

KEY STATISTICS 2023
REPORTING YEAR 2022

OUR ENERGY IN TRANSPARENT NUMBERS.



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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.



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Energy statistics in Austria

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 2022

In spite of a difficult economic climate, the Austrian GDP grew by 4.8% in 2022 compared to the previous year. Statistics Austria detected a 8.5% rise in prices overall, while, in terms of consumer price index, electricity prices increased by 11.1% and gas prices sky-rocketed by 80.9%.

Consumption trends in 2022

Electricity and gas consumption moved in the same direction in 2022. Gas use contracted by 10.2% to 86.4 TWh or 7.6 billion (bn) normal cubic metres (n cu m), while electricity use in Austria merely edged down by 1.9% or 1.3 TWh, and stood at 66.0 TWh.

Households used 7.7% less electricity from the public grid than in the previous year. Also non-households above the 20 GWh threshold consumed less energy from the public grid, though not by as much: their consumption fell by 3.9%. The two groups in between, non-households with an annual consumption of up to 4 GWh and non-households with an annual consumption between 4 GWh and 20 GWh, moved in the opposite direction and used 2.4% and 2.2% more electricity from the public grid, respectively.

Overall, households consumed 16.1 TWh gas in 2022 (down by 14.7%), non-households 70.4 TWh (down by 9.3%).

Energy inputs in 2022

Domestic fossil gas production declined further, by 8.8% or 0.7 TWh, and made for a total of 7.0 TWh in 2022. Withdrawals from storage were down by 47.2% (at 50.9 TWh) and injections were up by 85.4%, reaching a new record level of 101.1 TWh. Net imports also reached new heights at 131.3 TWh, at numbers more than twice those seen in 2021.

Domestic electricity production was down by 2.1% and stood at 68.8 TWh, resulting from a 7.8% slowdown in electricity generated from hydropower and a 1.5% rise in output from thermal power plants. Wind production was up by 7.7% and solar shot up by 44%.

Net imports rose by 1.2 TWh and stood at 8.7 TWh. There was an upswing in both physical imports (by 2.2 TWh or 8.2%) and exports (by 1.0 TWh or 5.3%).

Storage situation at year-end 2022

Austrian gas storage held 83.6 TWh at year-end 2022, making for a 87.4% fill level. This corresponds to 96.7% of domestic gas consumption in 2022.

Overall, gas storage facilities with a capacity of 96.8 TWh or 8.4bn n cu m are located on Austrian territory. The hourly withdrawal capacity is 45.6 GWh or 4bn n cu m.

Fill levels of Austrian electricity storage at year-end 2022 stood at 2.4 TWh (73.8%).

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

Market structures and consumer behaviour in 2022

About 94.3% of the over 1.2m customers on the Austrian gas market are households, but they only account for 18.6% of consumption. Non-households (including gas-fired power plants) make for more than 80% of the gas consumed.

A total of 51,000 final gas customers (metering points) switched suppliers in 2022, which results in a 4.0% switching rate. Most switchers (47,000) were households. The switching rate of 4.5% among non-household customers was a little above the household switching rate (4.0%). The highest rates were found in Lower Austria (6.5%), Upper Austria (4.9%), and Tyrol (4.0%).

On the electricity side, Austria has 6.3m electricity metering points for 4.8m customers. 82% of these metering points, and 88% of customers, are households, which means the non-household sector accounts for no more than 18% of metering points and 12% of customers. Looking at consumption, the picture is reversed: non-households account for about 74%, households are just shy of 26%.

Overall, more than 161,000 electricity metering points were switched to different suppliers in 2022, i.e. the overall switching rate was 2.5%. Non-household customers with an annual consumption of up to 4 GWh were most active, with a switching rate of 4.2%, followed by non-households with an annual consumption between 4 GWh and 20 GWh, which had a 2.6% switching rate. Households came next at 2.2%, while the rate for non-households with an annual consumption of more than 20 GWh was, at 0.1%, considerably lower than the Austrian average.

In terms of regional differences, the highest switching rates were observed in Upper Austria (3.5%) and Lower Austria (2.8%).

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
2020	121.5	1.6	112.8	1.2	102.4	-1.9
2021	124.9	2.8	120.6	7.0	110.4	7.8
2022	135.5	8.5	134.1	11.1	199.8	80.9

(*) average / from 2020 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
2020	316 360	0.3
2021	330 776	4.6
2022	346 815	4.8

(*) average / from 2020 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
2020	8 916 845	0.7
2021	8 951 520	0.4
2022	9 052 856	1.1

(*) average / from 2020 year-on-year rates of change

Source: Statistics Austria

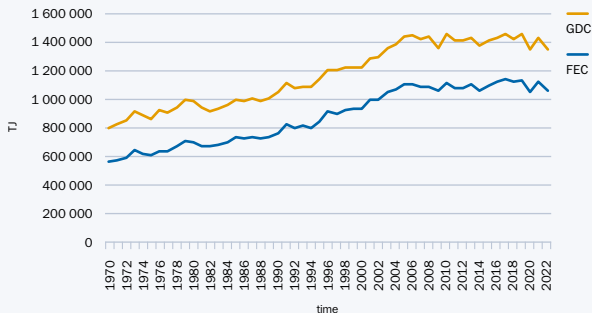
Households, annual average				
	Single-person households	Multi-person households	Total	Average household size (persons)
2011	1 324 287	2 325 022	3 649 309	2.27
2015	1 413 285	2 387 037	3 800 322	2.24
2018	1 474 843	2 443 827	3 918 670	2.22
2019	1 496 485	2 454 126	3 950 611	2.21
2020	1 517 942	2 464 112	3 982 054	2.20
2021	1 534 210	2 473 289	4 007 499	2.20
2022	1 548 910	2 497 754	4 046 664	2.20

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

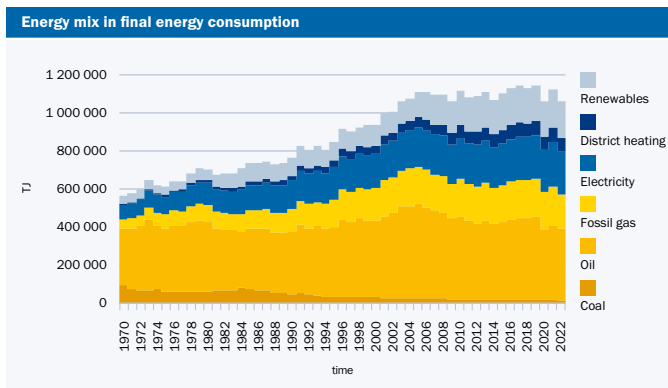
in TJ	Gross domestic consumption	Final energy consumption
1995	1 140 024	845 280
2000	1 224 964	935 834
2005	1 438 116	1 105 486
2010	1 458 261	1 116 143
2015	1 412 385	1 096 979
2020	1 350 548	1 055 660
2021	1 429 302	1 123 463
2022(*)	1 354 973	1 059 490

(*) provisional figures

Source: Statistics Austria

Main economic and energy consumption indicators

ENERGY BALANCE



Source: Statistics Austria

Energy mix in final energy consumption

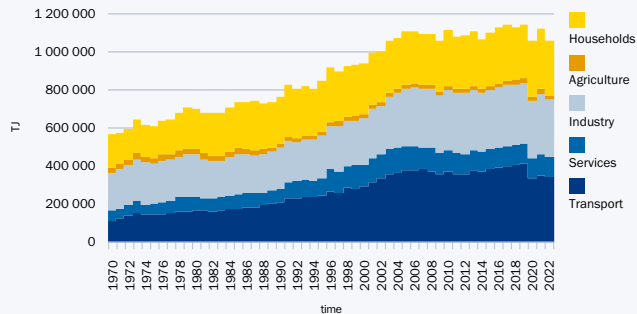
In TJ	Coal	Oil	Fossil gas	Electricity	District heating	Renewables	Total
1995	36 723	364 903	144 211	166 122	35 015	98 307	845 280
2000	32 838	401 577	167 279	182 901	41 689	109 550	935 834
2005	24 939	496 351	195 354	206 998	51 008	130 836	1 105 486
2010	19 800	434 045	198 478	215 763	66 100	181 956	1 116 143
2015	18 401	409 786	190 971	220 155	69 516	188 151	1 096 979
2020	18 088	367 318	195 813	221 513	71 933	180 994	1 055 660
2021	18 417	388 646	206 546	231 994	78 469	199 390	1 123 463
2022(*)	15 940	375 040	178 505	227 875	70 091	192 039	1 059 490

(*) provisional figures

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	295 536	22 531	317 224	110 414	370 438	1 116 143
2015	278 096	22 621	308 797	103 830	383 635	1 096 979
2020	291 817	21 942	303 760	101 745	336 397	1 055 660
2021	321 303	23 372	318 892	108 690	351 206	1 123 463
2022 (*)	287 600	21 981	305 003	101 798	343 108	1 059 490

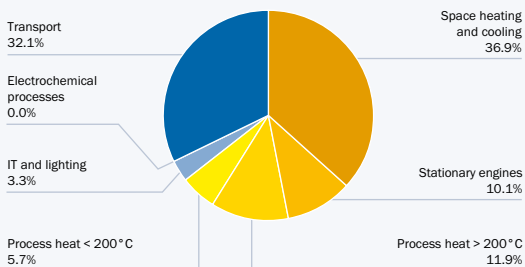
(*) provisional figures

Source: Statistics Austria

The output side of the Austrian energy balance

USEFUL ENERGY

Useful energy consumption in 2021



Source: Statistics Austria

Useful energy consumption in 2021

	TJ	Share in %
Space heating and cooling	414 897	36.9
Stationary engines	113 606	10.1
Process heat > 200 °C	133 529	11.9
Process heat < 200 °C	64 080	5.7
IT and lighting	37 074	3.3
Electrochemical processes	40	0.0
Transport	360 237	32.1
Total	1 123 463	100.0

Source: Statistics Austria

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

Gas – useful energy consumption in 2021

	TJ	Share in %	Share in total in %
Space heating and cooling	101 651	49.2	9.0
Stationary engines	418	0.2	0.0
Process heat > 200 °C	60 709	29.4	5.4
Process heat < 200 °C	36 256	17.6	3.2
IT and lighting	0	0.0	0.0
Electrochemical processes	0	0.0	0.0
Transport	7 512	3.6	0.7
Total	206 546	100.0	18.4

Source: Statistics Austria

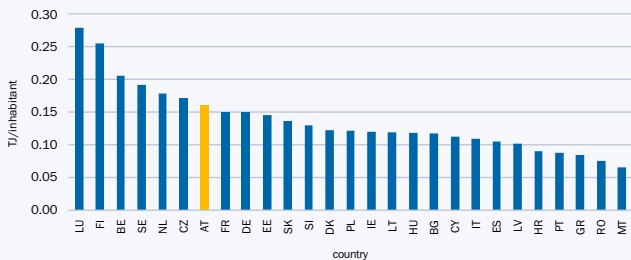
Electricity – useful energy consumption in 2021

	TJ	Share in %	Share in total in %
Space heating and cooling	47 913	20.7	4.3
Stationary engines	103 187	44.5	9.2
Process heat > 200 °C	29 550	12.7	2.6
Process heat < 200 °C	2 638	1.1	0.2
IT and lighting	37 074	16.0	3.3
Electrochemical processes	40	0.0	0.0
Transport	11 591	5.0	1.0
Total	231 994	100.0	20.6

Source: Statistics Austria

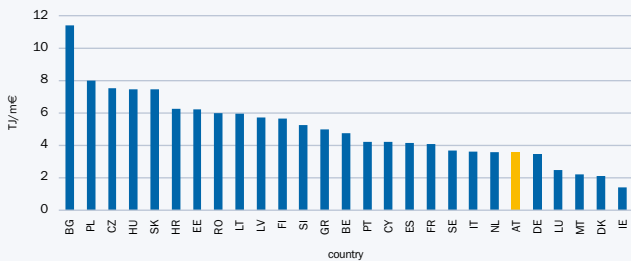
INTERNATIONAL ENERGY INDICATORS

Per capita energy consumption in EU countries in 2021



Source: Eurostat

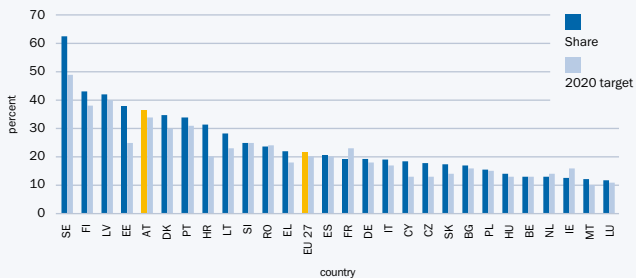
Gross domestic consumption of energy divided by GDP in 2021



Source: Eurostat

Austrian energy indicators in the international context

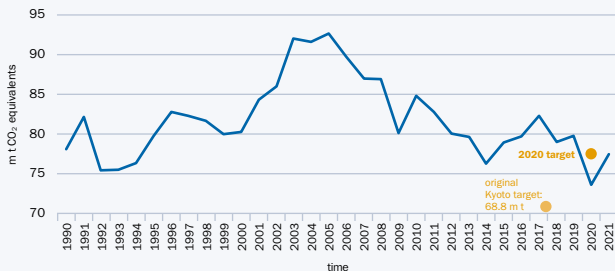
Renewables shares in the EU in 2021 and the 2020 target



Source: Eurostat

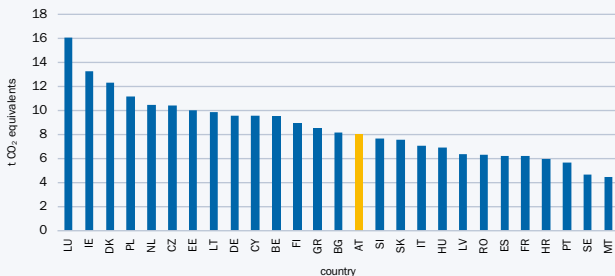
GREENHOUSE GAS EMISSIONS

Emissions in Austria and the 2020 target, 1990–2021



Source: Environment Agency Austria

Per capita emissions in EU countries in 2021



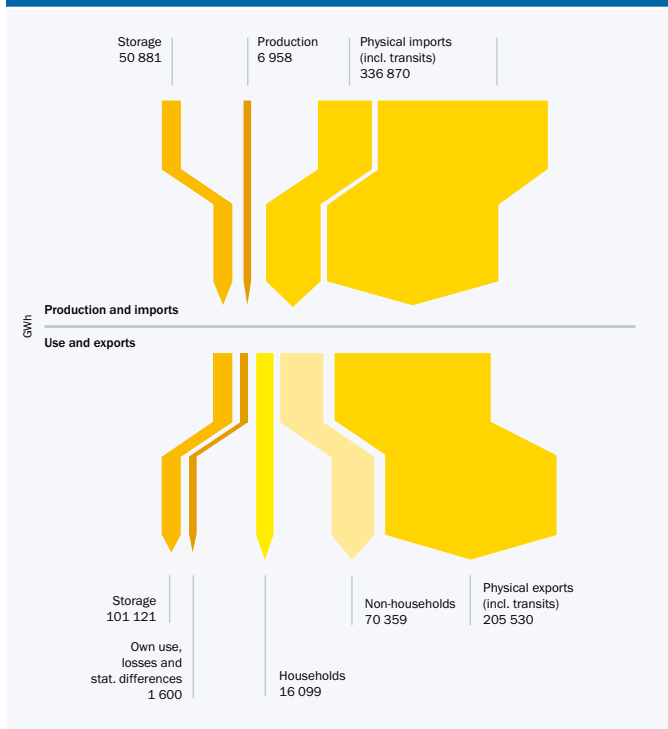
Source: Eurostat

Austrian emissions compared to emissions in other countries

Operational statistics

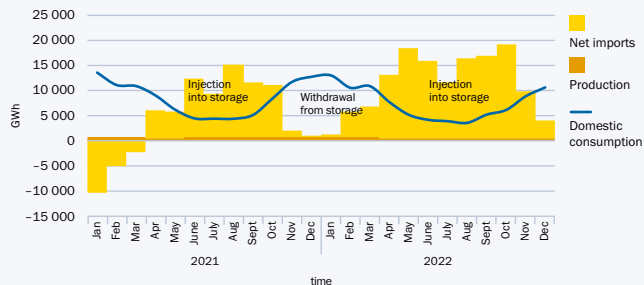
Fossil gas in Austria

Simplified energy flow chart for 2022



Flow chart for fossil gas in Austria

Gas balance



Gas balance for 2022

	m Nm ³	GWh	Year-on-year change in %
Supply to consumers (a)	7 602	86 433	-10.2
Own use and losses (b) and statistical differences (c)	144	1 624	
Domestic consumption	7 746	88 057	-12.2
Injection into storage (d)	8 906	101 121	85.4
Exports (d)	18 120	205 530	-47.8
Consumption and exports = production and imports	34 771	394 709	-28.0
Imports (d)	29 681	336 870	-24.2
Production (d)	601	6 821	-8.8
Injection of biogas (d)	12	137	0.5
Withdrawal from storage (d)	4 477	50 881	-47.2

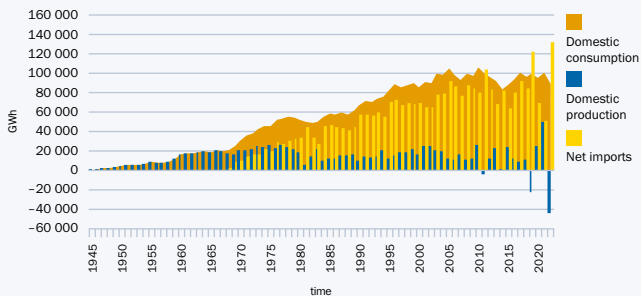
(a) Supply to consumers (here: households, industry, chemical industry, refineries, thermal power plants etc.)

(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
2020	90 604	-15	4 297	94 885	69 400	25 485
2021	96 292	-11	4 027	100 308	50 972	49 336
2022	86 433	-1 001	2 625	88 057	131 340	-43 282

(a) Production and net storage movements

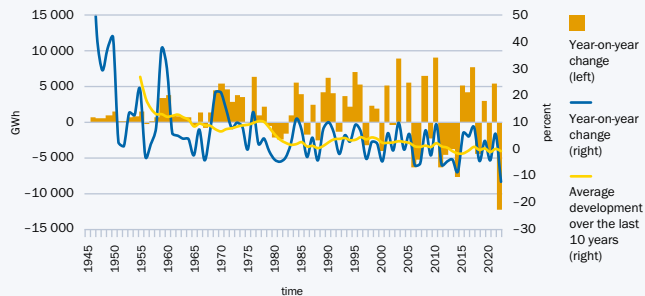
(b) For production, storage and transports (including transits)

(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 2022

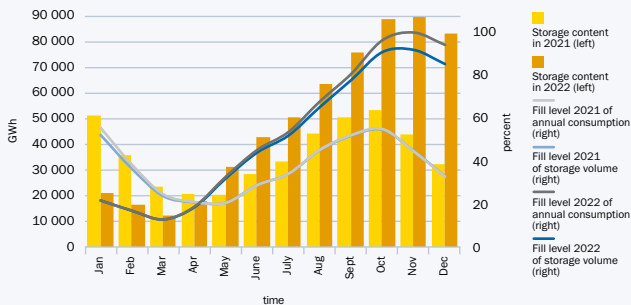
	Imports (*)		Exports (*)	
	in m Nm ³	in GWh	in m Nm ³	in GWh
Germany	11 910	136 842	1 775	20 400
Switzerland	1	9	55	628
Italy	306	3 512	10 068	115 680
Slovenia			983	11 292
Hungary			3 109	35 723
Slovakia	17 102	196 506	1 898	21 807
Czech Republic				
Total	29 319	336 870	17 888	205 530

(*) 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 2022



(*) 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
2020	95 792	36 093	45 142
2021	95 691	36 054	45 097
2022	96 834	36 481	45 610

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

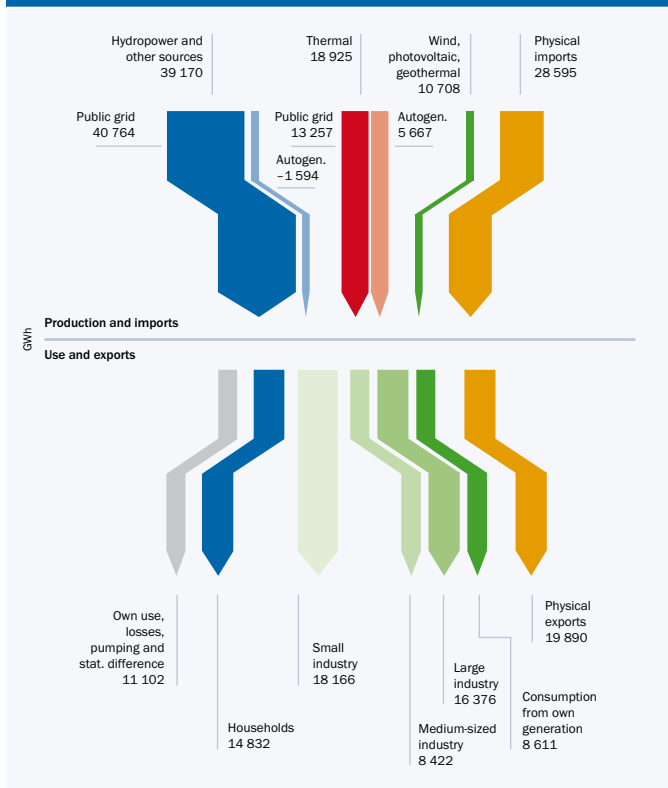
Domestic gas production		
	Max. production rate in MWh per hour	Max. production rate in 1,000 Nm ³ per hour
2010	2 319	207
2015	1 982	176
2020	1 134	100
2021	1 046	92
2022	979	85

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
2020	3 405	3 793	39 363
2021	3 406	3 797	39 502
2022	3 406	3 678	39 507

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

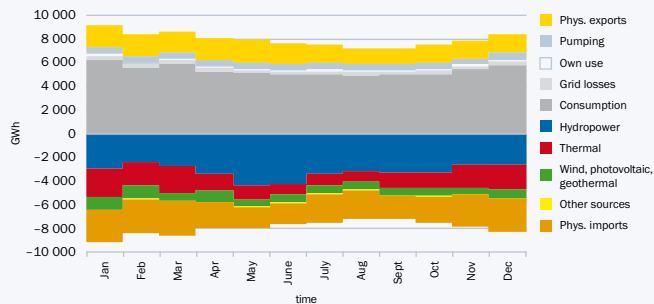
Electricity in Austria (total electricity supply)

Simplified energy flow chart for 2022



Electricity flow chart for Austria

Electricity balance 2022



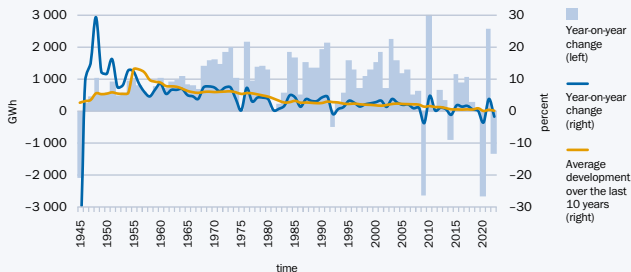
Electricity balance 2022

	2021 in GWh	2022 in GWh	Year-on-year change in GWh in %		
Consumption (1)	67 307	66 044	-1 264	-1.9	
Grid losses	3 237	3 244	7	0.2	
Own use	1 857	1 769	-88	-4.7	
Domestic consumption	72 402	71 057	-1 345	-1.9	
Pumping	5 416	6 451	1 035	19.1	
Physical exports	18 893	19 890	997	5.3	
Use and exports = generation and imports	96 711	97 398	687	0.7	
Gross generation	Hydro	42 467	39 141	-3 326	-7.8
	Thermal	18 651	18 925	274	1.5
	Renewables (2)	9 136	10 708	1 572	17.2
	Other sources	22	29		
Physical imports	26 436	28 595	2 159	8.2	

(1) Includes final energy consumption and the electricity consumption of the non-electricity energy sector

(2) Photovoltaics, wind and geothermal

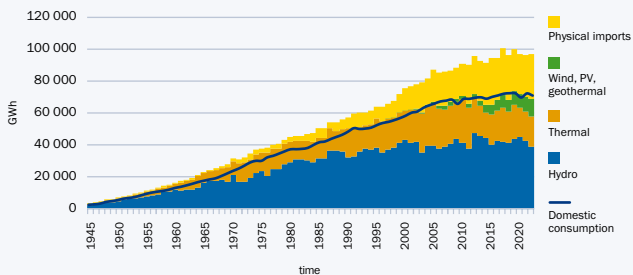
Electricity consumption trends



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
2020	64 704	1 936	3 191	69 830	4 780	22 327	96 937
2021	67 307	1 857	3 237	72 402	5 416	18 893	96 711
2022	66 044	1 769	3 244	71 057	6 451	19 890	97 398

Domestic consumption and supply



Electricity balance

in GWh	Gross generation				Total	Physical imports	Generation and imports = use and exports
	Hydro-power	Thermal	Wind, PV, geothermal	Other sources			
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
2020	45 386	18 329	8 661	39	72 414	24 523	96 937
2021	42 467	18 651	9 136	22	70 275	26 436	96 711
2022	39 141	18 925	10 708	29	68 803	28 595	97 398

Gross generation mix in 2022						
Energy source			GWh	Share in %		
Hydropower	Run of river	up to 10 MW	4 834	7.0	12.4	
		over 10 MW	20 972	30.5	53.6	
	Pumped storage	up to 10 MW	462	0.7	1.2	
		over 10 MW	12 873	18.7	32.9	
	Total hydro			39 141	56.9	100.0
Thermal	Fossil fuels and derivatives	Hard coal	69	0.1	0.4	
		Lignite				
		Coal derivatives (1)	1 910	2.8	10.1	
		Oil derivatives (1)	625	0.9	3.3	
		Fossil gas	10 936	15.9	57.8	
		Total	13 540	19.7	71.5	
	Biofuels	Solid (2)	2 566	3.7	13.6	
		Liquid (2)	0	0.0	0.0	
		Gaseous (2)	550	0.8	2.9	
		Sewage and landfill gases (2)	32	0.0	0.2	
		Total (2)	3 149	4.6	16.6	
	Other biofuels (3)		1 411	2.1	7.5	
	Other fuels		825	1.2	4.4	
	Total thermal (of which CHP)			18 925 (17 727)	27.5 (25.8)	100.0 (93.7)
	Renewables	Wind (4)		7 255	10.5	67.8
Photovoltaics (4)		3 453	5.0	32.2		
Geothermal (4)		0	0.0	0.0		
Total renewables (4)		10 708	15.6	100.0		
Other sources (5)			29	0.0		
Total			68 803	100.0		

(1) Coal and oil derivatives used for electricity generation

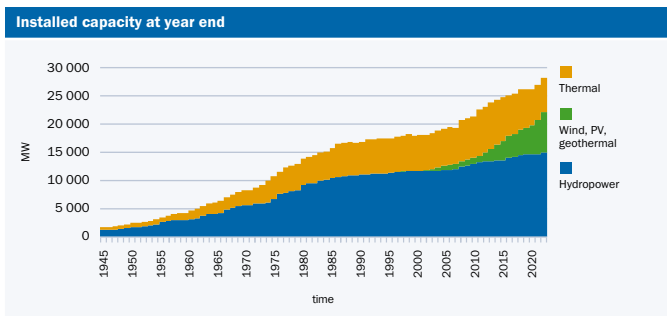
(2) Only biofuels as defined by Austrian law

(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

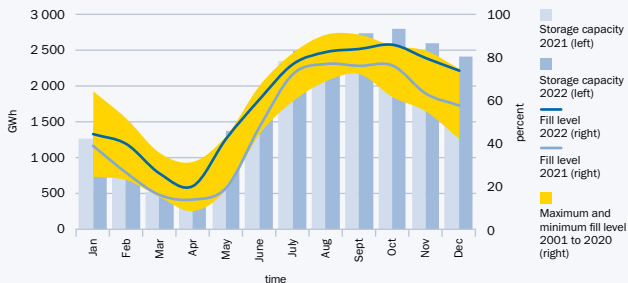


Installed capacity at year end

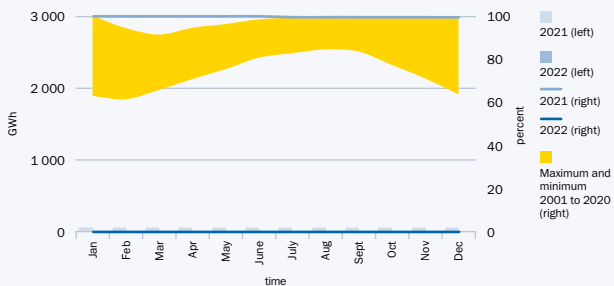
Gross maximum capacity							
in MW	Hydropower plants			Wind, PV, geothermal	Thermal	Total	Net maximum capacity
	Run of river	Pumped storage	Total				
1995	4 873	6 433	11 306		6 134	17 440	16 959
2000	5 202	6 461	11 663	49	6 315	18 028	17 532
2005	5 347	6 491	11 837	841	6 534	19 213	18 703
2010	5 412	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
2020	5 803	8 844	14 647	5 140	6 379	26 166	25 637
2021	5 834	8 910	14 744	6 058	6 249	27 051	26 528
2022	5 961	8 962	14 923	7 287	6 097	28 307	27 792

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

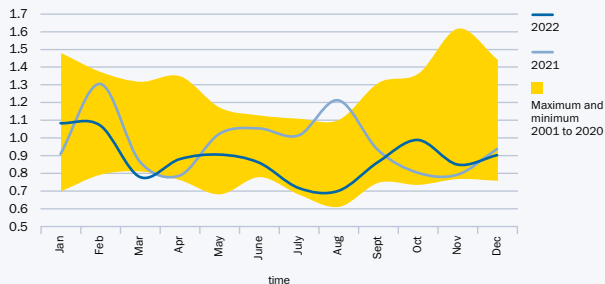
Storage capacity and fill levels at month end – large reservoirs of public generators



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

2021	2022	2001 to 2020 maximum	2001 to 2020 minimum
0.97	0.87	1.11	0.87

Energy availability – power plants of public generators (*)						
in %	Thermal power plants			Pumped storage power plants		
	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
2020	82.1	21.0	9.1	86.2	16.2	9.9
2021	81.7	23.1	16.4	90.4	15.4	6.4
2022	88.7	23.6	12.8	92.4	14.9	7.0

(*) 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
2020	73.9	56.1	33.1	8 766	5 942	437
2021	74.0	56.3	33.0	8 375	5 614	635
2022	76.1	60.4	34.0	8 471	5 616	481

(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 2022 – 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	39.7			40.0
Run-of-river plants without pondage	34.7	53.6	38.5	34.1	37.3
Total run-of-river plants	38.0	42.5	38.5	34.1	38.2

(*) 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 2022

Voltage level	Overhead lines		Cables		Total km
	km	Share in %	km	Share in %	
380 kV	1 434	0.6	54	0.0	1 488
220 kV	1 847	0.8	7	0.0	1 854
110 kV	6 146	2.5	759	0.3	6 905
1 kV to 110 kV	22 368	9.1	43 334	17.7	65 702
Up to 1 kV	27 218	11.1	141 557	57.8	168 775
Total	59 013	24.1	185 710	75.9	244 724

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

High voltage substations in the public grid at year-end 2022

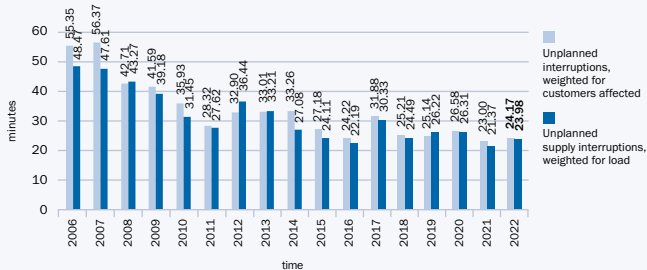
Voltage level	Number of transformers	Total capacity in MVA
Primary voltage up to 200 kV	1 056	46 870
Primary voltage over 200 kV	92	33 065
High voltage to high, medium and low voltage	1 148	79 935

Medium voltage substations in the public grid at year-end 2022

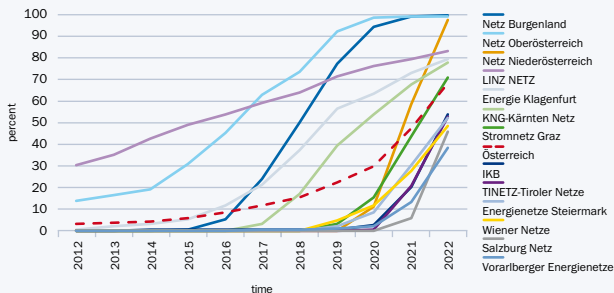
Voltage level	Number of transformers	Total capacity in MVA
Medium voltage to medium and low voltage	82 173	35 269

Interruption of electricity supply

Average duration of unplanned interruptions, excluding extraordinary regional events



Smart meter roll-out, per network operator, 2022



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 2022.

Market statistics

Austrian gas market

Consumption structure					
Supply to final customers					
Final customer category	Unit	2021	2022	Change absolute	Change in %
Households	GWh	18 866	16 099	-2 767	-14.7
Non-households (1)	GWh	8 653	7 898	-755	-8.7
Non-households (2)	GWh	7 686	7 131	-555	-7.2
Non-households (3)	GWh	61 237	55 329	-5 907	-9.6
Statistical difference	GWh	-150	-25		
Total supply to final customers	GWh	96 292	86 433	-9 859	-10.2
Number of metering points					
Number of final customers					
Final customer category	Unit	2021	2022	2021	2022
Households	1 000	1 202.8	1 169.3	1 149.4	1 119.0
Non-households (1)	1 000	85.7	84.7	68.5	66.7
Non-households (2)	1 000	7.4	7.1	0.9	0.9
Non-households (3)	1 000	3.0	3.0	0.2	0.2
Total number of metering points	1 000	1 298.9	1 264.1	1 219.0	1 186.8
Average consumption per metering point					
Average consumption per final customer					
Final customer category	Unit	2021	2022	2021	2022
Households	kWh/..	15 684	13 767	16 414	14 386
Non-households (1)	kWh/..	100 967	93 300	126 271	118 410
Non-households (2)	MWh/..	1 036.3	1 003.4	8 229.6	8 282.6
Non-households (3)	MWh/..	20 439.6	18 437.0	287 497.2	292 748.6
Total	kWh/..	74 130.7	68 374.8	78 990.9	72 829.3

(1) Consumption up to 2 778 MWh/a

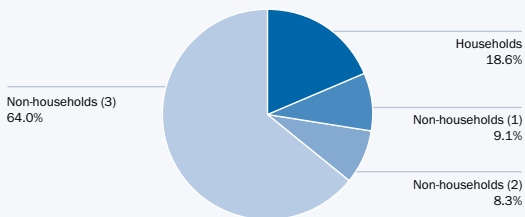
(2) Consumption from 2 778 MWh/a to 27 778 MWh/a

(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

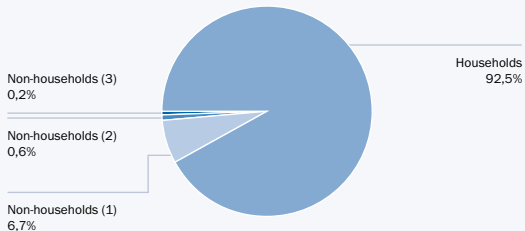
Structure of the Austrian gas market in terms of final customer groups and areas within Austria (pages 36 – 38)

Consumption structure – supply to final customers 2022



- (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 2022



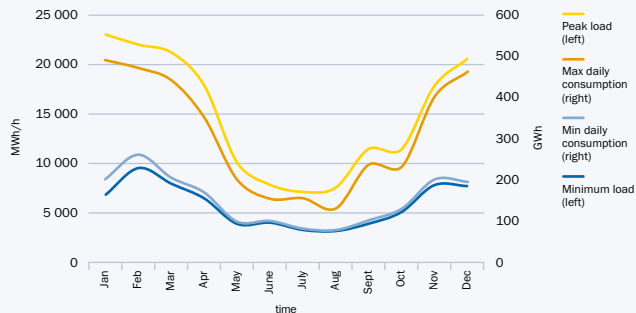
- (1) Consumption up to 2 778 MWh/a
- (2) Consumption from 2 778 MWh/a to 27 778 MWh/a
- (3) Consumption exceeding 27 778 MWh/a

Consumption structure – supply to final customers by grid zone					
Federal province / grid zone		2021 in GWh	2022 in GWh	Change absolute	Change in %
Burgenland		2 603	2 085	-518	-19.9
Carinthia		2 021	1 780	-241	-11.9
Lower Austria		19 830	16 711	-3 119	-15.7
Upper Austria		23 603	21 835	-1 768	-7.5
Salzburg		3 382	2 879	-503	-14.9
Styria		15 947	13 963	-1 984	-12.4
Tyrol		4 465	4 084	-381	-8.5
Vorarlberg		2 612	2 266	-347	-13.3
Vienna		21 979	20 855	-1 124	-5.1
Austria	Statistical difference	-150	-25		
	Total supply to final customers	96 292	86 433	-9 859	-10.2

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		2021 in 1 000 MP	2022 in 1 000 MP	Change in 1 000 MP	Change in %
Burgenland		52.9	51.4	-1.5	-2.8
Carinthia		13.5	12.7	-0.8	-5.6
Lower Austria		291.8	282.6	-9.2	-3.1
Upper Austria		140.3	134.2	-6.1	-4.4
Salzburg		36.7	36.5	-0.2	-0.6
Styria		67.5	64.6	-2.9	-4.3
Tyrol		57.4	56.6	-0.9	-1.5
Vorarlberg		37.5	37.0	-0.5	-1.5
Vienna		601.3	588.6	-12.7	-2.1
Austria		1 298.9	1 264.1	-34.8	-2.7

Load indicators for 2022



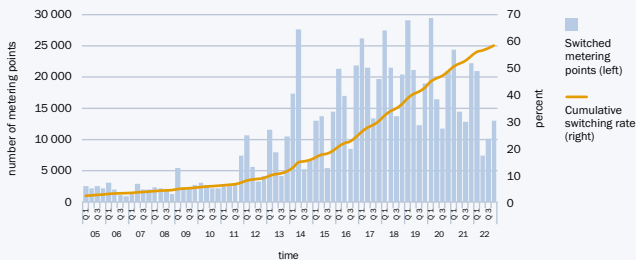
Load indicators

	Annual peak load	Annual minimum load	Maximum daily minimum load	Maximum daily consumption	Minimum daily consumption	Peak load utilisation period
Year	MWh/h	MWh/h	MWh/h	GWh	GWh	h
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	25 661	4 072	18 578	531	104	3 752
2022	22 998	3 112	18 281	492	79	3 758

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 (*)

	2010	2015	2020	2021	2022
Number of supplier switches					
Households	8 018	42 662	72 028	68 061	46 857
Non-households (1)	1 711	3 330	5 935	4 885	4 130
Non-households (2)	54	58	242	421	89
Non-households (3)	16	9	14	27	6
Total	9 799	46 059	78 219	73 394	51 082
Switching rates in %					
Households	0.6	3.4	5.9	5.7	4.0
Non-households (1)	2.2	4.3	6.9	5.7	4.9
Non-households (2)	6.0	6.9	3.3	5.7	1.3
Non-households (3)	8.5	4.6	0.6	0.9	0.2
Total	0.7	3.4	6.0	5.7	4.0

(*) 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	2010	2015	2020	2021	2022
Burgenland	139	1 160	2 769	2 401	1 954
Carinthia	28	585	1 031	972	446
Lower Austria	3 142	12 557	20 370	18 390	18 417
Upper Austria	1 582	7 972	12 523	11 908	6 628
Salzburg	65	568	1 386	1 403	1 008
Styria	643	3 172	4 405	4 108	2 532
Tyrol	2	400	1 880	1 943	2 245
Vorarlberg	2	304	1 036	941	1 066
Vienna	4 196	19 341	32 819	31 328	16 786
Austria	9 799	46 059	78 219	73 394	51 082

(*) By number of metering points

Switching rates (*) by grid zone					
Federal province/grid zone in %	2010	2015	2020	2021	2022
Burgenland	0.3	2.3	5.2	4.5	3.8
Carinthia	0.2	4.2	7.6	7.2	3.5
Lower Austria	1.1	4.3	6.9	6.3	6.5
Upper Austria	1.1	5.5	8.8	8.5	4.9
Salzburg	0.2	1.6	3.8	3.8	2.8
Styria	1.0	4.7	6.5	6.1	3.9
Tyrol	0.0	0.8	3.3	3.4	4.0
Vorarlberg	0.0	0.9	2.8	2.5	2.9
Vienna	0.6	2.9	5.4	5.2	2.9
Austria	0.7	3.4	6.0	5.7	4.0

(*) By number of metering points

Austrian electricity market (public grid)

Consumption structure					
		Supply to final customers			
Final customer category	Unit	2021	2022	Change absolute	Change in %
Households	GWh	16 067	14 832	-1 236	-7.7
Non-households (1)	GWh	17 734	18 166	432	2.4
Non-households (2)	GWh	8 238	8 422	184	2.2
Non-households (3)	GWh	17 042	16 376	-666	-3.9
Own use from the public grid	GWh	-490	-424		
Statistical difference	GWh	244	62		
Total supply to final customers	GWh	58 835	57 433	-1 402	-2.4
		Number of metering points		Number of final customers	
Final customer category	Unit	2021	2022	2021	2022
Households	1 000	5 129.7	5 169.8	4 175.5	4 237.8
Non-households (1)	1 000	1 103.4	1 095.5	617.6	603.3
Non-households (2)	1 000	37.5	34.3	1.0	1.0
Non-households (3)	1 000	29.0	32.0	0.2	0.2
Total number of metering points	1 000	6 299.7	6 331.6	4 794.3	4 842.3
		Average consumption per metering point		... per final customer	
Final customer category	Unit	2021	2022	2021	2022
Households	kWh/...	3 132	2 869	3 848	3 500
Non-households (1)	kWh/...	16 071	16 582	28 713	30 113
Non-households (2)	kWh/...	219 483	245 690	8 271 176	8 297 566
Non-households (3)	kWh/...	586 799	511 228	69 558 456	67 113 394
Total	kWh/...	9 339	9 071	12 272	11 861

(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

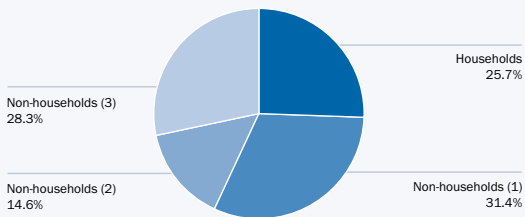
Own use from the public grid is no final consumption (no further breakdown)

Statistical difference: Difference between metered consumption and individual reporting.

Remarks:

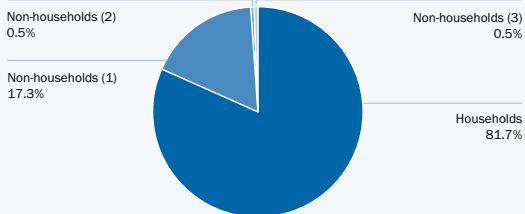
- The breakdown by the two consumer categories households and non-households starts only with the reporting year 2016. An assignment to these two consumer categories before this date can only be modelled.
- Consumer (Sites) are to be reported from 2016 onwards.

Consumption structure – supply to final customers, 2022



- (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 2022



- (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

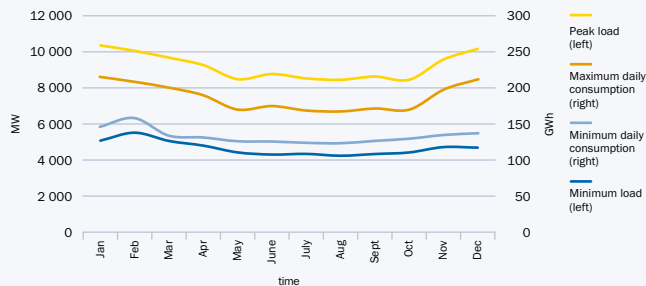
Consumption structure – supply to final customers by grid zone					
Federal province / grid zone		2021 in GWh	2022 in GWh	Change in GWh	Change in %
Burgenland		1 709	1 652	-57	-3.3
Carinthia		4 372	4 178	-194	-4.4
Lower Austria		8 936	8 445	-491	-5.5
Upper Austria		11 311	11 021	-290	-2.6
Salzburg		3 659	3 605	-55	-1.5
Styria		8 740	8 577	-164	-1.9
Tyrol		5 443	5 612	169	3.1
Vorarlberg		2 718	2 687	-31	-1.1
Vienna		12 193	12 020	-173	-1.4
Austria	Own use from the public grid	-490	-424		
	Statistical difference	244	62		
	Total supply to final customers	58 835	57 433	-1 402	-2.4

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		2021 in 1 000 MP	2022 in 1 000 MP	Change in 1 000 MP	Change in %
Burgenland		221.9	223.9	2.0	0.9
Carinthia		399.6	400.9	1.4	0.3
Lower Austria		868.6	871.2	2.6	0.3
Upper Austria		1 055.1	1 054.3	-0.8	-0.1
Salzburg		446.8	450.5	3.8	0.8
Styria		960.5	961.8	1.3	0.1
Tyrol		499.9	503.2	3.3	0.7
Vorarlberg		251.9	254.9	3.0	1.2
Vienna		1 595.5	1 610.8	15.3	1.0
Austria		6 299.7	6 331.6	31.9	0.5

Load indicators for 2022



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	
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	10 280	4 282	7 220	48 618	6 071	0.69
2022	10 326	4 227	7 029	47 497	5 904	0.67

Peak load utilisation time = consumption / peak load [during reference period]

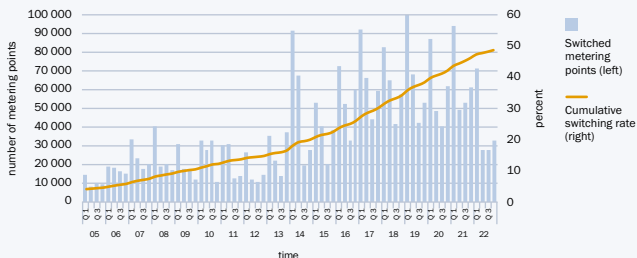
Load factor = peak load utilisation time / number of hours [in the reference period]

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 (*)

	2010	2015	2020	2021	2022
Number of supplier switches					
Households	69 781	102 571	189 706	196 152	114 253
Non-households (1)	34 387	50 039	47 965	58 364	45 736
Non-households (2)	224	163	367	2 809	908
Non-households (3)	10	35	24	620	25
Total	104 402	152 808	238 062	257 945	160 922
Switching rates in %					
Households	1.7	2.3	3.7	3.8	2.2
Non-households (1)	2.1	3.0	4.4	5.3	4.2
Non-households (2)	12.2	8.2	1.0	7.5	2.6
Non-households (3)	5.2	16.7	0.1	2.1	0.1
Total	1.8	2.5	3.8	4.1	2.5

(*) 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	2010	2015	2020	2021	2022
Burgenland	1 402	3 826	6 739	6 702	5 608
Carinthia	3 760	13 795	15 963	20 552	9 145
Lower Austria	21 580	17 570	35 305	35 549	24 185
Upper Austria	20 077	36 731	60 995	68 850	37 372
Salzburg	1 476	3 757	7 008	8 187	4 941
Styria	26 180	32 533	31 985	33 108	24 011
Tyrol	1 706	4 140	11 610	12 600	12 682
Vorarlberg	607	2 221	3 185	2 864	3 124
Vienna	27 614	38 235	65 272	69 533	39 854
Austria	104 402	152 808	238 062	257 945	160 922

(*) By number of metering points

Switching rates (*) by grid zone					
Federal province/grid zone in %	2010	2015	2020	2021	2022
Burgenland	0.7	1.9	3.1	3.0	2.5
Carinthia	1.0	3.5	4.0	5.1	2.3
Lower Austria	2.6	2.1	4.1	4.1	2.8
Upper Austria	2.1	3.6	5.8	6.5	3.5
Salzburg	0.4	0.9	1.6	1.8	1.1
Styria	2.9	3.5	3.3	3.4	2.5
Tyrol	0.4	0.9	2.3	2.5	2.5
Vorarlberg	0.3	1.0	1.3	1.1	1.2
Vienna	1.9	2.5	4.2	4.4	2.5
Austria	1.8	2.5	3.8	4.1	2.5

(*) By number of metering points

Green electricity injection and support payments

(Austria, 2022 and 2021)

Primary energy source	Injection in GWh	Net support in m €	Supported green electricity share in total supply, in %	Average support in cent/kWh
2022			(1)	
Supported small hydro	487.0	139.5	0.8	28.64
Other renewables	2 519.0	526.5	4.4	20.90
Wind	1 556.9	340.3	2.7	21.85
Wastes with high biog. fraction	162.0	29.1	0.3	17.95
Biogas (*)	172.0	31.7	0.3	18.40
Liquid biomass	0.0	0.0	0.0	0.00
Photovoltaics	620.1	123.0	1.1	19.84
Sewage and landfill gas	7.9	2.5	0.0	31.52
Geothermal	0.0	0.0	0.0	26.75
Total small hydro and other renewables	3 005.9	666.0	5.2	22.16
2021			(2)	
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

(*) incl. operation markups

(1) Relating to the total electricity supplied to final customers from the public grid in 2022, i.e. 57 433 GWh (as of 07/2023)

(2) Relating to the total electricity supplied to final customers from the public grid in 2021, i.e. 58 835 GWh (as of 07/2023)

Source: Green power settlement agent OeMAG, E-Control, July 2023 - 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
2021	109.02	65.41	118.05	80.14
2022	265.17	208.70	278.17	272.85
2023	113.74	163.56	115.32	199.27
January 2022	192.32	97.97	218.24	128.59
February 2022	167.98	111.72	181.19	141.29
March 2022	290.70	121.16	298.98	152.38
April 2022	194.88	156.26	192.85	194.31
May 2022	185.33	190.43	176.83	230.97
June 2022	226.19	186.46	222.05	231.68
July 2022	364.01	225.35	368.47	300.06
August 2022	482.00	322.97	489.77	451.71
September 2022	408.04	264.84	433.51	371.35
October 2022	178.29	275.74	193.33	359.41
November 2022	210.53	264.77	237.53	342.54
December 2022	271.65	271.15	315.07	346.58
January 2023	142.27	197.07	163.03	253.21
February 2023	145.12	172.99	154.32	214.50
March 2023	113.34	151.36	117.15	181.33
April 2023	107.02	161.03	103.26	191.40
May 2023	81.04	151.07	70.39	178.87
June 2023	92.63	148.81	81.75	177.05

Source: EXAA, EEX

Gas spot market prices					
in €/MWh	TTF (NL) average	CEGH (AT) average		TTF (NL) average	CEGH (AT) average
2021	46.88	46.88	September 2022	193.64	195.90
2022	123.35	126.11	October 2022	78.81	83.47
2023	44.55	46.52	November 2022	91.19	93.23
January 2022	84.41	87.30	December 2022	119.76	120.05
February 2022	79.80	81.82	January 2023	62.67	65.69
March 2022	126.35	127.67	February 2023	53.69	55.37
April 2022	102.37	104.49	March 2023	44.49	45.57
May 2022	88.47	92.39	April 2023	42.95	45.23
June 2022	104.77	107.80	May 2023	31.63	34.05
July 2022	168.90	174.60	June 2023	32.04	33.57
August 2022	228.82	230.80			

Sources: EEX



Sources: EEX

Gas and coal forward prices

Y 2024					
	Gas (€/MWh) average	Coal (€/t) average		Gas (€/MWh) average	Coal (€/t) average
2021	19.30	68.25	September 2022	119.38	276.92
2022	79.53	184.63	October 2022	112.31	230.44
2023	55.54	123.72	November 2022	99.27	193.90
January 2022	30.56	86.59	December 2022	95.74	199.43
February 2022	37.57	95.39	January 2023	67.21	152.42
March 2022	46.51	113.07	February 2023	59.05	136.29
April 2022	58.96	145.31	March 2023	51.34	126.11
May 2022	61.01	189.49	April 2023	55.89	122.29
June 2022	63.65	193.98	May 2023	51.36	103.72
July 2022	83.70	227.63	June 2023	49.11	102.22
August 2022	138.14	248.73			

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		2020	52.01	-32.73
2011	119.44	19.44	2021	134.96	159.48
2012	131.84	10.38	2022	356.91	164.46
2013	132.50	0.50	January 2023	421.53	18.10
2014	109.93	-17.03	February 2023	271.93	-35.49
2015	98.02	-10.83	March 2023	237.09	-12.81
2016	69.87	-28.72	April 2023	200.05	-15.62
2017	80.20	14.79	May 2023	187.70	-6.17
2018	98.37	22.66	June 2023	153.57	-18.18
2019	77.32	-21.40			

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 %
2021	60.08	70.86	
2022	93.66	98.51	
2023	73.93	79.91	
January 2022	75.35	85.25	
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
July 2022	102.03	103.88	-7.46
August 2022	96.21	97.42	-5.71
September 2022	91.06	90.21	-5.35
October 2022	94.80	93.14	4.10
November 2022	89.32	91.01	-5.77
December 2022	76.92	81.45	-13.89
January 2023	77.99	84.01	1.39
February 2023	77.90	83.46	-0.12
March 2023	73.92	79.12	-5.11
April 2023	75.81	83.13	2.56
May 2023	69.52	75.70	-8.30
June 2023	69.23	75.04	-0.41

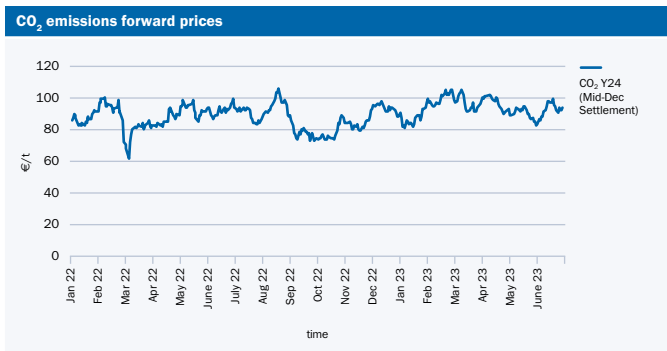
Source: ICE, Oesterreichische Nationalbank (OeNB)

Brent oil forward market

Source: ICE, Oesterreichische Nationalbank (OeNB)

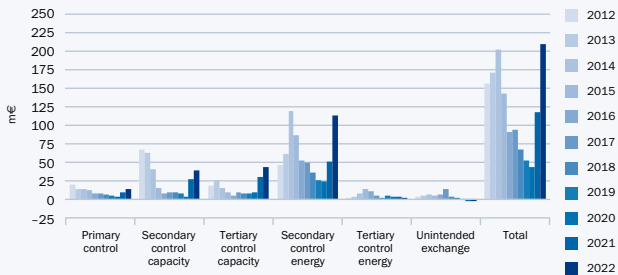
CO ₂ emissions forward prices				
	EEX CO ₂ Y24 (MidDec) in €/t		EEX CO ₂ Y24 (MidDec) in €/t	
2021	55.50	September 2022		77.89
2022	87.26	October 2022		77.66
2023	93.53	November 2022		83.40
January 2022	86.68	December 2022		93.49
February 2022	94.56	January 2023		86.92
March 2022	78.52	February 2023		99.43
April 2022	85.92	March 2023		96.55
May 2022	92.70	April 2023		96.92
June 2022	92.18	May 2023		90.27
July 2022	89.69	June 2023		91.97
August 2022	94.85			

Source: EEX



Source: EEX

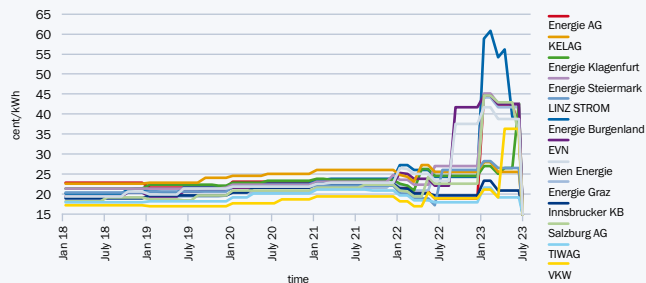
Cost of balancing services



Source: APG, own calculations

Retail markets

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



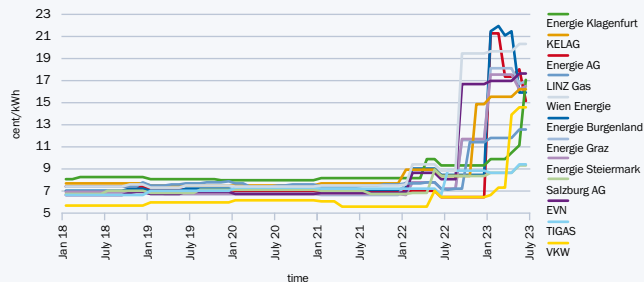
Source: E-Control, tariff calculator

Development of electricity retail prices

	Energy prices of all suppliers in cent/kWh			
	1st quartile	Median	3rd quartile	Weighted average
January 2018	5.423	6.088	6.981	6.044
July 2018	5.333	5.923	7.001	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
January 2022	7.459	8.319	10.258	9.041
July 2022	9.326	11.840	15.207	13.314

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)

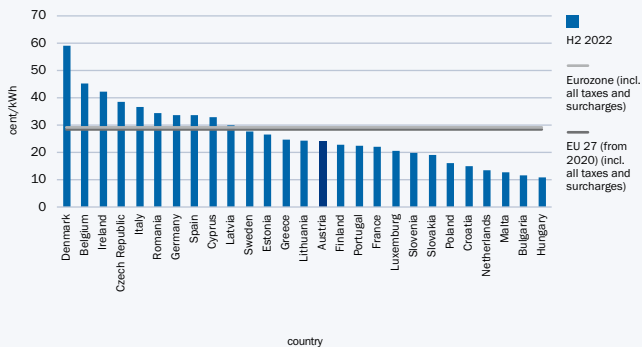


Source: E-Control, tariff calculator

Development of gas retail prices

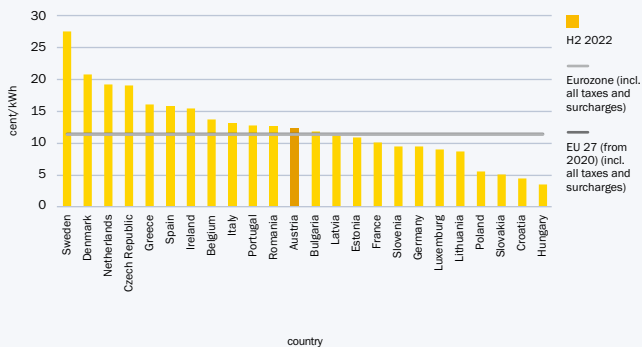
	Energy prices of all suppliers in cent/kWh			
	1st quartile	Median	3rd quartile	Weighted average
January 2018	2.509	2.861	3.128	3.054
July 2018	2.607	2.913	3.198	3.218
January 2019	2.564	2.918	3.169	3.164
July 2019	2.680	3.032	3.209	3.240
January 2020	2.508	2.961	3.171	3.186
July 2020	2.570	2.848	3.297	3.182
January 2021	2.440	2.798	3.109	3.055
July 2021	2.607	3.034	3.425	3.432
January 2022	3.319	3.980	5.046	4.210
July 2022	4.135	5.452	8.467	8.048

Household electricity prices in Europe, H2 2022 (2 500 – 5 000 kWh)



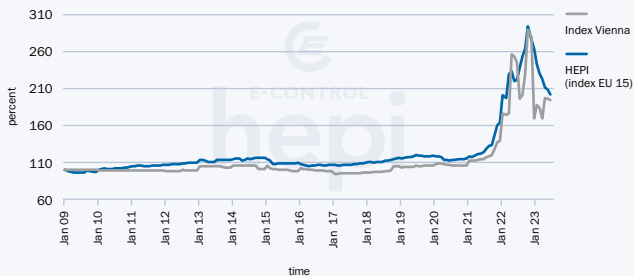
Source: Eurostat (as of 22 August 2023)

Household gas prices in Europe, H2 2022 (5 555.6 – 55 556 kWh)



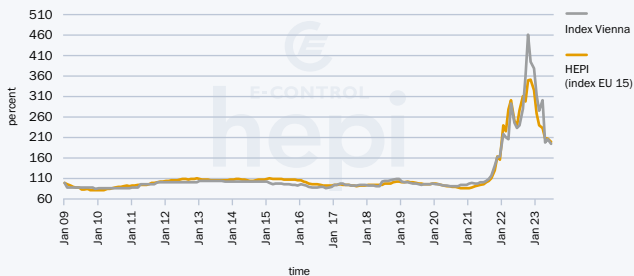
Source: Eurostat (as of 22 August 2023)

Household Energy Price Index for Europe (HEPI) – electricity



Sources: E-Control, MEKH and VaasaETT

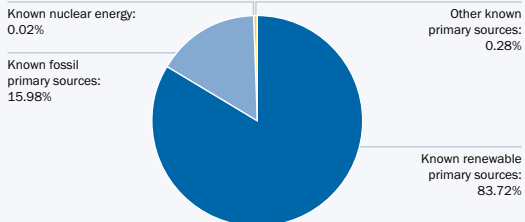
Household Energy Price Index for Europe (HEPI) – gas



Sources: E-Control, MEKH and VaasaETT

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

Electricity labelling in Austria in 2022



Austrian electricity labelling in 2022

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
<hr/>		
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
<hr/>		
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
Wärmeleistung	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. Pumpspeicherung	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:	US gal	UK gal	bbl	ft ³	l	m ³
From:	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
ft³ 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
m³ 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	28.56	28.13
Lignite	t	21.34	21.34
Brown coal briquettes	t	19.80	19.80
Coke oven coke	t	28.51	28.51
Crude oil	t	42.50	–
Petrol	t	41.41	41.63
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	15.24	17.77
Fuelwood	t	14.31	14.31
Biofuels	t	11.81	12.65
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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