ANNUAL REPORT AND OPERATIONAL STATISTICS 2015

CDEC SING

CENTRO DE DESPACHO ECONÓMICO DE CARGA
SISTEMA INTERCONECTADO NORTE GRANDE

CONTENT

01 LETTER FROM THE CHAIR

In the name of each of the CDEC-SING members, I am honored to present you with the Annual Report and Operation Statistics of our organization corresponding to 2015.

We have gone through a particular year, with significant and historical challenges that prompt us to make of this Annual Report a live testimony of our commitment, devotion and effort to offer a better service to the community with our dream to achieve Energy without Borders.

2015 is the year when our dream starts coming true. According to one of the Energy Agenda axes led by the Ministry of Energy, we have worked with the Energy National Commission and the CDEC-SIC in the design and action plan for all variables associated to the electric interconnection process of the two main national interconnected systems, which will allow us to tear down a border inside our country to take advantage of the electric, economic, environmental and social benefits arising from this association.

This interconnection process, unprecedented in our country implies in addition the integration of the two existing CDEC's in one organization –the future Independent Coordinator of the National Electric System– as defined in the transmission law project currently under discussion at the National Congress.

The CDEC's integration to create the new coordinating organization has been undoubtedly a supervening challenge to those we had considered in our original strategic planning. In spite of that and thanks to the capacity and effort of the CDEC-SING professional team, we have faced it from an integral point of view, applying our corporate values of professionalism, loyalty, responsibility, trust and proactivity.

MAN OF THE BOARD OF DIRECTORS

This our dream has also crossed national borders, thanks to the successful operation of the interconnection with the Argentinian Interconnection System –SADI–, which contributes to the SING' safety and allows for the exchange of electric energy with Argentina, being in turn a concrete contribution to regional integration.

The challenges above have been approached by the Board of Directors, together with the CDEC-SING management team at the Directors' Committees and during several ordinary, extraordinary and work meetings, aligning decisions with the main purposes of the CDECs, which is the coordinated operation of the electric system facilities, in order to preserve the service's safety and guaranteeing the most economic operation with open access, purposes that we have defined as the structural axes of our strategic planning. They include all actions tending to management excellence, working towards the improvement of practices and processes, greater transparency and information availability.

Within this framework we have encouraged the development of a new Web site in agreement with modern standards, to facilitate access for any user in an attempt to look through their eyes and offer them the best service.

We have sensed this user point of view or focus on the client directly from them, thanks to an intense collaborative agenda of active participation at all Congresses, Seminars and Events of the electric sector, as well as the SING Forus, the appreciated SING Technical Days that characterize us and a public seminar performed at Iquique city with the purpose of bringing us closer to the Great North communities.

With the same purpose, we have gathered systematically at our offices with all the authorities of the electric sector, as well as with the Superintendence of the Environment and a great majority of the trades which companies are related to the CDEC-SING.

Also, we have actively participated in work groups that have collaborated with the Authority, both in the preparation of the transmission law project as well as in the indications, together with setting forth our position on such project at the Nation's Congress, aware of our duty to contribute with visions and technical experiences allowing to approve a better law project to achieve a regulatory framework of excellence and stability for several years.

All of the above has occurred together within the best year as regards generation and transmission quality of service, with a significant decrease in the indicator of unsupplied energy, which is the result of permanent work and a continuous improvement process characterizing the CDEC-SING's performance.

Finally, in the name of the Board of Directors and of each of the individuals that are a part of this entity, I urge you to read our testimony and to dream with the new borders through which our energy will travel; dreams that the CDEC-SING's collaborators shall contribute to make come true from this entity and, in the near future, from the Independent Coordinator of the National Electric System.

Eduardo Escalona
Chairman of the Board of Directors CDEC-SING

02 LETTER FROM THE CHIEF EXECUTIVE OFFICER

We are pleased to present you with the Annual Report and Operation Statistics of the Center for Economic Load Dispatch of the Great North Interconnected System (CDEC-SING) for the term of 2006 – 2015.

As usual at the SING, generation was based on the production of coal and natural gas with a 75.4% and 13.5% respectively, while production based on diesel-fuel amounted to 6.7%. Particularly, the presence of the first projects based on unconventional renewable energy should be mentioned, with a 3.4% of total production.

Regarding the commodities that are the basis for operation, this year showed a sustained decrease in the price of the different fuels used for generation. This is shown by the evolution of the diesel (BRENT) international price, which value as of December, 2015 fell by 39.0% as compared to the same month of year 2014, which was also accompanied by a sustained decrease in the price of coal and natural gas.

Notwithstanding the above, the average marginal cost as referred to Crucero substation was 57.3 USD/MWh, which represents a 24.2% decrease as compared to the previous year, while the average operation cost closed at en 45.7 USD/MWh, which represents a 18.2% decrease as compared to the previous year.

During 2015, two significant emergencies were dealt with. The first, as a consequence of the flood that affected Atacama Region and a great part of the country's North zone, which derived into multiple disconnections of transmission and consumption facilities. The second, derived from the 8.4 Richter degrees' earthquake that devastated the Small

North, and caused an evacuation of the coastline of a great part of the country. Both events tested the reaction capacity and emergency protocols to warn the population, companies and the authorities.

Without prejudice of the above, the system's performance improved substantially, since the unsupplied energy to final clients decreased by 27 % as compared to the previous year, discounting the blackout effect occurred during 2014.

In the search of a more economic and flexible operation of the generating plants, several initiatives were encouraged in the analysis and review areas of the main parameters that determine the operation regime and costs of the system. At the same time, we drove new criteria and standards for the acquisition and advertising of the information supporting the fuel cost statement of the SING's generating units. The above together with a new Procedure for the treatment of this matter, which we expect means a significant progress as regards transparency and competition.

As regards information and reporting, there has been a permanent progress which has ended in 2015 with the smartphone application and our new web site, differentiating us and making us proud for incorporating real time information of the system's main indicators.

Within the framework of the NCRE to SING Integration Plan carried out by CDEC-SING since 2012 with the purpose of facing the challenges posed by the incorporation of unconventional renewable energy (NCRE) to the system projecting the operation of the national interconnected system resulting from the SING-SIC interconnection, two new studies were performed: "Technical – Economic Effects of wind and solar energy integration to the SING: 2017 Scenarios" and "Transmission Study for the NCRE insertion: 2018 and 2021 Scenarios".

The 2015 report includes the new definition of the trunk system and its expansion to strengthen the North Zone of the SING, a purpose declared and sought by our entity that, once the recommended works are completed shall allow the clients of Arica and Parinacota, and Tarapacá Regions to have a safer service, of better quality.

Aware of the significance of a management with processes and procedures, and giving continuity to the hallmark of our organization in the search of continuous improvement, we obtained re-certification of the three processes supporting our Quality Management System: Energy Balance, Project Coordination and Work Coordination.

During 2015, we started collecting the fruit of associative and collaborative work planted in previous years with the authority, experts, academicians and the industry in general. In this line, it is worth mentioning our participation in the technical delegation that visited the main Transmission System Operators to collect the experience and progress in the operation of the electric systems in Germany, Denmark and Spain.

In another area, we finished and delivered the study that analyzes the feasibility of an interconnection between the Peruvian electric system and the Great North Interconnected System (SING) ordered by the CDEC-SING and the Peruvian coordinating entity COES-SINAC, a project with the collaboration of the Electric Sector Program of the Energy Resources Office of the United States Department of State.

It is worth mentioning the start-up of the electric export to Argentina. This is a fact that makes us proud and satisfied, since the CDEC-SING has been a facilitating agent that in a visionary and decided fashion has contributed to the regional integration process.

We invite you to review the information on what the CDEC-SING has performed, as well as the results for 2015, and the significant process of change and continuous improvement we are engaged in, to fully comply with the strategic role our organization has in the electric sector and in Chile.

Daniel Salazar Jaque
Chief Executive Officer CDEC-SING

03 WHO WE ARE

- **Safety**
- **Economical Operations**
- **Open Access**

The Center for Economic Load Dispatch of the Great North Interconnected System (CDEC-SING) is the organization in charge of coordinating the operation of the electric facilities in the Great North of the country, preserving its safety and guaranteeing the economic operation and open access with service of quality.

The CDEC-SING is considered a strategic organization by the Chilean State, given the public condition of its function and the relation existing between electric supply; population' safety and the normal function of the country's industry and economy.

The CDEC-SING is formed by a team of about one hundred high level professionals who focus their tasks on processes efficiency in harmony with their environment.

The CDEC-SING has a Board of Directors and four Technical DIVISIONS: Management and Budget; Operation; Tolls and Planning and Development.

Generation, transmission and consumption electric facilities interconnected among them make up the SING, and cover the territory comprised between Arica-Parinacota, Tarapacá and Antofagasta Regions, equivalent to 24.5% of the country's continental territory.

PARTICIPATING COMPANIES AND MEMBERS OF THE CDEC-SING

as of December 31, 2015

SEGMENT A

POWER GENERATING COMPANIES WITH A CAPACITANCE BELOW 200 MW

N°	Company name	Capacitance [MW]
1	Cavancha S.A.	2,8
2	Central Termoeléctrica Andina S.A.	177,0
3	Compañía Eléctrica Tarapacá S.A.	181,8
4	Enaex S.A. (1)	2,7
5	Enorchile S.A.	42,0
6	Equipos de Generación S.A.	6,8
7	Generación Solar SpA	68,0
8	Inversiones Hornitos S.A.	170,1
9	Noracid S.A.	17,5
10	On Group S.A.	2,0
11	Parque Eólico Quillagua SpA (3)	-
12	Parque Eolico Renaico SpA	-
13	Planta Solar San Pedro III SpA (2)	-
14	Pozo Almonte Solar 1 S.A.	9,0
15	Pozo Almonte Solar 3 S.A.	16,0
16	SPS La Huayca S.A. (2)	-
17	Tecnet S.A.	3,0
18	Valle de los Vientos S.A.	90,0

SEGMENT B

POWER GENERATING COMPANIES WITH A CAPACITANCE GREATER THAN 200 MW

N°	Company name	Capacitance [MW]
1	AES Gener S.A. (4)	277,3
2	E-CL S.A. (1)	1.764,6
3	Empresa Eléctrica Angamos S.A.	558,2
4	Gasatacama Chile S.A.	780,6
5	Empresa Eléctrica Cochrane SpA.	-

SEGMENT C

TRUNK TRANSMISSION COMPANIES

N°	Company name	Kilometers of Line
1	Edelnor Transmisión S.A.	-
2	Transelec S.A.(1)	765,4

SEGMENT D

SUBTRANSMISSION COMPANIES

N°	Company name	Kilometers of Line
1	Codelco Chile (1)	-
2	E-CL S.A. (1)	268,5
3	Empresa de Transmisión Eléctrica Transemel S.A.	91,8
4	Transelec S.A. (1)	361,3

SEGMENT E

FREE CLIENTS

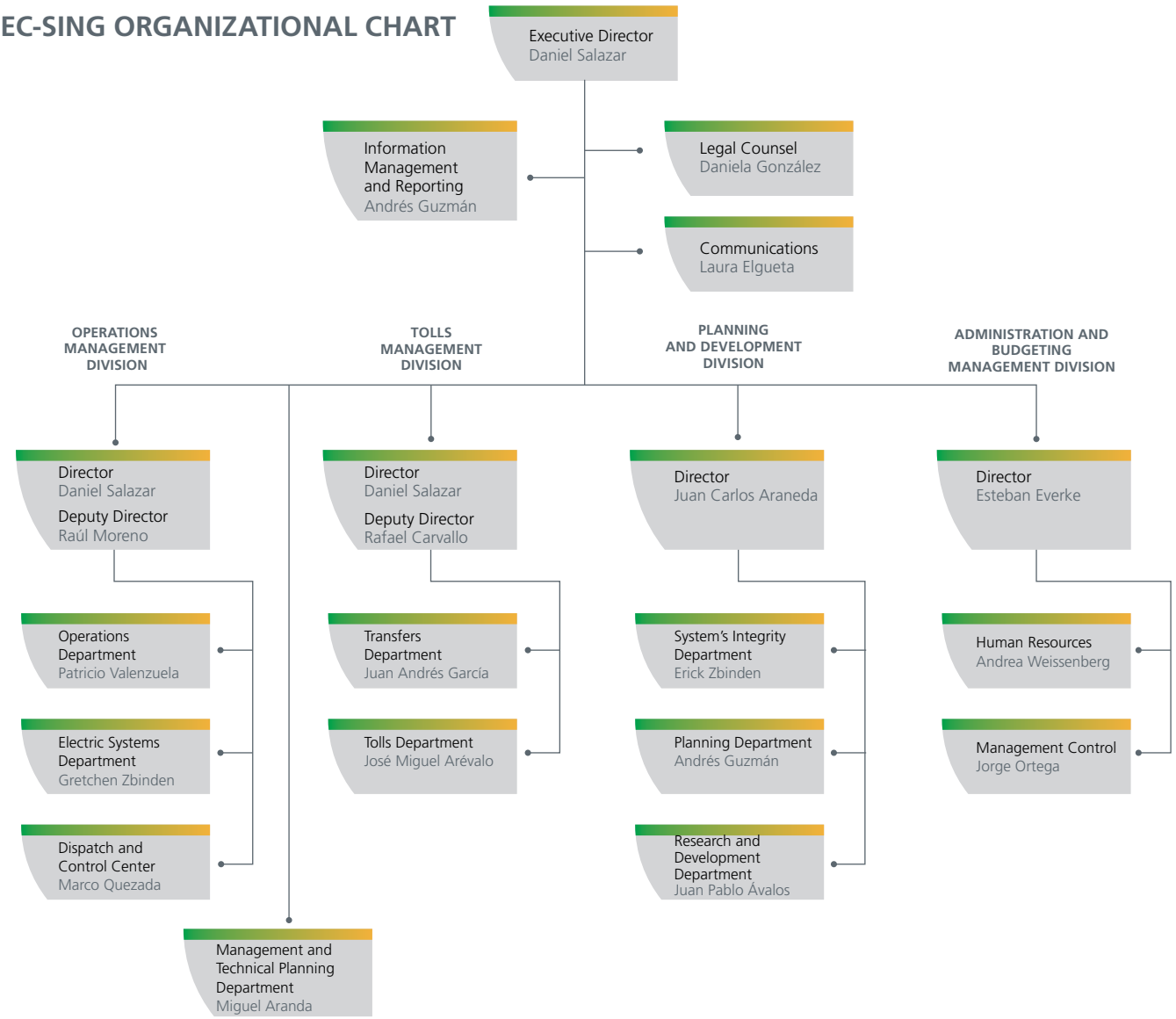
N°	Company name	Connected Power [MVA]
1	Aguas de Antofagasta S.A.	14,0
2	Algorta S.A.	8,0
3	Atacama Minerals Chile S.C.M.	15,0
4	Codelco Chile (1)	1.678,9
5	Compañía Minera Cerro Colorado Ltda.	92,0
6	Compañía Minera Doña Inés de Collahuasi SCM.	500,0
7	Compañía Minera Teck Quebrada Blanca S.A.	50,0
8	Compañía Minera Xstrata Lomas Bayas	133,2
9	Compañía Minera Zaldívar S.A	134,0
10	Enaex S.A. (1)	12,5
11	Grace S.A.	25,0
12	Haldeman Mining Company S.A.	19,3
13	Minera Antucoya	212,5
14	Minera El Tesoro	52,0
15	Minera Escondida Ltda.	2.055,3
16	Minera Esperanza	415,0
17	Minera Meridian Ltda.	20,0
18	Minera Michilla S.A.	31,2
19	Minera Spence S.A.	180,0
20	Moly-Cop Chile S.A.	30,0
21	Sierra Gorda SMC	405,0
22	Sociedad Anglo American Norte S.A.	50,0
23	Sociedad Contractual Minera El Abra	187,5
24	Sociedad GNL Mejillones S.A.	16,0
25	Sociedad Química y Minera de Chile S.A.	210,0
26	Xstrata Copper - Altonorte	104,0

(1) Companies belonging to two or more Segments
(2) Companies interconnected to the SING, but whose installations were still undergoing tests as of December 31, 2015.
(3) Companies that chose to integrate voluntarily to the CDC according to Article 17 of Presidential Decree 291/2007.
(4) As of June 01, 2014, Norgener was absorbed by the AES Gener Company.

2014 - 2017 BOARD OF DIRECTORS

Segment A	Segment B	Segment C	Segment D	Segment E
Representatives of Generators under 200 MW	Representatives of Generators above 200 MW	Representatives for Trunk Transmission Lines	Representatives of Subtransmission	Representatives for Free Clients
Pablo Benario T. *(Principals)*	Rodrigo Quinteros F. *(Principals)*	Francisco Aguirre Leo *(Principals)*	Pilar Bravo R. *(Principals)*	Eduardo Escalona V. *(Principals)*
Alfonso Bahamondes M. *(Substitutes)*	Jaime de los Hoyos S. *(Substitutes)*	Carlos Silva Montes *(Substitutes)*	Waleska Moyano E. *(Substitutes)*	Rodrigo Tabja R. *(Substitutes)*

CDEC-SING ORGANIZATIONAL CHART



2015 BOARD OF DIRECTORS

The CDEC-SING is managed and represented by its Board of Directors, which is autonomous and independent from the companies coordinated in the Great North interconnected system.

The current Board of Directors has been elected for the term corresponding to 2014-2017 and its permanent members are the engineers Pablo Benario, Rodrigo Quinteros and Francisco Aguirre, together with the attorneys Pilar Bravo and Eduardo Escalona.

By unanimous agreement of the Directors, Eduardo Escalona was elected Chairman, who is in office for the second year.

Also, the engineers Messrs. Alfonso Bahamondes, Jaime de los Hoyos, Carlos Silva, Waleska Moyano and Rodrigo Tabja act as alternates.

Among other, the Board of Directors is in charge of the following:

- To supervise the safe and efficient operation of the electric system;
- To maintain the CDEC-SING information system duly updated;
- To report to the Energy National Commission and to the Electricity and Fuels Superintendence the interconnection of new stations or generation units and transmission facilities, their withdrawal and reincorporation;
- To approve the CDEC-SING annual budget;
- To prepare, approve and amend the CDEC-SING Internal Regulations;
- To report to the Electricity and Fuels Superintendence and to the Energy National Commission any event or circumstance that could be an infringement to the electric regulations in force by the CDEC-SING, its technical DIVISIONS, members and/or coordinates;
- To oversee that the CDEC-SING complies with the functions as established in the standards in force.

The Board of Directors has created the following Directors Committees:

- Budget and Audit Committee;
- Internal Regulations and Corporate Governance Committee;
- Safety of the System's Facilities Committee;
- System's Economic Operation Committee; and
- Open Access and Interconnections Committee.

Main Axes of the Board of Directors' Management during 2015

Pursuant to its strategic planning, the CDEC-SING Board of Directors structured three main action axes in agreement with the purposes contained in the regulations in force: to maintain the service safety, together with guaranteeing a more economic operation and open access. These axes include all the actions aimed to excellence in management, particularly as regards practices and processes, as well as a greater transparency and information availability.

The service safety axis is characterized by the implementation and permanent monitoring of the critical infrastructure of the Great North interconnected system, as well as the successful interconnection with the Argentinian interconnection system.

In the economic operation axis we highlight having encouraged, together with the technical DIVISIONS the Atacama Station audit, which results were implemented immediately after finished.

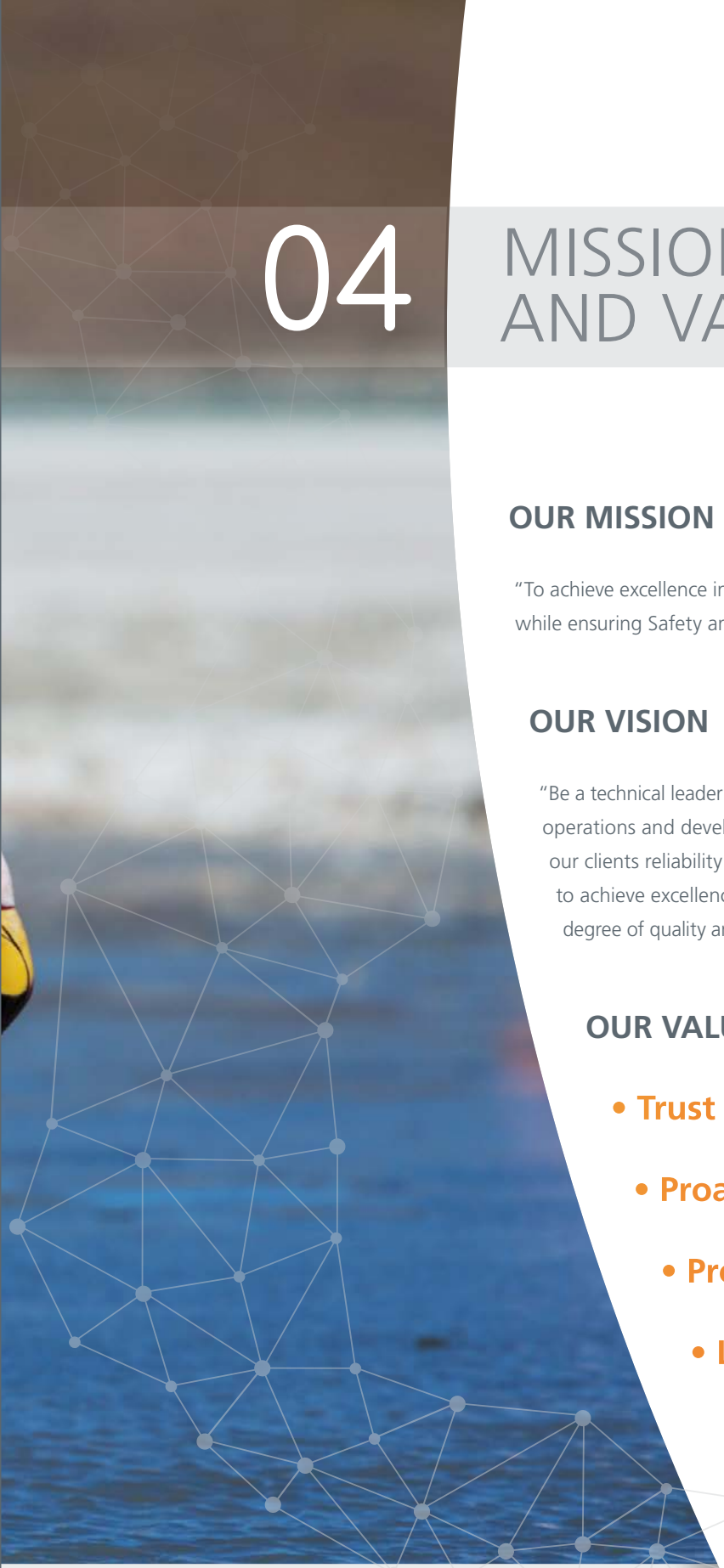
In the open access, the Board of Directors has promoted the review of internal practices to enable the interconnection processes and processing time reduction, which results we expect are visible in 2016.

On the other hand, the Board of Directors has actively participated in the greatest project ever, consisting in the interconnection of the SING to the SIC. This challenge has captured a great part of its activities across the three previously defined axes, in spite of the fact that it had not been initially considered in its planning.

Finally, representing the organization has motivated the Board of Directors active participation in all the seminars, forums and gatherings of the electric sector, apart from having encouraged an open door and permanent dialogue policy with the different players of the sector, together with orientating the CDEC-SING service to client.

Creating value for the Great North and for Chile
CDEC - SING is Energy without Borders

04 MISSION, VISION AND VALUES



OUR MISSION

"To achieve excellence in the coordination of SING operations and lead its development while ensuring Safety and Efficiency, and guaranteeing Accessibility to the System."

OUR VISION

"Be a technical leader in the Chilean electrical sector, offering services for coordinating operations and development of the Norte Grande Interconnected System, offering our clients reliability and efficiency; along with a polyfunctional team whose aim is to achieve excellence in their work and who implements all processes with a high degree of quality and uses technology and cutting edge tools to the fullest degree."

OUR VALUES

- **Trust**
- **Proactivity**
- **Professionalism**
- **Loyalty**
- **Responsibility**

CDEC-SING QUALITY POLICY

The CDEC-SING Management Divisions are committed to deliver quality services in the coordination of the operation and to support the Norte Grande Interconnected System, with a level of professionalism and responsibility that places the organization at a higher level of excellence.

The services are delivered strictly within the framework of the current norms and incorporate lessons learned as well as industry best practices, which are undertaken through the Quality Control System that the organization has established as its base.

In regards to the quality of its processes and services, the Management Divisions of the CDEC-SING have set down the following global objectives:

1) Safeguard the safety and efficiency of service in the operation of the SING and continually improve the quality of its processes and services.
2) Perform with excellence the economic transfers between the SING electrical companies.
3) Undertake the integration of new installations to the SING, ensuring that the high levels of service quality and safety are maintained as established in the current regulations.
4) Perform its functions at all times with competent personnel that is responsible, motivated, and focused on its clients.
5) Deliver the services covered within the reach of the Quality Control System, in a timely manner, within the high levels of trust and quality required by our customers.
6) Develop and maintain permanent high quality communication channels with its clients and principals.

To reach these objectives, the Directors of the CDEC-SING are committed to provide the resources needed to ensure continuity in terms of quality, professionalism, and efficiency in the services provided.

05 QUALITY

The CDEC-SING has ISO 9001:2008 certification in three of its processes: "Energy Balance"; "Projects Coordination" and "Coordination Service of the works by the SING's coordinated companies".

The road to certification, initiated some years ago and subject to re-certification during 2014 is a sample of the CDEC-SING permanent commitment to quality, to approach its mission with excellence under the highest international standards.


CDEC SIN
ENERGÍA SIN FR
LA EXPERIENCIA
INTER EXIÓN
DANIEL SALAZAR
DIRECTOR EJECUTIVO
CDEC SING
MAXIMO PACHECO
MINISTRO
MINISTERIO DE ENERGÍA
EDUARDO ESCALON
PRESIDENTE DEL DIRECTORIO
CDEC SING
BOSCH
BOSCH

06 2015 ENVIRONMENT

2015 ended with a mission accomplished feeling.

In the technical aspects, the CDEC-SING continued with its safe, efficient operation strategy, leading projects that have allowed being on the cutting edge as regards technological development. The Smartphone application and the real time information of the system's main indicators are a sample of the above.

In the organizational aspects, the sustained emphasis on training issues, certification and processes implementation, together with the highest international standards have placed us on the road to excellence that we designed and started travelling with determination some years ago.

For this reason we state that nothing is casual or improvised. We have implemented consistent and sustained policies, and their fruits allow us being prepared, enthusiast and optimistic about responding to the great challenge the country requires from us, which is to be a main part of the new National Coordinator of the Chilean electric system.

Relationship Policy

For over three years the CDEC-SING has implemented a sustained relationship policy, intended to promote and strengthen the relationship with the organization's key stakeholders.

The coordinated companies are identified as the main stakeholders, the technical organizations both domestic and international, the sector's authorities, citizens in general, and particularly those from the Great North of the country. For the CDEC-SING, its main stakeholders are its employees, whom it acknowledges and identifies as its most valuable capital.

In its policy the CDEC-SING has undertook to work in association with its stakeholders on the basis of transparency and collaboration, generating and contributing to the exchange of ideas and technical information from its experience and knowledge, as a key player of the Chilean industry.

CDEC-SING Relationship Model

Identifying, Connecting, Knowing

March

CDECs TECHNICAL MISSION TO THE UNITED STATES: Visit to CAISO and PJM Operators in the USA, both with a great experience in the intensive use of technological applications, interconnections and NCRE insertion.

April

TECHNICAL VISIT TO EUROPE: Together with its equal at the SIC, CDEC-SING, the authorities and companies visited Germany, Denmark and Spain where they collected experiences in systems interconnection.

50 Hz CDEC-SING VISIT: 50 Hz representatives –one of the four TSO (Transmission System Operator) of Germany- and GRIDLAB, in charge of supplying training to operators in that country held a gathering with our professionals, within the cooperation framework entered into with GIZ and the Chilean Ministry of Energy.

August

CDEC-SING DIRECTORS IN LIMA: They met with the regulator, supervisor and coordinator of the electric system in Peru, to approach the future electric interconnection between both countries.

October

REE VISITS THE CDEC-SING: The Operations Director of Red Eléctrica España (REE) approaches the interconnection challenges together with officers of our entity.

November

ANNUAL MEETING OF ARGENTINIAN OPERATORS: Close to the electric interconnection between both countries, the CDEC-SING participates as guest at the Argentinian Operators Meeting.

CAISO VISITS THE CDEC-SING. The Operations Vice President of California ISO, Eric J. Schmitt, held a meeting with the Chief Executive Officer and professionals from the entity.

Sharing, Informing, Showing our Organization

January

MEETING WITH THE MINISTER OF ENERGY: Directors and officers explained to the top energy authority of the country the organization's goals in 2015 and showed him the results of the recent Study on Supply at the SING's cities.

CDEC-SING and CNE BREAKFAST: The challenges for 2015 were approached at the meeting with the Executive Secretary of CNE, Andrés Romero.

March

CDEC-SING AT iPC-Grid WORKSHOP IN CALIFORNIA: The progresses and challenges of the first WAM NETWORK implementation in Chile were shown, led by our organization.

April

ATTENDING CIER SEMINAR IN LIMA: To present the SING's reality and technical challenges.

July

VISIT BY XV REGION ENERGY SEREMI: He was received at the CDC, where he was presented with the SING's main operation policies.

August

ENERGY LAW DAYS: Eduardo Escalona, Chairman of the Board of Directors and Daniela González, Juridical Head of the CDEC-SING made presentations at the traditional gathering.

October

CDEC SING AND TEN REVIEW TOGETHER THE TECHNICAL ROUTE OF INTERCONNECTION PROJECT: With the company in charge of carrying out the works that will complete the interconnection of the SING with the SIC.

SING FORUM IN ANTOFAGASTA. CDEC-SING explains: "Our commitment is to be encouraging and active players of the change process to come, we have prepared ourselves for this and we will continue moving forward in an innovative, transparent, safe and efficient manner".

2015 BOARD OF DIRECTORS BREAKFAST MEETINGS: The Board of Directors and officers held a series of meeting with the authorities and the industry leaders at our offices, such as:

- Electricity and Fuels Superintendence
- Electric Companies Association A.G.
- Generators Association A.G.
- Chilean Association of Renewable Energies A.G.
- Unregulated Energy Consumers' Association A.G.
- Mr. Rodrigo Palma, Energy Center, Universidad de Chile.
- Experts' Panel
- Mining Council
- Environment Superintendence

Learn, Communicate

January and November

NCRE INTEGRATION AND PERFORMANCE STUDIES: Within the framework of the NCRE to SING Integration Plan carried out by the CDEC-SING since 2012 with the purpose of facing the challenges posed by the incorporation of the NCRE to the system, during 2015 two studies were prepared and published.

2015 TECHNICAL DAYS. For the fourth consecutive year a new cycle of technical meetings was carried out in Antofagasta, gathering over 300 people from the coordinated companies, authorities and consultants.

June

CDEC-SING AT TECHNICAL VISIT: A team visited NCRE stations, Substations, U16 and the Tap Off of the three-points line located outside Cochrane Station.

ON SITE TESTS. The Operations Directorate performs specific consumption tests at the U16 units of Tocopilla Station, in Antofagasta.

July

A CDEC-SING STUDY ON INTERCONNECTION IS PRESENTED: It analyzes the operation for SING-SIC and SADI interconnection conditions.

November

INTERNATIONAL INTERNSHIPS. Sponsored by the organization, three CDEC-SING professionals were awarded with the CONICYT and the Ministry of Energy Internship tender; they will travel to Spain and Germany.

Transparency

July

CDEC-SING APP: We give another step towards our commitment with information transparency.

October

TECHNICAL AUDIT RESULTS. The results of the Technical Audit to Atacama Station are published.

WEB GENERATION LOAD SYSTEM. Allows loading generation data directly to the WEB thus becoming a powerful tool to validate data and generate online reports.

November

WEEKLY BULLETIN N° 300: ANNIVERSARY EDITION: Engaged with a contribution with transparency and clear, timely and quality information, we have presented the figures and statistics of the SING for 300 consecutive and uninterrupted weeks.

CDEC-SING PRESENTS A NEW STANDARDS APPLICATION: In a practical and didactic exercise, the power technical standards for SING cases are presented to the coordinated companies and agents of the sector.

Interconnections

DOMESTIC INTERCONNECTION

April

DECREE IS ENACTED THAT ALLOWS THE UNION OF CHILEAN SYSTEMS. In a solemn ceremony presided over by the top authorities of the country, a decree was enacted allowing the union of the two Chilean interconnected systems.

July

FIRST CDECs MEETING. The Officers of both CDEC gathered for the first time to initiate together the construction of the road to the new National Electric Coordinator.

I CDEC TEAMS INTEGRATION DAY. With the purpose of knowing each other, talking and building together the future National Coordinator the CDEC-SING and CDECSIC teams gathered in a symbolic day.

August

CDECs SEMINAR: "Moving towards an independent coordinating organization of the national electric system". Organized by the CDEC-SING and CDECSIC, the meeting approached the technical, organizational and standardization aspects of the two main electric systems of the country interconnection.

CHAIRMAN OF THE BOARD OF THE CDEC-SING and CDECSIC write together a column on: Interconnection of the national electric system, highlighting the optimism of their institutions' challenges.

REGIONAL INTERCONNECTION

July

COORDINATING ORGANIZATIONS FROM CHILE AND PERÚ elaborated on the technical and economic studies towards a potential electric integration.

December

CDEC-SING BOOK "Energy without Borders – The Interconnection with Argentina Experience": The book, that tells the story of the electric export to Argentina technical route, was presented by the Minister of Energy, Máximo Pacheco, who valued the initiative and highlighted it as a successful effort to involve citizens with energy.

Us

NEW DIVISION. The new Planning and Development Division of the CDEC-SING starts in 2015.

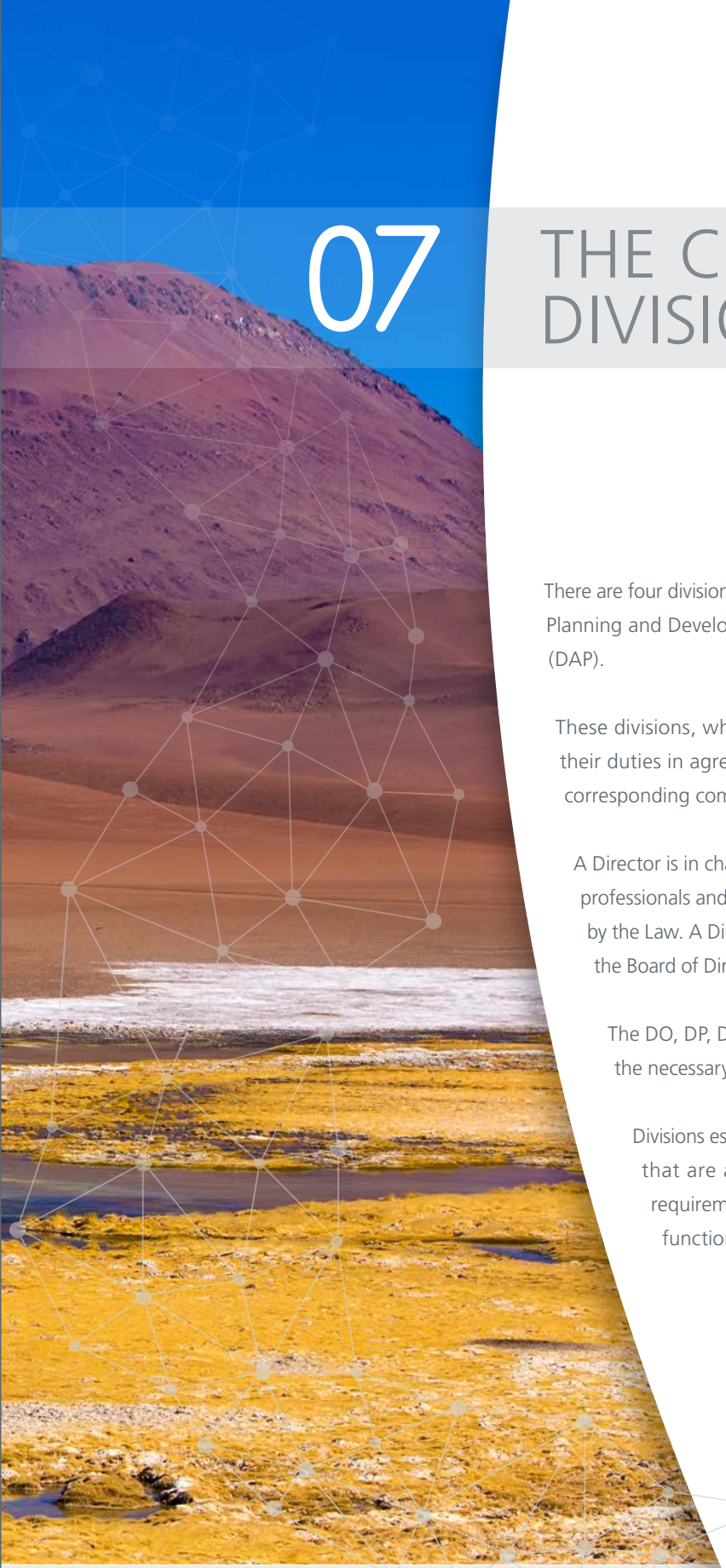
AWARDS FOR OUR CHILDREN: The "End of Cycle" and "Academic Excellence" awards are granted to the children of employees that outstand in their studies.

SPORTS: With champions' attitude!

CHILDREN AT THE OFFICE: For the third consecutive year, the CDEC-SING prepared to receive its most precious assets: our employees' children. Games, videos and experiments were shared during an unforgettable afternoon.

2015 CHRISTMAS PARTY: Swimming pool, barbecue, games and Santa Claus for the youngest were some of the activities at our traditional Christmas Party.

2015 ANNIVERSARY DINNER PARTY: Awards and acknowledgments were delivered for the XVI years of the CDEC-SING. Employees with five, ten and fifteen years with the organization received the appreciation from their fellows apart from their corresponding awards. A special award was delivered to Víctor Pérez, who was voted as the "2015 Best Fellow".



07 THE CDEC-SING DIVISIONS

There are four divisions at the CDEC-SING: Operations Division (DO), Tolls Division (DP), Planning and Development Division (DPD), and Management and Budget Division (DAP).

These divisions, which are purely of technical and executive condition, perform their duties in agreement with the Electric Law and its Regulations, within their corresponding competences and independently.

A Director is in charge of each Directorate, and it shall have a sufficient number of professionals and technicians allowing it to comply with the functions established by the Law. A Directorate responsible is appointed for four years, by agreement of the Board of Directors and they may be demoted or re-elected only for one term.

The DO, DP, DPD and DAP Directors shall adopt the decisions and implement the necessary measures for the compliance with each Directorate's functions.

Divisions establish work methodologies and mechanisms through Procedures that are aimed to determine the criteria, considerations and detail requirements each Directorate needs for the compliance with their own functions and obligations.

SING's Continuity and Safety: unsupplied energy decreased by 27% as compared to 2014.

New NCRE Management System received automatic forecasts and real time monitoring

OPERATIONS DIVISION (DO)

The safety and economic operation of the Great North Interconnected System are the main goals of the DO. In order to achieve them, this Directorate has a staff of 30 professionals, distributed into three departments: Operations Department, Dispatch and Control Center and the Electric Systems Department.

2015 MANAGEMENT

Regarding 2015 operations, the SING was crossed by two important events from nature: The flood occurred at Atacama Region in March and the earthquake that shook Coquimbo Region in September, which resulted into the evacuation of the entire Northern coastline. Both events triggered different action plans, among them the backup communication system, necessary to maintain the operation coordinated from the facilities, as well as cooperation in case of emergencies with the Argentinian interconnected system in case of tsunami warning and evacuation instruction of the coastline as issued by the authority. In both cases a coordinated operation was maintained, which resulted into minimum effects for the interconnected system users.

As regards safety, in 2015 a strong emphasis was made on the replacement and modernization works of the protection systems at several substations, among them Crucero, Encuentro and Tarapacá. These activities had a dedicated care from DO in the planning of the replacement works and start-up processes and protocols review, activities supported by specialized consulting companies.

In the safety area, it is worth mentioning that regarding the development of tools for real time operation, the stage to gather onsite information and (generation automatic control) engineering, thus allowing implementing this tool at the SING this year. It should be noted that the AGC is a tool widely used at countries with electric interconnections since it is a key factor in the control of frequency and energy transfers to other countries.

Within the same line, the Unconventional Energy Management System (SGER) was started, which allows automatically receiving the forecasts of such technologies and better monitoring their operation in real time.

In addition, actions were carried out to improve operational flexibility of the generating system, as established in the DO Procedure "Minimum Technical Information", for the update of new operation parameters of the generating units.

In this area, a significant activity was the Technical Audit to Atacama Station. It ended with new minimum operation terms; minimum stoppage terms and minimum technical terms; all of them keys to provide the system's operation with a greater flexibility, thus achieving a more economic operation.

Among the actions aimed to improve the release of significant information for the SING's operation, during 2015 another step was make by making available greater information related to availability and contractual conditions associated to fuel costs reported by the Generating companies.

The performance of the different activities contained in Supreme Decree 130 (supplementary services) was also a significant task for the organization, with the issue of the SSCC Definition and Programming Report, and the Costs Study development together with our equal at the CDECSIC. This work has enabled the SSCC regime to start being applied since March, 2016.

Finally, as regards 2015 Management, it is worth noting the significant step given by our organization with the first electric export of the country. For this purpose, the continued work with our equal CAMMESA (Argentina's operator) contributed to the preparation and agreement of protocols that regulate and coordinate the action of both, faced to the SING-SADI interconnected operation through the 345 kV Andes-Salta line.

During 2015 María Elena Photovoltaic Station (68 MW) and the enhancement of La Huayca Station (21 MW) started operating. Also, the photovoltaic stations of Solar Jama I and II (30 MW and 22.5 MW, respectively) were connected.

Online and real time marginal cost.

We have a modern platform for the remote reading of energy meters.

TOLLS DIVISION (DP)

To determine the energy balances and transfers, power and supplementary services among the coordinated companies, as well as the remuneration corresponding to each transmission segment – trunk transmission and sub-transmission- which are a part of the DP main goals.

2015 MANAGEMENT

The DP Management during 2015 was devoted to carry out the implementation of the SING's economic transfer new regime. This has resulted into amendments as regards procedures, internal processes for economic transfers and the implementation of new and better calculation tools.

During 2015, the new Procedure for the Assessment of Economic Transfer was approved, which contains a new treatment to assess the tests of the generating units, the regulations established in case of unpaid bills and also appoints the Measurement Centralized System (SCM), as the official means for the reception of energy measurements used for the economic transfer processes.

The CDEC-SING started implementing this system in 2013, and it already has 290 meters allowing for remote Reading of energy measurement, adding timeliness and quality to data, apart from transparency for all system's participants.

Strengthening the policy to promote good practices, during 2015 the DP organized a new work meeting with the coordinated organizations and through a practical application exercise it introduced the new regulation that shall apply to the sufficiency power transfers. This practice has been well valued and acknowledged by the industry as another contribution to transparency by the CDEC-SING.

In the same line, we have the work carried out through web tools for making calculations of energy balances and sub-transmission tolls from our web site, and determining and knowing the marginal cost of the system in real time.

In the 2015 balance we point out the new definition of the trunk transmission system and its expansion to strengthen the SING's North Area, an objective declared and sought for the last few years that now begins coming true. Starting from this, we estimate that once the transmission works recommended by the DP are finished, the clients from Arica and Parinacota, and Tarapacá Regions shall have a greater safety and service quality.

Being the DP in charge of managing the international public biddings of trunk transmission works, we highlight that during 2015 is was successfully granted the new trunk transmission work "New Crucero-Encuentro Sub-station", as established by Exempt Decree N°201/2014.

Our WAM network monitors the SING-SADI link in real time.

Active participation in the technical integration process of both CDEC.

PLANNING AND DEVELOPMENT DIVISION (DPD)

To perform expansion and development studies of the transmission system; to coordinate communications with the holders of new projects that shall be interconnected to the system and to ensure the compliance with the open access to the SING's facilities conditions are a part of the main objectives of the new Planning and Development Directorate, which started operating in January, 2015 with a staff of 18 professionals organized in three departments: the Planning Department, the System's Integration Department and the Research and Development Department.

2015 MANAGEMENT

The first significant activity was concentrated in the review of the technical and economic studies of the SIC-SING Interconnection project, which were led by the CNE and had the support of domestic and international consultants. At the end of January the Ministry of Energy released the interconnection works for the union of the SIC and SING, which were recommended by the CNE within the Trunk Expansion Plan 2014-2015, and then included in the Trunk Expansion Decree enacted by the Ministry of Energy in April, to start with the bidding process of the corresponding trunk transmission works.

As regards the interconnection between the SING and SIC announcement, between February and July there was an active participation at the CDEC Transmission and Reform Law Work Groups summoned by the CNE to analyze alternatives and prepare the corresponding legal changes, which were finally sent by the Executive to the Congress on August 7.

In the same direction, as from May actions were coordinated with the CDEC SIC oriented to carry out a technical integration process between both CDEC, with the purpose of making equivalent processes and procedures for the future Coordinator of the national interconnected system. A joint work program was prepared with technical focuses (operational, market, planning, interconnection, standardization and IT systems) which was the basis for 2016 budget as regards the CDECs technical integration.

Regarding the expansion of the SING transmission system, during 2015 work was done together with the Tolls Directorate to propose to the CNE the expansion works for the trunk transmission system, after ending the Trunk Transmission Study. Also, in compliance with the Safety Technical Standard and Service Quality, at the end of December the first report determining the optimal points of the SING's trunk transmission system sectioning.

A second version of the System's Integrity Study was carried out during the year, which scope corresponds to a supplement of a work performed in 2014, incorporating the future scenarios of 2018 and 2021, considering the SING-SADI and SING-SIC interconnections.

Regarding new technologies, during 2015 the WAM network was implemented through a server of operational regime with an operation interface in real time for its use at the CDC, which was developed by professionals of the System's Integrity Department and includes monitoring of the international link SING-SADI, Andes – Salta.

As per research and development, continuing with the work initiated since 2012 through the Integration Plan of NCRE into SING, which purpose is to face the challenges of the unconventional renewable energy (NCRE) incorporation to the system, the "Transmission Study for the NCRE Insertion: 2018 and 2021 Scenarios" was prepared and published, to assess the system's capacity to integrate new NCRE projects (solar and wind) with a 15% and 19% participation in 2018 y 2021 respectively, delivering localization signals to connect without transmission restrictions to the SING network.

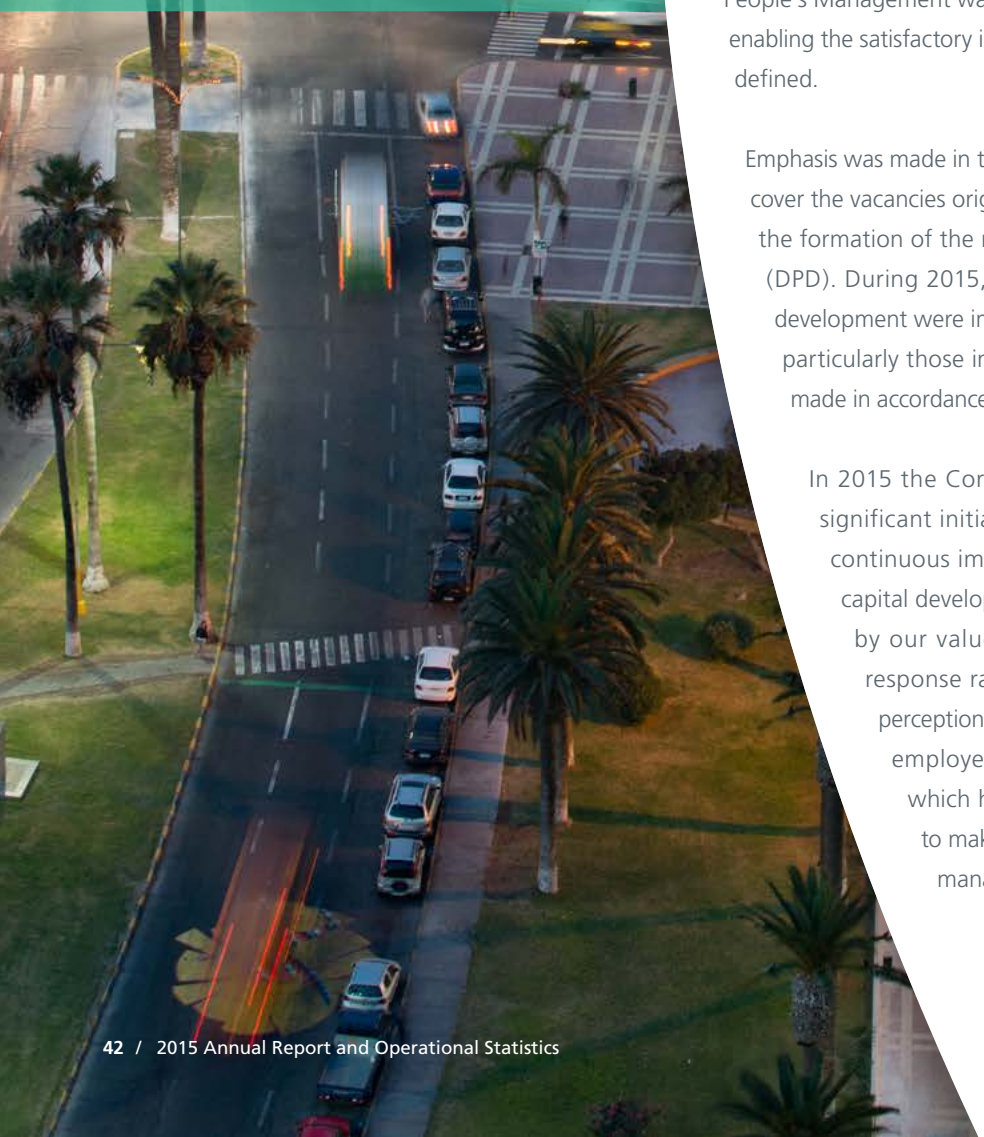
In the new connections to the SING area, during the year 4 new photovoltaic stations were interconnected to the SING with a little over 60 MW, plus 28 transmission facilities and 3 client facilities. With the purpose of improving the connections process, a consultancy process was carried out which included interviews with some of the connected clients, and proposals for the re-design of the process were made within the framework of a process gathering lead by the DAP.

Since mid-2015 the DPD has led the Knowledge Management corporate program COMPARTE, which is coordinated by a crossed team which purpose is to manage the acquisition of new knowledge, internally sharing it, provide the organization's professionals with material through the storage at a virtual library and to support corporate information revelation to the different stakeholders. A significant hallmark of the program that has made the CDEC-SING team proud was the awarding by three of our professionals of internships from the International Internship Tender promoted by the Ministry of Energy and the National Science and Technology Commission (CONICYT) in Spain, at the Institute for Technological Research by the Universidad Pontificia Comillas and the operator Red Eléctrica de España, and in Germany (GridLab of the German operator 50Hertz), with research issues in line with the CDEC-SING.

95%

of our employees attended to at least one training course during 2015.

Continuous improvement: we performed the gathering of 24 key processes.



MANAGEMENT AND BUDGET DIVISION (DAP)

The Management and Budget Directorate prepares, coordinates, carries out and manages the CDEC annual budget; among its main functions are implementing People's Management and Strategic Management.

Together with leading the retention, acquisition and purchase regime the DAP provides technical support to the rest of the DIVISIONS and to the CDEC Board of Directors.

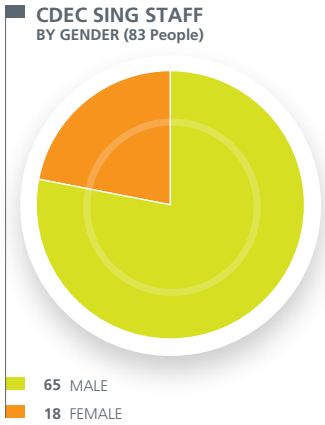
2015 MANAGEMENT

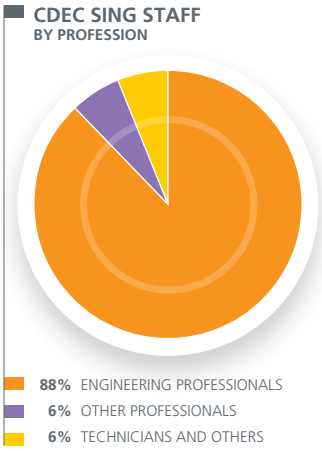
As regards Resources Management, Budget management in 2015 amounted to 99.9%, being such resources devoted to relevant projects of the Technical DIVISIONS and extraordinary advisories, all necessary for the CDEC-SING's operation.

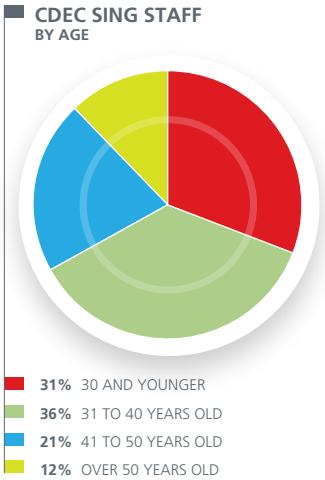
People's Management was oriented to carry out actions and programs enabling the satisfactory implementation of the corporate amendments defined.

Emphasis was made in the recruitment and headhunting processes to cover the vacancies originated due to the organization's growth and the formation of the new Planning and Development Directorate (DPD). During 2015, development programs of organizational development were implemented oriented to support work teams, particularly those impacted by the organization's restructuring made in accordance to the new challenges and this new creation.

In 2015 the Corporate Climate Assessment started up, a significant initiative within the corporate commitment of continuous improvement and encouragement of human capital development, promoting a labor climate supported by our values. The Corporate Climate Survey had a response rate of 100%, and it intended to know the perceptions and satisfaction degree of the organization's employees. As a result, plans have been designed which have started being implemented and intend to make a positive impact on the Corporate Climate management.







The main asset of the CDEC-SING is its employees, who have a permanent training and development policy which allowed materializing during 2015 the presence of 95% of the staff at different courses and training programs.

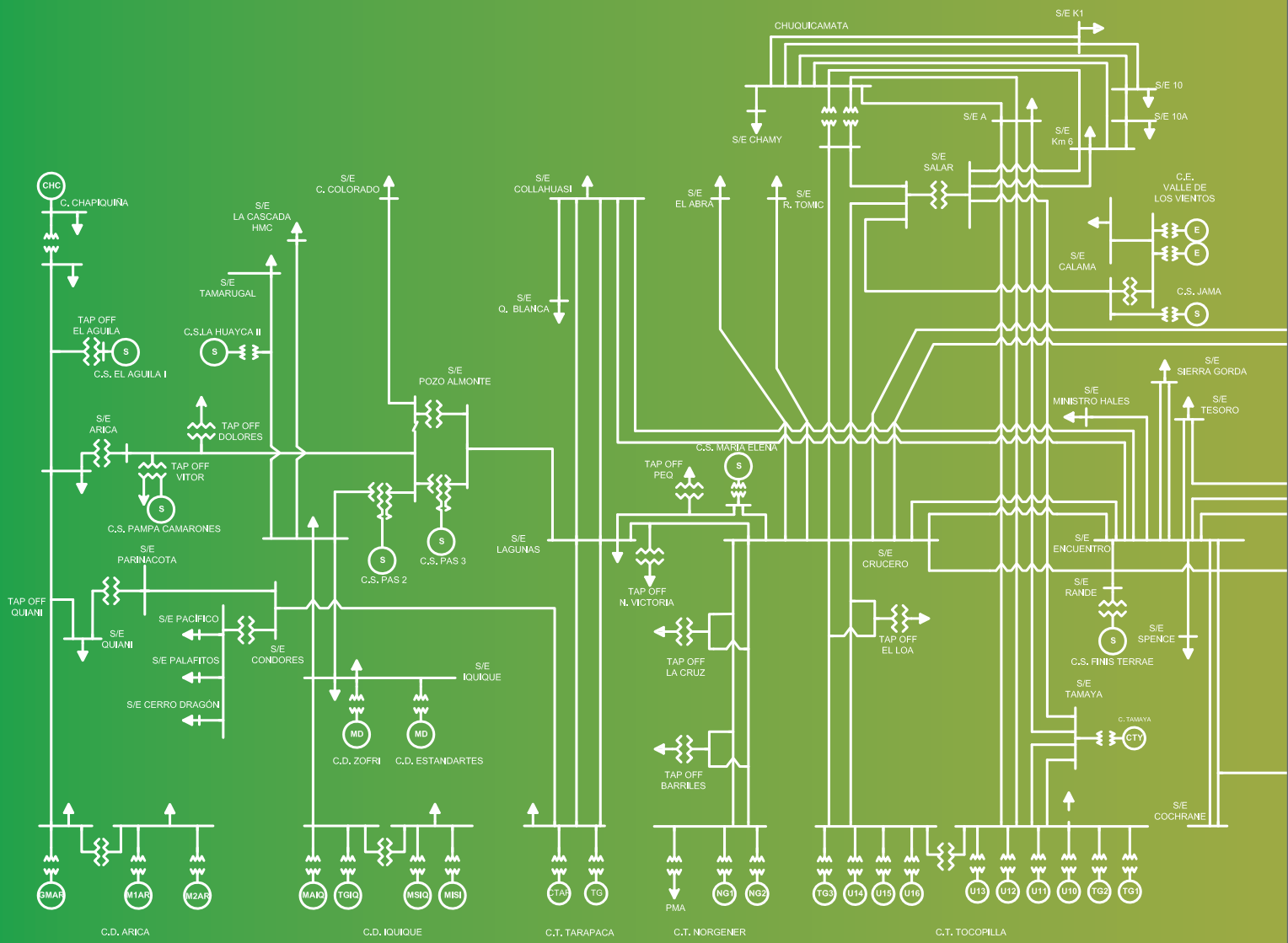
As regards Strategic Management, the emphasis of the year was in the improvement, follow-up and control of the corporate strategy, materialized in a Strategic Map of internal participation which during 2015 reached a global compliance of 94.2%.

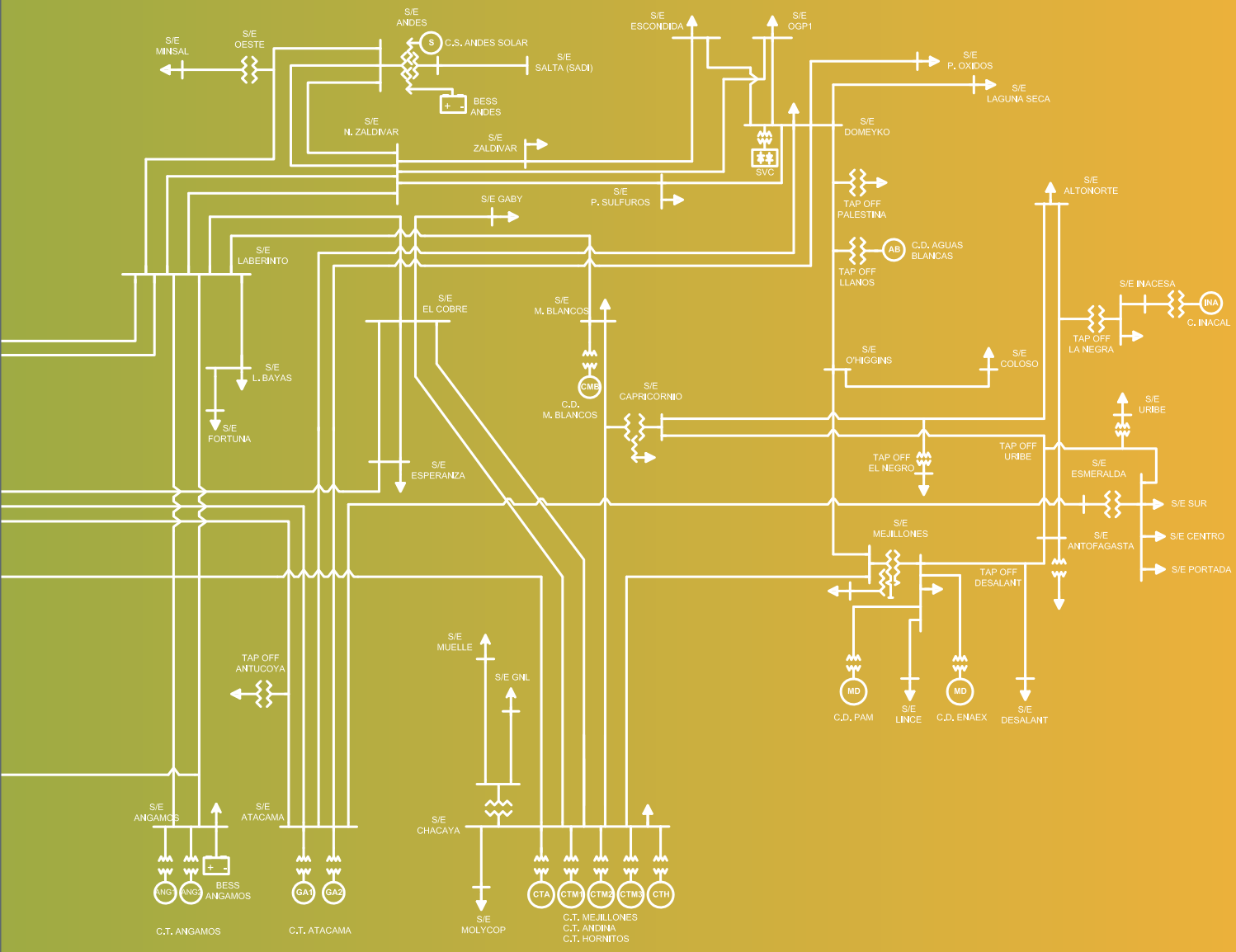
Another movement in the organizational area was raising operational processes. This task considered strategic by the organization included the analysis of 24 of the main processes of the CDEC-SING in order to document them, identify risks and eventually redesign them in order to –from a global point of view- favor organizational synergy.

With satisfaction we may assert that the CDEC-SING, in the permanent search for greater excellence and professionalism has different processes and procedures that reflect its action and management capability.

08 CLIENTS AND INSTALLATIONS

UNILINEAR DIAGRAM OF SING INSTALLATIONS




S/E MINSAL
S/E OESTE
S/E ANDES
C.S. ANDES SOLAR
S/E SALTA (SADI)
BESS ANDES
S/E N. ZALDIVAR
S/E ZALDIVAR
S/E ESCONDIDA
S/E OGP1
SVC
S/E P. OXIDOS
S/E LAGUNA SECA
S/E DOMEYKO
S/E P. SULFUROS
S/E GABY
TAP OFF PALESTINA
C.D. AGUAS BLANCAS
TAP OFF LLANOS
S/E ALTONORTE
S/E INACESA
C. INACAL
TAP OFF LA NEGRA
S/E LABERINTO
S/E EL COBRE
S/E M. BLANCOS
C.D. M. BLANCOS
S/E L. BAYAS
S/E FORTUNA
S/E CAPRICORNIO
S/E O'HIGGINS
S/E COLOSO
S/E URIBE
TAP OFF URIBE
TAP OFF EL NEGRO
S/E ESMERALDA
S/E ESPERANZA
S/E SUR
S/E MEJILLONES
S/E ANTOFAGASTA
S/E CENTRO
S/E PORTADA
TAP OFF DESALANT
S/E MUELLE
S/E GNL
TAP OFF ANTUCOYA
C.D. PAM
S/E LINCE
C.D. ENAEX
S/E DESALANT
S/E ANGAMOS
S/E ATACAMA
S/E CHACAYA
BESS ANGAMOS
C.T. ANGAMOS
C.T. ATACAMA
S/E MOLYCOP
C.T. MEJILLONES
C.T. ANDINA
C.T. HORNITOS

GENERATING UNITS AS OF DECEMBER 2015

Owner	Station Name	Unit	N° Components	Gross Total Power [MW]	Injection Bar	Type of Unit	System's Start-up year
AES Gener (1) (2)	Termoeléctrica Norgener	NTO1	1	136,3	Norgener 220 kV	Steam-Coal	1995
		NTO2	1	141,0	Norgener 220 kV	Steam-Coal	1997
Termoeléctrica Andina	Termoeléctrica Andina	CTA	1	177,0	Chacaya 220 kV	Steam-Coal	2011
Eléctrica Angamos	Termoeléctrica Angamos	ANG1	1	276,9	Angamos 220 kV	Steam-Coal	2011
		ANG2	1	281,3	Angamos 220 kV	Steam-Coal	2011
CELTA	Termoeléctrica Tarapacá	CTTAR	1	158,0	Tarapacá 220 kV	Steam-Coal	1999
		TGTAR (7)	1	23,8	Tarapacá 220 kV	Turbogas Diesel	1999
E-CL	Chapiquiña	CHAP	2	10,2	Arica 66 kV	Hidráulica pasada	1967
	Diesel Arica	GMAR	4	8,4	Arica 66 kV	Diesel engine	1973
		M1AR	3	3,0	Arica 66 kV	Diesel engine	1953
		M2AR	2	2,9	Arica 66 kV	Diesel engine	1964
	Diesel Iquique	MAIQ	1	5,9	Iquique 66 kV	Motor FO 6	1972
		MIIQ	2	2,9	Iquique 66 kV	Diesel engine	1963
		MSIQ	1	6,2	Iquique 66 kV	Motor FO 6	1985
		SUIQ	3	4,2	Iquique 66 kV	Diesel engine	1957
		TGIQ	1	23,8	Iquique 66 kV	Turbogas Diesel	1978
	Diesel Tamaya (3)	SUTA	10	103,7	Central Tamaya 110 kV	Motor FO 6	2009
	Termoeléctrica Mejillones	CTM1	1	165,9	Chacaya 220 kV	Steam-Coal	1995
		CTM2	1	175,0	Chacaya 220 kV	Steam-Coal	1998
		CTM3	2	250,8	Chacaya 220 kV	Natural Gas Combined Cycle	2000
	Termoeléctrica Tocopilla (3)	TG1	1	24,7	Central Tocopilla 110 kV	Turbogas Diesel	1975
		TG2	1	24,9	Central Tocopilla 110 kV	Turbogas Diesel	1975
		TG3 (8)	1	37,5	Central Tocopilla 220 kV	Turbogas Gas Natural - Diesel	1993
		U10	1	37,5	Central Tocopilla 110 kV	Vapor-FO 6	1960
		U11	1	37,5	Central Tocopilla 110 kV	Vapor-FO 6	1960
		U12	1	85,3	Central Tocopilla 110 kV	Steam-Coal	1983
		U13	1	85,5	Central Tocopilla 110 kV	Steam-Coal	1985
		U14	1	136,4	Central Tocopilla 220 kV	Steam-Coal	1987
		U15	1	132,4	Central Tocopilla 220 kV	Steam-Coal	1987
		U16	2	400,0	Central Tocopilla 220 kV	Natural Gas Combined Cycle	2001
	Diesel Enaex (4)	CUMMINS	1	0,7	Enaex 110 kV	Diesel engine	1996
		DEUTZ	3	2,0	Enaex 110 kV	Diesel engine	1996
Enorchile	Diesel Zofri	ZOFRI_1_6	2	1,8	Iquique 13.8 kV	Diesel engine	2007
		ZOFRI_2-5	4	5,2	Iquique 13.8 kV	Diesel engine	2007
	Diesel Estandartes	ZOFRI_13	1	1,6	Iquique 13.8 kV	Diesel engine	2013
		ZOFRI_7-12	6	4,8	Iquique 13.8 kV	Diesel engine	2009
	Diesel Mantos Blancos (5)	MIMB	10	28,6	Mantos Blancos 23 kV	Motor FO 6	1995
Equipos de Generación	Diesel Inacal	INACAL	4	6,8	La Negra 23 kV	Motor FO 6	2009
Gasatacama Chile	Atacama	CC1	3	395,9	Central Atacama 220 kV	Natural Gas Combined Cycle	1999
		CC2	3	384,7	Central Atacama 220 kV	Natural Gas Combined Cycle	1999
Generación Solar SpA.	María Elena FV	MARIA ELENA FV	1	68,0	María Elena	Solar Fotovoltaica	2015
Inversiones Hornitos	Termoeléctrica Hornitos	CTH	1	170,1	Chacaya 220 kV	Steam-Coal	2011
Noracid	Planta de Ácido Sulfúrico Mejillones (6)	PAM	1	17,5	Mejillones 110 kV	Cogeneratión	2012
Ingenova	Diesel Aguas Blancas	AGB	2	2,0	Aguas Blancas 13.2 kV	Diesel engine	2013
Pozo Almonte Solar 2	Pozo Almonte Solar 2	PAS2	1	7,5	Central Solar PAS2	Solar	2014
Pozo Almonte Solar 3	Pozo Almonte Solar 3	PAS3	1	16,0	Central Solar PAS3	Solar	2014
TECNET	Diesel La Portada	TECNET_1_3_6	3	3,0	La Portada 23 kV	Diesel engine	2014
Valle de los Vientos	Eólica Valle de los Vientos	EÓLICA VALLE DE LOS VIENTOS	1	90,0	Valle de los Vientos	Eólico	2014
Total to December 31 St of 2015				**4.165,1**			

Owner PMGD (9)	Station Name	Unit	N° Components	Gross Total Power [MW]	Injection Bar	Type of Unit	System's Start-up year
CAVANCHA	CAVANCHA	CAVA	1	2,8	Cerro Dragón 13,8 kV	Hidráulica pasada	2010
LOS PUQUIOS	LOS PUQUIOS	LOS PUQUIOS	1	2,5	Tamarugal 23 kV	Solar Fotovoltaica	2015
ENERNUEVAS	MINIHIDRO ALTO HOSPICIO	MHAH	1	1,1	Alto Hospicio 13,8 kV	Hidráulica pasada	2010
ENERNUEVAS	MINIHIDRO EL TORO N°2	MHT2	1	1,1	Alto Hospicio 13,8 kV	Hidráulica pasada	2010
ENERNUEVAS	MINIHIDRO SANTA ROSA	MHSR	1	1,3	Alto Hospicio 13,8 kV	Hidráulica pasada	2014
POZO ALMONTE SOLAR 1	PAS1	PAS1	1	9,0	Pozo Almonte 23 kV	Solar Fotovoltaica	2015
PMGD PICA PILOT	PMGD PICA	PMGD PICA	1	0,6	Tamarugal 23 kV	Solar Fotovoltaica	2015
Total PMGD to December 31 St 2015				18,4			
Total SING to December 31 St 2015				**4.183,5**			

Notes:
(1) As from June 01, 2014, Norgener was merged with AES Gener.
(2) Since 2014 Salta Station is no longer considered a property of AES Gener in the SING installed capacity.
(3) Electroandina's generating units became a part of E-CL as from December 1, 2011.
(4) Enaex' diesel station was represented at the CDEC-SING by Gasatacama until May 2007. As from June, 2007 it is represented by E-CL.
(5) Mantos Blancos diesel station is represented at the CDEC-SING by ENORCHILE.
(6) Co-generation station, power corresponds to the maximum surplus to be injected to the system.
(7) During the term January – November 1999 the TGTAR Unit belonged to Endesa. As from May 12, 1999, it was transferred to the SIC and returned to the SING on November 29, 1999, owned by Celta.
(8) The TG3 Unit is available to operate with natural gas as from September 2000.
(9) PMGD: Small Means of Distributed Generation.

SING TRANSMISSION LINES

Owner	Transmission line	Voltage [kV]	N° Circuits	Approximate length [km]	Capacity (7) [MVA]	System type	Start-up year
AES GENER	Andes - Tap Off Oeste	220	1	38	277	Additional	1998
	Andes - Nueva Zaldívar	220	2	63,3x2	363,9x2	Additional	1999
	Laberinto - Mantos Blancos	220	1	70,00	272,07	Additional	1999
	Nueva Zaldívar - Zaldívar	220	1	0,21	308,65	Additional	1994
	Central Salta - Andes	345	1	408,00	777	Additional	1999
	Tap Off Oeste - Minsal (13)	110	1	33	41,15	Additional	1997
	Laberinto - Lomas Bayas (13)	220	1	10	272,07	Additional	1997
	Tap Off Oeste - Laberinto (13)	220	1	85	272,07	Additional	1998
	Norgener - Crucero (13)	220	2	72x2	426,78x2	Additional	1997
ANGAMOS	Angamos - Laberinto	220	2	142x2	700x2	Additional	2010
	Est. N°2 Cochrane C1 - Est. N° 4 Angamos C2	220	1	0,05	649,311	Additional	N/I
COCHRANE	Cochrane-Encuentro Circuito N°2	220	1	152	677,5	Additional	N/I
CODELCO NORTE	Chuquicamata - 10	100	1	6,5	111,06	Additional	1988
	Chuquicamata - 10A	100	1	7,450	111,06	Additional	1988
	Chuquicamata - A	100	2	0,8x2	198,15x2	Additional	1988
	Chuquicamata - Chamy	100	1	12	111,06	Additional	1990
	Chuquicamata - K1	100	1	5,850	111,06	Additional	1988
	Chuquicamata - KM6	100	1	11	111,06	Additional	1988
	K1 - 10	100	1	1,3	111,06	Additional	1985
	KM6 - 10A	100	1	5,52	111,06	Additional	1988
	KM6 - Sopladores	100	1	2,0	447,5	Additional	1993
	Salar - km6	100	2	2,2x2	111,06x2	Additional	2005
	Encuentro - MMH	220	1	74,12	273,98	Additional	2013
	10A - 10	100	1	0	198,15	Additional	N/I
E-CL	Central Chapiquiña - Arica	66	1	84	48,01	Additional	1967
	Central Diesel Arica - Arica (5)	66	1	6,8	41,15	Sub-transmission / Additional	1964
	Central Diesel Iquique - Iquique	66	1	1,6	48,01	Additional	1970
	Iquique - Pozo Almonte.Circuito N°1	66	1	43,6	41,15	Additional	1964
	Iquique - Pozo Almonte.Circuito N°2	66	1	39,5	56,01	Additional	1987
	Pozo Almonte - Tamarugal	66	1	20,85	41,15	Sub-transmission	1968
	Arica - Pozo Almonte	110	1	216,0	68,59	Sub-transmission	1987
	Capricornio - Alto Norte	110	1	44,1	137,18	Additional	2000
	Capricornio - Antofagasta	110	1	28,0	137,18	Additional	2000
	Capricornio - Sierra Miranda	110	1	25,1	121,94	Additional	2007
	Chacaya - GNL Mejillones	110	1	11,13	122	Additional	2010
	Mejillones - Antofagasta	110	1	63,3	121,94	Additional	1987
	Central Diesel Tamaya - A	110	1	127,0	144,8	Additional	2009
	Central Diesel Tamaya - Salar	110	1	138,0	144,8	Additional	2009
	Central Tocopilla - A. Circuito N°1	110	1	143,47	79,35	Additional	1910
	Central Tocopilla - A. Circuito N°2	110	1	141	93,36	Additional	1910
	Central Tocopilla - Central Diesel Tamaya N°3	110	1	14,0	93,36	Additional	2009
	Central Tocopilla - Central Diesel Tamaya N°4	110	1	15,7	79,35	Additional	2009
	Chacaya - El Cobre	220	2	144x2	350,57x2	Additional	2011
	Laberinto - El Cobre	220	1	2,7	360,86	Additional	2012
	Chacaya - Crucero	220	1	152,7	327,7	Additional	1987
	Chacaya - Mantos Blancos	220	1	66,0	377,24	Additional	1996
	Chacaya - Mejillones	220	1	1,4	377,24	Additional	1987
	Lagunas - Pozo Almonte	220	1	70,0	327,7	Additional	1987
	El Cobre - Gaby	220	1	57,0	327,7	Additional	2010
	Central Tocopilla - Crucero	220	2	71,4x2	419x2	Additional	1986
	Crucero - Chuquicamata	220	1	69,8	442,02	Additional	1986
	Crucero - Radomiro Tomic	220	1	82,0	457,26	Additional	1996
	Crucero - Salar (1)	220	1	74,6	442,0	Additional	2005
	Salar - Chuquicamata (2)	220	1	12,4	442,0	Additional	2005
	Tap Off El Loa - El Loa	220	1	8,4	327,7	Additional	2000
	Tap Off Desalant - Desalant	110	1	1,9	33,91	Additional	2003
	KM6 - ACL	100	1	6,063	N/I	Additional	N/I

Owner	Transmission line	Voltage [kV]	N° Circuits	Approximate length [km]	Capacity (7) [MVA]	System type	Start-up year
EMELARI	Parinacota - Quiani: Est. N°6 - Quiani	66	1	3,18	25,33	Sub-transmission	37408
	Tap Off Quiani - Est. N°6	66	1	0,41	28,64	Sub-transmission	37408
ENAEX	Mejillones - Enaex	110	1	1,44	182,9	Additional	N/I
GRACE	Tap Off Barriles - Mantos de la Luna	110	1	27	70,69	Additionall	2006
HALDEMAN	Pozo Almonte - Sagasca	66	1	50	12	Additional	1971
	Tap Off Enlace - Antucoya	220	1	25,0	270,17	Additional	N/I
MINERA ATACAMA MINERALS	Tap Off Llanos - Aguas Blancas	66	1	28,2	N/I	Additional	N/I
MINERA CERRO COLORADO	Pozo Almonte - Cerro Colorado	110	1	61	164,04	Additional	1993
MINERA COLLAHUASI	Encuentro - Collahuasi. Circuito N°1	220	1	201	170,71	Additional	2004
	Encuentro - Collahuasi. Circuito N°2	220	1	201	170,71	Additional	2012
	Lagunas - Collahuasi	220	2	118x2	109x2	Additional	1998
MINERA EL TESORO	Encuentro - El Tesoro	220	1	90	327,7	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	7,0	245,8	Additional	1999
	Domeyko - Laguna Seca	220	1	13	245,8	Additional	2001
	Domeyko - OGP1	220	1	15,465	264,068	Additional	N/I
	Domeyko - Planta Óxidos	220	1	1,0	245,8	Additional	1998
	Domeyko - Sulfuros	220	1	1,0	293	Additional	2005
	Domeyko - SVC Domeyko	220	1	0,071	274,36	Additional	N/I
	Laberinto - Nueva Zaldívar. Circuito N°1	220	1	89	293	Additional	2010
	Mejillones - O'Higgins	220	1	74	260,64	Additional	2006
	Nueva Zaldívar - Escondida	220	1	14	293	Additional	2010
	Nueva Zaldívar - Sulfuros	220	1	13	293	Additional	2006
	Nueva Zaldivar - OGP1	220	1	N/I	N/I	Additional	N/I
	O'Higgins - Coloso	220	1	32	245,78	Additional	1993
	O'Higgins - Domeyko	220	1	128	245,78	Additional	1993
	OGP1 - 940	69	1	27	50,55	Additional	N/I
	Zaldívar - Escondida (3)	220	1	14	293	Additional	1996
	Laguna Seca - 418	69	1	13	19,12	Additional	2002
	Escondida - 940	69	1	30	50,55	Additional	2002
	Escondida - Escondida Norte	69	1	13	94,41	Additional	2004
	Escondida - Neurara	69	1	65	54,98	Additionall	2008
	Laguna Seca - 640	69	1	12	70,51	Additional	2002
	Lixiviación - Booster	69	2	2,5x2	64,54x2	Additional	2013
	Lixiviación - Sulfuros	69	2	14x2	77,08x2	Additional	2006
	Neurara - Monturaqui	69	1	15	54,98	Additional	2008
	OLAP - Sulfuros	69	1	6	60,11	Additional	N/I
MINERA ESPERANZA	Chacaya - Muelle	110	1	55	97,55	Additional	2010
	Muelle - Guayaques	110	1	50	93,36	Additional	2010
	El Cobre - Esperanza	220	2	81,3x2	179x2	Additional	2010
	El Tesoro - Esperanza	220	1	13	293,41	Additional	2010
MINERA LOMAS BAYAS	Lomas Bayas - Fortuna	220	1	6,3	187,93	Additional	2012
MINERA MERIDIAN	Tap Off Palestina - El Peñón	66	1	66	36,01	Additional	1999
MINERA MICHILLA	Mejillones - El Lince	110	1	74	28,58	Additional	1991
MINERA QUEBRADA BLANCA	Collahuasi - Quebrada Blanca	220	1	18	197,38	Additional	2002
MINERA SPENCE	Encuentro - Spence	220	1	67	318,18	Additional	2005
MINERA ZALDIVAR	Crucero - Laberinto. Circuito N°2	220	1	133	377,24	Additional	1994
	Laberinto - Nueva Zaldívar. Circuito N°2	220	1	89	377,24	Additional	1994
MOLY-COP	Chacaya - Molycop	220	1	0,8	327,7	Additional	2004
PLANTA SOLAR SAN PEDRO III	Calama - Solar Jama	220	1	31,968	137,2	Additional	N/I
SIERRA GORDA SCM	Tap Off Pampa Lina - Sierra Gorda	220	1	14	115,08	Additional	2012
SPS LA HUAYCA	Tap Off Tamarugal - La Huayca II	66	1	18	9,56	Additional	N/I
SQM	Tap Off La Cruz - S/E 021	66	1	7	27,55	Additional	2007
	Tap Off Nueva Victoria - Llamara	66	1	22,9	42,41	Additional	2006
	Tap Off Nueva Victoria - Sur Viejo	66	1	16,4	42,41	Additional	2006

Owner	Transmission line	Voltage [kV]	N° Circuits	Approximate length [km]	Capacity (7) [MVA]	System type	Start-up year
TRANSELEC NORTE	Atacama - Encuentro. Circuito N°1	220	1	151	386	Troncal	1999
	Atacama - Encuentro. Circuito N°2	220	1	153	386	Troncal	1999
	Atacama - Esmeralda	220	1	69	197,4	Sub-transmission	2001
	Crucero - El Abra	220	1	101	457,26	Additional	1995
	Crucero - Encuentro. Circuito N°1	220	1	1	384,9	Troncal	1999
	Crucero - Encuentro. Circuito N°2	220	1	1	384,9	Troncal	1999
	Crucero - Lagunas 1 (6)	220	1	174	182,9	Troncal	1987
	Crucero - Lagunas 2 (7)	220	1	173	182,9	Troncal	1998
	Cóndores - Parinacota	220	1	222	197,38	Sub-transmission	2001
	Tarapacá - Cóndores	220	1	70	197,38	Sub-transmission	2002
	Tarapacá - Lagunas	220	2	56x2	254x2	Troncal	1996
TRANSEMEL	Cóndores - Cerro Dragón	110	1	4,9	104,41	Sub-transmission	2001
	Cóndores - Pacífico	110	1	10	104,4	Sub-transmission	2001
	Cóndores - Palafitos	110	1	8,6	104,41	Sub-transmission	2001
	Esmeralda - Centro	110	1	0,6	104,41	Sub-transmission	2001
	Esmeralda - La Portada	110	1	17	104,41	Sub-transmission	2001
	Esmeralda - Sur	110	1	6,7	104,41	Sub-transmission	2001
	Esmeralda - Uribe	110	1	16	104,41	Additional	2001
	Salar - Calama	220	1	17,2	330,37	Sub-transmission	N/I
	Tap Off Alto Hospicio - Alto Hospicio	110	1	0,1	104,41	Sub-transmission	2001
	Parinacota - Chinchorro	66	1	3,5	62,64	Sub-transmission	2002
	Parinacota - Pukará	66	1	2,4	61,84	Sub-transmission	2003
	Parinacota - Quiani: Parinacota - Est. Nº6	66	1	3,9	13,2	Sub-transmission	37408
Transmisora Baquedano	Est. Bombeo SG 1 - Est. Bombeo SG 2 (10)	110	1	42,7	63,7118	Additional	2014
	Angamos - Est. De Bombeo SG N°1 (11)	110	1	10.96	86,6891	Additional	2014
Transmisora Mejillones	Encuentro - Sierra Gorda (12)	220	1	77,8x2	225,201	Additional	2014
Valle de los vientos	Valle de los vientos - Calama N°1	110	1	13,6	137,941	Additional	2014
XSTRATA COPPER - ALTONORTE	Antofagasta - Alto Norte	110	1	24	68,59	Additional	1993

Total Lines 66 kV	417	637
Total Lines 69 kV	213	738
Total Lines 100 kV	64	2.041
Total Lines 110 kV	1.415	3.248
Total Lines 220 kV	5.489	23.877
Total Lines 345 kV	408	777
	8.007	31.320
TOTAL SING TO DECEMBER 31 ST 2015 (9)	**8.007**	**31.320**

Notes:
(1) Line of shared ownership as described below:
Crucero-Torre 340 section owned by E-CL; Torre 340-Salar section owned by Codelco Norte.
(2) Line of shared ownership as described below:
Salar-Torre 340 section owned by Codelco Norte, Torre 340-Chuquicamata section owned by E-CL.
(3) Line of shared ownership between Minera Escondida and Minera Zaldívar.
(4) Line of shared ownership between EMELARI and TRANSEMEL.
(5) Arica - Tap Arica section corresponds to Subtransmission; Tap Arica - Central Arica Diesel Station is Additional.
(6) Line owned by Transelec S.A., formed by two sections: Crucero - Nueva Victoria and Nueva Victoria - Lagunas.
(6) Line owned by Transelec S.A., formed by two sections: Crucero - María Elena PV and María Elena PV - Lagunas.
(8) Lines capacity reported corresponds to the thermal capacity of the conductor.
(9) Total lengths of the SING per circuit.
(10) Line owned by Transmisora Baquedano, formed by two sections: Patio mufas Est. Bombeo SG 1 - Est. Bombeo SG 1 and Est. Bombeo SG 1 - Est. Bombeo SG 2.
(11) Line owned by Transmisora Baquedano, formed by three sections: Angamos - Patio mufas Angamos, Patio mufas Angamos - Patio mufas Est. de Bombeo SG 1 and Patio mufas Est. de Bombeo SG 1 - Est. de Bombeo SG 1.
(12) Line owned by Transmisora Mejillones, formed by two sections: Encuentro - Patio de mufas Encuentro and Patio de mufas Encuentro - Sierra Gorda.
(13) As from June, 2014, Norgener is merged with AES Gener.

SING MAIN CLIENTS AS OF DECEMBER 2015

Client	Category	Connected Power [MVA]	Maximum Demand [MW]	Annual Consumption [GWh]	Supplier	Supply Bar	Type
ACF Minera	Minería	2,61	2,89	18,6	CELTA	Lagunas 220 kV	Free
Algorta Norte	Minería	2,50	5,69	30,7	E-CL, NORACID	Chacaya 110 kV	Free
Alto Norte	Industrial	104,00	42,62	320,1	E-CL	Alto Norte 110 kV	Free
Antucoya	Minería	22,57	34,51	71,6	E-CL	Chacaya 110 kV, Tap Off Enlace 220 kV	Free
Atacama Agua y Tecnología	Industrial	14,00	11,40	87,0	E-CL	Desalant 110 kV	Free
Atacama Minerals	Minería	20,00	2,42	17,5	ON_GROUP	Aguas Blancas 13 kV	Free
Cerro Colorado	Minería	90,00	37,17	239,5	E-CL	Pozo Almonte 220 kV	Free
Cerro Dominador	Minería	13,52	3,63	21,0	E-CL	Calama 110 kV, Encuentro 220 kV	Free
Clientes Chapiquiña	-	0,37	0,51	2,0	E-CL	Chapiquiña 66 kV	Free
Clientes menores	-	0,04	0,08	0,6	E-CL	Arica 110 kV	Free
Codelco	Minería	1.144,83	475,64	3.471,6	ANDINA, E-CL, AES GENER	Chuquicamata 220 kV, Crucero 220 kV, El Cobre 220 kV, Encuentro 220 kV, Salar 110 kV,	Free
Collahuasi	Minería	300,00	175,65	1.286,5	CELTA, ENORCHILE, GASATACAMA, POZO ALMONTE 2, POZO ALMONTE 3	Collahuasi 220 kV	Free
Cosayach	Minería	37,80	4,92	37,0	ENORCHILE	Dolores 110 kV, Pozo Almonte 23 kV, Tamarugal 66 kV	Free
Ecometales	Minería	1,05	1,35	8,4	AES GENER	KM6 100 kV	Free
El Abra	Minería	150,00	110,91	791,4	E-CL	Crucero 220 kV	Free
El Tesoro	Minería	52,00	34,55	227,3	HORNITOS, NORACID	El Cobre 220 kV, Encuentro 220 kV	Free
Elecda	Distribuidora	0,00	161,98	1.000,7	E-CL	Antofagasta 110 kV, C. Atacama 220 kV, Calama 110 kV, El Cobre 220 kV, Encuentro 220 kV, La Negra 23 kV, Mantos Blancos 220 kV, Mejjillones 110 kV, Mejillones 23 kV, Tocopilla 5 kV, Uribe 110 kV	Regulated
Eliqsa	Distribuidora	0,00	83,64	550,2	E-CL	Alto Hospicio 110 kV, CD Iquique 13.8 kV, Cerro Dragón 110 kV, Dolores 110 kV, Iquique 13.8 kV, Lagunas 220 kV, Pozo Almonte 23 kV, Tamarugal 66 kV, Tarapacá 220 kV	Regulated
Emelari	Distribuidora	0,00	49,73	336,6	E-CL	Arica 110 kV, Arica 13.8 kV, CD Arica 13.8 kV, Tap Off Quiani 66 kV	Regulated
Enaex	Industrial	12,00	6,78	49,9	E-CL	Mejillones 110 kV	Free
GNL Mejillones	Industrial	12,50	2,97	14,6	E-CL	Chacaya 110 kV, Mejillones 23 kV	Free
Grace	Minería	25,00	10,39	42,5	AES GENER	Barrilles 220 kV	Free
Haldeman	Minería	17,25	5,62	39,4	E-CL	Pozo Almonte 66 kV	Free
Inacesa	Industrial	18,95	8,94	44,0	ENORCHILE	Inacesa 23 kV	Free
Lomas Bayas	Minería	133,20	43,60	316,4	E-CL	Laberinto 220 kV	Free
Mall Antofagasta	Industrial	5,66	5,33	24,2	E-CL	Antofagasta 110 kV	Free
Mantos Blancos	Minería	50,00	30,22	211,8	ENORCHILE	Mantos Blancos 23 kV	Free
Megapuerto	Industrial	0,78	1,98	5,3	E-CL	Mejillones 23 kV	Free
Michilla	Minería	31,20	15,47	97,5	E-CL	Mejillones 110 kV	Free
Minera Escondida	Minería	1.133,50	541,56	3.726,3	AES GENER, ANGAMOS	C. Atacama 220 kV, Mejillones 220 kV, Zaldivar 220 kV	Free
Minera Esperanza	Minería	130,00	141,17	961,4	HORNITOS	Chacaya 110 kV, El Cobre 220 kV, Encuentro 220 kV	Free
Minera Meridian	Minería	20,00	16,96	115,6	GASATACAMA	C. Atacama 220 kV, Mejillones 220 kV, Zaldivar 220 kV	Free
Minera Sierra Gorda	Minería	73,53	157,56	942,4	AES GENER	Angamos 220 kV, Encuentro 220 kV	Free
Minera Zaldívar	Minería	134,00	66,41	473,6	E-CL	Zaldivar 220 kV	Free
Molycop	Industrial	30,00	16,99	63,0	E-CL	Chacaya 220 kV	Free
Molynor	Industrial	1,50	3,34	19,6	E-CL	Mejillones 23 kV	Free
Pampa Camarones	Minería	4,00	2,91	14,1	E-CL	Arica 110 kV	Free
Polpaico	Industrial	3,83	2,11	7,6	E-CL	Mejillones 23 kV	Free
Puerto Mejillones	Industrial	4,00	0,99	4,5	E-CL	Mejillones 110 kV	Free
Quebrada Blanca	Industrial	50,00	22,97	98,9	AES GENER	Collahuasi 220 kV	Free
Quiborax	Minería	1,70	2,95	15,6	E-CL	El Águila 66 kV	Free
Sabo	Minería	7,00	4,37	15,2	ENORCHILE, GASATACAMA	Antofagasta 110 kV, Centro 110 kV	Free
Spence	Minería	180,00	83,55	532,0	ANGAMOS	Encuentro 220 kV	Free
SQM	Minería	118,28	80,93	562,2	AES GENER, E-CL	El Loa 220 kV, El Negro 110 kV, La Cruz 220 kV, Nva. Victoria 220 kV, Oeste 220 kV	Free

The consumption of : CAMIÑA, MAMIÑA, NORACID, PUNTA DE LOBOS, Interacid, EnorChile (Tap Off Dolores) are not included, since all data is not available and altogether they are very small.
Codelco includes: MINERA CHUQUICAMATA, MINERA GABY, MINERA MINISTRO HALES and MINERA RADOMIRO TOMIC.

09 OPERATION STATISTICS

I. SING: Generation Installed Capacity

INSTALLED CAPACITY AS PER COMPANY TERM 2006-2015

IN PHYSICAL UNITS [MW]

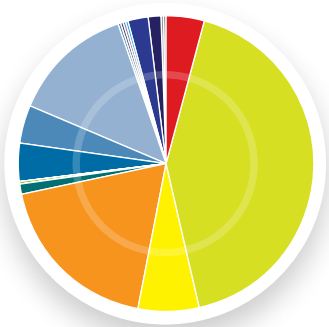
Company \ Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Celta	182	182	182	182	182	182	182	182	182	182
E-CL	719	722	705	693	691	1.796	1.796	1.767	1.767	1.767
Electroandina	992	992	1.000	1.105	1.105					
AES Gener [4] [5]	643	643	643	643	643	643	643	643	277	277
Gasatacama	783	781	781	781	781	781	781	781	781	781
Norgener [4]	277	283	283	277	277	277	277	277		
Enorchile				11	11	11	11	41	41	42
Equipos de Generación [3]				7	7	7	7	7	7	7
Cavancha [1]					3	3	3	3	3	3
Enernuevas [2]					2	2	2	2	2	3
Termoeléctrica Andina						169	169	169	169	177
Inversiones Hornitos						170	170	170	170	170
Eléctrica Angamos						545	545	545	545	558
Noracid							18	18	18	18
SPS La Huayca							1	1	1	
On Group								2	2	2
Pozo Almonte Solar 2									8	8
Pozo Almonte Solar 3									16	16
Tecnet									3	3
Valle de los Vientos									90	90
Generación Solar SpA										68
Parque Solar Los Puquios S.A.										2
Pozo Almonte Solar 1 SpA										9
Atacama Solar S.A.										1
TOTAL	3.596	3.602	3.593	3.699	3.701	4.585	4.604	4.607	4.081	4.183

IN PERCENTAGES [%]

Company \ Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Celta	5,1%	5,0%	5,1%	4,9%	4,9%	4,0%	3,9%	3,9%	4,5%	4,3%
E-CL	20,0%	20,0%	19,6%	18,7%	18,7%	39,2%	39,0%	38,4%	43,3%	42,2%
Electroandina	27,6%	27,5%	27,8%	29,9%	29,9%					
AES Gener [4] [5]	17,9%	17,8%	17,9%	17,4%	17,4%	14,0%	14,0%	14,0%	6,8%	6,6%
Gasatacama	21,8%	21,7%	21,7%	21,1%	21,1%	17,0%	17,0%	16,9%	19,1%	18,7%
Norgener [4]	7,7%	7,9%	7,9%	7,5%	7,5%	6,0%	6,0%	6,0%		
Enorchile				0,3%	0,3%	0,2%	0,2%	0,9%	1,0%	1,0%
Equipos de Generación [3]				0,2%	0,2%	0,1%	0,1%	0,1%	0,2%	0,2%
Cavancha [1]					0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Enernuevas [2]					0,1%	0,0%	0,0%	0,0%	0,1%	0,1%
Termoeléctrica Andina						3,7%	3,7%	3,7%	4,1%	4,2%
Inversiones Hornitos						3,7%	3,7%	3,7%	4,2%	4,1%
Eléctrica Angamos						11,9%	11,8%	11,8%	13,4%	13,3%
Noracid							0,4%	0,4%	0,4%	0,4%
SPS La Huayca							0,0%	0,0%	0,0%	
On Group								0,0%	0,0%	0,0%
Pozo Almonte Solar 2									0,2%	0,2%
Pozo Almonte Solar 3									0,4%	0,4%
Tecnet									0,1%	0,1%
Valle de los Vientos									2,2%	2,2%
Generación Solar SpA										1,6%
Parque Solar Los Puquios S.A.										0,1%
Pozo Almonte Solar 1 SpA										0,2%
Atacama Solar S.A.										0,0%
TOTAL	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

(1) Since November 3, 2010 Cavancha Station belongs to PMGD. Before, it was represented at the CDEC-SING by E-CL.
(2) Enernuevas and SPS La Huayca units corresponding to Small Distributed Energy Resources.
(3) Former INACAL.
(4) As of June 1, 2014, Norgener was absorbed by the AES Gener company.
(5) As of 2014, the Salta Plant, property of the AES Gener Company, is no longer considered in the Installed Capacity of the SING.

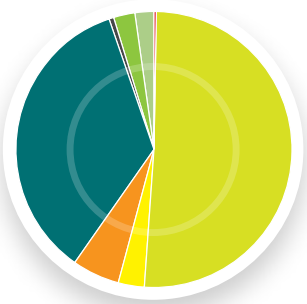
INSTALLED CAPACITY AS PER COMPANY



4,3%	CELTA
42,2%	E-CL
6,6%	AES GENER [4] [5]
18,7%	GASATACAMA
1,0%	ENORCHILE
0,2%	EQUIPOS DE GENERACIÓN [3]
0,1%	CAVANCHA [1]
0,1%	ENERNUEVAS [2]
4,2%	TERMOELÉCTRICA ANDINA
4,1%	INVERSIONES HORNITOS
13,3%	ELÉCTRICA ANGAMOS
0,4%	NORACID
0,0%	ON GROUP
0,2%	POZO ALMONTE SOLAR 2
0,4%	POZO ALMONTE SOLAR 3
0,1%	TECNET
2,2%	VALLE DE LOS VIENTOS
1,6%	GENERACIÓN SOLAR SPA
0,1%	PARQUE SOLAR LOS PUQUIOS S.A.
0,2%	POZO ALMONTE SOLAR 1 SPA
0,0%	ATACAMA SOLAR S.A.

(1) Since November 3, 2010 Central Cavancha corresponds to PMGD. Before such date it was represented at the CDEC-SING by E-CL.
(2) Enernuevas, SPS La Huayca, Los Puquios, Pozo Almonto Solar 1 and PMGD Pica Pilot units correspond to PMGD.
(3) Former Inacal.
(4) As from June 01, 2014, Norgener is merged with AES Gener
(5) Since 2014, Central Salta Station owned by AES Gener is no longer considered in the SING installed capacity.

INSTALLED CAPACITY AS PER FUEL TYPE



0,39%	HYDRO
50,72%	COAL
3,32%	DIESEL
5,41%	FUEL OIL
35,12%	NATURAL GAS [1]
0,42%	COGENERATION
2,46%	SOLAR
2,15%	WIND

(1) As of 2014, the Salta Plant, property of the AES Gener Company, is no longer considered in the Installed Capacity of the SING.

INSTALLED CAPACITY AS PER FUEL TYPE TERM 2006-2015

IN PHYSICAL UNITS (MW)

Fuel	Company	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Hidro	E-CL	13	13	13	10	10	10	10	10	10	10
	Cavancha (2)				3	3	3	3	3	3	3
	Enernuevas (7)					2	2	2	2	2	3
Subtotal		**13**	**13**	**13**	**13**	**15**	**15**	**15**	**15**	**15**	**16**
Coal	Celta	158,0	158,0	158,0	158,0	158,0	158,0	158,0	158,0	158,0	158,0
	E-CL	340,9	340,9	340,9	340,9	340,9	340,9	780,5	780,5	780,5	780,5
	Electroandina	429,4	429,4	437,5	439,6	439,6	439,6				
	Norgener (5)	277,3	277,3	277,3	277,3	277,3	277,3	277,3	277,3		
	Andina						168,8	168,8	168,8	168,8	177,0
	Hornitos						170,1	170,1	170,1	170,1	170,1
	Angamos						545,0	545,0	545,0	545,0	558,2
	AES Gener (5)									277,3	277,3
Subtotal		**1.206**	**1.206**	**1.214**	**1.216**	**1.216**	**2.100**	**2.100**	**2.100**	**2.100**	**2.121**
Diesel	Celta	24	24	24	24	24	24	24	24	24	24
	E-CL	62	65	48	48	48	48	98	98	98	98
	Electroandina	50	50	50	50	50	50				
	Gasatacama	3									
	Enorchile		6	6	11	11	11	11	12	12	12
	On Group								2	2	2
	Tecnet									3	3
Subtotal		**138**	**144**	**127**	**132**	**132**	**132**	**132**	**135,715**	**138,715**	**139**
Fuel Oil	E-CL (1)	53	53	53	41	41	41	219	191	191	191
	Electroandina	75	75	75	179	179	179				
	Equipos de Generación (3)				7	7	7	7	7	7	7
	Enorchile (4)								29	29	29
Subtotal		**128**	**128**	**128**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Natural Gas	E-CL	251	251	251	251	251	251	688	688	688	688
	AES Gener (6)	643	643	643	643	643	643	643	643		
	Gasatacama	781	781	781	781	781	781	781	781	781	781
	Electroandina	438	438	438	438	438	438				
Subtotal		**2.112**	**2.112**	**2.112**	**2.112**	**2.112**	**2.112**	**2.112**	**2.112**	**1.469**	**1.469**
Cogeneratión	Noracid							18	18	18	18
Subtotal								**18**	**18**	**18**	**18**
Solar	SPS La Huayca							1	1	1	0
	Pozo Almonte Solar 2									8	8
	Pozo Almonte Solar 3									16	16
	Generación Solar Spa										68
	Pozo Almonte Solar 1 (7)										9
	Los Puquios (7)										2
Subtotal								**1**	**1**	**25**	**103**
Wind	Valle de los Vientos									90	90
Subtotal										**90**	**90**
TOTAL		**3.596**	**3.602**	**3.593**	**3.699**	**3.701**	**4.585**	**4.604**	**4.607**	**4.081**	**4.181**

Notes:
(1) E-CL generating units that use Diesel-Fuel Oil mixtures have been associated to Fuel Oil.
(2) Since November, 2010, Cavancha Station corresponds to PMGD.
(3) Former Inacal
(4) Enorchile generating units that use Diesel-Fuel Oil mixtures have been associated to Fuel Oil.
(5) As from June 01, 2014, Norgener is merged with AES Gener.
(6) Since 2014 the Salta Station is no longer considered of AES Gener ownership in the SING installed capacity.
(7) They correspond to units of PMGD type.

II. SING: Energy Generation

GENERATION AS PER COMPANY AND UNIT 2015 (GWh)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	ANNUAL
E-CL													
CHAPIQUIÑA	3,98	3,74	4,43	3,61	3,33	3,18	3,76	3,58	3,89	4,57	4,06	4,27	46,41
CD ARICA	0,86	0,62	0,98	1,31	0,95	2,00	0,77	0,90	0,78	0,95	1,01	0,74	11,87
CD IQUIQUE	0,81	0,62	0,78	1,34	0,88	2,31	0,91	0,84	0,47	0,24	0,32	0,23	9,74
CTM3	30,22	99,02	57,72	21,93	2,10	0,04	0,00	6,59	0,00	4,43	10,96	16,55	249,55
CTM2	30,41	98,99	94,35	103,71	113,54	108,01	114,27	113,31	110,36	114,41	101,66	109,65	1.212,66
CTM1	103,44	96,85	99,27	53,32	109,03	107,42	0,70	0,00	67,74	106,06	91,72	97,99	933,52
DEUTZ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
CUMMINS	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
U10 - U11	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
U12 - U13	70,08	56,59	55,40	91,07	102,32	89,75	62,32	91,91	92,72	103,58	93,32	92,31	1.001,36
U14 - U15	168,86	157,39	149,88	169,51	144,05	112,67	167,13	168,91	131,95	83,39	115,56	169,64	1.738,95
U16	115,28	2,51	99,39	124,07	133,65	124,81	139,18	114,78	125,82	122,34	112,68	106,54	1.321,04
TG1	0,24	0,11	0,13	0,13	0,06	1,02	0,20	0,21	0,05	0,41	0,14	0,20	2,92
TG2	0,17	0,11	0,16	0,15	0,07	1,08	0,21	0,21	0,05	0,47	0,31	0,25	3,24
TG3	0,44	0,63	0,68	0,72	0,52	1,46	0,13	0,00	0,32	1,14	1,45	0,94	8,43
Solar El Águila (2)	0,40	0,28	0,43	0,37	0,35	0,35	0,36	0,38	0,39	0,41	0,38	0,38	4,48
SUTA	4,95	5,06	6,13	6,39	8,50	2,11	0,00	0,00	0,00	0,00	0,00	0,00	33,13
Total Gross Generation	**530,14**	**522,52**	**569,74**	**577,62**	**619,34**	**556,19**	**489,93**	**501,63**	**534,53**	**542,40**	**533,57**	**599,68**	**6.577,29**
Own Consumption	**32,61**	**28,31**	**39,26**	**41,66**	**41,66**	**39,76**	**28,91**	**32,82**	**32,82**	**39,17**	**40,66**	**43,64**	**441,27**
Total Net Generation	**497,53**	**494,21**	**530,48**	**535,96**	**577,68**	**516,43**	**461,02**	**468,81**	**501,71**	**503,23**	**492,91**	**556,04**	**6.136,02**
CELTA													
CTTAR	102,37	93,11	70,53	77,19	98,24	84,85	102,15	59,49	80,39	42,19	70,84	76,41	957,76
TGTAR	0,18	0,40	0,51	0,70	0,39	1,77	0,50	0,83	0,52	0,93	0,69	0,78	8,20
Total Gross Generation	**102,55**	**93,51**	**71,03**	**77,90**	**98,63**	**86,62**	**102,64**	**60,32**	**80,91**	**43,12**	**71,53**	**77,19**	**965,96**
Own Consumption	**8,25**	**7,36**	**5,61**	**6,47**	**6,47**	**7,01**	**8,56**	**4,78**	**6,95**	**4,24**	**6,60**	**6,60**	**78,89**
Total Net Generation	**94,30**	**86,15**	**65,42**	**71,43**	**92,16**	**79,61**	**94,08**	**55,54**	**73,96**	**38,88**	**64,93**	**70,59**	**887,07**
GASATACAMA													
TG1A	18,95	12,75	33,02	12,30	18,90	28,35	3,92	3,25	5,02	11,27	13,74	8,43	169,89
TG1B	35,48	22,74	4,93	2,56	31,83	46,28	31,03	42,47	1,43	10,84	24,97	9,43	263,98
TV1C	28,52	17,75	15,98	2,91	24,21	37,84	16,71	22,95	3,23	9,65	22,07	6,49	208,31
TG2A	0,78	15,66	0,00	31,92	22,59	26,73	46,69	23,81	16,70	58,01	15,47	6,40	264,77
TG2B	11,66	14,31	13,69	17,31	27,19	19,05	48,71	17,58	11,76	16,84	11,09	6,41	215,60
TV2C	6,48	16,05	7,07	24,47	25,32	23,37	53,18	21,07	14,08	40,31	13,85	3,74	249,00
Total Gross Generation	**101,87**	**99,26**	**74,69**	**91,47**	**150,04**	**181,62**	**200,23**	**131,14**	**52,23**	**146,92**	**101,18**	**40,89**	**1.371,55**
Own Consumption	**3,68**	**4,02**	**3,05**	**3,49**	**3,49**	**5,01**	**5,10**	**4,61**	**2,93**	**4,86**	**4,26**	**4,12**	**48,62**
Total Net Generation	**98,19**	**95,24**	**71,64**	**87,98**	**146,55**	**176,61**	**195,13**	**126,53**	**49,30**	**142,06**	**96,92**	**36,77**	**1.322,93**
AES GENER (3)													
NTO1	98,60	83,36	94,45	96,38	100,52	95,49	100,45	98,55	97,59	80,69	68,92	98,24	1.113,24
NTO2	92,61	86,50	71,55	0,00	0,00	64,69	100,06	95,55	89,65	95,06	86,29	82,64	864,60
CC1 (AES GENER)	29,03	7,47	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	36,50
CTM3 (AES GENER)	26,87	0,00	15,70	87,26	21,23	78,17	74,73	94,51	79,22	119,75	56,06	66,79	720,29
Total Gross Generation	**247,11**	**177,32**	**181,71**	**183,64**	**121,75**	**238,34**	**275,24**	**288,61**	**266,47**	**295,50**	**211,27**	**247,67**	**2.734,64**
Own Consumption	**15,96**	**12,92**	**12,95**	**11,81**	**11,81**	**16,26**	**18,73**	**18,94**	**19,50**	**20,32**	**15,82**	**18,68**	**193,70**
Total Net Generation	**231,15**	**164,40**	**168,76**	**171,83**	**109,94**	**222,08**	**256,51**	**269,67**	**246,97**	**275,18**	**195,45**	**228,99**	**2.540,94**

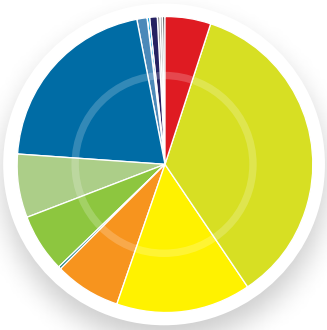
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	ANNUAL
CAVANCHA													
CAVA	1,49	1,30	1,52	1,42	1,39	1,40	1,48	1,52	1,47	1,49	1,50	1,51	17,48
Total Gross Generation	**1,49**	**1,30**	**1,52**	**1,42**	**1,39**	**1,40**	**1,48**	**1,52**	**1,47**	**1,49**	**1,50**	**1,51**	**17,48**
Own Consumption	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,24**
Total Net Generation	**1,47**	**1,28**	**1,50**	**1,40**	**1,37**	**1,38**	**1,46**	**1,50**	**1,45**	**1,47**	**1,48**	**1,49**	**17,24**
ENORCHILE													
ZOFRI_1_6	0,02	0,03	0,03	0,04	0,04	0,11	0,03	0,05	0,04	0,05	0,08	0,05	0,57
ZOFRI_2-5	0,15	0,18	0,26	0,25	0,22	0,59	0,13	0,23	0,16	0,20	0,23	0,18	2,78
ZOFRI_7-12	0,11	0,17	0,34	0,44	0,32	0,69	0,18	0,28	0,25	0,48	0,49	0,32	4,07
ZOFRI_13	0,04	0,00	0,00	0,00	0,00	0,00	0,03	0,08	0,08	0,15	0,16	0,10	0,64
MIMB	0,66	0,65	1,17	1,41	1,86	2,51	0,82	1,04	0,69	0,87	0,96	0,67	13,33
Total Gross Generation	**0,98**	**1,03**	**1,80**	**2,14**	**2,44**	**3,91**	**1,19**	**1,70**	**1,21**	**1,76**	**1,92**	**1,33**	**21,40**
Own Consumption	**0,05**	**0,05**	**0,07**	**0,07**	**0,07**	**0,12**	**0,05**	**0,07**	**0,06**	**0,06**	**0,06**	**0,06**	**0,79**
Total Net Generation	**0,93**	**0,98**	**1,73**	**2,07**	**2,37**	**3,79**	**1,14**	**1,63**	**1,15**	**1,70**	**1,86**	**1,27**	**20,61**
EQUIPOS DE GENERACIÓN [1]													
INACAL1 - 4	0,00	0,00	0,01	0,01	0,00	0,01	0,04	0,17	0,18	0,21	0,41	0,36	1,41
Total Gross Generation	**0,00**	**0,00**	**0,01**	**0,01**	**0,00**	**0,01**	**0,04**	**0,17**	**0,18**	**0,21**	**0,41**	**0,36**	**1,41**
Own Consumption	**0,00**	**0,00**	**0,01**	**0,00**	**0,00**		**0,00**	**0,01**	**0,03**	**0,00**	**0,00**	**0,04**	**0,09**
Total Net Generation	**0,00**	**0,00**	**0,00**	**0,01**	**0,00**	**0,01**	**0,04**	**0,16**	**0,15**	**0,21**	**0,41**	**0,32**	**1,32**
ANDINA													
CTA1	115,83	104,06	105,88	71,34	36,99	101,23	107,39	115,84	97,85	110,67	107,06	115,35	1.189,47
Total Gross Generation	**115,83**	**104,06**	**105,88**	**71,34**	**36,99**	**101,23**	**107,39**	**115,84**	**97,85**	**110,67**	**107,06**	**115,35**	**1.189,47**
Own Consumption	**11,40**	**10,28**	**10,95**	**7,10**	**7,10**	**10,50**	**11,04**	**11,49**	**9,86**	**11,03**	**11,39**	**11,49**	**123,63**
Total Net Generation	**104,43**	**93,78**	**94,93**	**64,24**	**29,89**	**90,73**	**96,35**	**104,35**	**87,99**	**99,64**	**95,67**	**103,86**	**1.065,84**
ANGAMOS													
ANG1	159,07	120,90	148,33	168,32	182,08	76,46	60,84	182,68	175,70	188,35	178,36	166,20	1.807,29
ANG2	165,47	158,35	177,78	186,96	194,20	180,12	130,65	106,57	187,36	192,60	190,34	193,77	2.064,16
Total Gross Generation	**324,54**	**279,26**	**326,11**	**355,28**	**376,27**	**256,58**	**191,49**	**289,26**	**363,06**	**380,95**	**368,70**	**359,96**	**3.871,45**
Own Consumption	**33,48**	**34,93**	**36,01**	**36,39**	**36,39**	**27,16**	**21,56**	**27,66**	**36,23**	**36,39**	**35,77**	**36,30**	**398,27**
Total Net Generation	**291,06**	**244,33**	**290,10**	**318,89**	**339,88**	**229,42**	**169,93**	**261,60**	**326,83**	**344,56**	**332,93**	**323,66**	**3.473,18**
ENERNUEVAS													
MHAH - MHT2 - MHSR	1,22	1,53	1,82	1,74	1,87	1,72	1,58	1,78	1,71	1,80	1,72	1,69	20,17
Total Gross Generation	**1,22**	**1,53**	**1,82**	**1,74**	**1,87**	**1,72**	**1,58**	**1,78**	**1,71**	**1,80**	**1,72**	**1,69**	**20,17**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Net Generation	**1,22**	**1,53**	**1,82**	**1,74**	**1,87**	**1,72**	**1,58**	**1,78**	**1,71**	**1,80**	**1,72**	**1,69**	**20,17**
HORNITOS													
CTH1	105,25	98,54	115,04	114,28	112,41	84,47	116,54	117,78	113,92	88,22	111,16	115,41	1.293,01
Total Gross Generation	**105,25**	**98,54**	**115,04**	**114,28**	**112,41**	**84,47**	**116,54**	**117,78**	**113,92**	**88,22**	**111,16**	**115,41**	**1.293,01**
Own Consumption	**11,71**	**10,79**	**12,21**	**11,94**	**11,94**	**8,93**	**12,12**	**12,24**	**11,82**	**9,10**	**11,12**	**11,93**	**135,85**
Total Net Generation	**93,54**	**87,75**	**102,83**	**102,34**	**100,47**	**75,54**	**104,42**	**105,54**	**102,10**	**79,12**	**100,04**	**103,48**	**1.157,16**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	ANNUAL
NORACID													
PAM	11,37	10,37	10,74	11,90	12,01	11,28	11,66	10,48	11,25	11,44	10,69	10,72	133,91
Total Gross Generation	**11,37**	**10,37**	**10,74**	**11,90**	**12,01**	**11,28**	**11,66**	**10,48**	**11,25**	**11,44**	**10,69**	**10,72**	**133,91**
Own Consumption	**0,10**	**0,10**	**0,11**	**0,00**	**0,00**	**0,04**	**0,00**	**0,16**	**0,00**	**0,00**	**0,00**	**0,00**	**0,51**
Total Net Generation	**11,27**	**10,27**	**10,63**	**11,90**	**12,01**	**11,24**	**11,66**	**10,32**	**11,25**	**11,44**	**10,69**	**10,72**	**133,40**
SPS LA HUAYCA													
HUAYCA1 (4)	1,49	1,36	1,48	1,47	1,44	0,71	3,01	2,26	0,00	0,00	0,00	0,00	13,21
LA HUAYCA II	0,00	0,00	0,00	0,00	0,00	0,00	0,16	2,83	5,40	5,55	5,47	5,25	24,66
Total Gross Generation	**1,49**	**1,36**	**1,48**	**1,47**	**1,44**	**0,71**	**3,17**	**5,09**	**5,40**	**5,55**	**5,47**	**5,25**	**37,88**
Own Consumption	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,00**	**0,02**	**0,03**	**0,03**	**0,03**	**0,03**	**0,03**	**0,22**
Total Net Generation	**1,48**	**1,35**	**1,47**	**1,46**	**1,43**	**0,71**	**3,15**	**5,06**	**5,37**	**5,52**	**5,44**	**5,22**	**37,66**
ONGROUP													
AGB	0,06	0,04	0,01	0,05	0,03	0,17	0,04	0,10	0,12	0,11	0,09	0,07	0,89
Total Gross Generation	**0,06**	**0,04**	**0,01**	**0,05**	**0,03**	**0,17**	**0,04**	**0,10**	**0,12**	**0,11**	**0,09**	**0,07**	**0,89**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Net Generation	**0,06**	**0,04**	**0,01**	**0,05**	**0,03**	**0,17**	**0,04**	**0,10**	**0,12**	**0,11**	**0,09**	**0,07**	**0,89**
VALLE DE LOS VIENTOS													
VALLE DE LOS VIENTOS	22,60	20,64	20,74	16,11	17,05	16,83	19,24	20,33	18,47	18,12	20,94	21,15	232,22
Total Gross Generation	**22,60**	**20,64**	**20,74**	**16,11**	**17,05**	**16,83**	**19,24**	**20,33**	**18,47**	**18,12**	**20,94**	**21,15**	**232,22**
Own Consumption	**0,10**	**0,09**	**0,10**	**0,08**	**0,08**	**0,06**	**0,05**	**0,05**	**0,05**	**0,06**	**0,07**	**0,08**	**0,87**
Total Net Generation	**22,50**	**20,55**	**20,64**	**16,03**	**16,97**	**16,77**	**19,19**	**20,28**	**18,42**	**18,06**	**20,87**	**21,07**	**231,35**
LOS PUQUIOS													
LOS PUQUIOS	0,33	0,37	0,41	0,39	0,37	0,33	0,36	0,39	0,42	0,42	0,43	0,44	4,65
Total Gross Generation	**0,33**	**0,37**	**0,41**	**0,39**	**0,37**	**0,33**	**0,36**	**0,39**	**0,42**	**0,42**	**0,43**	**0,44**	**4,65**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Net Generation	**0,33**	**0,37**	**0,41**	**0,39**	**0,37**	**0,33**	**0,36**	**0,39**	**0,42**	**0,42**	**0,43**	**0,44**	**4,65**
POZO ALMONTE SOLAR 2													
POZO ALMONTE SOLAR 2	1,49	1,54	1,52	1,60	1,47	1,38	1,45	1,61	1,84	1,99	2,19	2,21	20,30
Total Gross Generation	**1,49**	**1,54**	**1,52**	**1,60**	**1,47**	**1,38**	**1,45**	**1,61**	**1,84**	**1,99**	**2,19**	**2,21**	**20,30**
Own Consumption	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,12**
Total Net Generation	**1,48**	**1,53**	**1,51**	**1,59**	**1,46**	**1,37**	**1,44**	**1,60**	**1,83**	**1,98**	**2,18**	**2,20**	**20,18**
POZO ALMONTE SOLAR 3													
POZO ALMONTE SOLAR 3	4,59	3,65	3,75	3,37	3,17	2,97	3,14	3,46	3,95	4,18	4,69	4,74	45,66
Total Gross Generation	**4,59**	**3,65**	**3,75**	**3,37**	**3,17**	**2,97**	**3,14**	**3,46**	**3,95**	**4,18**	**4,69**	**4,74**	**45,66**
Own Consumption	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,02**	**0,24**
Total Net Generation	**4,57**	**3,63**	**3,73**	**3,35**	**3,15**	**2,95**	**3,12**	**3,44**	**3,93**	**4,16**	**4,67**	**4,72**	**45,42**
TECNET													
TECNET	0,09	0,06	0,09	0,03	0,06	0,11	0,02	0,05	0,08	0,17	0,15	0,15	1,05
Total Gross Generation	**0,09**	**0,06**	**0,09**	**0,03**	**0,06**	**0,11**	**0,02**	**0,05**	**0,08**	**0,17**	**0,15**	**0,15**	**1,05**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Net Generation	**0,09**	**0,06**	**0,09**	**0,03**	**0,06**	**0,11**	**0,02**	**0,05**	**0,08**	**0,17**	**0,15**	**0,15**	**1,05**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	ANNUAL
GENERACIÓN SOLAR													
María Elena FV	17,59	15,90	14,40	14,25	13,02	11,32	12,48	13,94	16,97	17,48	19,34	16,26	182,95
Total Gross Generation	**17,59**	**15,90**	**14,40**	**14,25**	**13,02**	**11,32**	**12,48**	**13,94**	**16,97**	**17,48**	**19,34**	**16,26**	**182,95**
Own Consumption	**0,08**	**0,07**	**0,08**	**0,09**	**0,09**	**0,09**	**0,09**	**0,09**	**0,09**	**0,09**	**0,08**	**0,07**	**1,01**
Total Net Generation	**17,51**	**15,83**	**14,32**	**14,16**	**12,93**	**11,23**	**12,39**	**13,85**	**16,88**	**17,39**	**19,26**	**16,19**	**181,94**
PLANTA SOLAR SAN PEDRO III													
SOLAR JAMA 1	0,00	0,00	0,00	2,64	6,77	5,92	6,65	7,29	8,75	8,86	9,46	10,08	66,42
Total Gross Generation	**0,00**	**0,00**	**0,00**	**2,64**	**6,77**	**5,92**	**6,65**	**7,29**	**8,75**	**8,86**	**9,46**	**10,08**	**66,42**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Net Generation	**0,00**	**0,00**	**0,00**	**2,64**	**6,77**	**5,92**	**6,65**	**7,29**	**8,75**	**8,86**	**9,46**	**10,08**	**66,42**
POZO ALMONTE SOLAR 1													
PMGD-PAS1	0,00	0,00	0,00	0,00	0,00	0,77	1,91	2,21	2,53	2,58	2,50	2,88	15,37
Total Gross Generation	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,77**	**1,91**	**2,21**	**2,53**	**2,58**	**2,50**	**2,88**	**15,37**
Own Consumption	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,07**
Total Net Generation	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,76**	**1,90**	**2,20**	**2,52**	**2,57**	**2,49**	**2,87**	**15,30**
TOTAL SING													
Gross Generation	1.590,58	1.432,24	1.502,48	1.528,62	1.576,51	1.563,88	1.547,89	1.574,69	1.583,32	1.683,94	1.585,96	1.634,99	18.805,11
Own Consumption	117,48	108,98	120,47	119,16	119,16	115,00	106,29	113,01	120,43	125,41	125,92	133,10	1.424,39
Net Generation	1.473,10	1.323,26	1.382,01	1.409,46	1.457,35	1.448,88	1.441,60	1.461,68	1.462,89	1.558,53	1.460,04	1.501,89	17.380,72
Transmission losses	35,50	47,32	25,27	34,93	42,51	34,10	41,25	42,04	40,93	40,93	37,50	41,25	463,56
Sales to free clients	1.280,83	1.134,75	1.191,82	1.216,23	1.263,31	1.258,45	1.236,98	1.257,10	1.269,90	1.357,20	1.267,02	1.299,31	15.032,90
Sales to regulated clients	156,77	141,19	164,92	158,30	151,53	156,33	163,37	162,54	152,06	160,40	155,53	161,33	1.884,26
Total Sales	**1.437,60**	**1.275,94**	**1.356,74**	**1.374,53**	**1.414,84**	**1.414,78**	**1.400,35**	**1.419,64**	**1.421,96**	**1.517,60**	**1.422,54**	**1.460,64**	**16.917,16**
TOTAL SING (%)													
Gross Generation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Own Consumption	7%	8%	8%	8%	8%	7%	7%	7%	8%	7%	8%	8%	8%
Net Generation	93%	92%	92%	92%	92%	93%	93%	93%	92%	93%	92%	92%	92%
Transmission losses	2%	3%	2%	2%	3%	2%	3%	3%	3%	2%	2%	3%	2%
Sales to free clients	81%	79%	79%	80%	80%	80%	80%	80%	80%	81%	80%	79%	80%
Sales to regulated clients	10%	10%	11%	10%	10%	10%	11%	10%	10%	10%	10%	10%	10%
Total Sales	**90%**	**89%**	**90%**	**90%**	**90%**	**90%**	**90%**	**90%**	**90%**	**90%**	**90%**	**89%**	**90%**

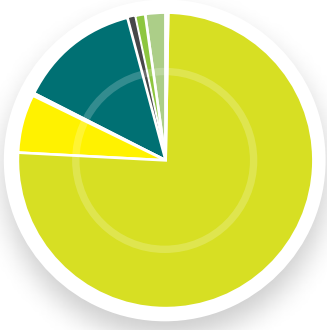
(1) Former Inacal
(2) Station undergoing tests
(3) As from June 01, 2014, Norgener is merged with AES Gener
(4) La Huayca SPS PMGD Station ceases its service in June, 2015.

GROSS GENERATION AS PER COMPANY



- 5,1% CELTA
- 35,0% E-CL
- 14,5% AES GENER
- 7,3% GASATACAMA
- 0,1% ENORCHILE
- 0,0% EQUIPOS DE GENERACIÓN
- 6,3% TERMOELÉCTRICA ANDINA
- 6,9% INVERSIONES HORNITOS
- 20,6% ELÉCTRICA ANGAMOS
- 0,0% TECNET
- 0,1% CAVANCHA
- 1,0% GENERACIÓN SOLAR SPA
- 0,1% ENERNUEVAS
- 0,0% LOS PUQUIOS
- 1,2% VALLE DE LOS VIENTOS
- 0,1% POZO ALMONTE SOLAR 2
- 0,2% POZO ALMONTE SOLAR 3
- 0,7% NORACID
- 0,2% SPS LA HUAYCA
- 0,0% ON GROUP
- 0,4% PLANTA SOLAR SAN PEDRO III
- 0,1% POZO ALMONTE SOLAR 1

GROSS GENERATION AS PER FUEL



- 0,4% HIDRO
- 75,4% COAL
- 6,5% DIESEL
- 0,2% FUEL OIL (1)
- 13,5% NATURAL GAS
- 0,7% COGENERATION
- 1,2% WIND
- 2,0% SOLAR

(1) Generating units that use Diesel-Fuel Oil mixtures have been associated to Fuel Oil.

GENERATION OF SING STATIONS TERM 2006 - 2015 (GWh)

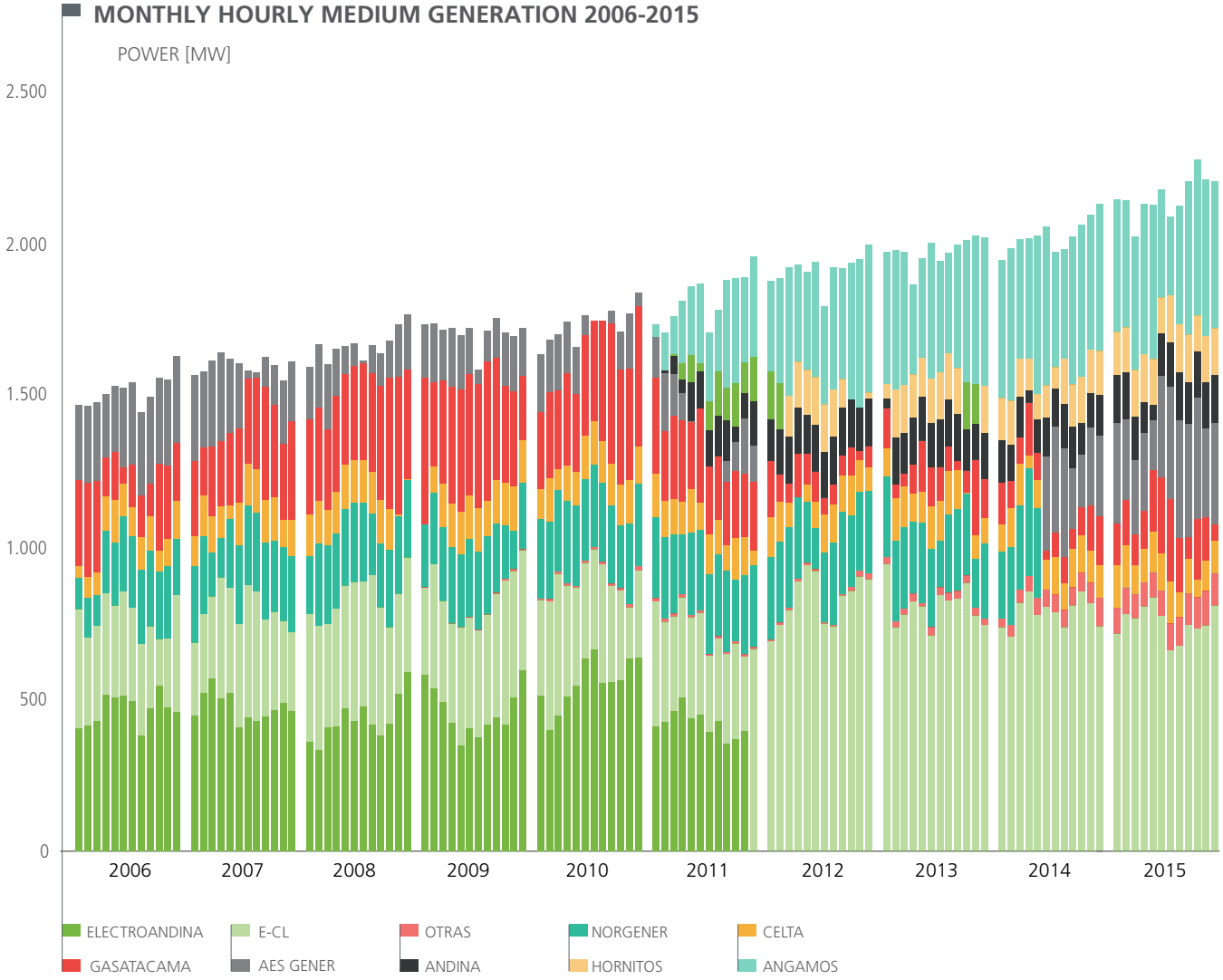
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CELTA										
CTTAR	830	1.012	981	1.065	1.076	973	848	912	911	958
TGTAR	2	14	18	11	10	8	4	6	5	8
Total Gross Generation	**832**	**1.026**	**999**	**1.076**	**1.086**	**981**	**852**	**919**	**916**	**966**
Own Consumption	**72**	**84**	**81**	**86**	**86**	**75**	**74**	**74**	**76**	**79**
Total Net Generation	**760**	**941**	**918**	**990**	**999**	**906**	**778**	**844**	**840**	**887**
E-CL										
CHAPIQUIÑA	55	53	53	47	42	40	49	44	48	46
CAVANCHA (1)	15	15	15	15	13					
CD ARICA	7	33	32	17	25	16	12	15	11	12
CD IQUIQUE	13	50	60	31	42	34	18	11	9	10
CD ANTOFAGASTA (4)	15	32	6	0	0					
CD MANTOS BLANCOS	25	7	0	69	88	49	40	21		
CD ENAEX		1	0	1	1		0	0	0	0
CTM1	880	1.057	1.202	1.191	1.114	1.118	1.204	1.146	1.132	934
CTM2	1.033	1.188	1.298	1.282	1.220	1.159	1.163	1.100	1.116	1.213
CTM3	600	400	814	632	367	310	306	155	182	250
U10 - U11 (3)						0	7	32	0	0
U12 - U13 (3)						22	986	936	1.012	1.001
U14 - U15 (3)						127	1.915	1.875	1.707	1.739
U16 (3)						102	1.422	1.451	1.460	1.321
TG1 - TG2 (3)						0	2	5	3	6
TG3 (3)						1	8	14	11	8
Solar El Águila								2	4	4
SUTA (3)						9	137	258	173	33
Total Gross Generation	**2.643**	**2.837**	**3.480**	**3.285**	**2.912**	**2.988**	**7.270**	**7.064**	**6.868**	**6.577**
Own Consumption	**169**	**200**	**230**	**225**	**199**	**219**	**472**	**429**	**495**	**441**
Total Net Generation	**2.475**	**2.637**	**3.250**	**3.060**	**2.713**	**2.769**	**6.798**	**6.635**	**6.373**	**6.136**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ELECTROANDINA										
U09										
U10 - U11 (3)	19	187	322	112	45	32				
U12 - U13 (3)	463	1.052	1.125	1.121	1.167	609				
U14 - U15 (3)	1.688	1.905	1.784	1.820	1.888	1.447				
U16 (3)	1.884	936	474	732	1.527	1.095				
TG1 - TG2 (3)	0	12	25	12	4	7				
TG3 (3)	12	40	56	33	20	16				
SUTA (3)				184	187	151				
Total Gross Generation	**4.066**	**4.132**	**3.785**	**4.014**	**4.838**	**3.357**				
Own Consumption	**218**	**255**	**254**	**249**	**294**	**215**				
Total Net Generation	**3.848**	**3.877**	**3.531**	**3.764**	**4.545**	**3.142**				
AES GENER (6)										
CC Salta	2.285	1.628	1.154	1.348	958	734	0	0	5	
NTO1									593	1.113
NTO2									603	865
CTM3 (AES GENER)									195	720
CC1 (AES GENER)										36
Total Gross Generation	**2.285**	**1.628**	**1.154**	**1.348**	**958**	**734**	**0**	**0**	**1.396**	**2.735**
Own Consumption	**46**	**38**	**22**	**7**	**5**	**2**	**0**	**0**	**96**	**194**
Total Net Generation	**2.239**	**1.590**	**1.132**	**1.341**	**953**	**733**	**0**	**0**	**1.300**	**2.541**
GASATACAMA										
CC1	411	1.002	2.331	1.405	1.244	1.230	444	684	347	642
CC2	1.285	1.311	640	1.801	1.729	897	332	248	558	729
ENAEX	0	0								
Total Gross Generation	**1.696**	**2.313**	**2.971**	**3.205**	**2.973**	**2.127**	**776**	**932**	**906**	**1.372**
Own Consumption	**61**	**75**	**73**	**90**	**85**	**71**	**38**	**41**	**40**	**49**
Total Net Generation	**1.635**	**2.237**	**2.898**	**3.116**	**2.888**	**2.056**	**738**	**891**	**865**	**1.323**
NORGENER (6)										
NTO1	776	897	1.039	1.049	1.099	1.104	1.145	1.072	452	
NTO2	938	1.107	1.061	911	1.170	1.120	998	1.047	455	
CTM3 (Norgener)									126	
ZOFRI_1-6 (Hasta 2008)		1	2							
ZOFRI_2-5 (Hasta 2008)		7	11							
Total Gross Generation	**1.714**	**2.011**	**2.113**	**1.960**	**2.269**	**2.225**	**2.143**	**2.119**	**1.034**	
Own Consumption	**125**	**138**	**145**	**134**	**149**	**149**	**142**	**154**	**73**	
Total Net Generation	**1.589**	**1.873**	**1.969**	**1.826**	**2.120**	**2.076**	**2.001**	**1.964**	**960**	
CAVANCHA (2)										
CAVA					2	15	15	17	17	17
Total Gross Generation					**2**	**15**	**15**	**17**	**17**	**17**
Own Consumption					**0**	**0**	**0**	**0**	**0**	**0**
Total Net Generation					**2**	**15**	**15**	**17**	**17**	**17**
Equipos de Generación (5)										
CD Inacal				13	44	24	8	22	8	1
Total Gross Generation				**13**	**44**	**24**	**8**	**22**	**8**	**1**
Own Consumption				**0**	**0**	**0**	**0**	**1**	**1**	**0**
Total Net Generation				**13**	**44**	**24**	**8**	**21**	**7**	**1**
ENORCHILE										
Central Estandartes				6	17	6	1	6	5	5
ZOFRI_1-6						1	3	1	1	1
ZOFRI_2-5						4	4	3	3	3
MIMB								1	13	13
Total Gross Generation				**6**	**17**	**11**	**8**	**11**	**22**	**21**
Own Consumption				**0**	**0**	**0**	**0**	**0**	**1**	**1**
Total Net Generation				**6**	**17**	**10**	**8**	**11**	**21**	**21**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ANDINA										
CTA					1	756	1.312	1.190	1.044	1.189
Total Gross Generation					**1**	**756**	**1.312**	**1.190**	**1.044**	**1.189**
Own Consumption					**0**	**63**	**132**	**126**	**113**	**124**
Total Net Generation					**1**	**692**	**1.180**	**1.064**	**931**	**1.066**
ANGAMOS										
ANG1					0	1.280	1.480	1.759	1.932	1.807
ANG2						708	1.879	1.838	2.023	2.064
Total Gross Generation					**0**	**1.988**	**3.359**	**3.597**	**3.955**	**3.871**
Own Consumption					**0**	**201**	**371**	**397**	**404**	**398**
Total Net Generation					**0**	**1.787**	**2.988**	**3.200**	**3.551**	**3.473**
ENERNUEVAS										
MHAH - MHT2 - MHSR					3	17	18	17	16	20
Total Gross Generation					**3**	**17**	**18**	**17**	**16**	**20**
Own Consumption					**0**	**0**	**0**	**0**	**0**	**0**
Total Net Generation					**3**	**17**	**18**	**17**	**16**	**20**
HORNITOS										
CTH1						669	969	1.225	1.095	1.293
Total Gross Generation						**669**	**969**	**1.225**	**1.095**	**1.293**
Own Consumption						**71**	**99**	**130**	**119**	**136**
Total Net Generation						**598**	**871**	**1.096**	**976**	**1.157**
NORACID										
PAM							25	121	122	134
Total Gross Generation							**25**	**121**	**122**	**134**
Own Consumption							**4**	**3**	**10**	**1**
Total Net Generation							**21**	**118**	**112**	**133**
ONGROUP										
AGB								1	2	1
Total Gross Generation								**1**	**2**	**1**
Own Consumption								**0**	**0**	**0**
Total Net Generation								**1**	**2**	**1**
SPS LA HUAYCA										
HUAYCA1 (4)							0	2	11	13
LA HUAYCA II										25
Total Gross Generation							**0**	**2**	**11**	**38**
Own Consumption							**0**	**0**	**0**	**0**
Total Net Generation							**0**	**2**	**11**	**38**
VALLE DE LOS VIENTOS										
VALLE DE LOS VIENTOS									215	232
Total Gross Generation									**215**	**232**
Own Consumption									**1**	**1**
Total Net Generation									**215**	**231**
LOS PUQUIOS										
LOS PUQUIOS									4	5
Total Gross Generation									**4**	**5**
Own Consumption									**0**	**0**
Total Net Generation									**4**	**5**
POZO ALMONTE SOLAR 2										
POZO ALMONTE SOLAR 2									15	20
Total Gross Generation									**15**	**20**
Own Consumption									**0**	**0**
Total Net Generation									**15**	**20**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
POZO ALMONTE SOLAR 3										
POZO ALMONTE SOLAR 3									32	46
Total Gross Generation									**32**	**46**
Own Consumption									**0**	**0**
Total Net Generation									**32**	**45**
TECNET										
TECNET									1	1
Total Gross Generation									**1**	**1**
Own Consumption									**0**	**0**
Total Net Generation									**1**	**1**
GENERACIÓN SOLAR										
María Elena FV									24	183
Total Gross Generation									**24**	**183**
Own Consumption									**0**	**1**
Total Net Generation									**24**	**182**
PLANTA SOLAR SAN PEDRO III										
SOLAR JAMA 1										66
Total Gross Generation										**66**
Own Consumption										**0**
Total Net Generation										**66**
POZO ALMONTE SOLAR 1										
PMGD-PAS1										15
Total Gross Generation										**15**
Own Consumption										**0**
Total Net Generation										**15**
TOTAL SING										
Gross Generation	13.236	13.945,8	14.502,3	14.906,7	15.103,8	15.889,2	16.755,7	17.236,8	17.674,4	18.805,1
Own Consumption	692	790	804	792	818	1.066	1.331	1.355	1.429	1.424
Net Generation	12.544	13.156	13.698	14.115	14.286	14.824	15.424	15.882	16.245	17.381
Transmission losses	515	481	479	459	493	561	593	468	505	464
Sales to free clients	10.774	11.343	11.832	12.240	12.297	12.703	13.132	13.592	13.924	15.033
Sales to regulated clients	1.256	1.332	1.387	1.417	1.496	1.560	1.699	1.822	1.816	1.884
Total Sales	**12.029**	**12.674**	**13.219**	**13.656**	**13.792**	**14.263**	**14.831**	**15.414**	**15.740**	**16.917**
TOTAL SING (%)										
Gross Generation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Own Consumption	5%	6%	6%	5%	5%	7%	8%	8%	8%	8%
Net Generation	95%	94%	94%	95%	95%	93%	92%	92%	92%	92%
Transmission losses	4%	3%	3%	3%	3%	4%	4%	3%	2%	2%
Sales to free clients	81%	81%	82%	82%	81%	80%	78%	79%	79%	80%
Sales to regulated clients	9%	10%	10%	10%	10%	10%	10%	11%	10%	10%
Total Sales	**91%**	**91%**	**91%**	**92%**	**91%**	**90%**	**89%**	**89%**	**89%**	**90%**

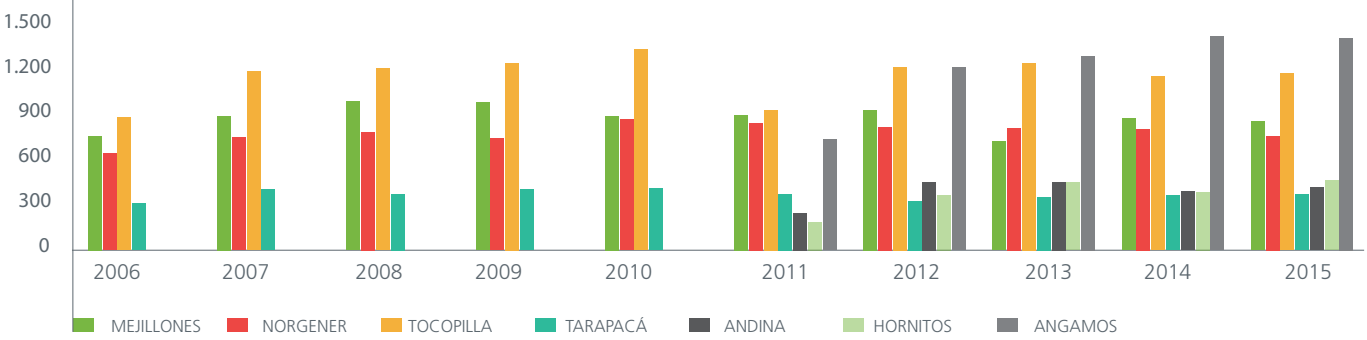
MONTHLY HOURLY MEDIUM GENERATION 2006-2015



III. Fuels: Consumption and Prices

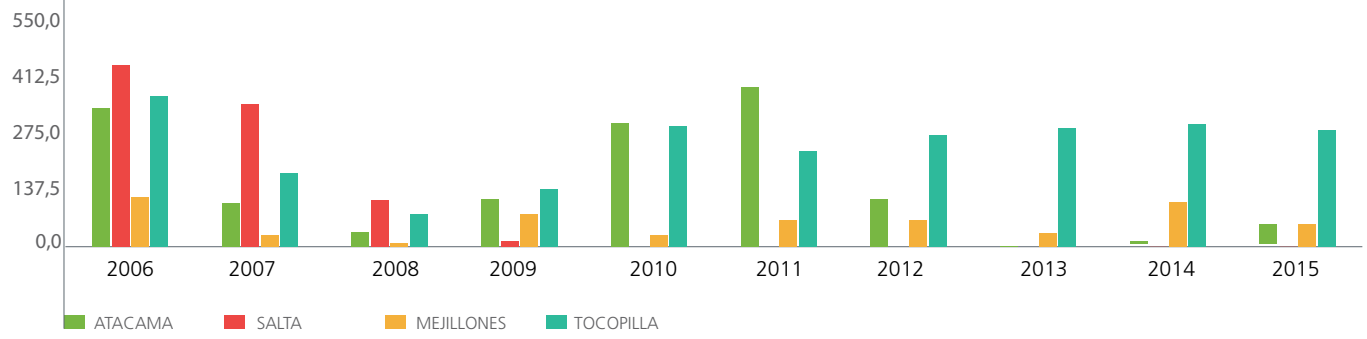
CARBON ANNUAL CONSUMPTION AS PER STATION

THOUSANDS OF TONS



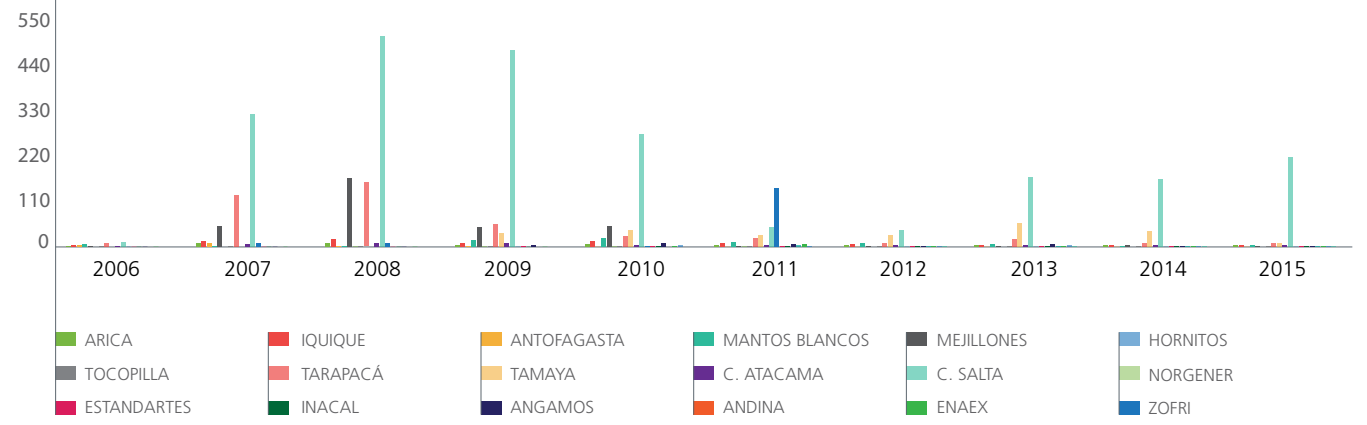
NATURAL GAS ANNUAL CONSUMPTION AS PER STATION

MILLIONS OF M^3



LIQUID FUELS ANNUAL CONSUMPTION AS PER STATION

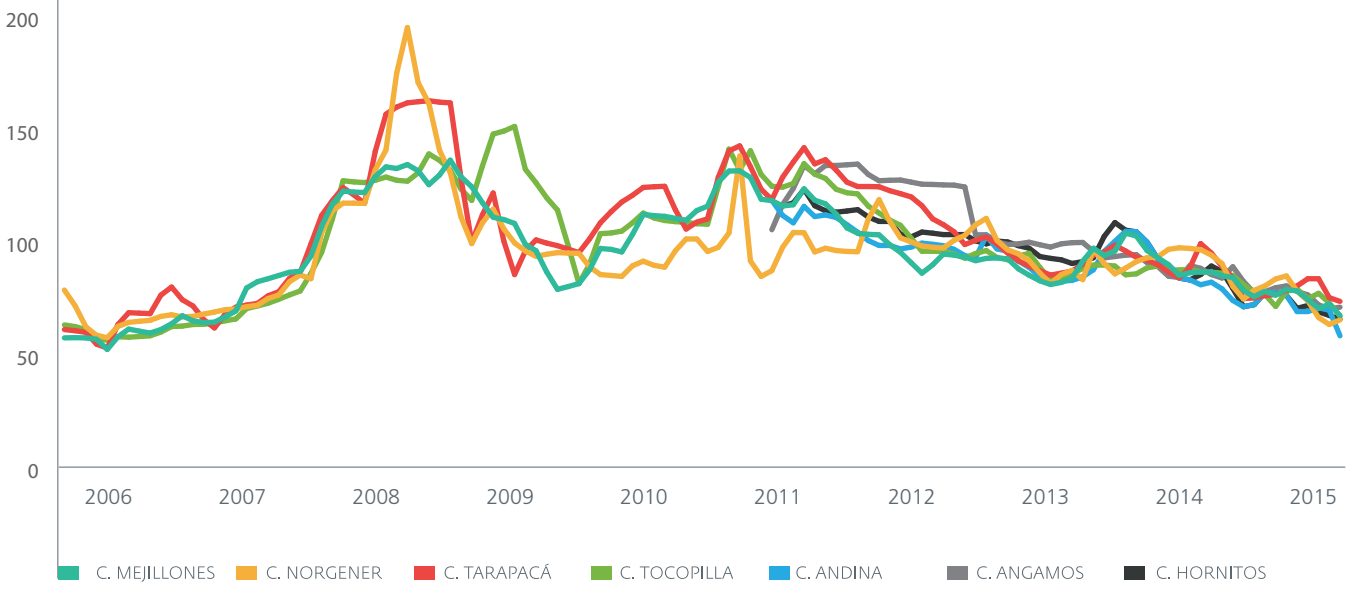
THOUSANDS OF TONS



CARBON PRICE

Average values per month, updated to December 2015

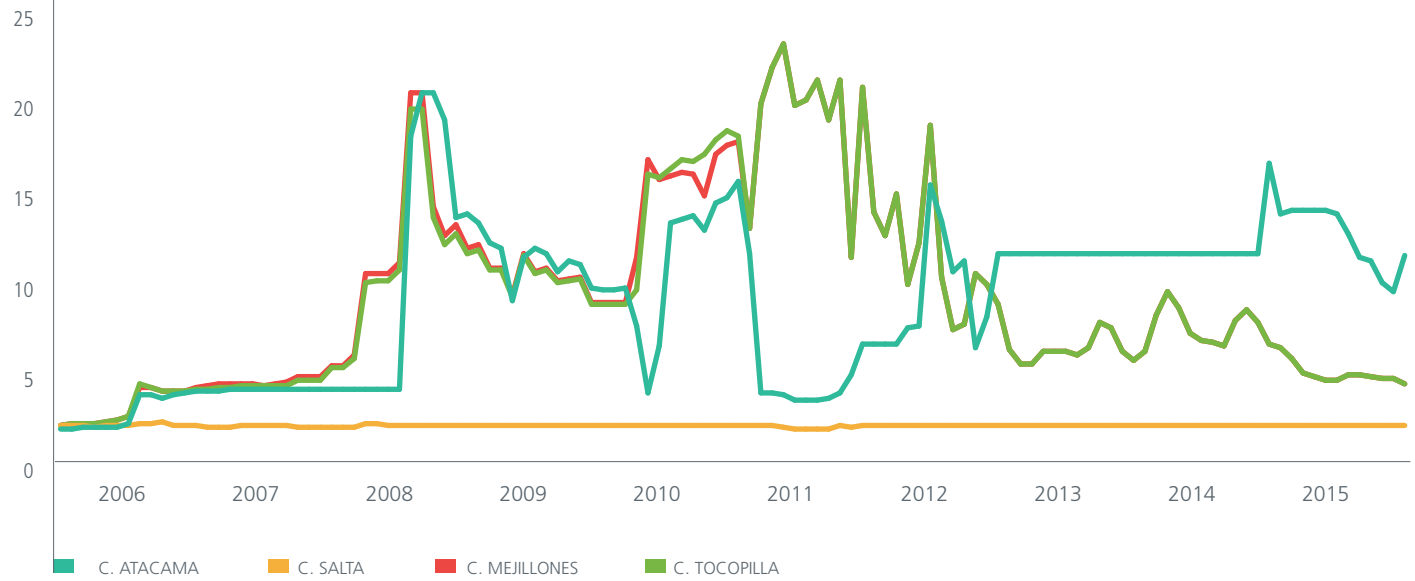
US$/TON



NATURAL GAS PRICE

Average values per month, updated to December 2015

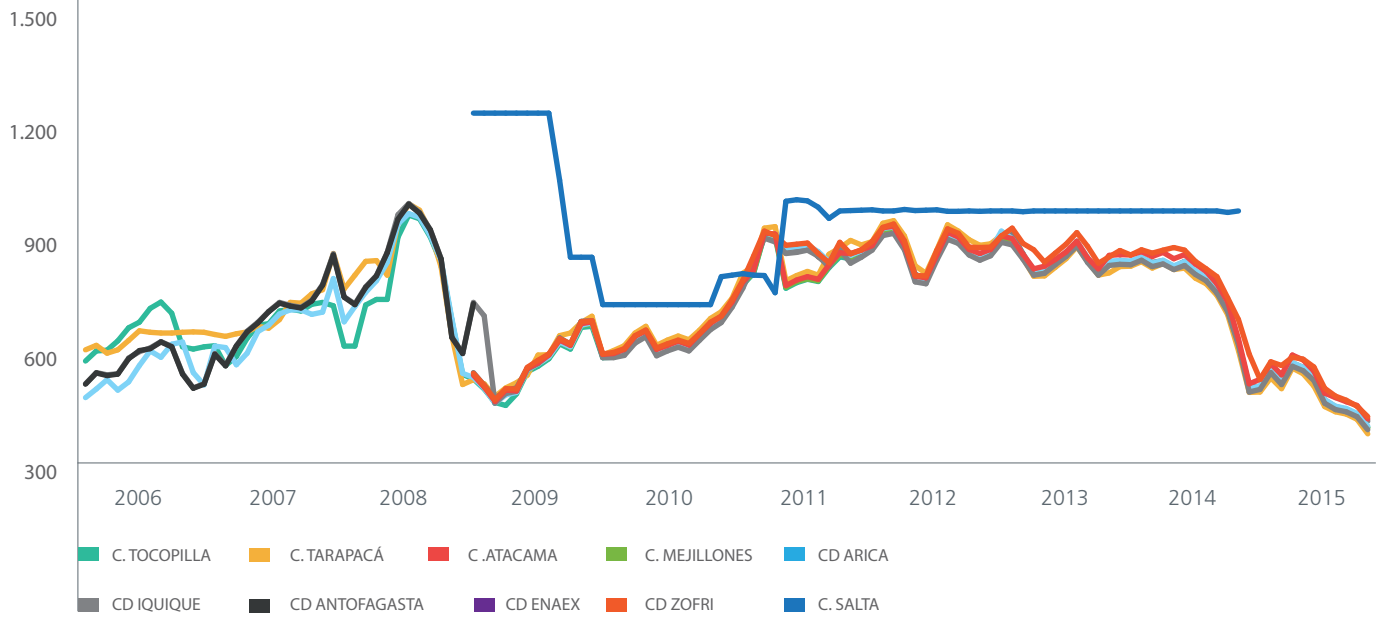
US$/MMBTU



DIESEL OIL PRICE

Average values per month, updated to December 2015

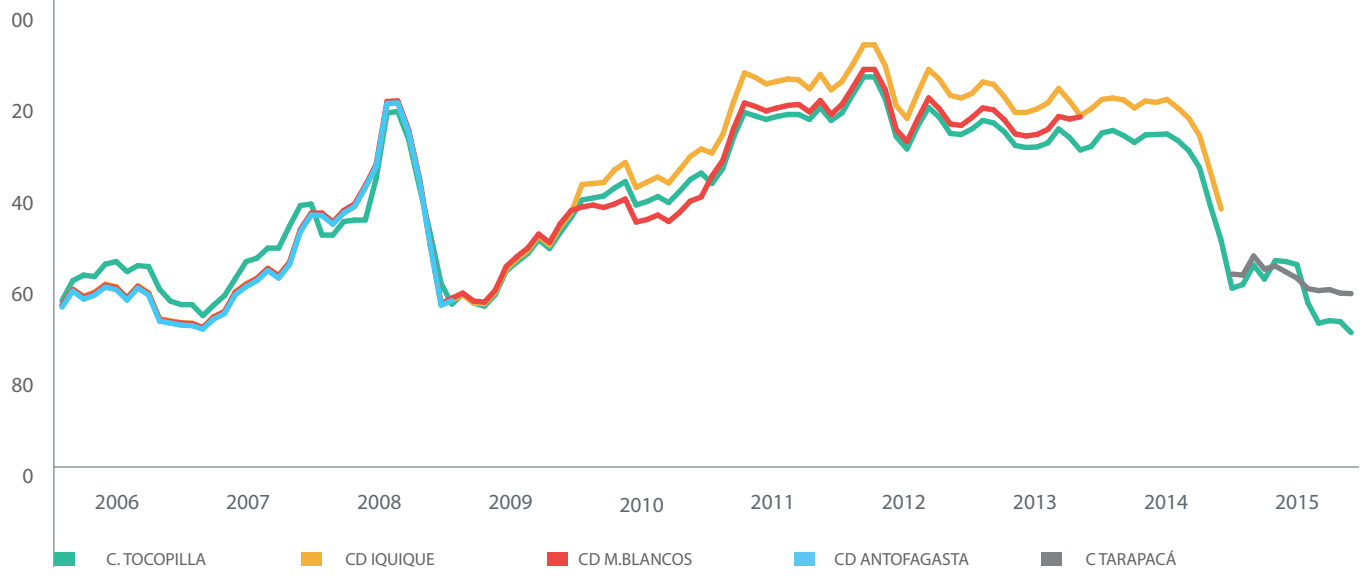
US$/M^3



FUEL OIL PRICE

Average values per month, updated to December 2015

US$/TON

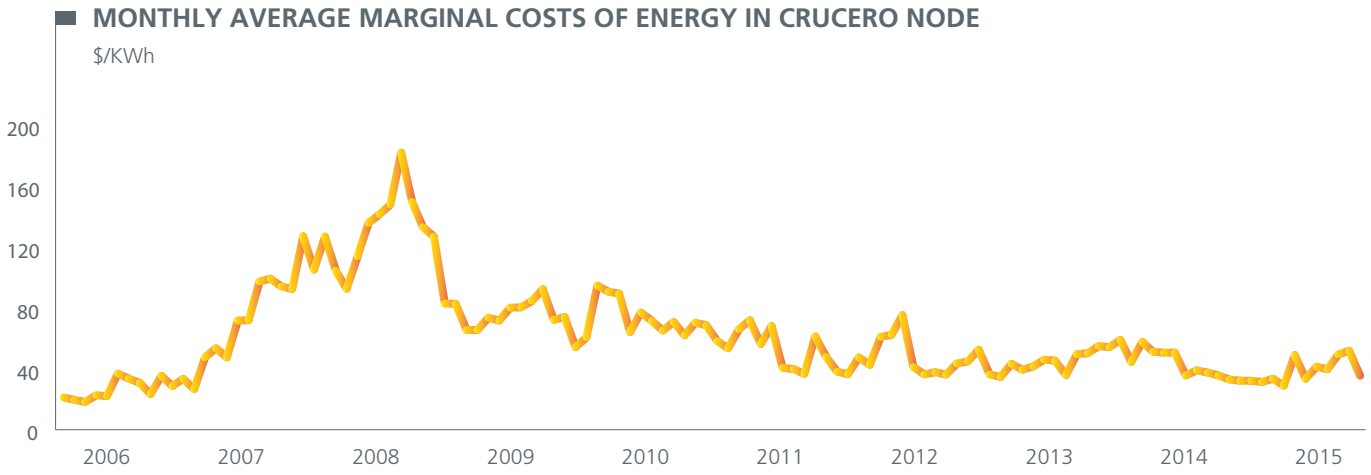


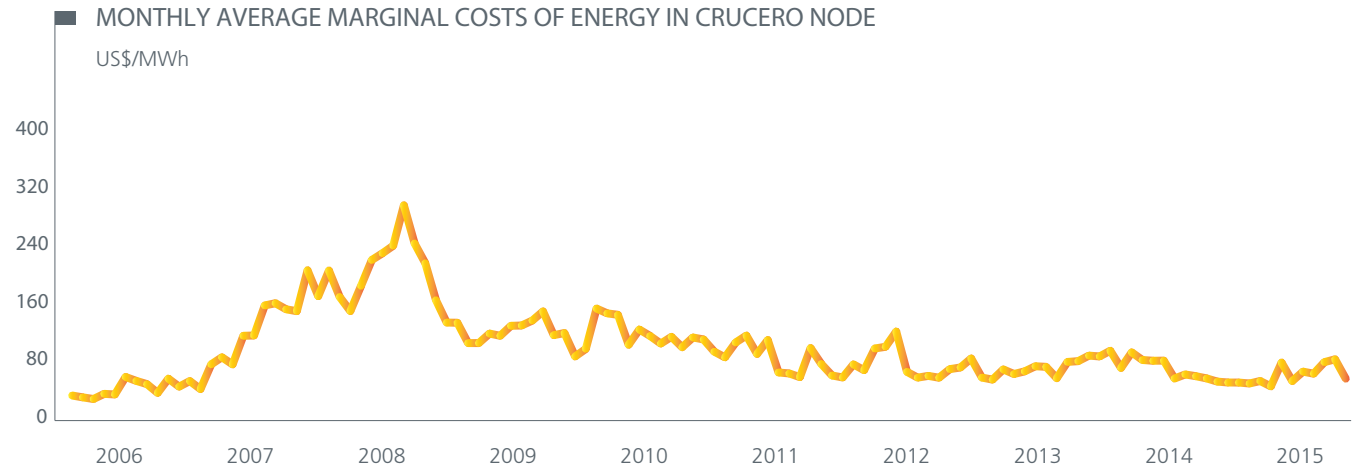
IV. Energy and Power Prices

MARGINAL COSTS OF ENERGY CRUCERO NODE 220 KV TERM 2006 - 2015

Month / Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
January	14,8	19,2	98,3	69,6	50,4	49,7	32,4	46,9	49,7	30,9
February	13,8	34,2	81,4	54,5	78,9	45,7	42,4	32,5	54,4	30,9
March	12,9	38,7	72,6	54,4	75,6	56,9	38,1	31,1	41,3	30,4
April	16,0	34,5	89,8	61,1	74,9	62,2	54,5	38,8	54,0	32,6
May	15,7	52,5	108,2	59,4	53,9	48,9	55,8	35,3	48,1	28,2
June	26,4	53,1	114,4	66,6	64,7	59,2	67,2	37,4	47,5	48,1
July	24,2	72,7	120,9	66,5	60,5	35,4	36,8	41,4	47,7	32,9
August	22,2	74,9	150,3	69,6	55,0	34,8	32,5	41,0	33,6	41,0
September	16,9	71,9	125,0	76,9	60,1	32,2	34,1	32,5	37,1	39,5
October	25,5	70,8	112,0	60,2	52,6	54,0	32,8	45,1	36,1	49,4
November	20,6	98,3	106,7	61,4	59,7	42,3	39,2	45,8	34,3	51,8
December	24,0	81,5	68,9	44,8	58,4	33,9	40,5	50,3	31,6	35,4
Average	19,4	58,5	104,0	62,1	62,1	46,3	42,2	39,8	43,0	37,6

Notes: Monthly averages in $/kWh.





MARGINAL COSTS OF ENERGY CRUCERO NODE 220 KV - YEAR 2015

Day	January	February	March	April	May	June	July	August	September	October	November	December
1	26,9	25,9	32,2	32,6	26,0	52,7	30,6	29,3	35,8	50,2	67,4	42,4
2	28,8	26,3	31,2	26,9	29,8	36,4	26,2	29,2	38,5	59,2	56,8	39,9
3	28,0	27,4	26,5	33,2	33,2	60,3	26,5	28,4	39,3	54,0	42,3	28,1
4	28,5	30,6	26,2	34,0	31,6	67,5	26,1	29,9	42,8	51,0	38,7	35,7
5	29,1	30,8	25,4	36,0	24,4	67,4	26,5	30,0	28,1	50,6	43,6	40,1
6	27,3	27,0	26,0	43,3	24,3	36,5	26,0	29,9	35,1	64,1	54,8	35,8
7	26,5	27,5	24,1	39,8	35,6	47,9	34,3	37,7	48,7	38,2	48,9	46,6
8	29,6	27,0	24,2	45,4	23,5	46,1	29,3	37,7	41,7	29,7	45,5	46,7
9	29,8	26,7	25,2	43,6	24,1	28,0	34,6	48,8	43,9	30,5	48,5	33,0
10	30,3	34,1	24,1	26,5	24,6	23,8	39,1	39,2	32,9	40,9	32,9	29,8
11	30,0	69,2	26,0	39,4	24,6	24,9	29,9	62,6	28,2	39,8	57,4	40,6
12	31,6	27,4	32,8	32,9	24,3	24,9	30,1	39,1	33,3	46,5	86,9	36,7
13	30,8	28,6	48,4	43,3	23,6	31,0	30,7	47,8	29,6	44,3	47,6	48,5
14	33,1	28,0	34,7	26,2	23,7	32,3	28,8	58,3	27,8	40,0	67,9	28,4
15	30,2	29,7	27,6	24,5	33,7	30,4	29,8	54,8	28,1	34,2	62,8	24,9
16	33,6	27,8	30,4	26,1	34,0	24,8	28,0	53,2	31,2	47,8	51,5	26,0
17	33,0	31,0	29,4	29,9	22,9	29,9	32,0	35,5	35,9	52,9	41,4	33,8
18	31,8	28,2	23,9	27,1	24,1	61,0	28,8	43,3	39,7	48,6	50,6	37,6
19	39,8	27,5	24,6	25,3	23,0	35,9	27,3	55,6	43,9	38,8	64,3	33,3
20	32,5	28,9	25,8	34,0	23,9	30,0	27,4	42,5	57,9	38,9	41,5	25,5
21	32,8	37,2	33,7	32,9	26,8	24,3	26,6	59,6	62,8	50,2	50,4	31,3
22	39,8	36,1	49,0	26,5	31,5	25,1	25,8	43,3	50,7	51,1	52,4	43,7
23	25,9	30,4	49,0	24,9	23,5	34,2	28,1	50,8	40,5	52,4	52,4	49,7
24	34,2	29,1	26,4	26,0	23,8	30,7	33,6	48,8	45,2	57,1	49,5	32,9
25	34,2	29,5	27,4	44,1	28,9	93,1	48,1	34,3	38,1	48,0	59,5	43,2
26	34,8	30,0	22,5	29,8	33,5	93,2	48,9	36,6	41,7	52,3	35,7	36,8
27	33,2	35,1	25,5	28,1	28,8	126,5	68,7	42,1	30,1	39,4	59,9	35,8
28	29,3	29,4	24,4	37,0	28,6	70,1	34,5	27,6	48,0	34,2	48,8	27,3
29	27,8		27,8	34,0	39,5	86,3	31,5	34,7	42,3	78,0	36,4	28,6
30	26,0		60,6	24,3	40,4	68,0	45,9	31,0	43,2	78,5	58,0	28,3
31	27,7		26,9		33,9		35,4	29,9		91,1		25,7
Average	30,9	30,9	30,4	32,6	28,2	48,1	32,9	41,0	39,5	49,4	51,8	35,4

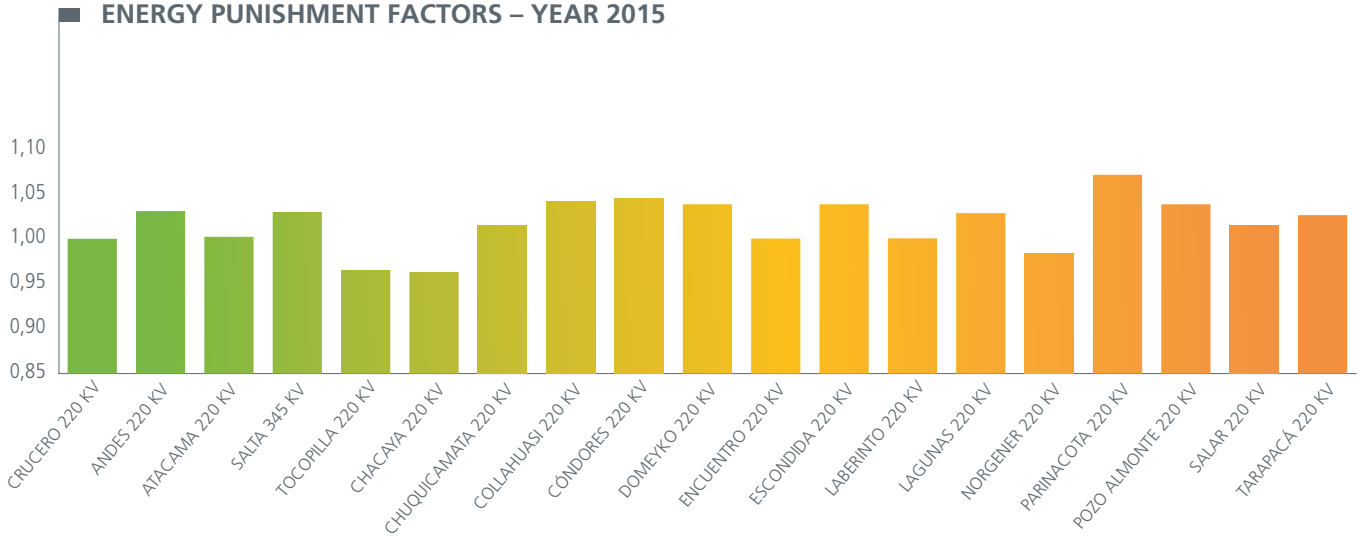
Note:
Daily average in $/KWh for each day.

ENERGY PUNISHMENT FACTORS YEAR 2015

Bar	Average	Maximum	Minimum
Crucero 220 kV	1,0000	1,0000	1,0000
Andes 220 kV	1,0308	1,0490	1,0054
Atacama 220 kV	1,0022	1,0135	0,9911
Salta 345 kV	1,0299	1,0490	1,0023
Tocopilla 220 kV	0,9653	0,9764	0,9598
Chacaya 220 kV	0,9631	0,9919	0,9265
Chuquicamata 220 kV	1,0148	1,0174	1,0120
Collahuasi 220 kV	1,0415	1,0523	1,0334
Cóndores 220 kV	1,0450	1,0628	1,0311
Domeyko 220 kV	1,0384	1,0551	1,0133
Encuentro 220 kV	1,0003	1,0006	1,0002
Escondida 220 kV	1,0384	1,0562	1,0128
Laberinto 220 kV	1,0005	1,0247	0,9708
Lagunas 220 kV	1,0285	1,0453	1,0177
Norgener 220 kV	0,9832	0,9876	0,9799
Parinacota 220 kV	1,0712	1,0841	1,0534
Pozo Almonte 220 kV	1,0384	1,0549	1,0274
Salar 220 kV	1,0150	1,0172	1,0123
Tarapacá 220 kV	1,0263	1,0460	1,0140

Note: Average values correspond to weekly schedule.

ENERGY PUNISHMENT FACTORS – YEAR 2015



PEAK POWER CRUCERO NODE 220 KV PRICE

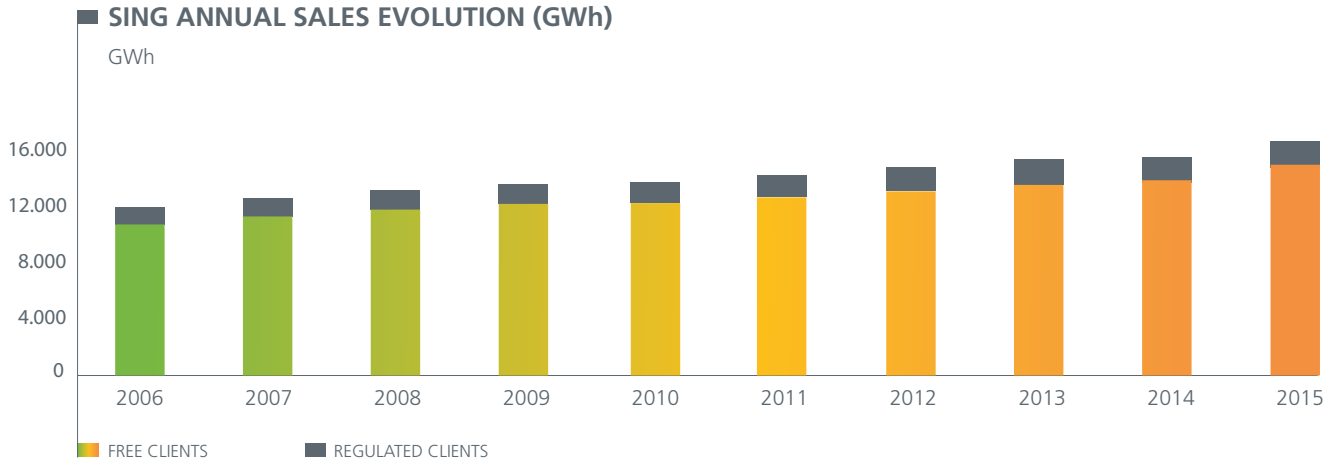
Year	Rates setting	Validity		Power Price From To [$/kW-month]
		From	To	
2005	oct-04	01-01-05	30-04-05	3.713,71
	abr-05	01-05-05	31-10-05	3.696,46
	oct-05	01-11-05	31-12-05	3.594,48
2006	oct-05	01-01-06	30-04-06	3.594,48
	abr-06	01-05-06	26-06-06	3.662,67
	abr-06 (index jun-06)	27-06-06	19-10-06	3.672,49
	abr-06 (index oct-06)	20-10-06	31-10-06	3.769,31
	oct-06	01-11-06	31-12-06	3.734,15
2007	oct-06	01-01-07	30-04-07	3.734,15
	abr-07	01-05-07	16-07-07	3.840,04
	abr-07 (index jul-07)	17-07-07	15-09-07	3.795,11
	abr-07 (index sep-07)	16-09-07	31-10-07	3.792,04
	oct-07	01-11-07	31-12-07	3.835,63
2008	oct-07	01-01-08	15-02-08	3.835,63
	oct-07 (index feb-08)	16-02-08	30-04-08	3.692,18
	abr-08	01-05-08	15-08-08	3.455,74
	abr-08 (index ago-08)	16-08-08	15-10-08	3.882,18
	abr-08 (index oct-08)	16-10-08	31-10-08	4.124,06
	oct-08	01-11-08	31-12-08	4.198,66
2009	oct-08	01-01-09	18-01-09	4.198,66
	oct-08 (index ene-09)	19-01-09	30-04-09	5.053,92
	abr-09	01-05-09	15-08-09	5.054,71
	abr-09 (index ago-09)	16-08-09	31-10-09	4.762,80
	oct-09	01-11-09	31-12-09	4.662,80
2010	oct-09	01-01-10	15-04-10	4.662,80
	oct-09 (index abr-10)	16-04-10	30-04-10	4.571,04
	abr-10	01-05-10	31-10-10	4.520,17
	oct-10	01-11-10	31-12-10	4.373,28
2011	oct-10	01-01-11	30-04-11	4.373,28
	abr-11	01-05-11	31-10-11	4.319,82
	oct-11	01-11-11	31-12-11	4.451,54
2012	oct-11	01-01-12	30-04-12	4.451,54
	abr-12	01-05-12	31-10-12	4.170,82
	oct-12	01-11-12	31-12-12	4.186,75
2013	oct-12	01-01-12	30-04-13	4.186,75
	abr-13	01-05-13	31-10-13	4.180,54
	oct-13	01-11-13	31-12-13	4.258,87
2014	oct-13	01-01-14	30-04-14	4.258,87
	abr-14	01-05-14	31-10-14	4.371,33
	oct-14	01-11-14	31-12-14	4.964,60
2015	oct-14	01-01-15	30-04-15	4.964,60
	abr-15	01-05-15	31-10-15	5.184,01
	oct-15	01-11-15	31-12-15	5.345,84

V. Energy Annual Sales

SING ANNUAL SALES TERM 2001-2015

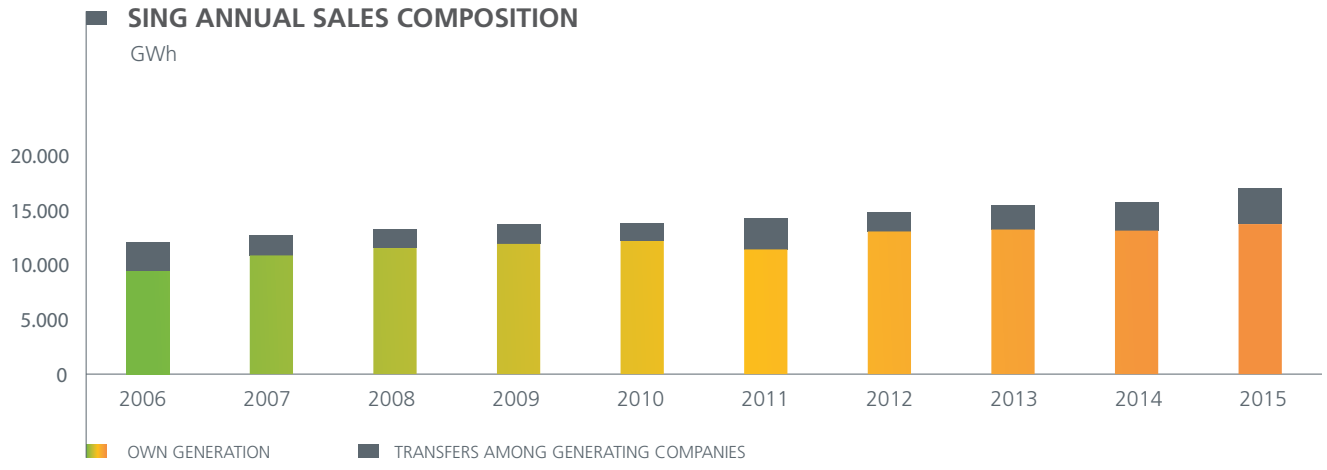
Year	Sales [GWh]			Growth		
	Free Clients	Regulated Clients	Total	Annual	Average Accrued	Accrued
2001	8.046	945	8.991			
2002	8.473	1.009	9.482	5,5%	5,5%	5,5%
2003	9.433	1.047	10.480	10,5%	8,0%	16,6%
2004	10.164	1.075	11.240	7,2%	7,7%	25,0%
2005	10.401	1.159	11.560	2,8%	6,5%	28,6%
2006	10.774	1.256	12.029	4,1%	6,0%	33,8%
2007	11.343	1.332	12.674	5,4%	5,9%	41,0%
2008	11.832	1.387	13.219	4,3%	5,7%	47,0%
2009	12.240	1.417	13.656	3,3%	5,4%	51,9%
2010	12.297	1.496	13.792	1,0%	4,9%	53,4%
2011	12.703	1.560	14.263	3,4%	4,8%	58,6%
2012	13.132	1.699	14.831	4,0%	4,7%	65,0%
2013	13.592	1.822	15.414	3,9%	4,6%	71,4%
2014	13.924	1.816	15.740	2,1%	4,4%	75,1%
2015	15.033	1.884	16.917	7,5%	4,6%	88,2%

Note:Cumulative growth rates are based on 2001 sales (8,991 GWh).
Yearly sales cover net power generation minus transmission loss.



SING ANNUAL SALES COMPOSITION TERM 2001-2015

Year	Energy Sales (GWh)	Own Generation (GWh)	Transfers among Generating companies (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%
2011	14.263	11.385	2.878	20%
2012	14.831	13.026	1.805	12%
2013	15.414	13.202	2.212	14%
2014	15.740	13.103	2.637	17%
2015	16.917	13.701	3.216	19%



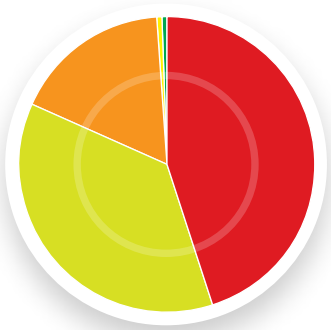
VI. 2006-2015 SING Energy and Power Transfers

ENERGY TRANSFERS AMONG SING GENERATING COMPANIES (GWh) YEAR 2015

COMPANY		January	February	March	April	May	June	July	August	September	October	November	November	Total	NET
AES GENER	Purchases	109,7	126,6	143,5	151,8	238,2	103,0	53,8	43,0	82,0	66,7	137,8	114,3	1.370,4	1.370,4
	Sales														
ANDINA	Purchases					33,8								33,8	
	Sales	43,3	40,5	36,0	2,7		28,9	28,4	38,0	30,9	31,0	29,4	36,6	345,7	311,9
ANGAMOS	Purchases							26,0						26,0	
	Sales	100,9	73,6	112,4	139,1	145,7	20,3		31,3	88,9	96,2	127,0	113,1	1.048,5	1.022,5
CAVANCHA	Purchases														
	Sales	1,5	1,3	1,5	1,4	1,4	1,4	1,5	1,5	1,5	1,5	1,5	1,5	17,5	17,5
CELTA	Purchases			20,6	10,2				4,4		45,1	14,2	4,2	98,7	
	Sales	26,1	27,6			20,4	6,5	25,7		1,1				107,4	8,7
E-CL	Purchases	127,5	80,9	72,0	62,1	18,4	82,3	149,3	143,4	93,4	125,7	104,9	62,8	1.122,7	1.122,7
	Sales														
ENERNUEVAS	Purchases														
	Sales	1,5	1,5	1,8	1,7	1,9	1,8	1,6	1,8	1,7	1,8	1,7	1,7	20,5	20,5
ENORCHILE	Purchases	41,1	40,0	41,0	40,6	41,7	40,4	42,9	41,5	41,2	41,5	47,6	57,4	516,9	516,9
	Sales														
EQUIPOS DE GENERACIÓN	Purchases														
	Sales								0,1	0,1	0,2	0,4	0,3	1,1	1,1
GASATACAMA	Purchases														
	Sales	77,0	78,0	50,3	67,7	129,1	158,6	180,1	118,4	39,5	134,4	100,2	40,8	1.174,1	1.174,1
GENERACIÓN SOLAR SpA.	Purchases														
	Sales	17,5	15,8	14,4	14,2	12,9	11,2	12,3	13,7	16,7	17,2	19,0	15,9	180,8	180,8
HORNITOS	Purchases	5,0	5,6				19,4	0,6			29,1	4,2	1,6	65,5	14,1
	Sales			29,0	6,8	3,6			2,4	9,6				51,4	
LOS PUQUIOS	Purchases														
	Sales	0,4	0,4		0,4	0,4	0,3	0,4	0,4	0,4	0,4	0,4	0,4	4,3	4,3
NORACID	Purchases														
	Sales	11,0	10,2	10,6	11,6	11,6	10,8	11,3	9,9	10,4	10,7	9,5	10,2	127,8	127,8
NORGENER	Purchases														
	Sales														
ON GROUP	Purchases	1,4	1,3	1,5	1,4	1,4	1,3	1,4	1,5	1,3	1,4	1,3	1,4	16,6	16,6
	Sales														
PLANTA SOLAR SAN PEDRO III	Purchases														
	Sales				2,6	6,7	5,8	6,5	7,2	8,6	8,6	9,2	9,8	65,0	65,0
PMGD PICA PILOT	Purchases														
	Sales												0,1	0,1	0,1
POZO ALMONTE SOLAR 1	Purchases														
	Sales						0,8	1,9	2,2	2,5	2,6	2,5	2,9	15,4	15,4
POZO ALMONTE SOLAR 2	Purchases														
	Sales	0,1	0,5		0,4	0,3	0,5	0,5	0,3	0,4	0,2	1,0	1,2	5,4	5,4
POZO ALMONTE SOLAR 3	Purchases	0,1	0,1		0,1								0,1	0,4	0,4
	Sales														
SPS LA HUAYCA	Purchases														
	Sales	1,5	1,4	1,5	1,5	1,4	0,7	3,2	5,1	5,4	5,5	5,4	5,2	37,8	37,8
TECNET	Purchases														
	Sales	0,1	0,1			0,1	0,1		0,1	0,1	0,2	0,2	0,1	1,1	1,1
VALLE DE LOS VIENTOS	Purchases					1,7	1,3				0,8			3,8	
	Sales	3,8	3,7	20,5	15,9			0,5	1,6	0,2		2,6	2,2	51,0	47,2

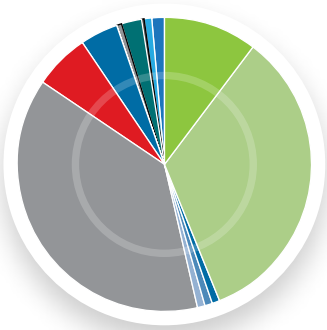
Note: The indicated amounts do not include purchase-sale operations agreed among generating companies.

ENERGY NET PURCHASES AT THE CDEC SING



- **45,1%** AES GENER
- **36,9%** E-CL
- **17,0%** ENORCHILE
- **0,5%** HORNITOS
- **0,0%** POZO ALMONTE SOLAR 3
- **0,6%** ON GROUP

ENERGY NET SALES AT CDEC-SING



- **10,3%** ANDINA
- **33,8%** ANGAMOS
- **0,6%** CAVANCHA
- **1,0%** CELTA
- **0,7%** ENERNUEVAS
- **0,0%** EQUIPOS DE GENERACIÓN
- **38,1%** GAS ATACAMA
- **6,0%** GENERACIÓN SOLAR SPA.
- **4,2%** NORACID
- **0,1%** LOS PUQUIOS
- **0,5%** POZO ALMONTE SOLAR 1
- **2,2%** PLANTA SOLAR SAN PEDRO III
- **0,0%** PMGD PICA PILOT
- **0,2%** POZO ALMONTE SOLAR 2
- **0,0%** TECNET
- **1,0%** VALLE DE LOS VIENTOS
- **1,2%** SPS LA HUAYCA

ENERGY TRANSFERS AMONG THE CDEC SING GENERATING COMPANIES (GWh) TERM 2006 - 2015

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CELTA	Purchases	343,1	160,0	162,0	102,0	64,7	138,8	218,1	200,5	158,6	98,7
	Sales	0,2	45,2	162,0	119,8	85,1	62,6	23,4	53,6	64,9	107,4
E-CL	Purchases	26,2	0,0	115,0	189,2	548,6	433,9	928,2	1.008,7	903,1	1.122,7
	Sales	1.057,6	714,9	695,0	193,5	75,4	18,6	6,7	4,4	0,0	0,0
ELECTROANDINA	Purchases	540,8	382,3	740,0	663,6	158,5	473,9				
	Sales	23,0	69,8	41,0	89,8	418,3	20,1				
AES GENER	Purchases	0,0	121,0	13,0	0,0	17,5	46,5	102,4	99,1	627,4	1.370,4
	Sales	1.357,0	812,2	676,0	1.201,4	836,0	643,3	0,0	0,0	2,6	0,0
GASATACAMA	Purchases	1.638,1	1.126,2	617,0	594,0	795,0	1.517,6	74,6	40,1	4,5	0,0
	Sales	0,0	0,0	29,0	66,9	19,9	0,0	118,0	589,7	588,2	1.174,1
NORGENER	Purchases	150,3	104,4	60,0	217,3	40,6	75,6	190,1	379,3	183,4	
	Sales	260,7	251,7	103,0	82,7	150,2	219,0	20,2	0,0	0,0	
EQUIPOS DE GENERACION S.A.	Purchases				0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Sales				12,1	42,4	23,1	7,4	20,3	7,3	1,1
ANGAMOS	Purchases					1,5	0,0	0,0	0,0	0,0	26,0
	Sales					0,0	1.476,4	1.215,8	1.158,3	1.473,1	1.048,5
ENORCHILE	Purchases					12,2	46,7	65,0	302,7	492,8	516,9
	Sales					5,5	0,0	0,0	0,0	0,0	0,0
CAVANCHA	Purchases					0,0	0,0	0,0	0,0	0,0	0,0
	Sales					2,5	14,5	15,0	17,2	17,1	17,5
ANDINA	Purchases					0,0	81,7	0,0	60,4	51,2	33,8
	Sales					0,4	282,6	222,3	201,9	182,3	345,7
ENERNUEVAS	Purchases					0,0	0,0	0,0	0,0	0,0	0,0
	Sales					2,9	16,6	17,6	17,0	16,2	20,5
HORNITOS	Purchases						63,1	227,6	107,4	207,2	65,5
	Sales						101,4	134,1	33,3	29,1	51,4
NORACID	Purchases						63,1	0,0	0,0	0,0	0,0
	Sales						101,4	24,0	114,9	117,4	127,8
SPS LA HUAYCA	Purchases						63,1	0,0	0,0	0,0	0,0
	Sales						101,4	0,4	2,5	11,4	37,8
ONGROUP	Purchases								14,9	15,9	16,6
	Sales									0,0	0,0
GENERACIÓN SOLAR SpA.	Purchases									0,0	0,0
	Sales									24,0	180,8
LOS PUQUIOS	Purchases									0,0	0,0
	Sales									3,6	4,3
PLANTA SOLAR SAN PEDRO III	Purchases										0,0
	Sales										65,0
PMGD PICA PILOT	Purchases										0,0
	Sales										0,1
POZO ALMONTE SOLAR 1	Purchases										0,0
	Sales										15,4
POZO ALMONTE SOLAR 2	Purchases									0,0	0,0
	Sales									2,2	5,4
POZO ALMONTE SOLAR 3	Purchases									1,1	0,4
	Sales									0,0	0,0
TECNET	Purchases									0,0	0,0
	Sales									0,6	1,1
VALLE DE LOS VIENTOS	Purchases									10,1	3,8
	Sales									115,5	51,0

FIRM POWER AND PEAK HOURS POWER DEMAND AS PER COMPANY - YEAR 2015

FIRM POWER	TOTAL SING	AES GENER	C.T. ANDINA	ANGAMOS	CAVANCHA	CELTA	E_ GENERACION	E-CL	ENERNUEVAS	ENORCHILE	GASATACAMA	C.T. HORNITOS	NORACID	ONGROUP	PAS 1	PAS 2	PAS 3	La Huayca	TECNET	Los Puquios	Generación Solar SpA	Valle de Los Vientos
Firm Power - Injections [MW]	2.290,3	143,1	84,8	284,0	2,0	94,1	3,0	991,1	1,8	22,8	534,7	90,5	10,9	1,5	0,1	0,1	0,3	0,1	1,8	0,0	1,4	22,2
Net Demand HP [MW]	2.290,4	489,7	102,3	304,2	0,0	127,8	0,0	989,5	0,0	49,9	60,1	157,0	7,6	2,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Losses [MW]	-0,1	-346,6	-17,5	-20,2	2,0	-33,7	3,0	1,6	1,8	-27,1	474,6	-66,5	3,3	-0,8	0,1	0,1	0,3	0,1	1,8	0,0	1,4	22,2

FIRM POWER	AES GENER	C.T. ANDINA	ANGAMOS	CAVANCHA	CELTA	E_ GENERACION	E-CL	ENERNUEVAS	ENORCHILE	GASATACAMA	C.T. HORNITOS	NORACID	ONGROUP	PAS 1	PAS 2	PAS 3	La Huayca	TECNET	Los Puquios	Generación Solar SpA	Valle de Los Vientos
Purchases [MW]	346,6	17,5	20,2		33,7				27,1		66,5		0,8								
Sales [MW]				2,0		3,0	1,6	1,8		474,6		3,3		0,1	0,1	0,3	0,1	1,8	0,0	1,4	22,2

POWER TRANSFERS AMONG THE CDEC-SING GENERATING COMPANIES (MW) TERM : 2006 - 2015

	E-CL (*)	Ventas	ELECTROANDINA (*)		NORGENER		CELTA		GASATACAMA		AES GENER		E_GENERACION (**)		ENORCHILE		CAVANCHA		ENERNUEVAS		C.T. ANDINA		C.T. HORNITOS	
	Compras		Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas	Compras	Ventas
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	84,92			106,7	96,02		11,64		27,66			105,9		4,9		2,2		0,4		0,2				
2011		173,1			111,5		10,8		52,3			62,9		4,6	4,0			2,2		1,6	35,5		57,8	
2012	120,9				119,1		42,9			354,7	12,7			3,8	4,7			1,9		1,5	46,2		49,0	
2013	52,4				160,5		42,4			390,8	12,6			3,7	5,5			1,9		1,4	48,0		68,5	
2014	29,7						37,1			446,0	273,7			3,5	16,4			1,9		1,5	31,2		68,7	
2015		1,6					33,7			474,6	346,6			3,0	27,1			2,0		1,8	17,5		66,5	

	ANGAMOS		NORACID		SPS LA HUAYCA		ONGROUP		LOS PUQUIOS SpA		GENERACIÓN SOLAR SpA		POZO ALMONTE SOLAR 1		POZO ALMONTE SOLAR 2		POZO ALMONTE SOLAR 3		TECNET		Valle de los Vientos	
	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales
2006																						
2007																						
2008																						
2009																						
2010																						
2011		99,8																				
2012		33,6		0,1		0,0		0,0														
2013		6,4		0,1		0,0	1,7															
2014	8,8			0,2		0,0	1,8									0,0		0,0		0,7		13,5
2015	20,2			3,3		0,1	0,8				0,0	1,4		0,1		0,1		0,3		1,8		22,2

Notes:
** Since the Definitive Firm Power calculation in 2011, the Electroandina units became part of the E-CL.*
*** Since the Definitive Firm Power calculation in 2011, the INACAL units became part of the POWER GENERATION TEAMS.*

VII. Tolls: Payment for the use of SING Transmission System

TOLLS FOR TRUNK SYSTEM - YEAR 2015
PAYMENTS FROM GENERATING COMPANIES TO TRUNK COMPANIES (THOUSAND OF CH$) YEAR 2015

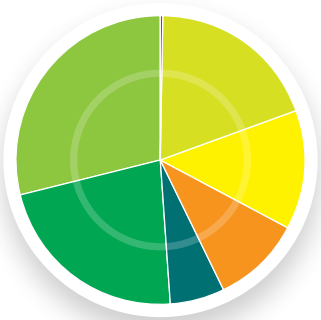
From/To	ETSA			TRANSELEC			TOTAL
	Tolling Input	Tolling Output	Adjustment of Toll per Metered Unit*	Tolling Input	Tolling Output	Adjustment of Toll per Metered Unit *	
AES GENER	58.321	37.651	7.916	932.912	765.969	159.791	1.962.561
ANDINA	3.281	1.256		47.799	24.741		77.077
ANGAMOS	10.345	13.022		601.504	257.725		882.596
CELTA	28.717	70.894	-6.777	1.955.836	1.847.655	-136.796	3.759.529
E-CL	130.771	145.822	4.376	1.919.118	4.110.451	88.339	6.398.877
ENEL GREEN POWER	5.982			92.148			98.130
ENORCHILE	80	21.643	-5.776	2.920	564.124	-116.595	466.395
EQUIPOS DE GENERACION	132			7.643			7.775
GASATACAMA	11.235	6.620		768.312	172.398		958.565
Generacion Solar Spa	6.496			110.544			117.040
HORNITOS	3.196	4.598		44.555	36.388		88.737
NORACID	447	13	261	6.751	304	5.261	13.037
ON GROUP	3	62		168	1.668		1.900
PAS 2		1.083		-	28.123		29.206
PAS 3	380	3.366		12.281	87.423		103.451
Planta Solar San Pedro III SpA	2.107			28.622			30.729
SPS LA HUAYCA	391			10.712			11.103
TECNET	67			3.422			3.489
TOTAL	**261.950**	**306.029**	**0**	**6.545.247**	**7.896.969**	**0**	**15.010.196**

** PUB: Unit Toll per Bar, CUE: Unique Expected Charge*

2015 SUB TRANSMISSION SYSTEM TOLLS
VASTX PAYMENT FROM GENERATING COMPANIES TO SUB TRANSMITTERS (THOUSAND OF CH$)- YEAR 2015

From/To	AES GENER	E-CL	ENORCHILE	NORACID	Total
CODELCO NORTE	22	58.954	3.048	1	62.026
E-CL	1.130	2.979.826	152.713	44	3.133.713
ELECDA	782	2.061.622	105.635	30	2.168.069
ELIQSA	588	1.551.776	79.527	23	1.631.914
EMELARI	350	922.314	47.268	13	969.945
TRANSELEC	1.308	3.450.509	176.835	50	3.628.703
TRANSEMEL	1.686	4.443.877	228.850	63	4.674.476
Total	**5.866**	**15.468.878**	**793.876**	**224**	**16.268.845**

COLLECTION AS PER VASTX - YEAR 2015

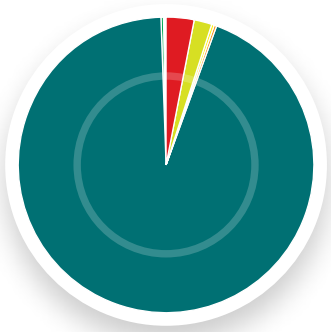


- 0,38% CODELCO NORTE
- 19,26% E-CL
- 13,33% ELECDA
- 10,03% ELIQSA
- 5,96% EMELARI
- 22,3% TRANSELEC
- 28,73% TRANSEMEL

PAYMENT FROM SUB TRANSMITTERS TO GENERATING COMPANIES DUE TO ENERGY AND POWER LOSSES (THOUSAND OF CH$) - YEAR 2015

From/to	AES GENER	E-CL	ENORCHILE	NORACID	Total
E-CL	-669	77.154	8.612	-13	85.085
ELECDA		52.246	2.481		54.728
ELIQSA		6.081			6.081
EMELARI		6.452			6.452
TRANSELEC		2.499.703	14.815		2.514.518
TRANSEMEL		8.769	42		8.812
Total	**-669**	**2.650.406**	**25.951**	**-13**	**2.675.676**

PAYMENT FOR ENERGY AND POWER LOSSES – YEAR 2015

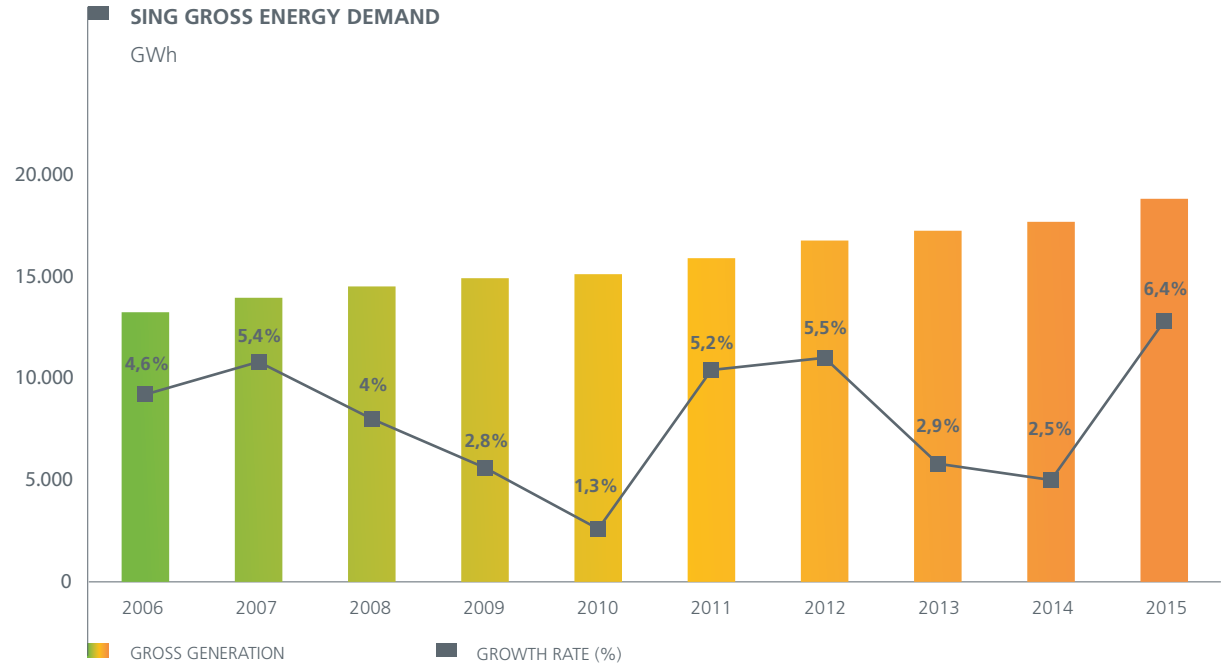


- 3,18% E-CL
- 2,05% ELECDA
- 0,23% ELIQSA
- 0,24% EMELARI
- 93,98% TRANSELEC
- 0,33% TRANSEMEL

VIII. Energy and Power Demand SING 2006-2015

SING GROSS ENERGY DEMAND

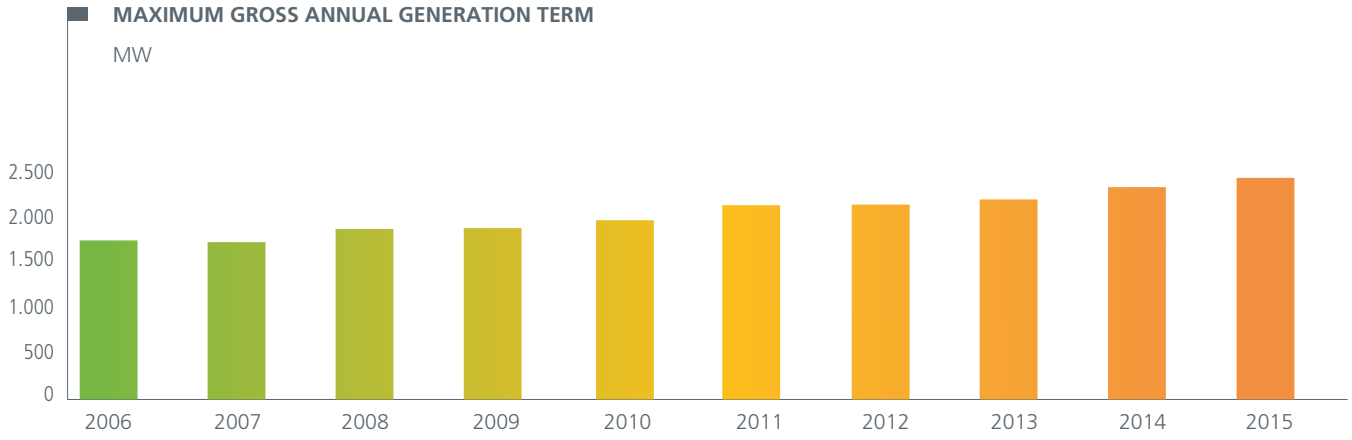
Year	Gross Generation [GWh]	Growth Rate
2003	11.424,1	9,9%
2004	12.330,0	7,9%
2005	12.657,4	2,7%
2006	13.236,0	4,6%
2007	13.945,8	5,4%
2008	14.502,3	4,0%
2009	14.906,7	2,8%
2010	15.103,8	1,3%
2011	15.889,2	5,2%
2012	16.755,7	5,5%
2013	17.236,8	2,9%
2014	17.674,4	2,5%
2015	18.805,1	6,4%

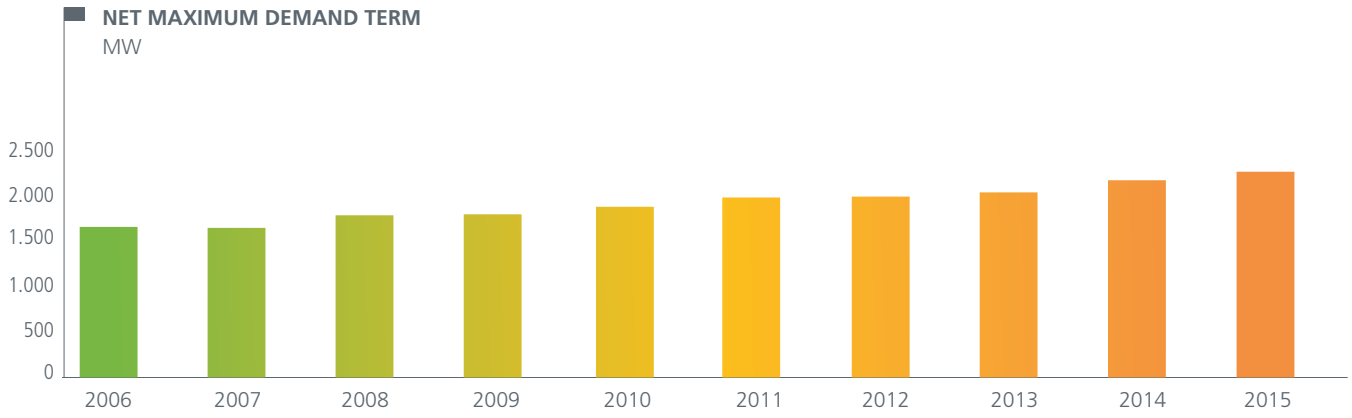


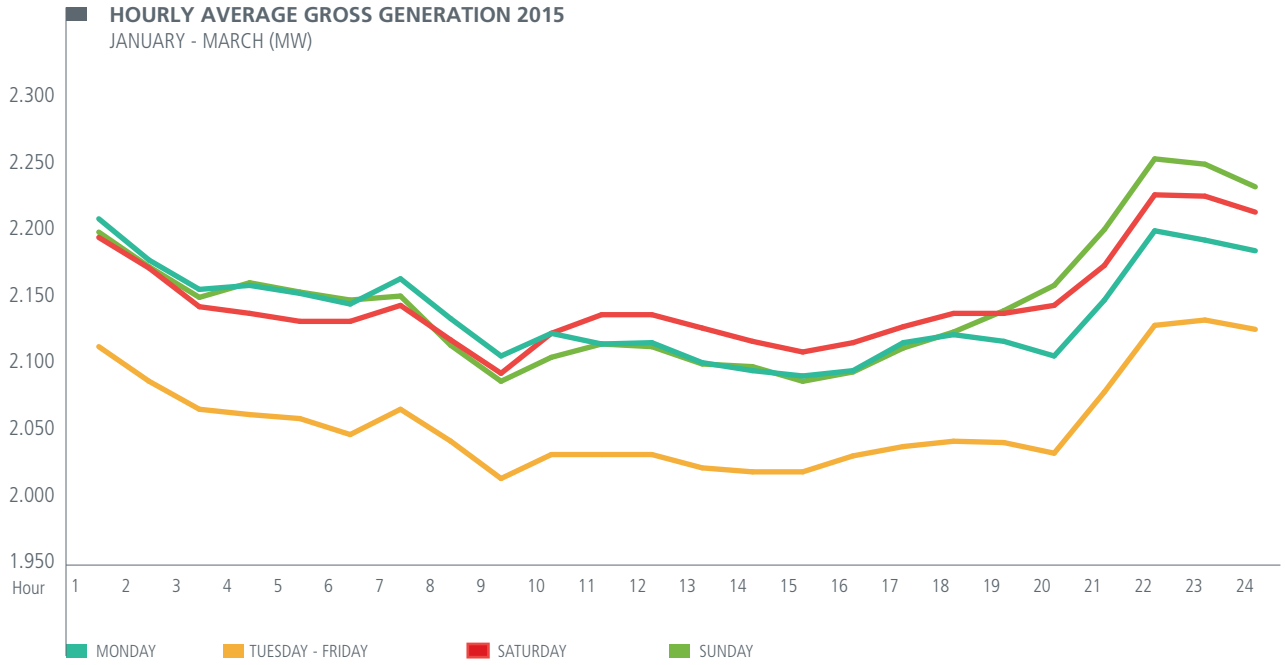
SING POWER MAXIMUM ANNUAL DEMAND TERM 2006-2015

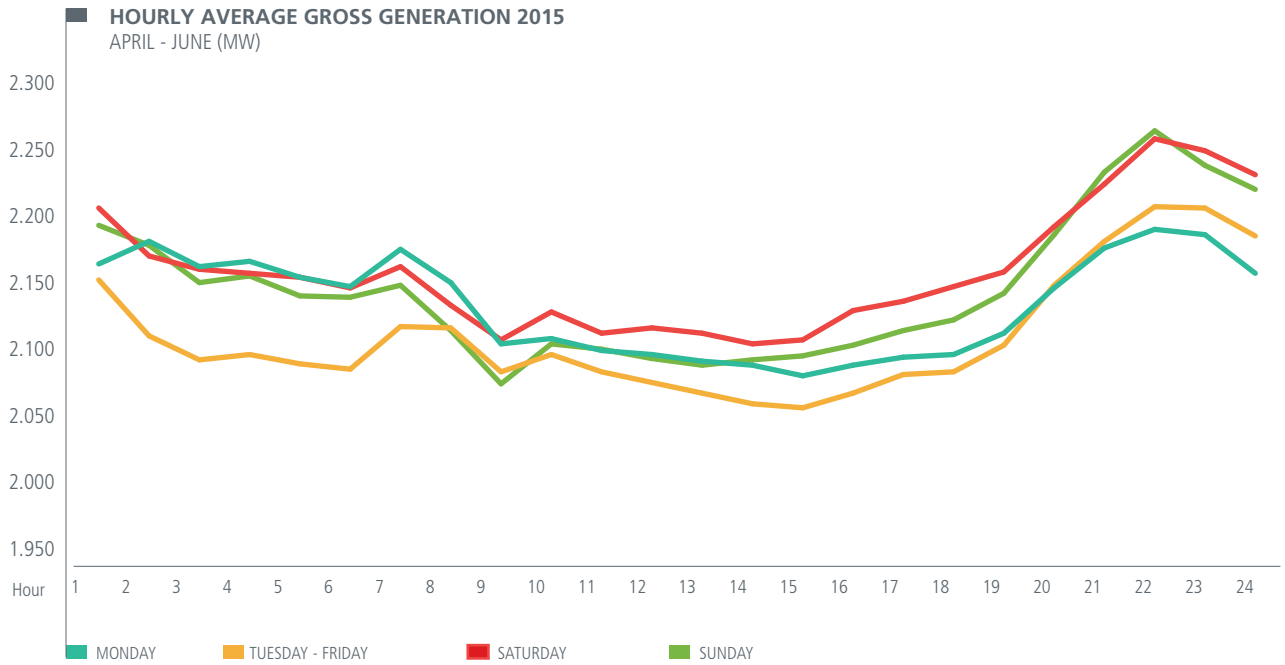
Year	Day	Time	Gross Maximum Generation (MW)	Net Maximum Demand (MW)
2006	15-dic-06	23	1.770	1.676
2007	24-abr-07	22	1.751	1.665
2008	21-dic-08	22	1.897	1.805
2009	27-sep-09	22	1.907	1.816
2010	26-dic-10	23	1.995	1.900
2011	23-dic-11	22	2.162	2.003
2012	25-dic-12	22	2.169	2.013
2013	01-dic-13	22	2.226	2.060
2014	26-dic-14	23	2.363	2.195
2015	09-oct-15	23	2.466	2.290

Note: The Maximum Net Demand is equivalent to the gross power generation minus the stations' own consumption.

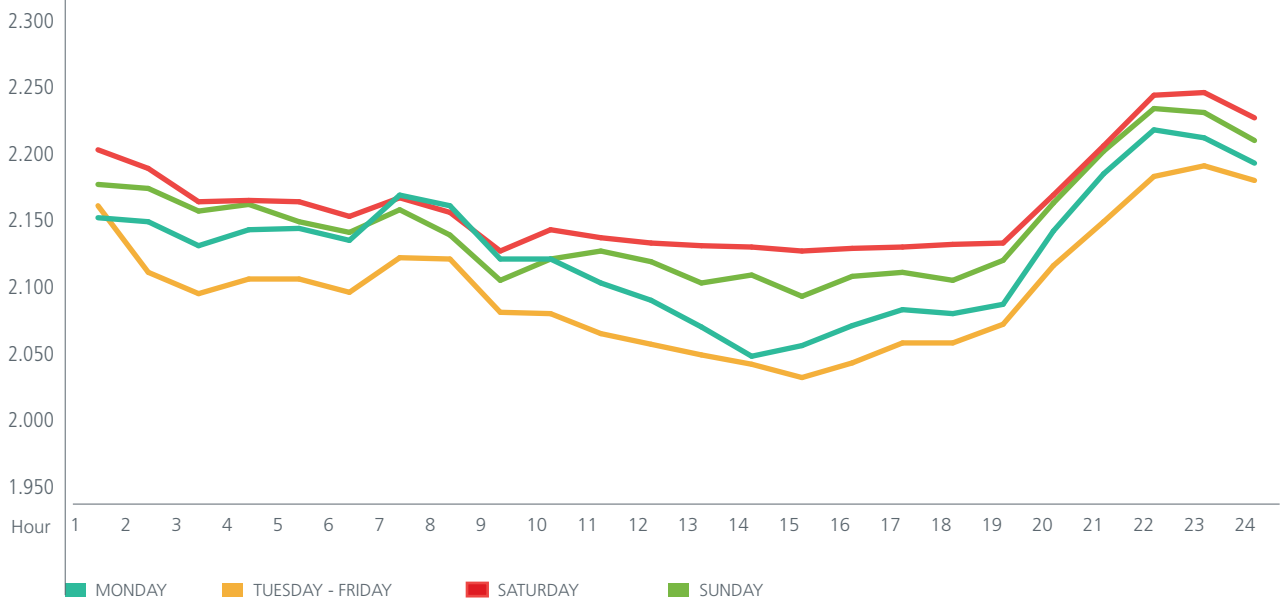




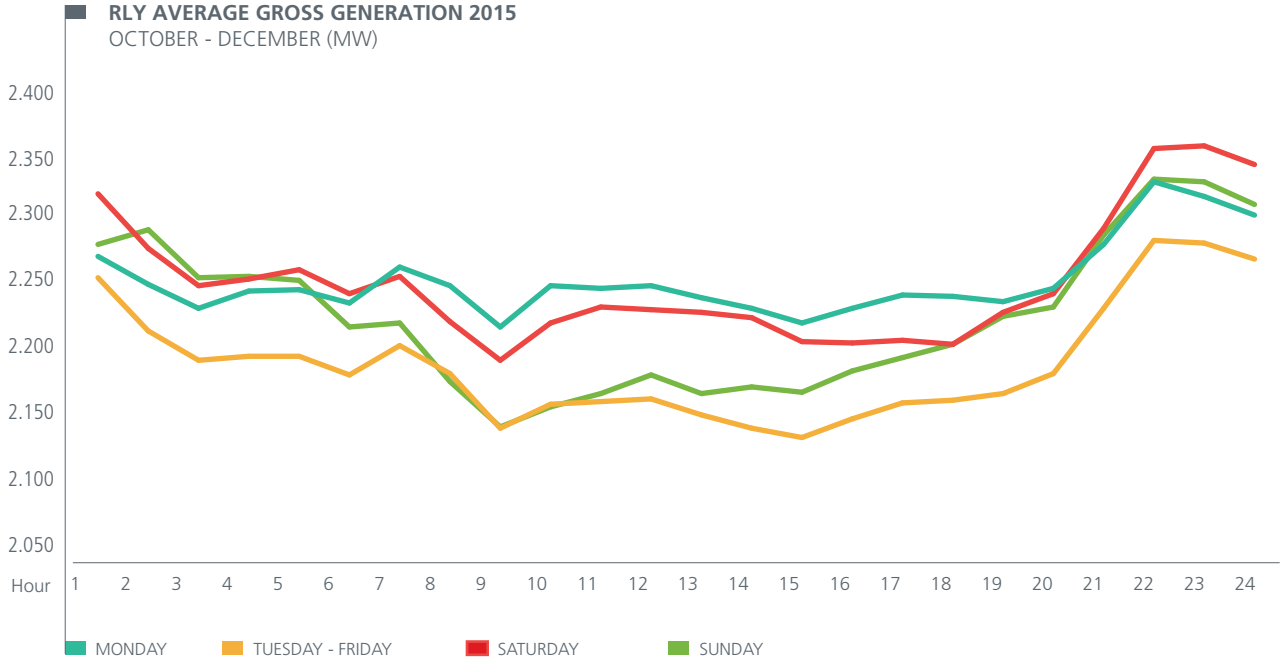

HOURLY AVERAGE GROSS GENERATION 2015
JANUARY - MARCH (MW)
2.300
2.250
2.200
2.150
2.100
2.050
2.000
1.950
Hour
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
MONDAY
TUESDAY - FRIDAY
SATURDAY
SUNDAY


HOURLY AVERAGE GROSS GENERATION 2015
APRIL - JUNE (MW)
2.300
2.250
2.200
2.150
2.100
2.050
2.000
1.950
Hour
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
MONDAY
TUESDAY - FRIDAY
SATURDAY
SUNDAY

HOURLY AVERAGE GROSS GENERATION 2015
JULY - SEPTEMBER (MW)



RLY AVERAGE GROSS GENERATION 2015
OCTOBER - DECEMBER (MW)



IX. Non-Conventional Renewable Energies (NCRE)

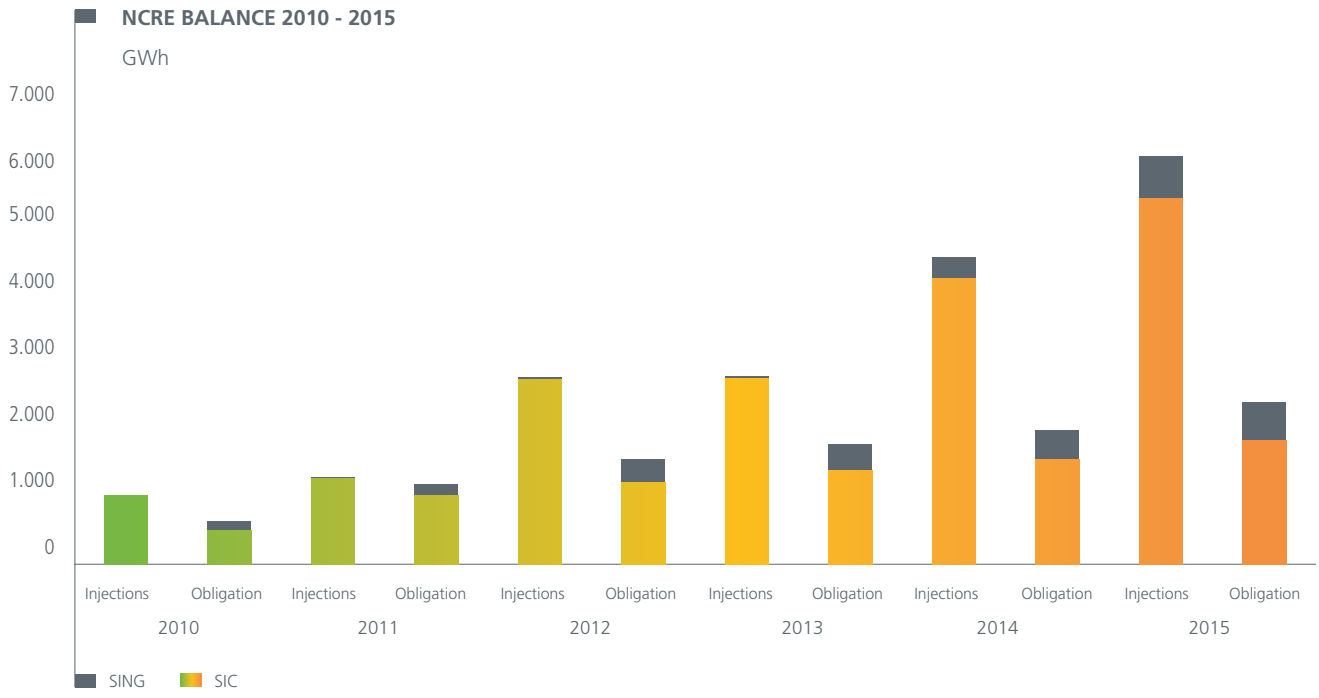
2015 NCRE BALANCE

Withdrawals subjet to obligation	
System	Energy [GWh]
SIC	34.795
SING	10.122
Total	4.4917,8

NCRE obligation (5% subjet withdrawals)	
System	Energy [GWh]
SIC	1.863,5
SING	563,8
Total	2.427,3

NCRE acknowledged injections	
System	Energy [GWh]
SIC	5.497,8
SING	629,3
Total	6.127,1

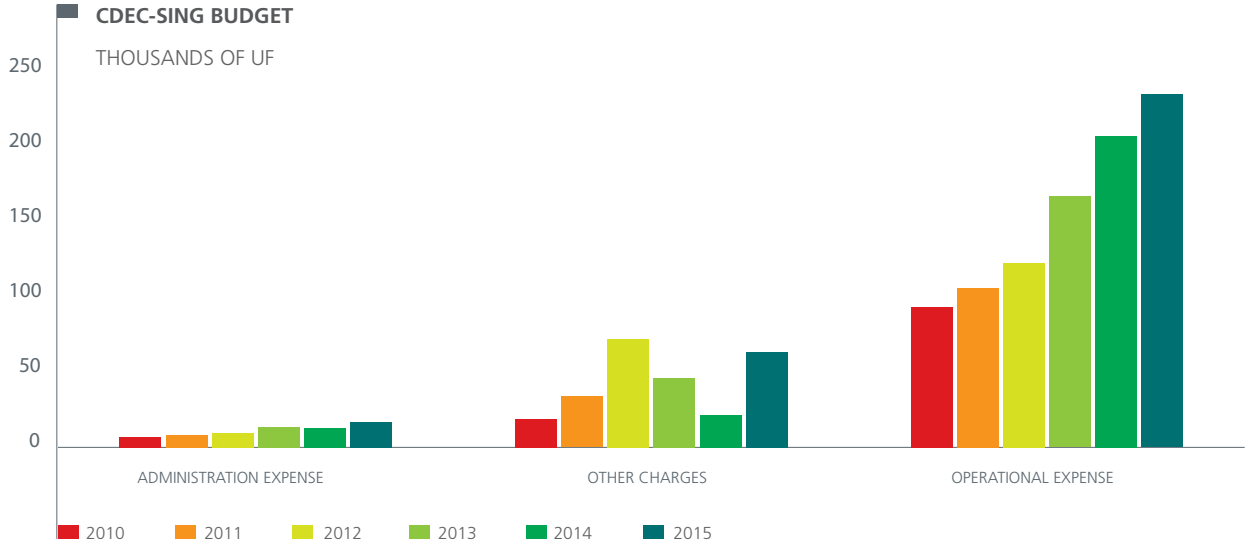
NCRE Net Surplus / Shortage	
System	Energy [GWh]
SIC	3.634,2
SING	65,6
Total	3.699,8

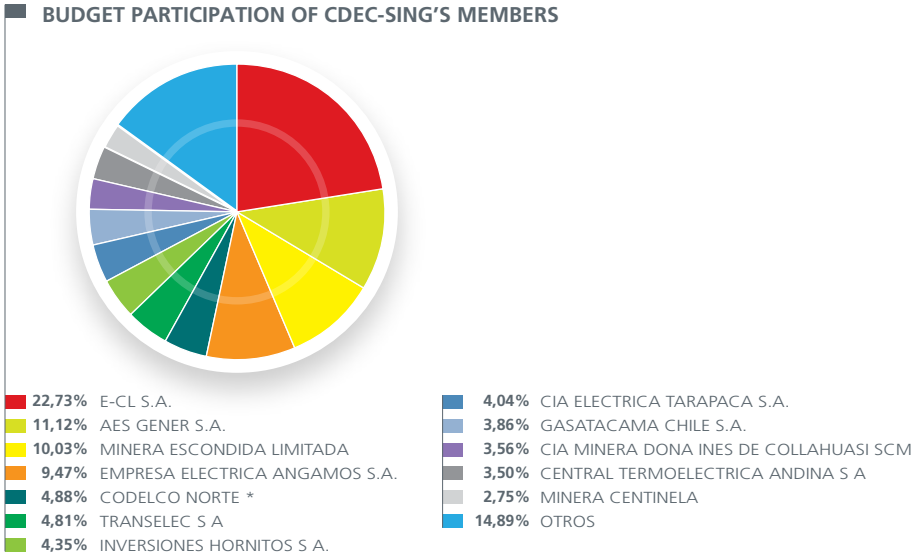


X. CDEC-SING Budget

CDEC SING BUDGET

CDEC-SING Budget [thousand UF]	2009	2010	2011	2012	2013	2014	2015	Variation (Thousands UF)	Variation % [Last year]
Administration expense	6,5	7,1	8,1	9,7	13,7	12,7	16,7	4,0	31,4%
Other charges	18,6	18,8	33,9	72,0	46,3	21,4	63,7	42,3	197,8%
Operational costs	77,7	93,8	106,2	123,1	167,3	207,4	235,2	27,8	13,4%
Remuneration and Other related	57,8	63,2	72,5	86,9	112,6	139,6	167,2	27,6	19,8%
Office lease and related expense	7,1	7,8	10,4	10,5	11,5	20,9	18,5	-2,4	-11,6%
External Services and Advising	2,2	2,7	2,9	3,9	4,4	9,5	12,6	3,1	32,0%
Equipment, Software and Services lease	10,5	20,1	20,4	21,8	38,8	37,3	36,9	-0,4	-1,2%
Total	**103**	**120**	**148**	**204,8**	**227,2**	**241,5**	**315,7**	**74,1**	**30,7%**





Note: Only those CDEC-SING members with a participation rate greater than 2% are represented individually.
Includes 4 operations: Chuquicamata, R Tomic, M Hales and G Mistral

CDEC SING
CENTRO DE DESPACHO ECONÓMICO DE CARGA
SISTEMA INTERCONECTADO NORTE GRANDE

SISTEMA INTERCONECTADO NORTE GRANDE
ESQUEMA GEOGRÁFICO
Actualizado: Marzo 2016

Observación: La delimitación geográfica y trazas de las líneas son solo indicativas.
Nota: Las instalaciones del sistema de transmisión troncal, son las identificadas en el Decreto 23 T, publicado en el D.O. 03.02.2016.

CDEC|SING

CENTRO DE DESPACHO ECONÓMICO DE CARGA
SISTEMA INTERCONECTADO NORTE GRANDE

Address:
Av. Apoquindo 4501
6th floor, Las Condes
Santiago de Chile

Phone:
56 22 367 2400

Web:
www.cdec-sing.cl

Twitter:
@cdec_sing