

2010 Annual Report

Statistics and Operation

CENTER FOR ECONOMIC LOAD DISPATCH
OF NORTHERN INTERCONNECTED SYSTEM



CDEC-SING

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2010 Annual Report
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CDEC-SING **Affiliated** Companies

AES Gener S.A.
Atacama Agua y Tecnología Ltda.
Atacama Minerals Chile S.C.M.
Cavancha S.A.
Codelco Chile
Compañía Eléctrica Tarapacá S.A.
Compañía Minera Cerro Colorado Ltda.
Compañía Minera Doña Inés de Collahuasi SCM.
Compañía Minera Teck Quebrada Blanca S.A.
Compañía Minera Xstrata Lomas Bayas
Compañía Minera Zaldívar S.A.
E-CL S.A.
Edelnor Transmisión S.A.
Electroandina S.A.
Empresa de Transmisión Eléctrica Transemel S.A.
Empresa Eléctrica Angamos S.A.
Enaex S.A.
Enorchile S.A.
Gasatacama Chile S.A.
Grace S.A.

Haldeman Mining Company S.A.
INACAL S.A.
Minera El Tesoro
Minera Escondida Ltda.
Minera Esperanza
Minera Gaby S.A.
Minera Meridian Ltda.
Minera Michilla S.A.
Minera Rayrock Ltda.
Minera Spence S.A.
Moly-Cop Chile S.A.
Norgener S.A.
Sociedad Anglo American Norte S.A.
Sociedad Contractual Minera El Abra
Sociedad GNL Mejillones S.A.
Sociedad Química y Minera de Chile S.A.
Transec Norte S.A.
Xstrata Copper - Altonorte
Central Termoeléctrica Andina S.A.
Inversiones Hornitos S.A.

1 ■

Letter from the **President** of the Board of Directors

In 2010, SING has conquered the doubts of the operation from years ago because of the natural gas product shortages from Argentina.”



On behalf of the Board of CDEC-SING and with great pleasure, I have the honor to present the Annual Operating Statistics of the CDEC-SING for the year 2010. This publication illustrates the operational results and statistics for the period 2001 -2010.

In 2010 SING was able to overcome the uncertainty of previous years because of the product shortage of natural gas from Argentina. This was accomplished thanks to the continued supply of liquid natural gas and the opening of Mejillones regasification Plant in April of 2010. This has allowed significant displacement of Diesel fuel consumption that was being used in the previous production facility. On the other hand, the operation was marked by normal supply conditions and adequate margin reserves.

Regarding the organization in November 2010, the CDEC-SING, elected its new Board, which will remain until November 9, 2012. On the occasion of this new election, all the companies belonging to the Northern Interconnected del System reaffirmed our commitment to human and technical capital of the CDEC and expressed our strong support for the work plan that aims to: (a) comply with the functions of the Act, the regulations in force and the Rules established by the CDEC, and (b) the safe and efficient operation of the SING.

The objective for the year 2011 is to materialize the production projects that together bring more than 800 MW of installation capacity in the SING, as well as works and transmission infrastructure. All of which helps to ensure a safe and reliable supply of demand in the coming years. With this, the SING is ready to face the challenge of meeting demand with sales increasing from the 8,900 GWh in 2001 to 13,790 GWh in 2010.

We hope that this 2010 publication represents a contribution in the field of information for all those involved in the SING and for those who observe and analyze their development, and for all investors interested in learning more deeply the electrical market in the northern part of the country.


ENZO QUEZADA ZAPATA
CDEC-SING Board of Directors President

2.

Letter from the **Executive Director**

"2011 is projected as the year of physical adaptation or regular supply. Also new challenges emerged concerning safety and to seek higher efficiently levels in the operation"



I have the pleasure to introduce the Annual Publication of the Centre for Economic Load Dispatch Interconnected System Norte Grande, CDEC-SING. This publication includes statistics, indicators and most relevant elements of the operation of the SING (Spanish Acronym for Center for Economic Load Dispatch of Northern Interconnected System) for the period 2001-2010.

In 2010, SING will be remembered as the last year the system experienced supply crisis. This restriction of natural gas supply began in 2004 and was enforced by Argentina. This achievement was possible thanks to the opening of the Mejillones regasification plant and the availability of liquid natural gas or LNG.

The influx of Liquid Natural Gas(LNG) was allowed to have 450 MW base of uninterrupted input which reduced the intensive use of diesel generation. In addition, the set up of the test units based on coal that is under construction, has allowed a projection to substantially improve the supply in 2011.

As a symbol of our ongoing commitment to the industry and the population we have supplied since 2010, CDEC-SING has an alternative backup site to the main site Dispatch and Control Center, which adds to the simulation of Service Recovery Plan, which has improved the capabilities and resources for emergencies.

In the organizational area, CDEC-SING has been qualified as a strategic enterprise. This denomination is an important recognition of the crucial task of the organization for the normal functioning of the economy, and security industry and large population north of the country. The strategic plan of the organization has been launched and is differentiated by the vision, mission and values that guide the CDEC-SING business.

Also in 2010, more resources were added to address transmission planning. In this context, a tracking process of recovery and transmission expansion led by the National Energy was performed. A proposal expansion for the transmission system was also presented.

For all the above mentioned at the operational level, 2011 is projected as the year of the physical adaptation or supply normalization with new challenges related to the search for greater security and levels of efficiency in the operation. In the organizational area, 2011 will have a strong emphasis on improving and strengthening our capabilities through the review and certification of skills and critical processes.

Along with making available to you the Annual CDEC-SING, I express my public appreciation for the cooperation and commitment of the companies represented in the CDEC-SING, as well as for the dedication and professionalism of the members of our team, which I'm sure will successfully address the challenges ahead.



DANIEL SALAZAR JAQUE
Executive Director / Director of Operations and Tolls
CDEC-SING



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2010 Energy Environment

"In 2010 the CDEC-SING was rated a strategic company as a result of virtue of its role and relevance in the performance of the country."



In 2010 Chile celebrated its bicentennial marked by situations that profoundly affected the country. Whether political, economic or social they were all matters that have important effects on the energy sector.

Politically, a new administration took over in the Energy sector. Economically the country reached a great international recognition. It was accepted as a full member of OECD, and thus becoming the first South American country to join the organization. The Central Bank figures indicated that the country achieved a growth of 5.2%, differing from growth in Latin America. However, the most marked by the bicentennial was on the morning of February 27, 2010.

An earthquake measuring 8.8 on the Richter scale and a subsequent tsunami struck the central-southern part of Chile. The earthquake caused substantial human and material losses, shaking the country. The world sat by and watched in astonishment, one of the largest earthquakes in the history of the world.

The geographical area covered by the Interconnected Northern System, SING, was not directly affected by the disaster. But because of the impact, the focus on prevention and safety in electrical installations to natural events was heavily discussed in the electrical industry throughout the year.

In strictly energy matters, 2010 brought the creation of a new establishment, the creation of the Department of Energy. The new change of power in the executive branch created new regional authorities and generated new energy positions in different parts of the country.

As far as the SING, the year 2010 should be distinguished as the year that totally surpassed the crisis. The system was affected due to the shortage of natural gas.

The natural gas crisis - a leading production challenge of the country - occurred during the second half of the last decade. This was a time of high complexity and pressure throughout the SING. The companies had to mobilize significant resources to replace the lack

of natural gas and ensure the demand of their customers. This issue allows resolving the main necessity of the system. This is the balance between supply and demand of the deficit product production. It also addressed at the same time other priorities such as those related to infrastructure of transmission.

In 2010 the SING had notable improvements, for example: the Dispatch and Control Center doubled its size. This facilitated a backup site to guarantee the continuity and security of the system. The recovery service was updated and reviewed and worked on obtaining better and more expeditious communication channels. In this subject matter, the company was rated business strategy, by virtue of its role and relevance to the operation of the country. Because of the specialized knowledge, SING provided the technical



and economic analysis of infrastructure transmission. In addition, this guaranteed the safe operation through a timely analysis of the system operating conditions.

Chile's electricity developments during the next two decades require significant investments in production, transmission and distribution. The growth rate of demand observed and projected for the next 10 years has an estimated range values between 5% and 6% per year. In order to satisfy the expected demand, it will require approximately 10 GW of additional capacity production. It is necessary to add reinforcement and new transmission works associated with these developments. All of the industry has been gathering together with all of the performers in the electrical industry in the country, and CDEC-SING is getting ready.





4.

Who Are **We**?

Center for Economic Load Dispatch System Northern Interconnected (CDEC-SING)



The Center for Economic Load Dispatch System Northern Interconnected (CDEC-SING) is the organization that coordinates the operation of electrical installations. These installations operate an interconnected system, fulfilling the role of preserving the safety and quality of service.

CDEC-SING is recognized by the government of Chile as a strategic organization. This is because of the public role the company provides in concentrating its activities not only in the electrical supply but also in the safety of the public, the industry and also in the economy of the country.

The management instructions emanating from the CDEC-SING are mandatory for the 40 companies that own the facilities in the

interconnected system. In addition to generate, transport and distribute electricity in the SING, which covers the territory Arica-Parinacota, Tarapaca and Antofagasta, Fifteenth, First and second regions of Chile, respectively, covering an area of 185,142 km², equivalent to 24.5% of the continental territory.

The SING system is responsible for providing and ensuring the provision of the main production sector. The mining, accounts for almost 15% of GDP, one third of total foreign investment and more than 60% of the total value of exports in the country.

CDEC-SING consists of 40 member companies operating in the sections of generation, trunk transmission, sub transmission and free customers, represented by a Board of Directors consisting of 10 members.

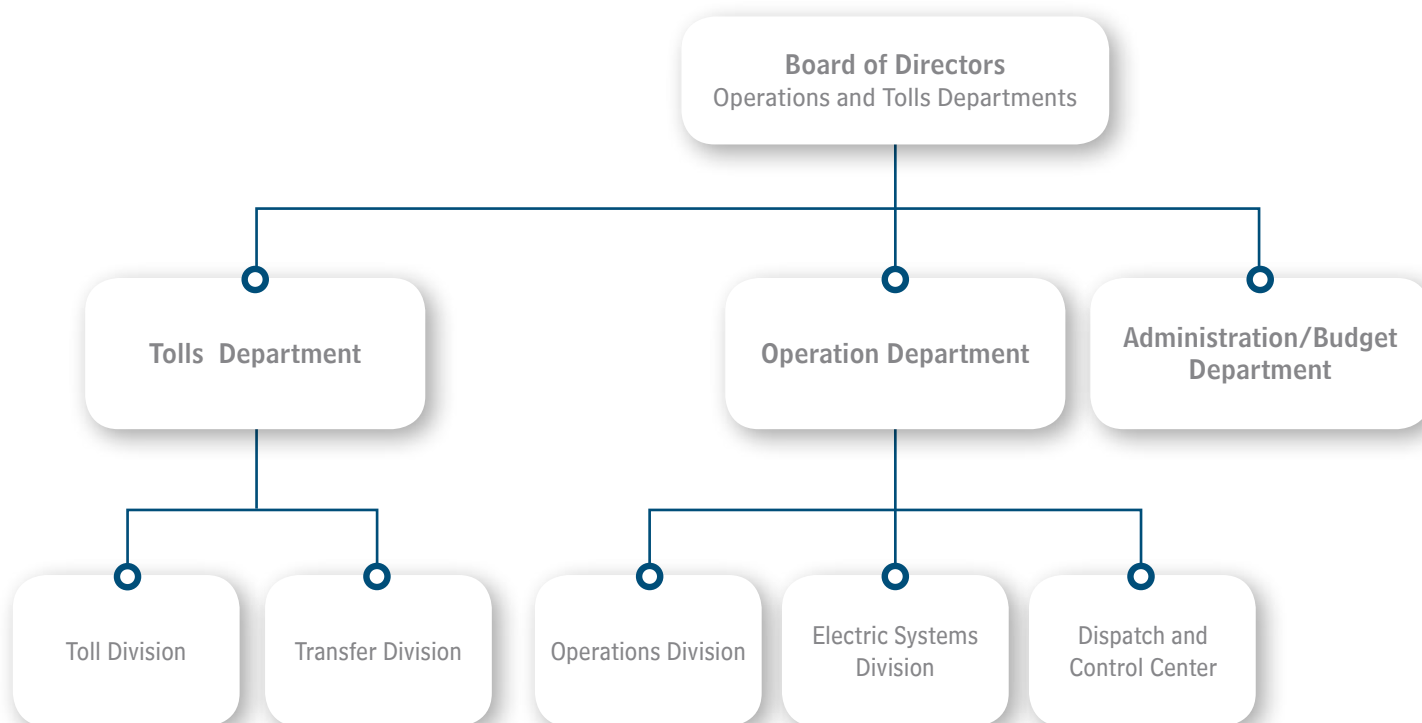
To accomplish the objectives, SING is structure with three Technical Divisions: the Department of Operations, Department of Tolls, and Department of Office Management/Budget. The most fundamental part of the CDEC-SING is the Dispatch and Control Center which it is under the Operations Department.

CDEC-SING currently has a staff of 46 people who divide their functions in the city of Antofagasta and Santiago. They preside over their professional performance by the values of professionalism, proactively, loyalty, trust and responsibility.

According to the General Law of Electricity Services CDEC-SING is responsible for:

- Maintaining the overall security of electrical systems;
- Ensure the most economical operation for all the Electric System facilities;
- Ensure open access to transmission systems and core sub transmission;
- Ensure open access to additional transmission systems additional according to the provisions of the final paragraph of Article 77 of Law;
- Determine economic transfers between members CDEC, and
- Prepare studies and reports required by the National Energy, the Superintendent of Electricity and Fuels and the Ministry of Energy.

Organizational Chart



BOARD OF DIRECTORS

The Board of the CDEC-SING consists of two representatives from the generation department with installed capacity below 300 MW (division A), three representatives from the generation department with installed capacity greater than or equal to 300 MW (division B), two trunk transmission departments (division C), two sub-transmission segments (division D), and a representative of the free customer segment (division E).

The current Board is chaired by Mr. Enzo Quezada Zapata, assisted in his functions by Carlos Aguirre Pallavicini

DIVISION A
Eduardo Soto Trincado
Juan Pablo Cárdenas Pérez

DIVISION B
Pedro de la Sotta Sánchez
Carlos Aguirre Pallavicini
Enzo Quezada Zapata

DIVISION C
Rodrigo López Vergara
Raúl Valpuesta Araya

DIVISION D
Robin Cuevas Canales
Alfredo Cárdenas Ocampo

DIVISION E
Carlos Finat Díaz

As established by the electrical regulations, the Board of Directors should ensure compliance with the regulatory aspects in the system. The board also oversees the proper functioning of the Departments of the CDEC. The Board of Directors must designate the directors of the departments, elaborate the internal regulation and approve the budget.



CDEC-SING DEPARTMENTS

The three Divisions of the CDEC-SING are eminently technical and executive bodies that carry out their functions under the regulatory forces. The head of the departments are appointed for four years. They can be removed and re-elected by the Board.

EXECUTIVE DIRECTOR
DIRECTOR OF OPERATION AND TOLLS.
Daniel Salazar J.

DIRECTOR OF ADMINISTRATION/BUDGET
Alvaro Grondona C.

DEPUTY OF OPERATION
Raúl Moreno T.

ASSISTANT TOLL DEPARTMENT
Claudia Carrasco A.

DISPATCH AND CONTROL MANAGER
Marco Urrutia U.

OPERATIONS MANAGER
Patricio Valenzuela V.

MANAGER OF ELECTRICAL SYSTEMS
Felipe Morales S.

ASSISTANT TOLL DEPARTMENT
José Arévalo A.

ASSISTANT TOLL DEPARTMENT
Fiorella Roncagliolo D.





OPERATION DEPARTMENT

The Department of Operations is responsible for coordinating the operation of all facilities of the Northern Interconnected System. Each are Interconnected to generate, transport and distribute electrical power, while preserving the security and the economic efficiency of the system.

The Operation Department is a group of professionals from three divisions or departments. These are: The Control and Dispatch Center, Operations Department and the Department of Electrical System.

Dispatch and Control Center

The Dispatch and Control Center is responsible for overseeing and coordinating the operations of the SING in real time. This is done according to the standards policies. These standards allow the Center to keep a safe and economic operation in the SING. The Center has a team of 15 professionals, including 11 dispatchers that work in the supervision and coordination of the operation in rotation shifts, twenty-four hours a day, seven days a week.

The Dispatch and Control Center department are the operation decision-makers with the help of the SCADA system. This system provides the electrical variables and is one of the main tools of the CDEC-SING. At the same time, the center communicates via voice channels with the other Controls Centers of the companies that own installations. This scheme is dedicated exclusively to real time operation. This operation is coordinated according to the generation programs prepared by the Operations Department.

Operations Department

The Operations Department has the task of planning and coordinating the SING operation. This task should be done according to the policy standards and the criteria established by the current policy. This put into practice is aimed at maintaining a safe and economical operation in the SING.

A team of six professionals that make up this Department have the main task to develop and establish a daily optimum operation program. It covers the needs of supply of the system. They also schedule and coordinate the maintenance and repair of facilities requested by companies. It develops the analysis program that will allow the operation of the SING in consistency with criterion and policies of operation that elaborates the Electrical Department Systems

Electrical Systems Department

The Department of Electrical Systems is the one that develops the analysis and studies. These analysis and studies have the tendency to have criterion and policies that allow the synchronization of the safely and economically operation of the SING.

The six professionals that work in this department have the main task of developing the criterion and policies of the operation. Also to design, and evaluate the control schemes as well as the protection aimed to maintain a safe and economical SING operation. Simultaneously, it will study and analyze the reports and technical background of the facilities that modified, incorporates, or pulls out from the system.

The department also develops various studies under the current rules, which includes analyzing the contingencies that result in disconnection of generation facilities, transmission, or consumption

TOLLS DEPARTMENT

The Tolls Department is responsible for managing economic transfers between companies in the Northern Interconnected System. This is subject to the coordination of the CDEC-SING and responsible for ensuring open access to trunk transmission systems, sub-transmission or further regulations as established.

The Toll Department is a team of professionals grouped into two teams or departments. These are: The Transfers Department and the Department of Tolls.

Transfer Department

The Transfer Department determines the physical and economic transfers that occur between media companies that own generation. This is from the transfer or exchange of energy and time hourly power produced in the actual operation of the system.

The main functions of the four people that work in this department are to determine the physical balances and prices for each transfer. This is accomplished once the real process occurs and it is by monthly or annual reports, and transfer balance sheets of energy, power and non-conventional renewable energy.

Furthermore, the Transfer Department must determine the reassessments among public service concessions. This is referred to as the long term node prices. The Transfer Department also determines the associated transfers with complementary services once they take effect.

Department of Tolls

The primary task of the Department of Tolls is to ensure open access to the trunk transmission systems, sub transmission or additional duties a determined by SING. This task should be according to the current regulation provisions.

The team of four experts that form this department is responsible for determining payments for tolls that apply to the transmission system facilities of SING. In particular, the team develops research and analysis aimed to recommend infrastructure for system expansion of trunk transmission. Also in regard to determining new works, this department is responsible for carrying out international bidding processes for the construction and operation of such projects.

The sub transmission section determines the distribution of regulated revenues among companies operating in this segment. And, furthermore it must issue reports of supply quality, product quality and facilities unavailability.

DEPARTMENT OF ADMINISTRATION/BUDGET

The Department of Management and Budget's mission is to develop, manage, and execute the annual budget of CDEC SING. It must also calculate and collect the amounts of contributions to the budget that should be executed monthly, every member company, in accordance with the policy regulations.

In the management field, the department establishes and monitors salary guidelines, contracts and department personnel. This department hires the required technical personnel, design and manages procurement policies and payments to suppliers and overhead.



5.

CDEC-SING: Mission, Vision and Values

Our Mission

“Execute with excellence the coordination of the SING operation. Lead the development, help to preserve and guarantee Safety and efficiency, and ensure accessibility to the system.”

Our Vision

“To be referred to as a Chilean technical electrical organization, providing coordination services for the operation and development of the Northern Interconnected System. To be reliable and efficient to our customers; having a poly-functional team that guides its work of Excellence, with high quality performance with optimal technology and point tools usage. “





6

Management Operation **CDEC-SING 2010**



MANAGEMENT OPERATION

The Department of Operation of CDEC-SING, through the three divisions that embrace the Corporation; the Dispatch Center and Control (CDC), the Department of Operations and the Department of Electrical Systems developed in 2010 an administration that was guided by the continuous review of conditions of the operation system. It was guided by the objectives of security and economic efficiency that apply to the CDEC-SING. At the same time, significant progress was achieved in the development and connection of infrastructure projects associated with electrical generation, transmission and consumption of the SING.

Also, the teams had a noticeable task on the development of different procedures. These notorious well-known procedures were required by existing standards and promoted by the Department. All the procedures have intended to formalize and objectify the rules addressed in the various areas the operation of SING.

Dispatch and Control Center

Under the comprehensive plan for contingencies that the operation management defined, the CDC department led the implementation of two workshops in voice communications in stressful situations. Specialized personnel from the CDC and the Centers for the Control of the Sing attended the implementation.

In addition, the CDC enabled a backup site for the operation of the system to address the need to strengthen the capacity of emergency response. This was an alternative to the main site. That site aims to continue the functions of the CDC in the event that required emergency reasons leave the main site. The back up features and data channels voice increased the redundancy of the systems communication from the CDC.

Also, in order to review the Recovery Plan of the Service and the use of a backup site we performed a mock. It is a total blackout with the participation of all Centers for Control of the companies that included the CDEC-SING. The success of the exercise allowed recommendations to improve the skills and resources to face any emergencies.

In matters relating to the SCADA, in 2010 the CDC continued the integration of companies that were coordinated to connect to the SING; and also with the updated data from the current coordinated. This has allowed the development of various applications supported by SCADA, such as: the incorporation of control and supervision elements of the operational policies. These are supplementary clues that allow the CDC to review transfers and limitations, to control and monitor the voltage transmission, and perform other estimates that support the operation in real time.

Finally, it is important to note that the CDC has completed the coordination of the operation in real time, with high standards. The CDC has done it successfully taking into consideration the various challenges presented in 2010. One of the main challenges was the coordination of testing and commissioning of a significant number of new installations and modifications of existing ones.

Operations Department

In 2010 the planning of the system operation mainly addressed ways to improve the levels of efficiency and security constraints in the operation.

Today the accuracy achieved in the planning of the operation, allows the complete reproduction of the results obtained, and is available for companies comprise by the CDEC SING and anyone interested. In 2010 a total of 600 programs were broadcaster and re dispatched for the daily and weekly operation. In examining the results, we can state that the processes associated with scheduling the operation have an advanced level of technology due to the investment made in recent years in the field.

In previous years the projection of the conditions of supply and scheduling of maintenance by the Department of Operations was successfully established. These schedules were in recurrent



consultation and information required to project conditions of 2010. This activity was permanently developed in order to not demean rates expected reliability of supply. It was achieved thanks to the efforts carried out by the Directorate of Operation and the companies comprising the CDEC-SING, and maintaining timely and constantly inform the segment authority.

Finally, the addition of Liquefied Natural Gas LNG, as power of generation in the SING was an important contribution. To better meet the condition of demand in the SING. This implicated to assume the challenges involved in prices, availability and operation plan of the product that was successfully completed in 2010.

Electrical System Department

The Department of Electrical Systems, created in 2010, previously known as the Research Department, had a busy schedule. This schedule was highlighted by the analysis and evaluation of information and studies of large numbers of new generation projects, transmission and consumption. It is interconnected to SING, exceeding by far the annual activity of the last 10 years in this area. Along with the analysis, the technical study standard established Safety and Quality of Service. It represented a significant milestone of the objectives set for 2010.

During the year the department analyzed the background studies of systemic coordination protections of twenty projects. From these analysis and various recommendations for improvements and adaptations to the original designs, new significant reforms were obtained. These reforms were in safety and quality of service to be incorporated in the projects of the system.

In the study and analysis of failures and contingencies occurring during 2010, the balance showed 67 studies and failure analysis. From these actions new corrective and preventive actions were taken with the companies involved.

One of the main activities of the Electrical System department, as frequently done in previous years was the revision of operating policies that apply to different areas of the SING. During 2010, specific policies of operation were defined and applied. These specific policies addressed main operating constraint identified in the system as the strain control supply in the north, range, Capricornio and in Chacaya substation. In all these cases all the efforts were maximized to find solutions to allow and continue safe and economic supply to each one of the areas.

MANAGEMENT OF THE DEPARTMENT OF TOLLS

The Department of Tolls of the CDEC-SING through the two teams that comprise: the Transfer Department and Department of Tolls, carried through the various economic transfers relations between the companies synchronized by the CDEC-SING, with high standards of quality and appropriateness.

In 2010 regarding legislation, there were two regulation drafts: Complementary Services and Trunk Transmission, both developed by the National Energy Commission. In both cases, there were various inputs and recommendations made by the Commission when defining the final text of such regulations.





In this same area, the Department of Tolls developed several Procedures during 2010. In this sense a breakthrough constitutes a favorable report from the National Energy Commission for the TD Procedure - "Payments for reassessment and Calculation Interests". This allows improving and streamlines the rules that govern economic transfers within the CDEC-SING. One relevant issue is that the Department of Toll led the redesign of the new CDEC-SING web site. This new site is more modern, simple, easy to navigate, and user friendly. The Department of Tolls has fulfilled all the requirements set for the rules for CDEC SING.

Finally, during 2010 and to mark the beginning of the implementation of Law No. 20,257 on the generation of unconventional renewable energy URE, an assignment was performed jointly with the Department of Toll System Interconnected Central (CDEC-SIC), to review and evaluate the correct application of the rules.

Transfer Division

The economic transfers determined by the Department of Transfers were performed under high standards of quality. They were also completed in time and in conformity with deadlines and commitments established by the department. To ensure no interruption and guarantee in the payments to the companies that participates in transfers of the CDEC-SING.

In 2010 there were no differences or discrepancies in assessments made in the energy and power balances. The department successfully dodged all processes of recovery that corresponded throughout the year. Several revisions were made to the consistency of prices that apply to transfers of energy. These revisions allowed a better definition of the prices charged in case of congestion or disconnection of the system.

The reassessment of payments between companies were reduced in order to improve and raise efficiency standards in the administrative and business management, which is derived from identified transfers in the CDEC-SING. This type of process helped to reduce and generate administrative costs and inefficiencies. The decision to reduce the prices had an improvement over the previous fiscal years.

Tolls Department

In 2010 the Department of Tolls developed several procedures. One of them was the use of the facilities. The use of the facilities is the main function of the Department of Tolls. The decision to use the facilities was an important progress. Because of the termination to use facilities, the department reviewed the node processing pricing conducted by the National Energy Commission. In reviewing the



prices the department uses the principles that support each technical report of the SING. The outcome was to improve the replica and SING representation.

During 2010 the department participated actively in the development of Broadcast transmission. This was part of the process of evaluation and expansion of the trunk transmission and sub transmission system. This is part of the quadrennial 2010-2014 process. The department developed and installed capacities. These capacities were planned and oriented for the transmission system. The department continues to work very proficiently in order to lead the transmission system of 220 KV.

To conclude, the department obtained an important achievement. This achievement is the development of the Annual Transmission System Expansion. This report was available to business and company members of the SING. This report covers technical and economic analysis of the needs of the infrastructure for the main transmission of 220 KV in the SING. This report provides recommendations to the works that need to be done to keep both the system and expenses with high standards of safety and quality. The report contains an important analysis that contributes substantially to make key decisions in the system, and therefore, its generation is a relevant input for the Department of Tolls.

MANAGEMENT/ADMINISTRATION AND BUDGET.

One of the most significant issues conducted in 2010 by the Office of Management and Budget, was the lead-with a consulting company-the study of wages, benefits and practices associated with human resources management. It aimed to have measurable indicators to analyze and compare specific charges of the technical direction of the CDEC-SING with their counterparts. Six companies participated in the study. This allowed obtaining relevant information in wages job profiles and capabilities.

The results identified and defined some differences. A salary scale table and a performance evaluation were developed. This was developed in order to level the differences in some areas. There is a plan in project and will be in put into practice in 2011.

Because of the earthquake in 2010 the former headquarters of the CDEC -SING in Santiago were completely damaged. The administration department had the task to find a new building for the Corporation. After a period of a rigid qualification process the CDEC -SING was able to find new quarters. The new building was inaugurated with the attendance of authorities and members of the industry on November 8, 2010.



7

SING Projects: **2010** Finished Projects **2011** Future Projects



This chapter presents all energy infrastructure projects put into service and commercial operation in 2010 and prospects for 2011.

MAJOR PROJECTS IN 2010

Infrastructure Projects

Company	:	Sociedad GNL Mejillones S.A.
Project	:	Liquid Natural gas regasification plant.
Commercial Operation	:	June 18, 2010
Characteristics	:	Nominal regasification capacity up to 5.5 million daily cubic meters.

Transmission Projects

Company	:	E-CL
Project	:	Chacaya Line - LNG Mejillones.
Characteristics	:	Transmission line at 110 kV, 11.13 km in length and a rated capacity of 121.94 MVA.

Company	:	Minera Esperanza
Project	:	Chacaya Line - Muelle
Characteristics	:	Transmission line at 110 kV, 54.9 km in length and rated capacity of 95.26 MVA

Company	:	Minera Esperanza
Project	:	Muelle line - Guayaques.
Characteristics	:	Transmission line at 110 kV, 50 km long and rated at 19.05 MVA

Company	:	Empresa Eléctrica Angamos
Proyecto	:	Angamos Line - Laberinto
Characteristics	:	Transmission line at 220 kV double circuit, 142 km in length and rated capacity of 539.95 MVA per circuit.

Company	:	Minera Escondida
Project	:	Sectioning and increase of Crucero Line capacity - Escondida.
Characteristics	:	1x220 kV Transmission Crucero Line - Escondida 236 km in length and rated at 183 MVA, is sectioned in substations Laberinto y Nueva Zaldívar and increases its ability per segment, generating new lines: <ul style="list-style-type: none">• Crucero - Laberinto No. 1, 132.7 km in length and rated capacity of 293.03 MVA.• Laberinto - Nueva Zaldívar No. 1, with 94.5 km in length and rated capacity of 293.03 MVA.• Nueva Zaldívar - Escondida No. 1, with 14 km in length and rated capacity of 293.03 MVA.

Company	:	Minera Esperanza
Project	:	El Cobre Line - Esperanza
Characteristics	:	2x220 kV transmission line El Cobre - Esperanza of 81.3 km in length and rated capacity of 179.09 MVA per circuit.

Company	:	E-CL
Project	:	Line section Laberinto - Gaby
Characteristics	:	1x220 kV transmission line Laberinto - Gaby 60 km in length and rated capacity of 189 MVA is sectioned in substation EL Cobre, generating new lines: <ul style="list-style-type: none">• Laberinto - El Cobre, 3 km in length and rated capacity of 228.63 MVA.• El Cobre - Gaby, 57 km in length and rated capacity of 73.16 MVA.

Company	:	Minera Esperanza
Project	:	El Tesoro Line - Esperanza
Characteristics	:	1x220 kV transmission line EL Tesoro - Esperanza of 12.5 km in length and rated capacity of 85.36 MVA.

Generation Projects

Company : Enernuevas
Project : PMGD Alto Hospicio.
Commercial Operation : November 2010
Characteristics : Hydroelectric Run of the River PMGD with 1.1 MW gross installed capacity.

Company : Enernuevas
Project : PMGD El Toro.
Commercial Operation : November 2010
Characteristics : Hydroelectric Run of the River PMGD with 1.1 MW gross installed capacity.

2011 SING PLANNED PROJECTS

In 2011 it is expected the commissioning and commercial operation of the following projects:

Transmission Project

Company : E-CL
Project : Chacaya Line – El Cobre.
Characteristics : 2x220 kV transmission Chacaya line Chacaya - El Cobre of 144 km in length and a rated capacity of 350.57 MVA per circuit.

Company : Transemel
Project : Salar Line - Calama.
Characteristics : 1x110 kV transmission Salar line - Calama of 16.5 km in length and rated capacity of 55.06 MVA.

Generation Projects

Company : Empresa Eléctrica Angamos
Project : Central Termoeléctrica Angamos.
Operación comercial : Line 1, projected for April 2011, Unit 2 projected for October of 2011
Characteristics : Steam- Coal Thermoelectric Power Plant 264 MW of gross installed capacity per unit. I

Company : Central Termoeléctrica Andina S.A.
Project : Central Termoeléctrica Andina.
Commercial Operation : Preview for June of 2011
Characteristics : Steam- Coal Thermoelectric Power Plant 165 MW of gross installed capacity

Company : Inversiones Hornitos S.A.
Project : Central Termoeléctrica Hornitos.
Commercial Operation : Preview for June of 2011
Characteristics : Steam-Coal Thermoelectric Power Plant with 165 MW of installed capacity.



8.

SING Facilities and Clients



This chapter describes the facilities that make up the Northern Interconnected System. It also indicates technical features and ownership. This information is for production plants as well as transmission lines. It also presents a list of SING major clients to December 2010.

SIMPLIFIED SING LINE DIAGRAM



SING 2010 GENERATION UNITS

Owner	Power Plant name	Unit	Number of Components	Total Gross Power [MW]	Injection Bar	Unit Type	Commissioning year
Celta	Termoeléctrica Tarapacá	TGTAR (1)	1	23,750	Tarapacá 220 kV	Turbogas Diesel	1998
		CTTAR	1	158,000	Tarapacá 220 kV	Steam-Coal	1999
E-CL	Chapiquiña	CHAP	2	10,200	Arica 66 kV	Run of the River	1967
		M1AR	3	2,997	Arica 66 kV	Diesel engine	1953
	Diesel Arica	M2AR	2	2,924	Arica 66 kV	Diesel engine	1961-63
		GMAR	4	8,400	Arica 66 kV	Diesel engine	1973
	Diesel Iquique	SUIQ	3	4,200	Iquique 66 kV	Diesel engine	1957
		MIQ	2	2,924	Iquique 66 kV	Diesel engine	1963-64
		MAIQ	1	5,936	Iquique 66 kV	Engine FO 6	1972
		TGIQ	1	23,750	Iquique 66 kV	Turbogas Diesel	1978
	Termoeléctrica Mejillones	MSIQ	1	6,200	Iquique 66 kV	Engine FO 6	1985
		CTM1	1	165,900	Chacaya 220 kV	Steam-Coal	1995
		CTM2	1	175,000	Chacaya 220 kV	Steam-Coal	1998
		CTM3	2	250,750	Chacaya 220 kV	Natural Gas Combined Cycle	2000
	Diesel Mantos Blancos (2)	MIMB	10	28,640	Mantos Blancos 23 kV	Engine FO 6	1995
	Cavanca (9)	CAVA	1	2,8	Tap Off Cavanca	Hydro	1995
	Diesel Enaex (4)	DEUTZ	3	1,959	Enaex 110 kV	Diesel engine	1996
		CUMMINS	1	0,722	Enaex 110 kV	Diesel engine	1996
Electroandina	Termoeléctrica Tocopilla	U10	1	37,500	Central Tocopilla 110 kV	Steam-FO 6	1970
		U11	1	37,500	Central Tocopilla 110 kV	Steam-FO 6	1970
		U12	1	85,300	Central Tocopilla 110 kV	Steam-Coal	1983
		U13	1	85,500	Central Tocopilla 110 kV	Steam-Coal	1985
		U14 (6)	1	136,400	Central Tocopilla 220 kV	Steam-Coal	1987
		U15 (7)	1	132,400	Central Tocopilla 220 kV	Steam-Coal	1990
		U16	2	400,000	Central Tocopilla 220 kV	Natural Gas Combined Cycle	2001
		TG1	1	24,698	Central Tocopilla 110 kV	Turbogas Diesel	1975
		TG2	1	24,931	Central Tocopilla 110 kV	Turbogas Diesel	1975
		TG3 (3)	1	37,500	Central Tocopilla 220 kV	Turbogas Natural Gas - Diesel	1993
	Diesel Tamaya	SUTA	10	103,680	Central Tamaya 110 kV	Engine FO 6	2009
AES Gener	Salta	CC SALTA (5)	3	642,800	Central Salta 345 kV	Natural Gas Combined Cycle	2000
Gasatacama Generación	Atacama	CC1	3	395,900	Central Atacama 220 kV	Natural Gas Combined Cycle	1999
		CC2	3	384,700	Central Atacama 220 kV	Natural Gas Combined Cycle	1999
Norgener	Termoeléctrica Norgener	NT01	1	136,300	Norgener 220 kV	Steam-Coal	1995
		NT02	1	141,040	Norgener 220 kV	Steam-Coal	1997
Enorchile	Zofri	ZOFRI_1-6	2	0,900	Iquique 13.8 kV	Diesel Engine	2007
		ZOFRI_2-5	4	5,160	Iquique 13.8 kV	Diesel Engine	2007
	Diesel Estandartes	ZOFRI 7-12	6	4,800	Iquique 66 kV	Diesel Engine	2009
Inacal	Diesel Inacal	INACAL	4	6,800	La Negra 23 kV	Engine FO 6	2009

Total to December 31st of 2010 3.696,061

Generating Units PMGD to December of 2010.							
Owner	Power Plant name	Unit	Nº Componentes	Total Gross Power [MW]	SE Primary bar of Associated Distribution	Unit Type	Commissioning year
Cavanca	Cavanca (8)	CAVA	1	2,8	Tap Off Cavanca	Hydro	1995
Enernuevas	Minihidro Alto Hospicio	MHAH	1	1,100	Alto Hospicio 13.8 kV	Hydro	2010
Enernuevas	Minihidro El Toro N° 2	MHT2	1	1,100	Alto Hospicio 13.8 kV	Hydro	2010
TOTAL PMGD TO DECEMBER 31ST 2010				5,000			
TTOAL SING TO DECEMBER 31ST 2010.				3.701,061			

Notes:

- During the period January-November 1999 TGTAR Unit belonged to Endesa. As of May 12, 1999 TGTAR is transferred to the SIC and is reinstated to SING. On November 29, 1999 becomes Celta's property.
- The Blancos Power Plant Diesel is represented in the CDEC-SING by E-CL.
- Unit TG3 is available to operate with natural gas since September 2000.
- Enaex Power Plant Diesel is represented in the CDEC-SING for Gasatacama until May 2007. As of June 2007 is represented by E-CL.
- The Gas Turbines TG12 and TG11 unit CC Salta, at the request of the Agency in charge of Dispatch (ACD) of the republic of Argentina, can be connected to the Argentinean Interconnection System (SADI) giving a maximum power of 416 [MW].
- U14 Unit increased its gross capacity of 128,300 to 136,400 MW on April 29, 2008.
- U15 Unit increased its gross capacity of 130,300 to 132,400 MW on June 12 2009.
- Cavanca Power Plant from November 3, 2010 belongs to PMGD.

SING 2010 Transmission Lines

Owner	Transmission Line	voltage (kV)	Circuit numbers	Approximate length (km)	Capacity (MVA)	System Type	Commissioning year
AES GENER	Andes - Tap Off Oeste	220	1	38	229	Additional	1998
	Andes - Nueva Zaldívar. Circuit N°1	220	1	63	365.8	Additional	1999
	Andes - Nueva Zaldívar. Circuit N°2	220	1	63	274.4	Additional	1999
	Laberinto - Mantos Blancos	220	1	70	290	Additional	1999
	Nueva Zaldívar - Zaldívar	220	1	0.20	330	Additional	1994
	Central Salta - Andes	345	1	408	777	Additional	1999
ANGAMOS	Angamos - Laberinto	220	2	142x2	540x2	Additional	2010
CODELCO NORTE	Chuquicamata - 10	100	1	7	83.1	Additional	1988
	Chuquicamata - 10A	100	1	8	90.9	Additional	1988
	Chuquicamata - A	100	2	0.8x2	99.9x2	Additional	1988
	Chuquicamata - Chamy	100	1	12	62.4	Additional	1990
	Chuquicamata - K1	100	1	6	90.9	Additional	1988
	Chuquicamata - KM6	100	1	11	100	Additional	1988
	K1 - 10	100	1	1	90.9	Additional	1985
	KM6 - 10A	100	1	6	90.9	Additional	1988
	KM6 - Sopladores	100	1	2	58.9	Additional	1993
	Salar - km6	100	2	2.2x2	62x2	Additional	2005
	Salar - Calama	110	1	14	44	Subtransmission	1982
E-CL	Arica - Pozo Almonte	110	1	216	34.3	Subtransmission	1987
	Capricornio - Alto Norte	110	1	44	120	Additional	2000
	Capricornio - Antofagasta	110	1	28	91.5	Subtransmission	2000
	Capricornio - Sierra Miranda	110	1	25	22.9	Additional	2007
	Chacaya - GNL Mejillones	110	1	11	122	Additional	2010
	Chacaya - Mejillones	110	1	1.4	34.3	Subtransmission	1987
	Mejillones - Antofagasta	110	1	63	91.5	Subtransmission	1987
	Chacaya - Crucero	220	1	153	304.8	Additional	1987
	Chacaya - Mantos Blancos	220	1	66	304.8	Additional	1996
	Chacaya - Mejillones	220	1	1.4	365.8	Subtransmission	1987
	Crucero - Lagunas N°1	220	1	174	182.9	Additional	1987
	Lagunas - Pozo Almonte	220	1	70	182.9	Additional	1987
	Central Chapiquiña - Arica	66	1	84	20.6	Additional	1967
	Central Diesel Arica - Arica	66	1	7	20.6	Subtransmission / Additional	1964
	Central Diesel Iquique - Iquique	66	1	2	41.2	Additional	1970
	Iquique - Pozo Almonte.Circuito N°1	66	1	44	27.4	Subtransmission	1964
	Iquique - Pozo Almonte.Circuito N°2	66	1	39	27.4	Subtransmission	1987
	Pozo Almonte - Tamarugal	66	1	21	9.1	Subtransmission	1968

Owner	Transmission Line	voltage (kV)	Circuit numbers	Approximate length (km)	Capacity (MVA)	System Type	Commissioning year
ELECTROANDINA	El Cobre - Gaby	220	1	57	73	Additional	2010
	Laberinto - El Cobre	220	1	3	229	Additional	2010
	Central Diesel Tamaya - A	110	1	127	65	Additional	2009
	Central Diesel Tamaya - Salar	110	1	138	65	Additional	2009
	Central Tocopilla - A	110	2	141x2	65x2	Additional	1910
	Central Tocopilla - Central Diesel Tamaya	110	2	14x2	65x2	Additional	2009
	Central Tocopilla - Crucero	220	2	71.4x2	365.8x2	Additional	1986
	Crucero - Chuquicamata	220	1	70	274	Additional	1986
	Crucero - El Abra	220	1	101	182.9	Additional	1995
	Crucero - Radomiro Tomic	220	1	82	182.9	Additional	1996
	Crucero - Salar (1)	220	1	75	365.8	Additional	2005
	Salar - Chuquicamata (2)	220	1	13	274.4	Additional	2005
	Tap Off El Loa - El Loa	220	1	8	91.5	Additional	2000
EMELARI	Parinacota - Quiani	66	1	7	12.6	Subtransmission	2002
	Tap Off Quiani - Quiani	66	1	0.5	12.6	Subtransmission	1998
GRACE	Tap Off Barriles - Mantos de la Luna	110	1	27	57.16	Additional	2006
HALDEMAN	Pozo Almonte - Sagasca	66	1	55	3.4	Additional	1971
MINERA CERRO COLORADO	Pozo Almonte - Cerro Colorado	110	1	61	68.6	Additional	1993
MINERA COLLAHUASI	Encuentro - Collahuasi	220	1	201	109	Additional	2004
	Lagunas - Collahuasi	220	2	118x2	109x2	Additional	1996
MINERA EL TESORO	Encuentro - El Tesoro	220	1	90	125	Additional	2000
MINERA ESCONDIDA	Atacama - Domeyko	220	2	205x2	245.8x2	Additional	1999
	Crucero - Laberinto. Circuito N°1	220	1	133	293	Additional	2010
	Domeyko - Escondida	220	1	7	245.8	Additional	1999
	Domeyko - Laguna Seca	220	1	13	245.8	Additional	2001
	Domeyko - Planta Óxidos	220	1	1	182.9	Additional	1998
	Domeyko - Sulfuros	220	1	1	293	Additional	2005
	Laberinto - Nueva Zaldívar. Circuito N°1	220	1	95	293	Additional	2010
	Mejillones - O'Higgins	220	1	73	182.9	Additional	2006
	Nueva Zaldívar - Escondida	220	1	14	293	Additional	2010
	Nueva Zaldívar - Sulfuros	220	1	13	293	Additional	2006
	O'Higgins - Coloso	220	1	32	91.5	Additional	1993
	O'Higgins - Domeyko	220	1	128	182.9	Additional	1999
	Zaldívar - Escondida (3)	220	1	14	293	Additional	1995
MINERA ESPERANZA	Chacaya - Muelle	110	1	55	95	Additional	2010
	Muelle - Guayaques	110	1	50	19	Additional	2010
	El Cobre - Esperanza	220	2	81.3x2	179x2	Additional	2010
	El Tesoro - Esperanza	220	1	13	85.4	Additional	2010

Owner	Transmission Line	voltage (kV)	Circuit numbers	Approximate length (km)	Capacity (MVA)	System Type	Commissioning year
MINERA MERIDIAN	Tap Off Palestina - El Peñón	66	1	66	27.4	Additional	1999
MINERA MICHILLA	Mejillones - El Lince	110	1	74	34.3	Additional	1991
MINERA QUEBRADA BLANCA	Collahuasi - Quebrada Blanca	220	1	18	68.6	Additional	2002
MINERA RAYROCK	Tap Off Pampa - Iván Zar	66	1	17	1	Additional	1994
MINERA SPENCE	Encuentro - Spence	220	1	67	274.4	Additional	2005
MINERA ZALDIVAR	Crucero - Laberinto. Circuito N°2	220	1	133	330	Additional	1994
	Laberinto - Nueva Zaldívar. Circuito N°2	220	1	95	228.6	Additional	1994
MOLY-COP	Chacaya - Molycop	220	1	1	45.7	Additional	2004
NORGENER	Tap Off Oeste - Minsal	110	1	33	34.3	Additional	1997
	Laberinto - Lomas Bayas	220	1	10	91.5	Additional	1997
	Tap Off Oeste - Laberinto	220	1	85	228.63	Additional	1998
	Norgener - Crucero	220	2	72x2	304.8x2	Additional	1997
TRANSELEC NORTE	Atacama - Encuentro	220	2	153x2	386x2	Additional	1999
	Atacama - Esmeralda	220	1	69	197.4	Subtransmission	2001
	Crucero - Encuentro. Circuito N°1	220	1	1	304.8	Troncal	1999
	Crucero - Encuentro. Circuito N°2	220	1	1	304.8	Troncal	2000
	Crucero - Lagunas N°2	220	1	173	121.9	Additional	1998
	Cóndores - Parinacota	220	1	222	72	Subtransmission	2002
	Tarapacá - Cóndores	220	1	70	182.9	Subtransmission	2002
	Tarapacá - Lagunas	220	2	56x2	152.4x2	Additional	1998
TRANSEMEL	Cóndores - Cerro Dragón	110	1	5	34.3	Subtransmission	2001
	Cóndores - Pacífico	110	1	11	34.3	Subtransmission	2002
	Cóndores - Palafitos	110	1	9	34.3	Subtransmission	2002
	Esmeralda - Centro	110	1	1	67.1	Subtransmission	2001
	Esmeralda - La Portada	110	1	17	34.3	Subtransmission	2001
	Esmeralda - Sur	110	1	7	34.3	Subtransmission	2002
	Esmeralda - Uribe	110	1	17	68.6	Subtransmission	2001
	Tap Off Alto Hospicio - Alto Hospicio	110	1	0	34.3	Subtransmisión	2001
	Parinacota - Chinchorro	66	1	4	21	Subtransmission	2002
	Parinacota - Pukará	66	1	4	42.1	Subtransmission	2002
XSTRATA COPPER - ALTONORTE	Antofagasta - Alto Norte	110	1	24	68.6	Subtransmission / Additional	1993
Total Lines 66 kV				349	266		
Total Lines 100 kV				58	992		
Total Lines 110 kV				1,367	1,669		
Total Lines 220 kV				4,676	14,730		
Total Lines 345 kV				408	777		
Total SING to December 31, 2010				6,857	18,434		

MAJOR SING CUSTOMERS IN 2010

CLIENT	CATEGORY	BAR SUPPLY	SUPPLIER
ACF Minera	Minning	Lagunas 220 kV	Celta
Atacama Agua y Tecnología	Industrial	Antofagasta 110 kV	E-CL
Atacama Minerals	Minning	Mejillones 220 kV	E-CL
Camíña	Distribution	Dolores 110 kV	E-CL
Cerro Colorado	Minning	Pozo Almonte 220 kV	E-CL
Cerro Dominador - Sierra Gorda	Minning	Encuentro 220 kV	E-CL
Cerro Dominador - Santa Margarita	Minning	Calama 110 kV	Electroandina
Cía. Portuaria Mejillones	Industrial	Mejillones 110 kV	E-CL
Codelco - Chuquicamata	Minning	Crucero 220 kV - Chuquicamata 220 kV - Salar 220 kV - Salar 100 kV - S/E A 100 kV	Electroandina
Codelco - Radomiro Tomic	Minning	Crucero 220 kV	Electroandina
Collahuasi	Minning	Collahuasi 220 kV	Celta - Gasatagama
Collahuasi Puerto	Industrial	Tarapacá 220 kV	Celta
Cosayach	Minning	Pozo Almonte 23 kV - Dolores 110 kV - Tamarugal 66 kV	E-CL
El Abra	Minning	Crucero 220 kV	Electroandina
El Tesoro	Minning	Encuentro 220 kV	Gasatagama
Eledda	Distribution	Esmeralda 220 kV - Calama 110 kV - Tocopilla 5 kV - La Negra 23 kV - Mejillones 23 kV - Antofagasta 13,8 kV	Gasatagama
Eliqsa	Distribution	Cóndores 220 kV - Pozo Almonte 23 kV - Tamarugal 66 kV	Gasatagama
Emelari	Distribution	Parinacota 220 kV	Gasatagama
Enaex	Industrial	Mejillones 110 kV	E-CL
Gaby	Minning	El Cobre 220 kV	E-CL
GNL Mejillones	Industrial	Chacaya 110 kV	E-CL
Grace	Minning	Barriles 220 kV	AES Gener
Haldeman	Minning	Pozo Almonte 66 kV	E-CL
Inacesa	Industrial	La Negra 23 kV	Enorchile
Interacid	Industrial	Tarapacá 220 kV	Celta
Lomas Bayas	Minning	Laberinto 220 kV	E-CL
Mall Plaza Antofagasta	Industrial	CD Antofagasta 13,8 kV	E-CL
Mamiña	Minning	Pozo Almonte 220 kV	E-CL
Mantos Blancos	Minning	Mantos Blancos 220 kV	E-CL
Megapuerto	Industrial	Mejillones 23 kV	E-CL
Michilla	Minning	Mejillones 110 kV	E-CL
Minera Escondida	Minning	Mejillones 220 kV - Zaldívar 220 kV - Crucero 220 kV - Atacama 220 kV	Norgener - Gasatagama
Minera Esperanza	Minning	El Cobre 220 kV - Chacaya 110 kV	Electroandina
Minera Meridian	Minning	C. Atacama 220 kV	Gasatagama
Molycop	Industrial	Chacaya 220 kV	E-CL
Molynor	Industrial	Mejillones 23 kV	E-CL
Polpaico	Industrial	Mejillones 23 kV	E-CL
Quebrada Blanca	Minning	Collahuasi 220 kV	Gasatagama
Quiborax	Minning	El Águila 66 kV	E-CL
Rayrock	Minning	Pampa 110 kV	E-CL
Spence	Minning	Encuentro 220 kV	E-CL
SQM El Loa	Minning	El Loa 220 kV	Electroandina
SQM Iris (ex DSM)	Minning	Lagunas 220 kV	Celta
SQM Minsal	Minning	Oeste 220 kV	Norgener
SQM Nitratos	Minning	La Cruz 220 kV	Norgener
SQM Nva.Victoria	Minning	Nva.Victoria 220 kV	Electroandina
SQM Salar	Minning	El Negro 110 kV	Electroandina
Xstrata Copper - Altonorte	Industrial	Alto Norte 110 kV	E-CL
Zaldívar	Minning	Zaldivar 220 kV	E-CL



9.

2010 Operation Statistics

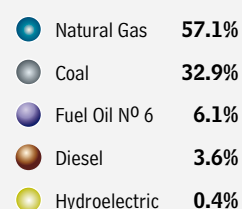
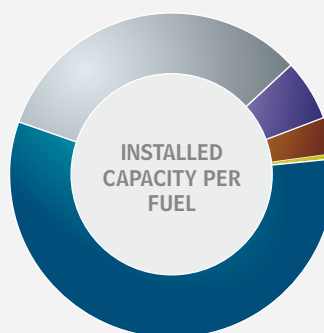
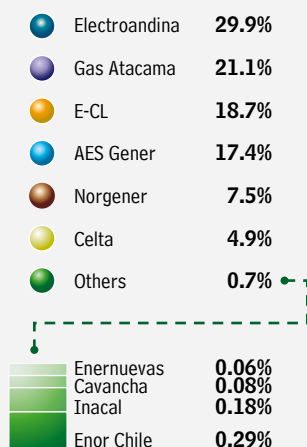
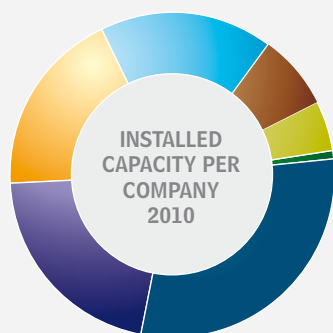


I. SING: Generation Installed Capacity

GENERATION INSTALLED CAPACITY PERIODS 2001-2010

In physical units (MW)

Fuel	Company	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hydro	E-CL	13	13	13	13	13	13	13	13	13	10
	Cavancha										3
	Enernuevas										2
Subtotal		13	13	13	13	13	13	13	13	13	15
Coal	Celta	158	158	158	158	158	158	158	158	158	158
	E-CL	341	341	341	341	341	341	341	341	341	341
	Electroandina	429	429	429	429	429	429	429	438	440	440
	Norgener	277	277	277	277	277	277	277	277	277	277
Subtotal		1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,214	1,216	1,216
Diesel	Celta	24	24	24	24	24	24	24	24	24	24
	E-CL	62	62	62	62	62	62	65	48	48	48
	Electroandina	42	42	50	50	50	50	50	50	50	50
	Gasatacama	3	3	3	3	3	3				
	Enorchile							6	6	11	11
Subtotal		130	130	138	138	138	138	144	127	132	132
Fuel Oil	E-CL	53	53	53	53	53	53	53	53	41	41
	Electroandina	120	120	120	75	75	75	75	75	179	179
	Inacal									7	7
Subtotal		173	173	173	128	128	128	128	128	226	226
Natural Gas	E-CL	251	251	251	251	251	251	251	251	251	251
	AES Gener	643	643	643	643	643	643	643	643	643	643
	Gasatacama	588	781	781	781	781	781	781	781	781	781
	Electroandina	438	438	438	438	438	438	438	438	438	438
Subtotal		1,919	2,112	2,112	2,112	2,112	2,112	2,112	2,112	2,112	2,112
TOTAL		3,440	3,633	3,641	3,596	3,596	3,596	3,602	3,593	3,699	3,701



II. SING: Energy Generation

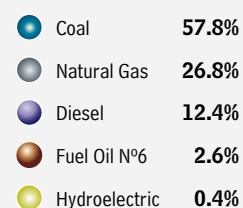
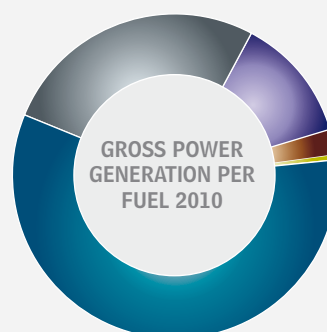
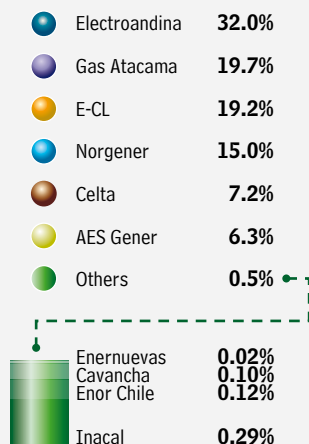
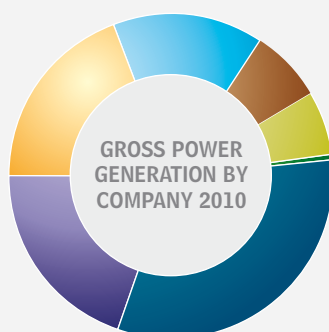
ENERGY GENERATION YEAR 2010

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
ELECTROANDINA													
U10 - U11	2.9	6.1	9.8	12.1	1.1	1.2	4.8	4.1	0.5	1.9	0.0	0.0	44.6
U12 - U13	99.7	50.5	75.3	101.1	98.3	107.4	104.6	103.7	109.4	98.5	107.7	111.3	1,167.5
U14 - U15	173.3	161.6	164.9	165.2	161.7	158.8	174.6	161.0	83.7	140.3	168.0	175.3	1,888.4
U16	80.1	6.1	66.3	72.4	136.2	172.8	184.5	119.6	177.7	157.4	177.3	176.4	1,526.8
TG1	0.4	0.5	0.3	0.5	0.4	0.0	0.2	0.2	0.3	0.1	0.0	0.0	2.8
TG2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.0	0.0	1.1
TG3	1.6	3.7	1.9	1.9	1.1	1.4	0.3	0.5	3.0	3.6	0.0	0.6	19.6
SUTA	21.4	38.3	12.1	11.1	4.1	13.1	22.0	19.8	23.7	14.0	0.2	7.3	187.1
Total Gross Generation	379.7	267.0	330.6	364.4	402.8	454.6	491.1	409.3	398.5	415.8	453.3	470.9	4,838.0
Own Consumption	24.6	19.1	22.5	24.6	24.5	25.8	29.3	25.5	20.4	24.6	25.7	27.0	293.5
Total Net Generation	355.1	247.9	308.2	339.8	378.3	428.8	461.8	383.8	378.2	391.2	427.7	443.9	4,544.5
E-CL													
CHAPIQUIÑA	4.3	3.6	3.6	3.5	3.6	3.5	3.4	3.6	3.2	3.3	3.0	3.6	42.3
CAVA (1)	1.5	1.3	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.3	0.0	0.0	12.9
CD ARICA	1.5	2.2	2.3	1.9	1.1	1.9	2.5	2.3	2.9	1.9	1.9	2.3	24.7
CD IQUIQUE	2.3	4.2	4.6	4.2	1.6	3.3	3.9	4.9	2.8	3.1	3.3	4.3	42.5
CD MANTOS BLANCOS	6.4	10.5	8.1	10.9	3.5	7.2	10.7	8.6	7.4	5.9	3.6	5.4	88.2
CTM3	42.6	49.1	94.6	92.1	13.6	0.0	0.2	45.9	0.3	0.0	0.0	28.5	366.7
CTM2	66.8	109.1	120.4	39.0	107.7	108.4	113.6	114.7	101.8	114.3	110.4	113.7	1,219.8
CTM1	107.4	102.8	111.4	109.6	108.9	101.4	109.7	110.1	107.6	89.0	0.0	56.5	1,114.5
CD ENAEX	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.5
Total Gross Generation	232.8	282.9	346.4	262.4	241.4	226.8	245.4	291.3	227.3	218.9	122.3	214.3	2,912.1
Own Consumption	15.7	18.2	21.3	15.0	17.6	17.0	18.0	19.6	16.6	16.4	8.4	15.4	199.1
Total Net Generation	217.1	264.7	325.1	247.4	223.7	209.9	227.4	271.7	210.7	202.5	113.9	198.9	2,713.0
CELTA													
CTTAR	71.5	93.9	50.4	84.7	81.5	101.7	104.0	99.0	97.1	100.6	101.9	89.8	1,076.3
TGTAR	0.8	1.1	1.0	0.2	0.5	0.6	1.1	0.8	0.7	0.7	1.0	1.0	9.6
Total Gross Generation	72.3	95.1	51.5	84.9	82.0	102.3	105.1	99.8	97.9	101.3	102.8	90.8	1,085.9
Own Consumption	6.0	7.8	4.3	6.8	6.7	8.0	8.3	8.1	7.6	8.1	8.0	7.1	86.5
Total Net Generation	66.3	87.3	47.2	78.2	75.3	94.4	96.9	91.8	90.2	93.2	94.9	83.7	999.4
NORGENER													
NT01	93.7	87.7	98.4	96.9	95.2	94.9	100.2	96.3	87.4	51.2	95.9	101.1	1,098.9
NT02	100.6	83.8	100.1	97.1	100.7	97.4	100.9	98.0	97.4	101.3	93.8	99.3	1,170.5
Total Gross Generation	194.3	171.5	198.5	194.0	196.0	192.2	201.1	194.3	184.8	152.5	189.7	200.4	2,269.3
Own Consumption	12.7	12.4	12.9	12.6	12.7	12.5	13.1	12.6	12.0	9.9	12.5	13.1	149.0
Total Net Generation	181.7	159.1	185.6	181.4	183.2	179.7	188.0	181.6	172.8	142.6	177.2	187.4	2,120.3
GASATACAMA													
CC1	55.4	0.7	14.1	17.0	149.8	122.8	117.0	139.7	178.7	116.8	163.3	168.6	1,243.8
CC2	132.6	189.2	178.9	199.1	39.6	114.5	128.5	154.8	153.6	162.7	99.6	175.7	1,728.9
Total Gross Generation	188.0	189.9	193.1	216.1	189.4	237.3	245.5	294.5	332.3	279.5	262.9	344.3	2,972.7
Own Consumption	6.4	4.7	5.4	6.0	6.8	7.1	7.0	8.3	8.6	8.2	7.7	9.0	85.1
Total Net Generation	181.6	185.2	187.7	210.0	182.6	230.2	238.5	286.1	323.7	271.3	255.2	335.3	2,887.6
AES GENER													
Salta Power Plant	140.7	114.1	137.4	122.8	116.1	46.3	0.0	0.0	27.9	92.2	129.3	31.2	958.1
Total Gross Generation	140.7	114.1	137.4	122.8	116.1	46.3	0.0	0.0	27.9	92.2	129.3	31.2	958.1
Own Consumption	0.7	0.6	0.7	0.6	0.6	0.2	0.0	0.0	0.1	0.5	0.7	0.2	4.9
Total Net Generation	140.0	113.5	136.7	122.2	115.5	46.1	0.0	0.0	27.8	91.7	128.7	31.0	953.2
CAVANCHA													
CAVA (2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	2.5
Total Gross Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	2.5
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	2.5

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
ENORCHILE													
CD ZOFRI	0.4	0.5	0.4	0.2	0.2	0.4	0.8	0.8	0.9	0.8	0.7	0.7	6.8
ESTANDARTES	0.6	1.1	1.1	0.8	0.5	0.7	0.9	0.9	1.4	0.9	0.8	0.9	10.6
Total Gross Generation	1.1	1.6	1.5	1.0	0.7	1.1	1.7	1.7	2.3	1.7	1.4	1.6	17.5
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Net Generation	1.1	1.6	1.5	1.0	0.7	1.1	1.7	1.7	2.3	1.7	1.4	1.6	17.2
INACAL													
INACAL1 - 4	2.6	4.0	4.4	4.1	3.2	4.1	4.0	3.0	3.0	3.6	3.8	4.3	44.1
Total Gross Generation	2.6	4.0	4.4	4.1	3.2	4.1	4.0	3.0	3.0	3.6	3.8	4.3	44.1
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Generation	2.6	4.0	4.4	4.1	3.2	4.1	4.0	3.0	3.0	3.6	3.8	4.3	44.1
ANDINA													
CTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Total Gross Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
ANGAMOS													
ANG1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Total Gross Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
ENERNUEVAS													
MHAH - MHT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.3	2.8
Total Gross Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.3	2.8
Own Consumption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Generation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.3	2.8
TOTAL SING													
Generación Bruta	1,211.5	1,126.1	1,263.2	1,249.8	1,231.6	1,264.8	1,294.0	1,293.8	1,274.0	1,265.6	1,268.1	1,361.2	15,103.8
Own Consumption	66.0	62.8	67.1	65.7	69.0	70.6	75.6	74.1	65.3	67.6	62.9	71.6	818.2
Net Generation	1,145.6	1,063.3	1,196.2	1,184.2	1,162.6	1,194.2	1,218.3	1,219.8	1,208.7	1,198.0	1,205.2	1,289.6	14,285.6
Transmission losses	44.1	31.3	46.4	43.1	42.2	38.6	39.2	38.9	37.2	39.1	40.6	52.8	493.4
Sales to Free Customers	979.7	916.3	1,019.5	1,015.3	991.2	1,029.1	1,047.9	1,055.9	1,053.0	1,034.8	1,042.6	1,111.4	12,296.7
Sales to Regulated customers	121.8	115.7	130.3	125.8	129.2	126.5	131.2	125.0	118.5	124.1	122.0	125.4	1,495.5
Total Sales	1,101.5	1,032.0	1,149.8	1,141.1	1,120.4	1,155.6	1,179.1	1,180.9	1,171.5	1,158.9	1,164.6	1,236.8	13,792.2
TOTAL SING (%)													
Total Gross Generation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Own Consumption	5%	6%	5%	5%	6%	6%	6%	6%	5%	5%	5%	5%	5%
Total net generation	95%	94%	95%	95%	94%	94%	94%	94%	95%	95%	95%	95%	95%
Transmission Losses	4%	3%	4%	3%	3%	3%	3%	3%	3%	3%	3%	4%	3%
Sales to Free Customers	81%	81%	81%	81%	80%	81%	81%	82%	83%	82%	82%	82%	81%
Sales to Regulated customers	10%	10%	10%	10%	10%	10%	10%	10%	9%	10%	10%	9%	10%
Total Sales	91%	92%	91%	91%	91%	91%	91%	91%	92%	92%	92%	91%	91%

(1) Cavanca until November 3, 2010 CDEC-SING represented by E-CL.

(2) Cavanca from November 3, 2010 belongs to PMGD.



SING POWER PLANTS GENERATION 2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ELECTROANDINA										
U10 - U11	29	1	0	7	0	19	187	322	112	45
U12 - U13	338	663	455	478	207	463	1052	1125	1,121	1,167
U14 - U15	664	1,266	1,304	1,409	1,549	1,688	1905	1784	1,820	1,888
U16	1,458	1,174	1,627	1,458	1,753	1,884	936	474	732	1,527
TG1 - TG2	16	7	2	2	1	0	12	25	12	4
TG3	43	4	11	91	43	12	40	56	33	20
SUTA									184	187
Total Gross Generation	2,548	3,115	3,398	3,444	3,553	4,066	4,132	3,785	4,014	4,838
Own Consumption	139	199	198	194	191	218	255	254	249	294
Total Net Generation	2,409	2,917	3,201	3,250	3,361	3,848	3,877	3,531	3,764	4,545
E-CL										
CHAPIQUINÁ	53	54	51	51	45	55	53	53	47	42
CAVA (1)	12	13	14	15	15	15	15	15	15	13
CD ARICA	5	2	1	5	2	7	33	32	17	25
CD IQUIQUE	14	8	6	11	4	13	50	60	31	42
CD ANTOFAGASTA	5	2	2	7	2	15	32	6	0	0
CD MANTOS BLANCOS	7	6	7	16	4	25	7	0	69	88
CTM3	1,131	849	1,695	1,449	1,601	600	400	814	632	367
CTM2	774	918	575	1,003	849	1033	1188	1298	1,282	1,220
CTM1	257	18	144	498.7	446.6	880	1057	1202	1,191	1,114
CD ENAEX							1	0	1	1
Total Gross Generation	2,257	1,870	2,495	3,054	2,970	2643	2837	3480	3,285	2,912
Own Consumption	131	111	113	162	159	169	200	230	225	199
Total Net Generation	2,125	1,759	2,382	2,892	2,810	2475	2637	3250	3,060	2,713
CELTA										
CTTAR	760	639	435	435	422	830	1012	981.0	1,065	1,076.3
TGTAR	3	1	1	1	0	2	14	17.9	11	9.6
Total Gross Generation	763	640	436	436	423	832	1026	999	1,076	1,085.9
Own Consumption	67	61	40	39	39	72	84	81	86	86.5
Total Net Generation	696	579	397	398	383	760	941	918	990	999.4

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
NORGENER										
NT01	1	63	16	216	549	776	897	1,039	1,049	1,099
NT02	67	252	126	578	528	938	1,107	1,061	911	1,170
CD ZOFRI (3)							8	14		
Total Gross Generation	68	315	142	794	1,077	1,714	2,011	2,113	1,960	2,269
Own Consumption	7	32	14	66	91	125	138	145	134	149
Total Net Generation	61	283	128	727	986	1,589	1,873	1,969	1,826	2,120
GASATACAMA										
CC1	1,462	1,431	1,434	1,168	1,144	411	1,002	2,331.3	1,405	1,244
CC2	1,368	1,216	1,568	1,530	1,338	1,285	1,311	639.6	1,801	1,729
CD ENAEX	0	0	0	0	0	0	0			
Total Gross Generation	2,830	2,647	3,002	2,698	2,482	1,696	2,313	2,971	3,205	2,973
Own Consumption	91	77	82	82	69	61	75	73	90	85
Total Net Generation	2,739	2,570	2,920	2,615	2,413	1,635	2,237	2,898	3,116	2,888
AES GENER										
CC Salta	1,386	1,813	1,950	1,903	2,154	2,285	1,628	1,154	1,348	958
Total Gross Generation	1,386	1,813	1,950	1,903	2,154	2,285	1,628	1,154	1,348	958
Own Consumption	35	45	46	43	44	46	38	22	7	5
Total Net Generation	1,351	1,768	1,904	1,860	2,110	2,239	1,590	1,132	1,341	953
CAVANCHA										
CAVA (2)										2
Total Gross Generation										2
Own Consumption										0
Total Net Generation										2
ENORCHILE										
CD ZOFRI									6	7
Central Estandartes									0	11
Total Gross Generation									6	17
Own Consumption									0	0
Total Net Generation									6	17
INACAL										
CD Inacal									13	44
Total Gross Generation									13	44
Own Consumption									0	0
Total Net Generation									13	44
ANDINA										
CTA										1
Total Gross Generation										1
Own Consumption										0
Total Net Generation										1
ANGAMOS										
ANG1										0
Total Gross Generation										0
Own Consumption										0
Total Net Generation										0

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ENERNUEVAS										
MHAH - MHT2										3
Total Gross Generation										3
Own Consumption										0
Total Net Generation										3
TOTAL SING										
Gross Generation	9,851	10,400	11,424	12,330	12,657	13,236	13,946	14,502	14,907	15,104
Own Consumption	471	524	492	587	594	692	790	804	792	818
Net Generation	9,381	9,876	10,932	11,743	12,063	12,544	13,156	13,698	14,115	14,286
Transmission Losses	390	394	452	503	503	515	481	479	459	493
Sales to Free Customers	8,046	8,473	9,433	10,164	10,401	10,774	11,343	11,832	12,240	12,297
Sales to Regulated customers	945	1,009	1,047	1,075	1,159	1,256	1,332	1,387	1,417	1,496
Total Sales	8,991	9,482	10,480	11,240	11,560	12,029	12,674	13,219	13,656	13,792
TOTAL SING (%)										
Gross Generation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Own Consumption	5%	5%	4%	5%	5%	5%	6%	6%	5%	5%
Net Generation	95%	95%	96%	95%	95%	95%	94%	94%	95%	95%
Transmission Losses	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%
Sales to Free Customers	82%	81%	83%	82%	82%	81%	81%	82%	82%	81%
Sales to Regulated customers	10%	10%	9%	9%	9%	9%	10%	10%	10%	10%
Total Sales	91%	91%	92%	91%	91%	91%	91%	91%	92%	91%

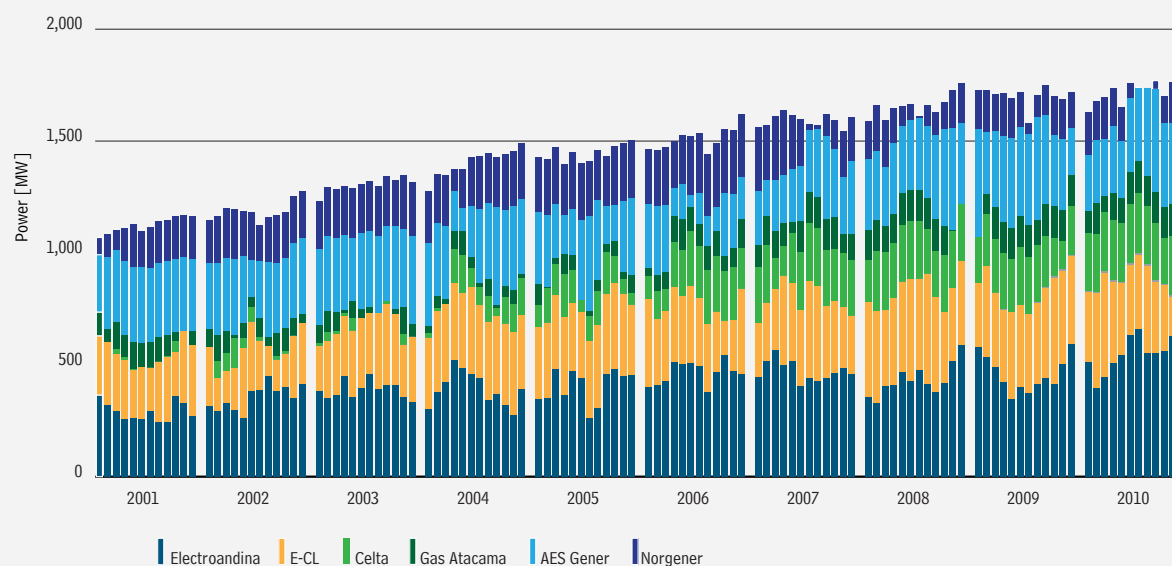
1) Cavancha until November 3, 2010 CDEC-SING represented by E-CL.

(2) Cavancha from November 3, 2010 corresponds to PMGD.

(3) CD ZOFRI until 2008 CDEC-SING represented by Norgener

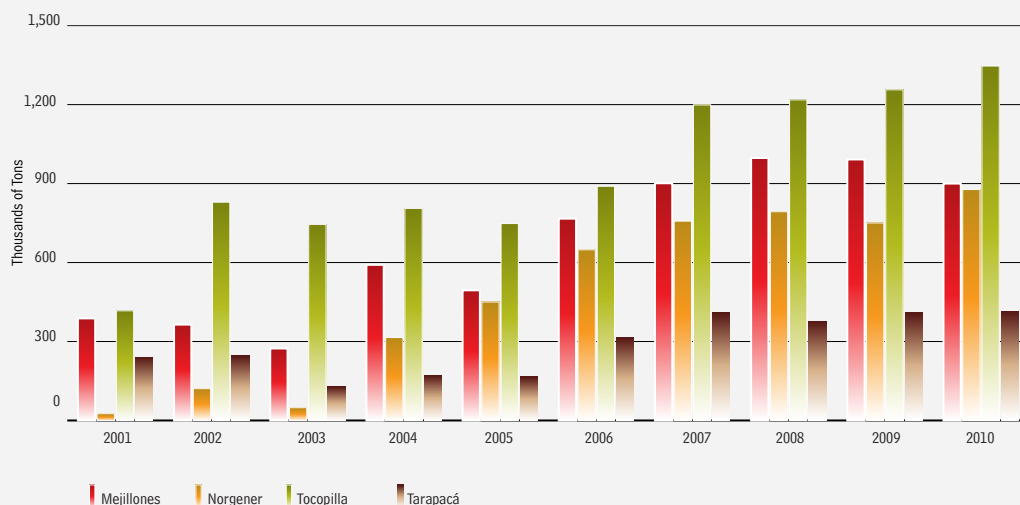
MONTHLY AVERAGE HOURLY GENERATION (MW)

Period 2001-2010

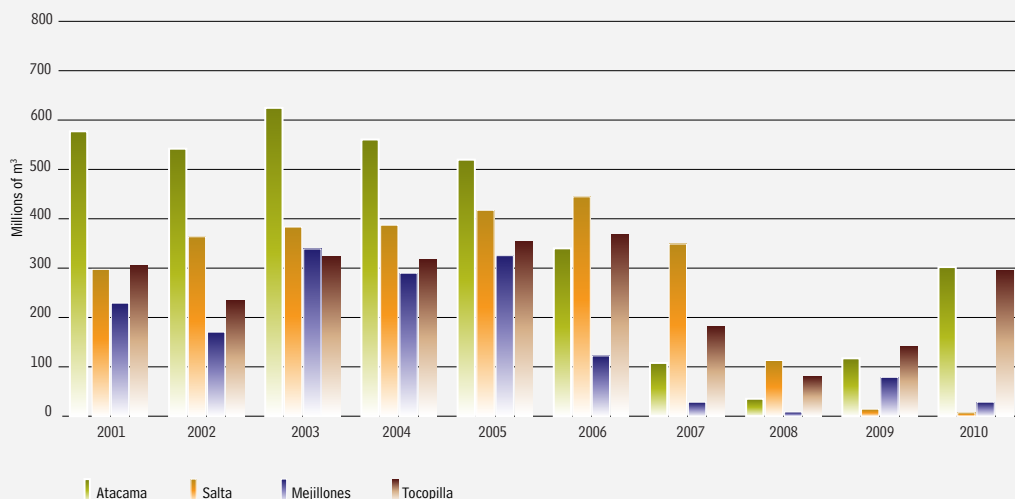


III. Fuel: Consumption and Prices SING 2001-2010

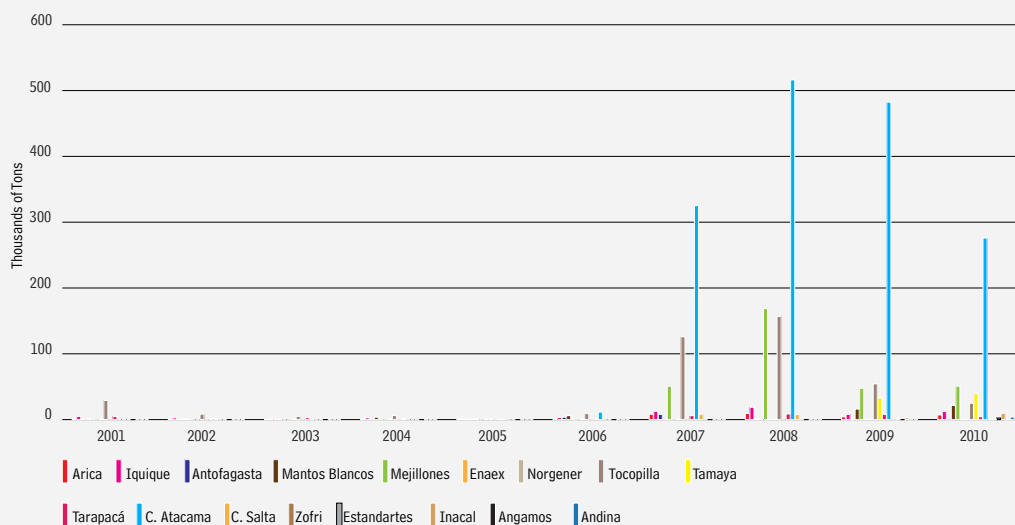
ANNUAL COAL CONSUMPTION BY POWER PLANT



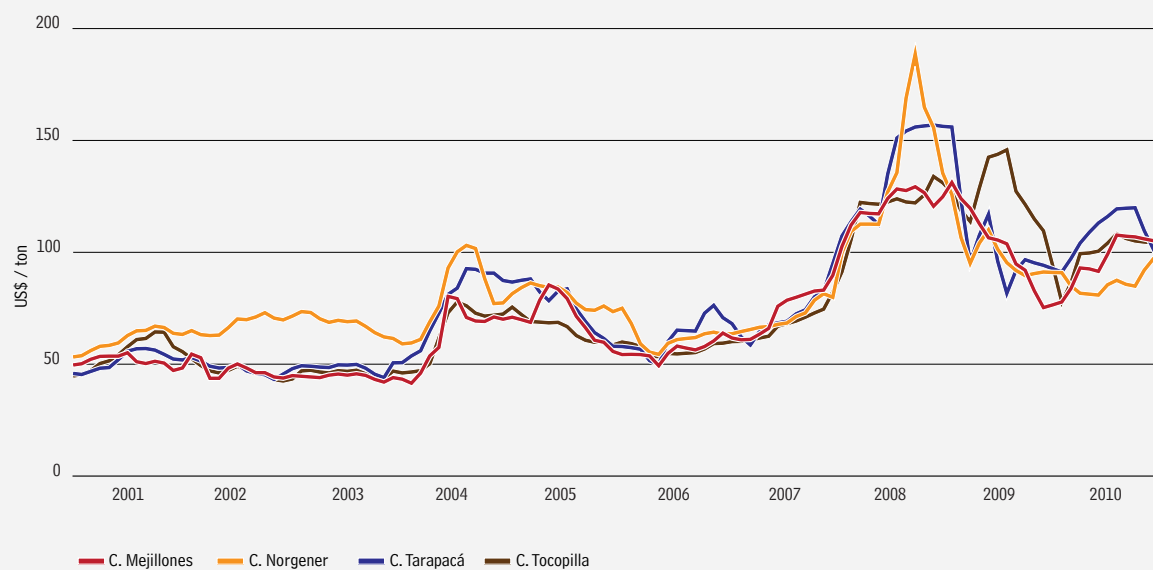
ANNUAL NATURAL GAS CONSUMPTION PER POWER PLANT



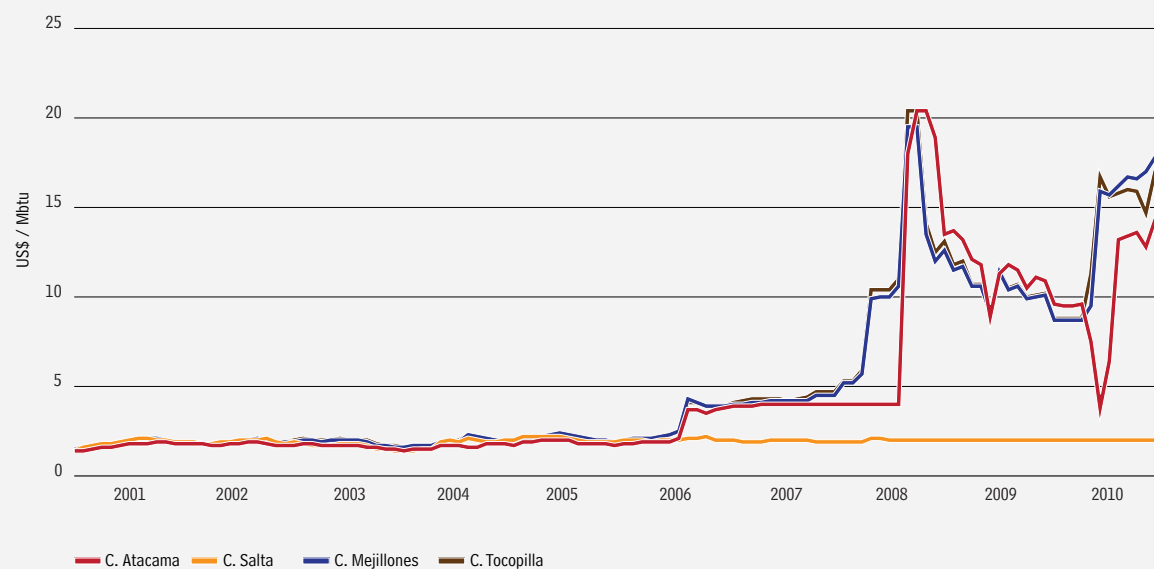
ANNUAL CONSUMPTION OF LIQUID FUELS PER POWER PLANT



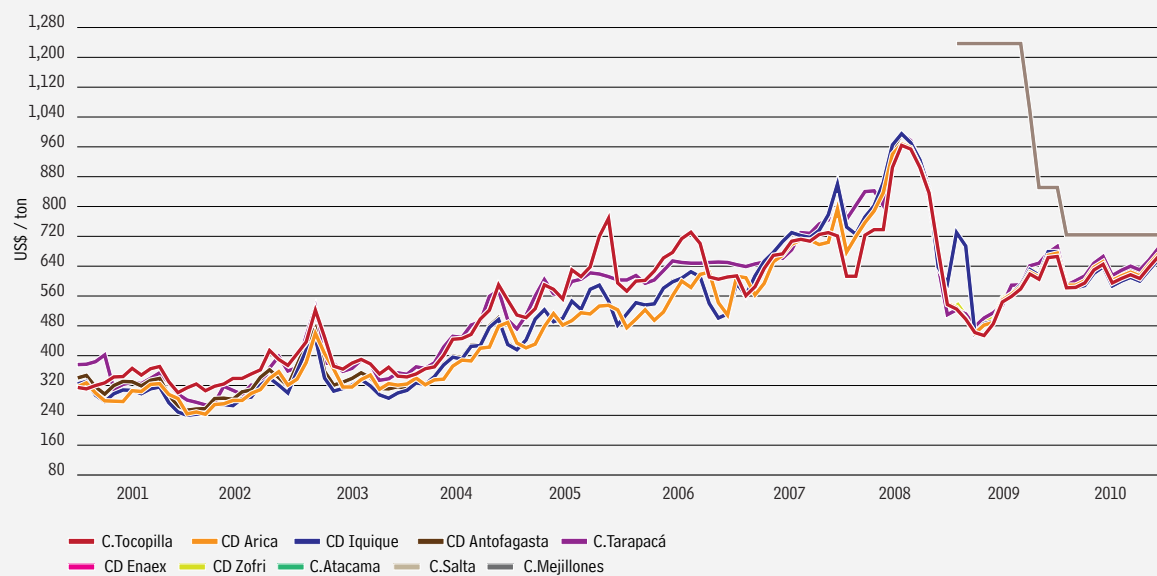
COAL PRICE



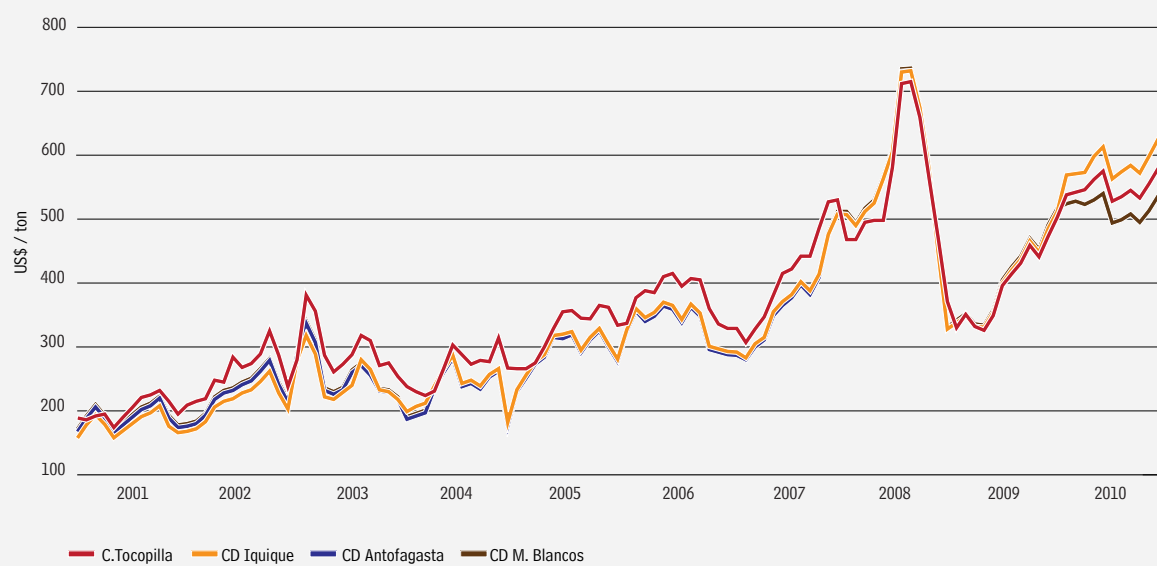
NATURAL GAS PRICE



DIESEL OIL PRICE



FUEL OIL N°6 PRICE



IV. Energy and power prices

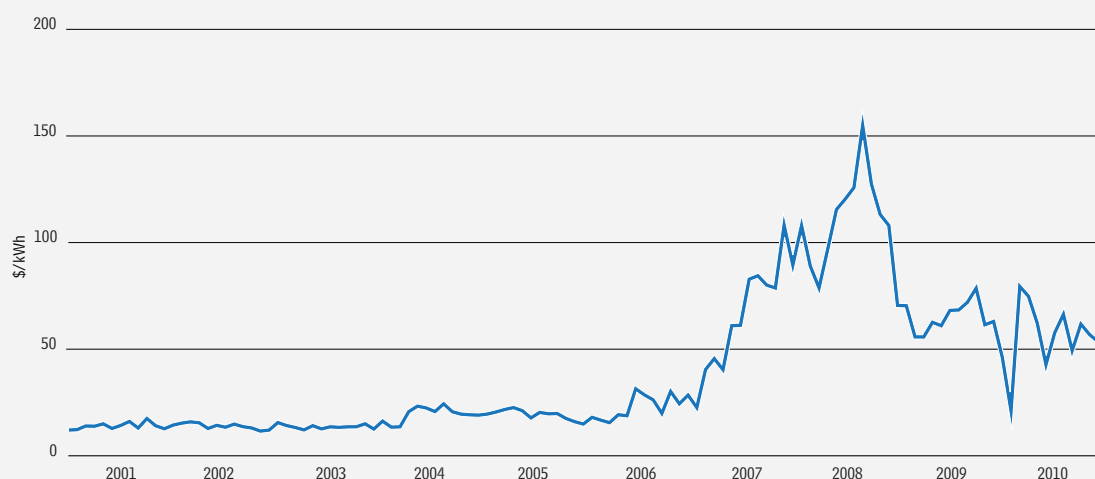
MARGINAL ENERGY NODE CRUCERO COSTS 220 KV PERIOD 2001-2010

Mes \ Año	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	8.8	10.7	12.0	12.6	15.5	14.9	19.2	98.3	69.6	50.4
February	8.9	11.4	11.0	10.4	16.3	13.8	34.2	81.4	54.5	78.9
March	10.2	11.9	10.4	10.6	17.3	12.9	38.7	72.6	54.4	75.6
April	10.2	11.6	9.5	16.2	18.2	16.0	34.5	89.8	61.1	74.9
May	11.0	9.7	11.0	18.3	17.1	15.7	52.5	108.2	59.4	53.9
June	9.5	10.7	9.8	17.7	14.4	26.4	53.1	114.4	66.6	64.7
July	10.5	10.1	10.6	16.4	16.6	24.2	72.7	120.9	66.5	60.5
August	12.0	11.3	10.4	19.3	16.1	22.2	74.9	150.3	69.6	55.0
September	9.7	10.5	10.6	16.4	16.4	16.9	71.9	125.0	76.9	60.1
October	13.1	10.1	10.6	15.5	14.5	25.5	70.9	112.0	60.2	52.6
November	10.6	8.9	11.7	15.3	13.2	20.6	98.1	106.7	61.4	59.7
December	9.5	9.3	9.7	15.1	12.3	24.0	81.5	68.9	44.8	58.4
Average	10.3	10.5	10.6	15.3	15.6	19.4	58.5	104.0	62.1	62.1

Note:

Monthly averages in \$/KW per hour.

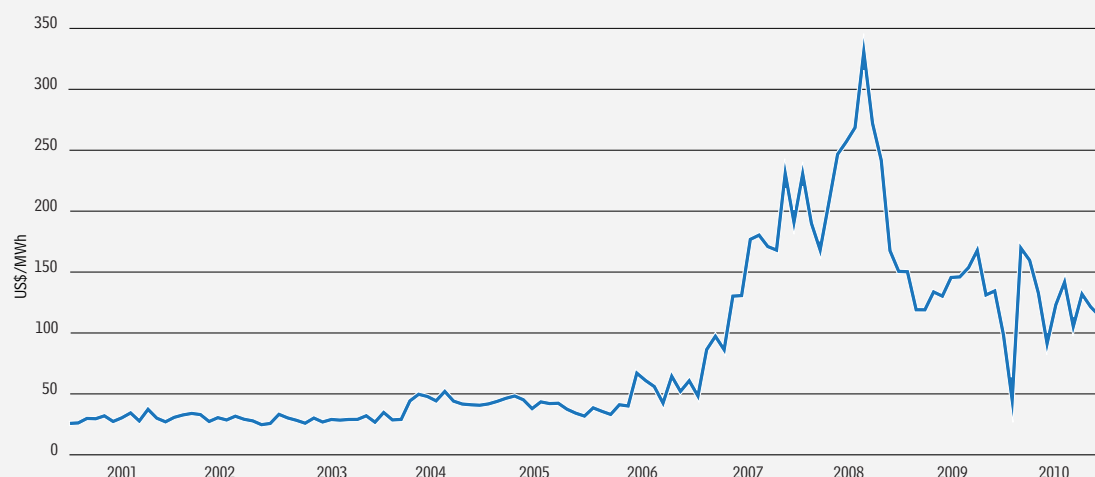
MARGINAL MONTHLY ENERGY COSTS AVERAGES NODE CRUCERO



Note:

Updated Marginal costs according consumer price index as of December 2010

MARGINAL COSTS OF AVERAGE MONTHLY ENERGY NODE CRUCERO



Note:

Marginal costs updated as CPI (Consumer Price Index) in December 2010 and processed using the U.S. dollar exchange rate effective December 31, 2010.

MARGINAL ENERGY COSTS 220 KV NODE CRUCERO - YEAR 2010

Day	January	February	March	April	May	June	July	August	September	October	November	December
1	21.7	82.2	78.8	78.5	96.3	47.8	75.8	61.1	60.4	60.6	62.5	48.6
2	30.9	81.6	65.7	87.2	58.7	69.7	71.4	39.4	61.9	61.3	64.9	60.0
3	41.6	82.0	61.9	88.6	65.9	65.4	67.2	42.7	54.0	63.2	54.2	65.1
4	30.0	82.4	52.4	82.1	77.5	64.8	68.6	31.0	51.3	57.3	60.4	36.8
5	24.5	66.1	80.9	73.6	30.7	67.1	68.9	54.5	65.0	60.6	51.0	61.4
6	45.8	65.3	80.7	51.3	33.7	68.6	65.1	43.7	51.8	60.8	48.0	58.5
7	20.6	77.8	73.3	61.2	42.2	57.0	65.9	49.0	61.6	56.7	53.3	62.6
8	23.7	81.0	82.3	50.2	26.2	72.5	55.8	55.0	48.8	38.2	60.4	68.1
9	28.2	77.4	56.6	85.4	51.6	65.1	66.5	59.9	64.9	57.8	60.0	69.2
10	21.1	75.3	60.6	85.3	29.2	65.9	64.5	50.0	61.0	61.5	59.0	64.1
11	26.3	77.1	71.5	87.7	26.7	66.0	68.7	53.3	60.4	60.9	58.1	74.7
12	32.7	58.1	56.3	85.4	45.5	52.4	67.5	37.3	62.1	58.2	62.6	65.5
13	31.2	61.1	75.9	94.5	35.1	54.4	64.6	45.1	60.0	37.3	62.0	65.3
14	30.8	88.1	74.0	94.7	48.2	61.6	64.2	48.0	60.1	51.6	64.2	65.0
15	45.6	107.2	56.1	86.1	56.6	64.6	52.3	36.1	58.1	31.8	61.4	40.8
16	46.2	81.0	64.3	87.4	62.1	59.1	61.1	69.7	62.3	32.3	50.8	39.5
17	31.6	79.0	56.2	86.1	71.8	61.3	66.3	45.3	61.2	51.6	51.4	69.6
18	66.3	90.5	86.0	89.4	66.7	63.7	60.9	61.4	59.0	58.5	48.9	38.4
19	68.7	91.1	83.7	90.5	45.5	73.7	44.4	62.4	40.9	51.7	63.7	33.2
20	68.4	87.3	86.7	86.4	77.9	74.3	61.1	68.6	61.9	29.4	68.8	42.1
21	68.9	78.8	89.1	88.7	72.3	69.5	46.7	66.6	59.8	40.2	63.8	64.9
22	76.7	74.5	87.5	53.6	60.5	56.5	48.0	65.3	58.6	40.6	67.7	58.7
23	74.0	69.0	71.4	88.6	37.9	66.2	65.8	43.9	64.1	61.5	65.0	59.5
24	66.6	76.7	78.0	46.2	55.5	58.7	80.4	69.4	70.5	45.2	63.1	61.8
25	73.8	78.4	90.5	37.3	59.0	65.6	63.4	69.0	58.2	47.5	59.7	58.3
26	74.2	75.9	89.5	62.7	37.7	64.9	57.5	75.0	47.3	57.6	66.7	74.7
27	76.8	74.9	82.2	46.0	43.6	70.1	52.2	56.4	63.3	62.6	64.8	69.8
28	76.2	89.4	87.5	81.5	72.7	70.7	44.8	57.1	70.6	66.5	66.8	65.6
29	77.4		90.0	52.8	66.4	69.4	60.4	62.5	76.8	45.1	55.3	60.0
30	79.9		92.5	57.9	52.3	75.5	47.7	65.0	67.5	71.8	53.2	45.1
31	81.2		81.4		63.7		29.2	62.4		52.1		62.8
Average	50.4	78.9	75.6	74.9	53.9	64.7	60.5	55.0	60.1	52.6	59.7	58.4

Note:

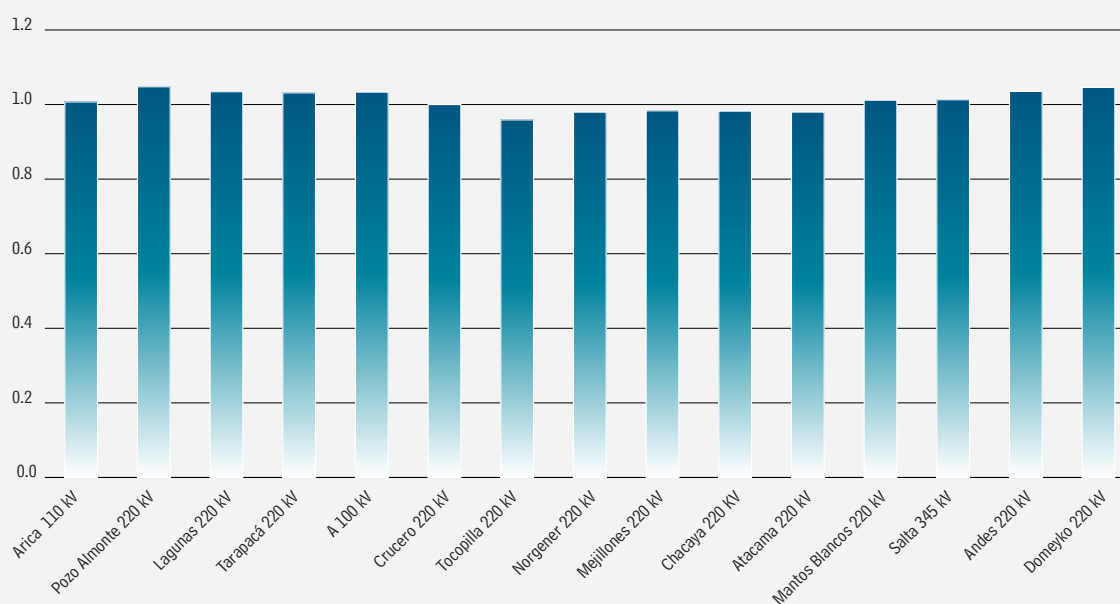
Daily averages in s/KWh of each day

POWER FACTOR PENALTY YEAR 2010

Busbar	Average	Maximum	Minimum
Arica 110 kV	1.00703	1.03865	0.99366
Pozo Almonte 220 kV	1.04766	1.05637	1.04227
Lagunas 220 kV	1.03440	1.04599	1.02982
Tarapacá 220 kV	1.03138	1.04689	1.02640
A 100 kV	1.03333	1.03561	1.03053
Crucero 220 kV	1.00000	1.00000	1.00000
Tocopilla 220 kV	0.95885	0.96994	0.94978
Norgener 220 kV	0.97962	0.98466	0.96622
Mejillones 220 kV	0.98319	1.02413	0.94314
Chacaya 220 kV	0.98231	1.02360	0.94215
Atacama 220 kV	0.97978	0.98788	0.96862
Mantos Blancos 220 kV	1.01166	1.04124	0.97797
Salta 345 kV	1.01290	1.06140	0.96352
Andes 220 kV	1.03516	1.06600	1.00456
Domeyko 220 kV	1.04595	1.07198	1.02252

Note: Average values for the weekly schedule.

MONTHLY AVERAGE POWER FACTOR PENALTY YEAR 2010



POWER PRICE POINT 220 KV NODE CRUCERO

Year	Set Price	Valid		Power Price (\$/kW-month)
		From	To	
2001	Oct-00	01/01/01	05/03/01	3,581.24
	Apr-01	05/04/01	08/30/01	3,717.30
	Apr-01 (index Aug-01)	08/31/01	11/04/01	4,023.03
	Oct-01	11/05/01	12/31/01	4,407.20
2002	Oct-01	01/01/02	05/03/02	4,407.20
	Apr-02	05/04/02	11/03/02	3,970.10
	Oct-02	11/04/02	12/31/02	4,132.90
2003	Oct-02	01/01/03	05/04/03	4,132.90
	Apr-03	05/05/03	12/21/03	4,263.54
	Oct-03	12/22/03	12/31/03	3,895.71
2004	Oct-03	01/01/04	01/28/04	3,895.71
	Oct-03 (index Jan-04)	01/29/04	04/30/04	3,586.78
	Apr-04	05/01/04	10/31/04	3,637.22
	Oct-04	11/01/04	12/31/04	3,713.71
2005	Oct-04	01/01/05	04/30/05	3,713.71
	Apr-05	05/01/05	10/31/05	3,696.46
	Oct-05	11/01/05	12/31/05	3,594.48
2006	Oct-05	01/01/06	04/30/06	3,594.48
	Apr-06	05/01/06	06/26/06	3,662.67
	Apr-06 (index Jun-06)	06/27/06	10/19/06	3,672.49
	Apr-06 (index Oct-06)	10/20/06	10/31/06	3,769.31
	Oct-06	11/01/06	12/31/06	3,734.15
2007	Oct-06	01/01/07	04/30/07	3,734.15
	Apr-07	05/01/07	07/16/07	3,840.04
	Apr-07 (index Jul-07)	07/17/07	09/15/07	3,795.11
	Apr-07 (index Sep-07)	09/16/07	10/31/07	3,792.04
	Oct-07	11/01/07	12/31/07	3,835.63
2008	Oct-07	01/01/08	02/15/08	3,835.63
	Oct-07 (index Feb-08)	02/16/08	04/30/08	3,692.18
	Apr-08	05/01/08	08/15/08	3,455.74
	Apr-08 (index Aug-08)	08/16/08	10/15/08	3,882.18
	Apr-08 (index Oct-08)	10/16/08	10/31/08	4,124.06
	Oct-08	11/01/08	12/31/08	4,198.66
2009	Oct-08	01/01/09	01/18/09	4,198.66
	Oct-08 (index Jan-09)	01/19/09	04/30/09	5,053.92
	Apr-09	05/01/09	08/15/09	5,054.71
	Apr-09 (index Aug-09)	08/16/09	10/31/09	4,762.80
	Oct-09	11/01/09	12/31/09	4,662.80
2010	Oct-09	01/01/10	04/15/10	4,662.80
	Oct-09 (index Apr-10)	04/16/10	04/30/10	4,571.04
	Apr-10	05/01/10	10/31/10	4,520.17
	Oct-10	11/01/10	12/31/10	4,373.28

V. SING Energy Annual Sales 2001-2010

SING ANNUAL SALES

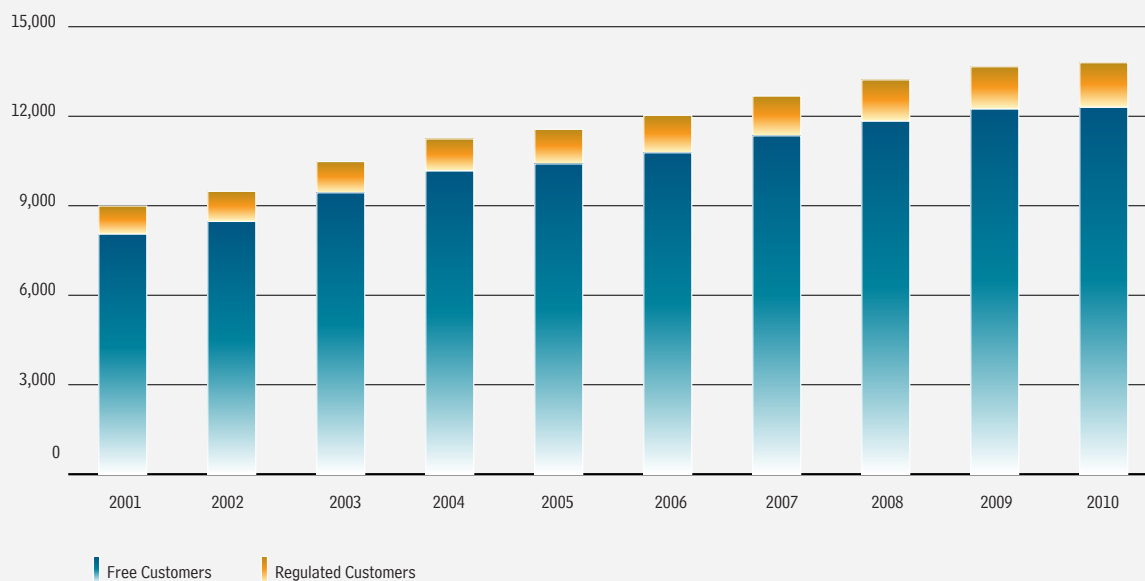
Period 2001-2010

Year	Sales (GWh)			Annual	Growth	
	Free Customers	Regulated Customers	Total		Average Accumulated	Accumulated
2001	8,046	945	8,991	0.0%		
2002	8,473	1,009	9,482	5.5%	2.7%	5.5%
2003	9,433	1,047	10,480	10.5%	5.3%	16.6%
2004	10,164	1,075	11,240	7.2%	5.8%	25.0%
2005	10,401	1,159	11,560	2.8%	5.2%	28.6%
2006	10,774	1,256	12,029	4.1%	5.0%	33.8%
2007	11,343	1,332	12,674	5.4%	5.1%	41.0%
2008	11,832	1,387	13,219	4.3%	5.0%	47.0%
2009	12,240	1,417	13,656	3.3%	4.8%	51.9%
2010	12,297	1,496	13,792	1.0%	4.4%	53.4%

Note: Cumulative percentage growth refers to sales for the year 2001 (8,991 GWh).

Annual sales correspond to net less transmission losses.

SING ANNUAL SALES EVOLUTION (GWH)

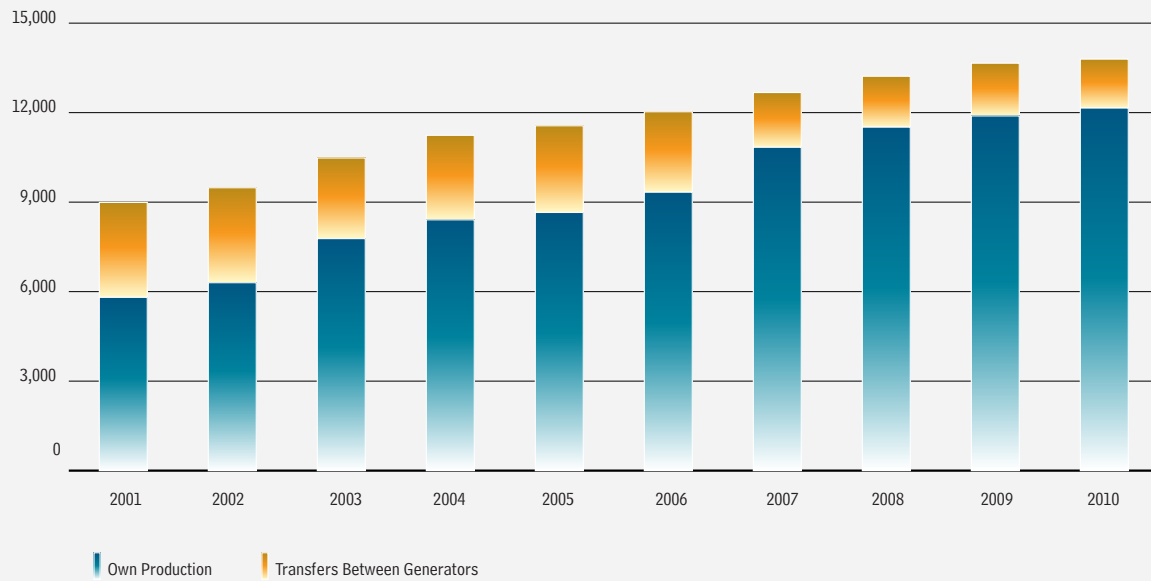


COMPOSITION OF SING ANNUAL SALES

Period 2001 - 2010

Year	Energy Sales (GWh)	Own Generation (GWh)	Transfers between generators (GWh)	Transfer Percentage/Sales (%)
2001	8,991	5,808	3,183	35%
2002	9,482	6,299	3,183	34%
2003	10,480	7,777	2,703	26%
2004	11,240	8,407	2,832	25%
2005	11,560	8,654	2,905	25%
2006	12,029	9,332	2,698	22%
2007	12,674	10,838	1,836	14%
2008	13,219	11,513	1,706	13%
2009	13,656	11,890	1,766	13%
2010	13,792	12,154	1,639	12%

COMPOSITION OF SING ANNUAL SALES (GWh)



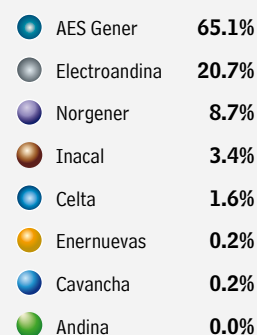
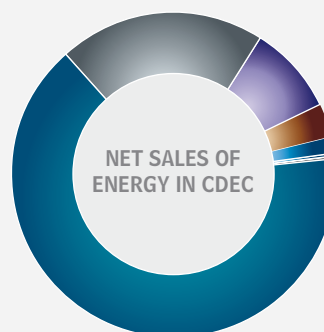
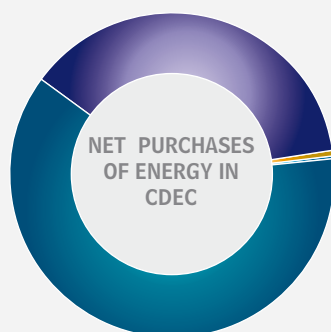
VI. Energy and Power Transfers SING 2001-2010

ENERGY TRANSFER BETWEEN GENERATORS CDEC-SING (GWh)

Year 2010

Company		January	February	March	April	May	June	July	August	September	October	November	December	Total	NET
CELTA	Purchases	22.2		30.8	8.4								3.3	64.7	
	Sales		10.8			1.5	7.3	10.7	18.2	9.1	11.6	15.9		85.1	20.4
E-CL	Purchases	18.3			11.9	51.5	47.4	47.3	2.9	50.7	70.8	157.6	90.2	548.6	473.2
	Sales		23.9	51.5										75.4	
ELECTROANDINA	Purchases		83.7	60.5	14.3									158.5	
	Sales	18.3				17.2	72.3	98.4	18.0	16.3	29.7	81.2	66.9	418.3	259.8
AES GENER	Purchases							8.8	8.7					17.5	
	Sales	124.7	100.4	122.9	110.1	104.3	36.9			18.4	81.5	117.5	19.3	836.0	818.5
GASATACAMA	Purchases	120.5	78.3	112.3	94.8	109.8	83.7	77.9	30.5		22.0	65.2		795.0	775.1
	Sales									13.9			6.0	19.9	
NORGENER	Purchases									7.4	31.8		1.4	40.6	
	Sales	14.9	21.9	24.0	14.6	34.8	10.0	20.1	5.1			4.8		150.2	109.6
INACAL	Purchases														
	Sales	2.5	3.8	4.2	3.9	3.0	3.9	3.9	2.9	2.9	3.5	3.8	4.1	42.4	42.4
ANGAMOS	Purchases												1.5	1.5	1.5
	Sales														
ENORCHILE	Purchases								2.0	2.4	1.9	3.0	2.9	12.2	6.7
	Sales	0.6	1.1	1.0	0.8	0.5	0.6	0.9						5.5	
CAVANCHA	Purchases														
	Sales										1.2	1.3		2.5	2.5
ANDINA	Purchases														
	Sales											0.4		0.4	0.4
ENERNUEVAS	Purchases														
	Sales									0.1	1.4	1.4		2.9	2.9

Note: The amounts shown do not include transactions of sale contract between the generations



ENERGY TRANSFER BETWEEN GENERATORS CDEC-SING (GWh)

Period 2001 - 2010

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CELTA	Purchases	263.6	390.8	601.4	663.2	628.5	343.1	160.0	162.0	102.0	64.7
	Sales	10.4	0.0	0.0	0.0	0.0	0.2	45.2	162.0	119.8	85.1
E-CL	Purchases	54.9	0.0	0.0	0.0	0.0	26.2	0.0	115.0	189.2	548.6
	Sales	292.1	801.1	1,263.8	1,637.3	1,522.8	1,057.6	714.9	695.0	193.5	75.4
ELECTROANDINA	Purchases	1,497.4	1,109.5	831.7	1,000.1	968.1	540.8	382.3	740.0	663.6	158.5
	Sales	0.0	0.0	0.0	18.9	0.0	23.0	69.8	41.0	89.8	418.3
AES GENER	Purchases	2.7	0.0	0.0	0.0	0.0	0.0	121.0	13.0	0.0	17.5
	Sales	629.2	997.8	1,088.9	1,050.3	1,335.6	1,357.0	812.2	676.0	1,201.4	836.0
GASATACAMA	Purchases	0.0	24.0	3.5	430.2	806.1	1,638.1	1,126.2	617.0	594.0	795.0
	Sales	2,251.5	792.7	350.1	126.3	36.1	0.0	0.0	29.0	66.9	19.9
NORGENER	Purchases	1,364.7	1,067.2	1,266.1	739.2	503.1	150.3	104.4	60.0	217.3	40.6
	Sales	0.0	0.0	0.0	0.0	11.3	260.7	251.7	103.0	82.7	150.2
INACAL	Purchases									0.0	0.0
	Sales									12.1	42.4
ANGAMOS	Purchases										1.5
	Sales										0.0
ENORCHILE	Purchases										12.2
	Sales										5.5
CAVANCHA	Purchases										0.0
	Sales										2.5
ANDINA	Purchases										0.0
	Sales										0.4
ENERNUEVAS	Purchases										0.0
	Sales										2.9

POWER TRANSFERS BETWEEN GENERATORS OF CDEC-SING

Year 2010

Firm Power Balance 2010	E-CL	ELECTROANDINA	NORGENER	CELTA	GASATACAMA	AES GENER	INACAL	ENORCHILE	CAVANCHA	ENERNUEVAS	TOTAL SING
Injections (MW)	541,8	558,2	332,8	274,6	784,6	371,3	4,9	8,0	0,4	0,2	2.876,6
Withdraws (MW)	626,7	451,5	428,8	286,2	812,3	265,4	0,0	5,8	0,0	0,0	2.876,6
Balance (MW)	-84,9	106,7	-96,0	-11,6	-27,7	105,9	4,9	2,2	0,4	0,2	0,0

Transfers of firm power 2010	E-CL	ELECTROANDINA	NORGENER	CELTA	GASATACAMA	AES GENER	INACAL	ENORCHILE	CAVANCHA	ENERNUEVAS	TOTAL SING
COMPRAS (MW)	84,9	0,0	96,0	11,6	27,7	0,0	0,0	0,0	0,0	0,0	220,2
VENTAS (MW)	0,0	106,7	0,0	0,0	0,0	105,9	4,9	2,2	0,4	0,2	220,2

POWER TRANSFERS BETWEEN GENERATORS CDEC-SING (MW)

Periods 2001 - 2010

	E-CL		ELECTROANDINA		NORGENER		CELTA		GASATACAMA		AES GENER		INACAL		ENORCHILE		CAVANCHA		ENERNUEVAS	
	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales
2001	33.5		146.6		85.3		59.4		172.8		152.0									
2002 (January - March)	145.8		138.0		69.4		48.5		73.0		183.2									
2002 (April - December)	141.7		174.0		81.7		55.1		9.8		178.9									
2003	123.9		117.5		83.1		52.9		34.9		164.4									
2004	132.3		119.3		84.2		65.5		43.0		179.6									
2005	140.1		124.2		82.7		56.4		61.4		184.6									
2006	159.1		86.8		80.4		71.8		122.9		202.9									
2007	64.8		41.8		91.0		55.6		55.1		178.8									
2008		33.5	5.5		81.6		27.0		14.3		66.3									
2009	20.2			59.3	102.9		20.8		26.2		109.4		1.3		0.1					
2010	84.9			106.7	96.0		11.6		27.7		105.9		4.9		2.2		0.4			0.2

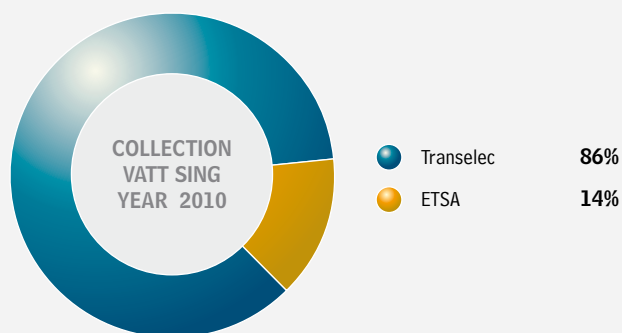
VII. Tolls: Payments for use of transmission systems SING

TOLLS FOR THE TRUNK SYSTEM - YEAR 2010

Payments from generators to trunk Business (\$ thousands) - Year 2010

From / To	ETSA			TRANSELEC			TOTAL
	Toll injection	Toll Removal	PUB and CUE Adjustment	Toll injection	Toll Removal	PUB and CUE Adjustment	
AES GENER	287	0	25	1,734	0	149	2,195
CAVANCHA	10	0	0	62	0	0	72
CELTA	570	0	1	3,440	0	8	4,020
E-CL	4,811	2,285	-29	29,053	13,799	-177	49,742
ELECTROANDINA	23,418	151	6	141,413	912	36	165,937
ENORCHILE	0	0	5	0	0	28	32
GASATACAMA	2,463	0	-7	14,872	0	-44	17,283
INACAL	29	0	0	178	0	0	207
NORGENER	8,450	379	0	51,026	2,288	0	62,143
TOTAL	40,039	2,815	0	241,778	16,999	0	301,631

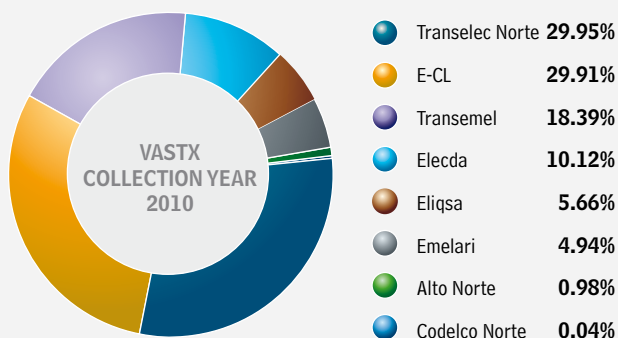
* PUB: Unit for Busbar toll CUE: Charge only once



TOLLS FOR THE SUBTRANSMISSION SYSTEM - 2010

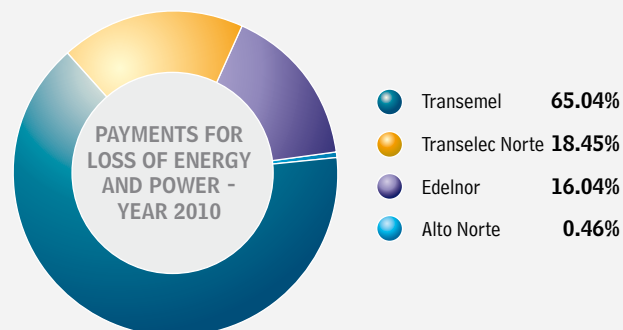
VASTx payments from generators to Subtransmission (\$ thousands) - Year 2010

From / To	AES GENER	E-CL	ELECTROANDINA	GASATACAMA	ENORCHILE	NORGENER	TOTAL
ALTO NORTE	742	18,071	186	124,050	3,406	25	146,480
CODELCO NORTE	33	813	8	5,583	153	1	6,593
E-CL	22,702	552,956	5,706	3,795,859	104,222	770	4,482,214
ELECDA	7,682	187,106	1,931	1,284,417	35,266	260	1,516,662
ELIQSA	4,294	104,600	1,079	718,046	19,715	146	847,881
EMELARI	3,752	91,385	943	627,331	17,224	127	740,762
TRANSELEC NORTE	22,730	553,657	5,713	3,800,668	104,354	771	4,487,893
TRANSEMEL	13,954	339,898	3,507	2,333,284	64,064	473	2,755,181
Total	75,889	1,848,486	19,074	12,689,238	348,405	2,573	14,983,666



Payments from Sub transmitters to generators by Energy and power losses. r (\$ thousands) - Year 2010

From / To	E-CL	ELECTROANDINA	GASATACAMA	NORGENER	AES GENER	Total
ALTO NORTE	1,406	69	5,017	208	28	6,729
E-CL	49,846	2,247	174,024	6,700	438	233,255
TRANSELEC NORTE	55,582	2,875	199,137	8,074	2,541	268,208
TRANSEMEL	198,368	8,806	710,739	23,008	4,672	945,593
Total	305,203	13,997	1,088,916	37,990	7,678	1,453,785



VIII. Energy and Power Demand SING 2001-2010

ENERGY

Year	Gross Generation [GWh]	Growth Rate
2001	9,852	0.0
2002	10,400	5.6%
2003	11,424	9.9%
2004	12,330	7.9%
2005	12,657	2.7%
2006	13,236	4.6%
2007	13,946	5.4%
2008	14,502	4.0%
2009	14,907	2.8%
2010	15,104	1.3%

SING GROSS GENERATION OF ENERGY (GWh)

Period 2001 - 2010



ANNUAL DEMAND OF SING

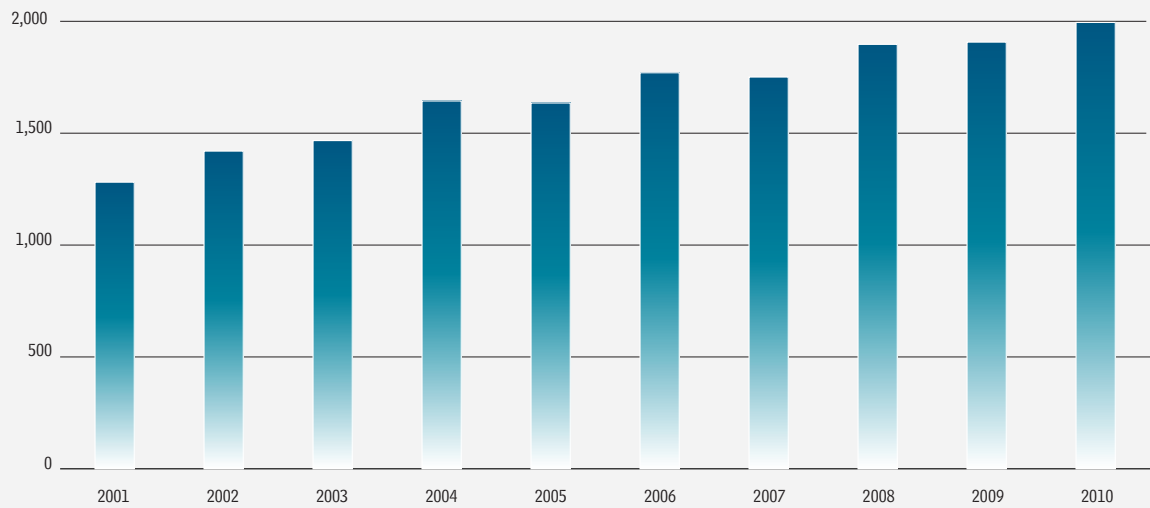
Period 2001 - 2010

Year	Day	Hour	Maximum Gross Production (MW)	Maximum Net Demand (MW)
2001	05-Nov-01	22	1,281	1,221
2002	23-Dec-02	22	1,420	1,360
2003	14-Dec-03	22	1,467	1,416
2004	19-Dec-04	23	1,644	1,567
2005	27-Nov-05	22	1,635	1,566
2006	15-Dec-06	23	1,770	1,676
2007	24-Apr-07	22	1,751	1,665
2008	21-Dec-08	22	1,897	1,805
2009	27-Sep-09	22	1,907	1,816
2010	26-Dec-10	23	1,995	1,900

Note:

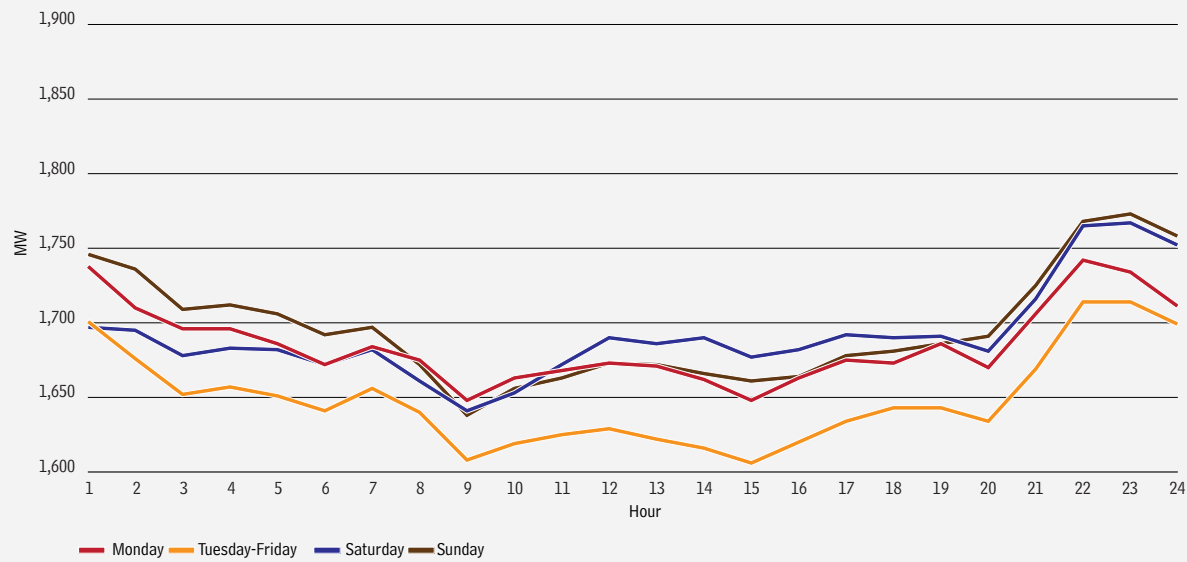
Gross peak demand is obtained as the gross production minus own consumption of plants.

MAXIMUM ANNUAL GROSS PRODUCTION (MW)

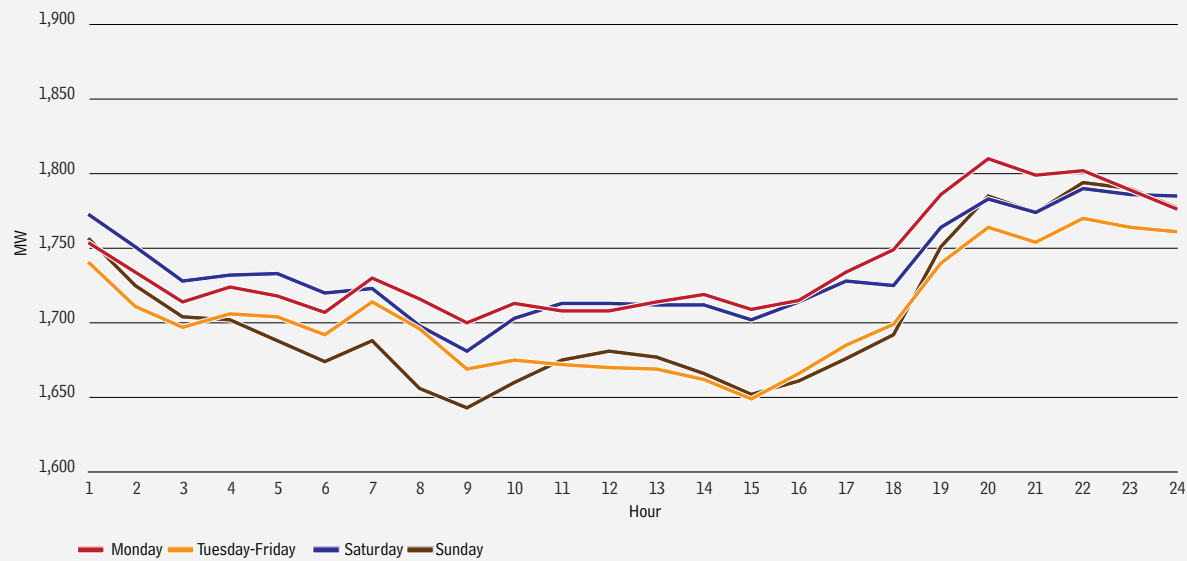


GENERATION/GROSS HOURLY DEMAND. SING TYPICALLY DAILY CURVES YEAR 2010

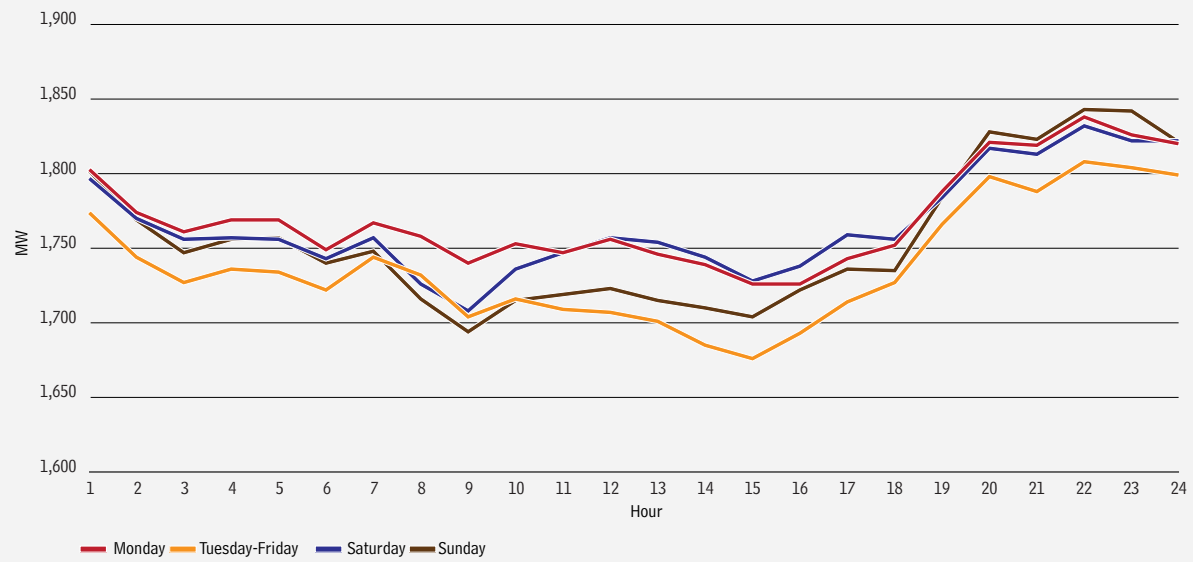
Gross Average Hourly Generation 2010. January-March



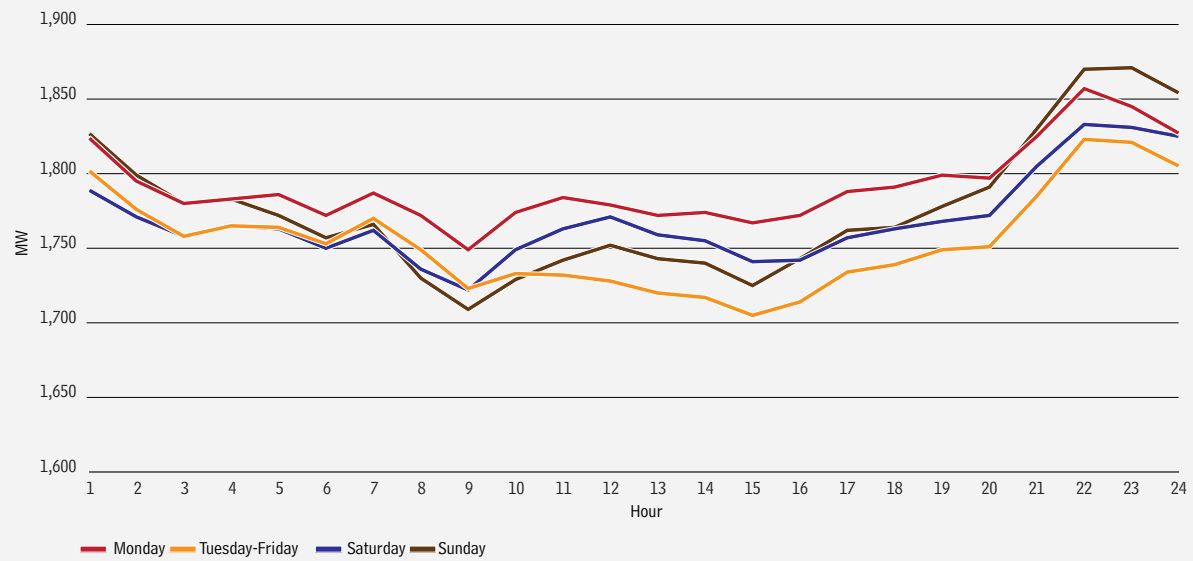
Gross Average Hourly Generation 2010. April-June



Gross Average Hourly Generation 2010. July-September



Gross Average Hourly Generation 2010. October-December

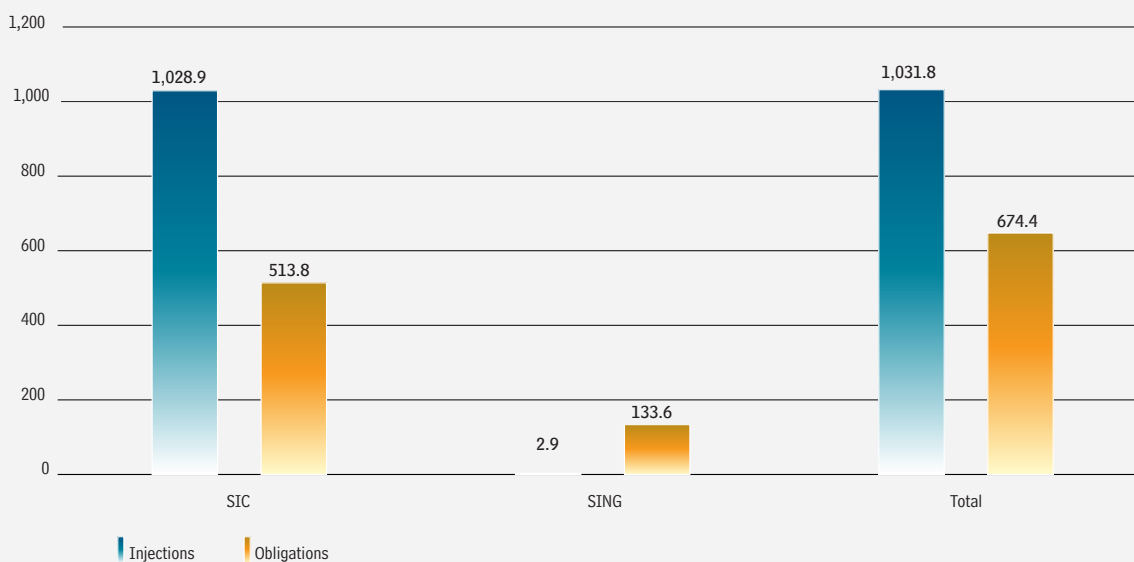


IX. Non-Conventional Renewable Energy (NCRE)

Withdrawal Obligation		Recognized NCRE Injections Energy system	
System	Energy (GWh)	System	Energy (GWh)
SIC	10,276.4	SIC	1,028.9
SING	2,671.9	SING	2.9
Total	12,948.3	Total	1,031.8

NCRE Obligation (5% Withdrawal)		Surplus / Deficit Net NCRE	
System	Energy (GWh)	System	Energy (GWh)
SIC	513.8	SIC	515.1
SING	133.6	SING	-130.7
Total	647.4	Total	384.4

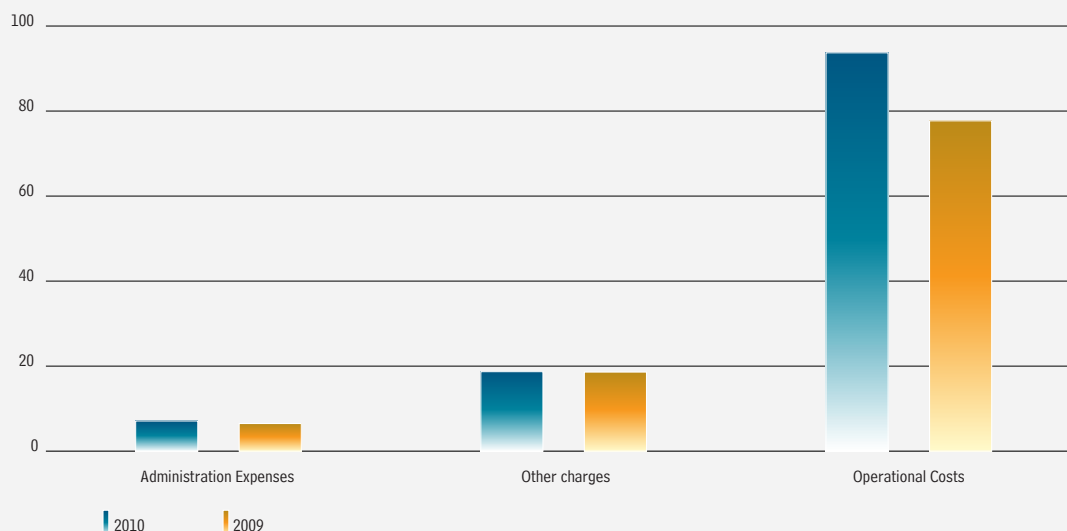
BALANCE NCRE YEAR 2010 (GWh)



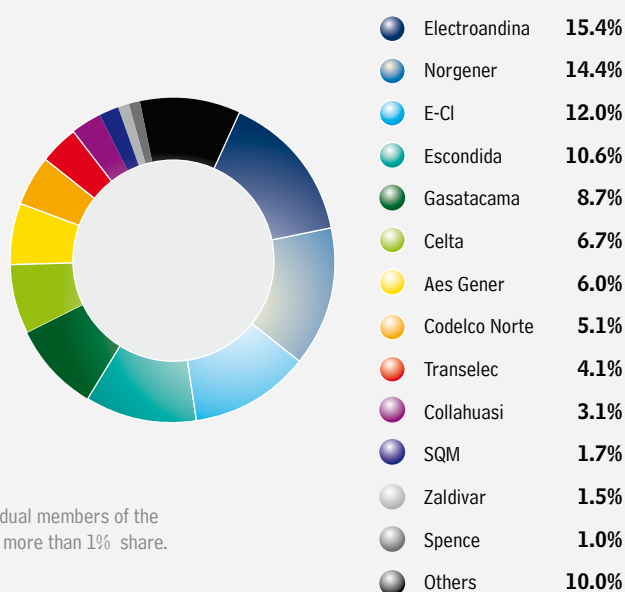
X. CDEC-SING Budget

Budget CDEC-SING Ltda.(Thousand UF)	2010	2009	Variation (Thousands UF)	Variation %
Administration Expenses	7,1	6,5	0,6	9,5%
Other charges	18,8	18,6	0,1	0,6%
Operational Costs	93,8	77,7	16,1	20,7%
Salaries and others	63,2	57,8	5,4	9,3%
Office rent and expenses	7,8	7,1	0,7	9,6%
Services and Contractors	2,7	2,2	0,5	22,6%
Equipment rent, Software and Services	20,1	10,5	9,5	90,3%
Total	120	103	17	16,33%

BUDGET CDEC-SING LTDA. (THOUSANDS OF UF)



BUDGET MEMBERS SHARE CDEC-SING



Note: Only individual members of the CDEC-SING with more than 1% share.



CDEC-SING

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