



KEY STATISTICS 2012

E-CONTROL

A better deal – wherever
you have smart figures
at your fingertips.

**WORKING FOR YOU –
WHEREVER YOU NEED ENERGY.**

Editorial

Published by: Energie-Control Austria, Rudolfsplatz 13a, A-1010 Vienna,
phone +43 1 24724-0, fax: +43 1 24724-900, e-mail: office@e-control.at

Editorial responsibility: Energie-Control Austria

Design: Reger & Zinn OG

Information contents: E-Control (unless otherwise stated)

Print: Druckerei Robitschek

© Energie-Control Austria 2012

Table of contents

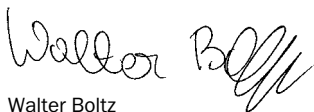
Preface	03
Overview	04
Economic indicators	04
Energy industry indicators	06
Energy reserves	12
Operational statistics	14
Natural gas in Austria	14
Natural gas infrastructure in Austria	18
Electricity in Austria (total electricity supply)	20
Power plants in Austria	25
Public grid in Austria	30
Market statistics	32
Austrian gas market	32
Austrian electricity market (public grid)	38
Wholesale markets	45
Retail markets	52
Terms and definitions	56

Preface

Energie-Control Austria (E-Control) is mandated by law to draw up the Austrian electricity and natural 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 natural gas.

E-Control's statistics booklet is now already in its third edition, presenting key data on the Austrian electricity and natural gas markets in an effort to give an overview of the Austrian economy as a whole, the energy industry and volume trends, and to offer more detailed information from our market statistics, capturing the effects of liberalisation on the electricity and gas markets or relating facts and figures about our wholesale and retail markets.

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.



Walter Boltz
Executive Director
Energie-Control Austria



Martin Graf
Executive Director
Energie-Control Austria

Overview

Economic indicators

Consumer price index, Jan 1990 = 100						
	Total		Electricity		Natural gas	
	Annual average	Change in % (*)	Annual average	Change in % (*)	Annual average	Change in % (*)
2000	124.0	1.4	114.3	1.1	114.9	2.3
2005	137.1	2.0	121.3	1.1	143.8	4.3
2006	139.1	1.4	125.5	3.4	152.7	5.8
2007	142.1	2.1	137.1	8.5	165.4	7.7
2008	146.7	3.1	139.5	1.7	170.2	2.8
2009	147.4	0.5	145.1	3.9	181.6	6.3
2010	150.1	1.8	146.6	1.0	173.5	-4.7
2011	154.1	2.6	146.6	0.0	182.8	5.1

(*) Rates of change: 2000 - 2005: average/ from 2006: year-on-year

Source: Statistics Austria

Gross domestic product		
	m€ (rate of 2005)	Change in % (*)
2000	225 655	2.9
2005	245 243	1.6
2006	254 243	3.5
2007	263 665	3.6
2008	267 347	1.4
2009	257 161	-4.0
2010	263 113	2.3
2011	270 974	2.9

(*) Rates of change: 2000 - 2005: average/ from 2006: year-on-year

Source: Oesterreichische Nationalbank (OeNB)

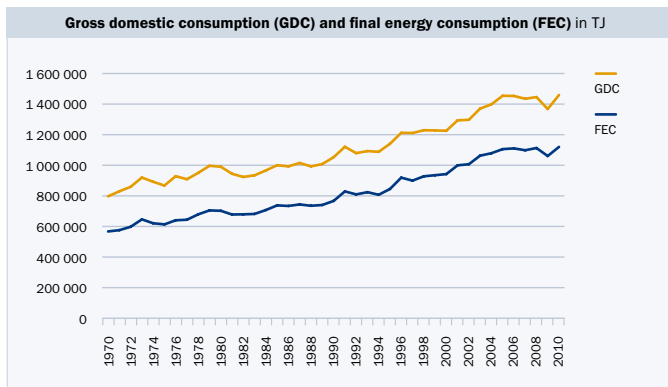
Population, annual average		
	Population numbers	Change in % (*)
2000	8 011 566	0.2
2005	8 225 278	0.5
2006	8 267 948	0.5
2007	8 300 954	0.4
2008	8 336 549	0.4
2009	8 363 040	0.3
2010	8 387 742	0.3
2011	8 420 900	0.4

(*) Rates of change: 2000 – 2005: average / from 2006: year-on-year
 Source: Statistics Austria

Households in 1 000				
	Single-person households	Multi-person households	Total	Average household size (persons)
2000	977	2 260	3 237	2.45
2005	1 198	2 277	3 475	2.34
2006	1 219	2 289	3 508	2.33
2007	1 240	2 297	3 537	2.32
2008	1 261	2 305	3 566	2.31
2009	1 283	2 315	3 598	2.30
2010	1 305	2 320	3 624	2.29
2011	1 324	2 326	3 650	2.28

Source: Statistics Austria

Energy industry indicators

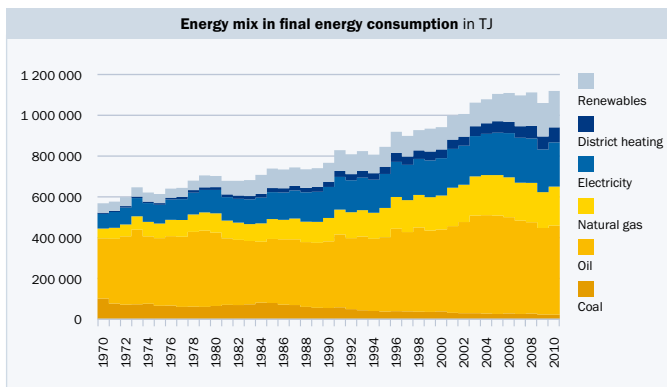


Source: Statistics Austria

Gross domestic consumption and final energy consumption in TJ		
	Gross domestic consumption	Final energy consumption
2000	1 224 477	941 289
2005	1 453 645	1 104 979
2006	1 452 633	1 109 471
2007	1 433 856	1 097 645
2008	1 444 482	1 112 083
2009	1 366 550	1 059 997
2010	1 457 662	1 119 154

Source: Statistics Austria

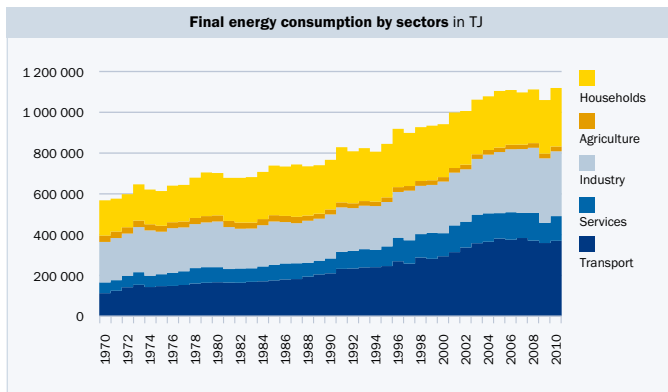
ENERGY BALANCE



Source: Statistics Austria

Energy mix in final energy consumption in TJ							
	Coal	Oil	Natural gas	Electricity	District heating	Renewables	Total
2000	37 026	401 577	167 475	183 336	42 699	109 176	941 289
2005	24 185	483 275	198 506	207 768	56 644	134 601	1 104 979
2006	26 639	472 380	195 914	216 990	55 670	141 879	1 109 471
2007	24 010	458 460	186 621	220 540	55 995	152 019	1 097 645
2008	26 014	448 283	193 322	217 740	62 690	164 033	1 112 083
2009	21 282	425 396	175 976	208 877	63 817	164 650	1 059 997
2010	20 149	437 955	191 718	217 221	73 037	179 074	1 119 154

Source: Statistics Austria



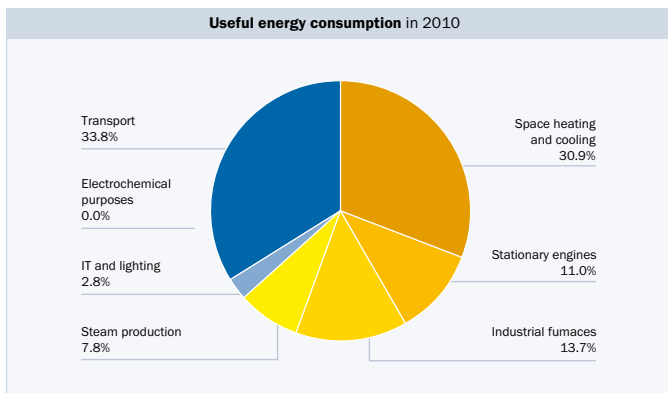
Source: Statistics Austria

Final energy consumption by sectors in TJ

	Households	Agriculture	Industry	Services	Transport	Total
2000	259 569	22 206	253 629	113 161	292 724	941 289
2005	278 641	22 164	299 338	125 519	379 318	1 104 979
2006	269 023	22 211	309 301	134 551	374 386	1 109 471
2007	256 415	22 242	313 246	123 681	382 062	1 097 645
2008	263 453	22 608	320 723	135 483	369 816	1 112 083
2009	263 814	22 532	316 176	99 552	357 923	1 059 997
2010	287 149	23 985	317 852	121 619	368 548	1 119 154

Source: Statistics Austria

USEFUL ENERGY



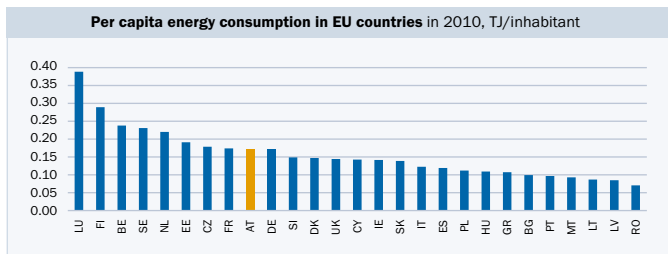
Source: Statistics Austria

Useful energy consumption in 2010

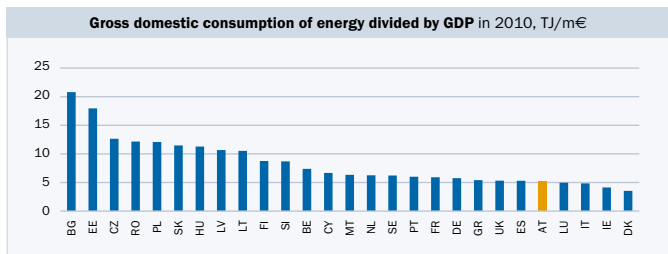
	TJ	Share in %
Space heating and cooling	345 786	30.9
Stationary engines	123 167	11.0
Industrial furnaces	153 036	13.7
Steam production	87 050	7.8
IT and lighting	31 444	2.8
Electrochemical purposes	347	0.0
Transport	378 325	33.8
Total	1 119 154	100.0

Source: Statistics Austria

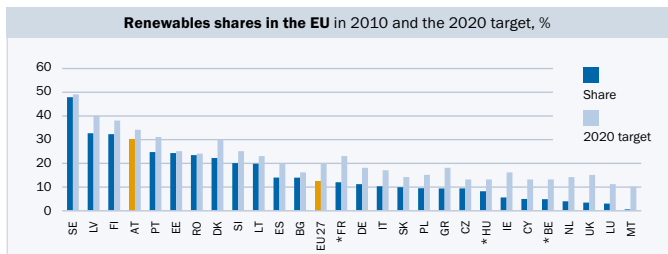
INTERNATIONAL ENERGY INDICATORS



Source: Eurostat



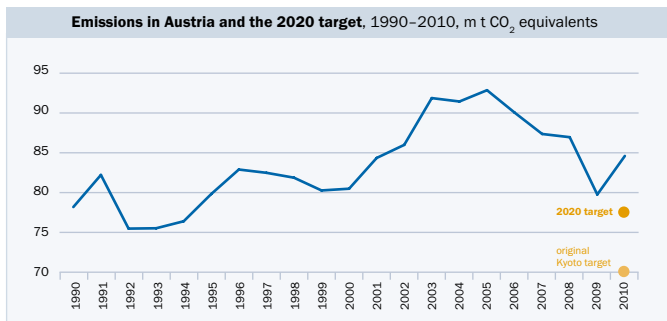
Source: Eurostat



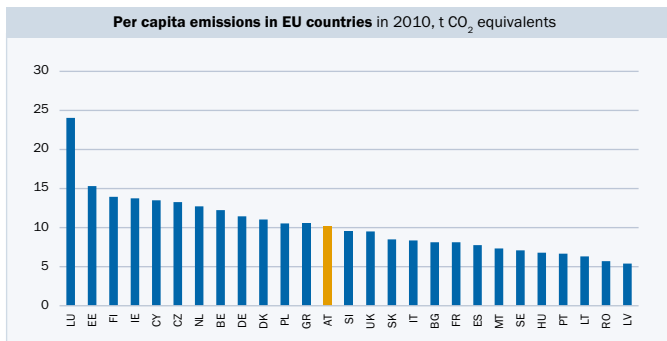
* 2009 renewables shares for France, Belgium and Hungary

Source: Eurostat

GREENHOUSE GAS EMISSIONS

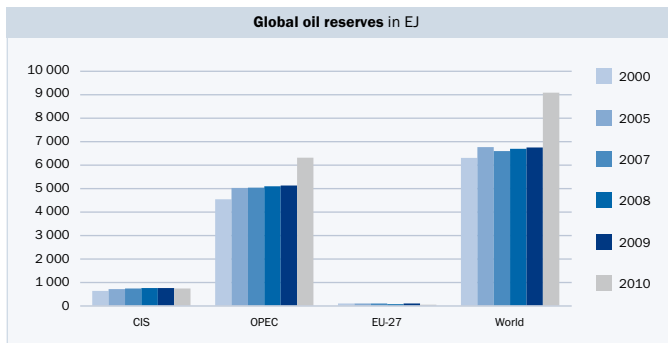


Source: UNFCCC

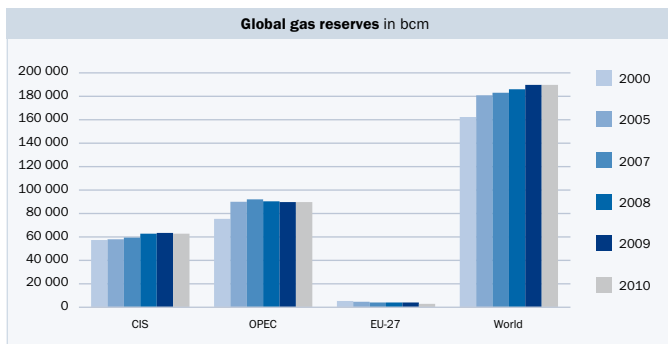


Source: Eurostat

Energy reserves

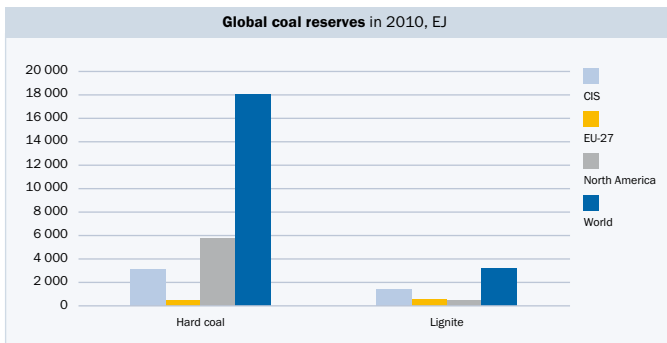


Source: German Federal Institute for Geosciences and Natural Resources, *Energy reserves, overview in 2011*



Source: German Federal Institute for Geosciences and Natural Resources, *Energy reserves, overview in 2011*

Please note: 2010 figures include unconventional gas sources.

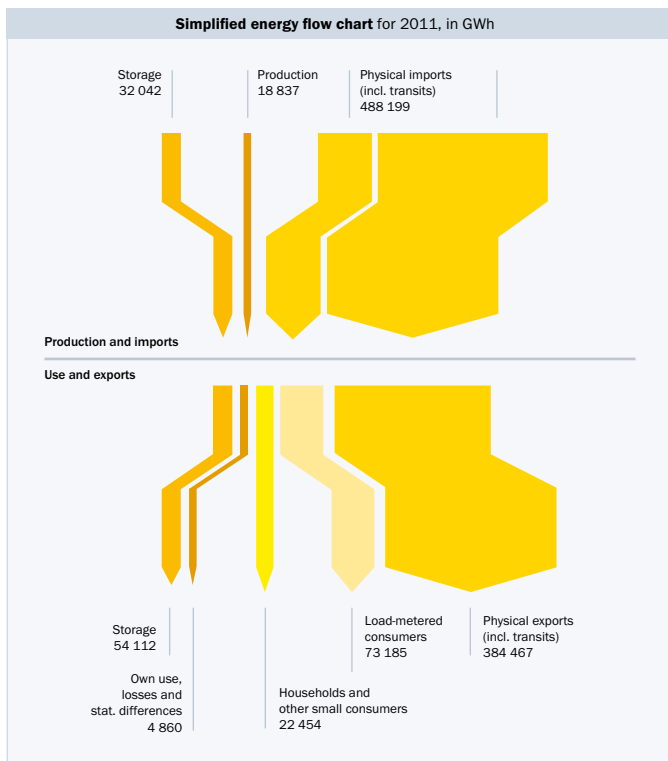


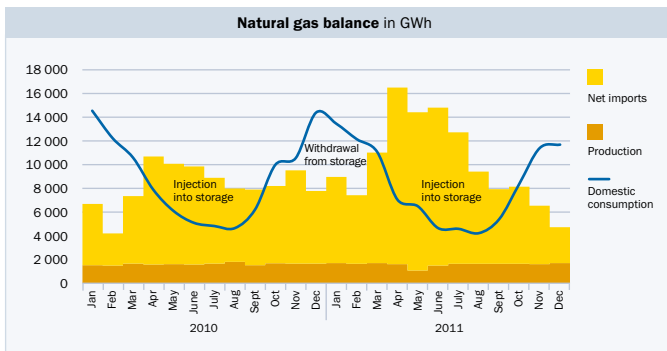
Source: German Federal Institute for Geosciences and Natural Resources, Energy reserves, overview in 2011

Please note: More recent data of the German Federal Institute for Geosciences and Natural Resources were not available at the time of compiling this brochure.

Operational statistics

Natural gas in Austria





Natural gas balance for 2011

	m Nm ³	GWh	Year-on-year change in %
Supply to consumers (a)	8 546	95 634	-6.3
Statistical difference (b)	26	290	—
Own use and losses (c)	198	2 213	—
Own use and losses (d)	211	2 362	—
Domestic consumption	8 981	100 499	-6.0
Injection into storage (e)	4 836	54 112	78.1
Exports (e)	34 358	384 467	14.1
Consumption and exports = production and imports	48 175	539 078	13.7
Imports (e)	43 628	488 199	17.1
Production (e)	1 683	18 837	-1.9
Withdrawal from storage (e)	2 863	32 042	-16.4

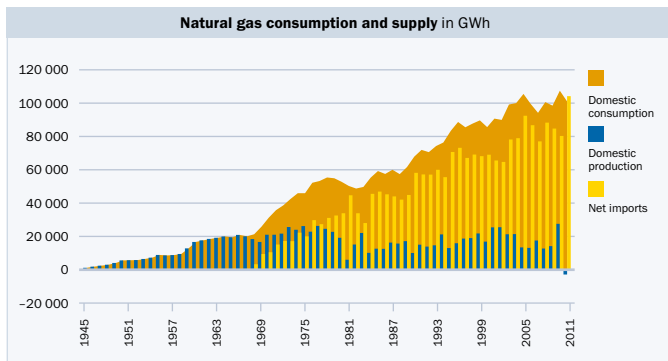
(a) Supply to consumers (here: households, industry, chemical industry, refineries, thermal power plants etc.)

(b) Statistical difference between calculated and metered supply to consumers

(c) For transports (including transits)

(d) For production and storage operation

(e) Physical flow data (imports and exports include transits)



Natural gas balance in GWh

	Net imports	Domestic production (a)	Domestic consumption	Own use and losses (b)	Statistical difference (c)	Supply to consumers (d)
2000	68 635	16 491	85 126	4 612		80 514
2005	92 019	13 028	105 047	5 001	-374	100 420
2006	86 263	12 717	98 981	5 099	-15	93 897
2007	76 559	17 160	93 720	4 939	362	88 418
2008	87 816	12 332	100 148	5 427	1 492	93 228
2009	84 255	13 801	98 056	4 992	1 522	91 542
2010	79 817	27 136	106 953	4 132	804	102 016
2011	103 731	-3 233	100 499	4 575	290	95 634

(a) Production and net storage movements

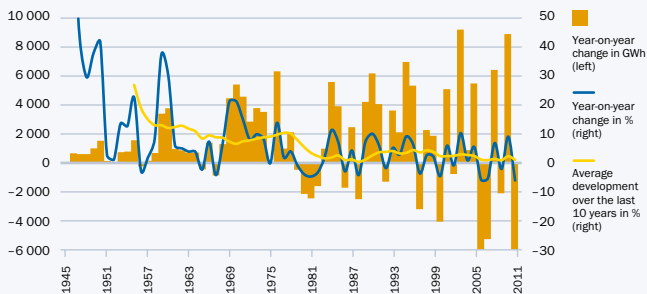
(b) For production, storage and transports (including transits)

(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)

Natural gas consumption trends in GWh and %

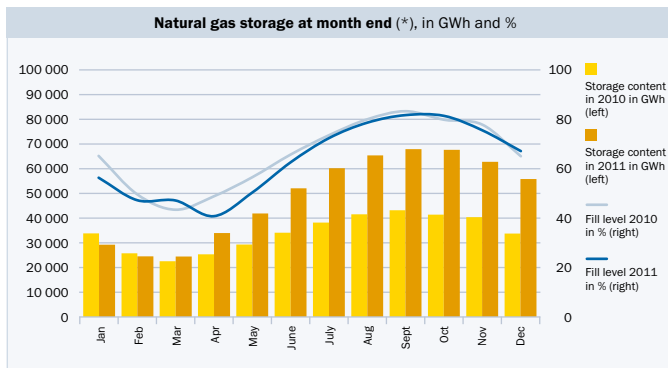


Physical imports and exports of natural gas in 2011

	Imports (*)		Exports (*)	
	in m Nm ³	in GWh	in m Nm ³	in GWh
Germany	7 355	82 304	3 175	35 533
Switzerland			55	611
Italy			24 985	279 583
Slovenia			1 504	16 832
Hungary			4 182	46 799
Slovakia	36 224	405 346	457	5 110
Czech Republic	49	549		
Total	43 628	488 199	34 358	384 467

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

Natural gas infrastructure in Austria



(*) Includes all storage facilities on the Austrian territory; excludes facilities in neighbouring countries.

Natural gas storage facilities (*)						
	Storage volume in GWh		Max. injection rate in MWh per hour		Max. withdrawal rate in MWh per hour	
	Total	Contracted	Total	Contracted	Total	Contracted
2007	45 534	45 534	19 809	16 621	21 776	21 776
2008	45 536	45 536	20 254	17 065	22 053	22 053
2009	50 560	50 560	21 422	18 312	25 511	25 511
2010	51 906	51 906	21 518	18 532	25 625	25 625
2011	82 611	78 829	29 150	27 806	33 011	31 068

(*) Includes all storage facilities on the Austrian territory; excludes facilities in neighbouring countries.

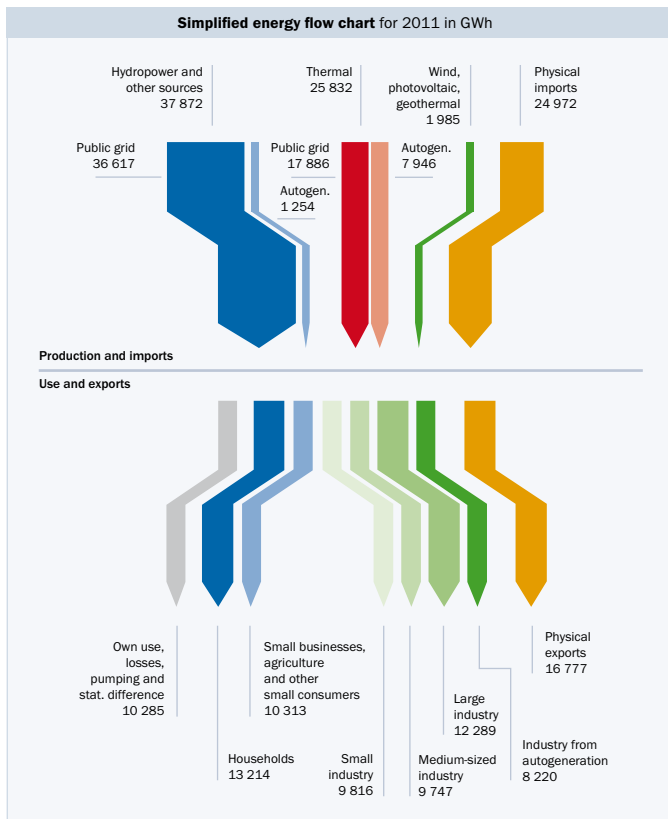
Domestic gas production in 2011		
	Max. production rate in Nm ³ per hour	Max. production rate in MWh per hour
Total	194 949	17 422

Network length at year end in km			
	Transmission lines	Distribution lines at grid level 2	Local grids and distribution lines at grid level 3
2000 (*)	2 377	3 266	n.a.
2005	2 757	3 425	30 195
2006	2 757	3 466	31 189
2007	2 876	3 523	31 614
2008	2 876	3 556	32 558
2009	2 876	3 656	32 889
2010	3 143	3 685	33 027
2011	3 108	3 685	33 804

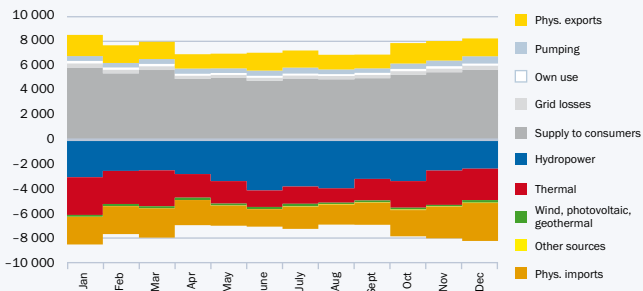
(*) Partly estimated based on year of start of operation

Grid connections and metering points at year end						
	Number of connections					Number of metering points
	Grid level 2	Grid level 3			Total	
		Up to 100 mbar	Over 100 mbar	Total		
2007	425	1 210 656	63 521	1 274 177	1 274 602	1 350 939
2008	453	1 220 387	63 548	1 283 935	1 284 388	1 353 656
2009	441	1 224 057	66 211	1 290 268	1 290 709	1 351 419
2010	442	1 228 059	67 105	1 295 164	1 295 606	1 351 888
2011	441	1 232 853	67 660	1 300 513	1 300 954	1 350 842

Electricity in Austria (total electricity supply)



Electricity balance 2011, in GWh

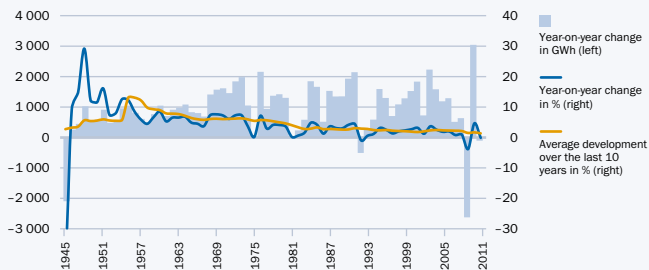


Electricity balance 2011

		2010 in GWh	2011 in GWh	Year-on-year change in GWh	in %
Supply to consumers (1)		63 308	63 296	-13	0.0
Grid losses		3 534	3 472	-61	-1.7
Own use		2 089	2 055	-34	-1.6
Domestic consumption		68 931	68 823	-107	-0.2
Pumping		4 576	5 060	484	10.6
Physical exports		17 472	16 777	-695	-4.0
Use and exports = generation and imports		90 979	90 660	-318	-0.4
Gross generation	Hydro	41 575	37 701	-3 873	-9.3
	Thermal	27 384	25 832	-1 551	-5.7
	Renewables (2)	2 096	1 985	-111	-5.3
	Other sources	16	170		
Physical imports		19 909	24 972	5 064	25.4

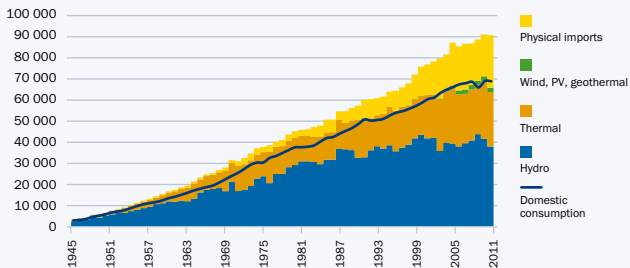
(1) Includes final energy consumption and the electricity consumption of the non-electricity energy sector

(2) Photovoltaics, wind and geothermal

Electricity consumption trends in GWh and %**Electricity balance in GWh**

	Supply to consumers	Own use	Grid losses	Domestic consumption	Electricity for pumping	Physical exports	Use and exports = generation and imports
2000	53 751	1 566	3 195	58 512	1 990	15 216	75 718
2005	60 465	2 051	3 567	66 083	3 276	17 732	87 091
2006	61 827	2 016	3 531	67 373	3 336	14 580	85 289
2007	62 239	1 945	3 700	67 883	2 986	15 767	86 636
2008	62 911	1 920	3 686	68 516	3 273	14 934	86 723
2009	60 499	1 862	3 520	65 882	3 961	18 762	88 605
2010	63 308	2 089	3 534	68 931	4 576	17 472	90 979
2011	63 296	2 055	3 472	68 823	5 060	16 777	90 660

Domestic consumption and supply in GWh



Electricity balance in GWh

	Gross generation				Total	Physical imports	Generation and imports = use and exports
	Hydro-power	Thermal	Wind, PV, geothermal	Other sources			
2000	43 461	18 270	67		61 798	13 920	75 718
2005	39 574	26 126	1 347	-312	66 735	20 355	87 091
2006	38 039	24 680	1 766	-121	64 364	20 925	85 289
2007	39 203	23 378	2 059	213	64 853	21 783	86 636
2008	40 716	24 172	2 031	8	66 927	19 795	86 723
2009	43 650	23 360	1 979	74	69 063	19 542	88 605
2010	41 575	27 384	2 096	16	71 070	19 909	90 979
2011	37 701	25 832	1 985	170	65 688	24 972	90 660

Gross generation mix in 2011						
Energy source			GWh	Share in %		
Hydropower	Run of river	over 10 MW	21 024	32.0	55.8	
		up to 10 MW	4 252	6.5	11.3	
	Pumped storage	over 10 MW	11 996	18.3	31.8	
		up to 10 MW	429	0.7	1.1	
	Total hydro			37 701	57.4	100.0
Thermal	Fossil fuels and derivatives	Hard coal	5 416	8.2	21.0	
		Lignite	0	0.0	0.0	
		Coal derivatives (1)	1 904	2.9	7.4	
		Oil derivatives (1)	1 009	1.5	3.9	
		Natural gas	12 362	18.8	47.9	
		Total	20 691	31.5	80.1	
	Biofuels	Solid (2)	2 557	3.9	9.9	
		Liquid (2)	12	0.0	0.0	
		Gaseous (2)	562	0.9	2.2	
		Sewage and landfill gases (2)	63	0.1	0.2	
		Total (2)	3 194	4.9	12.4	
	Other biofuels (3)			1 361	2.1	5.3
	Other fuels			586	0.9	2.3
	Total thermal			25 832	39.3	100.0
	(of which CHP)			(21 063)	(32.1)	(81.5)
Renewables	Wind (4)		1 934	2.9	97.5	
	Photovoltaics (4)		49	0.1	2.5	
	Geothermal (4)		1	0.0	0.1	
	Total renewables (4)			1 985	3.0	100.0
Other sources (5)			170	0.3		
Total			65 688	100.0		

(1) Coal and oil derivatives used for electricity generation

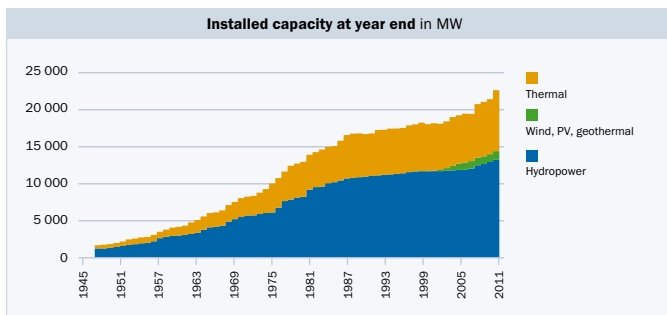
(2) Only biofuels as defined by Austrian law

(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

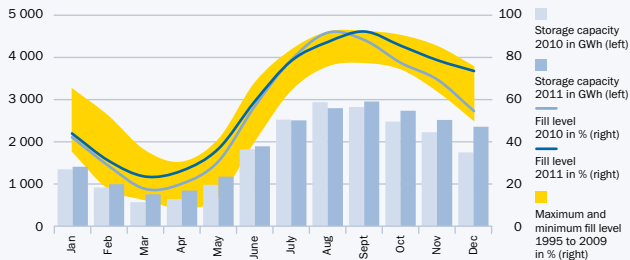


Installed capacity at year end in MW

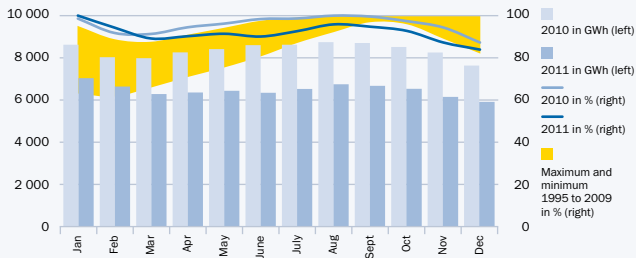
Gross maximum capacity

	Hydropower plants			Wind, PV, geothermal	Thermal	Total	Net maximum capacity
	Run of river	Pumped storage	Total				
2000	5 256	6 407	11 664	49	6 315	18 028	17 532
2005	5 318	6 519	11 837	849	6 527	19 213	18 703
2006	5 350	6 517	11 867	985	6 592	19 444	18 930
2007	5 395	6 627	12 022	1 011	6 374	19 406	18 904
2008	5 393	7 077	12 469	1 014	7 246	20 730	20 170
2009	5 373	7 276	12 649	1 031	7 358	21 038	20 470
2010	5 395	7 524	12 919	1 054	7 425	21 397	20 823
2011	5 436	7 765	13 200	1 179	8 249	22 628	22 002

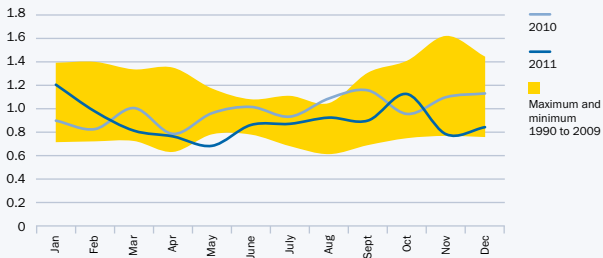
Storage capacity and fill levels at month end – large reservoirs of public generators, in GWh and %



Fossil fuel stocks at month end – thermal power plants of public generators, in GWh and %



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



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

2010	2011	1990 to 2009 maximum	1990 to 2009 minimum
0.99	0.88	1.16	0.87

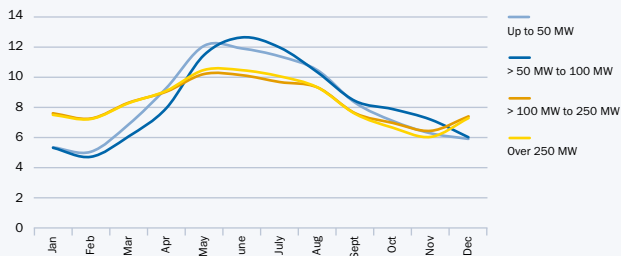
Energy availability – power plants of public generators (*), in %						
	Thermal power plants			Pumped storage power plants		
	Availability factor	Utilisation factor	Outages	Availability factor	Utilisation factor	Outages
2006	86.2%	38.0%	6.5%	91.2%	17.5%	1.9%
2007	83.7%	37.0%	5.7%	92.4%	18.5%	1.6%
2008	82.9%	37.5%	8.3%	94.7%	17.4%	3.5%
2009	83.5%	29.4%	7.3%	88.1%	18.1%	15.0%
2010	84.3%	35.9%	15.0%	84.2%	18.7%	7.7%
2011	83.6%	31.6%	5.6%	92.0%	16.2%	2.5%
2002 – 2011	83.0%	36.4%	7.5%	90.9%	18.3%	3.9%

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

Firm capacity in 2011 – 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	205	250	–	–	455
Run-of-river plants without pondage	126	83	444	310	963
Total	331	333	444	310	1 418
Share in maximum capacity in %					
Run-of-river plants with pondage	52.4%	46.2%	–	–	48.8%
Run-of-river plants without pondage	34.3%	53.6%	38.5%	34.1%	37.3%
Total	43.6%	47.8%	38.5%	34.1%	40.3%

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

Share of monthly standard capacity in 2011 annual values – run-of-river plants of public generators (*), in %



(*) Power plants with at least 10 MW maximum capacity

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 (2)	Thermal capacity	Maximum capacity	Maximum capacity
2006	70.6	52.5	38.9	7 503	4 542	2 051
2007	71.4	53.1	34.2	7 761	4 350	2 024
2008	70.0	52.5	38.3	8 649	5 184	2 061
2009	71.9	55.7	37.0	8 809	5 444	1 913
2010	72.5	57.0	40.5	8 629	5 761	1 664
2011	71.4	54.7	40.5	9 293	6 599	1 650

(1) Electricity and heat output divided by fuel input

(2) Electricity output divided by fuel input

Public grid in Austria

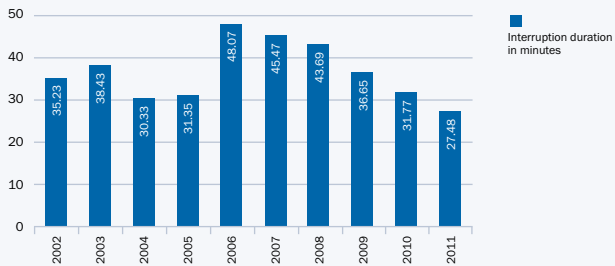
Route length (*) of the public grid at year-end 2011					
Voltage level	Overhead lines		Cables		Total km
	km	Share in %	km	Share in %	
380 kV	1 374	0.6	55	0.0	1 429
220 kV	1 854	0.8	3	0.0	1 857
110 kV	6 004	2.5	507	0.2	6 511
1 kV to 110 kV	29 253	12.4	36 272	15.4	65 525
Up to 1 kV	37 614	16.0	122 719	52.1	160 332
Total	76 099	32.3	159 555	67.7	235 654

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

High voltage substations in the public grid at year-end 2011		
Voltage level	Number of transformers	Total capacity in MVA
High voltage up to 100 kV	5	5
High voltage from 100 kV to 200 kV	978	41 279
High voltage over 200 kV	65	23 275
High voltage to high, medium and low voltage	1 048	64 558

Medium voltage substations in the public grid at year-end 2011		
Voltage level	Number of transformers	Total capacity in MVA
Medium voltage to medium and low voltage	76 809	29 723

Quality of supply – unplanned supply interruptions



Market statistics

Austrian gas market

Consumption structure					
Supply to consumers					
Consumer category	Unit	2010	2011	Average (*)	Share (*)
Households	GWh	20 221	18 073	18 624	19.8%
Other small consumers	GWh	5 707	4 381	5 389	5.7%
Load-metered consumers	GWh	75 963	73 185	70 058	74.5%
Statistical difference	GWh	124	-6		
Total supply to consumers	GWh	102 016	95 634	94 071	100.0%
Number of metering points (MP)					
Consumer category	Unit	2010	2011	Average (*)	Share (*)
Households	1 000	1 274	1 273	1 276	94.4%
Other small consumers	1 000	71	70	71	5.2%
Load-metered consumers	1 000	6	6	5	0.3%
Total number of metering points	1 000	1 351	1 349	1 351	100.0%
Average consumption					
Consumer category	Unit	2010	2011	Average (*)	
Households	kWh/MP	15 871	14 196	14 600	
Other small consumers	kWh/MP	80 297	62 533	75 983	
Load-metered consumers	kWh/MP	12 616 360	12 082 686	15 394 574	
Total	kWh/MP	75 501	70 883	69 627	

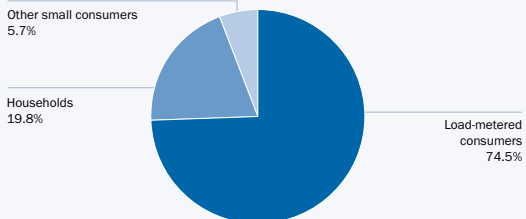
(*) 2007 - 2011 average

Households: Consumers with a standardised load profile marked HE, HM, PK or PW

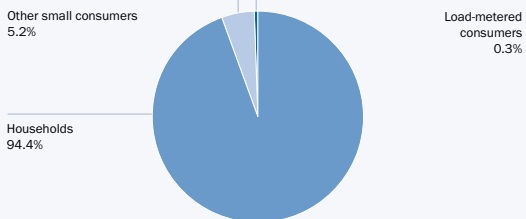
Other small consumers: Consumers with a standardised load profile marked HG or PG

Statistical difference: Difference between total metered consumption and individual reporting per consumer category

Consumption structure – supply to consumers (5-year average)



Consumption structure – number of metering points (5-year average)



Consumption structure – supply to consumers by grid zone in GWh					
Federal province / grid zone		2010	2011	Average (*)	Share (*)
Burgenland		2 293	2 248	2 096	2.2%
Carinthia		1 846	1 929	1 785	1.9%
Lower Austria		21 182	18 148	19 939	21.2%
Upper Austria		28 132	27 567	25 273	26.9%
Salzburg		3 213	3 193	3 280	3.5%
Styria		13 268	13 842	13 019	13.8%
Tyrol		3 330	3 130	3 170	3.4%
Vorarlberg		2 500	2 269	2 326	2.5%
Vienna		26 127	23 313	23 182	24.6%
Austria	Statistical difference	124	-6	-	-
	Total supply to consumers	102 016	95 634	94 071	100.0%

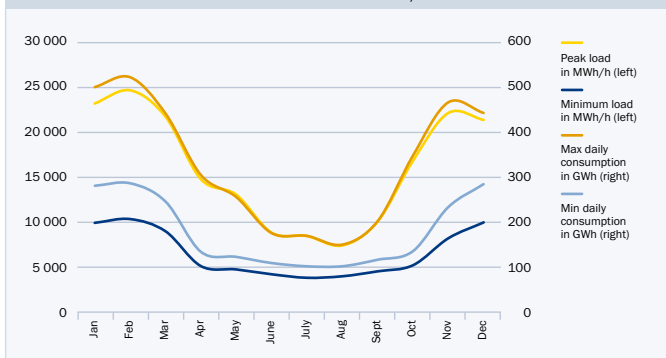
(*) 2007 – 2011 average

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

Consumption structure – number of metering points by grid zone in 1 000					
Federal province / grid zone		2010	2011	Average (*)	Share (*)
Burgenland		49	49	48	3.6%
Carinthia		14	14	14	1.0%
Lower Austria		290	291	289	21.4%
Upper Austria		149	148	150	11.1%
Salzburg		35	35	34	2.5%
Styria		66	66	65	4.8%
Tyrol		36	38	35	2.6%
Vorarlberg		34	34	33	2.4%
Vienna		678	673	683	50.6%
Austria		1 351	1 349	1 351	100.0%

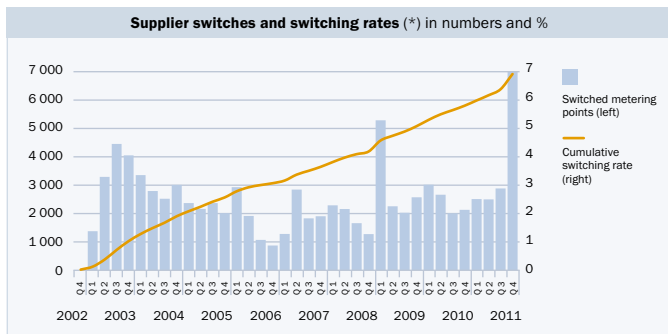
(*) 2007 – 2011 average

Load indicators for 2011 in MWh/h and GWh



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
2007	23 013	3 663	17 350	494	96	3 842
2008	20 862	3 870	14 893	435	98	4 469
2009	23 814	3 380	17 769	512	87	3 844
2010	25 467	3 798	19 372	542	99	4 006
2011	24 688	3 834	18 756	523	102	3 874

THE EFFECTS OF LIBERALISATION: GAS SWITCHING RATES

(*) By number of metering points

Supplier switches and switching rates (*)					
	2007	2008	2009	2010	2011
Number of supplier switches					
Households	6 744	6 194	9 618	8 018	13 041
Other small consumers	967	1 021	2 249	1 557	1 752
Load-metered consumers	125	143	257	224	368
Total	7 836	7 358	12 124	9 799	15 161
Switching rates in %					
Households	0.5	0.5	0.8	0.6	1.0
Other small consumers	1.4	1.4	3.1	2.2	2.5
Load-metered consumers	3.9	4.0	6.7	3.7	6.1
Total	0.6	0.5	0.9	0.7	1.1

(*) By number of metering points

Supplier switches (*) by grid zone					
Federal province / grid zone	2007	2008	2009	2010	2011
Burgenland	144	171	213	139	386
Carinthia	89	65	31	28	76
Lower Austria	2 403	1 931	4 058	3 142	4 517
Upper Austria	1 041	1 477	1 366	1 582	1 894
Salzburg	84	44	137	65	91
Styria	521	641	1 185	643	958
Tyrol			39	2	3
Vorarlberg		45	14	2	56
Vienna	3 554	2 984	5 081	4 196	7 180
Austria	7 836	7 358	12 124	9 799	15 161

(*) By number of metering points

Switching rates (*) by grid zone in %					
Federal province / grid zone	2007	2008	2009	2010	2011
Burgenland	0.3	0.4	0.4	0.3	0.8
Carinthia	0.6	0.5	0.2	0.2	0.5
Lower Austria	0.8	0.7	1.4	1.1	1.5
Upper Austria	0.7	1.0	0.9	1.1	1.3
Salzburg	0.3	0.1	0.4	0.2	0.3
Styria	0.8	1.0	1.8	1.0	1.5
Tyrol			0.1	0.0	0.0
Vorarlberg		0.1	0.0	0.0	0.2
Vienna	0.5	0.4	0.7	0.6	1.1
Austria	0.6	0.5	0.9	0.7	1.1

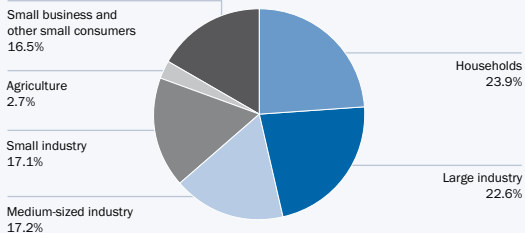
(*) By number of metering points

Austrian electricity market (public grid)

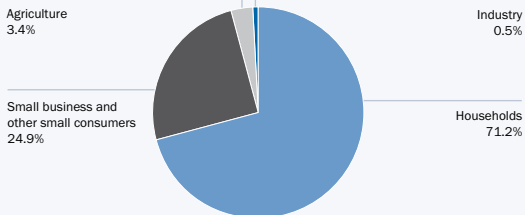
Consumption structure					
Supply to consumers					
Consumer category	Unit	2010	2011	Average (*)	Share (*)
Households	GWh	13 439	13 214	13 098	23.9%
Small business and other small consumers	GWh	9 237	8 869	9 058	16.5%
Agriculture	GWh	1 475	1 444	1 465	2.7%
Small industry	GWh	9 649	9 816	9 374	17.1%
Medium-sized industry	GWh	9 489	9 747	9 447	17.2%
Large industry	GWh	11 947	12 289	12 415	22.6%
Statistical difference	GWh	-232	-302	-	-
Total supply to consumers	GWh	55 005	55 076	54 858	100.0%
Number of metering points (MP)					
Consumer category	Unit	2010	2011	Average (*)	Share (*)
Households	1 000	4 164	4 208	4 130	71.2%
Small business and other small consumers	1 000	1 450	1 441	1 445	24.9%
Agriculture	1 000	193	193	194	3.4%
Small industry	1 000	32	33	31	0.5%
Medium-sized industry	1 000	2	2	2	0.0%
Large industry	1 000	0	0	0	0.0%
Total number of metering points	1 000	5 841	5 876	5 802	100.0%
Average consumption					
Consumer category	Unit	2010	2011	Average (*)	
Households	kWh/MP	3 227	3 140	3 172	
Small business and other small consumers	kWh/MP	6 371	6 156	6 268	
Agriculture	kWh/MP	7 653	7 499	7 535	
Small industry	kWh/MP	302 938	301 053	303 011	
Medium-sized industry	kWh/MP	4 947 398	5 079 047	5 013 269	
Large industry	kWh/MP	59 736 606	58 243 347	60 681 345	
Total	kWh/MP	9 418	9 372	9 455	

(*) 2007 - 2011 average

Consumption structure – supply to consumers (5-year average)



Consumption structure – number of metering points (5-year average)



Households: Consumers with a standardised load profile marked H

Small business and other small consumers: Consumers with a standardised load profile marked G or U

Agriculture: Consumers with a standardised load profile marked L

Small industry: Load-metered consumers with an annual withdrawal from the public grid of up to 2 GWh

Medium-sized industry: Load-metered consumers with an annual withdrawal from the public grid between 2 GWh and 20 GWh

Large industry: Load-metered consumers with an annual withdrawal from the public grid of more than 20 GWh

Statistical difference: Difference between metered consumption and individual reporting. Negative values may result from discrepancies between the settlement period and calendar year

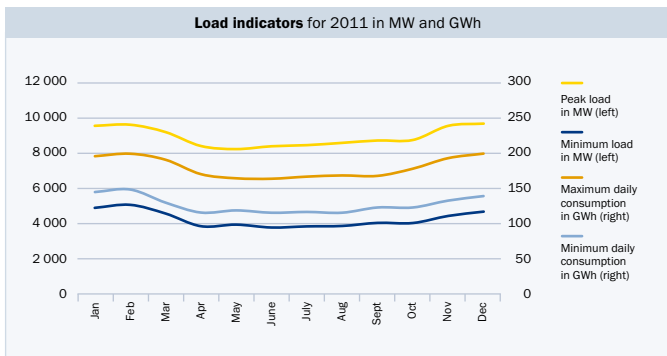
Consumption structure – supply to consumers by grid zone in GWh					
Federal province / grid zone		2010	2011	Average (*)	Share (*)
Burgenland		1 622	1 592	1 551	2.8%
Carinthia		4 158	4 114	4 118	7.5%
Lower Austria		7 749	7 912	7 621	13.9%
Upper Austria		9 497	9 674	9 476	17.3%
Salzburg		3 620	3 573	3 523	6.4%
Styria		8 285	8 361	8 301	15.1%
Tyrol		5 591	5 562	5 528	10.1%
Vorarlberg		2 585	2 568	2 534	4.6%
Vienna		12 130	12 022	12 204	22.2%
Austria	Statistical difference	-232	-302	–	–
	Supply to consumers	55 005	55 076	54 858	100.0%

(*) 2007 – 2011 average

Statistical difference: Difference between metered consumption and individual reporting per consumer category. Negative values may result from discrepancies between the settlement period and calendar year.

Consumption structure – number of metering points by grid zone in 1 000					
Federal province / grid zone		2010	2011	Average (*)	Share (*)
Burgenland		196	198	194	3.3%
Carinthia		379	382	377	6.5%
Lower Austria		831	833	828	14.3%
Upper Austria		967	975	960	16.5%
Salzburg		420	422	412	7.1%
Styria		910	913	908	15.6%
Tyrol		454	458	452	7.8%
Vorarlberg		213	216	210	3.6%
Vienna		1 469	1 479	1 461	25.2%
Austria		5 841	5 876	5 802	100.0%

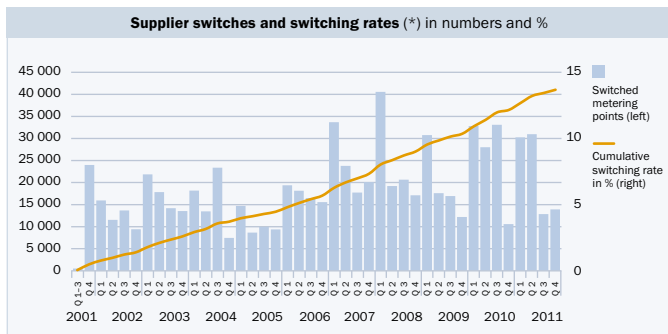
(*) 2007 – 2011 average



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	
2007	9 447	3 886	6 503	44 819	6 175	0.70
2008	9 413	3 992	6 412	45 290	6 265	0.71
2009	9 698	3 418	6 581	42 101	5 865	0.67
2010	9 749	3 704	6 951	43 807	6 014	0.69
2011	9 716	3 754	6 451	43 729	6 039	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]

THE EFFECTS OF LIBERALISATION: ELECTRICITY SWITCHING RATES

(*) By number of metering points

Supplier switches and switching rates (*)					
Consumer category	2007	2008	2009	2010	2011
Number of supplier switches					
Households	60 665	54 874	48 245	69 746	60 019
Other small consumers	32 111	39 730	27 606	31 447	26 303
Load-metered consumers	2 488	2 888	1 613	3 269	1 603
Total	95 264	97 492	77 464	104 462	87 925
Switching rates in %					
Households	1.5	1.3	1.2	1.7	1.4
Other small consumers	1.9	2.4	1.7	1.9	1.6
Load-metered consumers	8.1	9.0	4.8	9.6	4.8
Total	1.7	1.7	1.3	1.8	1.5

(*) By number of metering points

Supplier switches (*) by grid zone					
Federal province / grid zone	2007	2008	2009	2010	2011
Burgenland	1 718	1 586	1 351	1 402	2 048
Carinthia	8 850	4 519	2 855	3 799	2 671
Lower Austria	18 381	14 767	14 785	21 581	16 295
Upper Austria	16 247	20 244	10 596	20 085	20 369
Salzburg	2 047	2 312	1 087	1 476	1 941
Styria	16 971	27 796	21 809	26 192	14 271
Tyrol	1 913	1 539	1 377	1 706	1 704
Vorarlberg	447	894	534	607	961
Vienna	28 690	23 835	23 070	27 614	27 665
Austria	95 264	97 492	77 464	104 462	87 925

(*) By number of metering points

Switching rates (*) by grid zone in %					
Federal province / grid zone	2007	2008	2009	2010	2011
Burgenland	0.9	0.8	0.7	0.7	1.0
Carinthia	2.4	1.2	0.8	1.0	0.7
Lower Austria	2.2	1.8	1.8	2.6	2.0
Upper Austria	1.7	2.1	1.1	2.1	2.1
Salzburg	0.5	0.6	0.3	0.4	0.5
Styria	1.9	3.1	2.4	2.9	1.6
Tyrol	0.4	0.3	0.3	0.4	0.4
Vorarlberg	0.2	0.4	0.3	0.3	0.5
Vienna	2.0	1.6	1.6	1.9	1.9
Austria	1.7	1.7	1.3	1.8	1.5

(*) By number of metering points

Green electricity injection and support payments
(Austria, 2011 and 2010)

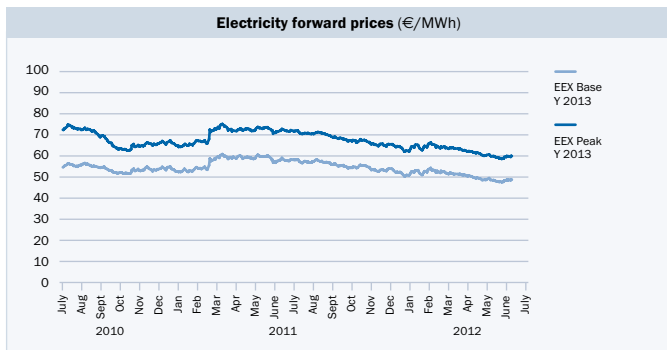
Primary energy source	Injection in GWh	Net support in m €	Green power contribution to total supply in %	Average support in cent/kWh
2011			(1)	
Supported small hydro	988	56.0	1.7	5.67
Other renewables	4 464	525.8	7.6	11.55
Wind	1 883	147.0	3.2	7.81
Wastes with high biog. fraction	1 969	271.1	3.4	13.77
Biogas	520	83.9	0.9	16.13
Liquid biomass	12	1.6	0.02	13.35
Photovoltaics	39	19.3	0.07	49.02
Sewage and landfill gas	40	2.8	0.07	6.97
Geothermal	1.1	0.06	0.002	5.56
Total small hydro and other renewables	5 452	581.8	9.3	16.67
2010			(2)	
Supported small hydro	1 258	64.7	2.3	5.14
Other renewables	4 647	533.9	8.4	11.26
Wind	2 019	156.7	3.7	7.76
Wastes with high biog. fraction	1 987	269.5	3.6	13.56
Biogas	539	75.9	1.0	14.06
Liquid biomass	30	4.2	0.05	13.75
Photovoltaics	26	13.9	0.05	52.76
Sewage and landfill gas	43	3.0	0.08	6.89
Geothermal	1.4	0.12	0.003	8.72
Total small hydro and other renewables	5 905	598.6	10.7	9.95

1) Relating to the total electricity supplied to consumers from the public grid in 2011, i.e. 58 714 GWh (preliminary value)

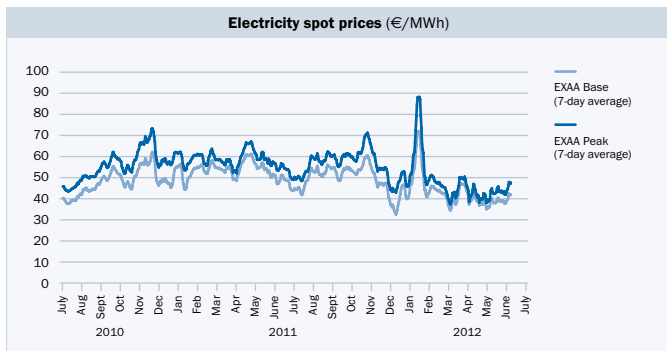
2) Relating to the total electricity supplied to consumers from the public grid in 2010, i.e. 54 985 GWh (preliminary value)

[24/02/2012 | Source: Green power settlement agent OeMAG, Feb 2012 – preliminary values]

Wholesale markets



Source: EEX



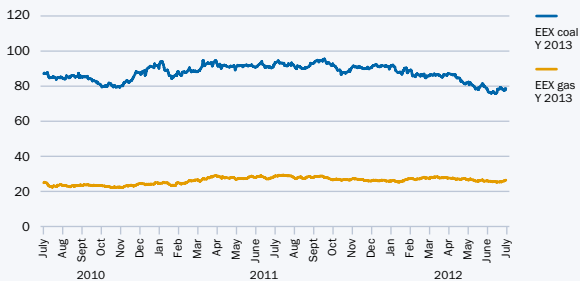
Source: EXAA

Electricity forward and spot prices in €/MWh

	EEX Peak		EEX Base	
	Day-ahead average	Y 2013 average	Day-ahead average	Y 2013 average
2010	54.81	68.03	47.66	54.04
2011	57.12	69.39	51.12	56.41
January 2011	58.21	65.65	50.13	53.47
February 2011	57.60	65.88	50.86	53.45
March 2011	58.38	70.08	54.47	56.77
April 2011	54.48	73.05	51.58	59.57
May 2011	61.52	72.59	56.83	59.33
June 2011	57.81	72.55	52.30	58.91
July 2011	51.84	71.99	46.40	58.10
August 2011	53.84	70.80	48.57	57.36
September 2011	59.11	70.05	52.64	56.85
October 2011	58.17	67.68	51.65	54.86
November 2011	64.43	66.72	55.36	54.67
December 2011	50.33	65.27	42.90	53.32
January 2012	46.96	63.51	39.89	51.66
February 2012	64.38	64.63	54.92	52.66
March 2012	44.75	64.22	41.13	52.32
April 2012	46.21	62.89	43.57	51.03
May 2012	41.71	60.93	38.85	49.23
June 2012	43.55	59.41	38.81	48.18

Source: EXAA, EEX

Gas and coal forward prices in €/MWh, €/t



Source: EEX

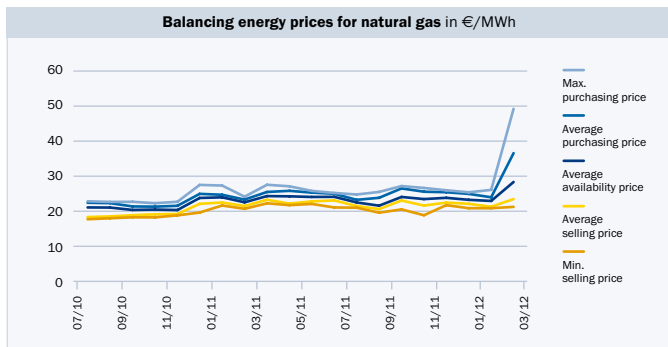
Gas and coal forward prices in €/MWh, €/t

Y 2013					
	Gas average	Coal average		Gas average	Coal average
January 2011	24.38	88.99	October 2011	26.64	89.20
February 2011	25.11	87.87	November 2011	26.68	90.35
March 2011	27.01	91.09	December 2011	26.12	91.24
April 2011	28.05	91.85	January 2012	25.94	89.42
May 2011	27.50	91.38	February 2012	27.19	86.75
June 2011	27.94	91.48	March 2012	27.74	86.13
July 2011	28.73	92.54	April 2012	27.19	85.14
August 2011	27.90	90.97	May 2012	26.41	80.45
September 2011	28.09	93.85	June 2012	25.62	77.60

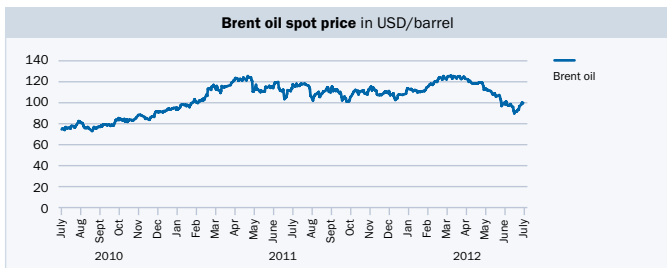
Source: EEX

Gas import price					
	2001=100	Change in %		2001=100	Change in %
2004	102.00	-1.8	2011	218.01	-8.2
2005	135.12	24.5	October 11	234.03	9.9
2006	174.62	22.6	November 11	236.96	1.2
2007	160.87	-8.5	December 11	235.87	-0.5
2008	226.46	29.0	January 12	233.69	6.7
2009	164.19	-37.9	February 12	231.03	-1.2
2010	182.52	10.0	March 12	239.97	3.7

Source: Statistics Austria



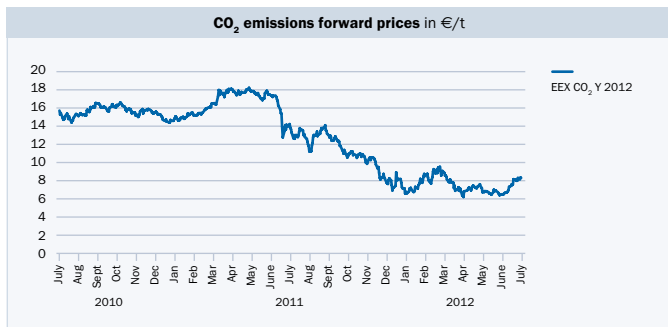
Source: Austrian Gas Clearing and Settlement (AGCS)



Source: Erdöl-Vereinigung (Union Pétrolière)

Brent oil spot price			
	€/barrel	USD/barrel	Month-on-month change of € in %
January 2011	72.36	96.66	
February 2011	76.53	104.41	5.4
March 2011	81.73	114.24	6.4
April 2011	84.61	122.19	3.4
May 2011	79.80	114.53	-6.0
June 2011	78.88	113.56	-1.2
July 2011	81.47	116.18	3.2
August 2011	76.22	109.29	-6.9
September 2011	79.90	110.03	4.6
October 2011	79.09	108.43	-1.0
November 2011	81.45	110.41	2.9
December 2011	81.65	107.81	0.2
January 2012	86.44	111.59	5.5
February 2012	89.66	118.58	3.6
March 2012	94.28	124.45	4.9
April 2012	91.47	120.39	-3.1
May 2012	86.48	110.81	-5.8
June 2012	76.88	96.29	-12.5

Source: Erdöl-Vereinigung (Union Pétrolière), Oesterreichische Nationalbank (OeNB)



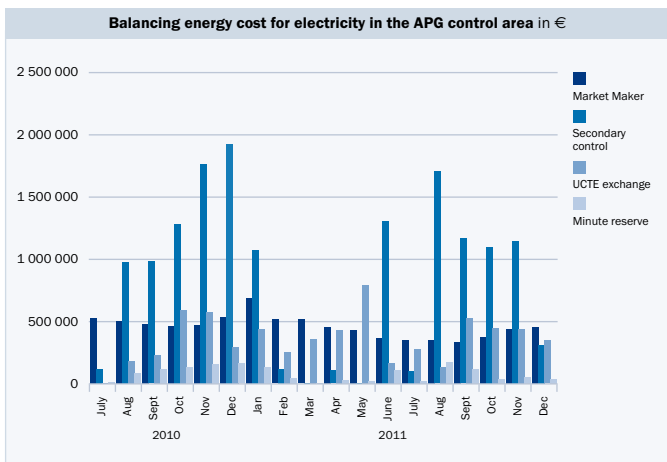
Source: EEX

CO₂ emissions forward prices in €/t			
2010	15.58	September 2011	12.30
2011	13.83	October 2011	10.85
January 2011	14.98	November 2011	9.69
February 2011	15.53	December 2011	7.81
March 2011	17.19	January 2012	7.16
April 2011	17.81	February 2012	8.68
May 2011	17.58	March 2012	7.81
June 2011	16.03	April 2012	7.07
July 2011	13.33	May 2012	6.75
August 2011	12.87	June 2012	7.25

Source: EEX

Pellet price index (*)							
	2005	2006	2007	2008	2009	2010	2011
Index 2000 = 100	78.26	104.35	91.30	82.61	91.30	91.30	104.35
Year-on-year change in %	-5.1	25.0	-14.3	-10.5	9.5	0.0	12.5

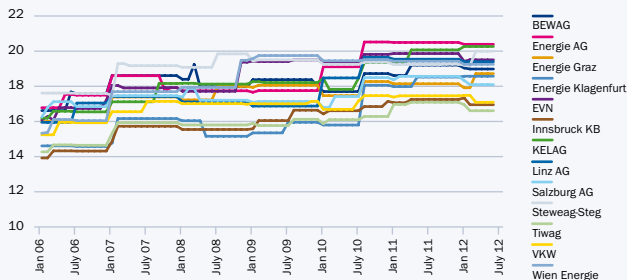
(*) Based on average annual values, corrected for inflation
Source: proPellets Austria



Source: Austrian Power Clearing and Settlement (APCS)

Retail markets

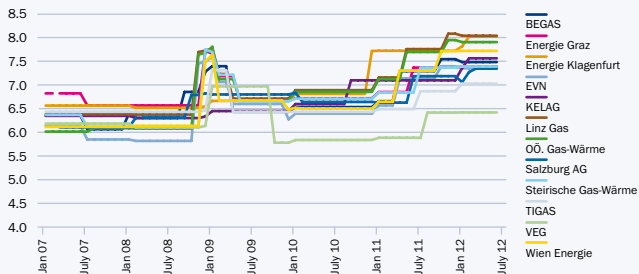
Development of electricity retail prices in cent/kWh (3 500 kWh)
(energy, system charges, taxes and surcharges)



Development of electricity retail prices in cent/kWh (3 500 kWh)

	Incumbent energy prices with general discounts, volume weighted			Energy prices of all suppliers, volume weighted		
	Minimum	Maximum	Average	Minimum	Maximum	Average
Jan 2008	5.95	7.22	6.64	3.73	9.77	6.51
July 2008	5.95	7.69	6.74	3.73	9.77	6.76
Jan 2009	5.95	8.58	7.30	3.93	10.80	7.17
July 2009	5.85	8.58	7.32	3.93	10.78	7.24
Jan 2010	6.02	8.58	7.60	4.13	10.55	7.42
July 2010	6.42	9.09	7.60	4.13	10.81	7.46
Jan 2011	5.89	8.58	7.64	4.13	10.81	7.60
July 2011	6.16	8.58	7.71	4.13	10.61	7.71
Jan 2012	6.31	8.58	7.64	4.33	11.06	7.73
July 2012	6.13	8.38	7.54	—	—	—

Development of gas retail prices in cent/kWh (15 000 kWh)
(energy, system charges, taxes and surcharges)

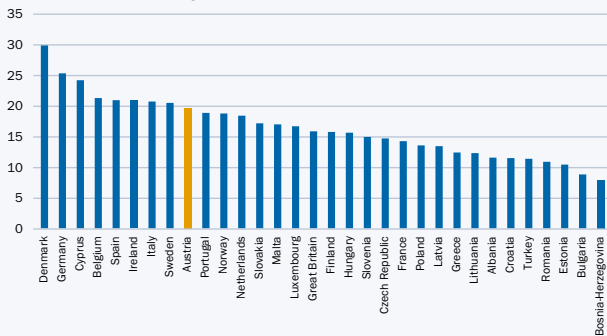


Development of gas retail prices in cent/kWh (15 000 kWh)

	Incumbent energy prices with general discounts, volume weighted			Energy prices of all suppliers, volume weighted		
	Minimum	Maximum	Average	Minimum	Maximum	Average
July 2007	2.55	3.40	2.85	—	—	—
Jan 2008	2.55	3.40	2.86	—	—	—
July 2008	2.66	3.40	2.85	2.33	3.95	2.85
Jan 2009	2.66	3.36	3.07	2.34	4.18	3.10
July 2009	2.51	3.36	3.06	2.35	4.31	3.41
Jan 2010	2.51	3.29	2.96	2.17	3.95	3.30
July 2010	2.66	3.22	2.95	2.43	3.91	3.09
Jan 2011	2.44	3.21	2.99	2.40	3.80	3.06
July 2011	2.51	3.68	3.18	2.30	2.39	3.07
Jan 2012	2.83	4.01	3.65	3.98	4.34	3.31

Household electricity prices in Europe, H2 2011 (2 500 – 5 000 kWh)

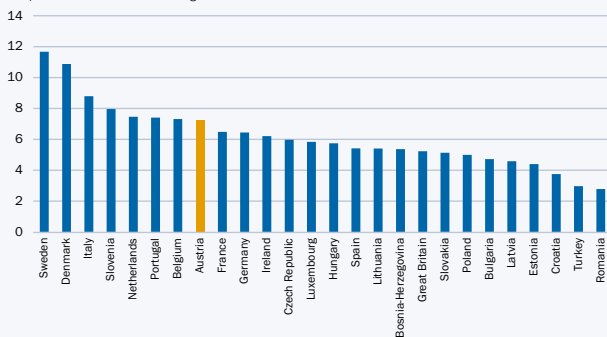
Cent/kWh incl. all taxes and surcharges



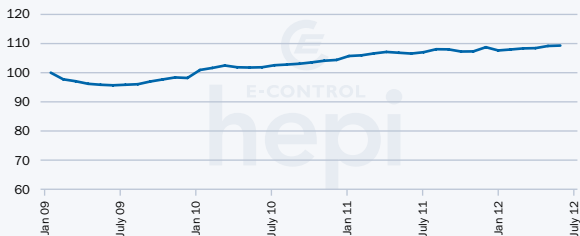
Source: Eurostat

Household gas prices in Europe, H2 2011 (5 555.6 kWh – 55 556 kWh)

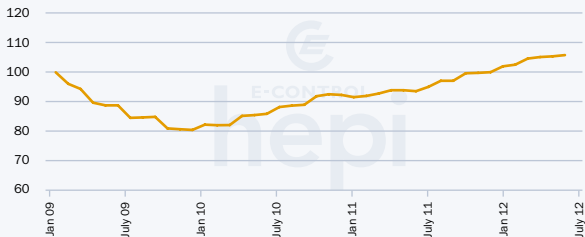
Cent/kWh incl. all taxes and surcharges



Household Energy Price Index for Europe (HEPI) – electricity



Household Energy Price Index for Europe (HEPI) – gas



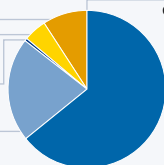
Electricity labelling in Austria in 2011

Calculated share of fossil fuels:
8.93%

Calculated share of nuclear energy:
4.90%

Other known primary sources:
0.27%

Known fossil primary sources:
21.41%



Calculated share of other known energy sources: 0.06%

Known renewable primary sources: 64.43%

Environmental impact:
CO₂ emissions: 192.5 g/kWh
Radioactive waste: 0.1002 mg/kWh

Terms and definitions

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

Austrian electricity, natural gas and renewables statistics

The responsibility for statistical data collection on fossil fuels and electricity lies with the Austrian Federal Minister of Economy, Family and Youth.

Statistical work on electricity and gaseous energy carriers is conducted by E-Control (section 52 Electricity Act and section 59 Natural Gas Act). The details and scope of this statistical work and regulations on the publication of the results are contained in the Electricity Statistics Order 2007 (issued by the then Ministry for Economics and Labour, Federal Law Gazette II no 284/2007) and the Natural Gas Statistics Order 2005 (as amended by the Natural Gas Statistics [Amendment] Order 2008, issued by E-Control).

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 consumer (e.g. for heating, lighting, mechanical uses). Neither transformation losses nor transport losses or natural gas supplied to gas-fired power stations are part of final energy consumption.

Supply to consumers in gas and electricity statistics is the energy withdrawn from the grid or autogenerated by consumers (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 natural gas balances in electricity and natural 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 natural 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.

Natural gas conditions

All volumes in Nm^3 refer to natural 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): 11.190

Public grid means the grid in the Austrian control areas APG, TIRAG (up to 2010) and VKW (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 a 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	=	3.6×10^3 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	natural 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	solar / 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 consumers	clients mesurés
Inlandsstromverbrauch	domestic electricity consumption	consommation intérieure
Abgabe an Endkunden	supply to consumers	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	MBtu	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 tonnes 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	ft3	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
m ³ Cubic metre	264.2	220	6.289	35.3147	1 000	1

Source: IEA

Calorific values in different energy balances

Statistics Austria, arithmetic means			
Energy source	Gigajoule / ...	Gross domestic consumption	Final energy consumption
Hard coal	t	28.69	30.53
Lignite	t	20.91	20.91
Coke oven coke	t	29.00	29.00
Crude oil	t	42.72	–
Petrol	t	43.29	43.16
Other kerosene	t	43.30	43.30
Diesel	t	42.80	42.80
Gas oil	t	42.80	42.80
Fuel oil	t	39.63	41.40
Lubricants	t	7.79	31.36
Natural gas	1 000 cu m	36.36	36.52
Solid and liquid waste	t	11.64	15.39
Fuelwood	t	14.31	14.31
Biofuels	t	10.46	11.05
Geothermal energy etc.	MWh	3.59	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

Eurostat, calorific values (2008)				
Energy source	Gigajoule / ...	From (1) ...	Standard values	To (1) ...
Hard coal	t	17.200		30.700
Lignite	t	5.600		10.500
Brown coal briquettes	t		20.000	
Peat	t	7.800		13.800
Coke oven coke	t		28.500	
Crude oil	t	41.600		42.800
Petrol	t		44.000	
Gas/diesel oil	t		42.600	
Fuel oil	t		40.000	
Lubricants	t		42.000	
Hydropower	MWh		3 600	
Wind and photovoltaics	MWh		3 600	
Electric energy	MWh		3 600	

Data on gaseous fuels, geothermal energy and district heat are collected in TJ directly. Source: Eurostat statistics

International Energy Agency, OECD Europe conversion factors (2008)				
Energy source	Gigajoule / ...	From ...	Average / standard values	To ...
Steam coal (1), (a)	t (*)		22.944	
Crude oil (1)	t (*)		n/a	
Motor gasoline	t (*)	43.585		44.003
Gasoline type jet fuel	t (*)		42.998	
Gas/diesel oil	t (*)		42.580	
Residual fuel oil	t (*)		39.984	
Liquefied petroleum gases	t (*)		46.013	
Refinery gas	t (*)		49.488	
Lubricants	t (*)	31.987		41.994
Natural gas (1), (b)	1 000 cu m		39.668	

(1) For the ten largest producers (a) for Europe: Poland; (b) for Europe: Norway (*) Converted from tonnes of oil equivalent (TOE) with a standard calorific value of 41,868 kJ/kg Source: IEA and own calculations

