

Energy and transport

Table A18 Energy intensity, per country, trends and scenarios to 2025 (in toe/US\$ constant 95)

Countries	1971	1980	1992	2000	Baseline scenario 2025	AAGR (%)		
						1980–2000	1992–2000	2000–2025
Spain	0.143	0.168	0.165	0.172	0.107	0.13	0.51	-1.88
France	0.177	0.165	0.148	0.140	0.102	-0.80	-0.66	-1.27
Italy	0.196	0.170	0.149	0.140	0.106	-0.96	-0.74	-1.12
Greece	0.129	0.155	0.195	0.194	0.174	1.14	-0.03	-0.45
Malta	0.426	0.237	0.273	0.204	0.272	-0.74	-3.53	1.16
Cyprus	—	0.241	0.226	0.222	0.171	-0.42	-0.25	-1.05
Slovenia	—	—	—	0.263	0.110	—	—	-3.44
Croatia	—	—	—	0.329	0.196	—	—	-2.04
Bosnia-Herzegovina	—	—	—	0.689	0.238	—	—	-4.17
Serbia-Montenegro	—	—	—	1.020	0.795	—	—	-0.99
Albania	—	—	—	0.513	0.393	—	—	-1.06
Turkey	0.213	0.297	0.307	0.345	0.390	0.75	1.49	0.49
Syria	1.013	0.818	1.115	1.346	0.791	2.52	2.39	-2.10
Lebanon	—	—	0.308	0.394	0.287	—	3.12	-1.26
Israel	0.221	0.192	0.184	0.190	0.168	-0.05	0.36	-0.49
Palestinian Territories	—	—	—	0.277	0.292	—	—	0.21
Egypt	0.440	0.508	0.631	0.576	0.363	0.63	-1.15	-1.83
Libya	—	—	0.302	0.477	0.319	—	5.87	-1.60
Tunisia	0.240	0.294	0.294	0.282	0.210	-0.22	-0.53	-1.16
Algeria	0.232	0.391	0.640	0.594	0.569	2.12	-0.93	-0.17
Morocco	0.177	0.212	0.235	0.251	0.205	0.85	0.80	-0.80
NMC	0.176	0.167	0.153	0.154	0.113	-0.39	0.08	-1.25
SEMC	0.255	0.323	0.371	0.393	0.354	0.99	0.72	-0.42
TOTAL	0.182	0.180	0.178	0.184	0.156	0.13	0.42	-0.66
	<i>Alternative scenario</i>							
NMC	0.176	0.167	0.153	0.154	0.101	-0.39	0.08	-1.66
SEMC	0.255	0.323	0.371	0.393	0.273	0.99	0.72	-1.44
TOTAL	0.182	0.180	0.178	0.184	0.133	0.13	0.42	-1.31

Source: World Bank, *World Development Indicators*, 2002; OME (2002)

Table A19 Primary energy supply sources per country, baseline and alternative scenarios, 2000–2025

<i>Baseline scenario</i>	Primary commercial energy total demand ¹		Share of renewable energy in % of the total energy balance sheets (TPES)			
	2000	(Mtoe) 2025	A 2000	B 2000	A 2025	B 2025
Spain	121	157	6.0	2.5	7.0	4.2
France	246	317	6.8	2.4	7.6	4.1
Italy	169	214	5.3	4.0	6.0	5.0
Greece	27	50	5.3	1.6	7.0	5.1
Malta	1	3	0.0	0.0	0.9	0.9
Cyprus	2	5	2.0	1.5	1.5	1.3
Slovenia	6	8	12.0	5.0	10.2	4.6
Croatia	7	15	11.3	6.5	7.7	5.3
Bosnia-Herzegovina	4	4	14.2	10.0	15.8	11.8
Serbia-Montenegro	13	28	9.4	7.6	7.8	7.0
Albania	2	4	29.3	25.7	19.8	18.3
Turkey	71	251	12.5	4.1	6.4	3.9
Syria	18	39	4.6	4.4	2.6	2.4
Lebanon	5	12	3.4	0.9	2.3	1.2
Israel	20	37	3.4	2.9	2.3	2.1
Palestinian Territories	1	3	25.6	9.8	12.1	5.3
Egypt	45	83	5.4	2.7	4.4	2.8
Libya	16	29	0.9	0.0	0.6	0.1
Tunisia	7	16	15.8	0.1	9.3	2.2
Algeria	29	69	0.3	0.0	0.5	0.4
Morocco	10	20	5.0	0.7	6.4	4.3
NMC	599	806	6.4	3.1	7.1	4.6
SEMC	222	560	7.0	2.6	4.6	2.8
TOTAL	821	1365	6.6	3.0	6.1	3.9
<i>Alternative scenario</i>						
NMC	599	724	6.4	3.1	19.1	16.4
SEMC	222	433	7.0	2.6	10.2	7.9
TOTAL	821	1157	6.6	3.0	15.8	13.2

Source: OME from the International Energy Agency from 1971 to 2000, energy balances of the OECD and non-OECD countries, 2001.

Notes:

1 total demand of energy, excluding CWR

A: Share of total renewables in TPES (%); (Hydro+REn+CWR)/TPES.

B: Share of renewables excluding combustible renewables and waste in TPES (%); (Hydro+REn)/TPES.

CWR: Combustible Renewables and Waste: Solid biomass, gas/liquid from biomass, Municipal and Industrial waste.

TPES: Total Primary Energy Supply (methodology IEA); TPES = Total+CWR.

For availability and comparability reasons, the tables only concern primary commercial energy balance sheets; they exclude non-commercial primary energy, in particular the biomass; they therefore have a tendency to underestimate the shares of renewable energy in the energy balance sheet.

For example, France would have had only 2.4 per cent of renewable energies (REns+HYDRO) in the primary commercial energy balance sheet in 2000 whereas with the biomass, this share should be nearly 6.8 per cent of the total primary energy balance sheet (columns A and B). Likewise, by including the biomass in the renewable energies, Turkey would have already had over 12 per cent of its total primary energy demand in the form of renewable energies in 2000, whereas they were in fact under 5 per cent of its primary commercial energy balance sheet.

To convert electricity production and trade into primary energy, the coefficient of 0.086 toe/MWh was used, in accordance with the method recommended by the IEA.

Trend scenarios built by the countries on the basis of different assumptions may lead to other projections. For example, according to Syria's projections the share of renewable energy in TPES in 2025 would be of 3 per cent (figure from the Ministry of Local Administration and Environment).

Table A19 Primary energy supply sources per country, baseline and alternative scenarios, 2000–2025 (continuation)

Baseline scenario	Supply sources (%)											
	Coal		Oil		N. Gas		Nucl.		Hydro		REn	
	2000	2025	2000	2025	2000	2025	2000	2025	2000	2025	2000	2025
Spain	17	11	54	50	13	27	13	8	2	2	0.5	2.3
France	6	4	35	38	14	19	44	35	2	2	0.1	1.9
Italy	7	8	52	42	34	43	0	0	2	2	1.8	2.7
Greece	34	29	58	54	6	11	0	0	1	2	0.5	3.6
Malta	0	0	100	98	0	1	0	0	0	0	0.0	0.9
Cyprus	1	5	99	90	0	4	0	0	0	0	1.5	1.3
Slovenia	21	21	40	40	14	22	20	14	5	4	0.0	0.5
Croatia	6	3	53	52	30	36	0	0	7	5	0.0	0.3
Bosnia-Herzegovina	64	18	22	39	5	30	0	0	10	12	0.0	0.4
Serbia-Montenegro	55	46	23	24	12	23	0	0	8	7	0.0	0.5
Albania	1	0	67	25	1	56	0	0	27	18	0.0	1.1
Turkey	33	38	44	29	18	30	0	0	4	3	0.7	0.5
Syria	0	0	71	56	25	41	0	0	4	2	0.0	0.2
Lebanon	3	1	94	53	0	45	0	0	1	1	0.1	0.6
Israel	33	29	65	35	0	34	0	0	0	0	3.0	2.1
Palestinian Territories	0	0	71	39	0	55	0	0	0	0	11.6	5.7
Egypt	2	1	59	50	36	46	0	0	3	2	0.0	1.3
Libya	0	0	74	41	26	59	0	0	0	0	0.0	0.1
Tunisia	1	1	58	41	41	56	0	0	0	0	0.0	2.2
Algeria	2	1	29	30	69	68	0	0	0	0	0.0	0.4
Morocco	26	21	70	51	0	23	0	0	1	2	0.1	2.3
NMC	12	10	45	43	19	27	21	16	3	3	1	2
SEMC	15	20	54	37	27	40	0	0	2	2	1	1
TOTAL	13	14	48	40	21	33	15	9	2	2	1	2
Alternative scenario												
NMC	12	8	45	35	19	24	21	16	3	3	1	14
SEMC	15	18	54	32	27	41	0	0	2	3	1	5
TOTAL	13	12	48	34	21	30	15	10	2	3	1	11

Source: OME from the International Energy Agency from 1971 to 2000, Energy balances of the OECD and non-OECD countries.

Notes:

Hydro: energy from hydro power plants. It includes large as well as small hydro.

REn: Geothermal energy, solar energy and wind energy.

Table A20 Primary commercial energy demand, baseline and alternative scenarios, 1971–2025

<i>Baseline scenario</i>												
	Total consumption of primary energy (Mtoe)					AAGR (%)		Primary energy consumption per capita (koe/capita)			AAGR (%)	
	1971	1980	1992	2000	2025	1971–2000	2000–2025	1971	2000	2025	1971–2000	2000–2025
Spain	43	69	93	121	157	3.6	1.1	1267	3031	3857	3.1	0.8
France	155	190	223	246	317	1.6	1.0	3058	4146	4941	1.1	0.6
Italy	115	140	157	169	214	1.3	1.0	2147	2940	3974	1.1	1.0
Greece	9	16	22	27	50	3.8	2.5	1050	2549	4809	3.1	2.2
Malta	0	0	1	1	3	3.8	5.2	860	2095	6734	3.1	4.1
Cyprus	1	1	2	2	5	4.6	2.9	1036	3010	5379	3.7	2.0
Slovenia	—	—	—	6	8	—	1.0	—	3102	3835	—	0.7
Croatia	—	—	—	7	15	—	2.9	—	1656	3605	—	2.7
Bosnia-Herzegovina	—	—	—	4	4	—	0.1	—	1053	1002	—	–0.2
Serbia-Montenegro	—	—	—	13	28	—	3.0	—	1239	2289	—	2.1
<i>Yugoslavia SFR</i>	27	33	30					1119				
Albania	—	—	—	2	4		3.7	0	506	1029	—	2.5
Turkey	13	26	48	71	251	6.0	5.2	364	1076	2879	3.8	3.5
Syria	3	5	11	18	39	6.8	3.1	431	1147	1623	3.4	1.2
Lebanon	2	3	3	5	12	3.4	3.7	866	1538	2935	2.0	2.3
Israel	6	9	13	20	37	4.1	2.4	2165	3451	4647	1.6	1.0
Palestinian Territories	—	0	0	1	3	—	3.9	—	356	477	—	1.0
Egypt	7	15	34	45	83	6.5	2.5	222	684	879	4.0	0.9
Libya	2	7	11	16	29	8.4	2.3	787	3081	3288	4.8	0.2
Tunisia	1	3	5	7	16	5.6	3.6	266	692	1255	3.3	2.1
Algeria	4	12	27	29	69	7.4	3.5	266	956	1627	4.5	1.9
Morocco	2	5	8	10	20	4.9	3.0	162	346	537	2.7	1.5
NMC	344	450	528	599	806	1.9	1.2	2039	3105	4084	1.5	0.9
SEMC	40	84	158	222	560	6.1	3.8	345	951	1715	3.6	2.1
TOTAL	384	534	686	821	1365	2.7	2.1	1347	1925	2607	1.2	1.1
<i>Alternative scenario</i>												
NMC	344	450	528	599	724	1.9	0.8	2039	3105	3673	1.5	0.6
SEMC	40	84	158	222	433	6.1	2.7	345	951	1326	3.6	1.2
TOTAL	384	534	686	821	1157	2.7	1.4	1347	1925	2210	1.2	0.5

Source: OME from the International Energy Agency from 1971 to 2000, Energy balances of OECD and non-OECD countries

Table A21 Electricity production by source, per country, baseline and alternative scenarios, 2000–2025

<i>Baseline scenario</i>														
	Electricity production		Electricity sources (%)											
	(TWh)		Coal		Oil		N. Gas		Nucl.		Hydro.		REn	
	2000	2025	2000	2025	2000	2025	2000	2025	2000	2025	2000	2025	2000	2025
Spain	222	363	36	28	10	7	9	28	28	14	13	10	3	12
France	535	669	3	0	2	1	4	8	78	67	13	13	1	10
Italy	270	381	11	4	32	9	38	61	0	0	16	15	3	11
Greece	53	102	64	43	17	11	11	18	0	0	7	9	1	20
Malta	2	5	0	34	100	60	0	0	0	0	0	0	0	6
Cyprus	3	9	0	0	100	97	0	0	0	0	0	0	0	3
Slovenia	14	18	34	33	1	3	2	11	35	27	28	23	1	3
Croatia	11	22	14	5	16	27	15	25	0	0	55	42	0	2
Bosnia-Herzegovina	10	12	51	44	0	4	0	0	0	0	49	50	0	2
Serbia-Montenegro	32	75	56	56	3	3	3	11	0	0	38	29	0	2
Albania	5	11	0	0	1	5	0	15	0	0	99	75	0	5
Turkey	125	538	31	33	8	7	36	39	0	0	25	19	0	2
Syria	23	65	0	0	22	22	36	62	0	0	41	15	0	2
Lebanon	8	18	0	0	94	8	0	82	0	0	6	5	0	4
Israel	43	72	69	56	31	0	0	42	0	0	0	0	0	3
Palestinian Territories	0	9	—	0	—	2	—	93	—	0	—	0	—	4
Egypt	76	197	0	0	16	7	65	79	0	0	19	8	0	7
Libya	15	44	0	0	78	2	22	97	0	0	0	0	0	1
Tunisia	11	40	0	0	12	10	87	79	0	0	1	1	0	11
Algeria	25	72	0	0	3	6	97	90	0	0	0	0	0	4
Morocco	14	49	58	41	36	0	0	37	0	0	5	10	1	11
NMC	1157	1664	16	13	12	6	13	26	42	30	15	14	2	11
SEMC	340	1104	22	22	20	7	41	56	0	0	16	12	0	4
TOTAL	1497	2768	18	16	14	6	20	38	32	18	15	13	1	8
<i>Alternative scenario</i>														
NMC	1157	1524	16	7	12	1	13	17	42	31	15	16	2	29
SEMC	340	736	22	15	20	2	41	51	0	0	16	18	0	14
TOTAL	1497	2260	18	9	14	1	20	28	32	21	15	16	1	24

Source: OME (2002)

Notes:

Hydro: energy from hydro power plants. It includes large as well as small hydro.
REn: geothermal energy, solar energy and wind energy, excluding bio-masse.

Trend scenarios built by the countries on the basis of different assumptions may lead to other projections. For example, Syria projects a total electricity production of 76.6TWh in 2025 (figure from the Ministry of Local Administration and Environment).

Table A22 Electricity demand, baseline and alternative scenarios, 1971–2025

<i>Baseline scenario</i>												
	Total electricity consumption							Electricity consumption per capita				
	TWh					AAGR (%)		kWh/capita			AAGR (%)	
	1971	1980	1992	2000	2025	1971 –2000	2000 –2025	1971	2000	2025	1971 –2000	2000 –2025
Spain	62	110	156	222	363	4.5	2.0	1810	5568	8892	4.0	1.6
France	156	258	458	535	669	4.3	0.9	3082	9006	10,424	3.8	0.5
Italy	121	186	223	270	381	2.8	1.4	2256	4698	7060	2.6	1.4
Greece	12	23	37	53	102	5.4	2.6	1327	5060	9834	4.7	2.3
Malta	0	0	1	2	5	6.5	3.9	958	4928	11,628	5.8	3.0
Cyprus	1	1	2	3	9	5.8	3.8	1081	4293	9556	4.9	2.8
Slovenia	—	—	—	14	18	—	1.0	0	6933	8674	—	0.8
Croatia	—	—	—	11	22	—	2.8	0	2399	5128	—	2.7
Bosnia-Herzegovina	—	—	—	10	12	—	0.6	0	2626	2775	—	0.2
Serbia-Montenegro	—	—	—	32	75	—	3.5	0	2938	6114	—	2.6
<i>Yugoslavia SFR</i>	30	60	83					1610				
Albania	—	—	—	5	11	—	3.1	0	1587	2775	—	1.9
Turkey	9	23	67	125	538	9.7	6.0	242	1904	6162	7.4	4.1
Syria	1	4	12	23	65	10.2	4.3	214	1420	2708	6.7	2.3
Lebanon	1	3	4	8	18	6.2	3.4	631	2445	4389	4.8	2.0
Israel	8	13	24	43	72	6.1	2.1	2603	7339	9159	3.6	0.8
Palestinian Territories	—	—	—	0	9	—	—	0	0	1482	—	—
Egypt	8	19	46	76	197	8.1	3.9	247	1151	2076	5.4	2.1
Libya	1	5	11	15	44	11.4	4.2	340	2911	4925	7.7	1.8
Tunisia	1	3	6	11	40	8.8	5.5	181	1101	3103	6.4	3.6
Algeria	2	7	18	25	72	8.8	4.3	164	838	1708	5.8	2.5
Morocco	2	5	10	14	49	6.5	5.0	152	497	1270	4.2	3.3
NMC	381	638	961	1157	1664	3.9	1.5	2259	6000	8439	3.4	1.2
SEMC	33	81	199	340	1104	8.4	4.8	284	1455	3380	5.8	2.9
TOTAL	414	719	1160	1497	2768	4.5	2.5	1452	3511	5285	3.1	1.4
<i>Alternative scenario</i>												
NMC	381	638	961	1157	1524	3.9	1.1	2259	6000	7712	3.4	0.9
SEMC	33	81	199	340	736	8.4	3.1	284	1455	2696	5.8	2.1
TOTAL	414	719	1160	1497	2260	4.5	1.7	1452	3511	4802	3.1	1.1

Source: OME, *Plan Bleu*, 2002

Table A23 Electricity production potential from renewable energies in the SEMC in 2020

	Potential (MW)	Electricity produced (TWh/yr)
Wind energy	10,000	20
Photovoltaic	2500	5
Solar thermal	6000	15
Biomass	8000	48
Geothermal	2900	17
Total	29,400	105

Source: OME (2002)

Table A24 The fluctuation of low-tension electricity prices (residential sector) in a number of SEMC

Country	Date Available price	1st block kWh per month	Price in 1/100 Euro	2nd Block kWh per month	Price in 1/100 Euro	3rd block kWh per month	Price in 1/100 Euro	4th block kWh per month	Price in 1/100 Euro	5th block kWh per month	Price in 1/100 Euro
Malta	11/93	<33	5.56	<67	5.44	>67	6.92				
Turkey	2000		3.64								
Syria	1996	<50	0.60	<100	0.84	<200	1.20	<300	1.81	>300	3.61
Lebanon	1993	<100	2.84	<300	4.46	<400	6.49	<500	9.73	>500	16.22
Palestinian Territories	2001	Const.	11.06								
Egypt	1/5/94	<50	1.42	<200	2.36	<350	3.13	<650	4.26	<1000	5.97
Tunisia	1996	<50	5.25	>50	7.14						
Algeria	1997	<41.7	2.18	>41.7	4.73						
Morocco	5-2001	<100	8.61	<200	9.26	<500	10.08	>500	13.77		

Source: Cornut, Ademe, 2001

Note: Prices have been converted into euros by using the exchange rates of May 2001 (infoeuro site: <http://europa.eu.int/comm/budget/inforeuro>):

Country	1 EURO =
Malta	0.40440 MTL
Turkey	1 050 000 TRL
Syria	41.5058 SYP
Lebanon	1356.6 LBP
Palestinian Territories	3.75041 ILS
Egypt	3.5184 EGP
Tunisia	1.27 9 TND
Algeria	66.8524 DZD
Morocco	9.7754 MAD