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Regional Indicators: European Union (EU)

The European Union, with increasingly integrated economies and energy sectors, is the world's second-largest energy consumer (behind the United States). EU members include: [Austria](#), [Belgium](#), [Denmark](#), [Finland](#), [France](#), [Germany](#), [Greece](#), [Ireland](#), [Italy](#), [Luxembourg](#), [The Netherlands](#), [Portugal](#), [Spain](#), [Sweden](#), and the [United Kingdom](#).

Note: Information contained in this report is the best available as of December 2003 and is subject to change.



BACKGROUND

The European Union (EU) was founded as the European Economic Community (EEC) by the Treaty of Rome in 1957 to promote economic and political integration in Europe. The founding of the EEC followed the creation of the European Coal and Steel Community, established after World War II as a means of promoting integration among former enemies. The EEC has expanded from its original six members (Belgium, France, the Federal Republic of Germany, Italy, Luxembourg, and The Netherlands) to include the United Kingdom, Ireland, and Denmark in 1973; Greece in 1981; Spain and Portugal in 1986; and Austria, Finland, and Sweden (former members of the European Free Trade Association) in 1995.

All 15 member states delegate a degree of sovereignty to the EU's network of institutions. National governments are represented in the Council of the European Union, while citizens of the member states are elected to the European Parliament. In 1993, the Maastricht Treaty (which renamed the EEC as the European Union), created European citizenship, strengthened the power of the European Parliament, laid out plans for the Economic and Monetary Union (EMU), as well as committed members to negotiate for expansion of the EU to include Central and Eastern European countries. As part of the EMU, 12 EU member countries (Belgium, France, Germany, Greece, Italy, Spain, Portugal, Finland, Austria, the Netherlands, Ireland and Luxembourg) adopted a new common European currency, called the "euro." The Euro currency entered into general circulation in January 2002. Monetary policy is overseen by the European Central Bank, which works in conjunction with the national central banks of the 12 euro zone countries.

On May 1, 2004, the EU plans to expand its membership from 15 to 25. The new members include:

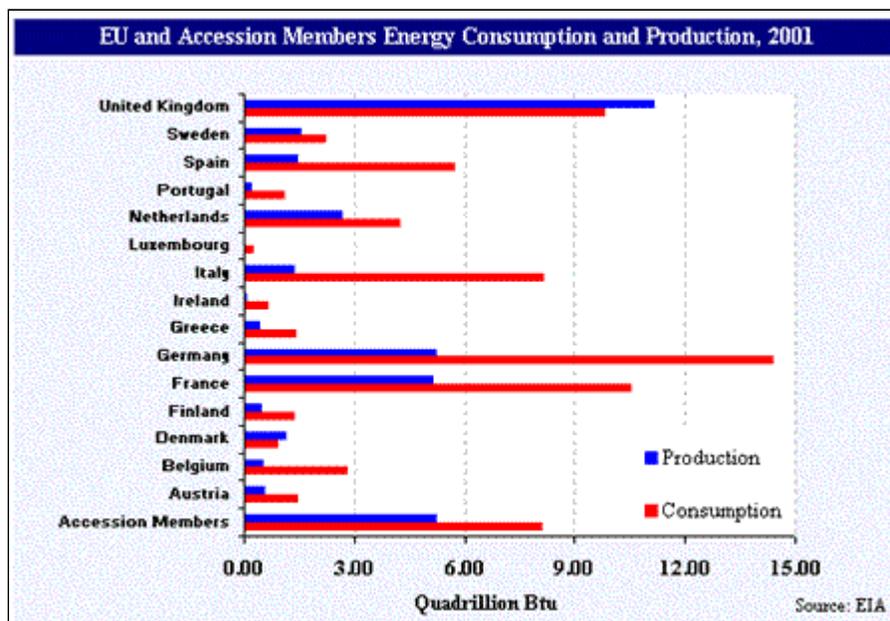
Poland; the Czech Republic; Slovakia; Hungary; Estonia; Latvia; Lithuania; Slovenia; Malta, and Cyprus. Romania and Bulgaria are also expecting to join in 2007.

The combined economies of the current EU are slightly smaller than the U.S. economy (\$9.6 trillion purchasing power parity gross domestic product (GDP) for the EU in 2002 versus \$10.1 trillion for the United States), while the EU population of 379 million significantly exceeds the U.S. population of 289 million. With ten new countries expected to join next year, both the EU's population and its combined GDP will grow (The combined GDP of the EU and the 10 accession countries reached an estimated \$10.4 trillion in 2002; see [Table 1](#)). The United States has extensive trade relations with the EU. In 2002, 21% of U.S. exports (\$144 billion) went to EU members, and 19% of U.S. imports (\$226 billion) originated in EU countries.

Energy

EU members possess only about 0.6% of the world's proven reserves of oil and 2.0% of the world's natural gas reserves (see [Table 3](#)). However, the EU holds 7.3% of proven coal reserves, 16% of the world's capacity for refining crude oil into petroleum products, and 16% of the world's electric generating capacity. In 2001, the EU produced 4.1% of the world's crude oil, 9% of the world's natural gas, and 11% of the world's coal. The ten accession countries will further boost the EU's resources, but only by small percentages. The exception is coal, where reserves would increase an estimated 41%, using 2001 data (see [Table 3](#)).

On the whole, the EU is a net energy importer. According to a report published by the European Commission, (*European Union Energy Outlook to 2020*), two-thirds of the EU's total energy requirements will be imported by 2020. In 2001, for example, the EU covered only 24% of its oil and 57% of its natural gas requirements with indigenous sources. According to Eurogas, the EU is expected to be importing 75% of its natural gas requirements by 2020.



Germany, Italy and France are the EU's largest net importers of energy; the United Kingdom and Denmark are the only net exporters. In regards to the United Kingdom, this trend is expected to reverse in coming years, as the country's oil and natural gas reserves decline. The Netherlands also exports a considerable amount of its annual natural gas production. In 2002, the EU imported 27.5% of its oil requirements from Eastern Europe, mainly Russia,

followed by the Middle East (24.6%), Africa (20.5%) and Norway (19.95), according to Eurostat.

Energy Consumption

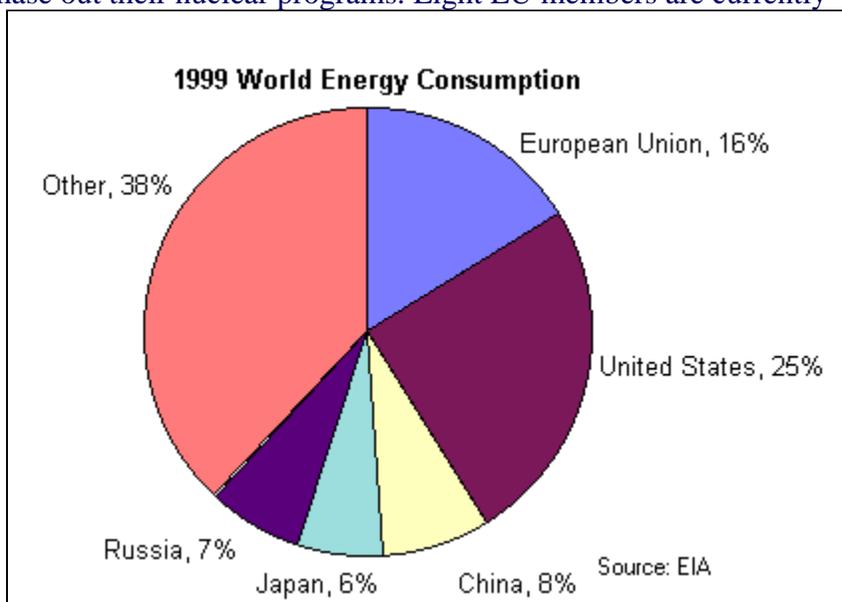
In 2001, the EU consumed 64.7 quadrillion British thermal units (Btu) of energy, which represents 16% of the world's total energy consumption. In comparison, the United States consumed 97.1 quadrillion Btu in 2001, or 32.4 quadrillion Btu more than the EU. Overall, the EU consumed

about 33% of the world's nuclear power, 28% of renewables other than hydro, 18% of oil, 13% of hydro, 16% of natural gas, and 9% of coal in 2001.

Oil was the dominant fuel in 2001 for the EU, (see [Table 2](#)), accounting for 43% of total EU energy consumption, followed by natural gas at 23%. Over the past decade, natural gas has been the fastest growing fuel source in the EU, mainly at the expense of **coal**, whose share declined from 20% in 1991 to 13% of the total energy consumption in 2001. One reason for coal's decline is environmental considerations, particularly with the EU's [Directive 2001/80/EC](#) which seeks to limit air pollutants produced from large combustion plants. All thermal power generators, with at least 50 MW of capacity, will have to reduce their nitrogen oxides (NO_x) and sulphur dioxide (SO₂) emissions or face closure, according to limits set by the Directive. Generators can decide not to comply with the regulations but they will only be allowed to continue to operate for 20,000 hours after the Directive comes into force in 2008. This Directive could put extreme pressure on coal-fired plants, as not only are their NO_x and SO₂ emissions high but also their cost of installing pollution-reducing equipment. Coal-fired plants can expect further limitations once the [EU carbon emissions trading scheme](#) comes into force in 2005, which caps carbon dioxide that power generators are allowed to emit.

Another factor in coal's decline is the increased availability of **natural gas** supplies from Algeria, Norway, and Russia by pipeline, as well as via liquefied natural gas (LNG) imports from Nigeria and elsewhere. Natural gas is also cleaner burning fuel than coal.

Nuclear power generation in the EU grew 19% between 1991 and 2001, but is expected to decrease as some EU countries begin to phase out their nuclear programs. Eight EU members are currently operating nuclear power plants, of which four (Sweden, Germany, Belgium and The Netherlands) have introduced phase-out programs. The phase-out programs have not been without controversy, however, as many have questioned whether alternatives, such as renewables and increased energy efficiency, can eliminate the resulting shortfalls in capacity. Other probable energy alternatives would include increased use of natural gas or coal, which would result in increased carbon emissions just as the EU is trying to fulfill its Kyoto Protocol requirements.



A case in point is the Swedish government's decision to postpone closing the country's second reactor in 2003, as the country has yet to find economical alternatives. Similarly, the Dutch government decided in May 2003 to postpone closure of the country's only nuclear power plant, Borssele, until 2013. The Dutch had voted in 1994 to close down the plant in 2003. In January 2003, Belgium decided to phase out its seven reactors by 2025 but the government has also faced opposition from industry, which cited that no clear alternative has been found. Spain has a moratorium introduced in 1983 on the construction of new nuclear power plants. Finland is

currently the only EU member that is expanding its nuclear capacity. It plans to bring a new 1,600-MW reactor online by 2009. Overall, nuclear power, which offers a zero-carbon, albeit not pollution free, source of electricity, could remain in place in the EU if existing approaches are not able to lower emissions and provide energy security. This remains true for coal as well if clean coal technology is developed and its economics demonstrated.

EU Installed Wind Capacity, June 2003	
Country	MW
Germany	12,836
Spain	5,060
Denmark	2,916
Netherlands	803
Italy	800
United Kingdom	586
Sweden	364
Greece	354
France	220
Austria	219
Portugal	217
Ireland	137
Belgium	56
Finland	41
Luxembourg	16
Total	24,626
Source: European Wind Energy Association	

Hydroelectric power consumption in the EU grew by nearly 27% between 1991 and 2001. In 2001, hydro accounted for approximately 5% of total EU power consumption. Other "renewables" (geothermal, biomass, solar, and wind) quadrupled between 1991 and 2001, but still constituted only 1% of total EU energy consumption in 2001. Nonetheless, **wind** power has made great strides over the last decade. As of June 2003, the EU had an installed wind capacity of 24,626 MW, according to the data published by the European Wind Energy Association (EWEA).

Wind energy is also playing a critical role in the EU's attempt to generate 22% of the region's electricity from renewables by 2020 and to reduce carbon emissions, according to the [EU Renewables Directive \(2001/77/EC\)](#). EWEA is expecting installed wind capacity in the EU to reach upwards of 75,000 MW by 2010.

Energy Policy

Although energy policy was not stipulated in the original treaties establishing the modern European Union, the political and economic policies governed by the EU have found a natural confluence in energy policy. Moreover, many of the EU countries share a similar energy profile, and could face significant import dependency

problems in the coming years.

In November 2000, a [European Commission Green Paper on Energy Security](#) outlined the EU's unified energy strategy. The paper identified four main principles of European energy policy: 1) security of supply; 2) completion of the internal market; 3) environmental responsibility; and 4) promotion of renewable energy and demand management. To these ends, the European Union has acted over the years to coordinate the member countries' energy policies and the infrastructure that links them.

Community energy policy is developed and implemented by the Energy and Transport Directorate-General, which has its headquarters in Brussels. The Energy and Transport Directorate-General reports to the European Commission, which in turn drafts legislative proposals for the European Parliament. The Parliament then works with the Council of the European Union, (which is made up of government officials from the member states) to amend, and eventually adopt energy legislation for the entire EU.

Internal Market

Creation of a single market for energy has long been a priority for the EU, but remains a work-in-progress. The first steps made toward this goal began in the early 1990s, with measures to ensure transparency of electricity and natural gas prices ([Directive 90/377/EEC](#)) and to improve the transit of natural gas ([Directive 91/296/EEC](#)) and electricity ([Directive 90/547/EEC](#)) between the Community's major grids.

Since then, the focus has moved to developing common rules for electricity and natural gas markets. In December 1996, the **EU Directive on Electricity (96/92/EC)** was adopted, establishing common rules for the production, transmission and distribution of electricity for EU member states, as well as setting a schedule for the opening of member countries' markets to free competition. The Directive had to be implemented in member states by February 1999 (Belgium, Greece and Ireland were originally granted extensions (derogations) to implementing provisions within in the Directive, due to the specific technical characteristics of their electricity systems). The Directive originally called for incremental market liberalization, with 33% of the market to be open to free competition by February 2003. The following countries have already opened completely their electricity market: Austria; Denmark; Finland; Germany; Spain; Sweden; and the United Kingdom.

In June 1998, the **EU Directive on Natural Gas (98/30/EC)** was adopted, establishing common laws for the transmission, distribution, supply and storage of natural gas, as well as requiring member countries to adapt national laws to facilitate market opening. The Directive had to be implemented in member states by August 2000 (As in the case with electricity, member countries are allowed to apply for temporary derogations if they face difficulties implementing the Directive's provisions). Currently, Finland, Greece, and Portugal have been granted waivers). The Directive required a minimum of 28% of each member's natural gas market to be opened by August 2003.

Also critical to each Directive was the unbundling of vertically integrated companies within each member state in order to avoid discrimination, cross-subsidization and distortion of competition. Both electricity and natural gas companies were required to keep separate accounts for production (electricity), transmission, distribution and storage activities (natural gas), as well as for non-gas/electricity activities.

Revisions of the Natural Gas and Electricity Directives

In 2000, both the European Council and the European Parliament requested the European Commission to expedite the process for creating internal natural gas and electricity markets, as well as completely liberalizing both sectors. The EU Parliament requested the European Commission to establish "a detailed timetable for the achievement of accurately defined objectives with a view to gradually but completely liberalizing the energy market."

In November 2002, EU ministers fulfilled these requests, agreeing to liberalize completely the EU electricity and natural gas markets over the next five years. The timetable agreed upon is as follows: from July 1, 2004, at the latest, all non-household customers; and from July 1, 2007, all customers.

The EU Parliament and the Council of Ministers approved the agreement in June 2003, which was encompassed in **Directive 2003/54/EC** for electricity and **2003/55/EC** for natural gas. During the deliberation process, France had been the most ardent opponent to liberalization, contesting the EU Commission's original timetable for full liberalization by 2005 as too soon. Despite its opposition, France finally agreed to the 2007 timetable. The deregulation process can be halted, however, if a European Commission report on liberalization, due on January 1, 2006, identifies major problems with the process, a condition requested by the French.

The agreement also sets July 2007 as a deadline for the legal unbundling of electricity and natural gas production and marketing operations from distribution network operations. Transmission operations will have to be unbundled by July 2004. The Commission included in the Directive a provision that intends to undertake initiatives to develop an energy-labeling provision, which would require power companies to provide information "on the environmental impact in terms of at least emissions on CO2 and the radioactive waste resulting from electricity production from different energy sources" in customers' energy bills (For additional details, please see Article 6 (a) and (b) in

[Directive 2003/54/EC](#)

Finally, during the November 2002 meeting, EU ministers agreed to draft regulations on cross-border electricity exchanges. The result was the [Regulation \(EC\) No 1228/2003](#), which the EU Parliament and Council agreed on in June 2003. The agreement outlines rules regarding cross-border interconnection, harmonization of cross-border tariffs, and congestion management. The agreement seeks to promote and facilitate trade of electricity among EU members.

Natural Gas and Electricity Market Opening				
	Electricity		Natural Gas	
	Market opening	100% in/by	Market Opening	100% in/by
Austria	100%	2001	100%	2003
Belgium	52%	2003/7	59%	2003/6
Denmark	100%	2003	35%	2004
Finland	100%	1997	*	
France	37%	2007	20%	2007
Germany	100%	1999	100%	2000
Greece	34%	2007	*	
Ireland	56%	2005	82%	2005
Italy	70%	2007	100%	2003
Luxembourg	57%	2007	72%	2007
Netherlands	63%	2003	60%	2003
Portugal	45%	2004	*	
Spain	100%	2003	100%	2003
Sweden	100%	1998	47%	2006
United Kingdom	100%	1998	100%	1998
Accession Countries				
Cyprus	-		-	
Czech Republic	30%		0%	
Estonia	10%		80%	
Hungary	30-35%		0%	
Latvia	11%		0%	
Lithuania	26%		80%	
Malta	-		-	
Poland	51%		34%	
Slovakia	41%		33%	
Slovenia	64%		50%	
* Derogation Source: European Commission, "Second benchmarking report on the implementation of the internal electricity and gas markets", (4/7/2003).				

Accession Countries

The candidate countries are also required to undertake the same commitments as the member states in implementing the obligations of each Directive. The accession countries are also allowed derogations in case they require time to develop their electricity and natural gas markets. As shown in the chart to the [right](#), most of the candidate countries have already taken steps to open their sectors.

Oil and Natural Gas Supply Security As mentioned in previous paragraphs, the EU on the whole is highly dependent on external sources for oil and natural gas. Political instability, prevailing in many producer countries from which EU member states import, always has the potential to disrupt supply.

In response, the European Commission (EC) proposed in September 2002 emergency measures to be taken in case of a natural gas or oil supply disruption. For oil, the EC envisaged, in line with the International Energy Agency's policy of requiring 90 days of stocks, an increase to 120 days of stocks, creation of a public stockholding body, and the right of the Commission to require member

states to make stocks available if crisis arose. These stocks could not only be released during a physical disruption, similar to the IEA, but also to offset sharp rises in prices. Examples of measures for securing natural gas include having the EC monitoring natural gas supply, with the right to undertake measures to guarantee continuous long-term supply. The Commission could potentially require a member state to release stocks in order to assist countries most affected by a crisis. Overall, the measures sought to increase oil and natural gas stock and, to a certain extent, to centralize control over them.

In September 2003, the EU Parliament rejected large parts of proposed measures. At the core of this rejection was the EC's proposal to increase oil stocks from 90 to 120 days. Many members of the EU Parliament felt that the IEA scheme was already adequate to deal with supply disruptions. After the rejection, the Commission was left to decide whether to withdraw or revise the draft proposal.

Trans-European Energy Networks

In 1996, the European Parliament and Council adopted Decision No 1254/96/EC on establishing a series of guidelines for trans-European energy networks. Within this decision, energy infrastructure projects would be identified to increase the efficiency of the internal market and secure supply.

Examples of projects include building infrastructure to diversify natural gas supply, such as pipeline and liquid natural gas (LNG) terminals, and increasing electricity interconnection capacities among EU member states, as well as with non-member countries. The [Decision](#) was recently amended in June 2003, prioritizing projects for both the electricity and natural gas networks (Please see [Annex 1 of the Decision](#) for information on these projects).

Renewables and Energy Efficiency The Energy and Transport Directorate-General also oversees efforts to increase the role of renewable energy sources in the EU fuel mix, as well as demand management programs. The promotion of renewable energy and energy efficiency are handled by the EU's [Altener](#), and [SAVE](#) programs, respectively. The two programs have been in place since the early 1990s, and in April of 2002 were renewed under the European Commission's proposal, "Intelligent Energy for Europe (2003-2006)." In 2001, renewable energy accounted for 6% of EU energy consumption. The EU aims to derive 12% of the group's gross energy consumption from renewable fuels by 2010, according to the [2001 Directive on Renewables](#). According to the Directive, renewable energy sources are defined as wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and bio-gases.

ENERGY USE AND CARBON EMISSIONS

Under the December 1997 Kyoto Protocol, the EU is obligated to reduce its greenhouse gas emissions 8% from 1990 levels (in that year, the EU emitted 913 Mmt of carbon) by 2008-2012. All EU member states signed the Kyoto Protocol on April 29, 1998 and subsequently ratified it on May 31, 2002. Under a burden-sharing agreement, member states agreed on different emission limitations and/or reduction targets according to economic circumstances. The chart to the right outlines these obligations in accordance with the [Council Decision 2002/58/EC](#).

In 2001, EU members generated 918 Mmt of energy-related carbon emissions, representing 14% of the world total for that year. Of the EU countries, Germany emitted the most carbon (223 Mmt), followed by the United Kingdom (154 Mmt), Italy (122 Mmt) and France (108 Mmt), with only Germany and France showing a decline in carbon emissions compared to 2000.

EU Member States' Burden-sharing Targets	
	Commitments (% change in emissions for 2008-12 relative to base-year levels)
Austria	-13
Belgium	-7.5
Denmark	-21
Finland	0
France	0
Germany	-21
Greece	+25
Ireland	+13
Italy	-6.5
Luxembourg	-28
Netherlands	-6
Portugal	+27
Spain	+15
Sweden	+4
United Kingdom	-12.5
Source: Council Decision 2002/358/EC	

In May 2003, the European Environment Agency (EEA) reported that EU greenhouse gas (GHG) emissions rose for the second consecutive year since 2000. Despite the increases, GHG emissions were still 2.3% below 1990 levels. The latest member states' emission data shows that 10 of the 15 Member States are not on track to meet their agreed share of the EU greenhouse gas emissions target. In the report, EEA pointed out that member states would only reduce emissions 4.7%, using existing abatement policies. That would leave the EU short of its 8% target. This observation, however, did not include the recent adoption of the carbon trading scheme.

EU Carbon Emissions Trading Program

In October 2003, the EU Parliament and Council issued [Directive 2003/87/EC](#) on establishing an emissions trading scheme. The trading regime is expected to be operational on January 1, 2005. According to the Directive, no installation undertaking activities, such as oil refining, power generation including cogeneration, production of metals, mineral, glass, concrete, paper and pulp, is allowed to emit CO₂ unless the operator of facility holds a permit from its government. (Please see [Annex I](#) of the Directive for a more precise list of activities). Under the Directive, member state

governments will allocate annually emission allowances to companies, which would in turn have to meet their allowance by either reducing CO₂ emissions or by acquiring emission rights from other companies. In turn, if a company emits less than its quota, it can either sell them or bank them for future use. By March 31, 2004, each member state is required to develop a national plan, which states the total quantity of (CO₂) allowances that it intends to allocate for the first three-year period beginning in 2005 and how it proposes to allocate them (Please see [Annex III](#) of the Directive for criteria for national allocation plans).

Depending on the progress of the program, the European Commission is allowed to make a proposal to the EU Parliament and Council by December 2004 to amend activities listed in [Annex I](#) of the Directive and to include additional greenhouse gases, which are listed in [Annex II](#). In addition, under Article 30 (3), the Directive could eventually allow companies to achieve reductions through emissions-reducing projects carried out anywhere in the world as long as these reductions can be verified according to the Kyoto Protocol. (These projects fall under the Kyoto Protocols market-based flexible mechanisms: Joint Implementation and Clean Development Mechanism). These reductions could then be converted into allowances and traded within the EU. Overall, this trading regime is paramount in the EU's strategy for meeting its climate-change commitments.

Table 1. Economic and Demographic Indicators for EU Countries						
	Gross Domestic Product (GDP) (purchasing power parity)				Per Capita, 2002E (U.S. Dollars)*	Population 2002E (Millions)
	2002E (Billions of U.S. Dollars)*	Rank	Real GDP Growth Rate			
			2002 Estimate	2003 Projection		
Austria	\$233	31	1.1%	0.7%	\$28,240	8.1
Belgium	\$276	26	0.7%	0.7%	\$27,350	10.3
Denmark	\$161	42	2.1%	0.9%	\$29,450	5.3
Finland	\$134	46	2.2%	1.5%	\$25,440	5.2
France	\$1,555	6	1.3%	0.2%	\$26,180	60.0
Germany	\$2,172	5	0.2%	0.0%	\$26,220	82.4
Greece	\$193	36	4.0%	4.3%	\$18,240	11.0
Ireland	\$128	50	6.9%	2.1%	\$28,040	3.9
Italy	\$1,481	8	0.4%	0.3%	\$25,320	57.5
Luxembourg	\$25	89	2.7%	5.0%	\$51,060	0.4
Netherlands	\$440	18	0.2%	-0.3%	\$27,470	16.0
Portugal	\$179	38	0.4%	-0.7%	\$17,350	10.0
Spain	\$852	13	2.0%	2.3%	\$20,460	40.5
Sweden	\$226	33	1.9%	1.4%	\$25,080	8.8
United Kingdom	\$1,511	7	1.7%	1.4%	\$25,870	59.6
Total/Average	\$9,566		1.1%	0.76%	\$25,121	379
Accession-10**	\$876		2.5%	3.5%	\$11,534	75
Total EU +10	\$10,442					454
United States	\$10,138	1	2.5%	2.9%	\$35,060	289

Sources: Global Insight and World Bank, "World Development Indicators Database".
 * In Purchasing Power Parity
 ** Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.
 Note: Rank is world rank according to the World Bank database. Real GDP totals (2001 and 2002) and per capita total are weighted averages.

	Energy Consumption								Carbon Emissions (Million Metric Tons)
	Total*	Oil	Natural Gas	Coal	Nuclear	Hydro	Other Renewable Electricity	Net Imports	
Austria	1.42	39%	21%	10%	0%	29%	1%	0%	18
Belgium	2.77	45%	21%	13%	16%	0%	0%	3%	39
Denmark	0.90	51%	24%	19%	0%	0%	7%	-1%	16
Finland	1.33	33%	12%	13%	17%	10%	7%	8%	14
France	10.52	40%	15%	5%	39%	7%	0%	-7%	108
Germany	14.35	41%	23%	22%	11%	2%	2%	0%	223
Greece	1.39	61%	5%	30%	0%	1%	1%	2%	28
Ireland	0.61	60%	26%	13%	0%	1%	1%	0%	11
Italy	8.11	48%	32%	7%	0%	6%	2%	6%	121
Luxembourg	0.20	51%	17%	2%	0%	1%	0%	29%	2
Netherlands	4.23	44%	37%	12%	1%	0%	1%	4%	68
Portugal	1.09	65%	9%	11%	0%	13%	2%	0%	16
Spain	5.70	55%	13%	12%	11%	7%	2%	1%	83
Sweden	2.22	30%	1%	4%	30%	36%	2%	-4%	15
United Kingdom	9.81	35%	35%	17%	11%	0%	1%	1%	154
Sub-Total	64.65	43%	23%	13%	14%	5%	1%	1%	918
Accession-10	8.1	28%	22%	42%	8%	3%	0%	-2%	150
Total EU+10	72.75	41%	23%	16%	13%	5%	1%	0%	1,068
United States	97.05	40%	24%	23%	8%	2%	3%	0.1%	1,565

*Total Quadrillion Btu
Source: Energy Information Administration
Note: Percentages may not add to 100% due to independent rounding.

	Fossil Fuels Proved Reserves			Fossil Fuel Production, 2001			Electric Generation Capacity 2001 (Million kilowatts)	Crude Refining Capacity, 1/1/03 (Thousand barrels/day)
	Crude Oil 1/1/03 (Million Barrels)	Natural Gas 1/1/03 (Trillion Cubic Feet)	Coal 2001 (Million Short Tons)	Total Oil Production (Thousand Barrels per Day)	Dry Natural Gas (Trillion Cubic Feet)	Coal (Million Short Tons)		
Austria	86	0.8	28	21	0.1	6.5	14	209
Belgium	0	0.0	0	0	0.0	13.8	14	791
Denmark	1,347	3.0	0	346	0.3	7.6	13	176
Finland	0	0.0	0	0	0.0	7.3	16	252
France	148	0.5	40	35	0.1	20.9	111	1,903
Germany	342	11.3	72,753	86	0.8	265.1	114	2,267
Greece	9	0.0	3,168	6	0.0	75.9	10	407
Ireland	0	0.7	15	0	0.0	3.2	4	71
Italy	622	8.0	37	79	0.5	22.1	69	2,300
Luxembourg	0	0.0	0	0	0.0	0.2	0	0
Netherlands	106	62.0	548	46	2.7	23.4	21	1,207
Portugal	0	0.0	40	0	0.0	5.2	10	304
Spain	158	0.1	728	7	0.0	45.2	48	1,322
Sweden	0	0.0	1	0	0.0	3.7	33	424
United Kingdom	4,715	24.6	1,653	2,541	3.7	70.8	76	1,789
Sub-Total	7,533	111.0	79,010	3,167	8.3	570.7	554	13,422
Accession-10	235	7.7	32,388	76	0.3	276.1	76	1,128
Total EU+10	7,768	118.7	111,398	3,243	8.6	846.8	630	14,550
United States	22,446	183.5	273,656	8,957	19.4	1,121	813	16,623

Sources: Energy Information Administration and Oil & Gas Journal

Sources for this report include: Agence France Presse; Electric Utility Week; Energy Information Administration; Eurogas; European Environment Agency; European Union; European Wind Energy Association; Eurostat; Financial Times; Global Insight; International Energy Agency; International Oil Daily; Oil and Gas Journal; Petroleum Economist; Platts; Power Engineering International; The Electricity Daily; U.S. Census Bureau - Bureau of Economic Analysis; World Bank; World Gas Intelligence.

LINKS

Links to other U.S. government sites:

[International Trade Administration, Country Commercial Guide](#)
[Department of Commerce "Showcase Europe"](#)

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Contact: Charles Esser
charles.esser@eia.doe.gov
Phone: (202) 586-6120
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