

REPUBLIC OF SANTO DOMINGO

AREA 48.670 Km^q

POPULATION 9.823.921 (2010 census)

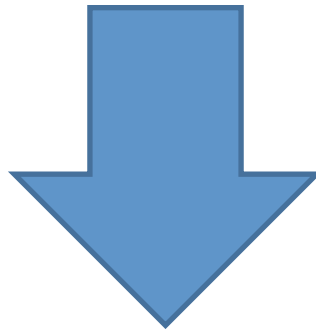


The power sector in the Dominican Republic has traditionally been, and still is, a bottleneck to the country's economic growth. A prolonged electricity crisis and ineffective remedial measures have led to a vicious cycle of regular blackouts, high operating costs of the distribution companies, large losses including electricity theft through illegal connections, high retail tariffs to cover these inefficiencies, low bill collection rates, a significant fiscal burden for the government through direct and indirect subsidies, and very high costs for consumers as many of them have to rely on expensive alternative self-generated electricity. According to the World Bank, the revitalization of the Dominican economy depends greatly on a sound reform of the sector.

Installed capacity

Electricity generation in the Dominican Republic is dominated by thermal units fired mostly by imported oil or gas (or liquefied natural gas). At the end of 2006, total installed capacity of public utilities was 3,394 MW, of which 86% was fossil fuels and 14% was hydroelectric.

The detailed share for the different sources is as follows:



Source	Installed capacity (MW)	Share (%)
Steam turbines	606.2	17.9%
Gas turbines	572.7	16.9%
Combined cycle	804	23.7%
Fuel oil engines	912	26.9%
Diesel oil engines	30	0.9%
Hydroelectricity	469.3	13.8%

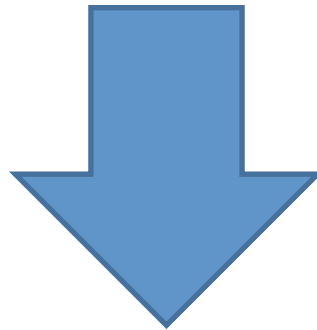
Source: Electricity Superintendence Statistics

Total electricity generated in 2006 was 10,7 TWh. Generation experienced a 7,7% annual increase between 1996 and 2005. However, between 2004 and 2006, there has been an average **annual decrease of about 10%** in total electricity generated.

Generation

86% of generation capacity is privately owned (excluding self-generation), and **14% is publicly owned**.

Generation capacity is shared among the different companies as follows:



Company	Generation capacity (MW)	Share (%)	Geographic areas (North, South, East)
Haina (private)	663.3	19.5%	N, S, E
Itabo (private)	630.5	18.6%	N, S, E
Hydroelectricity (public)	469.3	13.8%	N, S
Independent Power Producers (IPPs) (private)	515	15.2%	N, S, E
Unòn Fenosa (private)	194.5	5.7%	N
CEPP (private)	76.8	2.3%	N
Transcontinental Capital Corp. (private)	116.3	3.4%	S
Monte Rio (private)	100	2.9%	S
AES (private)	555	16.4%	E
Metaldom (private)	42	1.2%	S
Laesa (private)	31.4	0.9%	N
TOTAL	3,394.1		

Source: Electricity Superintendence Statistics

Planned expansion

Currently, there are plans for the construction of two 600MW-coal fired plants, Montecristi and Azúa, by the private sector. It is also expected that, by 2012, an additional 762MW of hydroelectric capacity will have been added to the generation system. The first three hydropower plants with a combined capacity of 240MW are:

- Pinalito with 50 MW on the Rio Tireo and the Rio Blanco;
- Palomino with 99 MW at the confluence of the rivers Yaque Del Sur and Blanco;
- Las Placetas with 87 MW, involving an inter-basin transfer from the Rio Bao to the Rio Jaguá;

Demand

Electricity **demand** in the Dominican Republic **has grown** considerably since the early 1990s, at a yearly average of 10% between 1992 and 2003. Consumption is very close to the regional average, with **annual per capita consumption of 1,349 kWh** in 2003. Total electricity sold in 2005 was 3,72 TWh. Demand has constrained supply, which in turn is limited by subsidies.

In 2001, the share of each sector in the electricity sold by the three distribution companies (EdeNorte, EdeSur and EdeEste) was as follows:

- Residential: 44%
- Commercial: 10%
- Industrial: 30%
- Public: 16%

Demand projections

Annual demand increase has been estimated at about 6% for the upcoming years.

Access to electricity

Distribution networks cover 88% of the population, with about 8% of the connections thought to be illegal. **Government plans aim to reach 95% total coverage by 2015.**

Service Quality

Service quality in the Dominican Republic has suffered a steady deterioration since the 1980s. Frequent and prolonged blackouts result mainly from financial causes (i.e. high system losses and low bill collection) that are further aggravated by technical factors (i.e. unadequate investments in transmission and distribution). Poor service quality is also characterized by large voltage and frequent fluctuations.

Transmission

The transmission system, which is under the full responsibility of the state-owned company ETED (Electricity Transmission Company), consists of 940 km of 138kV single-line circuit lines that radiate from Santo Domingo to the north, east, and west.

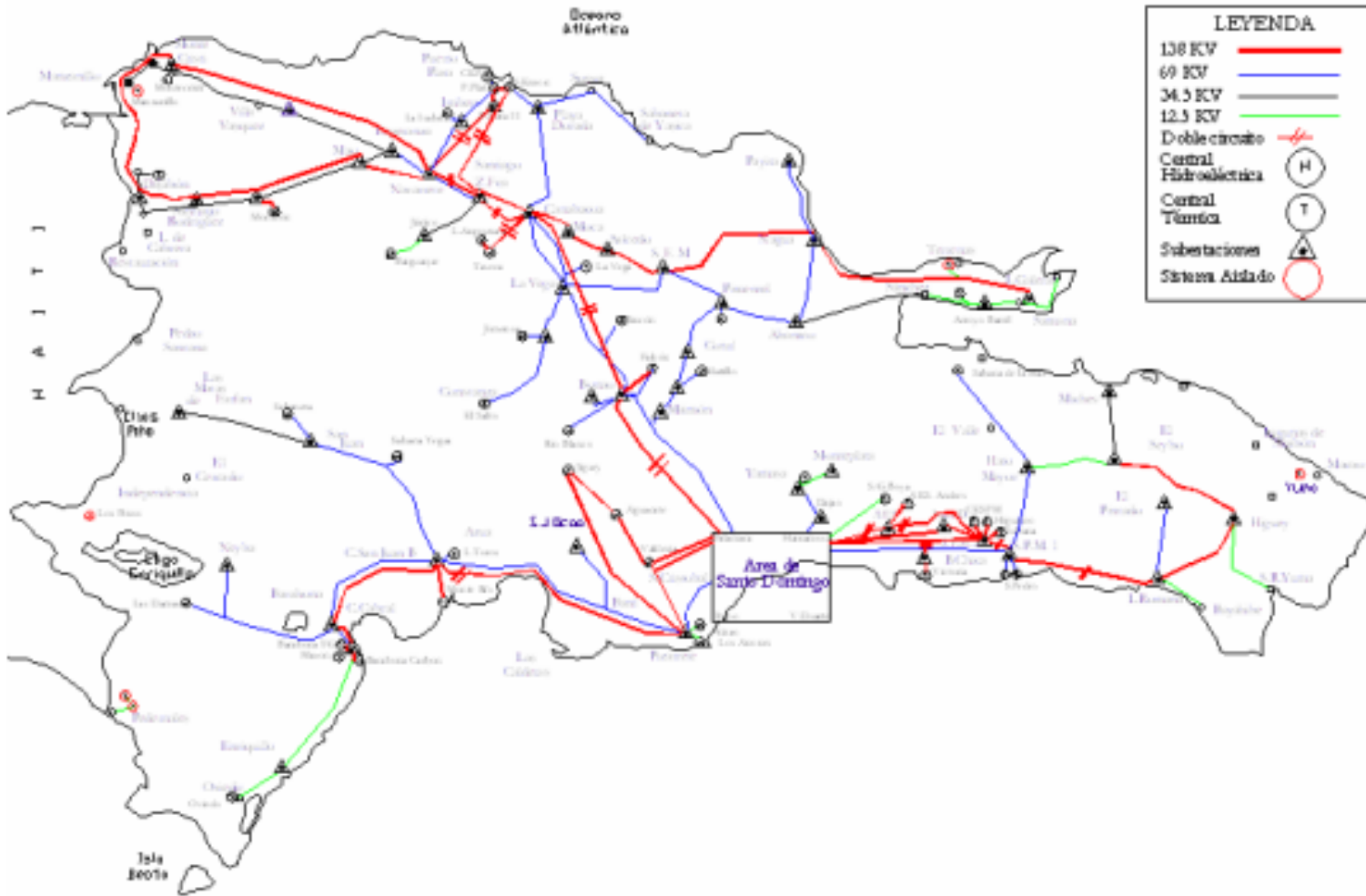
There are bottlenecks in the transmission system that need to be addressed. The owner of the system, the CDE, lacks financial resources to improve the grid and the existing legislation has not allowed other mechanisms to mobilize private sector resources for transmission.

The Electricity Transmission Company (ETED) has produced an expansion plan for the transmission network to be executed in the period 2006-2012. Financing of US\$ 284 million has been secured for the 2006-2008 period, with an additional US\$ 80.75 million in process. Furthermore, US\$ 222.5 million will be needed to finance the projects contemplated in the expansion plan for the period 2008-2012.

Interruption frequency and duration

The transmission system in the Dominican Republic is weak and overloaded, failing to provide reliable power and causing system-wide blackouts. East-west and north-south transmission lines need to be reinforced in order to deliver electricity to the capital and northern regions and to transmit power from the new power plants in the eastern region.

Schematic map of SENI



Source coordination body of the SENI

Distribution

In the Dominican Republic, there are three distribution companies. The government owns two of them, EdeNorte and EdeSur, through the CDEEE (50%) and the *Fondo Patrimonial de las Empresas* (FONPER). It also maintains a 50% ownership of the third one, EdeEste, (the additional 50% is owned by the Trust Company of the West (TCW) which is operated by AES Corporation, its original buyer. The three companies serve a similar share of the market.

Distribution losses

Distribution is the most dysfunctional element of the country's power system. **Distribution losses in the Dominican Republic have historically been high** and have increased even further in recent years. **In 2005, the percentage of losses was 42.5%**, up from 28.5% in 2002. This is far above the 13.5% average for LAC. Sustained poor service quality and relatively high prices have induced theft through illegal connections and non-payment of electricity bills. Recent data for 2007 show that only about 59% of power purchased by the distribution companies is eventually paid for by consumers (88% would be the target percentage for a well-managed distribution company). Although still very low, this percentage has shown an improvement up from about 52% in 2005.

Renewable energy resources

As it has been described, most electricity generation in the Dominican Republic comes from thermal sources. Only 14% of the installed capacity is hydroelectric, with this percentage falling to below 9% when all the thermal self-generation is accounted for. The exploitation of other renewable resources (i.e. solar, wind) is very limited. However, this situation is expected to change following the enactment of in May 2007 of the Law of Incentives to renewable Energy and special Regimes (Law No. 57-07). Among other incentives, this law establishes financing at favorable interest rates for 75% of the cost of equipment for households that install renewable technologies for self-generation and for communities that develop small-scale projects (below 500 kW).

Hydroelectricity

As it has been mentioned, Egehid's expansion plan contemplates the addition of 762MW of hydroelectricity capacity in the period 2006-2012. According to CDEEE, the first of the new series of dams and hydropower plants - Pinalito - is a "model of environmental management", with only 12 families resettled and extensive reforestation.

Wind

A 2001 study estimated that the Dominican Republic had a wind generation potential of 68,300GWh per year, equivalent to more than six times more than current power production.

Tariffs

Electricity tariffs in the Dominican Republic are among the highest in the Latin American and Caribbean region. This is due to several factors: reliance on imported oil, weak institutional environment, difficulties to pursue large non-payers, high prices originally negotiated in power purchase agreements with the generators, high commercial risks faced by generators such as non-payment or delayed payment by the distribution companies and/or the government, low cash recovery index (CRI), and high operating costs in the distribution companies.

The country's policy of cross-subsidizing residential tariffs by disproportionate increases in commercial and industrial tariffs translates into higher rates for industrial and commercial consumers compared to residential consumers. In 2007, the average residential tariff was US\$ 0,160 per kWh (LAC weighted average was US\$ 0,115 in 2005), while the average industrial tariff was 0,230 (LAC weighted average was US\$ 0,107 per kWh in 2005) and the average commercial tariff was as high as US\$ 0,290 per kWh.

Subsidies

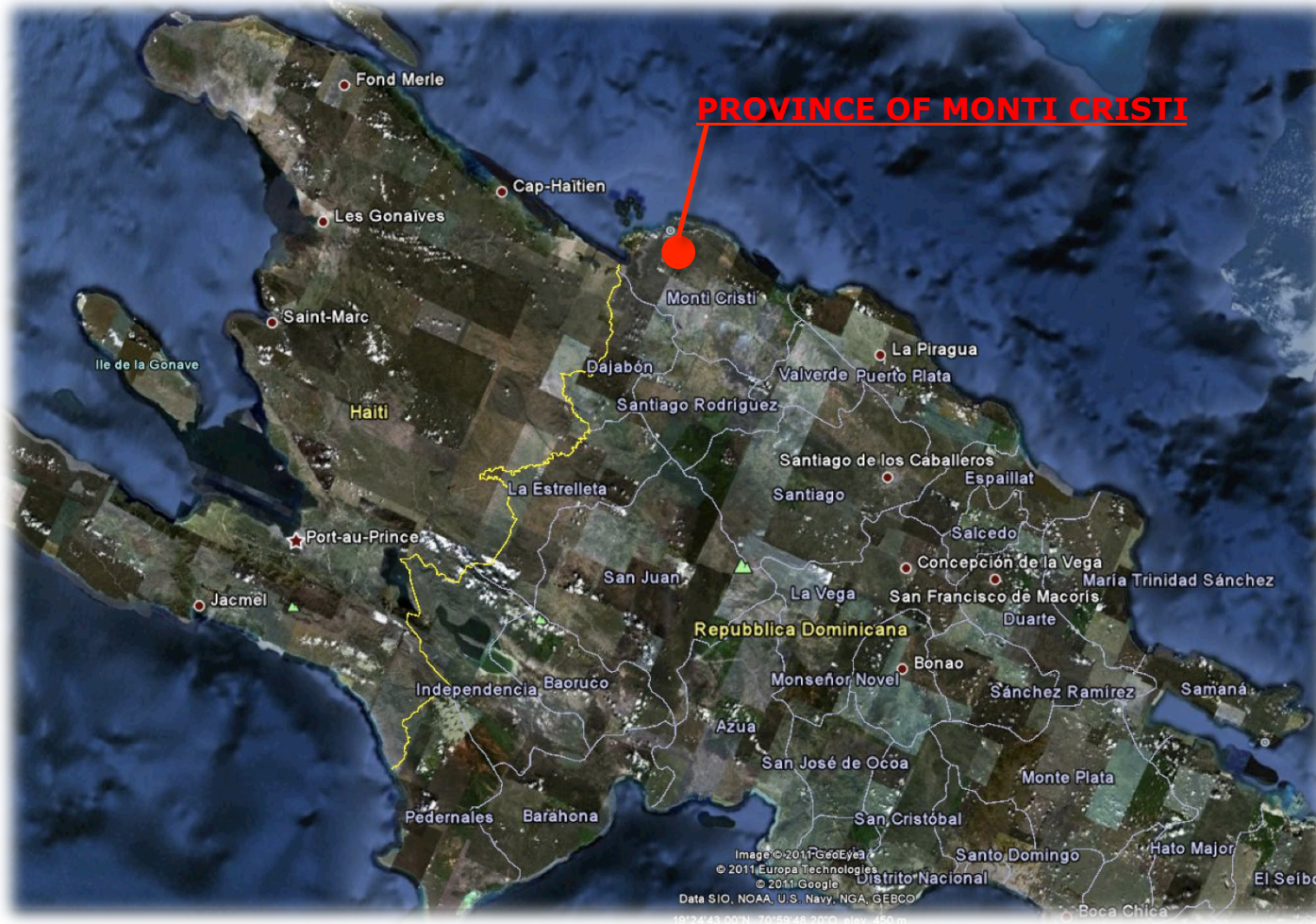
Electricity subsidies are estimated to exceed US\$ 1 billion in 2008, corresponding to a stunning 3% of GDP. The need for subsidies has increased due to higher oil prices while electricity tariffs have been kept constant. Subsidies are channeled through two major mechanisms: The Blackout Reduction Program and the Tariff Stabilization Fund.

The Blackout Reduction Program (PRA) is targeted to poor areas. Due to low collections rates, these consumers have been receiving virtually free electricity since the program's inception.

Residential consumers outside the PRA areas and thus likely not to be among the poorest, are charged below-cost electricity prices for consumption below 700 kWh/month, a very high threshold by international standards. About 80% of residential users outside the PRA areas fall into this category. This subsidy is drawn from the Tariff Stabilization Fund (FET), which was designed to reduce the impact of high oil prices. The financial burden in this case is transferred to the distribution companies, which have found themselves unable to cover their costs in a scenario of rising oil prices, low efficiency and a limited customer base that could be charged to finance the cross-subsidy. This situation has forced the government to provide much higher than expected subsidies to the sector, which in turn translates into reduced ability to finance investments in other key sectors such as health and education. The government has started to reduce cross-subsidies gradually, with the final objective of limiting them to households with monthly consumption below 200 kWh, which is closer to thresholds for subsidized residential electricity encountered in other countries.

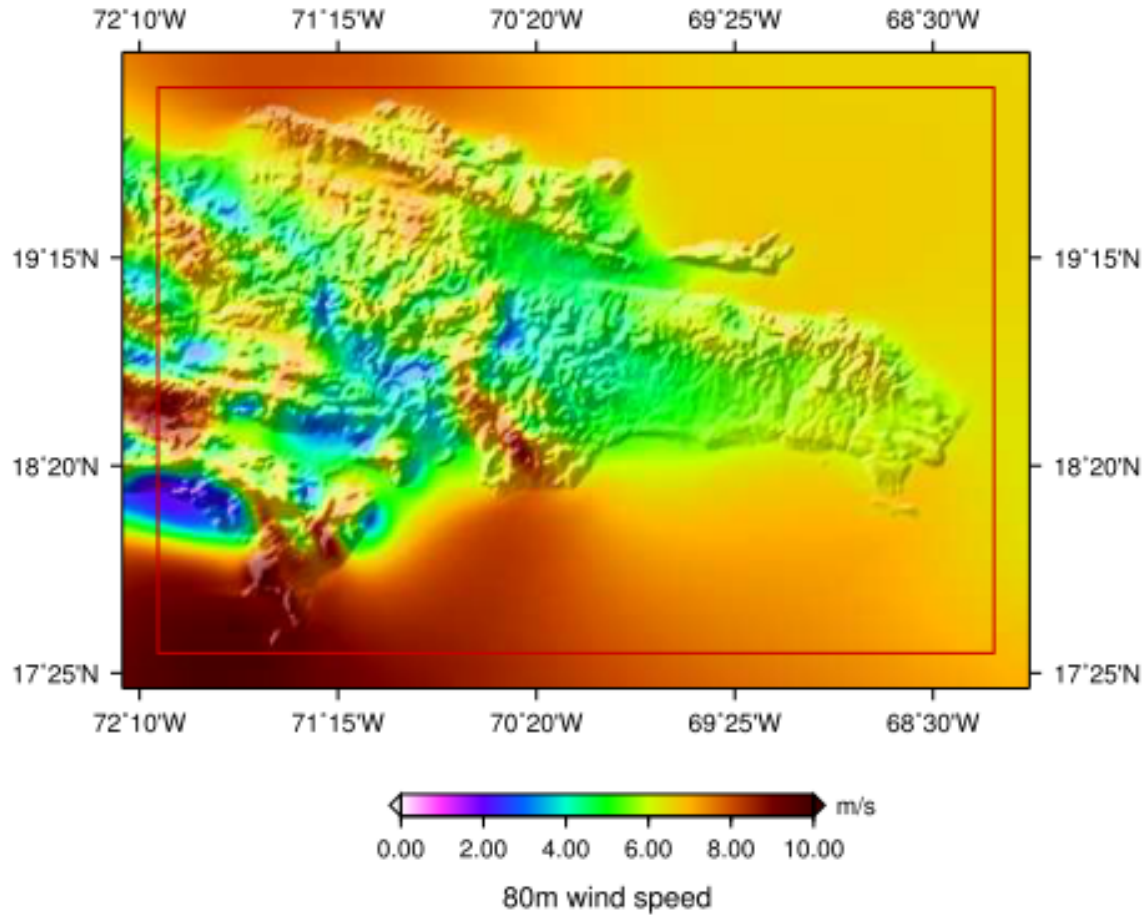
Alternative sources for self-generation

As a response to the electricity supply crisis, many consumers turned to alternative self-generation units such as small diesel generators, inverters, kerosene lamps or large power generators (for large industrial consumers). It is estimated that total installed capacity in 2006 was 5,518MW, which means that self-generation accounted for about 2,214MW, equivalent to 63% of the 3,394MW total capacity of public utilities and 38% of total installed capacity. The costs associated with this self-generation capacity are very high as they include equipment purchase, maintenance and fuel supply. This affects the residential, commercial and industrial sectors. For the latter, about 60% of its electricity consumption is self-generated.





Annual wind map



✓ ANNEX A:

Comision National de Energia:

National Energy Plan

✓ ANNEX B:

Fisibility study of a Wind Farm in the Monti Cristi Area

Procedure for awarding the Production and Distribution of Energy License

- **Pre feasibility study:**
 - Request to the Executive Director of CNE with a project description, maps;
 - Establishment of a Dominican company and signature of legal representative;
 - Detailed description of all the studies to be carried out in pre-feasibility study period mentioning the beginning and end of the same;
 - Preliminary agreement between the parties or ruling by Justice of Peace on the use of the land where will be made the plants;
 - Definition of the price to be determined by the CNE for the evaluation of the request.

Final Approval

- All the documentation of the Pre-fisibility Study plus more documents on the final agreements on the land use;
 - Constituting Documents of the Comany;
 - Delegate to the legal representative to deal with the CNE;
 - Enviromental Impact Assessment (E.I.A.);
 - Technical documentation of the project;
 - Power Purchase Agreement (PPA);
 - Documentation on project funding;
 - Payment of the price determined by the CNE for the evaluation of the request.
-
- **Time Required:**
6 months from the “start up” of the Pre-fisibility study

Connected Works Requested

- Investments in the Electricity Distribution Network for US\$ 30.000.000,00
Time limit 3 years.

Possible Terms and Condition

- Territorial concession granted for 99 years and 15 years of production;
- Supply Contract with the Dominican Government for the duration of the Concession (15 years) with an initial price of US\$ 165,00 MW;
- Price appreciation linked to inflation;
- Total tax exemption for 10 years.

- Blue parts can be rediscussed.

Authorization Costs

- ✓ From “Prefisibility Study to “Final Approval” US\$ 270.000,00
- ✓ To “Final Approval” US\$ 1.500.000,00 plus
- ✓ “8 years” of “Guaranteed Consulting Contract”
to an International Company US\$ 45.000,00 per
month

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