

DENMARK – 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

Denmark has been self reliant on energy since 1999, with significant oil and gas production in the North Sea, and is a net exporter of energy. Denmark is the second largest producer of oil in the EU and oil plays an important role in the energy mix. Natural gas and renewable sources have been gradually replacing solid fuels and oil in primary energy supply. However, imported coal is still the most important fuel in electricity generation. Renewable energy has experienced a significant growth and shares in energy and electricity mix are above EU averages. Transport and households are the most energy-consuming sectors. Denmark demonstrates the lowest energy intensity among EU Member States, although due to the high presence of fossil fuels in the energy mix, CO₂ per capita production and intensity are significantly higher than the EU average.

Key Figures (2004)

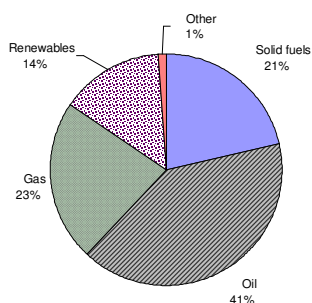
Mtoe	Primary Energy Supply	Domestic Production	Net Imports	Final Energy Consumption	Electricity Generation (TWh)
Solid fuels	4.4		4.4	0.3	18.7
Oil	8.3	19.6	-10.6	7.2	1.6
Gas	4.6	8.5	-3.7	1.7	10.0
Nuclear					
Electricity			-0.2	2.8	
Renewables	2.9	2.7	0.2	0.7	10.2
Other	-0.2			2.5	
Total	20.0	30.9	-10.0	15.2	40.5

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

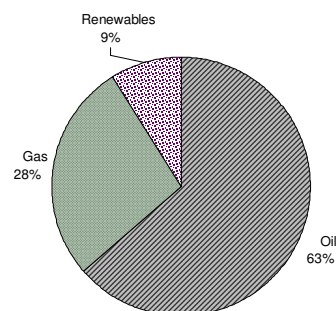
Key Indicators (2004)

	DENMARK	EU-27
Energy per capita (kgoe/cap)	3 701	3 689
Energy intensity (toe/MEUR '00)	111	185
Energy import dependency %	-48.0	50.1
CO ₂ Emissions (Mt)	52	4 004
CO ₂ intensity (tCO ₂ /toe)	2.6	2.2
CO ₂ per capita (kg/cap)	9 672	8 180

2004 Primary Energy Supply



2004 Domestic Production



Primary Energy Supply

Oil and gas cover nearly two thirds of Denmark's primary energy supply, with the share of oil in the energy mix being slightly higher than the EU-27 average of 38%. The amount of solid fuels in the primary energy supply has shown a 28% reduction since 1990, although still holding a significant share. In contrast, the consumption of natural gas and renewable energy has increased significantly. The share of renewable sources in total supply is much higher than the EU-27 average of 6%.

Domestic Production

Denmark is the second largest oil producer in the EU with 1.3 billion barrels proved oil reserves at the end of 2005 (Source: <http://www.bp.com>). Production in 2004 was more than three times above the 1990 level. Production of natural gas is also significant (6th in the EU-27) exhibiting an increase of 207% over the period 1990-2004.

<p>Imports</p> <p>Denmark is one of the few net energy exporters among EU Member States, exporting significant amounts of oil and natural gas. Denmark imports solid fuels to satisfy inland energy consumption. Main sources for these are the Russian Federation, Poland, South Africa and Colombia.</p>	<p>2004 Net Imports by Energy Product</p> <table border="1"> <caption>2004 Net Imports by Energy Product</caption> <thead> <tr> <th>Energy Product</th> <th>Share (%)</th> </tr> </thead> <tbody> <tr> <td>Solid fuels</td> <td>96%</td> </tr> <tr> <td>Renewables</td> <td>4%</td> </tr> </tbody> </table>	Energy Product	Share (%)	Solid fuels	96%	Renewables	4%																																																																																																										
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<p>Electricity Generation</p> <p>Electricity generation in Denmark has exhibited noticeable fluctuations from year to year over the recent past. This is mainly due to varying amounts of electricity exported (i.e. years where generation is higher than average exhibited higher levels of net electricity exports). Coal is the major source of electricity (46% share in 2004) with natural gas and renewable sources following with increasing shares. Particularly in terms of renewable energy, Denmark is the third largest EU Member State in terms of installed wind capacity with over 3 GW installed capacity at the end of 2005 (Source: http://www.ewea.org/).</p>	<p>Gross Electricity Generation by Fuel Type</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>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1991</td><td>30</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1992</td><td>28</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1993</td><td>30</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1994</td><td>32</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1995</td><td>35</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1996</td><td>40</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1997</td><td>35</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1998</td><td>30</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>1999</td><td>25</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>2000</td><td>20</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>2001</td><td>25</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>2002</td><td>20</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>2003</td><td>25</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> <tr><td>2004</td><td>46</td><td>5</td><td>5</td><td>0</td><td>5</td><td>0</td></tr> </tbody> </table>	Year	Coal	Oil	Gas	Nuclear	Renewables	Other	1990	25	5	5	0	5	0	1991	30	5	5	0	5	0	1992	28	5	5	0	5	0	1993	30	5	5	0	5	0	1994	32	5	5	0	5	0	1995	35	5	5	0	5	0	1996	40	5	5	0	5	0	1997	35	5	5	0	5	0	1998	30	5	5	0	5	0	1999	25	5	5	0	5	0	2000	20	5	5	0	5	0	2001	25	5	5	0	5	0	2002	20	5	5	0	5	0	2003	25	5	5	0	5	0	2004	46	5	5	0	5	0
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<p>Final Energy Consumption</p> <p>Transport is the most important energy-consuming sector in Denmark, exhibiting a share above EU-27 average of 31%. The share of industrial sector in final energy consumption is remarkably low compared to the EU-27 average of 28%. Final energy consumption in Denmark has exhibited minor fluctuations over the period 1990-2004. Oil dominates in terms of types of energy consumed. The corresponding percentage shares of electricity and natural gas are much lower.</p>	<p>2004 Final Energy Consumption by Sector</p> <table border="1"> <caption>2004 Final Energy Consumption by Sector</caption> <thead> <tr> <th>Sector</th> <th>Share (%)</th> </tr> </thead> <tbody> <tr> <td>Transport</td> <td>34%</td> </tr> <tr> <td>Households</td> <td>28%</td> </tr> <tr> <td>Commerce, etc.</td> <td>19%</td> </tr> <tr> <td>Industry</td> <td>19%</td> </tr> </tbody> </table>	Sector	Share (%)	Transport	34%	Households	28%	Commerce, etc.	19%	Industry	19%																																																																																																						
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<p>For further information</p> <p>If you want to find more data on Denmark or other Member State energy markets, go to http://epp.eurostat.ec.europa.eu/http://ec.europa.eu/dgs/energy_transport/figures/pocketbook/2006_en.htm</p> <p>Further fact sheets on Denmark and other Member States can be found on: http://ec.europa.eu/energy/energy_policy/facts_en.htm</p>																																																																																																																	
<p>What is meant by.....?</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>																																																																																																																	
<p>Disclaimer</p> <p><i>Views expressed in this document have not been adopted or in any way approved by the European Commission and should not be relied upon as a statement of the Commission's views.</i></p> <p><i>The Commission does not guarantee the accuracy of the data included in this document, nor does it accept responsibility for any use made thereof.</i></p>																																																																																																																	