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Peru

Peru represents a potentially expanding market for U.S. and other foreign energy companies, although privatization is proceeding more slowly than in the 1990s. Peru's Camisea natural gas field project is in its final stages, with the first natural gas scheduled to arrive in Lima in August 2004.

Note: Information in this report is the best available as of May 2004 and can change.



GENERAL BACKGROUND

In 2003, Peru experienced estimated real gross domestic product (GDP) growth of 4.0%, down from the previous year's rate of 4.9%. The slower economic growth has been attributed to lower investment and business confidence, resulting from social problems such as unemployment, domestic crime, poverty, and corruption, as well as from political instability. Nonetheless, real GDP growth is projected to remain favorable in 2004, at around 4%, with mineral exports, construction, and the soon-to-be inaugurated Camisea energy project driving Peru's economy.

In February 2004, Peru passed the fourth and last review of its two-year \$380 million Stand-By Arrangement with the IMF. In line with the arrangement, Peru's government has brought the country's

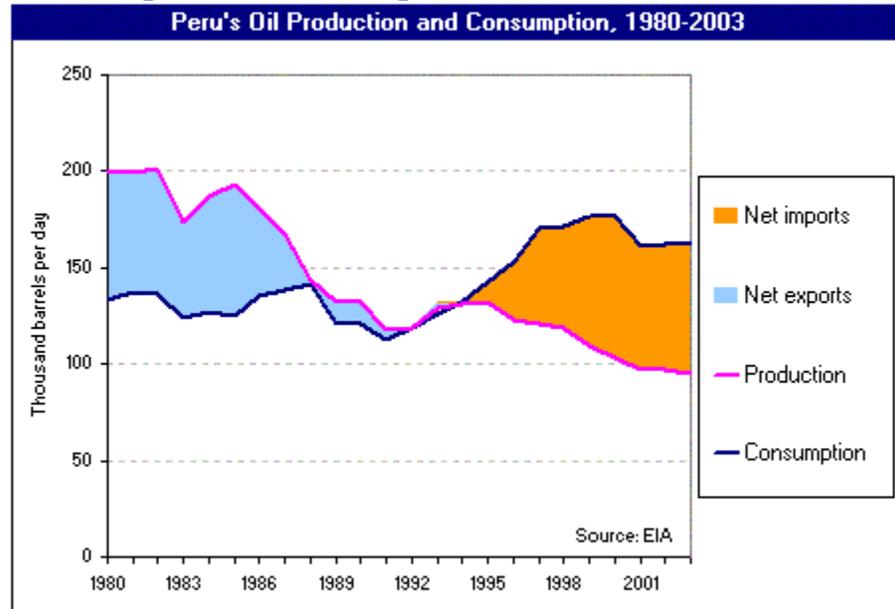
fiscal deficit under control, meeting the IMF target of 1.9% of GDP in 2003, with the deficit expected to be reduced further in 2004. Despite positive economic growth, the country's political situation reportedly remains unstable, with President Alejandro Toledo reshuffling his cabinet in February 2004 for the fifth time since taking office in July 2001.

Peru is a member of the [Andean Community](#), set up in March 1996 by leaders of Bolivia, Colombia, Ecuador, Peru, and Venezuela. At that time, the five national leaders expressed their intent to move towards a single market along the lines of the European Union, although significant policy differences need to be worked out. Furthermore, the Community is working towards integrating [energy sectors](#), particularly electricity and natural gas markets, through physical networks and harmonized regulatory frameworks. In November 1997, Peru joined the Asia Pacific

Economic Cooperation (APEC) forum. Peru has also been participating in the Free Trade Area of the Americas negotiations.

OIL

Peru had estimated proven crude oil reserves of 285 million barrels, as of January 2004, according to the *Oil and Gas Journal*. In 2003, Peru produced 95,000 barrels per day (bbl/d) of oil (including crude and NGLs), a decrease of 2.1% year-on-year, while consuming 163,000 bbl/d. Unable to meet oil demand with domestic resources, Peru imports oil to make up for the shortfall, mainly from Ecuador and, to a lesser extent, from Nigeria, Colombia, Argentina, and Venezuela. Current oil activities are located in the northern jungle along the border of Ecuador (Loreto Department), along the northern coastal region (Piura Department), and in the central jungle region (Huánuco and Ucayali Departments). In 2003, the largest oil producing company in Peru was Argentina's Pluspetrol, accounting for 63% of output, followed by U.S.-based Petro-Tech with 13%, Brazil's Petrobras 13%, and Sapet, a subsidiary of China National Petroleum Corporation, 3.6%.



Production and Exploration

Crude oil production has been declining in recent years, down about 29% from 1995, when Peru produced 130,000 bbl/d. According to reports, a combination of poor drilling results and unattractive royalty terms resulted in some companies, such as Anadarko, Pan Energy Exploration, and Coastal Energy, abandoning activities in Peru in the late 1990s. In 1997, oil companies drilled a total of 103 wells in Peru and in 1999, only 19 wells (this trend is shown in the [table](#) below). Crude oil production in turn has decreased, with output dropping 4.2% annually between 1995 and 2003.

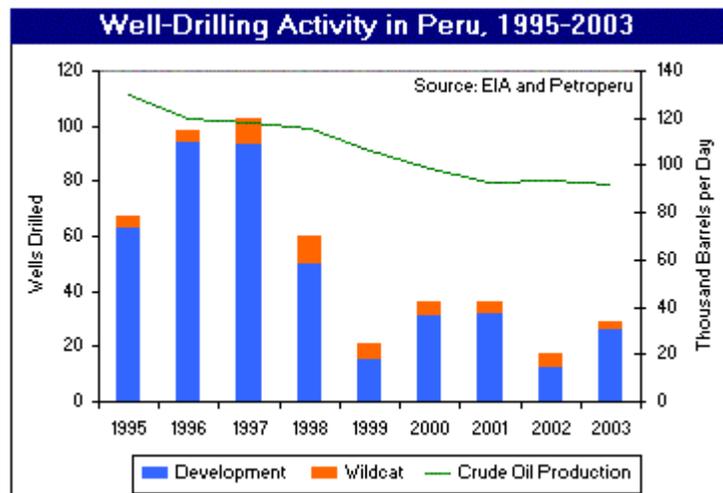
New Incentives

On May 29, 2003, in attempt to boost sluggish oil exploration and production activities, the Peruvian government adopted [Supreme Decree No. 017-2003 EM](#). The Decree established two new methods for calculating royalties, with one based on production levels (Article 3) and the other on economic rate of return (Article 4). According to the Decree, a company may elect, upon the date of commercial discovery, the methodology to calculate the royalty percentage rates to be paid to the Peruvian State. According to the first methodology, royalty fee on production of 5,000 bbl/d or less is 5%; on production between 5,000-100,000 bbl/d the rate ranges between 5% and 20%; and on production over 100,000 bbl/d the rate is 20%. The second methodology varies between 0% and 20%, depending on revenue and costs incurred by the company during the previous year. The government included other incentives to attract investment, such as making technical information on fields available for free, refunding value added taxes incurred during exploration stages; and accelerating the bidding process.

Peru's new terms have since spurred a revival of interest in upstream activities in the country. In December 2003, U.S.-based BPZ Energy Inc. signed an exploration and production (E&P) contract for the development of Block 19, located on the northern coast. Also in December, Repsol-YPF (76.15%), in partnership with Burlington Resources (23.85%), signed an E&P contract for Block 90 located 63 miles north of the Camisea area in the Ucayali Basin. In January 2004, Repsol-YPF (76.15%) and Burlington Resources (23.85%) again signed an E&P contract for Block 57. The companies are expected to invest \$45 million in exploration activities. In February 2004, Occidental Oil was awarded a contract for Block 101. In March 2004, Nuevo Peru Ltd., a subsidiary of U.S.-based Nuevo Energy Company, acquired from Syntroleum Corporation, via its subsidiary Snytroleum Peru Holdings, Ltd., a 95% stake in an E&P license for Block Z-1, offshore Northwestern Peru. BPZ holds a 5% stake in the Block as well. Also in March 2004, Compañía Consultora de Petroleo was awarded a contract for Block 100.

Other Developments

In December 2003, China National Petroleum Corporation (CNPC) purchased 45% of Pluspetrol Norte, which operates Block 1AB, along Peru's northern border with Ecuador, and Block 8, located south of Block 1AB. Pluspetrol owns 100% of Block 1AB and 60% of Block 8. Other stakeholders of Block 8 are Korea National Oil Corporation (20%), Daewoo International Corporation (11.67%) and SK Corp. (8.33%). In the first quarter of 2004, the Blocks produced around 54,000 bbl/d. CNPC subsidiary Sapet currently operates Blocks 6 and 7 on the northern coast, of which only Block 6 is currently in operation, producing 3,750 bbl/d in the first quarter of 2004.



Pipeline

Peru's [Norperuano](#) pipeline, completed in 1978, runs from the jungle region in Northeastern Peru to oil terminal Bayóvar on the Pacific Ocean. From the coastline, the pipeline extends 343 miles internally, at which point it splits, with one section (known as Ramal Norte) heading northeast for 191 miles to the fields located in the Marañon Basin while the other section (Trama I) continues east 158 miles to fields located in the Ucayali Basin. While the pipeline has a capacity of 200,000-250,000 bbl/d, it has been utilizing only 30% to 40% of this in recent years.

Refining/Downstream

Peru has six refineries. The largest, La Pampilla, with a crude oil throughput capacity of 102,000 bbl/d, underwent privatization in 1996 and is now controlled by Repsol-YPF with 51% share of the refinery. In March 2004, the government floated its 31.2% share. Other shareholders in La Pampilla include the U.S.-based Peru Privatization Fund (10%), ExxonMobil (6%), and small shareholders (2%). La Pampilla (also known as Relapasa) handles over half the total production of refined products in Peru. State-owned oil company Petroperu operates 4 refineries in the country: the 62,000-bbl/d Talara; the 10,500-bbl/d Iquitos Loreto; the 13,500-bbl/d Conchán; and the 1,700-bbl/d El Milagro. In 1994, the U.S.-based Maple Gas Corporation entered into 20 year-term lease agreement for the Pucallpa refining (3,250 bbl/d) and distribution facilities of Petroperu (Map of Peru's [Refineries](#)).

Peru's government was to begin privatizing state-owned refineries in the late 1990s; however, public opposition delayed the process despite considerable interest from international companies. Peru's state-owned refineries, particularly Talara, need investment to expand and upgrade the facilities, which the government is unable to finance. It remains unclear whether the government will privatize its refineries in the short-term.

NATURAL GAS

Peru had proven natural gas reserves of about 8.7 trillion cubic feet (Tcf), as of January 2004, according to the *Oil and Gas Journal*. Peru is self-sufficient in natural gas, producing and consuming an estimated 15.5 billion cubic feet (Bcf) in 2002, a 18% increase year-on-year. Peru's demand is expected to continue to increase, with production from the Camisea natural gas field (slated to come onstream in August 2004), supplying Lima. Most of Peru's current natural gas production is located along the northwestern coast and in the central region of the country. During March 2003-2004, the largest natural gas producer was Aguaytia Energy, accounting for 65.14% (Block 31-C), followed by Petrobras with 13.77% (Block 10) and Petro-Tech with 11.77% (Block Z-2B), according to government data. Other natural gas producers in Peru include Sapet, Olympic and Graña y Montero.

Camisea Project

The proven volume of natural gas at Camisea (Block 88) is 8.7 Tcf, with an estimated ultimate recovery of 6.8 Tcf and 411 million barrels of associated natural gas liquids (condensate, propane and butane), according to project data. Camisea natural gas reserves are found in two fields, San Martín and Cashiriari, lying on either side of the Camisea River in the Ucayali basin. Shell discovered the two natural gas fields in 1984 and 1986, respectively, in the Camisea area but abandoned them in 1988 after the company failed to reach an agreement with the government. In 2000, after much delay, the Special Committee of the Camisea Project (CECAM) finalized contracts for the development of Camisea. CECAM divided the \$2.6 billion Camisea project into a 40-year contract covering exploration and production (upstream) and a 33-year contract dealing with transportation and distribution (downstream).

Upstream Contracts

In February 2000, the Peruvian government awarded Pluspetrol of Perú (Argentina), Hunt Oil (U.S.), and SK Corporation (South Korea) the upstream portion of the Camisea contract. Since then, both Technit (Argentina) and Sonatrach (Algeria) have joined the upstream project. The group holds the rights for the extraction of natural gas and liquids in Block 88 for 40 years. The upstream project includes: 1) production of natural gas from the San Martín and Cashiriari fields; 2) construction of a gas processing plant in Las Malvinas to separate natural gas liquids from the natural gas, which will then be conditioned for pipeline transportation; and 3) construction of a liquids fractionation plant at Paracas near Pisco on the Pacific Coast of Peru. At the fractionation plant, natural gas liquids (NGLs) will be separated into by-products such as propane and butane (LPGs) for the domestic market and exports. The plant will also include a primary distillation unit to produce naphtha and diesel. Natural gas from Camisea is slated to fuel power plants in Lima and north-central Peru, as well as large industrial customers. Hunt Oil is currently the operator of the project with a 36% share, followed by Pluspetrol with 26%, SK Corporation 18%, Technit 10% and Sonatrach 10%. As of April 2004, the fractionation plant at Paracas was reportedly 70% complete.

The Camisea upstream consortium is also looking to gain access to the neighboring Pagoreni field in Block 56. Pagoreni holds an estimated 4 Tcf of natural gas. The group would like to dedicate the natural gas from Block 56 to supply its proposed LNG export terminal, as output from Block 88 will mainly go to domestic use. Pluspetrol has yet to commit to the proposed LNG terminal, known as Peru LNG, in which Hunt and SK Group hold 70% and 30% stakes, respectively.

Downstream Contracts

The downstream portion of the Camisea project contains three subcontracts: 1) transportation of gas from Camisea to Lima; 2) transportation of natural gas liquids from Camisea to the liquids fractionation plant at Paracas; and 3) distribution of gas in Lima and Callao. In October 2000, the Peruvian government awarded Transportadora de Gas del Perú (TGP) consortium the first two contracts of the "downstream" portion of the Camisea project. TGP holds a 33-year concession to construct and operate the two pipelines, one for natural gas (446 miles) and one for natural gas liquids (338 miles). The pipelines will run parallel until reaching Pisco on the Pacific Ocean, at which point the natural gas pipeline will turn north and run along the coastline until reaching Lima. The initial capacity of the natural gas pipeline is expected to be 285 million cubic feet per day (Mmcf/d), expandable to 729 Mmcf/d. The NGL line is expected to have an initial capacity of 50,000 bbl/d. TGP comprises Techint (23.4%), Pluspetrol (22.2%), Hunt Oil (22.2%), Sonatrach (11.1%), SK Corporation (11.1%), Tractebel (8%-Belgium) and Graña y Montero (2%-Peru). Commercial operation is set to begin in August 2004 (Map of [pipelines](#)). The liquids and natural gas pipelines are reportedly complete.

In May 2002, the government of Peru awarded Tractebel the third portion of the downstream contract, a 30-year concession for the construction and operation of a gas distribution network in Lima and adjacent port Callao. Tractebel has already completed a 37.5-mile main distribution pipeline that will deliver natural gas to some of the larger industries and power generators around Lima. Tractebel reportedly has expressed interest in a tender issued by Peru's private investment promotion agency, ProInversión, for four laterals from the Camisea-Lima pipeline to distribute gas to the provinces of Cusco (125 miles), Junin (100 miles), Ayacucho (6.2 miles) and Ica (63 miles). In Lima, Tractebel operates under the name GNLC (Natural Gas of Lima and Callao).

Liquefied Natural Gas (LNG)

Hunt, along with SK Corporation, is leading the LNG component of the Camisea project, with Pluspetrol considering joining the group. Hunt has already conducted environmental impact and feasibility studies to determine the prospects for exporting excess Camisea gas to Mexican and U.S. markets. However, the project, known as Peru LNG, will only go forward if Hunt can secure LNG buyers. In October 2003, Peru LNG signed a memorandum of understanding (MOU) with Tractebel to sell it 2.7 million metric tons per year of LNG over 18 years. Tractebel had planned to regasify the LNG at a proposed terminal in Lazaro Cardenas, Mexico. However, Mexico's government awarded Repsol-YPF with the Lazaro Cardenas concession. It now remains unclear whether Tractebel can find a new terminal site.

Another possibility for LNG export has been proposed by President Toledo, who suggested that Peru and Bolivia (which has the second-largest natural gas reserves in Latin America, after Venezuela) combine their individual natural gas development efforts, including LNG exports and construction of a petrochemical complex (fed by Peruvian and Bolivian natural gas) at the Peruvian port of Ilo. This plan also would require construction of a pipeline connecting landlocked Bolivian gas reserves (in the Margarita fields) to Ilo. Pacific LNG, a consortium comprising Repsol-YPF, BG, and Pan American Energy, has been developing an LNG export project for Bolivian gas, which favors a Chilean port, as it would be cheaper. However, a land dispute between Bolivia and Chile has made the decision politically sensitive (in the 1879-1883 War of the Pacific, Bolivia lost its only outlet to the sea to Chile). In October 2003, the Bolivian population protested heavily against the government's plan to export natural gas through a Chilean port. Furthermore, in April 2004, the current Bolivian President Carlos Mesa announced that he supports the Peruvian option, but a public referendum on July 18, 2004 will ultimately decide the fate of Bolivian natural gas exports.

Project Opposition

Camisea is expected to generate \$5-\$6 billion in royalties and tax revenues for Peru over the next 30 years. Government officials also say that the project will lower energy costs, replace dirtier fuels and create jobs. Nonetheless, the Camisea project has encountered stiff opposition since its inception, mainly from environmental groups arguing that extraction processes and pipeline construction will cause irreversible damage to the rainforest, to the lifestyle of indigenous people living in the region, and to marine life in the Paracas Bay, where a LPG fractionation plant is being constructed.

Environmental opposition has had some success in blocking the development of Camisea, namely when the Export-Import Bank, a credit agency of the US government, rejected a \$214.6 million loan to the upstream consortium in August 2003, citing environmental concerns. Shortly thereafter, in September 2003, the InterAmerican Development Bank (IDB) granted a \$135 million loan for the downstream part of the Camisea project (Transportadora de Gas del Perú). However, as of March 2004, the IDB had yet to release any funds. In response to heavy criticism of its decision in September 2003, IDB had set a number of conditions to be met by the project operators before funds would be released.

Aguaytia Project

In 1993, Maple Gas was awarded the concession for the Aguaytia gas field (Block 31-C), with commercial production beginning in 1998. Along with exploration and production of natural gas, the project also included the construction of a gas processing facility with over 188-miles natural gas and natural gas liquid pipelines; a 4,200-bbl/d natural gas fractionation, storage and distribution facility; a 155-megawatt (MW) natural-gas fired power plant; and 245-mile (220-kilovolt) electric transmission line with associated substation facilities. The Aguaytia natural gas project currently accounts for more than half of Peru's total natural gas output, at 70 Mmcf/d. In May 2001, the group was divided into three units: natural gas ([Aguaytia Energy del Peru](#)); electricity generation ([Termoselva](#)); and power transmission ([Eteselva](#)). Maple attracted the following companies to participate in operating the project: PanEnergy Corporation (now part of Duke Energy Corporation); El Paso Energy Corporation; Illinova Corporation (now part of Dinergy Corporation); and Pennsylvania Power and Light; as well as the Scudder Latin American Power Fund.

ELECTRIC POWER

Peru has an estimated 6.0 gigawatts (GW) of installed electric generation capacity, split about evenly between hydro and thermal (mainly diesel and fuel oil-fired generation). The country also has a tiny amount of wind generation capacity (0.01%). About 84% of Peru's installed capacity is connected to main national grid (Sistema Eléctrico Interconectado Nacional) (SEIN), while the remaining 16% of capacity belongs to self-producers (Sistemas Aislados) (SA). Hydrocarbon and mineral extraction operations, as well as large industrial operations comprise most of the self-producers, with oil company Pluspetrol having the most installed capacity at 110 MW. In 2002, Peru generated 21.7 billion kilowatthours (Bkwh) of electricity, an increase of 6.4% year-on-year. The country consumed 20.2 Bkwh, of which about 88% was supplied by hydropower. Besides being the main source of electric power in Peru, hydroelectricity also supplies about one-third of Peru's total energy requirements. Because hydroelectric power output fluctuates due to rainfall patterns, Peru has been attempting to reduce its dependence on hydropower, replacing it with natural gas-fired plants. In 2003, the largest electricity producers in Peru were state-owned Electroperú, Edegel (Endesa), and Egenor (Duke Energy), according to Peru's Ministry of Energy and Mines.

Privatization

In the 1990s, Peru's government approved plans for liberalizing the country's electricity sector. In June 1992, an Electricity Concessions Law (Decree Law No. 25844) was passed, which allowed for

private generation, transmission, and distribution of electricity in Peru. The assets of state-owned utilities Electrolima and most of Electroperú were divested into separate companies in accordance with the law. Since then, Electrolima has been liquidated.

Portions of Peru's electric sector, particularly electricity generators, remain wholly or partially-owned by the government through its holding company Fonafe (Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado). The private company with the largest presence in Peru is Spain's Endesa which manages 1.5 GW of installed capacity. As of December 2003, Endesa held 60% of generators Etevensa (340 MW) and Empresa Eléctrica de Piura (Eepsa) (148 MW), as well as a controlling interest of 63.3% of Edegel (970 MW), through its subsidiary Enersis. Endesa, in conjunction with Enersis, also holds a 60% interest in electricity distributor Edelnor, the largest of Peru's 21 distributors. Some other international companies include Belgium's Tractebel, which holds 78.95% stake in Enersur (362 MW); Duke Energy International which owns 100% of Egenor (529 MW); and PSEG Global which owns 100% of Empresa de Electricidad de los Andes (ElectroAndes). Electroandes main assets are four hydroelectric plants: Yaupi (108 MW); Malpaso (54 MW); Pachachaca (12 MW); and Oroya (9 MW). PSEG Global, along with Sempra Energy, jointly own 84.05% of Luz del Sur, (previously Edelsur), the second-largest electricity distributor in Peru.

Opposition to Privatization

In recent years, the privatization of generation plants, which began in 1995, has stalled in the face of public opposition. In June 2002, for example, the government faced riots in Arequipa, Peru's second largest city, after the Toledo administration agreed to privatize two electric power plants (Egasa and Egesur) to Belgium's Tractebel. The government was eventually forced to suspend the sale in order to restore calm in Arequipa. Tractebel subsequently backed out of the deal. It remains unclear whether the government will attempt once again to privatize the companies in the near future.

Another example has been the tender for operating the 130-MW Yuncan hydroelectric power plant, located in the Pasco Department of Central Peru. ProInversión originally tried to privatize the hydro project in January 2003, but the Pasco government managed to halt the privatization of Yuncan, arguing that the region had benefited little from previous privatizations of state-owned entities, mainly mines. In February 2004, however, ProInversión reached an agreement with the regional government, in which Tractebel's subsidiary Enersur will pay \$23 million spread over the next 17 years as social contribution to the Pasco government.

Power Grid (Transmission)

Electricity in Peru is transmitted via the national grid (Sistema Eléctrico Interconectado Nacional) (SEIN) and via independent grids (Sistemas Aislados) (SA). As of December 2002, the combined length of both systems was 9,174 miles. In 2002, the main transmission companies operating in Peru were: Red de Energía del Perú (Rep); Consorcio Energetico de Huancavelica (Conenhua); Transmantaro; Red Eléctrica del Sur (Redesur); Eteselva; and Interconexión Eléctrica ISA Perú (Isaperu). Rep is the country's largest operator, maintaining 29% of the lines, followed by Transmantaro with 4%, Redesur (3%), Isaperu (3%), Eteselva (3%) and Eteselva (3%).

As a part of Peru's power sector restructuring process, the aforementioned companies operate under contract with the Peruvian government, namely BOOT contracts (Building, Ownership, Operation and Transfer). In 1998, for example, Transmantaro -- a consortium, comprising Hydro-Québec International (operator) (56.7%), Fonds de Solidarité des Travailleurs du Québec (28.3%) and state-owned Etecen (15%) -- was awarded a 33-year BOOT contract to construct a 377-mile transmission line, known as Mantaro-Socabaya, connecting Peru's northern and southern grids. In 1999, Redesur was awarded a 32-year concession for the improvement of electricity distribution in southern Peru,

including the construction and maintenance of three high tension lines and four substations. Redesur is owned by Red Eléctrica de Espana (operator) (30%), Abengoa Perú (20%), Cobra Perú (20%), Banco Santander Central Hispano (15%) and state-owned Etecen (15%). In 2001, Isaperu was awarded a 32-year contract to build and operate the Oroyo-Carhuamayo-Paragsha-Antamina and Aguaytia-Pucallpa transmission lines. Isaperu is owned by Transselca (54.86%), Interconexión Eléctrica (ISA) (28.07%) and Etecen (17.07%)

In June 2002, the government awarded Red de Energía del Perú (REP), a consortium comprising Colombian companies Empresa de Energía de Bogotá (EBB), Isaperu, and ISA subsidiary Transelca, a 30-year concession to own and operate Peru's two main transmission companies, Empresa de Transmision Centro Norte (Etecen) and Empresa de Transmision del Sur (Etesur). EBB is the largest shareholder of REP, with 40%. Isaperu and Transelca each hold 30%.

The Electricity Concessions Law created the Comité de Operación Económica del Sistema Interconectado Nacional (COES-SINAC) which is responsible for the overall technical operation of the national grid. Osinerg (Organismo Supervisor de la Inversion en Energía) is Peru's energy regulator.

Distribution

In 2002, there were 21 distributors, serving 3.6 million customers, in Peru. As previously mentioned, Edelnor is Peru largest distributor, serving 882,000 customers in 2002. Luz del Sur, the second largest distributor, provided electricity to 690,000 customers, followed by Hidrandina with 368,000 and Electrocentro with 317,000. Peru, through the Fonafe, retains a stake in many of the distributors. ProInversión has recently expressed interest in offering concessions to administer and operate regional electricity distribution companies: Electronoroeste; Electronorte; Hidrandina; and Electrocentro.

Regional Integration

Peru has also been in the process of integrating its power grid with those of Colombia and Ecuador. The three countries signed two preliminary agreements to this end, in September 2001 and April 2002. These agreements are a part of a larger movement by the Andean Community to create a common electricity market. Once the integrated market is operating, the transmission lines will allow for a permanent flow of power between each one of the electric power systems, allowing each country to purchase power under the most favorable conditions.

In November 2002, Peru and Ecuador signed a bilateral electricity integration agreement, under which Peru is to begin exporting electricity to Ecuador in September 2004. ISA is responsible for constructing the Peruvian part of a \$15 million, 35-mile transmission line, which will run from Zorritos to Zarumilla. In the first stage, the line will have a capacity of 90 MW. The second stage of the project will involve the construction of a \$30 million 'back-to-back' continuous AC substation, allowing the transmission line to transport 150 MW in both directions. The third stage includes building a second substation to raise the line's capacity to 250 MW. The goal of the project is to allow Peru to transport excess hydropower during its rainy season to Ecuador, when its hydro plants experience low capacity, and vice versa.

Sources for this report include: Aguaytia Energy Group; Business News Americas; Business Wire; CIA Factbook; Dow Jones; Economist Intelligence Unit Views Wire; Electric Utility Week International; Electroperú; Energy Day; Financial Times; Fonafe; Global Insight; International Energy Agency; International Water Power and Dam Construction; Interpress Service; Latin America Monitor; Latin Petroleum; Oil and Gas Journal; Oil Daily; Peru's Ministry of Energy and

Mines; Perupetro; Petroleum Economist; Petroperu; Platts; Reuters; U.S. Energy Information Administration; World Markets Analysis.

COUNTRY OVERVIEW

President: Alejandro Toledo (elected April 2001)

Prime Minister: Luis Solari

Independence: July 28, 1821 (from Spain)

Population (2003E): 27.1 million

Location/Size: Western South America, between Chile and Ecuador; 796,836 square miles (slightly smaller than Alaska)

Major Cities: Lima (capital)

Languages: Spanish (official); Quechua (official); Aymara

Ethnic Groups: Indian (45%); mestizo (37%); white (15%); black, Japanese, Chinese, and other (3%)

Religions: Roman Catholic (90%)

ECONOMIC OVERVIEW

Minister of Economy and Finance Minister: Pedro Palbo Kuczynski

Currency: 1 Nuevo sol (Ns) = 100 centimos

Market Exchange Rate (5/26/04): US\$1 = NS 3.61

Nominal Gross Domestic Product (2003E): \$61 billion

Real GDP Growth Rate (2003E): 4.0% **(2004F):** 4.0%

Inflation Rate (consumer prices, 2003E): 2.3% **(2004F):** 3.6%

Unemployment Rate (2003E): 9.4%

Merchandise Exports (2003E): \$9.0 billion

Merchandise Imports (2003E): \$8.2 billion

Merchandise Trade Balance (2003E): \$0.8 billion

Major Export Products (2002): Gold, copper, fish and fish products, zinc

Main Destinations of Exports (2002E): the United States (26%), China (9.1%), the United Kingdom (6.4%), Switzerland (5.6%)

Major Import Products (2002E): Intermediate goods, capital goods, consumer goods

Main Origins of Imports (2002E): the United States (25.3%), Spain (5.0%), Colombia (4.9%)

Total Foreign Debt (2003E): \$29.7 billion

ENERGY OVERVIEW

Minister of Energy and Mines: Jaime Quijandria Salmon

Proven Oil Reserves (1/1/04): 285 million barrels

Oil Production (2003E): 95,000 barrels per day (bbl/d), of which 92,000 bbl/d was crude oil

Oil Consumption (2003E): 163,000 bbl/d

Net Oil Imports (2003E): 68,000 bbl/d

Crude Oil Refining Capacity (1/1/04): 192,950 bbl/d

Natural Gas Reserves (1/1/04): 8.7 trillion cubic feet (Tcf)

Natural Gas Production (2002E): 15.5 billion cubic feet (Bcf)

Natural Gas Consumption (2002E): 15.5 Bcf

Recoverable Coal Reserves (2001E): 1.17 billion short tons

Coal Production (2002E): 20,350 short tons

Coal Consumption (2002E): 1.21 million short tons

Electric Generation Capacity (2002E): 6.0 gigawatts (50% thermal), (50% hydroelectric)

Electricity Generation (2002E): 21.7 billion kilowatthours (Bkwh)

Electricity Consumption (2002E): 20.2 Bkwh

ENVIRONMENTAL OVERVIEW

Total Energy Consumption (2001E): 0.55 quadrillion Btu* (0.14% of world total energy consumption)

Energy-Related Carbon Dioxide Emissions (2001E): 26.4 million metric tons (0.11% of world total carbon dioxide emissions)

Per Capita Energy Consumption (2001E): 20.9 million Btu (vs. U.S. value of 341.8 million Btu)

Per Capita Carbon Dioxide Emissions (2001E): 1.0 metric tons (vs. U.S. value of 20.2 metric tons)

Energy Intensity (2001E): 4,909 Btu/\$1995 (vs U.S. value of 10,810 Btu/\$1995)**

Carbon Dioxide Intensity (2001E): 0.24 metric tons/thousand \$1995 (vs U.S. value of 0.64 metric tons/thousand \$1995)**

Fuel Share of Energy Consumption (2001E): Oil (60.0%), Coal (4.4%), Natural Gas (2.2%)

Fuel Share of Carbon Dioxide Emissions (2001E): Oil (97.7%), Coal (8.9%), Natural Gas (3.5%)

Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified June 7th, 1993). Signatory to the Kyoto Protocol signed November 13th, 1998 and ratified September 12, 2002.

Major Environmental Issues: Deforestation; overgrazing of the slopes of the coast and sierra leading to soil erosion; desertification; air pollution in Lima; pollution of rivers and coastal waters from municipal and mining wastes.

Major International Environmental Agreements: A party to the Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling.

* 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.

OIL AND GAS INDUSTRIES

Organization: Perupetro, which started operating in 1993, is the state company responsible for overall regulation and licensing of the country's oil and gas industries. Perupetro also negotiates oil and gas contracts with companies to explore and/or produce in Peru. Petroperu is the state oil company and Electroperu is the state electric power company. Regional state-owned electric company Egesur (for the south), as well as state mining company Centromin, are also slated for privatization.

Ports: Callao, Chimbote, Ilo, Iquitos, Matarani, Paíta, Pucallpa, Salaverry, San Martín, Talara, Yurimaguas

Major Natural Gas Field: Camisea and Aguaytia

Foreign Energy Company Involvement: Barrett Resources, Burlington Resources, Coastal, Duke Energy, Empresa de Energia de Bogota, ExxonMobil, Hunt Oil, Hyundai, Interconexion Eletrica, Maple Production, Occidental Petroleum, Petrobas, Petro-Tech, Phillips Petroleum, Pluspetrol, Repsol-YPF, Sapet, Shell, SK Corp., Sonatrach, Technit, Tractebel, Transelca.

Pipelines: 500 miles for crude oil; 40 miles for natural gas (which will increase to 496 miles once Camisea project is completed).

Refineries (crude oil capacity): La Pampilla Lima (102,000 bbl/d); Talara (62,000 bbl/d); Iquitos Loreto (10,500 bbl/d); Conchan (13,500 bbl/d); Pucallpa (3,250 bbl/d); El Milagro (1,700 bbl/d)

LINKS

For more information from EIA on Peru, please see:

[EIA - Country Information on Peru](#)

Links to other U.S. government sites:

[CIA World Factbook - Peru](#)

[U.S. Department of Energy's Office of Fossil Energy's International section - Peru](#)

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

[U.S. Commercial Service: "Doing Business in Peru?"](#)

[U.S. Country Commercial Guide on Peru](#)

[U.S. State Department Background Notes on Peru](#)

[U.S. State Department Consular Information Sheet on Peru](#)

[U.S. Trade and Development Agency - Latin America and the Caribbean](#)

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Associations and Institutes

[Sociedad Nacional Minería Petróleo y Energía](#)

Electricity

[Aguaytia Energy Group](#)

[Consorcio Energético de Huancavelica \(CONENHUA\)](#)

[Edegel](#)

[Edelnor](#)

[Egenor \(Duke Energy International\)](#)

[ElectroAndes](#)

[Electrolima](#)

[Electroperú](#)

[Electropuno](#)

[Electro Sur Este](#)

[Empresa de Energía de Bogotá](#)

[Empresa de Generación Eléctrica de Arequipa \(Egasa\)](#)

[Energía del Sur \(Enesur\)](#)

[Hydro-Québec TransÉnergie](#)

[Interconexión Eléctrica ISA](#)

[ISA PI Sur Perú](#)

[Luz de](#)

[Red de Energía del Perú](#)

[Red Eléctrica de Sur](#)

[TranSelca](#)

Government

[Fonafe](#)

[Ministry of Energy and Mines](#)

Oil and Natural Gas Companies

[Empresa Petrolera Unipetro ABC](#)
[GNLC \(Natural Gas of Lima and Callao\)](#)
[Graña y Montero](#)
[Hunt Oil](#)
[Maple](#)
[Nueva Energy Company](#)
[Korea National Oil Company](#)
[Peruana de Combustibles](#)
[Petrobras Energía](#)
[Petroperu](#)
[Petro-Tech Peruana](#)
[SK Corporation](#)
[Syntroleum Corporation](#)
[Techint](#)
[Vopak Serlipsa](#)
[PeruPetro \(State oil contracting entity\)](#)

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