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Italy

Italy is almost entirely dependent on imports to meet its energy needs. The country's heavy reliance on foreign oil and gas sources, such as Libya and Algeria, has made energy security and diversification of energy sources top concerns.

The information contained in this report is the best available as May 2004 and is subject to change.



BACKGROUND

As a member of the Group of Seven, Italy is one of the world's largest economies and a founding member of both the [European Union \(EU\)](#) and the [North Atlantic Treaty Organization \(NATO\)](#). The country adopted the European single currency, the Euro, on January 1, 1999.

In 2003, Italy's real gross domestic product (GDP) grew only 0.4%, the same rate of growth in 2002. Initial forecasts have pegged Italy's real GDP growth in 2004 at 0.8%. The continued economic slowdown in Italy has made it difficult for the current center-right government, under the leadership of President Silvio Berlusconi, to bridge the gap between revenues and expenditures, let alone pay down public debt - over 106% of GDP, the highest in Europe. In recent years the government has

relied on one-off measures to make up this gap, such as in October 2003, when the government sold a 6.6% stake in majority-owned utility Enel.

Italy's budgetary problems have not gone unnoticed. The European Commission issued a report in April 2004, showing that Italy is expected to have a public deficit of more than 3% of GDP in 2004. This means that Italy would violate the deficit ceiling imposed by the EU Stability and Growth Pact. It appears, however, that the Berlusconi administration is unwavering by the report as it is pressing ahead with its plans to cut taxes and allocate billions of euros on infrastructure projects in order to boost the economy.

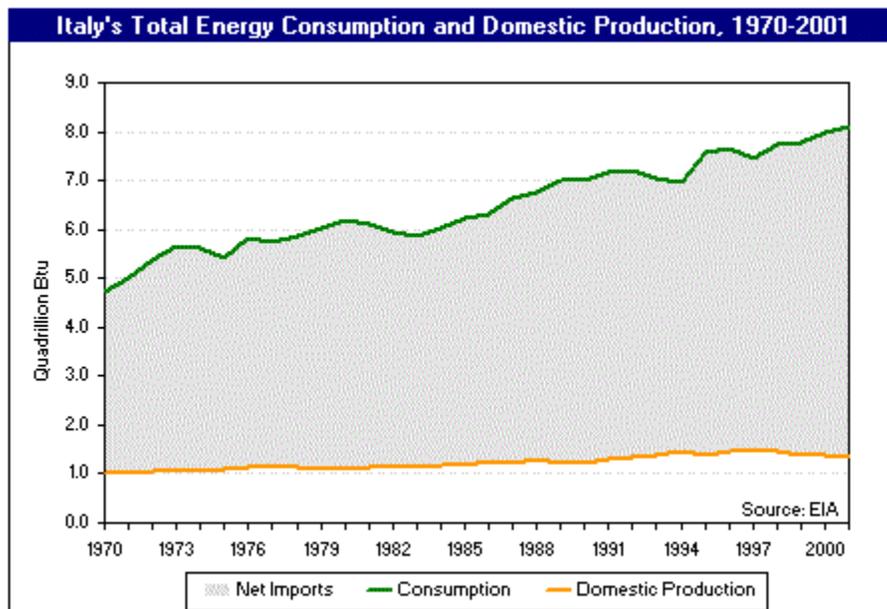
ENERGY OVERVIEW

With limited domestic energy sources, Italy is highly dependent on hydrocarbon and, to a lesser extent, electricity imports to meet its energy requirements. In 2001, for example, Italy met just 16.4% of its total energy consumption with domestic sources (see [graph](#)). Historically, the country

has relied heavily on oil to meet its energy needs, accounting for 78% of Italy's primary energy consumption in 1970. In absolute terms, oil consumption has remained relatively static since 1970, but its share of Italy's primary energy mix has since decreased to 48% in 2001. Natural gas' share of Italy's energy mix has in turn increased substantially to 32% in 2001 from 9% in 1970.

A more pressing issue facing Italy remains security of supply, particularly electricity. In the summer of 2003, increased electricity demand during a heat wave overwhelmed Italy's electric-generation facilities, resulting in rolling blackouts. In September 2003, the entire peninsula suffered a blackout after a transmission line in Switzerland, transferring electricity from France, was damaged during a storm. Over the past decade, Italy's installed electricity

generation has not been able to keep up with demand, increasing the proportion of net electricity imports from 8.8% in 1997 to 11% in 2002.



OIL

As of January 2004, Italy's crude oil proven reserves stood at 621 million barrels, according to the *Oil and Gas Journal*. In 2003, the country produced an estimated 140,000 barrels per day (bbl/d) of oil, a 8.5% year-on-year increase, while consumption remained the same at about 1.85 million bbl/d. Italy is more than 90% reliant on imports and Europe's third largest oil importer. In 2002, Italy's main sources of imports were the Former Soviet Union, Iran, Saudi Arabia and Algeria.

Exploration and Production

Formerly state-owned oil and natural gas company, Eni, is the largest oil producer in Italy, averaging 96,000 bbl/d (crude oil and condensate) in 2003. Eni's three main producing fields include Val d'Agri in Southern Italy, Villafortuna in the Po Valley, and Aquila in the southern Adriatic offshore. The company also produces oil from fields located offshore in the Adriatic and in Sicily (both onshore and offshore). Other oil-producing companies include Edison, Shell Italia E&P, Total, ExxonMobil and BG.

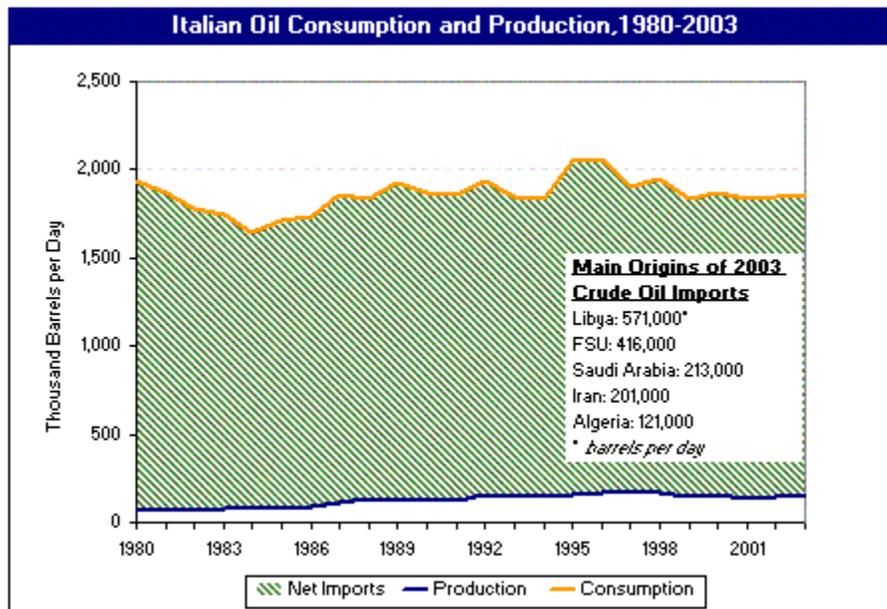
The Eni-operated Val d'Agri field, with an estimated 600 million barrels of oil equivalent (including oil and associated natural gas), is considered to be Western Europe's most promising onshore development area. In December 2001, Eni completed an 85-mile Monte Alpi pipeline, with a capacity of 150,000-bbl/d, which connects the field to the Taranto refinery. Eni, along with partner Shell Italia E&P, aims to increase production at Val d'Agri to 104,000 bbl/d from the current 45,000 bbl/d.

TotalFinaElf (50%), along with partners Shell Italia E&P (25%) and ExxonMobil (25%), is developing the Tempa Rossa field, which neighbors the Val d'Agri field. Tempa Rossa, with estimated 200 million barrels of oil equivalent, is projected to reach a production plateau of 50,000

bbl/d, after coming onstream in 2007. Oil from the field will be linked to Monte Alpi pipeline and transported to the Taranto refinery.

Sector Organization

Eni is the largest oil and natural gas company in Italy, as well as one of the largest in the world. In 1992, the government passed legislation to transform Eni from a wholly state-owned to a joint stock company. Between 1995 and 1998, the Ministry of Treasury placed 63% of Eni on the market. As of December 2003, the Italian government remained the largest shareholder, with Ministry of Finance and Economy holding 20.32%, followed by Cassa di Risparmio di Venezia (state-owned bank) with 10%, and the Ministry of Treasury with 5.6%. Individual investors hold the remaining shares.



Although Eni's proven hydrocarbon reserves and daily production rate are not as large as other oil majors, such as ExxonMobil and BP, they are still substantial. In 2003, Eni's total hydrocarbon production (including liquids and natural gas) amounted to 1.6 million barrels of oil equivalent per day (boe/d). At the end of 2003, the company's hydrocarbon reserves totaled 7.3 billion boe. Eni's proved oil and condensate reserves portfolio is diversified, with 26% located in North Africa, 25% in West Africa, 13% in the North Sea, 6% in Italy and the remaining 30% in various countries (Latin America, Australia, Middle and Far East, North America and the Caspian Sea).

One of Eni's most notable development projects is the world-class Kashagan field in Caspian Sea, which received development approval from Kazakh government in February 2004. As of now, the field's recoverable reserves have been estimated at 7 to 9 billion boe. However, Eni believes that recoverable reserves could increase to as much as 13 billion boe with use of gas re-injection. Initial production is expected to begin in 2005, with peak production reaching 1.2 million boe/d in between 2016-2025. Eni has a 20.3% stake and is the operator of the Kashagan field, with other shareholders including Total (20.3%), ExxonMobil (20.3%) Royal Dutch/Shell (20.3%) ConocoPhillips (10.2%) and INPEX (8.3%).

Downstream

Within the EU, Italy has the greatest crude oil refining capacity, at 2.3 million bbl/d. There are large oil refining facilities along the Mediterranean coast and on Mediterranean islands, capable of processing a wide range of crude oils from North Africa and the Persian Gulf. Eni operates five of the 17 major refineries in Italy.

Increasingly strict EU environmental regulations have been forcing refineries in Italy, as well as in all EU member states, to upgrade their facilities not only to reduce their emissions but also to meet new fuel specifications. The EU's [Directive 2003/17/EC](#), for example, requires each EU member

state to market in their prospective territories gasoline and diesel fuels with maximum sulfur content of 10 milligrams per kilogram (mg/kg) by no later than January 1, 2005. By January 1, 2009, all gasoline and diesel fuels marketed in EU member states must have a maximum sulfur content of 10mg/kg (see Articles 3(2) and 4(1) and Annexes III and IV in the [Directive](#) for more specifics).

NATURAL GAS

Within the EU, Italy has the fourth largest proven reserves of natural gas at 8 trillion cubic feet (Tcf), according to the *Oil and Gas Journal*. In 2002, the country produced 515 billion cubic feet (Bcf) of natural gas, a 4.3% decrease year-on-year. In 2002, Italy's consumption remained static year-on-year, at 2.5 Tcf, the third largest amount in the EU, behind the United Kingdom and Germany.

Projected Consumption

Between 1993 and 2002, Italy's natural gas consumption increased 3.6% on an annual basis, mainly due to an escalation of combined cycle natural gas-fired generation plants brought into operation in recent years. It remains unclear whether demand growth for natural gas will continue at this rate. Prior to the blackouts in the summer of 2003, some analysts had suggested that Italy's sluggish economy and delays in constructing new natural gas-fired power plants may decrease demand growth for natural gas in coming years. However, in July 2003, the government adopted Decree No 239/2003 (the so-called "Anti-blackout law"), simplifying the authorization process for construction of new power plants in Italy. Since then, some analysts have changed their forecasts for natural gas demand growth, projecting it to remain strong. Snam Rete Gas, Italy's natural gas grid operator, for example, reported in its 2003 annual report that it expects demand growth to increase 3% annually until 2006. The grid operator expects that newly constructed natural gas-fired power plants and conversion of power plants which previously used fuel oil to drive demand for natural gas.

Exploration and Production

Eni is the main producer of natural gas in Italy, with a daily output of 1.2 Bcf in 2003, according to company statistics. The company's principal fields are located offshore in the Adriatic and Ionian Seas. Currently, the company is developing the Panda natural gas field, located off the coast of Sicily. The field, which was first discovered in 2002, could hold up to an estimated 706 Bcf. Eni is also developing the Tea, Arnica and Lavanda gas fields located 38 miles off the Adriatic coast. First production from these fields is anticipated in 2005.

Sector Organization

Market Liberalization

In May 2000, the government adopted [Legislative Decree No 164/2000](#), known as the Letta Decree, which implemented the EU's Directive (98/30/EC) on natural gas. The Decree set a liberalization schedule, which opened the natural gas market to full competition in January 2003, and established regulated third party access to the natural gas grid. The Decree also introduced two measures to increase competition: 1) no single company can supply more than 50% of the natural gas sold to final users beginning in 2002; and 2) from the beginning of 2002, no company will be allowed to supply more than 75% of Italy's annual natural gas demand, with the limit reduced to 61% by 2010.

Prior to restructuring, Eni, with its subsidiaries Snam (transportation, dispatching and storage), controlled much of Italy's natural gas market. The Letta Decree, in line with EU requirements, required legal separation of transmission and activities from all other activities, except storage activities. In November 2000, Eni subsequently created a separate company, Snam Rete Gas S.p.A., to take control of its natural gas transmission, dispatching and liquefied natural gas (LNG) regasification activities (Panigaglia facility). In November 2001, the Panigaglia facility was

transferred to GNL Italia S.p.A., a company formed in July 2001 and wholly controlled by Snam Rete Gas. Currently, Snam Rete Gas owns and operates 96% of Italy's national pipeline grid (18,825 miles). As of December 2003, Eni controlled 59.12% of Snam Rete Gas, followed by Assicurazioni Generali S.p.A. with 2.04%, Banca d'Italia 2.01%, and the remaining owned by individual investors. Beginning on July 1, 2007, the recently introduced Decree No 239/2003 prohibits companies operating in the natural gas sector from holding more than 20% stake in companies owning and operating national natural gas and electricity transmission systems. Eni, with 59.12% of the share capital of Snam Rete Gas, will therefore have to reduce its stake to 20%. In November 2000, Eni also created Stocaggi Gas Italia S.p.A. (Stogit) to operate the company's eight storage facilities, with an estimated capacity of 848 Bcf. Stogit remains wholly owned by Eni. Edison owns and operates two other natural gas storage facilities in Italy. According to the International Energy Agency (IEA), there are currently 780 local natural gas distributors operating in Italy, with Eni's Italgas controlling 27% of the market.

New Entrants

Although Eni currently remains the predominant supplier in Italy, the company reduced the volumes of natural gas delivered to the national grid in accordance with the Letta Decree (see table). In 2003, Eni supplied 68% of the natural gas delivered to the national pipeline grid, down 5.2% year-on-year, according to Snam Rete Gas data. Enel and Edison supplied 12% and 10%, respectively, with Plurigas providing 4%.

Volumes sent into network by shipper (Bcf)

	2001	2002	2003	% Change 2002-03
Eni*	2,054	1,927	1,827	-5.2%
Enel	222	292	324	10.9%
Edison	133	189	265	40.3%
Plurigas	26	112	109	-2.5%
Others	49	108	172	59.5%
Total	2,485	2,627	2,697	2.6%

Source: Snam Rete Gas 2003 Annual Report

*input by Eni includes natural gas consumed by Snam Rete Gas

After securing its own bank of natural gas import contracts, Edison is likely to become Eni's largest competitor in coming years. In 2003, Edison sourced its natural gas from Algeria, Libya, Russia and the North Sea (Norway and The Netherlands), as well as bought LNG on a spot basis. The company produced domestically 39 Bcf of natural gas. In 2005, Edison is expected to begin receiving 141 billion cubic feet per year (Bcf/y) from Libya, delivered through the Green Stream pipeline, and in 2006, it should start receiving 162 Bcf/y of regasified LNG from Qatar.

Imports

Italy's dependence on natural gas is growing, making the diversification of supply sources an important issue. Between 1993 and 2002, natural gas imports grew on average 6.1% per year. In 2002, Italy imported 38% of its natural gas from Algeria, followed by Russia with 32%, The Netherlands 14%, Norway 9%, and Nigeria 7%.

The Trans-Mediterranean pipeline (Transmed) allows Italy to import natural gas from Algeria's Hassi R'Mel gas fields. In 1983, Eni, in conjunction with Algeria's Sonatrach, completed the 1,375-mile pipeline, which begins in Tunisia and crosses the Mediterranean, landing at Mazara del Vallo, Sicily. From there, the pipeline continues onto the Italian mainland to its terminus in Minerbio, near Bologna, where the natural gas enters the national grid (A 334-mile pipeline connects the Hassi R'Mel reserve to the Tunisian border). In 1991, Eni and Sonatrach agreed to build a parallel pipeline in order to increase imports. In 2003, Snam Rete Gas recorded 722 Bcf of natural gas entering at Mazara del Vallo, up 3.5% year-on-year.

In Northern Italy, natural gas imports from Norway and The Netherlands enter via the Trans-European Pipeline (TENP) and Transitgas pipeline at Passo Gries on the Swiss border. From

Russia, natural gas enters at Tarvisio on the Austrian border via the Trans-Austrian Gas Pipeline (TAG). Eni is currently completing work to increase import capacity from the TAG and TENP pipelines. There is also an entry point with Slovenia at Gorizia. In 2003, over a third of Italy's natural gas imports via pipeline came from Russia through the Tarvisio entry point (see [table](#)).

	Italy's Natural Gas Imports via Entry Point				Import Capacity		
	Billion cubic feet per year				Million cubic feet per day		
	Imports				Capacity Available	Capacity Allocated	Saturation
	2001	2002	2003	2002-03 %	2002-2003		
Passo Gries	290	495	527	6.5%	2,144	1,950	91.0%
Tarvisio	737	736	779	5.8%	2,956	2,792	94.4%
Gorizia	0	5	7	40.0%	25	25	100.0%
Mazara del Vallo	798	745	772	3.5%	3,072	2,680	87.2%
Panigaglia (LNG)	129	126	122	-3.1%	403	403	100.0%
Totals	1,954	2,107	2,207	4.7%	8,599	7,849	91.3%

Source: Snam Rete Gas 2003 Annual Report

A new pipeline, known as Green Stream, will allow Italy to begin importing natural gas from Libya in 2004. The 372-mile pipeline, with an ultimate transport capacity of 353 Bcf/y, runs from Mellitah on the Libyan coast to Gela in Sicily, from which a pipeline connects to Italy's national network at Enna. The Green Stream pipeline is part of \$4.5 billion "West Libya Gas Project", which will draw natural gas from the offshore Bouri field and the Wafa field, located in southern Libya. Eni's Agip Gas operates, as well as owns 75% of the pipeline, with Libya's NOC holding 25% of the project.

Proposed Pipelines

A consortium, comprising Sonatrach (40%), Edison (20%), Enelpower (15%), Wintershall (15%) and Eos Energia (10%), are conducting a feasibility study on constructing a 938-mile pipeline, beginning at Algeria's Hassi R'Mel gas field and ending in C.D. Pescaia on the Italian mainland via Sardinia. The pipeline, known as Galsi, is anticipated to have annual capacity of 353 Bcf/y, with operations beginning in 2008. Russia's Gazprom also has drafted plans for pipeline that would transit Bulgaria, Macedonia, Albania and the Adriatic Sea before reaching Italy. It remains unclear whether this project will materialize.

Eni-Gazprom Import Contract

In October 2003, the European Commission's Competition Directorate General facilitated a settlement between Eni and Russia's Gazprom regarding restrictive clauses in their existing natural gas contracts. Under the settlement, Eni no longer will be prevented from reselling, outside Italy, the natural gas imported from Gazprom. Eni also pledged to increase capacity of and third-party access to the Trans-Austria Gas pipeline. In exchange, Gazprom can sell natural gas to other customers in Italy without first obtaining consent from Eni. Prior to the settlement, the restrictive clause prevented wholesalers, in this case Eni, from reselling natural gas outside the countries where they are established, which, according to the EU Commission, represented a breach in the European competition law and undermined efforts to create a liberalized European gas market. The EU Commission hopes that this settlement will provide a precedent for reworking other similar contracts in the EU.

Liquefied Natural Gas

Although LNG makes up a small percentage of Italy's natural gas imports (5.5% in 2003 according to Snam Rete Gas), it is expected to become increasingly important to Italy's security and diversification of supply. GNL Italia, a subsidiary of Snam Rete Gas, owns and operates Italy's only LNG regasification terminal, Panigaglia, located on the country's western coast at La Spezia. The

terminal, which regasified 122 Bcf in 2003, has been in operation since 1971.

Proposed LNG Facilities

Brindisi

The Brindisi terminal, located on the south-east coast of Italy, is in the most advanced stage of development of all proposed LNG terminals. BG Group, along with Enel, is developing the 283-Bcf-per-year terminal, with start-up anticipated for 2007. BG received government approval for the terminal in January 2003, and awarded the front end engineering design (FEED) contract in June 2003. The companies expect construction to begin in 2004, with completion scheduled for 2007. BG and Enel will share evenly 80% of the terminal's regasification capacity, while the remaining 20% will be subject to regulated third-party access.

North Adriatic LNG

In November 2003, ExxonMobil and Qatar Petroleum (QP) acquired 90% of Edison's proposed North Adriatic LNG regasification project, located 11 miles off Italy's northern Adriatic coast. Under Edison, the initial developer, the project became stalled, reportedly due to local opposition to the LNG terminal and to Edison's lack of finances. It is expected that ExxonMobil and QP will be able to provide the necessary funding for terminal; however, it remains unclear whether the two companies will be able to secure local approval. ExxonMobil and QP now each control a 45% stake of the terminal, while Edison holds a 10% stake.

If completed, the North Adriatic terminal will be supplied from the Ras Laffan Liquefied Natural Gas Company Limited II (RasGas II) liquefaction terminal in Qatar. In June 2001, Edison signed a 25-year agreement to buy 3.5 million metric tons of LNG per year (equivalent to 170.5 Bcf) from the fourth natural gas train of Rasgas in Qatar when the train is completed in 2005. In November 2003, the Edison and Rasgas II amended their original agreement, increasing the yearly supply to 229 Bcf/y. QP and ExxonMobil hold 70% and 30% stakes, respectively, in RasGas II.

Other LNG Projects

BP, Edison and Solvay have proposed constructing a terminal on Italy's western coast at Rosignano while Italian companies Flack and Belleli are proposing a second western terminal offshore Livorno, with an annual capacity of 184 Bcf.

COAL

Domestic coal production in Italy came to end in 2001, making the country dependent on coal imports. Overall, coal plays a small part in Italy's energy mix, accounting for 6.7% of the country's total energy consumption in 2001. The power sector consumes most of the coal imported to Italy. Italy imports coal from South Africa, Indonesia, Colombia, the United States, Poland, China and Australia .

ELECTRICITY

As of December 2002, Italy's electric generation capacity was 69.1 gigawatts, of which thermal (oil, natural gas and coal) accounted for 78%, followed by hydro with 19% and other renewables with 3%. In 2002, Italy generated 262 billion kilowatthours (Bkwh) of electricity, while consuming 294 Bkwh. Electricity imports made up for the country's supply shortfalls, comprising 11% of total demand. In 2002, sources of electricity imports were Switzerland (48%), France (37%), Slovenia (10%), Austria (3.5%), and Greece (1%), according to Italy's national transmission system operator, Gestore Rete Trasmissione Nazionale (GRTN).

Power Crisis

In the summer and early fall of 2003, Italy experienced two significant power blackouts. The first large-scale outage occurred on June 26, 2003, when Italy's grid operator GRTN had to cut supply, as power demand surged, largely from increased air conditioning use during an extreme heat wave. On September 28, 2003, all of mainland Italy and Sicily, with the only exception being Sardinia, experienced a blackout when a tree struck a power transmission pylon in Switzerland. Although it appeared that these blackouts were caused by temporary or incidental factors, many analysts have suggested that the root of the cause lies in under-investment in Italy's power sector, which has resulted in less than sufficient reserve generation capacity and in increased dependence on electricity imports.

Since these blackouts, the government has reemphasized the country's need for increased generation capacity. One of the obstacles to constructing new power plants has been the long and stringent authorization process. In February 2002, the Italian government attempted to change this by adopting the Marzano Decree (Law Decree No. 7/02). The Decree speeds up the process, requiring only a single authorization for construction from the

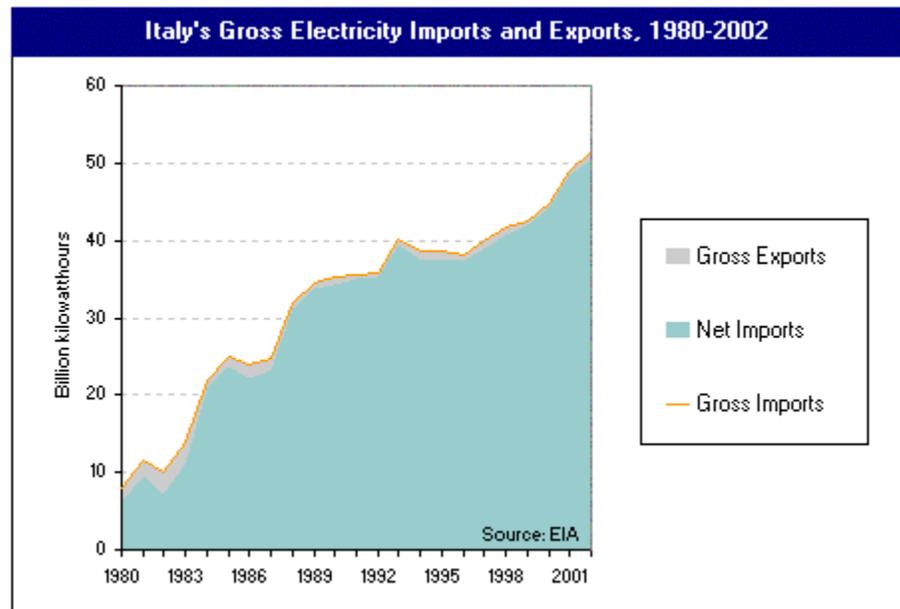
Ministry of Productive Activities. The single authorization process involves all government bodies (e.g., national, local, and environmental) at one time and takes no longer than six months.

Some have even suggested that Italy should revive its decommissioned nuclear power plants. Sogin, the state-owned company that manages the shutdown of nuclear facilities in Italy, responded, however, that such a proposal would be unrealistic, due to the age of the facilities and to their partial dismantling. Italy's four nuclear power plants - Latina, Caorsa, Garigliano, and Trino Vercellese were shutdown in 1987 after the public voted to abandon the use of nuclear power. Other recommendations, in particularly from the Union for the Coordination of Transmission of Electricity (UCTE) in Europe, have emphasized improved coordination between interconnected countries, in this case Italy and Switzerland, in order to avoid system overloads and subsequent blackouts, such as the case in September 2003.

Sector Organization

Market Privatization

The Bersani Decree (Law Decree No. 79/99) entered into force on April 1, 1999, implementing the EU Directive 96/92/EC on electricity sector liberalization. The Bersani Decree introduced competition in the Italian electricity supply, allowing consumers to choose their suppliers. Eligibility was initially limited to consumers with an annual consumption of over 30 gigawatts (GW). Since then, the eligibility threshold has been reduced three times, and as of April 2003, consumers with an annual consumption of more than 100 megawatts (MW) were allowed to choose their supplier (about 66% of the market).



Along with introducing supplier choices, the Bersani Decree also required Italy's dominant electricity utility, Enel, to divest 15 gigawatts of its 56 gigawatts of installed capacity by January 1, 2003. In order to comply with the Decree, Enel created three electricity generation companies: 5,438 MW Elettrogen; the 7,009 MW Eurogen; and the 2,611 MW Interpower (now Tirreno Power). These companies were subsequently acquired by Endesa-BSCH-Asm Brescia consortium (July 2001), Edipower, a consortium led by Edison (May 2002), and the Energia Italiana – Electrabel - Acea consortium (November 2002), respectively. The Decree also allowed municipal utilities to buy Enel's distribution networks in their areas, which many have done, such as municipal utilities located in Trieste, Parma, Turin, Milan, Rome and Verona.

Finally, the Decree liberalized that electricity import market, allowing third party access to cross-border interconnectors and national distribution lines, as well as established GRTN, the national system transmission operator. GRTN operates two subsidiaries: the Single Buyer which is responsible for guaranteeing the supply of electricity to the regulated market; and the Electricity Market Operator (Gestore del Mercato Elettrico -GME), which responsible for managing the electricity pool. The GME came into operation on January 1, 2004.

In July 2003, the Italian government adopted Decree No 239/2003 that requires Enel to decrease its ownership in Italy's national high voltage transmission network to 20% by 2007. Currently, Enel owns 100% of Terna, which in turn, owns 94% of the national high voltage electricity network. Enel plans to sell 25%-50% of Terna by June 2004.

Electricite de France (EdF)

In 2001, Italenergia BIS (IEB) in which France's wholly state-owned EdF has an 18% stake acquired a 62.5% stake in Italy's Edison. The Italian government disapproved of EdF acquiring assets in Italy, when France, at that time, had not opened its electricity sector competition. In response, the Italian government adopted Decree No 192 (converted into Law No 301 in July 2001), limiting voting rights of foreign public enterprises investing in companies in Italy. Over the past two years, EdF has been trying to reach an agreement with the Italian government that would allow Enel some access to the French power market in exchange for lifting voting restrictions placed on EdF's assets in Italy. In March 2004, EdF and Enel reportedly were getting closer to signing a memorandum of understanding (MOU) that would resolve the dispute. Details on the MOU remain, however, mainly speculative, but some reported scenarios included: guaranteed power supplies to Italy; Enel participation in EdF's plans to build a new European Pressurized Reactor; and EdF increasing its shares in Edison. The EU Commission announced in December 2003 that it will be taking Italy to the Court of Justice because of its "anti-EdF" law, citing that it unnecessarily constrains the principle of the free movement of capital within the EU.

Enel Privatization

In November 1999, the Italian government floated 32% of Enel on the Milan and New York stock exchanges. In October 2003, the Italian government sold an additional 6.6% stake in Enel to Morgan Stanley, reducing the government's stake to just over 60%. The government still plans to eventually sell its remaining stake in the company, but is reportedly waiting for favorable market conditions.

Other Market Players

While Enel remains the dominant generator and supplier of electricity in Italy, other companies have emerged as significant market players, namely Edison and Spain's Endesa, and, to a lesser extent, Tirreno Power (formerly Interpower) and Enipower. As of December 2003, Enel operated 41 gigawatts (GW) of installed electric generation capacity in Italy, followed by Edison (including share of Edipower) with 10 GW, Endesa 5.9 GW, Tirreno Power 2.6 GW and Enipower 1.4 GW

(self-producers and smaller generators make up the remaining 8 GW of installed capacity in Italy).

Enipower, a subsidiary of Eni, plans to increase its installed electric generation capacity to 5-6 GW by 2006. In 2004, Enipower expects to bring two new power plants onstream, located in Ravenna (780 MW) and in Ferrera Erbognone (1,030 MW). The company currently is constructing two additional power plants in Mantua (780 MW) and in Brindisi (1,170 MW). Eni has submitted applications for an additional 1,000 MW of installed capacity. Energia Italiana, one of the major shareholders of Tirreno power, plans to invest in five new fossil fuel plants in Italy, each with 780 MW, to be located in the regions of Molise, Aprilia, Bari, Matera, and Lodi. In 2004, Endesa expects to spend \$686 million in converting oil-fired power plants to combined cycle natural gas turbines or coal-fired plants. The company is also considering entering the renewables sector, particularly on the island of Sardinia where it wants to install a wind farm.

While these companies have been investing Italy, Enel has looked abroad for new expansion opportunities, acquiring an 80% stake in Union Fenosa's renewable arm in Spain, a 1% stake in the Spanish power grid operator Red Eléctrica de España, and US-based Entergy's stake in Bulgarian power plant, Maritz East.

ENVIRONMENT

Environmental awareness has grown in Italy in recent years. Although Italy has relatively low per capita energy consumption and energy intensity levels in comparison to other OECD countries, air pollution remains a serious environmental challenge.

Because of Italy's heavy reliance on oil imports to meet its energy needs, energy security and diversification of energy sources are a top priority in Italy's energy strategy. Italy is well endowed with renewable energy resources, such as solar, biomass and geothermal which could be captured and utilized for energy. The government's goal of doubling the country's production of energy from renewable resources by 2012 will help enable Italy to meet its growing energy demand in the 21st century in a more sustainable manner.

COUNTRY PROFILE

President: Carlo Azeglio Ciampi (since 1999)

Prime Minister: Silvio Berlusconi (since June 2001)

Location/Size: Southern Europe/301,230 sq km (116,305 sq mi, slightly larger than Arizona)

Major Cities: Rome (capital), Milan, Naples, Turin, Palermo, Genoa

Languages: Italian, German (parts of Trentino-Alto Adige region are predominantly German speaking), French (small French-speaking minority in Valle d'Aosta region), Slovene (Slovene-speaking minority in the Trieste-Gorizia area)

Ethnic groups: Italian (includes small clusters of German-, French-, and Slovene-Italians in the north and Albanian-Italians and Greek-Italians in the south)

Religion: predominately Roman Catholic with established Protestant and Jewish communities and a growing Muslim immigrant community

Population (2003E): 58.1 million

ECONOMIC OVERVIEW

Minister of Economy and Finance: Giulio Tremonti

Currency: Euro

Market Exchange Rate (04/30/04): US\$1 = 0.83 Euro

Nominal Gross Domestic Product (GDP, 2003E): \$1,470 billion

Real GDP Growth Rate (2003E): 0.4%; **(2004F):** 0.8%

Unemployment Rate (2003E): 8.8%

Inflation Rate (consumer prices, 2003E): 2.7%; **(2004F):** 2.2%

Merchandise Exports (2003E): \$289 billion

Merchandise Imports (2003E): \$287 billion

Trade Surplus (2003E): \$2 billion

Major Export Products: Textiles, clothing, machinery, transportation equipment

Main Destinations of Exports (2002E): Germany (13.7%), France (12.2%), United States (9.7%), United Kingdom (6.9%), Spain (6.3%).

Major Import Products: Crude oil, other fuels, machinery, transport equipment

ENERGY OVERVIEW

Minister of Productive Activities: Antonio Marzano

Proven Oil Reserves (1/1/04E): 622 million barrels

Oil Production (2003E): 140,000 barrels per day (bbl/d), of which 96,000 bbl/d is crude oil

Oil Consumption (2003E): 1.85 million bbl/d

Net Oil Imports (2003E): 1.71 million bbl/d

Crude Oil Refining Capacity (1/1/04E): 2.3 million bbl/d

Natural Gas Reserves (1/1/04E): 8.0 trillion cubic feet (Tcf)

Natural Gas Production (2002E): 515 billion cubic feet

Natural Gas Consumption (2002E): 2.5 Tcf

Net Natural Gas Imports (2002E): 2.0 Tcf

Recoverable Coal Reserves (2001E): 37 million short tons (Mmst)

Coal Production (2002E): None

Coal Consumption (2002E): 21.8 Mmst

Electric Generation Capacity (2002E): 69.1 gigawatts

Electricity Generation (2002E): 262 billion kilowatthours (Bkwh)

Electricity Consumption (2002E): 294 Bkwh

ENVIRONMENTAL OVERVIEW

Minister of Environment: Altero Matteoli

Total Energy Consumption (2001E): 7.96 quadrillion Btu* (2% of world total energy consumption)

Energy-Related Carbon Dioxide Emissions (2001E): 121.5 million metric tons (1.9% of world total carbon dioxide emissions)

Per Capita Energy Consumption (2001E): 140.0 million Btu (vs U.S. value of 341.8 million Btu)

Per Capita Carbon Dioxide Emissions (2001E): 7.7 metric tons (vs U.S. value of 20.2 metric tons)

Energy Intensity (2001E): 6,300 Btu/ \$1995 (vs U.S. value of 10,810 Btu/ \$1995)**

Carbon Dioxide Intensity (2001E): 0.35 metric tons/thousand \$1995 (vs U.S. value of 0.64 metric tons/thousand \$1995)**

Fuel Share of Energy Consumption (2001E): Oil (47.8%), Natural Gas (31.7%), Coal (6.2%), Hydro (6.1%), and other Renewables (1.6%)

Fuel Share of Carbon Dioxide Emissions (2001E): Oil (58.6%), Natural Gas (30.5%), Coal (10.9%)

Status in Climate Change Negotiations: Annex I country under the United Nations Framework Convention on Climate Change (ratified April 15th, 1994). Under the negotiated Kyoto Protocol (signed on April 29th, 1998, and ratified the Treaty on May 31, 2002), Italy, as a member of the European Union, has agreed to reduce greenhouse gases 8% below 1990 levels by the 2008-2012 commitment period.

Major Environmental Issues: Air pollution from industrial emissions such as sulfur dioxide; coastal and inland rivers polluted from industrial and agricultural effluents; acid rain damaging lakes; inadequate industrial waste treatment and disposal facilities.

Major International Environmental Agreements: A party to Conventions on Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling. Has signed, but not ratified: Air Pollution-Convention on Persistent Organic Pollutants.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

ENERGY INDUSTRY

Oil and Gas Company: Ente Nazionale Idrocarburi (Eni); Chief Subsidiaries: Agip (hydrocarbons exploration and production), Snam Rete Gas (hydrocarbon transportation), ENIchem (petrochemicals)

Major Pipelines (gas): TransMed, Trans-Austria Gasleitung

Major Ports: Cagliari (Sardinia), Genoa, La Spezia, Livorno, Naples, Palermo, Trieste, Venice

National Electricity Company: Ente Nazionale per l'Energia Elettrica (Enel)

Sources for this report include: CIA World Factbook; Dow Jones; Economist; Economist Intelligence Unit; Edison; Enel; Eni; European Union Commission; ExxonMobil; Financial Times; Global Insight; International Oil Daily; International Petroleum Finance; Italian Regulatory Authority for Electricity and Gas; Nucleonics; Petroleum Economist; Platts; Reuters; Snam Rete Gas; The Heren Report; U.S. Census Bureau, U.S. Commerce Department; U.S. Energy Information Administration; U.S. State Department; Utility Week; World Gas Intelligence; World Markets Analysis.

LINKS

Links to other U.S. Government sites:

[CIA World Factbook, Italy](#)

[U.S. State Department's Consular Information Sheet, Italy](#)

[U.S. Embassy in Rome](#)

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