

## GREECE – Energy Mix Fact Sheet

### Policy Background

A European energy policy must pursue the objective of a sustainable, competitive and secure supply of energy. If the EU continues on its present course, this key objective will not be attained. In January 2007, the European Commission adopted an energy policy for Europe. This was supported by several documents on different aspects of energy and included an action plan to meet the major energy challenges Europe faces. Each European citizen must be informed of these challenges and the role they should play in meeting them.

A diversified mix of energies will increase security of supply.

### Key Issues

The energy balance of Greece is strongly dependent on imported oil. The recent introduction of natural gas will increase the diversity of the energy mix. Consumption of natural gas has been increasing. The share of renewable sources in primary energy supply is very close to the EU-27 average. Electricity is generated mainly from lignite, leading thus to high CO<sub>2</sub> intensity values. Greece has a significant amount of installed wind capacity. Transport is the most energy-consuming sector in Greece.

### Key Figures (2004)

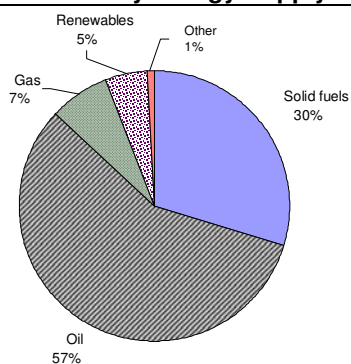
Mtoe	Primary Energy Supply	Domestic Production	Net Imports	Final Energy Consumption	Electricity Generation (TWh)
Solid fuels	9.1	8.5	0.5	0.6	35.4
Oil	17.5	0.1	21.7	13.9	8.4
Gas	2.2		2.2	0.5	9.0
Nuclear					
Electricity			0.2	4.3	
Renewables	1.6	1.6		1.0	5.9
Other	0.2			0.0	0.7
<b>Total</b>	<b>30.6</b>	<b>10.3</b>	<b>24.6</b>	<b>20.2</b>	<b>59.3</b>

### Key Indicators (2004)

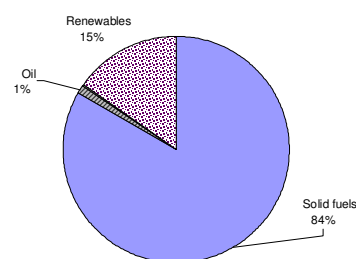
	GREECE	EU-27
Energy per capita (kgoe/cap)	2 769	3 689
Energy intensity (toe/MEUR '00)	203	185
Energy import dependency %	72.7	50.1
CO <sub>2</sub> Emissions (Mt)	94	4 004
CO <sub>2</sub> intensity (tCO <sub>2</sub> /toe)	3.1	2.2
CO <sub>2</sub> per capita (kg/cap)	8 501	8 180

The source for all data is the European Commission, unless otherwise stated

### 2004 Primary Energy Supply



### 2004 Domestic Production

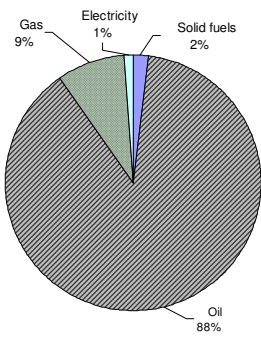
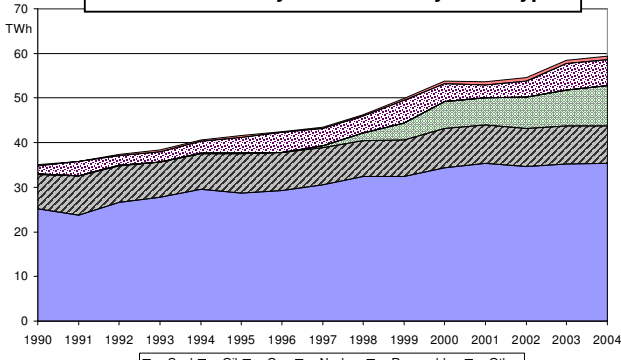
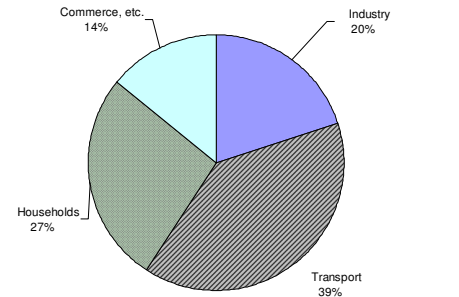


### Primary Energy Supply

Gross inland consumption has been steadily increasing in Greece, showing a total increase of 37% over period 1990-2004. The share of oil and solid fuels in primary energy supply is significantly above the EU-27 average of 38% and 18% respectively. While gas consumption has been growing in recent years, the contribution of natural gas in primary energy supply is still far below the EU-27 average of 24%. Renewable sources, the supply of which has also shown an increase, accounts for 5% of total primary energy supply, close to the EU-27 average of 6%.

### Domestic Production

Solid fuels (lignite) dominate Greece's domestic production with an 84% share. Renewable sources account for a 15% of domestic production (above EU-27 average of 12%), exhibiting a significant increase in recent years (total increase of 41% over the period 1990-2004).

<p><b>Imports</b></p> <p>Greece has a high dependency on energy imports, which have historically been mainly oil. In 2004, oil imports accounted for 88% of total imports, with the share of natural gas increasing in recent years. Saudi Arabia, Iran and the Russian Federation are the main suppliers for oil. The Russian Federation is also the most important source of natural gas for Greece. Imported energy has increased by 60% since 1990. Greece also imports small amounts of electricity and solid fuels.</p>	<p><b>2004 Net Imports by Energy Product</b></p>  <table border="1"> <caption>2004 Net Imports by Energy Product</caption> <thead> <tr> <th>Energy Product</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Oil</td> <td>88%</td> </tr> <tr> <td>Gas</td> <td>9%</td> </tr> <tr> <td>Solid fuels</td> <td>2%</td> </tr> <tr> <td>Electricity</td> <td>1%</td> </tr> </tbody> </table>	Energy Product	Percentage	Oil	88%	Gas	9%	Solid fuels	2%	Electricity	1%																									
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<p><b>Electricity Generation</b></p> <p>Total generation showed a significant growth in recent years. Lignite is the most important fuel for electricity in Greece, representing 60% of total generation. Oil has historically been a very important fuel (used almost exclusively for power generation in the islands). In the mainland system, it is gradually being replaced by gas. The share of natural gas has been increasing since 1997, although remaining below the EU-27 average of 20%. Renewable sources (mainly hydro and increasingly wind) account for the rest of electricity in Greece. In 2005, Greece was the 10<sup>th</sup> largest country in terms of installed wind capacity in the EU (Source: <a href="http://www.ewea.org/">http://www.ewea.org/</a>).</p>	<p><b>Gross Electricity Generation by Fuel Type</b></p>  <table border="1"> <caption>Gross Electricity Generation by Fuel Type (1990-2004)</caption> <thead> <tr> <th>Year</th> <th>Coal</th> <th>Oil</th> <th>Gas</th> <th>Nuclear</th> <th>Renewables</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>1990</td> <td>~25</td> <td>~10</td> <td>~0</td> <td>~0</td> <td>~0</td> <td>~0</td> </tr> <tr> <td>1995</td> <td>~25</td> <td>~10</td> <td>~5</td> <td>~0</td> <td>~0</td> <td>~0</td> </tr> <tr> <td>2000</td> <td>~25</td> <td>~10</td> <td>~15</td> <td>~0</td> <td>~0</td> <td>~0</td> </tr> <tr> <td>2004</td> <td>~25</td> <td>~10</td> <td>~20</td> <td>~0</td> <td>~0</td> <td>~0</td> </tr> </tbody> </table>	Year	Coal	Oil	Gas	Nuclear	Renewables	Other	1990	~25	~10	~0	~0	~0	~0	1995	~25	~10	~5	~0	~0	~0	2000	~25	~10	~15	~0	~0	~0	2004	~25	~10	~20	~0	~0	~0
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<p><b>Final Energy Consumption</b></p> <p>Final energy consumption has increased by 39% since 1990. All sectors, but especially households and commerce, have followed similar growth rates. Transport is the most energy-consuming sector (above EU-27 average of 31%), while households and industry exhibit a total share of 47% in final energy consumption. Oil dominates in terms of types of energy consumed, followed by electricity.</p>	<p><b>2004 Final Energy Consumption by Sector</b></p>  <table border="1"> <caption>2004 Final Energy Consumption by Sector</caption> <thead> <tr> <th>Sector</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Transport</td> <td>39%</td> </tr> <tr> <td>Households</td> <td>27%</td> </tr> <tr> <td>Commerce, etc.</td> <td>14%</td> </tr> <tr> <td>Industry</td> <td>20%</td> </tr> </tbody> </table>	Sector	Percentage	Transport	39%	Households	27%	Commerce, etc.	14%	Industry	20%																									
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<p><b>For further information</b></p> <p>If you want to find more data on Greece or other Member State energy markets, go to <a href="http://epp.eurostat.ec.europa.eu/http://ec.europa.eu/dgs/energy_transport/figures/pocketbook/2006_en.htm">http://epp.eurostat.ec.europa.eu/http://ec.europa.eu/dgs/energy_transport/figures/pocketbook/2006_en.htm</a></p> <p>Further fact sheets on Greece and other Member States can be found on: <a href="http://ec.europa.eu/energy/energy_policy/facts_en.htm">http://ec.europa.eu/energy/energy_policy/facts_en.htm</a></p>																																				
<p><b>What is meant by.....?</b></p> <p><i>Energy Import Dependency</i> shows the extent to which a country relies upon imports in order to meet its energy needs. It is calculated using the following formula: net imports / (primary energy supply + bunkers)</p> <p><i>Energy Intensity</i> gives an indication of the effectiveness with which energy is being used to produce added value. It is defined as the ratio of Primary Energy Supply to Gross Domestic Product</p> <p><i>Final Energy Consumption</i> is the energy finally consumed in the transport, industrial, commercial, agricultural, public and household sectors. It excludes deliveries to the energy transformation sector and to the energy industries themselves</p> <p><i>Primary Energy Supply</i>: The quantity of energy consumed within the borders of a country: primary production + recovered products + imports + stock changes - exports - bunkers (i.e. quantities supplied to sea-going ships)</p>																																				
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