

## THE BLACKOUT OF THE BRIGHTEST LATIN AMERICAN STAR

### Context

The Chilean energy policy is based on free market regulation that dates back to the Augusto Pinochet dictatorship (1973 -1990) and has been retained – without any modification – by the democratic governments. So far, the state hasn't been able to guarantee the basic necessary conditions for a long term national policy decision making. Climate change and the fragility of the national energy supply is turning off the lights of the brightest Latin American country.

The energy supply in Chile for 2009 depends on the balance between demand, variance in climate and the difficulties of natural gas supply<sup>1</sup>. In the long run there is the chance to make a decision to optimize the energetic matrix, but there are several obstacles that hold the country from building a strong public energy policy.

Looking at short term aspects, Chile depends on Argentina's natural gas, which in the last two years was blocked several times especially in the winter season when consumer demand increased. This fact didn't directly affect Chilean homes, but many companies had to turn from natural gas to diesel, which increased the cost of the production. By 2007 the correct management of water reserves allowed the country to get over the critical season at a good pace.

By 2020, the country expects to double its energy capacity, to reach 26,000 MW<sup>2</sup>. Therefore the obvious thing is to wonder where will all that extra energy come from?

So far, the national discussion about new energy sources is divided among: nuclear energy, hydroelectric power stations, power plants running on coal, and renewable energy. But while no substantial decision has been made about the direction the country will take for solving its energy demands, Chile will have to face the wounds that the lack of Government direction, citizen participation and long term decision could have avoided as is illustrated in the following case:

### Problem (local case)

In the coastal zone of La Higuera, Coquimbo region, three coal plants are in progress. They are located in no more than 10 km. in a line, and even though no watts produced there will bring energy to its inhabitants, the cost of energy production will be assumed by the community, which its principal income comes from agriculture, fishing and tourism, whom historically have made a sustainable management of a zone recognized as a Natural Preserve by the Chilean State few years ago. 3,700 people live in La Higuera which also has two natural reserves, the Penguin of Humboldt and Cetacean Reserve, both protected by international agreements.

The three plants are meant to provide energy to the Northern Energy System, which feed regions where most of the mining industries are located. One plant called Barrancones will be built by Suez Group, a French Multinational; the second one, Farellones is a project property of CODELCO (National Copper Corporation), and CMP is a project owned by the Pacific Steel Company from Chile.

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<sup>1</sup> Fundación Chile 21 – Universidad Técnica Federico Santa María: Los Desafíos Energéticos de Chile, 2008.

<sup>2</sup> Ibid

One coal plant produces 300,000 tons of ashes; 30% of these are solid and the rest equivalent to 210,000 tons is flying. The new technologies used in coal plant energy production allow modern plants to pick up the 99.8% of ashes; this means that one ton goes to the air daily. Besides, coal plants pollute superficial and subterranean water, in this case will affect over the marine area cultivated with shellfish by the local fishermen. Coal plants produce Carbon Dioxide (CO<sub>2</sub>), Nitrogen Oxides, Hydrocarbon and organic waste, and the action of the turbines used to cool down the engines with sea water kills plankton, krill, fish eggs and seafood.<sup>3</sup>

Although the above passage describes the local impact of only a single coal plant, in Chile it is possible to locate three of them within a distance of 10 km. Although Chile's water supply is equally affected by global warming as any other country, there is no restriction to new greenhouse gas emissions due to the lack of greenhouse emission norms, which let companies avoid eco friendly production standards.

Chile has taken part in majority of the multilateral environmental agreements since 1990 and has participated in the Global Agenda for Sustainable Development initiated in the Río Summit. Chile signed the United Nations agreement of 1992, about environment and development (ratified by Chile in 1994) and Tokyo Protocol of 1998 (ratified by Chile in 2002)<sup>4</sup>

So far, communities directly affected by the construction of these plants have implemented different resistance strategies which haven't been as successful as intended. This is due to the fact that the projects are still under study by the respective authorities (Environment National Committee – CONAMA – and regional authorities). The System of Environmental Impact Study de facto facilitates companies but not communities; once the company presents the Environment Impact Study to the Committee, people in the community have only 60 days to raise their voice in case they want to ask for more information or reject part of the project. However common people like farmers and fishermen are not technical experts in coal plant production and their impacts, nor are they experts in international polluting emissions. *“What a group of experts with huge financing prepare in several months, is meant to be analyzed by non expert in 60 days”*.<sup>5</sup>

### **Mining industry**

As mentioned earlier, these three coal plants are being developed to provide for the energy needs of Chile's mining industry. Because of the country's vast range in high standard minerals, Chile is one of the most developed and biggest mineral suppliers in the world. Its copper productions have increased by 265% since 1990, which makes Chile the top copper supplier worldwide. Mining industry represents 8.2% of Chilean GDP.<sup>6</sup>

Taxes in Chile are the same for any private sector; therefore mining industry does not pay higher tax rates than other industries. CODELCO, the national copper corporation, is a special case since it is a national company highly charged over its profits. CODELCO is the main source for the national budget, in 2007 its surplus were used to finance Education, Santiago's (capital city) transportation system, regional investment

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<sup>3</sup> Movimiento en Defensa del Medio Ambiente MODEMA  
<<http://www.despertarambiental.org/2007/10/22/alerta-ambiental/>>

<sup>4</sup> United Nations – CEPAL: OCDE Environmental Performance Reviews – Chile, 2005.

<sup>5</sup> Extract of an interview to a residence of Los Choros, dedicated to agriculture and fishing labours.

<sup>6</sup> United Nations – CEPAL: OCDE Environmental Performance Reviews – Chile, 2005.

and health issues by US\$ 2.300 millions.<sup>7</sup> From taxes charged to copper industry, Chilean state received US\$ 1900 million in the period 1991–2002; within 2003-2010 it's expected to receive US\$ 2800 million<sup>8</sup> across the entire period. In 1990 the mining sector provided the 1.8% of all jobs in Chile and by 2003 it had gone down in relative terms to 1.3% of national employment.<sup>9</sup>

In order to attract new international investment since 1974, the State guarantees tributary stability in a range of 10 years for any new enterprise, therefore in case any mining company do not have net profit within those 10 years, they will benefit from a tax discount to recover their investment.

### **Gross International Investments in Mining Sector 1974 – 2005 (in US millions)<sup>10</sup>**

International gross investment	19.976
Recovery and withdraw	10.157
<b>Actual international investment</b>	<b>9.819</b>

### **Multi National Enterprises Profit in Copper Industry in 2006 and International Gross Investment in Mining Sector in the period 1974 – 2005<sup>11</sup>**

Multi National Enterprises Profit in Copper Industry in 2006	20.000
International Gross Investment in Mining Sector in the period 1974 – 2005	19.976

### **Trade Offs of Coal Plants implementation in La Higuera**

Chile needs new energy sources and everyone agrees on that, but how it will get the energy is still a long standing question. A decision like this should consider pros and cons from each alternative. In the case of La Higuera, the construction of these three plants will pollute and exterminate the maritime area and species, will affect working source of locals and modify their style of life, also will contribute heavily to green house gas emission and will put at risks the international image of the country, however coal plants are low cost, can provide in short term an energy independence, easier mining sector development and guarantee its energy need. The construction of these plants could turn into a “good omen” for further multinational mining investment, and provide some employment for professional (not locals) at factories.

Who must take part in the national energy policy decision making? What are the factors to be considered? And who might be responsible for the cost? Be ready to discuss, argue and look for solutions when you join us at **The Black Out of the Brightest Latin American Star!**

<sup>7</sup> Caputo, O., Glarce, G.: Desde la Nacionalización del Cobre por Salvador Allende a la Nacionalización por la Dictadura y los Gobiernos de la Concertación, 2007.

<sup>8</sup> United Nations – CEPAL: OCDE Environmental Performance Reviews – Chile, 2005.

<sup>9</sup> Caputo, O., Glarce, G.: Desde la Nacionalización del Cobre por Salvador Allende a la Nacionalización por la Dictadura y los Gobiernos de la Concertación, 2007.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.