



Enerdata market research

Sample report

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GENERAL OVERVIEW - HUNGARY

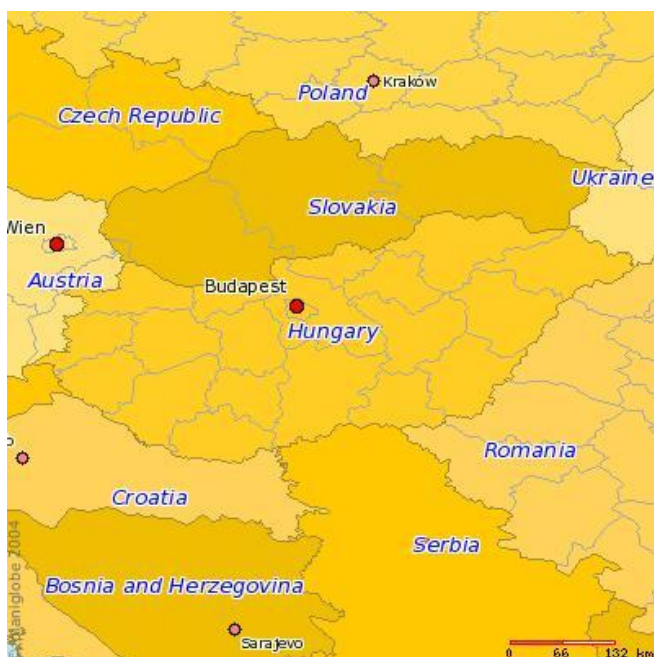


Table 1 : Economic Indicators

		1990	2006	2007	2008
Population	Millions	10.4	10.1	10.0	10.0
GDP growth rate	%/year	-3.5	3.9	1.3	1.9
GDP/capita	US \$	3186	11217	14076	16854
Exports	Billions \$	10.0	74	n.a.	n.a.
Imports	Billions \$	10.3	77	n.a.	n.a.
Inflation Rate	%/year	29.0	3.9	7.9	6.3
Exchange rate	lc/\$	63.2	210.39	183.63	166.45

Sources : World Bank , IMF

ENERGY SECURITY		1990	2006	2007	2008
Energy independence rate	%	50	37	37	39
Share of oil imported(+) exported(-)	%	74	82	84	81
Energy imports(+) exports(-) balance	M US \$	1161	4000	n.a.	n.a.
Energy imports(+) exports(-) balance/GDP	%	3.5	3.5	n.a.	n.a.

ENERGY EFFICIENCY		1990	2006	2007	2008
Total consumption/GDP *	koe/\$05	0.22	0.15	0.15	0.15
Total consumption/GDP *	2005=100	137	95.6	92.5	90.6
Transport and distribution rate of losses	%	14.2	11.1	10.1	10.1
Efficiency of thermal power plants	%	23.6	32.6	32.6	32.5

CO2 EMISSIONS		1990	2006	2007	2008
CO2 emissions/GDP *	kg/\$05	0.51	0.31	0.32	0.31
CO2 emissions/capita	tCO2/cap.	6.4	5.6	5.7	5.7

* at purchasing power parity

INSTITUTIONS AND ENERGY POLICY - IRELAND

The Government's **Department of Communication, Energy and Natural Resources** is responsible for the energy sector. It is in charge of the liberalisation of the electricity and gas sectors, the restructuring of the public electricity company (ESB), the follow-up of the infrastructures and capacity needs, the fulfilment of the Kyoto commitments and the creation of a unified energy market.

The **Commission for Energy Regulation** (previously the Commission for Electricity Regulation) was created in 1999 in order to ensure the regulation of the electricity market. It has regulated the gas market since 2002.

In 2001, **Sustainable Energy Ireland** replaced the Irish Energy Centre (IEC), created in 1994, as the agency in charge of energy efficiency and, more generally, of sustainable development.

In 2007 the Government published a White Paper (« *Delivering a Sustainable Energy Future for Ireland* ») which outlines the main priorities of the energy policy over the period 2007-2020.

Electricity

The market has been fully open since February 2005. The Commission granted Ireland a five-year transition period for the opening of its electricity market. In February 2000, 31% of its market was opened to competition, whereas the Commission had only imposed the opening of 28% by the said date.

Respectively 98% and 51% of household and commercial consumers are supplied at regulated tariffs. About 14% of the industrial customers are also still supplied at regulated tariffs (2006). Reversibility is permitted for all customers.

In November 2007 a single wholesale market was created for Ireland (Eire) and Northern Ireland, called the Single Electricity Market (SEM). It is operated by SEMO (Single Electricity Market Operator), a joint venture between EirGrid and SONI (Northern Ireland). SEM is a mandatory pool: all generators and wholesale suppliers are obliged to buy and sell their electricity through this market at a single system marginal price set for each trading period. Market operations until October 2007 were operated on the basis of bilateral contracts and managed by EirGrid.

Gas

In accordance with Commission requirements, the gas market was opened in August 2000 for customers who consumed more than 25 Mm³ per year (about 75% of the market). Since January 2003, customers consuming more than 500 000 m³/year (85% of the market) have been eligible as well, as have the customers consuming gas to produce electricity, regardless of their level of consumption.

Energy efficiency

Within the framework of the National Development Plan 2007-2013, a global budget of €276m was allocated to sustainable development (renewable included). The budget for the period 2000-2006 was €160m for energy efficiency, including €24m to strengthen the Sustainable Energy Ireland, €51m for R&D, €25m for programmes of energy conservation in buildings and residences, and €47m for renewables.

Within the framework of its National Energy Efficiency Action Plan, Ireland plans to carry out 33% of energy savings in the public sector (20% on average for all sectors). This objective should result in savings of 3 Mtoe/year (€1.7bn/year).

Renewables

In the 2007 White Paper, the target set for the share of renewables in electricity consumption is 15% in 2010 and 33% in 2020. In 2007, that share was 11.4%.

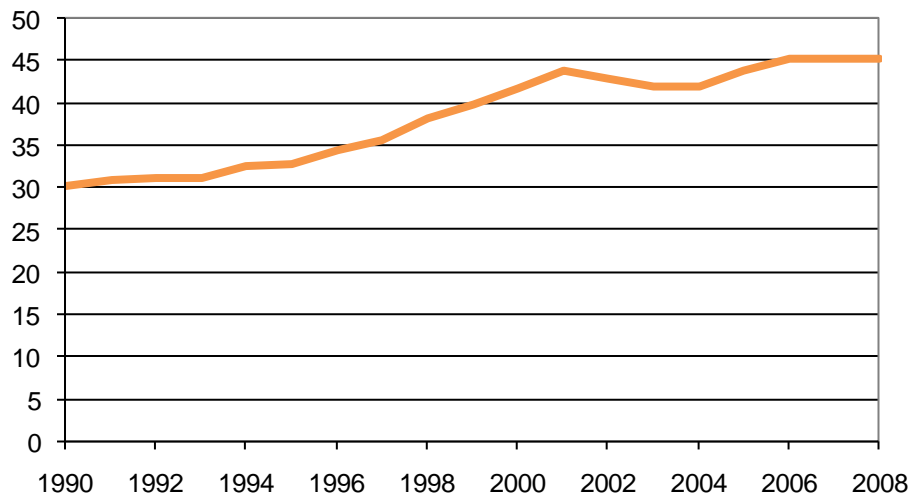
According to the EU Directive on the promotion of the use of energy from renewable sources, the national target is to increase the share of renewables in final energy consumption to 16% by 2020. In 2007, that share was 3.4%.

The financial incentives for the development of renewables have been defined within the Renewable Energy feed-in tariff programme (REFIT): large wind energy (> 5 MW) €5.7c/kWh, small wind energy (< 5 MW) €5.9c/kWh, biomass €7c/kWh, hydro (< 5 MW), and other biomass technologies €7.2c/kWh.

CO2 emissions

Within the framework of the Kyoto Protocol, Ireland has the right to increase its CO2 emissions by 13% by 2010 compared to the 1990 level. In 2003 this limit had already been largely exceeded: +25.5% between 1990 and 2006. The emissions have been stable since 2000. Within the framework of the EU Emissions Trading Scheme, the Irish NAP (National Allocation Plan) had fixed the quota at 22.3 MtCO2/year over the period 2005-2007. The real emissions were slightly lower (2%). For the second period (2008-2012), the level of the quotas is the same: 22.3 Mt. The verified CO2 emissions for 2008 were 9% lower than the quota (20.4 Mt).

Graph 1: CO₂-energy Emissions (MtCO₂)



ENERGY COMPANIES - JAPAN

Electricity

The electricity sector is dominated by 10 regional, private companies (the "Ten EPCOS"), vertically integrated and grouped together in the **Federation of Electric Power Companies (FEPC)**, and by a hydro and thermal electricity production company, J-Power (also called EPDC), which until 2004 was a public company. Before 1 January 1996, every EPCO held a monopoly on production, transport and distribution in its respective region. Those monopolies have now ended. The three most important companies represent 2/3 of the installed capacity and sales of the "Ten EPCOS": **Tokyo EPCO (Tepco)**, which accounts for 31% of the capacity and 32% of the sales of the Ten EPCOS), **Kansai EPCO** (17% of the capacity and 16% of the sales) and **Chubu EPCO** (16% of the capacity and 15% of the sales). Tepco has a capacity of 62.5 GW (nuclear 17.3 GW, thermal 37 GW, hydro 8.5 GW), a production of 323 TWh and sales of 297 TWh (2008). Kansai has a capacity of 34.9 GW, a production of 163 TWh and sales of 150 TWh. Chubu has a capacity of 32.5 GW, a production of 149 TWh and sales of 137 TWh. The other companies are, in order of importance: Kyushu (19.7 GW, 88 GW of sales), Tohoku (17.6 GW, 84 TWh of sales), Chugoku (11.8 GW, 63.6 TWh of sales), Shikoku (6.7 GW, 29.2 TWh of sales), Hokkaido (6.3 GW, 32.4 TWh of sales), Hokuriku (8.4 GW, 29.3 TWh of sales) and **Okinawa (1.9 GW, 7.5 TWh of sales) (in 2008)**. The "Ten EPCOS" account for $\frac{3}{4}$ of the electricity produced in Japan. Tepco and Kansai are the two companies most involved in nuclear production, with 17.3 GW and 17 reactors in the case of Tepco, and 9 GW and 10 reactors in the case of Kansai. Since July 2007, **Tepco's** nuclear capacity was strongly reduced following the indefinite closure of the Kashiwazaki-Kariwa power plant (8000 MW, the largest nuclear plant in the world) following an earthquake which severely damaged it (leak of radioactive waste water). In April 2009, the company has received the required approvals from the authorities to restart commercial operations after having invested about \$1.6bn to repair and upgrade safety of the plant.

J-Power has a capacity of 16.4 GW (62.5 TWh of sales), primarily in coal (7.8 GW) and hydro (8.6 GW). It was privatised in October 2004 through the sale by the State of 83% of its capital. The privatisation, which was the most important privatisation to **have taken place since 1998, made the State 375 billion yen (€2.74bn)**. In June 2008, for national safety reasons, the Government opposed an increase from 9% to 20% of the stake held in J-Power by IPC, a British investment fund.

Oil

Around thirty Japanese companies produce oil abroad and import it to Japan (around 15% of total imports). An agency was created to take over some of the functions of **JNOC (Japan National Oil Company)**, a public company created in 1967 to support oil exploration abroad, and which was dissolved in 2004. A new company was created to take over its assets, which were kept. Indeed, JNOC was heavily indebted. JNOC also carried out the R&D in the field of hydrocarbons and controlled the oil inventory.

The deregulation of the oil sector has led to the restructuring of companies that aim to expand and reduce costs. The restructuring/consolidation of the sector was further strengthened **through the merger of Nippon Oil (Japan's largest oil company) and Mitsubishi Oil (Japan's 6th largest oil company) in April 1999, creating Nippon Mitsubishi Oil, which in June 2002 became Nippon Oil Corporation (NOC), now Japan's largest oil group.** At the end of 1999, Nippon Mitsubishi purchased the oil refining company Kon Oil (2 refineries, 252 000 bl/day; a 50% subsidiary of Caltex), which is now part of NOC. Japan Energy took control of Kashima Oil. In addition, Japan Energy joined Showa Sekiyu. Lastly, Tonen and General Sekiyu (50% Exxon Mobil) merged. NOC controls approximately 25% of the retail market through 1 500 service stations. The five largest refining and distribution companies are **Nippon Oil** (around 25% of the total refining capacity and 7 refineries), **Cosmo Oil** (13%), **Japan Energy/Showa Shell, Tonen/General Sekiy Oil** (ExxonMobil stake) and **Idemitsu**. Nippon Oil announced plans for a merger with Kyushu Oil, 10% of which it already owns; Kyushu Oil owns the refinery of Oita on the island of Kyushu (160 000 bl/day). Nippon Oil and Nippon Mining should merge by 2010. The new entity should be able to increase its upstream oil and gas investments, although it may cut its refining capacity by 400 000 bl/day (estimated over-capacity of 30%).

Nippon Oil has 8 refineries with a total capacity of 1.2 Mbl/d. Cosmo Oil has 4 refineries with a total capacity of 0.56 Mbl/d. Idemitsu has a refining capacity of 0.6 Mbl/d, distributed over 4 sites (the refinery of Hiogo closed in 2003).

Gas

There are around 230 gas companies, 70% of which are private. Three of those companies account for more than 80% of the supply: **Tokyo Gas, Osaka Gas** and **Toho Gas**. The gas companies are grouped together in the **Japan Gas Association (JGA)**.

Inpex is a company that was set up to develop gas projects, in particular LNG imports to Japan (about ¼ of total LNG imports). Initially, Inpex was public through the 54% stake owned by JNOC, but the company was privatised in 2004. Inpex holds shares in the liquefaction plant of Bontang in Indonesia, which covers approximately ¼ of the country's LNG imports.

ENERGY SUPPLY - USA

Resources

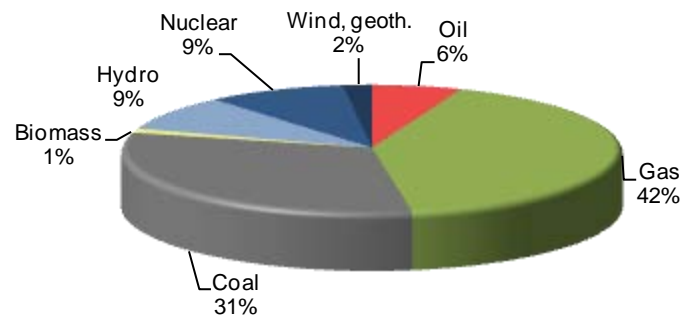
The United States has substantial energy resources: crude oil reserves are estimated at 4 Gt (located in 4 states: 22% in Texas, 20% in Alaska, 20% in Louisiana and 18% in California), gas reserves at 6000 Gm³ and coal reserves at about 212 Gt (54% of lignite and subbituminous coal and 46% of anthracite and bituminous coal).

Electricity

In 2007, the country's installed electricity capacity was 1085 GW. It is dominated by thermal power (80%: gas 42%, coal 31% and oil 6%), with hydroelectricity and nuclear power representing just under 10% each.

Texas is the state with the largest installed capacity (100 GW) followed by California (63 GW), Florida (53 GW), Pennsylvania (45 GW) and the state of New York (40 GW).

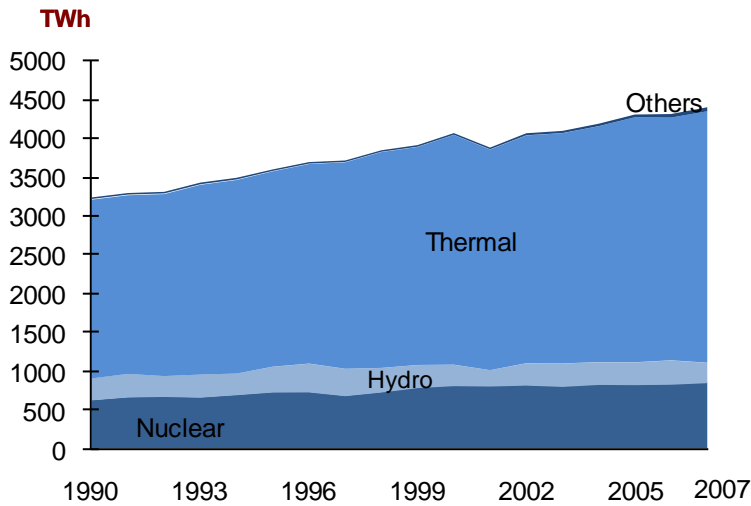
Graph 2: Installed Electric Capacity by Source (2007, %)



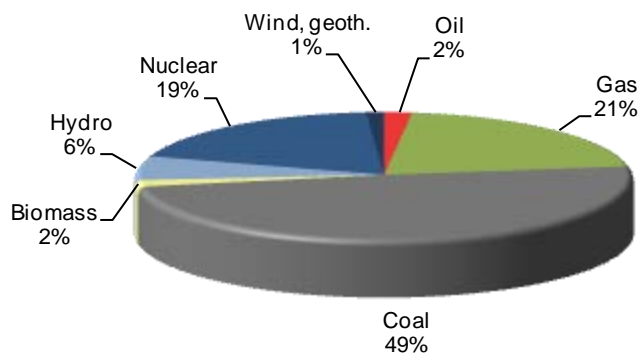
In 2007 the electricity production equalled 4390 TWh. It is mainly thermal with 49% from coal plants and 21% from gas plants. Nuclear represents 19% and hydro 6%.

Nuclear production is increasing despite a fall in the number of reactors (currently there are 104 reactors compared to 111 in 1990) thanks to the load factor increase (currently more than 90% on average) and the regular increases in the capacities of the existing power plants.

Graph 3: Gross Power Production by Source (TWh)



Graph 4: Power Generation by Source (2007, %)



Oil

Crude oil production increased slightly in 2007, and in 2006 reached 310 Mt (including 59 Mt of NGL, natural gas liquids), after having fallen since 2000 (on average by -3.6%/year), a trend seen since the fifties. Oil production is concentrated around the Gulf of Mexico (22%), onshore Texas (16%), Alaska (12%) and California (9%).

Net imports (603 Mt) have fallen slightly compared to 2006, and mainly consist of crude oil (568 Mt). They account for more than 60% of the national consumption. In 2005 Canada (2.1 Mbl/d) and Mexico (1.6 Mbl/d) were the country's main suppliers, followed by Saudi Arabia (1.5 Mbl/d), Venezuela (1.5 Mbl/d) and Nigeria (1.1 Mbl/d). In 2007 the USA imported 35 Mt of oil products (net imports), -15% compared to 2006.

In 2007 the US had a refining capacity of 17.5 Mbl/d, made up of around 140 refining units, 31 of which have a capacity of over 200 000 bl/d.

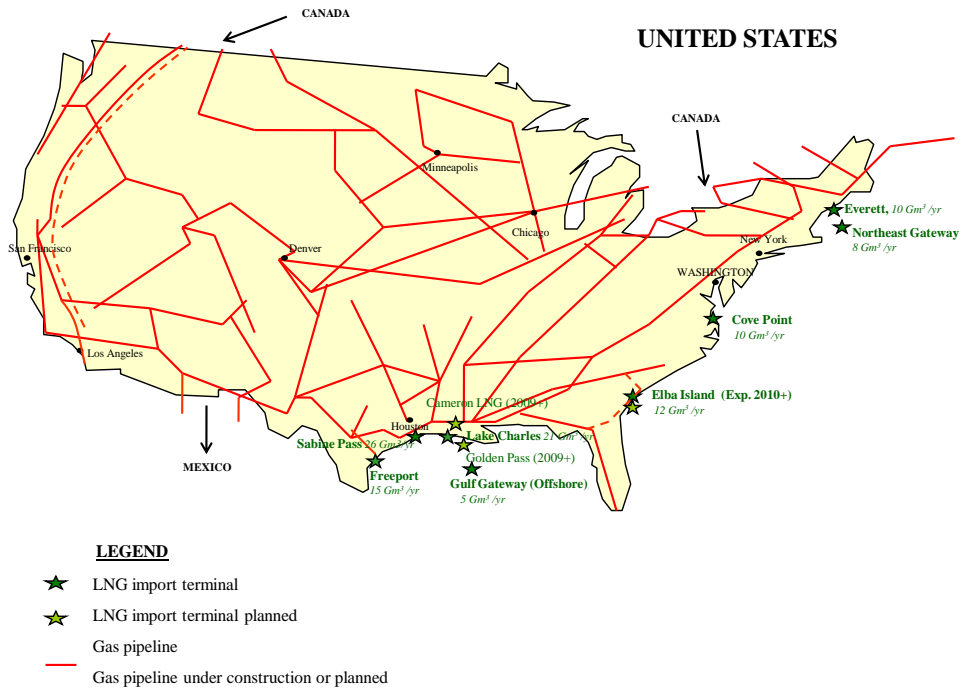
More than half of the refineries are concentrated in three states: Texas (24 units, including 10 with a capacity of more than 100 000 bl/d, accounting for 28% of the total capacity), Louisiana (17 refineries, including 7 with a capacity of more than 100 000 bl/d, accounting for 16% of the total capacity) and California (15 refineries, accounting for 12% of the total capacity). The refinery of Rosemount (Minnesota) increased its capacity from 250 000 bl/day to 330 000 bl/day in 2007 (but the effective commissioning of this new capacity requires the construction of a new pipeline during 2009).

Gas

The country's gas production has increased slightly and in 2007 reached 546 Gm³ (its 2000 level). However, it still does not cover the country's needs (in 1986 the consumption exceeded the production) and imports remain substantial, even if they have fallen slightly since 2000, when they amounted to about 100 Gm³ (compared to 108 Gm³ in 2007). Gas is mainly imported (via gas pipeline) from Canada (around 90%), a country which seems to have reached its maximum gas production potential.

LNG imports increased slightly from 16 Gm³ to 22 Gm³ in 2007 (the USA also exported 1.2 Gm³ to Japan). **In 2007 the country's main LNG supplier was Trinidad**, which accounted for 58% of the supply, ahead of Egypt with 15%, Nigeria with 12% and Algeria with 10%.

There are eight main LNG regasification units in the US, after the commissioning in 2008 of the terminals of Freeport (Cheniere/Freeport LNG Dev., 15 Gm³/yr, Texas - 3 Mt/yr will be sold to GDF-Suez as of 2010), of Sabine Pass (Cheniere Energy, 26 Gm³/yr) and Northeast Gateway (Excelerate Energy, 8 Gm³/yr, Massachusetts). The other terminals are the offshore terminal of Gulf Gateway Energy Bridge Deepwater Port (Excelerate Energy, 5 Gm³/yr, Louisiana) and the onshore terminals of Cove Point (Energy Dominion, 10 Gm³/yr, Maryland), Lake Charles (Southern Union, 22 Gm³/yr, Louisiana), Elba Island (Southern LNG, 12.5 Gm³/yr, Georgia) and Everett (Suez LNG, 10.5 Gm³/yr, Massachusetts). In addition, there is an import terminal in Puerto Rico, Peñuelas, and an export terminal in Kenai, Alaska.



Sources: Petroleum Economist, BP, Enerdata Estimates

Coal

In 2007 the coal production remained stable at 1.1 Gt. Most of the coal is consumed in the country. The main production areas are the Wyoming (35%), followed by West Virginia (15%) and Kentucky (12%). More than 90% of the coal is used for the production of electricity.

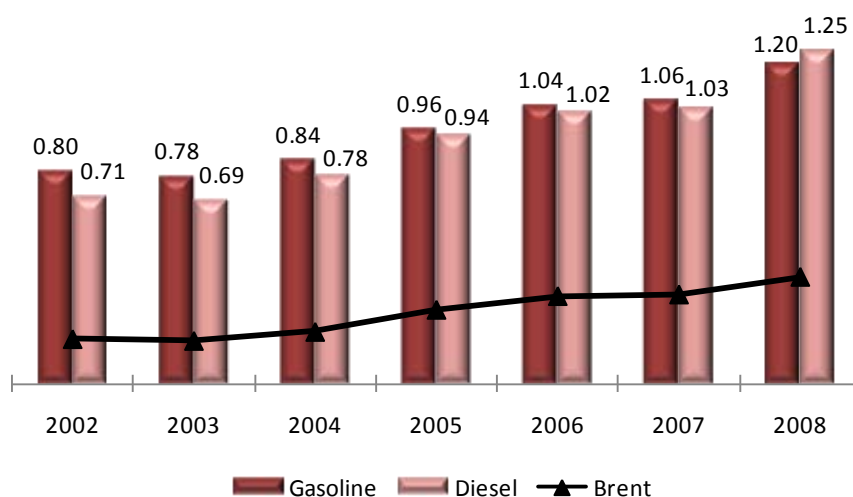
ENERGY PRICES – CZECH REPUBLIC

Since May 2004, the VAT rate is 19%. VAT was introduced in 1993. Initially set at 5% for energy, it was raised to 22% on 1 January 1995 for petroleum products and on 1 January 1998 for electricity, gas and coal.

Oil

In 2008 the prices of motor fuels were €01.2/l for unleaded gasoline and €1.3/l for diesel.

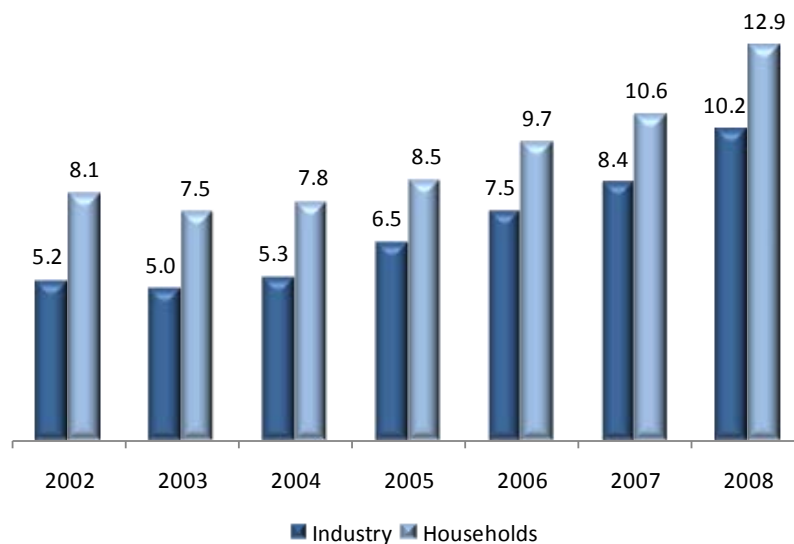
Graph 5: Gasoline & Diesel Prices (€/l)



Electricity

Since 2000 the electricity price for households has risen sharply (on average €13 cents/kWh in 2008 compared to €5.9 cents/kWh in 2000 and €3 cents/kWh in 1996). Prices for industry reached €10.2 cents/kWh, which is twice as much as in 2002.

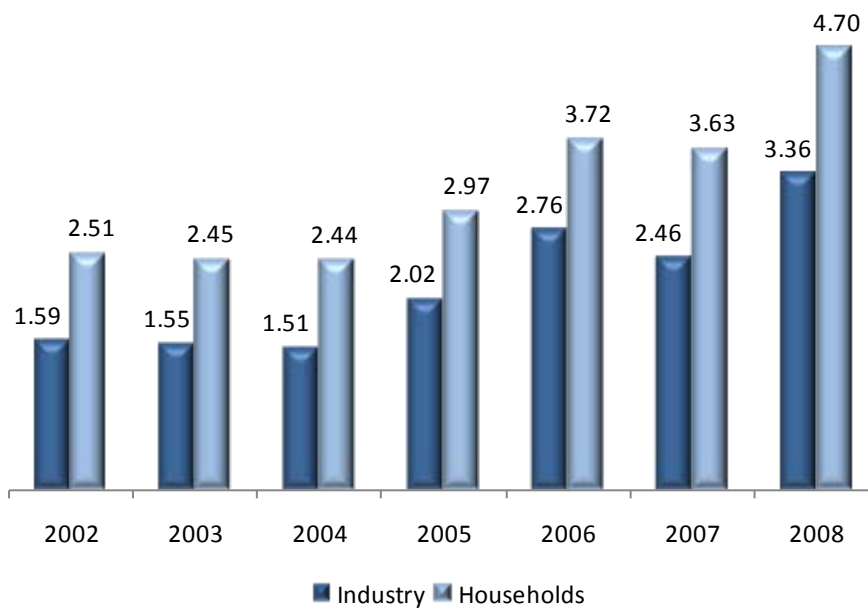
Graph 6: Electricity Prices for Industry and Households (€/kWh)



Gas

For gas, a ceiling price is fixed by the regulator and is adjusted every year (in January) or every quarter in the event of future raises of the import prices. In April 2003 prices increased by an average of 8%. A stop was put to the said regulation in December 2004. The objective was to increase the gas prices regularly, in particular for households, to reduce the subsidies and to reach the EU15 levels. The price of gas for households has been heavily adjusted since 1993: €4.7 cents/kWh GCV in 2008 compared to €0.7 cents/kWh in 1993. The price for industry is on a par with the European average and has increased more moderately (€3.4 cents/kWh GCV in 2008).

Graph 7: Gas Prices for Industry and Households (€c/kWh GCV)

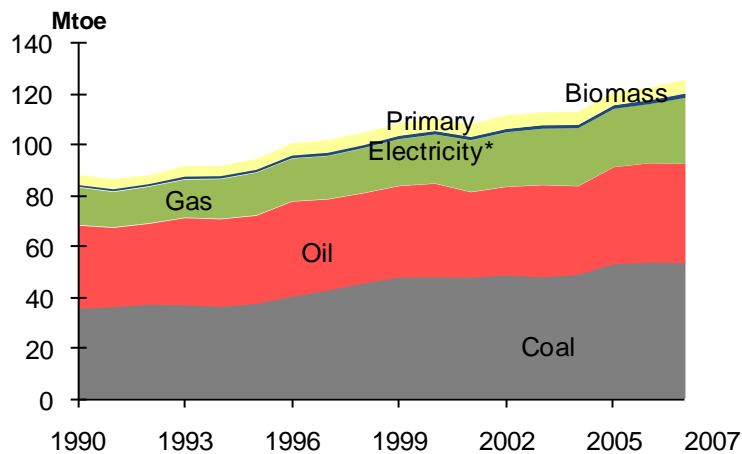


ENERGY CONSUMPTION - AUSTRALIA

The per capita energy consumption is relatively high, at about 6 toe, that is to say, 40% higher than in the European Union. The per capita electricity consumption is 10900 kWh. After having increased strongly over the years 2004 and 2005 (more than 4%/year), electricity consumption increased more moderately in 2006 (1.8%) and in 2007 (3%).

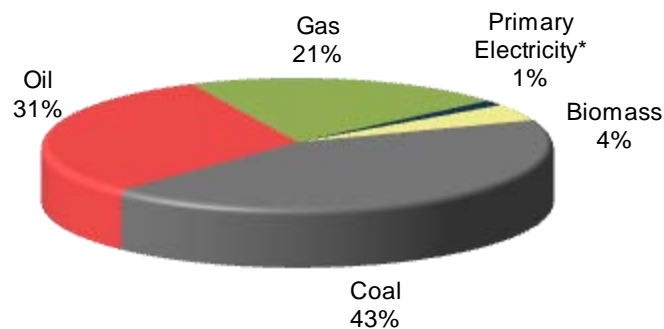
The country's total energy consumption is distributed as follows: coal and lignite 43%, oil 31%, natural gas 21%, hydroelectricity 1% and biomass 4% (2007). Three states share ¾ of the consumption: New South Wales (27%), Victoria (26%) and Victoria (23%).

Graph 8: Consumption trends by Energy Source (Mtoe)



*Nuclear (1TWh = 0.26 Mtoe), Hydroelectricity and wind (1 TWh = 0.086 Mtoe), Geothermal (1 TWh = 0.86 Mtoe)

Graph 9: Total Consumption Market Share by Energy (2007, %)

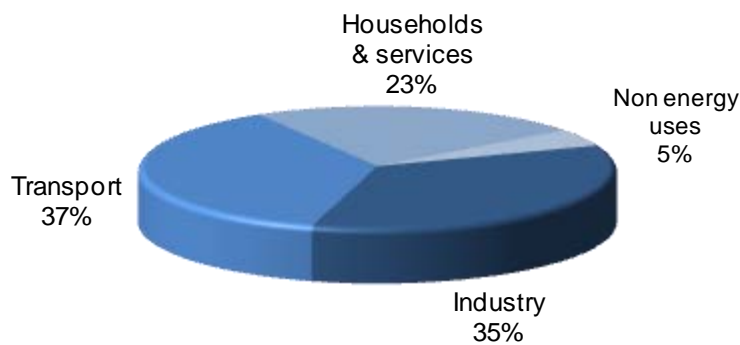


*Nuclear (1TWh = 0.26 Mtoe), Hydroelectricity and wind (1 TWh = 0.086 Mtoe), Geothermal (1 TWh = 0.86 Mtoe)

Final energy consumption has increased slightly (by an average of 1.5%/year since 2000), at a far slower pace than the GDP (2.8%/year).

Oil products represent the main source of energy for final consumers, with 49%, followed by electricity (23%), natural gas (18%), coal (5%) and biomass (5%). Transport absorbs 37% of the final consumption, followed by industry with 35%, the residential-tertiary sector with 23% and non-energy uses with 5%.

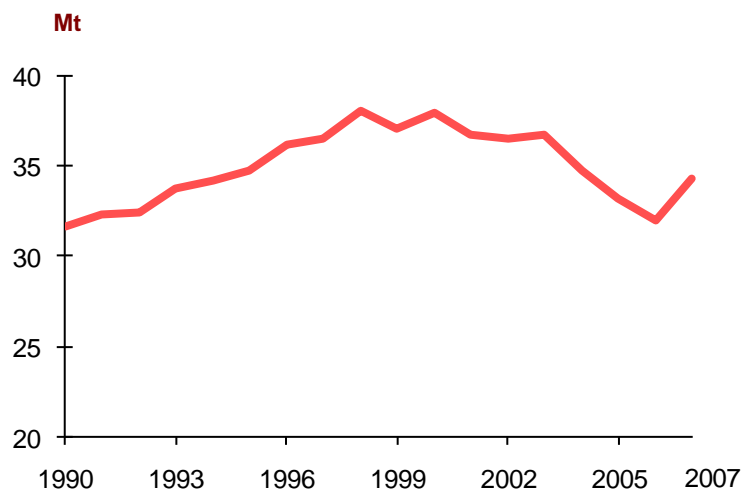
Graph 10: Final Consumption Market Share by Sector (2007, %)



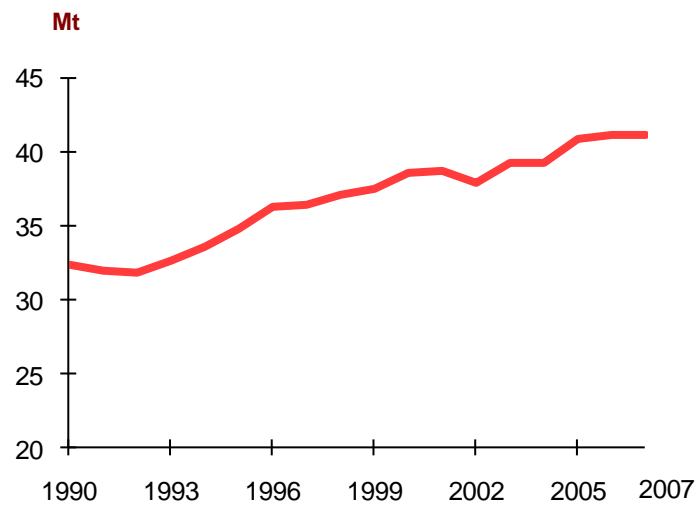
Oil

Crude oil consumption has been falling since 1998, and between 2000 and 2006 decreased by almost 3%/year on average, but then increased in 2007. The consumption of oil products has been increasing on a regular basis since 2000 (0.8%/year). The transport sector accounts for nearly 70% of their consumption.

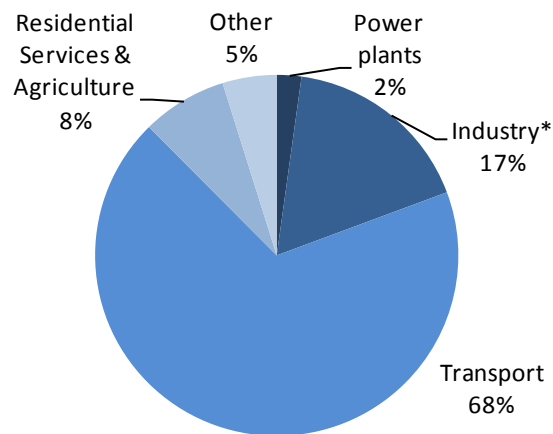
Graph 11: Crude Oil & NGL Consumption (Mt)



Graph 12: Oil Products Consumption (Mt)



Graph 13: Oil Consumption Breakdown by Sector (2007, %)

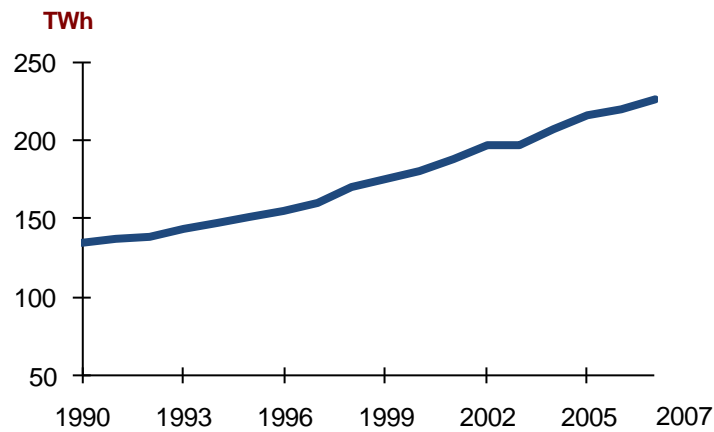


* Including non energy uses

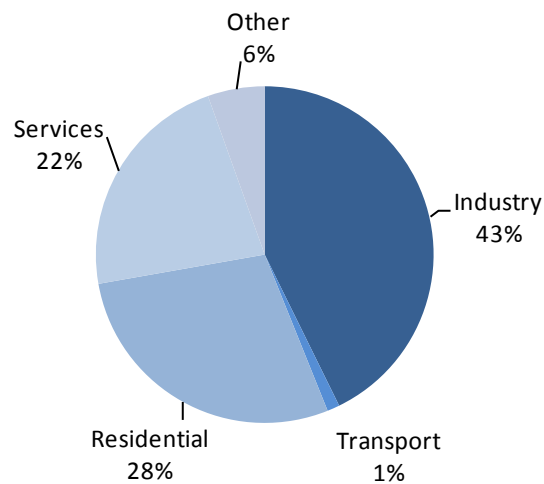
Electricity

Electricity consumption has been increasing strongly, in particular since 2003. Over the period 2000-2007, it increased by 3.3%/year on average. Industry is the main user of electricity with 43% of the electricity consumption, followed by households (28%) and services (22%).

Graph 14: Electricity Consumption (TWh)



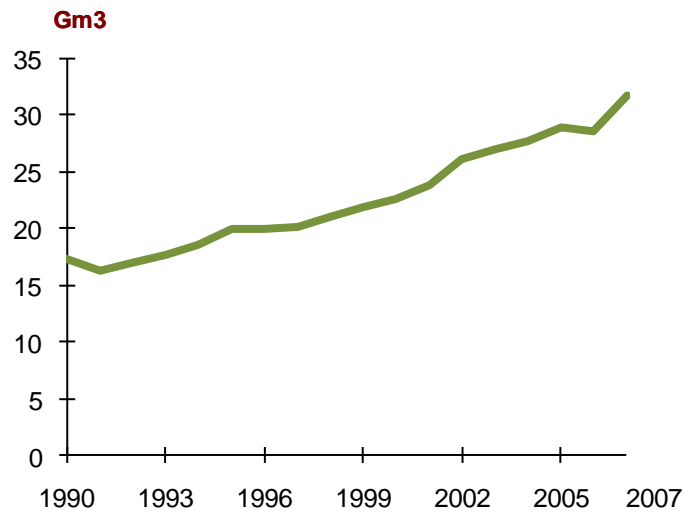
Graph 15: Electricity Consumption Breakdown by Sector (2007, %)



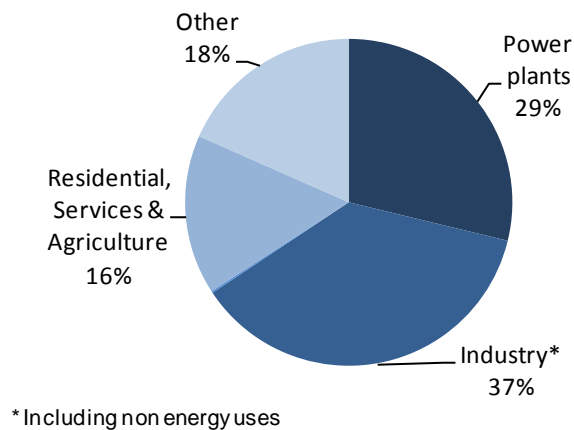
Gas

Natural gas consumption has been increasing regularly and rapidly since 1997 (more than 5%/year between 2000 and 2007). Electricity production and industry are the main consumers (29% and 37%, respectively).

Graph 16: Natural Gas Consumption (Gm3)



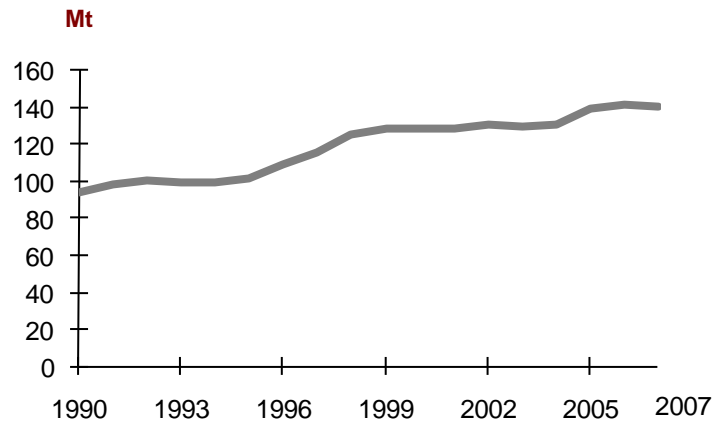
Graph 17: Gas Consumption Breakdown by Sector (2007, %)



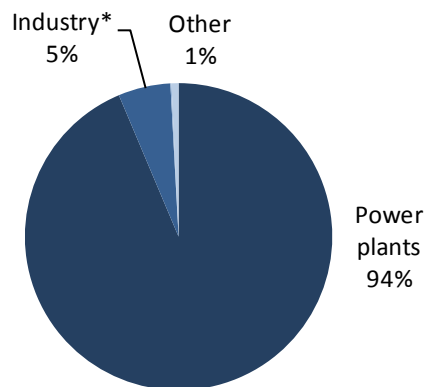
Coal

Coal consumption has grown rather slowly since 1998 (1.3%/year on average). More than 90% of the consumption goes to the electricity sector.

Graph 18: Coal Consumption (Mt)



Graph 19: Coal Consumption Breakdown by Sector (2007, %)



* Y compris usages non énergétiques

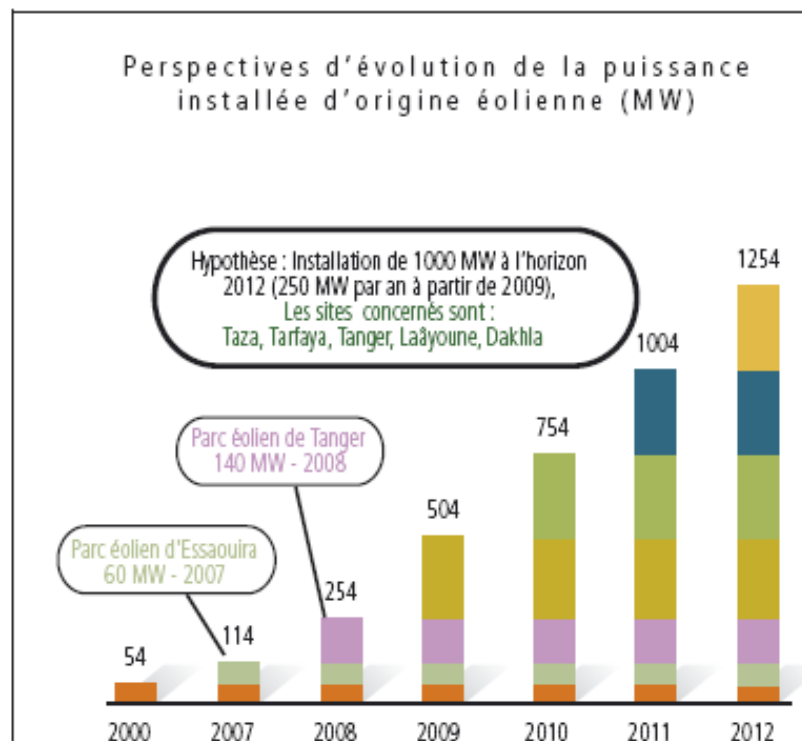
ISSUES AND PROSPECTS - MOROCCO

According to the Ministry of Energy, the country's energy needs will increase by 3.2%/year, on average, until 2015. Renewables should account for 20% of the consumption in 2020.

Electricity

The electricity demand should increase by approximately 6%/year until 2015, reaching 35 TWh. To satisfy that demand, ONE will have to install 6 000 MW of additional power capacities over the next 20 years, with the cooperation of private investors. Regarding its electricity production, by 2012 ONE aims for coal to account for 55%, gas for 26% and renewables for 19% (compared to 59%, 13% and 6%, respectively, in 2007, plus 22% of oil).

In order to diversify the sources of supply, to promote renewables and to reduce the energy cost, ONE put forward a large wind programme that would provide an additional capacity of 1000 MW by 2012.



The first wind project will be based in Tangiers, will have a capacity of 140 MW and will make it possible to produce 527 GWh/year, thanks to 165 generators of 850 kW each (Dhar Saadane and Beni Menjel farms). The project falls within the framework of the Clean Development Mechanisms (CDM), in accordance with the policy on the reduction of greenhouse gas emissions. The project makes it possible to cut CO₂ emissions by 470 kt/year and to save 120 kt/year of fuel oil, which accounts for 15% of ONE's yearly consumption. The park, which should be commissioned in the first quarter of 2009, will be the largest in Africa and will cover 2.5% of the national

electricity demand. The project (cost of €250m) will be financed by a loan from Spain, the European Investment Bank (EIB) and the German Bank KfW, as well as by ONE itself. Works were launched in June 2007 and should be completed during 2009.

ONE also plans to have an additional capacity of 1900 MW by 2009, through several projects:

- The construction of a hydroelectric complex in Tanafnit El Borj (2*9 MW in Tanafnit and 2*11 MW in El Borj; already under construction, to be commissioned mid-2009). **The cost of the project is estimated at €83m (930m Dirham). Cegelec Morocco**, the largest subsidiary of the group outside Europe, is responsible for the complex, in partnership with Va Tech Escher Wyss GMBH, which provides the turbines.

- The construction of a diesel power plant of 116 MW in Tan Tan; this project was entrusted to the Finnish company, Wartsila (commissioning: July 2009).

- The construction of a gas power plant in Mohammedia (300 MW, gas turbines); this project was entrusted to the consortium General Motors and Socoin (Spain) (commissioning: second quarter 2009).

- The construction of a combined cycle power plant (thermal solar) in Ain Beni Mathar; this plant, with a capacity of 472 MW, will be built by the consortium Abener-Alstom, which will also carry out the maintenance during five years. Of the total energy required by the plant, 20% will be provided by solar systems (183 000 m² of solar collectors will be installed). Among other **sources, the plant (€380m) is being financed by a loan from the African Development Bank (€136m) and by the World Bank (€43m). The first part (open cycle, 300 MW) should be commissioned in May 2009; the remainder is planned for April 2010.**

- The construction of combined cycle gas power plants by Endesa with a total capacity of 800 MW in Alwahda; the commissioning is scheduled for 2009. ONE will hold 30% of the shares.

The construction of a coal station of 2 X 660 MW should start in 2009, to be completed in 2012; the duration of the concession was fixed at 30 years. It should be built in the area of Safi for 20bn dirham (US\$2.4bn); the sites of Bir Lhar and Jorf Lyhoubi are candidates for the construction. Moreover, the extension of the coal station of Jerada with an additional reactor of 300 MW is planned for 2012.

Morocco and Mauritania are discussing the possible commissioning of an electric interconnection as of 2010, which will allow Morocco to import electricity from the future Mauritanian gas power plants.

Gas

According to ONAREP, the country's gas consumption could reach nearly 5 Gm³ in 2020. The gas demand will mainly come from power plants following the conversion of existing power stations (coal power plant of Jerada, fuel/coal plant of Mohammedia) and new power stations (Tahaddart and Jorf Lasfar).

In February 2006, ONE, Samir and the Akwa oil group reached a partnership agreement for the implementation of the infrastructures required for the introduction of natural gas. **The objective of this project is to secure Morocco's energy supplies** against the rises in the oil price. The gas plan, which is currently being implemented, should make it possible to satisfy 26% of the national energy demand by 2020.

Morocco plans to build an LGN terminal with a capacity of 3 Gm³ for an estimated cost of \$1bn. However, the site of the terminal has not yet been defined, despite the fact that its commissioning has been scheduled for 2012. In 2016-2017 it may be extended to 5 Gm³.

Oil

A €490m contract for the modernisation of the refinery of Mohammedia was signed between SAMIR and 2 other companies, namely the Italian company Snamprogetti and the Turkish company Tekfen. The project, which was started in September 2005, should be completed by the end of 2008. It consists of the rebuilding of a modern complex (the refinery was damaged by a fire in November 2002), with the aim of **reinforcing the country's security of supply and of increasing the performance of the refinery.**

The consortium formed by Horizon Terminals LTD (34%), Afriquia SMDC (33.5%) and Independent Petroleum Group (32.5%) was granted the 25-year concession for an oil terminal in Tangiers. The terminal will have a storage capacity of 5 Mt. The exploitation should have started at the end of 2008, but has been postponed until late 2009.

Hungary Energy Statistics

Table 2 : Supply Indicators

		1990	2000	2004	2005	2006	2007	2008
RESERVES*								
Oil	Mt	21.3	15.0	14.0	14.0	2.7	2.7	2.7
Gas	Gm3	102	32.0	23.0	73.0	90.0	90.0	90.0
* On December 31 st								
CAPACITY*								
Refining capacity	Mbl/j	0.22	0.23	0.16	0.16	0.16	0.16	0.16
Electricity capacity	GW	6.6	8.3	8.6	8.5	8.5	8.6	8.6
of which Thermal	GW	4.9	6.4	6.7	6.5	6.5	6.6	6.6
Hydroelectricity	GW	0.05	0.05	0.05	0.05	0.05	0.05	0.06
Nuclear	GW	1.7	1.9	1.9	1.9	1.9	1.9	1.9
Geothermal	GW	0	0	0	0	0	0	0
Wind	GW	0	0	0.003	0.02	0.06	0.07	0.00
* On December 31 st								
PRODUCTION								
Oil	Mt	2.3	1.7	1.6	1.4	1.3	1.2	1.4
Gas	Gm3	4.9	3.2	3.1	3.0	3.1	2.5	2.6
Coal	Mt	17.8	14.0	11.2	9.6	10.0	9.8	9.4
Electricity	TWh	28.4	35.2	33.7	35.8	35.9	40.0	40.0
of which Thermal	%	51.1	59.2	64.0	60.7	61.8	62.5	62.1
of which Coal	%	30	28	25	20	20	18	18
Gas	%	16	19	35	35	37	38	38
Hydroelectricity	%	1	1	1	1	1	1	1
Nuclear	%	48	40	35	39	38	37	37
Geothermal	%	0	0	0	0	0	0	0
Wind	%	0	0	0	0	0	0	0
EXTERNAL TRADE*								
Crude oil	Mt	6.4	5.8	5.5	6.3	6.3	6.5	6.4
Oil products	Mt	0.14	-0.58	-0.54	-0.38	-0.29	-0.31	-0.46
Gas	Gm3	6.4	8.9	11.4	12.1	11.6	10.4	11.5
Coal	Mt	2.9	1.7	1.7	1.9	1.7	2.0	2.4
Electricity	TWh	11.1	3.4	7.5	6.2	7.2	4.0	3.9
* Imports(+) exports(-) balance								

Table 3 : Demand Indicators

		1990	2000	2004	2005	2006	2007	2008
CONSUMPTION PER CAPITA								
Total	toe	2.7	2.4	2.6	2.7	2.7	2.7	2.7
Electricity	kWh	3182	3022	3438	3520	3634	3707	3729
CONSUMPTION TRENDS								
Total	%/year	-5.6	-1.3	-0.31	5.7	-0.71	-1.9	-0.20
Electricity	%/year	-2.7	-0.70	2.0	2.2	3.0	1.8	0.39
TOTAL CONSUMPTION								
Total	Mtoe	28.5	24.9	26.2	27.7	27.5	27.0	27.0
of which								
Oil	%	30	28	25	26	28	28	28
Gas	%	31	39	45	44	42	40	40
Coal, lignite	%	21	15	13	11	11	11	11
Primary electricity*	%	16	16	14	15	15	16	16
Biomass	%	1	2	3	4	4	5	5
* Nuclear (1TWh = 0.26 Mtoe), Hydroelectricity and wind (1 TWh = 0.086 Mtoe), Geothermal (1 TWh = 0.86 Mtoe)								
FINAL CONSUMPTION								
Total	Mtoe	21.1	17.4	19.1	20.5	20.3	19.8	19.8
By energy								
Oil	%	35	32	31	34	35	36	37
Gas	%	29	38	40	39	36	35	35
Coal, lignite	%	13	4	4	4	4	4	4
Electricity	%	13	15	14	14	14	15	15
Heat	%	8	9	7	7	7	6	6
Biomass	%	2	2	3	3	4	3	4
By sector								
Industry	%	31	20	17	16	17	17	17
Transport	%	15	19	21	21	24	25	26
Households & services	%	46	51	53	51	48	47	47
Non energy uses	%	8	9	9	11	11	11	10
ELECTRICITY CONSUMPTION								
Total	TWh	33.0	30.9	34.8	35.5	36.6	37.2	37.4
of which								
Industry	%	42	29	27	26	26	26	26
Households	%	28	32	32	31	31	31	31
Services	%	17	29	26	28	28	28	28

Czech Republic Energy Statistics

Table 4 : Energy Balances

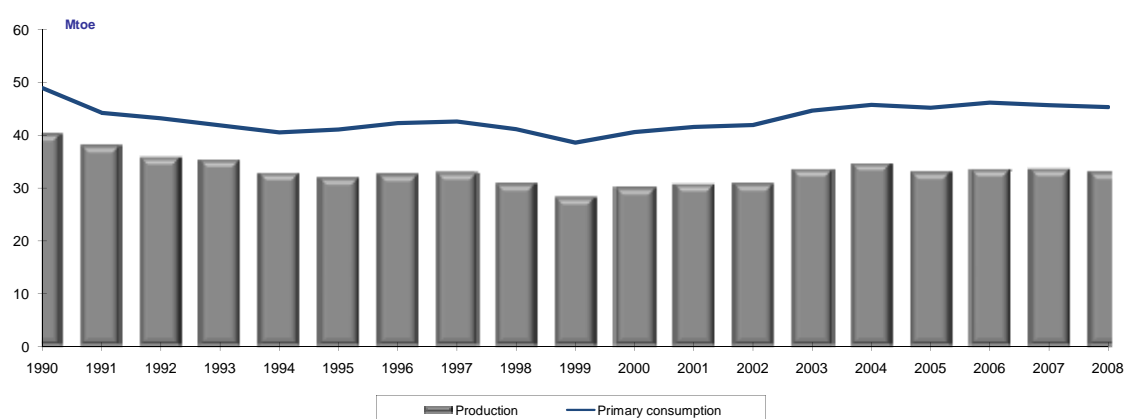
TOTAL ENERGY BALANCE (Mtoe)	1990	2000	2004	2005	2006	2007	2008
Production	40.1	30.0	34.5	32.9	33.4	33.5	32.9
Imports	22.2	18.0	19.9	21.1	21.9	20.8	21.6
Exports	14.6	8.44	8.10	8.36	9.07	9.14	9.25
Marine Bunkers	0	0	0	0	0	0	0
Stock Changes	1.24	1.10	-0.47	-0.39	-0.07	0.55	0.14
Primary Supply	48.9	40.6	45.8	45.2	46.2	45.7	45.3
Final Consumption	35.0	26.1	29.2	29.1	29.5	29.2	29.4
Industry	17.5	10.1	9.80	9.72	9.76	9.72	9.61
Transport	2.86	4.44	5.87	6.28	6.41	6.75	6.63
Residential & Services	12.9	9.44	10.4	10.1	10.2	9.87	9.93
Non-Energy Uses	1.75	2.15	3.15	3.03	3.17	2.83	3.20

DETAILED ENERGY BALANCE (Mtoe)

2008

(Mtoe)	Coal	Crude Oil	Oil Products	Natural Gas	Primary Elec.**	Elec.	Biomass	Total*
Production	22.9	0.32		0.15	7.14		2.46	32.9
Imports	2.01	8.15	2.82	7.82		0.73	0.03	21.6
Exports	-5.09	-0.02	-1.38	-0.79		-1.72	-0.25	-9.25
Intl. Marine bunkers								0
Stock changes	0.28	-0.10	0.08	-0.12				0.14
Primary supply	20.1	8.35	1.52	7.05	7.14	-0.99	2.19	45.3
Petroleum refineries		-8.64	8.96					0.32
Power plants	-14.3		-0.10	-0.62	-7.14	7.18	-0.37	-12.9
Others	-0.94	0.29	-0.55	-0.65		-1.23	-0.07	-3.43
Final Consumption	4.77		9.83	5.77		4.96	1.75	29.4
of which :								
Industry	3.65		0.31	2.32		2.06	0.56	9.61
Transport	0.0		6.32	0.01		0.19	0.11	6.63
Households & services	0.71		0.41	3.44		2.72	1.07	9.93
Non energy uses	0.41		2.79					3.20

* Including heat



**Nuclear (1TWh = 0.26 Mtoe), Hydroelectricity and wind (1 TWh = 0.086 Mtoe), Geothermal (1 TWh = 0.86 Mtoe)

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