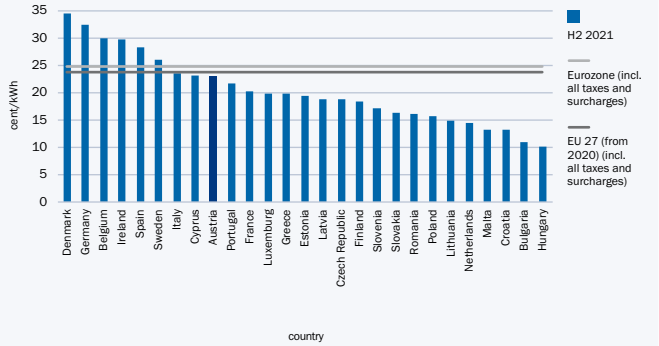


Source: E-Control, tariff calculator

Development of gas retail prices

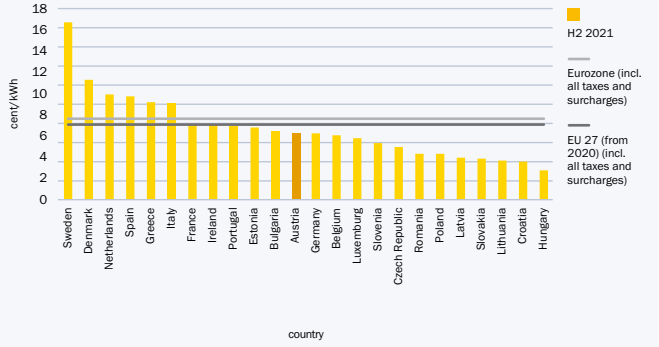
	Energy prices of all suppliers in cent/kWh			
	1st quartile	Median	3rd quartile	Weighted average
January 2017	2.643	2.988	3.176	3.092
July 2017	2.650	2.956	3.167	3.122
January 2018	2.509	2.861	3.128	3.054
July 2018	2.607	2.913	3.198	3.218
January 2019	2.564	2.918	3.169	3.164
July 2019	2.680	3.032	3.209	3.240
January 2020	2.508	2.961	3.171	3.186
July 2020	2.570	2.848	3.297	3.182
January 2021	2.440	2.798	3.109	3.055
July 2021	2.607	3.034	3.425	3.432

Household electricity prices in Europe, H2 2021 (2 500 – 5 000 kWh)



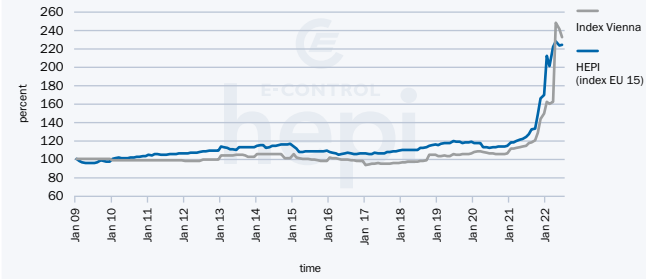
Source: Eurostat (as of 26 September 2022)

Household gas prices in Europe, H2 2021 (5 555.6 – 55 556 kWh)



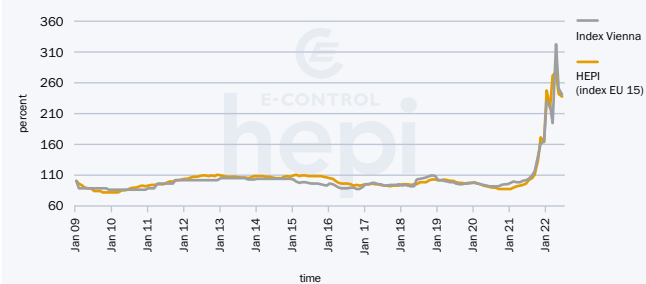
Source: Eurostat (as of 26 September 2022)

Household Energy Price Index for Europe (HEPI) – electricity



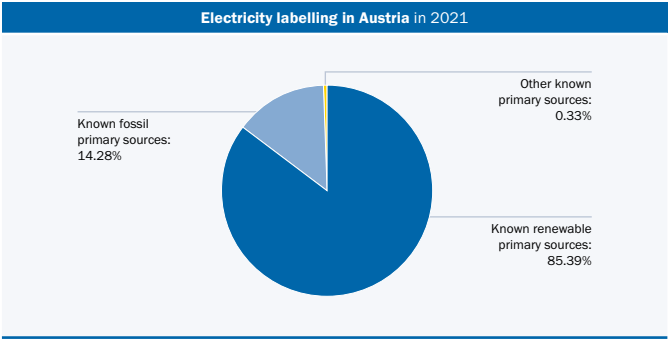
Sources: E-Control, MEKH and VaasaETT Ltd.

Household Energy Price Index for Europe (HEPI) – gas



Sources: E-Control, MEKH and VaasaETT

International electricity and gas price comparisons (pages 59 – 60)



Austrian electricity labelling in 2021

Terms and definitions

When using material from this brochure, please quote E-Control as your source of information.

Austrian electricity, gas and renewables statistics

The responsibility for statistical data collection on fossil fuels and electricity lies with the Federal Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology.
Statistical work on electricity and gaseous energy carriers is conducted by E-Control (section 52 Electricity Act and section 59 Gas Act). The details and scope of this statistical work and regulations on the publication of the results are contained in the Electricity Statistics Ordinance 2016 (issued by the Ministry of Science, Research and Economy, FLG II no 17/2016) and the Gas Statistics Ordinance 2017 (issued by E-Control's Executive Board, FLG II no 417/2017).
The results of data collection and analyses are published on our website at www.e-control.at/en/statistics.

Glossary

Final energy consumption in energy statistics is the consumption of energy for any purpose other than transformation into other forms of energy. Final energy is the useful energy available to a final customer (e.g. for heating, lighting, mechanical uses). Neither transformation losses nor transport losses or gas supplied to gas-fired power stations are part of final energy consumption.

Supply to final customers in gas and electricity statistics is the energy withdrawn from the grid or autogenerated by final customers and consumed by them. The concept embraces both gas supplied to gas-fired power plants and electricity supplied to refineries. This also holds for the electricity generated by refineries in their own power plants and used to process oil.

Gross domestic consumption in energy statistics is the energy needed to cover all domestic energy demand. Apart from final energy consumption and final non-energy consumption, it includes transformation losses, own use of the energy sector and non-energetic uses of fossil fuels (e.g. the use of coal for making electrodes).
Please note that breakdown according to individual energy sources or regional breakdown of the gross domestic consumption might yield negative values where export rates are high.

Useful energy consumption in energy statistics is the final energy consumption minus consumption losses (depending on the equipment's efficiency e.g. in lighting, heating or cooling devices). Useful energy can normally be broken down into space heating and cooling, process heat (steam production and industrial furnaces), mechanical uses (stationary engines), transport, IT and lighting, and electrochemical uses.

Electricity and gas balances in electricity and gas statistics cover the respective markets and rely solely on physical flow data. Please note that the electricity balance includes the total gross electricity production at the generator terminals (i.e. also electricity produced in pumped storage plants) but also energy consumption for pumping. The gas balance includes all imports and exports metered at Austria's borders, and all storage movements, regardless of whether the gas is destined for domestic or foreign consumption.

Gas conditions

All volumes in Nm^3 refer to gas in normal state, i.e.

- temperature: 0 °C
- humidity: 0 percent
- absolute pressure: 1 013.25 mbar

Latest valid calorific value (kWh/Nm^3): 11.31

Public grid means the grid in the Austrian control areas APG, TIRAG (up to 2010) and VKW (up to 2011 incl. VIW) as well as the Austrian supply areas connected to foreign control areas.

Fossil fuels are fuels from natural resources formed from biomass through natural processes over time. The term is also used to refer to secondary fuels produced from primary fossil fuels (e.g. coke or gasoline).

Renewable energy is generated from geothermal energy, solar power or gravity, i.e. from non-finite energy sources, or from biomass as a finite energy source.
Please note that electricity statistics differentiate between (i) hydropower, (ii) wind, solar and geothermal energy, and (iii) biofuels; renewables shares are itemised according to generation types.

Biofuels as used in the Austrian Green Electricity Act are in particular the following renewable, non-fossil energy sources: biomass, wastes containing high biogenous fractions, landfill and sewage gas, biogas, meat and bone meal, black liquor, and sewage sludge.

Units of mass and volume are physical units for the purpose of metering mass or volume in different states of matter (solid, liquid, gaseous), such as litres or cubic metres.

Energy units quantify a fuel's or energy source's energy content. Electric energy and hydropower are measured in kilowatt hours (kWh), the heat of thermal energy in calories or joule. In the interest of comparability, solid, liquid and gaseous fuels may also be measured in energy units; converting physical into energy units is achieved by means of conversion factors that relate one unit of a fuel to the heat produced from it (see the calorific values in different energy balances).

Units of measurement

1 V	=	1 volt				
1 A	=	1 ampere				
1 W	=	1 watt				
1 Hz	=	1 hertz	=	1 oscillation/sec		
1 J	=	1 joule	=	1 watt second (Ws)	=	$0.27778 \cdot 10^{-3}$ Wh
1 Wh	=	1 watt hour	=	$3.6 \cdot 10^{3}$ joule		

Most common multiple and sub-multiple prefixes

Multiple	Sub-multiple
10^{1} deca (da)	10^{-1} deci (d)
10^{2} hecto (h)	10^{-2} centi (c)
10^{3} kilo (k)	10^{-3} milli (m)
10^{6} mega (M)	10^{-6} micro (µ)
10^{9} giga (G)	10^{-9} nano (n)
10^{12} tera (T)	10^{-12} pico (p)
10^{15} peta (P)	10^{-15} femto (f)
10^{18} exa (E)	10^{-18} atto (a)

Units used

1 kV	=	1 kilovolt	=	1 000 V
1 kW	=	1 kilowatt	=	1 000 W
1 MW	=	1 megawatt	=	1 000 kW
1 GW	=	1 gigawatt	=	1 000 MW
1 TW	=	1 terawatt	=	1 000 GW

1 kWh	=	1 kilowatt hour	=	1 000 Wh
1 MWh	=	1 megawatt hour	=	1 000 kWh
1 GWh	=	1 gigawatt hour	=	1 000 MWh
1 TWh	=	1 terawatt hour	=	1 000 GWh

1 kJ	=	1 kilojoule	=	1 000 J
1 MJ	=	1 megajoule	=	1 000 kJ
1 GJ	=	1 gigajoule	=	1 000 MJ
1 TJ	=	1 terajoule	=	1 000 GJ

Multilingual terms

Deutsch	English	Français
Laufkraftwerk	run-of-river power plant	centrale gravitaire
Speicherkraftwerk	storage power plant	station de pompage-turbinage
Wasserkraftwerk	hydropower plant	centrale hydroélectrique
Steinkohle	hard coal	houille
Braunkohle	lignite	lignite
Derivate	derivative	dérivés
Erdgas	fossil gas	gaz naturel
Fossile Brennstoffe	fossil fuels	combustibles fossiles
Biogene Brennstoffe	biofuels	biocombustibles
Wärmekraftwerk	thermal power plant	centrale thermique
Windkraftwerk	wind power plant	centrale éolienne
Photovoltaikanlage	photovoltaic power plant	centrale photovoltaïque
Geothermie	geothermal energy	géothermie
Speicherentnahme	storage withdrawal	prélèvement
Speichereinpressung	storage injection	stockage
Eigenverbrauch	own use/consumption	usage propre
Verlust / Netzverlust	(grid) losses	pertes en ligne
Pumpstromaufwand / Verbrauch f. Pump-speicherung	consumption for pumped storage / pumping	consommation des pompes
Haushalte	households	secteur résidentiel
Sonstige Kleinkunden	other small consumers	autres clients profilés
Lastganggemessene Kunden	load-metered customers	clients mesurés
Inlandstromverbrauch	domestic electricity consumption	consommation intérieure
Abgabe an Endkunden	supply to final customers	livraison aux consommateurs
Energetischer Endverbrauch	final energy consumption	consommation finale d'énergie
Nutzenergie(verbrauch)	useful energy (consumption)	énergie utile (consommation)
Heizwert	net calorific value	pouvoir calorifique inférieur
Brennwert	gross calorific value	pouvoir calorifique supérieur

International conversion factors

Units of mass

To:	kg	t	lt	st	lb
From:	Multiply by:				
kg Kilogramme	**1**	0.001	9.84×10^{-4}	1.102×10^{-3}	2.2046
t Ton	1 000	**1**	0.984	1.1023	2 204.6
lg Long ton	1 016	1.016	**1**	1.120	2 240
st Short ton	907.2	0.9072	0.893	**1**	2 000
lb Pound	0.454	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-4}	**1**

Source: IEA

Units of energy

To:	TJ	Gcal	Mtoe	MMBtu	GWh
From:	Multiply by:				
TJ Terajoule	**1**	238.8	2.388×10^{-5}	947.8	0.2778
Gcal Gigacalorie	4.1868×10^{-3}	**1**	10^{-7}	3.968	1.163×10^{-3}
Mtoe Million tons of oil equivalent	4.1868×10^{4}	10^{07}	**1**	3.967×10^{7}	11 630
MBtu Million British thermal units	1.0551×10^{-3}	0.252	2.52×10^{-8}	**1**	2.931×10^{-4}
GWh Gigawatt hour	3.60	860	8.6×10^{-5}	3412	**1**

Source: Eurostat, IEA

Units of volume

To: / From:	US gal	UK gal	bbl	ft^3	l	m^3
	Multiply by:					
US gal US gallon	**1**	0.8327	0.02381	0.1337	3.785	0.0038
UK gal UK gallon	1.201	**1**	0.02859	0.1605	4.546	0.0045
bbl Barrel	42.0	34.97	**1**	5.615	159	0.159
ft^3 Cubic foot	7.48	6.229	0.1781	**1**	28.3	0.0283
l Litre	0.2642	0.22	0.0063	0.0353	**1**	0.001
m^3 Cubic metre	264.2	220	6.289	35.3147	1 000	**1**

Source: IEA

Calorific values in the Austrian energy balance

Statistics Austria, arithmetic means over the past five years

Energy source	Gigajoule / ...	Gross domestic consumption	Final energy consumption
Hard coal	t	28.48	27.98
Lignite	t	21.20	21.20
Brown coal briquettes	t	19.80	19.80
Coke oven coke	t	28.58	28.58
Crude oil	t	42.50	–
Petrol	t	41.23	41.54
Diesel	t	42.38	42.38
Gas oil	t	42.81	42.81
Fuel oil	t	41.14	41.41
Fossil gas	1 000 cu m	36.64	36.64
Industrial waste	t	15.18	17.73
Fuelwood	t	14.31	14.31
Biofuels	t	11.80	12.72
Geothermal energy	MWh	3.60	3.60
District heat	MWh	–	3.60
Hydropower	MWh	3.60	–
Wind and photovoltaics	MWh	3.60	–
Electric energy	MWh	3.60	3.60

Source: Statistics Austria

Notes

Editorial

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