

Power Predictor 6

Report

Ed 6 - 2007



Published by

ABS Energy Research

8 Quarry Road

London SW18 2QJ

Tel: + 44 (0)20 8871 2752

Fax: +44 (0)20 8328 7117

Email: info@absenergyresearch.com

www.absenergyresearch.com

© Power Predictor Report 6 Ed 6 2007

ABS Energy Research 2007

All rights reserved. This publication is protected by copyright. No part of it may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic mechanical, photocopying, recording or otherwise without the prior written permission of the publishers.

ABS Power Predictor Ed 6 2007

Introduction

- Power Predictor is an ABS product that is made up of a report and an Excel database
- The new PP6 report contains a wealth of new analysis
- The database has been significantly expanded
- Power Predictor is an up-date which shows quite a few changes in future projected generating capacity
- The industry is changing rapidly
- Technology is moving very fast in response to concerns about security of fuel supply, environmental issues and fuel prices
- The team has researched national plans further and evaluated them
- We conclude that some will be achieved and some not

Report Scope

- Installed generating capacity is now recorded for almost every one of the 187 countries annually from 1950 to the present and projected forward annually to 2020, an expansion on previous editions that were limited to 1991 to 2010 for annual data
- Project database of 2,456 new generation projects in the pipeline
- Annual capacity by fuel (where applicable - coal, oil, gas, hydro, nuclear, wind, solar PV, solar thermal, geothermal, biomass, ocean) is recorded from 1990/91/92 to 2011
- New additions and capacity reaching the age of 40 years is provided for every country
- The report contains over 370 charts with new analysis showing some fascinating new conclusions
- In addition to 2 previous charts which have been up-dated (generating capacity in 5 year segments and annual capacity) the report now contains 3 new sets of analysis for each country
- Capacity is charted against generation historically to show periods and trends of high and low utilisation
- Capacity by fuel charts have been introduced from the ABS Fuel Forecasts series
- The report now contains historical charts of utility production compared with auto-production (captive production) from 1950 for most countries

Some Research Findings

- The disparities in expected growth remain between different regions of the world
- In the early days when electrical capacity was very low, the private industrial producers had a far high share of the national total than the public utilities, in some countries as high as 50-60%
- In the big industrial countries the growth of utility capacity far outstripped private industry and sometimes the share has fallen from 50% to 5% over 50 years
- In other countries, where grid coverage is poor and supply unreliable, the private share has retained a high share
- Capacity utilisation can be related to many variables; water shortages in countries heavily dependent on hydro capacity, demand increasing faster than new build (occurring in many countries at different periods for various reasons), industrial decline (very apparent in the FSU and CEE countries after the dissolution of the Soviet Union), at other times generation fell while capacity increased
- Some countries have demonstrated a perfect match of capacity against generation and there are some surprises here
- Chile and Columbia in South America have shown an almost perfect match for 50 years, whereas Paraguay with its mighty dams generated far below capacity for many years

Price of report - £2,590

<i>*For US Dollar and Euro prices please refer to www.absenergyresearch.com</i>
--

**To purchase this report please complete the order form or for more information please contact: info@absenergyresearch.com or call +44(0) 20 8432 6378*

Contents

Overview	15
Overview of World Generating Capacity, the Power Prediction	15
Europe	27
1. Austria	27
2. Belgium	30
3. Bulgaria	33
4. Czech Republic	36
5. Denmark	39
6. Estonia	41
7. Finland	44
8. France	47
9. Germany	50
10. Greece	53
11. Hungary	56
12. Ireland	59
13. Italy	62
14. Latvia	65
15. Lithuania	68
16. Netherlands	71
17. Norway	74
18. Poland	76
19. Portugal	79
20. Romania	82
21. Slovakia	85
22. Spain	88
23. Sweden	91
24. Switzerland	93
25. Turkey	96
26. United Kingdom	99
CIS	102
27. Belarus	102
28. Kazakhstan	105
29. Russia	107
30. Ukraine	110
31. USSR and Successor Republics of the CIS	113
Africa Mahgreb	115
32. Algeria	115
33. Egypt	118

34.	Libya	121
35.	Morocco	123
Sub-Saharan Africa		126
36.	Nigeria.....	126
37.	South Africa	129
Middle East.....		132
38.	Iran.....	132
39.	Israel	135
40.	Kuwait	138
41.	Saudi Arabia	140
42.	Syria.....	143
43.	UAE.....	146
Asia Pacific.....		148
44.	Australia	148
45.	Bangladesh	151
46.	China.....	153
47.	Hong Kong	155
48.	India	157
49.	Indonesia	160
50.	Japan	163
51.	South Korea.....	166
52.	Malaysia.....	169
53.	New Zealand.....	171
54.	Pakistan	173
55.	Philippines.....	175
56.	Singapore.....	177
57.	Taiwan	180
58.	Thailand	183
59.	Vietnam.....	186
Latin America		188
60.	Argentina.....	188
61.	Brazil	191
62.	Chile.....	194
63.	Colombia	197
64.	Paraguay.....	200
65.	Peru	202
66.	Puerto Rico	205
67.	Uruguay	207
68.	Venezuela.....	209
North America		212

69.	Canada	212
70.	USA.....	215
71.	Mexico.....	218

Figures

Figure 1.1:	The evolution of global generating capacity, GW, 1938 to 2020	15
Figure 1.2:	Generating capacity by region, 1950 to 2020	16
Figure 1.3:	Utilisation, generation from capacity GWh per MW	17
Figure 1.4:	Fuel mix of generating capacity, Europe, GW 1990 to 2011	18
Figure 1.5:	Fuel mix of generating capacity, North America, GW 1990 to 2011	18
Figure 1.6:	Fuel mix of generating capacity, CIS, GW 1990 to 2011	19
Figure 1.7:	Fuel mix of generating capacity, Asia Pacific, GW 1990 to 2011	19
Figure 1.8:	Fuel mix of generating capacity, South America, GW 1990 to 2011	20
Figure 1.9:	Fuel mix of generating capacity, Middle East, GW 1990 to 2011	20
Figure 1.10:	Fuel mix of generating capacity, Africa, GW 1990 to 2011	21
Figure 1.11:	Auto-production and utility production, GWh 1950 to 2004	21
Figure 1.12:	Capacity additions and capacity reaching 40 years of age, World, MW, 1995 to 2011	22
Figure 1.13:	Capacity additions and capacity reaching 40 years of age, Europe, MW, 1995 to 2011	23
Figure 1.14:	Capacity additions and capacity reaching 40 years of age, CIS, MW, 1995 to 2011	24
Figure 1.15:	Capacity additions and capacity reaching 40 years of age, Asia Pacific, MW, 1995 to 2011	24
Figure 1.16:	Capacity additions and capacity reaching 40 years of age, Latin America, MW, 1995 to 2011	25
Figure 1.17:	Capacity additions and capacity reaching 40 years of age, Middle East, MW, 1995 to 2011	25
Figure 1.18:	Capacity additions and capacity reaching 40 years of age, Mahgreb North Africa, MW, 1995 to 2011	26
Figure 1.19:	Capacity additions and capacity reaching 40 years of age, Sub-Saharan Africa, MW, 1995 to	26
Figure 1.1:	Installed capacity of Austria (MW) 1938-2020, every 5 years.....	27
Figure 1.2:	Installed capacity of Austria (MW) 1950 to 2011 annually	27
Figure 1.3:	Generation (GWh) and installed capacity (MW), in Austria, 1950 to 2006	28
Figure 1.4:	Fuel mix of generating capacity of Austria (MW) 1990 to 2011	28
Figure 1.5:	Capacity shares of public utilities and self-producers in Austria	29
Figure 2.1:	Installed capacity of Belgium (MW) 1938-2020, every 5 years.....	30
Figure 2.2:	Installed capacity of Belgium (MW) 1950 to 2011 annually	30
Figure 2.3:	Generation (GWh) and installed capacity (MW), in Belgium, 1950 to 2006	31
Figure 2.4:	Fuel mix of generating capacity of Belgium (MW) 1990 to 2011	31
Figure 2.5:	Capacity shares of public utilities and self-producers in Belgium	32
Figure 3.1:	Installed capacity of Bulgaria (MW) 1938-2020, every 5 years.....	33

Figure 3.2: Installed capacity of Bulgaria (MW) 1950 to 2011 annually	33
Figure 3.3: Generation (GWh) and installed capacity (MW), in Bulgaria, 1950 to 2006	34
Figure 3.4: Fuel mix of generating capacity of Bulgaria (MW) 1990 to 2011	34
Figure 3.5: Capacity shares of public utilities and self-producers in Bulgaria	35
Figure 4.1: Installed capacity of the Czech Republic (MW) 1990-2020, every 5 years	36
Figure 4.2: Installed capacity of the Czech Republic (MW) 1990 to 2011 annually	36
Figure 4.3: Generation (GWh) and installed capacity (MW), in the Czech Republic, 1950 to 2006	37
Figure 4.4: Fuel mix of generating capacity of the Czech Republic (MW) 1990 to 2011	37
Figure 4.5: Capacity shares of public utilities and self-producers in the Czech Republic	38
Figure 5.1: Installed capacity of Denmark (MW) 1938-2020, every 5 years	39
Figure 5.2: Installed capacity of Denmark (MW) 1950 to 2011 annually	39
Figure 5.3: Generation (GWh) and installed capacity (MW), in Denmark, 1950 to 2006	40
Figure 5.4: Fuel mix of generating capacity of Denmark (MW) 1990 to 2010	40
Figure 6.1: Installed capacity of Estonia (MW) 1990-2020, every 5 years	41
Figure 6.2: Installed capacity of Estonia (MW) 1990 to 2011 annually	41
Figure 6.3: Generation (GWh) and installed capacity (MW), in Estonia, 1950 to 2006	42
Figure 6.4: Fuel mix of generating capacity of Estonia (MW) 1990 to 2010	42
Figure 6.5: Capacity shares of public utilities and self-producers in Estonia	43
Figure 7.1: Installed capacity of Finland (MW) 1938-2020, every 5 years	44
Figure 7.2: Installed capacity of Finland (MW) 1950 to 2011 annually	44
Figure 7.3: Generation (GWh) and installed capacity (MW), in Finland, 1950 to 2006	45
Figure 7.4: Fuel mix of generating capacity of Finland (MW) 1990 to 2010	45
Figure 7.5: Capacity shares of public utilities and self-producers in Finland	46
Figure 8.1: Installed capacity of France (MW) 1938-2020, every 5 years	47
Figure 8.2: Installed capacity of France (MW) 1950 to 2011 annually	47
Figure 8.3: Generation (GWh) and installed capacity (MW), in France, 1950 to 2006	48
Figure 8.4: Fuel mix of generating capacity of France (MW) 1990 to 2011	48
Figure 8.5: Capacity shares of public utilities and self-producers in France	49
Figure 9.1: Installed capacity of Germany (MW) 1938-2020, every 5 years	50
Figure 9.2: Installed capacity of Germany (MW) 1950 to 2011 annually	50
Figure 9.3: Generation (GWh) and installed capacity (MW), in Germany, 1950 to 2006	51
Figure 9.4: Fuel mix of generating capacity of Germany (MW) 1990 to 2011	51
Figure 9.5: Capacity shares of public utilities and self-producers in Germany	52
Figure 10.1: Installed capacity of Greece (MW) 1938-2020, every 5 years	53
Figure 10.2: Installed capacity of Greece (MW) 1950 to 2011 annually	53
Figure 10.3: Generation (GWh) and installed capacity (MW), in Greece, 1950 to 2006	54
Figure 10.4: Fuel mix of generating capacity of Greece (MW) 1990 to 2011	54
Figure 10.5: Capacity shares of public utilities and self-producers in Greece	55
Figure 11.1: Installed capacity of Hungary (MW) 1938-2020, every 5 years	56

Figure 11.2: Installed capacity of Hungary (MW) 1950 to 2011 annually.....	56
Figure 11.3: Generation (GWh) and installed capacity (MW), in Hungary, 1950 to 2006.....	57
Figure 11.4: Fuel mix of generating capacity of Hungary (MW) 1990 to 2011.....	57
Figure 11.5: Capacity shares of public utilities and self-producers in Hungary.....	58
Figure 12.1: Installed capacity of Ireland (MW) 1938-2020, every 5 years.....	59
Figure 12.2: Installed capacity of Ireland (MW) 1950 to 2011 annually	59
Figure 12.3: Generation (GWh) and installed capacity (MW), in Ireland, 1950 to 2006	60
Figure 12.4: Fuel mix of generating capacity of Ireland (MW) 1990 to 2011	60
Figure 12.5: Capacity shares of public utilities and self-producers in Ireland	61
Figure 13.1: Installed capacity of Italy (MW) 1938-2020, every 5 years	62
Figure 13.2: Installed capacity of Italy (MW) 1950 to 2011 annually.....	62
Figure 13.3: Generation (GWh) and installed capacity (MW), in Italy, 1950 to 2006.....	63
Figure 13.4: Fuel mix of generating capacity of Italy (MW) 1990 to 2011.....	63
Figure 13.5: Capacity shares of public utilities and self-producers in Italy.....	64
Figure 14.1: Installed capacity of Latvia (MW) 1990-2020, every 5 years	65
Figure 14.2: Installed capacity of Latvia (MW) 1990 to 2011 annually.....	65
Figure 14.3: Generation (GWh) and installed capacity (MW), in Latvia, 1950 to 2006.....	66
Figure 14.4: Fuel mix of generating capacity of Latvia (MW) 1990 to 2011.....	66
Figure 14.5: Capacity shares of public utilities and self-producers in Latvia.....	67
Figure 15.1: Installed capacity of Lithuania (MW) 1990-2020, every 5 years	68
Figure 15.2: Installed capacity of Lithuania (MW) 1990 to 2011 annually.....	68
Figure 15.3: Generation (GWh) and installed capacity (MW), in Lithuania, 1950 to 2006.....	69
Figure 15.4: Fuel mix of generating capacity of Lithuania (MW) 1990 to 2011.....	69
Figure 15.5: Capacity shares of public utilities and self-producers in Lithuania	70
Figure 16.1: Installed capacity of The Netherlands (MW) 1938-2020, every 5 years	71
Figure 16.2: Installed capacity of The Netherlands (MW) 1950 to 2011 annually	71
Figure 16.3: Generation (GWh) and installed capacity (MW), in The Netherlands, 1950 to 2006.....	72
Figure 16.4: Fuel mix of generating capacity of The Netherlands (MW) 1990 to 2011.....	72
Figure 16.5: Capacity shares of public utilities and self-producers in The Netherlands	73
Figure 17.1: Installed capacity of Norway (MW) 1938-2020, every 5 years.....	74
Figure 17.2: Installed capacity of Norway (MW) 1950 to 2011 annually	74
Figure 17.3: Generation (GWh) and installed capacity (MW), in Norway, 1950 to 2006	75
Figure 17.4: Fuel mix of generating capacity of Norway (MW) 1990 to 2011	75
Figure 18.1: Installed capacity of Poland (MW) 1938-2020, every 5 years.....	76
Figure 18.2: Installed capacity of Poland (MW) 1950 to 2011 annually	76
Figure 18.3: Generation (GWh) and installed capacity (MW), in Poland, 1950 to 2006	77
Figure 18.4: Fuel mix of generating capacity of Poland (MW) 1990 to 2011	77
Figure 18.5: Capacity shares of public utilities and self-producers in Poland.....	78
Figure 19.1: Installed capacity of Portugal (MW) 1938-2020, every 5 years	79

Figure 19.2: Installed capacity of Portugal (MW) 1950 to 2011 annually.....	79
Figure 19.3: Generation (GWh) and installed capacity (MW), in Portugal, 1950 to 2006	80
Figure 19.4: Fuel mix of generating capacity of Portugal (MW) 1990 to 2011	80
Figure 19.5: Capacity shares of public utilities and self-producers in Portugal.....	81
Figure 20.1: Installed capacity of Romania (MW) 1938-2020, every 5 years	82
Figure 20.2: Installed capacity of Romania (MW) 1950 to 2011 annually.....	82
Figure 20.3: Generation (GWh) and installed capacity (MW), in Romania, 1950 to 2006	83
Figure 20.4: Fuel mix of generating capacity of Romania (MW) 1990 to 2011	83
Figure 20.5: Capacity shares of public utilities and self-producers in Romania.....	84
Figure 21.1: Installed capacity of Slovakia (MW) 1990-2020, every 5 years	85
Figure 21.2: Installed capacity of Slovakia (MW) 1990 to 2011 annually.....	85
Figure 21.3: Generation (GWh) and installed capacity (MW), in Slovakia, 1992 to 2006.....	86
Figure 21.4: Fuel mix of generating capacity of Slovakia (MW) 1990 to 2011.....	86
Figure 21.5: Capacity shares of public utilities and self-producers in Slovakia.....	87
Figure 22.1: Installed capacity of Spain (MW) 1938-2020, every 5 years.....	88
Figure 22.2: Installed capacity of Spain (MW) 1950 to 2011 annually	88
Figure 22.3: Generation (GWh) and installed capacity (MW), in Spain, 1950 to 2006	89
Figure 22.4: Fuel mix of generating capacity of Spain (MW) 1990 to 2011	89
Figure 22.5: Capacity shares of public utilities and self-producers in Spain	90
Figure 23.1: Installed capacity of Sweden (MW) 1938-2020, every 5 years.....	91
Figure 23.2: Installed capacity of Sweden (MW) 1950 to 2011 annually	91
Figure 23.3: Generation (GWh) and installed capacity (MW), in Sweden, 1950 to 2006	92
Figure 23.4: Fuel mix of generating capacity of Sweden (MW) 1990 to 2011	92
Figure 24.1: Installed capacity of Switzerland (MW) 1938-2020, every 5 years	93
Figure 24.2: Installed capacity of Switzerland (MW) 1950 to 2011 annually.....	93
Figure 24.3: Generation (GWh) and installed capacity (MW), in Switzerland, 1950 to 2006..	94
Figure 24.4: Fuel mix of generating capacity of Switzerland (MW) 1990 to 2011.....	94
Figure 24.5: Capacity shares of public utilities and self-producers in Switzerland	95
Figure 25.1: Installed capacity of Turkey (MW) 1938-2020, every 5 years.....	96
Figure 25.2: Installed capacity of Turkey (MW) 1950 to 2011 annually	96
Figure 25.3: Generation (GWh) and installed capacity (MW), in Turkey, 1950 to 2006	97
Figure 25.4: Fuel mix of generating capacity of Turkey (MW) 1990 to 2011	97
Figure 25.5: Capacity shares of public utilities and self-producers in Turkey	98
Figure 26.1: Installed capacity of the United Kingdom (MW) 1938-2020, every 5 years	99
Figure 26.2: Installed capacity of the United Kingdom (MW) 1892 to 2011 annually	99
Figure 26.3: Generation (GWh) and installed capacity (MW), in the United Kingdom, 1950 to 2006.....	100
Figure 26.4: Fuel mix of generating capacity of the United Kingdom (MW) 1990 to 2011....	101
Figure 26.5: Capacity shares of public utilities and self-producers in the United Kingdom ..	101
Figure 27.1: Installed capacity of Belarus (MW) 1995-2020, every 5 years.....	102

Figure 27.2: Installed capacity of Belarus (MW) 1992 to 2011 annually	102
Figure 27.3: Generation (GWh) and installed capacity (MW), in Belarus, 1992 to 2006	103
Figure 27.4: Fuel mix of generating capacity of Belarus (MW) 1992 to 2011	103
Figure 27.5: Capacity shares of public utilities and self-producers in Belarus	104
Figure 28.1: Installed capacity of Kazakhstan (MW) 1995-2020, every 5 years	105
Figure 28.2: Installed capacity of Kazakhstan (MW) 1992 to 2011 annually	105
Figure 28.3: Generation (GWh) and installed capacity (MW), in Kazakhstan, 1992 to 2006	106
Figure 28.4: Fuel mix of generating capacity of Kazakhstan (MW) 1992 to 2011	106
Figure 29.1: Installed capacity of Russia (MW) 1995-2020, every 5 years.....	107
Figure 29.2: Installed capacity of Russia (MW) 1992 to 2011 annually	107
Figure 29.3: Generation (GWh) and installed capacity (MW), in Russia, 1992 to 2006	108
Figure 29.4: Fuel mix of generating capacity of Russia (MW) 1992 to 2011	108
Figure 29.5: Capacity shares of public utilities and self-producers in Russia	109
Figure 30.1: Installed capacity of the Ukraine (MW) 1995-2020, every 5 years	110
Figure 30.2: Installed capacity of the Ukraine (MW) 1992 to 2011 annually.....	110
Figure 30.3: Generation (GWh) and installed capacity (MW), in the Ukraine, 1992 to 2006	111
Figure 30.4: Fuel mix of generating capacity of the Ukraine (MW) 1992 to 2011	111
Figure 30.5: Capacity shares of public utilities and self-producers in the Ukraine.....	112
Figure 31.1: Installed capacity of the USSR and successor republics of the CIS (excluding Estonia, Latvia and Lithuania) (MW) 1938-2020, every 5 years	113
Figure 31.2: Installed capacity of the USSR and successor republics of the CIS (excluding Estonia, Latvia and Lithuania) (MW) 1917 to 2011 annually.....	113
Figure 31.3: Generation (GWh) and installed capacity (MW), in the USSR, 1950 to 2006 ..	114
Figure 31.4: Capacity shares of public utilities and self-producers in the USSR	114
Figure 32.1: Installed capacity of Algeria (MW) 1950-2020, every 5 years.....	115
Figure 32.2: Installed capacity of Algeria (MW) 1950 to 2011 annually	115
Figure 32.3: Generation (GWh) and installed capacity (MW), in Algeria, 1950 to 2006	116
Figure 32.4: Fuel mix of generating capacity of Algeria (MW) 1990 to 2011	116
Figure 32.5: Capacity shares of public utilities and self-producers in Algeria	117
Figure 33.1: Installed capacity of Egypt (MW) 1938-2020, every 5 years.....	118
Figure 33.2: Installed capacity of Egypt (MW) 1950 to 2011 annually	118
Figure 33.3: Generation (GWh) and installed capacity (MW), in Egypt, 1950 to 2006	118
Figure 33.4: Fuel mix of generating capacity of Egypt (MW) 1990 to 2011	119
Figure 33.5: Capacity shares of public utilities and self-producers in Egypt.....	120
Figure 34.1: Installed capacity of Libya (MW) 1938-2020, every 5 years	121
Figure 34.2: Installed capacity of Libya (MW) 1950 to 2011 annually.....	121
Figure 34.3: Generation (GWh) and installed capacity (MW), in Libya, 1950 to 2006.....	122
Figure 34.4: Fuel mix of generating capacity of Libya (MW) 1990 to 2011.....	122
Figure 35.1: Installed capacity of Morocco (MW) 1938-2020, every 5 years	123
Figure 35.2: Installed capacity of Morocco (MW) 1950 to 2011 annually	123

Figure 35.3: Generation (GWh) and installed capacity (MW), in Morocco, 1950 to 2006.....	124
Figure 35.4: Fuel mix of generating capacity of Morocco (MW) 1990 to 2011.....	124
Figure 35.5: Capacity shares of public utilities and self-producers in Morocco	125
Figure 36.1: Installed capacity of Nigeria (MW) 1938-2020, every 5 years	126
Figure 36.2: Installed capacity of Nigeria (MW) 1950 to 2011 annually.....	126
Figure 36.3: Generation (GWh) and installed capacity (MW), in Nigeria, 1950 to 2006.....	127
Figure 36.4: Fuel mix of generating capacity of Nigeria (MW) 1990 to 2011	128
Figure 37.1: Installed capacity of South Africa (MW) 1938-2020, every 5 years	129
Figure 37.2: Installed capacity of South Africa (MW) 1950 to 2011 annually.....	129
Figure 37.3: Generation (GWh) and installed capacity (MW), in South Africa, 1950 to 2006.....	130
Figure 37.4: Fuel mix of generating capacity of South Africa (MW) 1990 to 2011.....	130
Figure 37.5: Capacity shares of public utilities and self-producers in South Africa	131
Figure 38.1: Installed capacity of Iran (MW) 1960-2020, every 5 years.....	132
Figure 38.2: Installed capacity of Iran (MW) 1960 to 2011 annually	132
Figure 38.3: Generation (GWh) and installed capacity (MW), in Iran, 1950 to 2006	133
Figure 38.4: Fuel mix of generating capacity of Iran (MW) 1990 to 2011	133
Figure 38.5: Capacity shares of public utilities and self-producers in Iran.....	133
Figure 39.1: Installed capacity of Israel (MW) 1950-2020, every 5 years	135
Figure 39.2: Installed capacity of Israel (MW) 1950 to 2011 annually	135
Figure 39.3: Generation (GWh) and installed capacity (MW), in Israel, 1950 to 2006.....	136
Figure 39.4: Fuel mix of generating capacity of Israel (MW) 1990 to 2011.....	136
Figure 39.5: Capacity shares of public utilities and self-producers in Israel	137
Figure 40.1: Installed capacity of Kuwait (MW) 1955-2020, every 5 years.....	138
Figure 40.2: Installed capacity of Kuwait (MW) 1955 to 2011 annually	138
Figure 40.3: Fuel mix of generating capacity of Kuwait (MW) 1990 to 2011.....	139
Figure 40.4: Capacity shares of public utilities and self-producers in Kuwait	139
Figure 40.5: New capacity additions and replacements in Kuwait (GW) 1990 to 2010	139
Figure 41.1: Installed capacity of Saudi Arabia (MW) 1965-2020, every 5 years	140
Figure 41.2: Installed capacity of Saudi Arabia (MW) 1961 to 2011 annually.....	140
Figure 41.3: Generation (GWh) and installed capacity (MW), in Saudi Arabia, 1950 to 2006	141
Figure 41.4: Fuel mix of generating capacity of Saudi Arabia (MW) 1990 to 2011.....	141
Figure 41.5: Capacity shares of public utilities and self-producers in Saudi Arabia	142
Figure 42.1: Installed capacity of Syria (MW) 1938-2020, every 5 years.....	143
Figure 42.2: Installed capacity of Syria (MW) 1950 to 2011 annually	143
Figure 42.3: Generation (GWh) and installed capacity (MW), in Syria, 1950 to 2006	144
Figure 42.4: Fuel mix of generating capacity of Syria (MW) 1990 to 2011	144
Figure 42.5: Capacity shares of public utilities and self-producers in Syria	145
Figure 43.1: Installed capacity of the UAE (MW) 1950-2020, every 5 years	146
Figure 43.2: Installed capacity of the UAE (MW) 1950 to 2011 annually.....	146

Figure 43.3: Generation (GWh) and installed capacity (MW), in the UAE, 1950 to 2006	147
Figure 43.4: Fuel mix of generating capacity of the UAE (MW) 1990 to 2011	147
Figure 44.1: Installed capacity of Australia (MW) 1950-2020, every 5 years.....	148
Figure 44.2: Installed capacity of Australia (MW) 1950 to 2011 annually	148
Figure 44.3: Generation (GWh) and installed capacity (MW), in Australia, 1950 to 2006	149
Figure 44.4: Fuel mix of generating capacity of Australia (MW) 1990 to 2011	149
Figure 44.5: Capacity shares of public utilities and self-producers in Australia	150
Figure 45.1: Installed capacity of Bangladesh (MW) 1970-2020, every 5 years.....	151
Figure 45.2: Installed capacity of Bangladesh (MW) 1970 to 2011 annually	151
Figure 45.3: Generation (GWh) and installed capacity (MW), in Bangladesh, 1950 to 2006	152
Figure 45.4: Fuel mix of generating capacity of Bangladesh (MW) 1990 to 2011	152
Figure 46.1: Installed capacity of China (MW) 1938-2020, every 5 years	153
Figure 46.2: Installed capacity of China (MW) 1950 to 2011 annually	153
Figure 46.3: Generation (GWh) and installed capacity (MW), in China, 1950 to 2006	154
Figure 46.4: Fuel mix of generating capacity of China (MW) 1990 to 2011	154
Figure 47.1: Installed capacity of Hong Kong (MW) 1950-2020, every 5 years.....	155
Figure 47.2: Installed capacity of Hong Kong (MW) 1950 to 2011 annually	155
Figure 47.3: Generation (GWh) and installed capacity (MW), in Hong Kong, 1950 to 2006	156
Figure 47.4: Fuel mix of generating capacity of Hong Kong (MW) 1990 to 2011	156
Figure 48.1: Installed capacity of India (MW) 1938-2020, every 5 years	157
Figure 48.2: Installed capacity of India (MW) 1950 to 2011 annually	157
Figure 48.3: Generation (GWh) and installed capacity (MW), in India, 1950 to 2006.....	158
Figure 48.4: Fuel mix of generating capacity of India (MW) 1990 to 2011.....	158
Figure 48.5: Capacity shares of public utilities and self-producers in India	159
Figure 49.1: Installed capacity of Indonesia (MW) 1950-2020, every 5 years	160
Figure 49.2: Installed capacity of Indonesia (MW) 1950 to 2011 annually.....	160
Figure 49.3: Generation (GWh) and installed capacity (MW), in Indonesia, 1950 to 2006...	161
Figure 49.4: Fuel mix of generating capacity of Indonesia (MW) 1990 to 2011.....	161
Figure 49.5: Capacity shares of public utilities and self-producers in Indonesia	162
Figure 50.1: Installed capacity of Japan (MW) 1938-2020, every 5 years	163
Figure 50.2: Installed capacity of Japan (MW) 1903 to 2011 annually	163
Figure 50.3: Generation (GWh) and installed capacity (MW), in Japan, 1950 to 2006.....	164
Figure 50.4: Fuel mix of generating capacity of Japan (MW) 1990 to 2011.....	164
Figure 50.5: Capacity shares of public utilities and self-producers in Japan	165
Figure 51.1: Installed capacity of South Korea (MW) 1950-2020, every 5 years.....	166
Figure 51.2: Installed capacity of South Korea (MW) 1950 to 2011 annually	166
Figure 51.3: Generation (GWh) and installed capacity (MW), in South Korea, 1950 to 2006	167
.....	167
Figure 51.4: Fuel mix of generating capacity of South Korea (MW) 1990 to 2011	167
Figure 51.5: Capacity shares of public utilities and self-producers in South Korea	168

Figure 52.1: Installed capacity of Malaysia (MW) 1950-2020, every 5 years.....	169
Figure 52.2: Installed capacity of Malaysia (MW) 1950 to 2011 annually.....	169
Figure 52.3: Generation (GWh) and installed capacity (MW), in Malaysia, 1950 to 2006	170
Figure 52.4: Fuel mix of generating capacity of Malaysia (MW) 1990 to 2011	170
Figure 53.1: Installed capacity of New Zealand (MW) 1950-2020, every 5 years	171
Figure 53.2: Installed capacity of New Zealand (MW) 1950 to 2011 annually.....	171
Figure 53.3: Generation (GWh) and installed capacity (MW), in New Zealand, 1950 to 2006	172
Figure 53.4: Fuel mix of generating capacity of New Zealand (MW) 1990 to 2011	172
Figure 54.1: Installed capacity of Pakistan (MW) 1938-2020, every 5 years	173
Figure 54.2: Installed capacity of Pakistan (MW) 1950 to 2011 annually	173
Figure 54.3: Generation (GWh) and installed capacity (MW), in Pakistan, 1950 to 2006.....	174
Figure 54.4: Fuel mix of generating capacity of Pakistan (MW) 1990 to 2011.....	174
Figure 55.1: Installed capacity of the Philippines (MW) 1950-2020, every 5 years	175
Figure 55.2: Installed capacity of the Philippines (MW) 1950 to 2011 annually.....	175
Figure 55.3: Generation (GWh) and installed capacity (MW), in Philippines, 1950 to 2006	176
Figure 55.4: Fuel mix of generating capacity of the Philippines (MW) 1990 to 2011.....	176
Figure 56.1: Installed capacity of Singapore (MW) 1960-2020, every 5 years	177
Figure 56.2: Installed capacity of Singapore (MW) 1950 to 2011 annually.....	177
Figure 56.3: Generation (GWh) and installed capacity (MW), in Singapore, 1950 to 2006..	178
Figure 56.4: Fuel mix of generating capacity of Singapore (MW) 1990 to 2011	178
Figure 57.1: Installed capacity of Taiwan (MW) 1950-2020, every 5 years	180
Figure 57.2: Installed capacity of Taiwan (MW) 1950 to 2011 annually.....	180
Figure 57.3: Generation (GWh) and installed capacity (MW), in Taiwan, 1950 to 2006.....	181
Figure 57.4: Fuel mix of generating capacity of Taiwan (MW) 1990 to 2011	181
Figure 57.5: Capacity shares of public utilities and self-producers in Taiwan.....	182
Figure 58.1: Installed capacity of Thailand (MW) 1950-2020, every 5 years.....	183
Figure 58.2: Installed capacity of Thailand (MW) 1950 to 2011 annually	183
Figure 58.3: Generation (GWh) and installed capacity (MW), in Thailand, 1950 to 2006.....	184
Figure 58.4: Fuel mix of generating capacity of Thailand (MW) 1990 to 2011	184
Figure 58.5: Capacity shares of public utilities and self-producers in Thailand	185
Figure 59.1: Installed capacity of Vietnam (MW) 1938-2020, every 5 years.....	186
Figure 59.2: Installed capacity of Vietnam (MW) 1960 to 2011 annually	186
Figure 59.3: Generation (GWh) and installed capacity (MW), in Vietnam, 1950 to 2006	187
Figure 59.4: Fuel mix of generating capacity of Vietnam (MW) 1990 to 2011	187
Figure 60.1: Installed capacity of Argentina (MW) 1950-2020, every 5 years	188
Figure 60.2: Installed capacity of Argentina (MW) 1950 to 2011 annually.....	188
Figure 60.3: Generation (GWh) and installed capacity (MW), in Argentina, 1950 to 2006 ...	189
Figure 60.4: Fuel mix of generating capacity of Argentina (MW) 1990 to 2011	189
Figure 60.5: Capacity shares of public utilities and self-producers in Argentina.....	190

Figure 61.1: Installed capacity of Brazil (MW) 1950-2020, every 5 years.....	191
Figure 61.2: Installed capacity of Brazil (MW) 1950 to 2011 annually	191
Figure 61.3: Generation (GWh) and installed capacity (MW), in Brazil, 1950 to 2006	192
Figure 61.4: Fuel mix of generating capacity of Brazil (MW) 1990 to 2010	192
Figure 61.5: Capacity shares of public utilities and self-producers in Brazil	193
Figure 62.1: Installed capacity of Chile (MW) 1950-2020, every 5 years.....	194
Figure 62.2: Installed capacity of Chile (MW) 1950 to 2011 annually	194
Figure 62.3: Generation (GWh) and installed capacity (MW), in Chile, 1950 to 2006	195
Figure 62.4: Fuel mix of generating capacity of Chile (MW) 1990 to 2011	195
Figure 62.5: Capacity shares of public utilities and self-producers in Chile	196
Figure 63.1: Installed capacity of Colombia (MW) 1955-2020, every 5 years.....	197
Figure 63.2: Installed capacity of Colombia (MW) 1955 to 2011 annually	197
Figure 63.3: Generation (GWh) and installed capacity (MW), in Colombia, 1955 to 2006 ...	198
Figure 63.4: Fuel mix of generating capacity of Colombia (MW) 1990 to 2011	198
Figure 63.5: Capacity shares of public utilities and self-producers in Colombia	199
Figure 64.1: Installed capacity of Paraguay (MW) 1950-2020, every 5 years	200
Figure 64.2: Installed capacity of Paraguay (MW) 1950 to 2011 annually.....	200
Figure 64.3: Generation (GWh) and installed capacity (MW), in Paraguay, 1950 to 2006 ...	201
Figure 64.4: Fuel mix of generating capacity of Paraguay (MW) 1990 to 2011	201
Figure 65.1: Installed capacity of Peru (MW) 1950-2020, every 5 years	202
Figure 65.2: Installed capacity of Peru (MW) 1950 to 2011 annually.....	202
Figure 65.3: Generation (GWh) and installed capacity (MW), in Peru, 1950 to 2006.....	203
Figure 65.4: Fuel mix of generating capacity of Peru (MW) 1990 to 2011.....	203
Figure 65.5: Capacity shares of public utilities and self-producers in Peru.....	204
Figure 66.1: Installed capacity of Puerto Rico (MW) 1950-2020, every 5 years.....	205
Figure 66.2: Installed capacity of Puerto Rico (MW) 1950 to 2011 annually	205
Figure 66.3: Fuel mix of generating capacity of Puerto Rico (MW) 1990 to 2011	206
Figure 67.1: Installed capacity of Uruguay (MW) 1950-2020, every 5 years	207
Figure 67.2: Installed capacity of Uruguay (MW) 1950 to 2011 annually.....	207
Figure 67.3: Generation (GWh) and installed capacity (MW), in Uruguay, 1950 to 2006.....	208
Figure 67.4: Fuel mix of generating capacity of Uruguay (MW) 1990 to 2011.....	208
Figure 68.1: Installed capacity of Venezuela (MW) 1950-2020, every 5 years.....	209
Figure 68.2: Installed capacity of Venezuela (MW) 1950 to 2011 annually	209
Figure 68.3: Generation (GWh) and installed capacity (MW), in Venezuela, 1950 to 2006 .	210
Figure 68.4: Fuel mix of generating capacity of Venezuela (MW) 1990 to 2011	210
Figure 68.5: Capacity shares of public utilities and self-producers in Venezuela	211
Figure 69.1: Installed capacity of Canada (MW) 1938-2020, every 5 years	212
Figure 69.2: Installed capacity of Canada (MW) 1932 to 2011 annually.....	212
Figure 69.3: Generation (GWh) and installed capacity (MW), in Canada, 1950 to 2006.....	213
Figure 69.4: Fuel mix of generating capacity of Canada (MW) 1990 to 2011.....	213

Figure 69.5: Capacity shares of public utilities and self-producers in Canada.....	214
Figure 70.1: Installed capacity of the USA (MW) 1950-2020, every 5 years	215
Figure 70.2: Installed capacity of the USA (MW) 1950 to 2011 annually.....	215
Figure 70.3: Generation (GWh) and installed capacity (MW), in the USA, 1950 to 2006	216
Figure 70.4: Fuel mix of generating capacity of the USA (MW) 1990 to 2011	216
Figure 70.5: Capacity shares of public utilities and self-producers in the USA.....	217
Figure 71.1: Installed capacity of Mexico (MW) 1938-2020, every 5 years	218
Figure 71.2: Installed capacity of Mexico (MW) 1879 to 2011 annually	218
Figure 71.3: Generation (GWh) and installed capacity (MW), in Mexico, 1950 to 2006	219
Figure 71.4: Fuel mix of generating capacity of Mexico (MW) 1990 to 2011	219
Figure 71.5: Capacity shares of public utilities and self-producers in Mexico.....	220

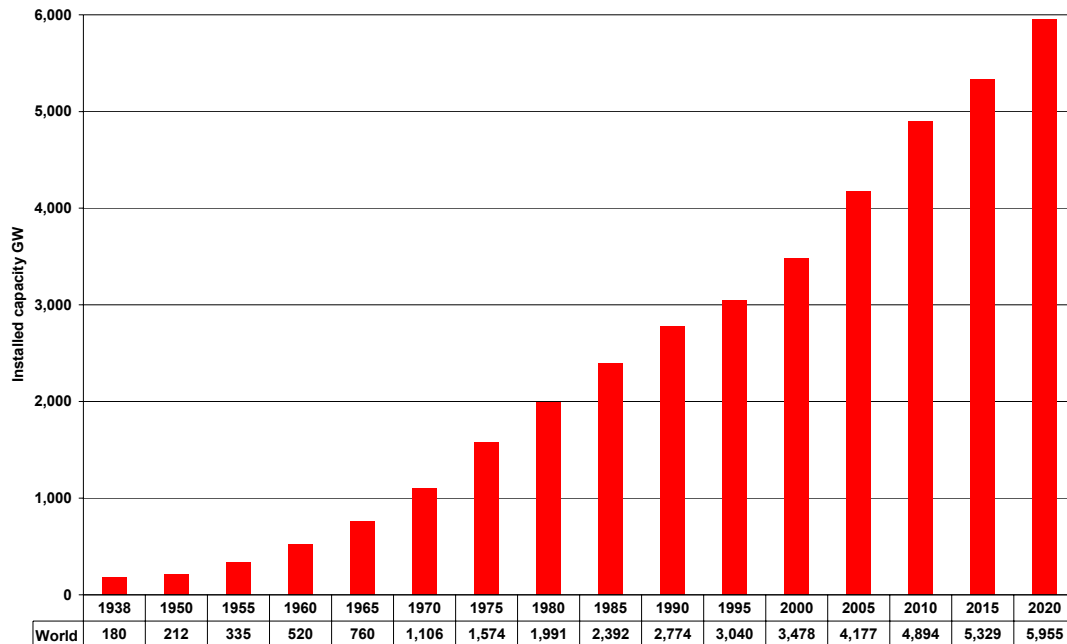
Overview

Overview of World Generating Capacity, the Power Prediction

Global generating capacity rose from approximately 180 GW in 1938, to 212 GW immediately following the end of the Second World War, and then to 4,519 GW in 2007.

Global capacity is forecast to reach 5,955 GW in 2020.

Figure 0.1: The evolution of global generating capacity, GW, 1938 to 2020



In its early years, the electrical industry was dominated by Europe with 83 GW in 1950 and North America with 79 GW. Only two other countries were electrically significant, the USSR with 19.6 GW and Japan with 10.5 GW

Europe

1. Austria

Installed generating capacity will rise from less than 1 GW in 1938 to a peak of 20.7 GW in 2010 and thereafter it will decrease to 19.5 GW in 2020 as energy efficiency measures bite, both in demand and supply.

Figure 1.1: Installed capacity of Austria (MW) 1938-2020, every 5 years

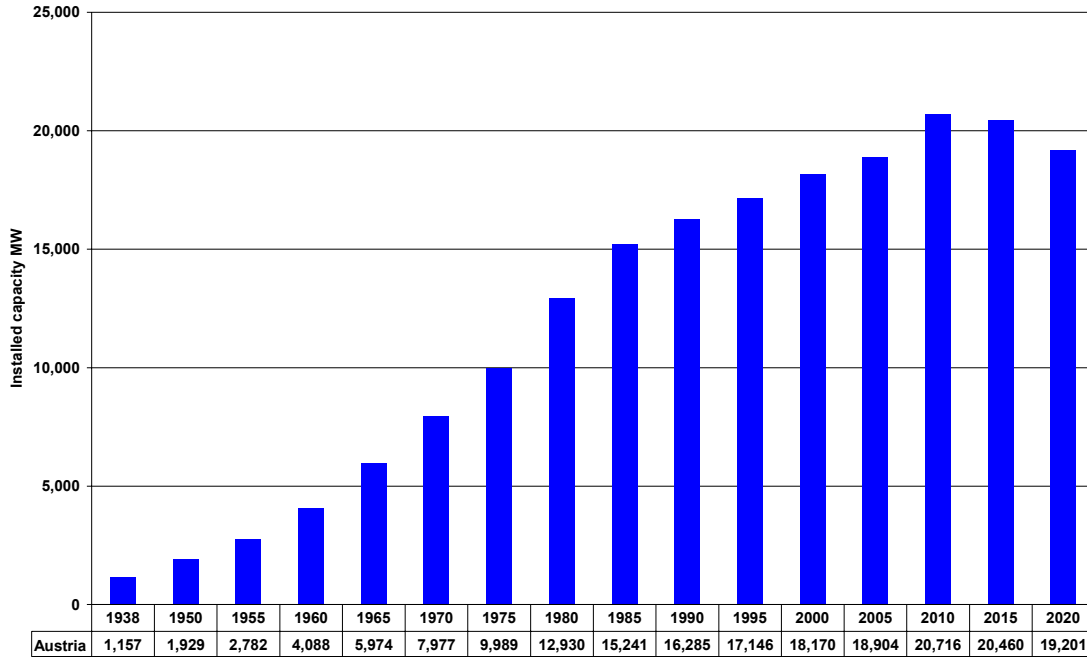
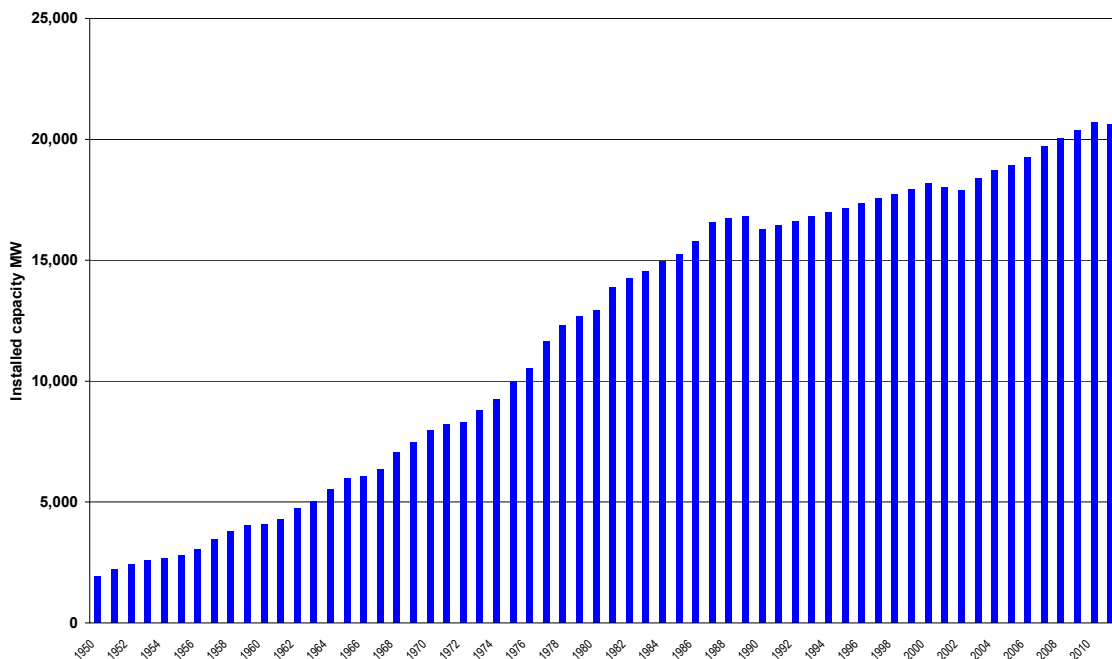
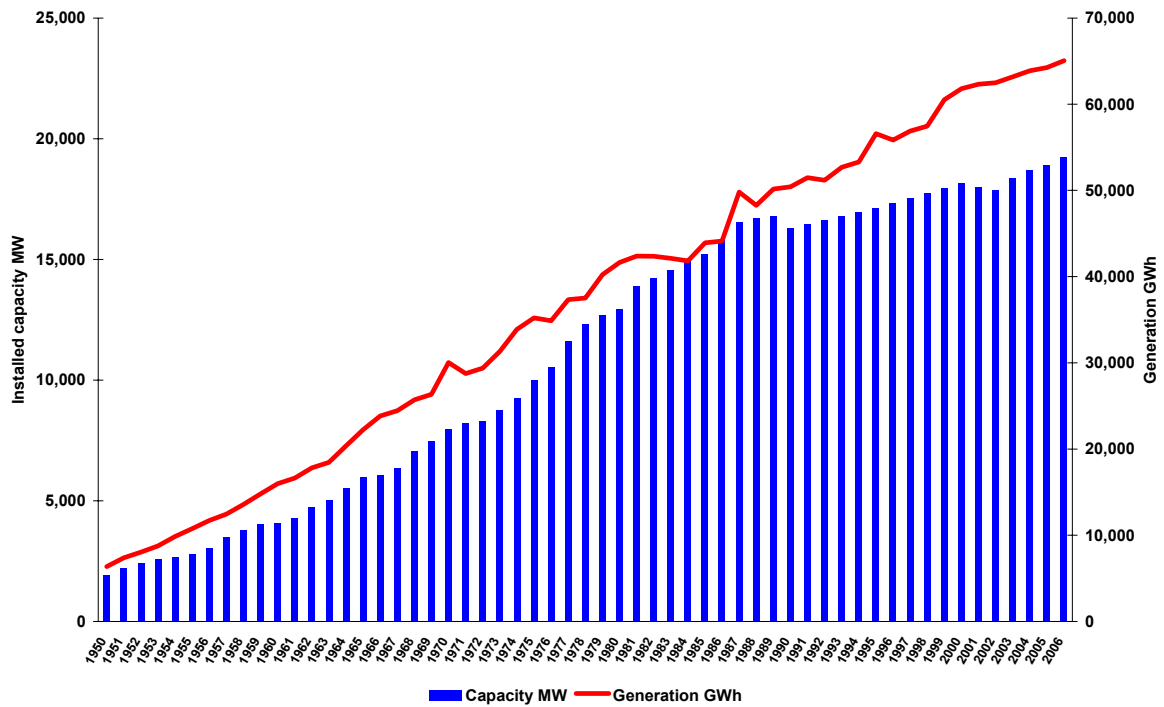


Figure 1.2: Installed capacity of Austria (MW) 1950 to 2011 annually



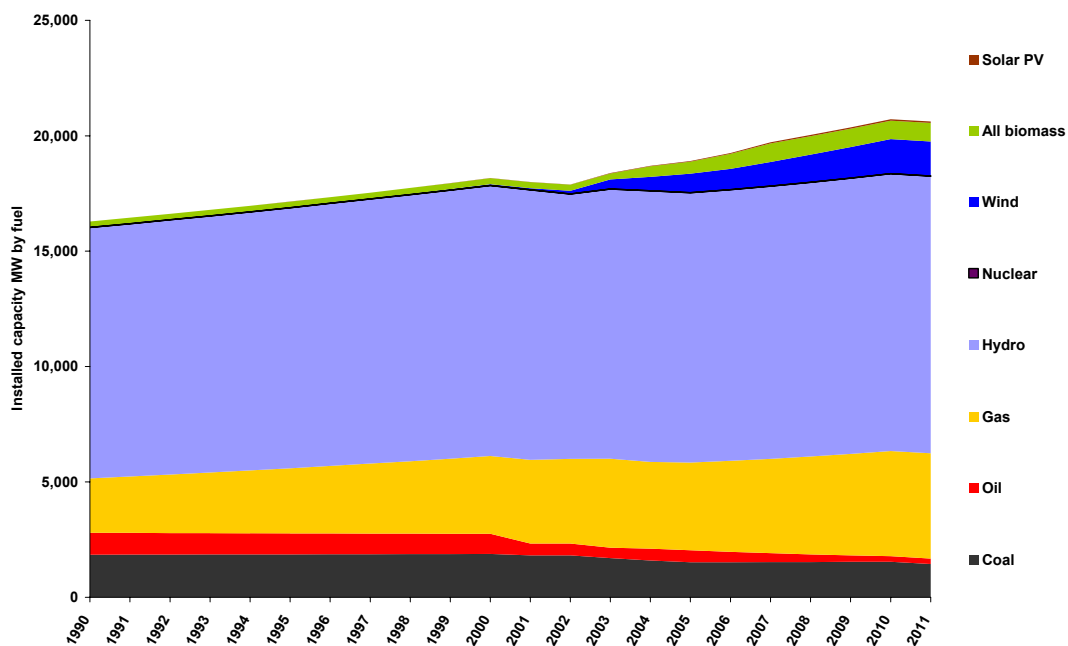
Austria experienced steadily increasing utilisation of generating capacity from 1950 to 1970 and it then came down erratically to its lowest level in the mid 1980s. From the late 1980s utilisation has increased and is now remaining fairly constant.

Figure 1.3: Generation (GWh) and installed capacity (MW), in Austria, 1950 to 2006



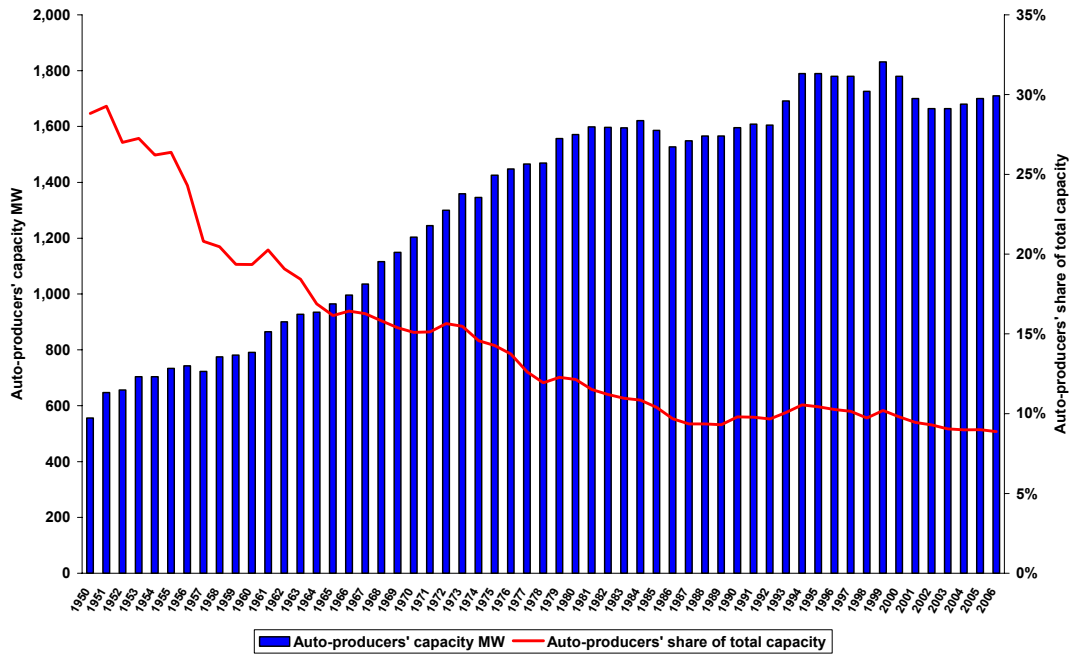
58% of Austria’s installed capacity is hydro, with other renewables making up a further 11%. Gas has the second largest capacity with 22%. Hydro power contributes 58% of power production and other renewables only 3%. Gas provides 39% of produced.

Figure 1.4: Fuel mix of generating capacity of Austria (MW) 1990 to 2011



The structure of power production has changed completely in the last half century. In 1950, when the total capacity of the country was just 1.9 GW, the Austrian auto-producers owned 29% of the country's generating capacity. Since then, although their generating capacity has tripled, the growth of the utility sector has been such that by 2006 the auto-producers' share had declined to 8.9%.

Figure 1.5: Capacity shares of public utilities and self-producers in Austria



ORDER FORM

Name of Report	Quantity	Price
*Add hard copy costs		
*Add hard copy and PDF costs		
Total		

PLEASE CONFIRM THE FOLLOWING DETAILS:

Name.....Title Mr/Mrs/Miss/Ms/Dr/Other (Please circle)
 Job Title.....Department.....
 Company.....
 Address.....
 Postcode.....City.....County/State.....
 Country..... Email.....
 Tel..... Fax.....

Your preferred method of delivery:

Hard copy PDF (via email – 1-3 users only) PDF & Hard copy

***Additional charges:**

PDF (1-3 users only): No extra costs
 Hardcopy: UK - £40, Europe - £60/€100, Rest of world - £75/\$150
 Hardcopy and PDF(1-3 users only): UK - £85, Europe - £105/€175, Rest of world - £120/\$240
 Courier costs are inclusive
 For multiple users of PDF files and multiple hard copies please contact info@absenergyresearch.com
 Please note VAT is added where applicable for UK customers

Payment method:

Credit Card Bank Transfer Cheque Invoice

I enclose a cheque payable to ABS Energy Research for the sum of

Please debit my credit card (please tick choice) AMEX Mastercard Visa

Card NoExpiry Date.....

Card Verification Number (last 3 numbers on back of card).....

Signature

VAT/TVA Number.....

Please send me details of other ABS products and services

Are you responsible for ad hoc market research? If not please confirm details of the person responsible:

Name..... Tel.....

Fax..... Email.....

How did you hear about us? Website Advert Email Press release Direct mail Other – please specify

ABS and/or carefully selected companies would like to contact you in the future with news and special offers. If you prefer not to be contacted please tick this box

Our usual terms and conditions apply please consult www.absenergyresearch.com

Please return your order to:
ABS Energy Research
8 Quarry Rd, London SW18 2QJ, UK
Tel: +44 (0)20 8432 6378
Fax: +44 (0)20 8328 7117
Email: info@absenergyresearch.com
www.absenergyresearch.com