Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Austria (AT)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	11	15	17	21	20	16	16
of which multifuel							
Hard Coal	0	4	6	5	5	2	2
Brown Coal	2	2	2	0	0	0	0
Oil	5	2	1	1	1	0	0
Natural Gas	4	7	7	14	12	13	13
Derived Gas	0	1	1	2	2	1	1
Pumped Hydro	8	9	13	13	13	18	*20*
Renewables				35	44	62	73
Hydro							
of which Run of River	21	23	30	28	25	33	36
of which Reservoir							
Wind				2	2	6	9
of which Wind Onshore				2	2	6	9
of which Wind Offshore				0		0	0
Solar				0	0	0	4
of which PV				0	0		
of which CSP							
Geothermal				0	0	0	0
Biogas				0	1	1	1
Biomass				2	4	2	3
Waste				0	0	0	0
Other (Wave/Tidal etc)				0		0	0
Other							
Peat							
Not Specified	1	1	0	1	0	1	1
Total	41	49	60	67	63	79	90

Belgium (BE)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	12	43	48	46	46	32	0
Fossil Fuel Fired	38	27	33	38	31	39	71
of which multifuel							
Hard Coal	12	20	16	6	5	4	28
Brown Coal							
Oil	17	1	1	0	0	2	3
Natural Gas	6	5	16	31	25	33	37
Derived Gas	3					3	3
Pumped Hydro	1	1	1	1	1	1	*1*
Renewables	0	1	2	7	9	23	28
Hydro	0	0	0	0	0	0	1
of which Run of River	0	0	0	0	0	0	1
of which Reservoir							
Wind		0	0	1	2	11	16
of which Wind Onshore			0	1	2	4	6
of which Wind Offshore			0	0	0	7	10
Solar		0	0	1	1	3	4
of which PV				1	1	3	4
of which CSP							
Geothermal		0	0	0	0	0	0
Biogas			0	1	0	1	1
Biomass			0	3	3	5	6
Waste	0	1	1	2	2	3	3
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified							
Total	51	71	84	91	85	99	101

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

BULGARIA (BG)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	6	14	17	14	15	15	21
Fossil Fuel Fired	22	22	17	22	26	30	43
of which multifuel	0	0	0	0		0	0
Hard Coal	7	7	2	20	24		
Brown Coal	9	11	12	15			
Oil	3	2	1	0		6	9
Natural Gas	3	2	2	2	2	6	10
Derived Gas	0	0	0	0			
Pumped Hydro	0	0	0	1	1	1	*1*
Renewables	0	0	0	6	4	81	106
Hydro				5	3	46	45
of which Run of River	0	0	0	0			
of which Reservoir							
Wind	0	0	0	0	1	22	45
of which Wind Onshore	0	0	0	2		5	7
of which Wind Offshore	0	0	0	0		0	0
Solar	0	0	0	0		9	12
of which PV				0	0		
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	0	0	0		0	0
Biomass	0	0	0	0	0	3	7
Waste	0	0	0	0		0	0
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	31	38	37	47	46	67	89

CYPRUS (CY)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	1	2	3	5	5	9	12
of which multifuel	0	0	0			0	0
Hard Coal	0	0	0			0	0
Brown Coal	0	0	0			0	0
Oil	1	2	3			1	1
Natural Gas	0	0	0			8	11
Derived Gas	0	0	0			0	0
Pumped Hydro	0	0	0			0	*0*
Renewables	0	0	0	0	0	0	0
Hydro							
of which Run of River	0	0	0			0	0
of which Reservoir							
Wind	0	0	0	0	0		
of which Wind Onshore	0	0	0				
of which Wind Offshore	0	0	0				
Solar	0	0	0				
of which PV							
of which CSP							
Geothermal	0	0	0				
Biogas	0	0	0				
Biomass	0	0	0				
Waste	0	0	0				
Other (Wave/Tidal etc)	0	0	0				
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	1	2	3	5	5	9	12

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Czech Republic (CZ)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	12	13	26	27	26	35
Fossil Fuel Fired	46	45	53	48	49	50	50
of which multifuel	0	0	0	0	0	0	0
Hard Coal	7	6	7	5	5	8	7
Brown Coal	37	38	43	43	43	39	40
Oil	1	0	0	0	0	0	0
Natural Gas	0	0	2	3	4	2	2
Derived Gas	1	1	2	0	0	2	1
Pumped Hydro	1	0	1	1	3	1	*1*
Renewables	0	0	0	4	3	4	4
Hydro				3			
of which Run of River	1	1	1			1	1
of which Reservoir							
Wind	0	0	0	0	0	2	4
of which Wind Onshore	0	0	0	0	0	2	4
of which Wind Offshore	0	0	0	0	0	0	0
Solar	0	0	0	1	0	1	1
of which PV				1	2		
of which CSP							
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	1	0	2	2
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other							
Peat							
Not Specified	0	0	0	0	0	8	0
Total	49	58	68	79	81	90	93

Germany (DE)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	41	139	161	133	102	59	0
Fossil Fuel Fired	289	261	335	350	345	278	190
of which multifuel	43	36	39	34	34		
Hard Coal	87	75	131	107	104	75	54
Brown Coal	105	129	136	132	138	118	56
Oil	25	9	5	8	6	1	0
Natural Gas	59	34	47	87	84	78	74
Derived Gas	13	14	15	16	13	6	6
Pumped Hydro	1	3	4	6	6	10	*11*
Renewables	16	21	39	105	124	193	227
Hydro	16	18	25	21	17	21	22
of which Run of River	15	17	24	20	16	20	21
of which Reservoir	1	1	1	1	1	1	1
Wind	0	0	10	38	49	90	116
of which Wind Onshore	0	0	10	38	48	60	64
of which Wind Offshore	0	0	0	0	1	30	52
Solar	0	0	0	12	20	33	37
of which PV	0	0	0	12	20	33	37
of which CSP	0	0	0	0	0	0	0
Geothermal	0	0	0	0	0	2	3
Biogas	0	0	0	16	20	27	29
Biomass	0	0	2	11	11	12	13
Waste		2	3	8	8	8	8
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	347	423	539	595	577	539	429

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Denmark (DK)

	1980	1990	2000	2010	2011	2020	2030
Nuclear							
Fossil Fuel Fired	24	30	30	24	20	27	24
of which multifuel	0	0	0	0		0	0
Hard Coal	21	29	17	16	14	10	7
Brown Coal	0	0	0	0		0	0
Oil	3	1	4	1	0	1	1
Natural Gas	0	0	9	8	6	14	14
Derived Gas	0	0	0	0		0	0
Pumped Hydro	0	0	0	0		0	*0*
Renewables	0	0	6	12	15	17	23
Hydro							
of which Run of River	0	0	0	0		0	0
of which Reservoir							
Wind	0	0	4	8	10	17	23
of which Wind Onshore	0	0				8	9
of which Wind Offshore	0	0				8	14
Solar	0	0	0	0		0	0
of which PV							
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	1	4	4	0	0
Waste	0	0	1	1	1	0	0
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	24	31	35	37	35	38	44

Estonia (EE)

	1980	1990	2000	2010	2011	2020	2030
Nuclear			0	0		0	
Fossil Fuel Fired			9	12		10	
of which multifuel			0			1	
Hard Coal			0	0		0	
Brown Coal			8	11		9	
Oil			0	0		0	
Natural Gas			1	0		1	
Derived Gas			0	0		1	
Pumped Hydro			0	0		0	
Renewables			0	1		4	
Hydro							
of which Run of River			0	0		0	
of which Reservoir							
Wind			0	0		2	
of which Wind Onshore			0	0		1	
of which Wind Offshore			0	0		1	
Solar			0	0		0	
of which PV							
of which CSP							
Geothermal			0	0		0	
Biogas			0	0		0	
Biomass			0	1		1	
Waste			0	0		0	
Other (Wave/Tidal etc)			0	0		0	
Other							
Peat							
Not Specified				0		0	
Total	17	15	9	13		14	

Note: In the case of Estonia, brown coal includes oil shale.

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

SPAIN (ES)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	5	52	60	60	55	58	77
Fossil Fuel Fired	69	69	119	131	136	159	154
of which multifuel	3	3	4	0	0	0	0
Hard Coal	22	46	62	20	36	26	15
Brown Coal	7	11	14	6	8	0	0
Oil	37	8	23	14	13	21	25
Natural Gas	3	4	20	92	79	112	114
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	3	5	3	3	2	5	*5*
Renewables	28	21	34	98	87	133	178
Hydro	28	21	28	42	30	36	37
of which Run of River	1	0	0	7	5	0	0
of which Reservoir	27	21	28	35	25	36	37
Wind	0	0	5	43	41	76	112
of which Wind Onshore	0	0	5	43	41	76	112
of which Wind Offshore	0	0	0	0	0	0	0
Solar	0	0	0	7	9	14	20
of which PV	0	0	0	6	7	8	14
of which CSP	0	0	0	1	2	6	6
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	1	1	1	2
Biomass	0	0	0	2	3	3	4
Waste	0	0	1	3	3	3	3
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	105	147	216	292	280	355	414

FINLAND (FI)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	7	18	22	22	22	36	58
Fossil Fuel Fired	17	15	18	25	19	16	15
of which multifuel	0	0	0	0	0		
Hard Coal	11	9	8	14	9	5	4
Brown Coal	0	0	0	0	0	0	0
Oil	4	2	1	0	0	1	1
Natural Gas	2	4	8	11	9	10	10
Derived Gas	0	0	0	0	0		
Pumped Hydro	0	0	0	0	0	0	*0*
Renewables	14	15	23	23	23	34	38
Hydro	10	11	15	13	12	15	15
of which Run of River							
of which Reservoir							
Wind	0	0	0	0	1	6	9
of which Wind Onshore	0	0	0	0	1	6	9
of which Wind Offshore	0	0	0	0	0		
Solar	0	0	0	0			
of which PV				0	0		
of which CSP							
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	3	4	8	10	10	13	13
Waste			0	0	0	1	1
Other (Wave/Tidal etc)			0	0	0	0	0
Other	1	3	5	7	6	5	3
Peat	1	3	4	6	5	5	3
Not Specified	1	1	1	1	1		
Total	39	52	67	77	70	92	115

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

France (FR)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	58	298	395	408	421	420	375
Fossil Fuel Fired	119	45	50	60	52	49	45
of which multifuel	0	0	0	0			
Hard Coal	60	29	26	19	13	16	9
Brown Coal	1	0	0	0			
Oil	45	7	8	8	8	2	4
Natural Gas	6	3	11	30	31	31	31
Derived Gas	8	5	3	2			
Pumped Hydro	1	4	5	68	6	5	5
Renewables	1	1	3	15	65	113	162
Hydro					45	62	62
of which Run of River	42	32	37	33	34		
of which Reservoir					11		
Wind	0	0	0	10	12	31	58
of which Wind Onshore	0	0		10	12		
of which Wind Offshore	0	0		0			
Solar	0	0	0	1	2	9	22
of which PV				1	2	9	22
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	0	0	1	1		
Biomass	0	0	0	1	1	10	16
Waste	0	0	2	3	3		
Other (Wave/Tidal etc)	1	1	1	0		1	4
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	247	400	517	550	543	587	588

United Kingdom (UK)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	32	59	78	56	63	57	74
Fossil Fuel Fired	229	234	270	281	252	139	88
of which multifuel	20	22	30				1
Hard Coal	204	209	115	102	103	33	35
Brown Coal	0	0	0	0		0	0
Oil	23	21	6	4	3	5	0
Natural Gas	0	2	145	168	173	104	53
Derived Gas	2	2	4	2	2	0	0
Pumped Hydro	1	2	3	3	3	3	3
Renewables	0	1	5	25	33	118	203
Hydro				4	6	9	
of which Run of River	0	0	0	4	6	9	0
of which Reservoir							
Wind	0	0	1	10	16	67	163
of which Wind Onshore	0	0		7	10		52
of which Wind Offshore	0	0	0	3			112
Solar	0	0	0	0	0	5	6
of which PV				0	0	5	
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	1	2	5	6		
Biomass	0	0	1	5	5	37	33
Waste	0	0	1	2			
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat							
Not Specified	0	0	0	0			
Total	266	300	361	366	334	329	375

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Greece (GR)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	
Fossil Fuel Fired	18	30	45	43	47	43	
of which multifuel							
Hard Coal	0	0	0	0	0	0	
Brown Coal	9	23	31	27	28	22	
Oil	9	7	9	5	5	2	
Natural Gas			6	11	15	20	
Derived Gas	0	0	0	0	0	0	
Pumped Hydro	0	0	1	0	0	0	
Renewables	0	0	1	11	8	19	
Hydro				7	4	5	
of which Run of River	0	0	0	1	1	1	
of which Reservoir				7	3	4	
Wind	0	0	0	3	3	8	
of which Wind Onshore	0	0	0	3	3	7	
of which Wind Offshore	0	0	0	0	0	0	
Solar	0	0	0	0	1	5	
of which PV				0	1	4	
of which CSP						1	
Geothermal	0	0	0	0	0	1	
Biogas	0	0	0	0	0	1	
Biomass						0	
Waste	0	0	0	0	0	0	
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified	0	0	0	0	0	0	
Total	21	32	50	54	56	63	

Hungary (HU)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	14	14	15	15	14	22
Fossil Fuel Fired	24	15	21	17	17	19	16
of which multifuel	0	0	0	0	0	0	0
Hard Coal	0	1	1	1	1	0	0
Brown Coal	12	8	8	5	5	3	3
Oil	6	1	5	0	0	0	0
Natural Gas	6	5	7	11	11	15	13
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	0	0	0	0	0	0	*3*
Renewables	0	0	0	2	2	5	5
Hydro				0	0	0	0
of which Run of River	0	0	0	0	0	0	0
of which Reservoir	0	0	0	0	0	0	0
Wind	0	0	0	1	1	2	2
of which Wind Onshore	0	0	0	1	1	2	2
of which Wind Offshore	0	0	0	0	0	0	0
Solar	0	0	0	0	0	0	0
of which PV				0	0	0	0
of which CSP	0	0	0	0	0	0	0
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	1	1
Biomass	0	0	0	2	1	3	3
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	24	29	35	35	34	38	43

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

IRELAND (IE)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	9	13	21	21	21	20	23
of which multifuel	0	2	3		7		
Hard Coal	0	6	6	4	4	2	2
Brown Coal	2	2	2	0	0	0	0
Oil	5	2	4	0	0	0	0
Natural Gas	2	4	9	17	7	18	21
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	0	0	0	0	1	0	*0*
Renewables			0	2	3	6	7
Hydro					1		
of which Run of River				0	1	0	0
of which Reservoir					0		
Wind			0	2	3	6	6
of which Wind Onshore			0	0	3	6	6
of which Wind Offshore				0	0	0	0
Solar	0	0	0	0	0	0	0
of which PV					0		
of which CSP					0		
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	1	1
Biomass	0	0	0	0	0	0	0
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other					0		
Peat							
Not Specified	0	0	0	2	0	1	1
Total	17	24	38	32	24	29	34

ITALY (IT)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	2	0	0	0	0		
Fossil Fuel Fired	126	167	206	211	207		
of which multifuel							
Hard Coal	14	30	24	36	41		
Brown Coal	0	0	0	0	0		
Oil	101	97	84	22	21		
Natural Gas	9	37	93	148	141		
Derived Gas	3	3	4	5	5		
Pumped Hydro	2	3	7	3	2		
Renewables	48	34	50	76	82		
Hydro	45	31	44	51	45		
of which Run of River	18	12	16	22	20		
of which Reservoir	27	20	28	29	26		
Wind	0	0	1	9	10		
of which Wind Onshore	0	0	1	9	10		
of which Wind Offshore	0	0	0	0	0		
Solar	0	0	0	2	11		
of which PV	0	0	0	2	11		
of which CSP	0	0	0	0	0		
Geothermal	3	3	4	5	5		
Biogas	0	0	1	2	3		
Biomass	0	0	1	5	5		
Waste	0	0	0	2	2		
Other (Wave/Tidal etc)	0	0	0	0	0		
Other	0	0	1	1	1		
Peat			0	0	0		
Not Specified	0	0	1	1	1		
Total	177	205	263	291	291		

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Lithuania (LT)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	16	7	0	0	0	10
Fossil Fuel Fired	11	10	2	4	3	5	6
of which multifuel	10	10	2	3	2	3	3
Hard Coal	0	0	0	0	0	0	0
Brown Coal	0	0	0	0	0	0	0
Oil	10	5	1	0	0	0	0
Natural Gas	0	6	1	4	3	4	6
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	0	0	0	1	1	1	*1*
Renewables	0	0	0	1	1	3	3
Hydro				1	1	1	1
of which Run of River	0	0	0	1	1	1	1
of which Reservoir				0	0	0	0
Wind	0	0	0	0	1	2	2
of which Wind Onshore	0	0	0	0	1	2	2
of which Wind Offshore	0	0	0	0	0	0	0
Solar	0	0	0	0	0	0	0
of which PV	0	0	0	0	0	0	0
of which CSP	0	0	0	0	0	0	0
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	0	0	1	1
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	11	26	10	5	5	9	20

Luxembourg (LU)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	1	1	0	3	2	3	3
of which multifuel	0	0	0	0	0	0	0
Hard Coal	0	0	0	0	0	0	0
Brown Coal	0	0	0	0	0	0	0
Oil	0	0	0	0	0	0	0
Natural Gas	0	0	0	3	2	3	3
Derived Gas	1	1	0	0	0	0	0
Pumped Hydro	0	1	1	1	1	1	*1*
Renewables	0	0	0	0	0	0	0
Hydro							
of which Run of River	0	0	0	0		0	0
of which Reservoir							
Wind	0	0	0	0	0	0	0
of which Wind Onshore	0	0	0	0		0	0
of which Wind Offshore	0	0	0	0		0	0
Solar	0	0	0	0		0	0
of which PV							
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	0	0	0		0	0
Biomass	0	0	0	0		0	0
Waste	0	0	0	0		0	0
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	1	1	1	4	4	4	4

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

LATVIA (LV)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	
Fossil Fuel Fired	2	2	1	3	3	3	3
of which multifuel							
Hard Coal	0	0	0	0	0	1	1
Brown Coal	0	0	0	0	0		
Oil	0	0	0	0	0		
Natural Gas	1	2	1	3	3	2	2
Derived Gas	0	0	0	0	0	0	
Pumped Hydro	0	0	0	0	0	0	
Renewables	3	5	3	4	3	5	5
Hydro	3	5	3	3	3	3	3
of which Run of River	3	5	3	3		3	3
of which Reservoir							
Wind	0	0	0	0	0	1	1
of which Wind Onshore	0	0	0	0	0	1	1
of which Wind Offshore	0	0	0	0	0	1	1
Solar	0	0	0	0	0	0	0
of which PV				0	0	0	0
of which CSP							
Geothermal	0	0	0	0	0		
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	0	0	0	0
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat	0	0	0	0	0		
Not Specified	0	0	0	0		0	0
Total	5	6	4	6	6	8	8

MALTA (MT)

	1980	1990	2000	2010	2011	2020	2030
Nuclear		0	0	0	0		
Fossil Fuel Fired		1	2	2	2		
of which multifuel			0	0	0		
Hard Coal			0	0	0		
Brown Coal			0	0	0		
Oil			2	2	2		
Natural Gas		0	0	0	0		
Derived Gas		0	0	0	0		
Pumped Hydro		0	0	0	0		
Renewables		0	0	0	0		
Hydro		0	0	0	0		
of which Run of River		0	0	0	0		
of which Reservoir		0	0	0	0		
Wind		0	0	0	0		
of which Wind Onshore		0	0	0	0		
of which Wind Offshore		0	0	0	0		
Solar		0	0	0	0		
of which PV		0	0	0	0		
of which CSP		0	0	0	0		
Geothermal		0	0	0	0		
Biogas		0	0	0	0		
Biomass		0	0	0	0		
Waste		0	0	0	0		
Other (Wave/Tidal etc)		0	0	0	0		
Other		0	0	0	0		
Peat		0	0	0	0		
Not Specified		0	0	0	0		
Total	0	1	2	2	2		

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

NETHERLANDS (NL)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	4	3	4	4	4	4	25
Fossil Fuel Fired	56	64	81	100	94	89	74
of which multifuel							
Hard Coal	7	25	29	22	21	34	24
Brown Coal	0	0	0	0	0	0	0
Oil	23	0	0	0	0	0	0
Natural Gas	24	37	48	75	69	51	46
Derived Gas	2	2	3	3	3	4	4
Pumped Hydro	0	0	0	0	0	0	*0*
Renewables		1	1	10	11	30	37
Hydro				0	0	0	0
of which Run of River	0	0	0	0	0	0	0
of which Reservoir				0	0	0	0
Wind			1	4	5	17	22
of which Wind Onshore			1	3	4	8	13
of which Wind Offshore			0	1	1	9	9
Solar			0	0	0	4	6
of which PV				0	0	4	6
of which CSP				0	0	0	0
Geothermal							
Biogas			0	1	1	2	3
Biomass			0	4	4	4	5
Waste			0	1	1	2	2
Other (Wave/Tidal etc)			0	0	0	0	0
Other							
Peat				0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	60	69	86	114	109	123	137

POLAND (PL)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	18
Fossil Fuel Fired	110	120	129	134	137	139	141
of which multifuel	0	0	0	0	0	0	0
Hard Coal	86	71	83	85	85	85	90
Brown Coal	22	48	46	45	48	48	45
Oil	2	0	0	0	0	0	0
Natural Gas	0	0	0	5	5	6	6
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	1	2	2	2	1	1	*1*
Renewables	0	0	0	11	12	23	27
Hydro				4	3	3	3
of which Run of River	1	1	1	1	1	1	1
of which Reservoir				1	1	1	1
Wind	0	0	0	2	3	16	20
of which Wind Onshore	0	0	0	2	3	13	13
of which Wind Offshore	0	0	0	0	0	3	7
Solar	0	0	0	0	0	0	0
of which PV				0	0	0	0
of which CSP							
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	5	6	4	5
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other				0	0	0	0
Peat							
Not Specified	0	0	0	0	0	0	0
Total	113	123	133	144	149	162	187

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Portugal (PT)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	7	18	30	24	26	25	28
of which multifuel	0	0	0	0	0	0	0
Hard Coal	1	9	14	7	9	4	0
Brown Coal	0	0	0	0	0	0	0
Oil	6	10	9	2	2	1	1
Natural Gas	0	0	7	15	15	20	28
Derived Gas	0	0	0	0	0	0	0
Pumped Hydro	0	1	1	2	2	2	*3*
Renewables	8	9	12	27	23	28	32
Hydro	8	9	10	14	10	11	12
of which Run of River	6	6	7	10	8	8	8
of which Reservoir	2	2	3	4	3	4	3
Wind	0	0	0	9	9	11	13
of which Wind Onshore	0	0	0	9	9	11	13
of which Wind Offshore	0	0	0	0	0	0	0
Solar	0	0	0	0	0	1	2
of which PV	0	0	0	0	0	1	2
of which CSP	0	0	0	0	0	0	1
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	1	1	2	2
Waste	0	0	1	2	3	3	3
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0
Not Specified	0	0	0	0	0	0	0
Total	15	27	42	53	51	56	63

Romania (RO)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	5	11	11	22	33
Fossil Fuel Fired	49	46	27	25	30	23	26
of which multifuel	22	21	7	5		1	1
Hard Coal	7	4	4	19	22	2	6
Brown Coal	13	15	14	18		12	8
Oil	6	9	3	1		0	0
Natural Gas	23	18	7	7	8	8	13
Derived Gas	0	0	0	0		0	0
Pumped Hydro	0	0	0	0	0	0	*0*
Renewables	0	0	0	21	16	6	9
Hydro				20	15		
of which Run of River	0	0	0	0		0	0
of which Reservoir							
Wind	0	0	0	0	1	6	8
of which Wind Onshore	0	0	0	0		6	8
of which Wind Offshore	0	0	0	0		0	0
Solar	0	0	0	0		0	0
of which PV				0	0		
of which CSP							
Geothermal	0	0	0	0		0	0
Biogas	0	0	0	0		0	0
Biomass	0	0	0	0		0	1
Waste	0	0	0	0		0	0
Other (Wave/Tidal etc)	0	0	0	0		0	0
Other							
Peat							
Not Specified	0	0	0	0		0	0
Total	62	57	47	57	57	68	85

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

SWEDEN (SE)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	25	65	55	56	58	75	53
Fossil Fuel Fired	10	3	5	6	5	5	5
of which multifuel							
Hard Coal	0	1	2	1	1	0	0
Brown Coal	0	0	0	1		0	0
Oil	9	1	1	2	2	1	1
Natural Gas	0	0	0	2	2	3	3
Derived Gas		1	1	1	1	1	1
Pumped Hydro	0	0	0	0	0	0	*0*
Renewables	59	73	82	83	84	96	106
Hydro	58	71	78	67	67	68	69
of which Run of River	0	0	0	0	0	0	0
of which Reservoir	58	71	78	67	67	68	69
Wind	0	0	1	4	6	13	21
of which Wind Onshore							
of which Wind Offshore							
Solar	0	0	0	0	0	0	0
of which PV							
of which CSP							
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0		
Biomass	0	1	2	7	6	10	10
Waste	0	1	2	6	5	6	6
Other (Wave/Tidal etc)	0	0	0	0	0		
Other							
Peat	0	0	0	1	1	0	0
Not Specified							
Total	93	142	142	145	148	177	164

SLOVENIA (SI)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	4	5	6		6	3
Fossil Fuel Fired	4	4	5	6		8	12
of which multifuel			0				
Hard Coal	4	4	4	1		1	1
Brown Coal	0	0	0	4		6	10
Oil	0	0	0	0		0	0
Natural Gas	0	0	0	1		1	1
Derived Gas	0	0	0	0		0	0
Pumped Hydro	0	0	0				
Renewables	0	0	0	0		1	2
Hydro							
of which Run of River	0	0	0				
of which Reservoir							
Wind	0	0	0	0		0	0
of which Wind Onshore	0	0	0	0		0	
of which Wind Offshore	0	0	0	0		0	
Solar	0	0	0	0		0	
of which PV							
of which CSP							
Geothermal	0	0	0	0		0	
Biogas	0	0	0				
Biomass	0	0	0				
Waste	0	0	0				
Other (Wave/Tidal etc)	0	0	0	0		0	
Other							
Peat							
Not Specified	0	0	0	0		0	
Total	7	11	13	15	14	15	

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

SLOVAKIA (SK)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	4	11	15	14	14	16	
Fossil Fuel Fired	12	9	9	6	6	15	
of which multifuel	0	0	0	0		0	
Hard Coal	4	4	3	3	3	2	
Brown Coal	4	3	2	2		2	
Oil	1	1	1	0		0	
Natural Gas	4	2	3	3	3	11	
Derived Gas	0	0	0	0		0	
Pumped Hydro	0	0	0	0	0	0	
Renewables	0	0	0	6	5	1	
Hydro				5	4		
of which Run of River							
of which Reservoir							
Wind	0	0	0	0	0	0	
of which Wind Onshore	0	0	0	0		0	
of which Wind Offshore	0	0	0	0		0	
Solar	0	0	0	0		0	
of which PV				0	0		
of which CSP							
Geothermal	0	0	0	0		0	
Biogas	0	0	0	0		0	
Biomass	0	0	0	0		1	
Waste	0	0	0	0		0	
Other (Wave/Tidal etc)	0	0	0	0		0	
Other							
Peat							
Not Specified	0	0	0	0		0	
Total	19	23	29	26	27	36	

SWITZERLAND (CH)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	14	22	25	25	26	22	9
Fossil Fuel Fired	1	1	2	2	2	2	9
of which multifuel							
Hard Coal							
Brown Coal							
Oil							
Natural Gas							
Derived Gas							
Pumped Hydro	2	2	2	2	2		
Renewables	32	29	37	36	33	37	41
Hydro	32	29	36	35	31	35	36
of which Run of River	15	14	18	16	15	17	17
of which Reservoir	17	15	18	19	17	19	19
Wind		0	0	0	0	0	1
of which Wind Onshore		0	0	0	0	0	1
of which Wind Offshore		0	0	0	0	0	0
Solar		0	0	0	0	0	1
of which PV							
of which CSP							
Geothermal		0	0	0	0		
Biogas		0	0	0	0		
Biomass		0	0	0	0		
Waste		0	1	1	1		
Other (Wave/Tidal etc)		0	0	0	0	0	0
Other							
Peat							
Not Specified							
Total	48	54	65	66	63	61	59

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Norway (NO)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	0	0	0	5	5	2	2
of which multifuel	0	0	0	0		0	0
Hard Coal	0	0	0			0	0
Brown Coal	0	0	0	0		0	0
Oil	0	0	0	0		0	0
Natural Gas	0	0	0	5	5	2	2
Derived Gas	0	0	0	0		0	0
Pumped Hydro	1	2	2	1	2	3	*3*
Renewables	83	121	142	119	123	138	143
Hydro	83	120	141	118	122	132	135
of which Run of River	0	0	0	0		0	0
of which Reservoir							
Wind	0	0	0	1	1	6	8
of which Wind Onshore	0	0	0	1	1	6	7
of which Wind Offshore	0	0	0	0		0	1
Solar	0	0	0	0		0	0
of which PV							
of which CSP							
Geothermal	0	0	0	0	0	0	0
Biogas	0	0	0	0	0	0	0
Biomass	0	0	0	0	0	0	0
Waste	0	0	0	0	0	0	0
Other (Wave/Tidal etc)	0	0	0	0	0	0	0
Other							
Peat							
Not Specified	0	0	1	0	0	0	0
Total	83	121	142	124	128	140	145

Turkey (TR)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0		
Fossil Fuel Fired	11	31	88	148	161		
of which multifuel		2	15	20	20		
Hard Coal	1	1	3	16	24		
Brown Coal	5	18	32	32	33		
Oil	6	4	9	2	1		
Natural Gas		9	44	96	102		
Derived Gas	0	0	1	2	2		
Pumped Hydro	0	0	0	0	0		
Renewables	11	23	30	55	57		
Hydro	11	23	30	51	51		
of which Run of River	0	1	1	7	10		
of which Reservoir	10	22	30	45	42		
Wind	0	0	0	3	5		
of which Wind Onshore							
of which Wind Offshore							
Solar							
of which PV				0	0		
of which CSP							
Geothermal		0	0	1	1		
Biogas			0	0	0		
Biomass							
Waste	0		0	0	0		
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified							
Total	23	54	119	203	218		

Table 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

Bosnia Herzegovina (BA)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0		
Fossil Fuel Fired	5	10	6	8	10		
of which multifuel	0	0	0	0	0		
Hard Coal	5	10	6	8	10		
Brown Coal							
Oil	0	0	0	0	0		
Natural Gas							
Derived Gas							
Pumped Hydro							
Renewables	0	0	0	8	4		
Hydro							
of which Run of River	0	0	0	0	0		
of which Reservoir							
Wind	0	0	0	0	0		
of which Wind Onshore							
of which Wind Offshore							
Solar							
of which PV							
of which CSP							
Geothermal							
Biogas							
Biomass							
Waste							
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified							
Total	10	13	10	16	14		

Croatia (HR)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0		0	
Fossil Fuel Fired	3	4	4	5	5		
of which multifuel							
Hard Coal							
Brown Coal							
Oil							
Natural Gas							
Derived Gas							
Pumped Hydro				0	0		
Renewables	0	0	0	0		0	
Hydro							
of which Run of River							
of which Reservoir							
Wind	0	0	0	0			
of which Wind Onshore							
of which Wind Offshore							
Solar							
of which PV							
of which CSP							
Geothermal							
Biogas							
Biomass							
Waste							
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified							
Total	9	8	11	15	12	20	

TABLE 3.2.1.1 Annual Electricity Generation by Primary Energy (TWh)

SERBIA (RS)

	1980	1990	2000	2010	2011	2020	2030
Nuclear	0	0	0	0	0	0	0
Fossil Fuel Fired	15	28	19	23	27	31	34
of which multifuel	1	1	0	0	0	0	0
Hard Coal	0	0	0	23	27	0	0
Brown Coal	14	26	19	23	27	28	32
Oil	1	1	0	0	0		
Natural Gas	0	2	0	0	0	3	3
Derived Gas	0	0	0	0	0		
Pumped Hydro	0	1	1	1	1	1	*1*
Renewables	11	8	10	12	9	12	13
Hydro	11	8	10	12	9	11	11
of which Run of River	10	7	9	11	8	10	10
of which Reservoir	1	1	1	2	1	1	1
Wind	0	0	0	0	0	1	2
of which Wind Onshore						1	2
of which Wind Offshore							
Solar	0	0	0	0	0		
of which PV				0	0		
of which CSP							
Geothermal	0	0	0	0	0		
Biogas	0	0	0	0	0		
Biomass	0	0	0	0	0		
Waste	0	0	0	0	0		
Other (Wave/Tidal etc)	0	0	0	0	0		
Other							
Peat							
Not Specified	0	0	0	0	0		
Total	25	37	30	36	36	44	48

UKRAINE (UA)

	1980	1990	2000	2010	2011	2020	2030
Nuclear				89	90		
Fossil Fuel Fired				86	93		
of which multifuel							
Hard Coal							
Brown Coal							
Oil							
Natural Gas							
Derived Gas							
Pumped Hydro							
Renewables				13	11		
Hydro							
of which Run of River							
of which Reservoir							
Wind							
of which Wind Onshore							
of which Wind Offshore							
Solar							
of which PV							
of which CSP							
Geothermal							
Biogas							
Biomass							
Waste							
Other (Wave/Tidal etc)							
Other							
Peat							
Not Specified							
Total				188	194		