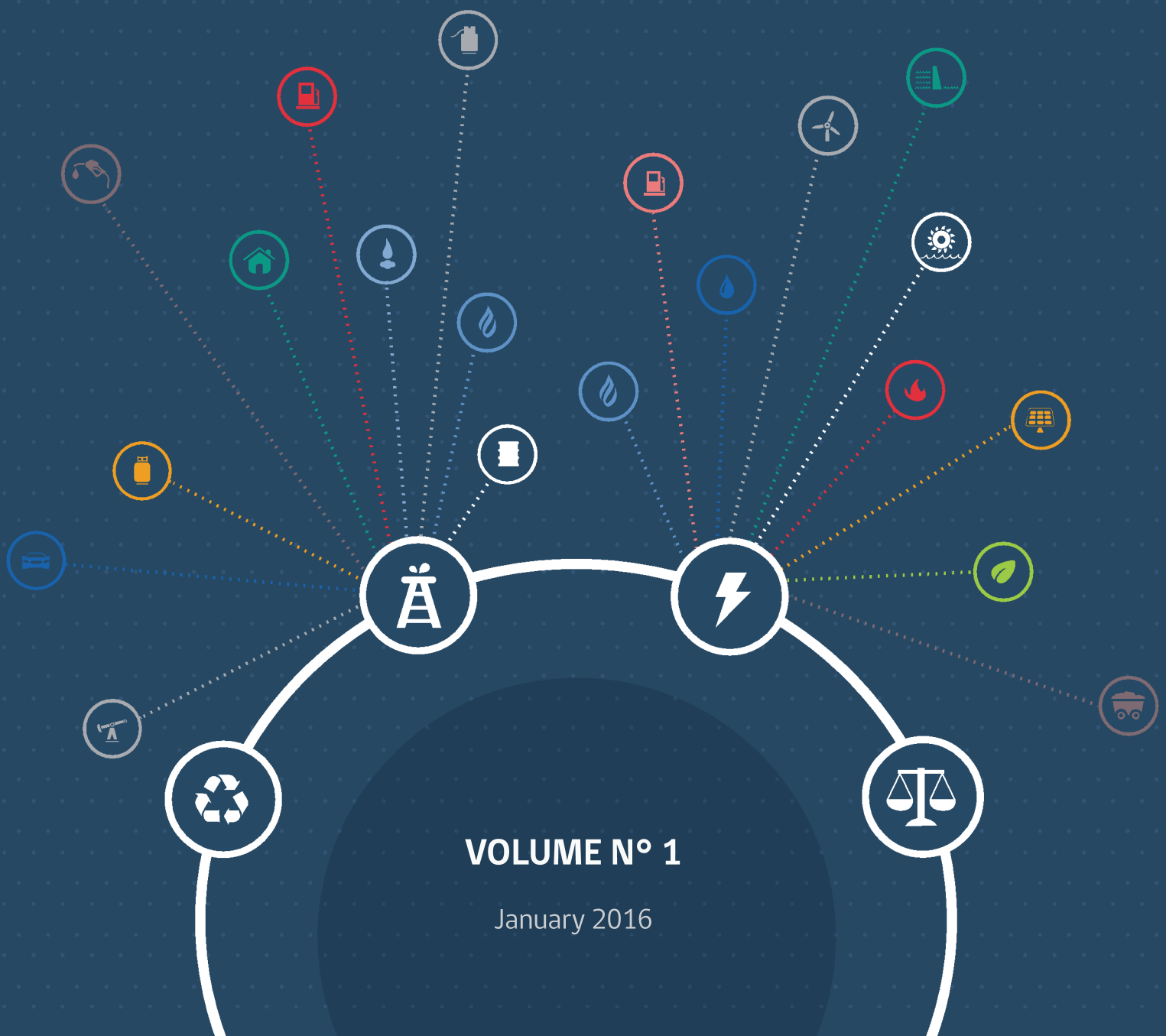


# MONTHLY ENERGY SECTOR REPORT

NATIONAL ENERGY COMMISSION



VOLUME N° 1

January 2016

## HIGHLIGHTS

During the last month, the energy sector has witnessed a series of milestones that reflect the hard work of both the National Energy Commission and the Ministry of Energy. The following are among the principal achievements:

### Open Energy is finalist in Public Contest!

Open Data portal of the National Energy Commission (CNE), Energy Open, came finalist in the contest works! (Ex Innovation Challenge) organized by the Civil Service in conjunction with the Government Laboratory (Labgob), and recognizes the ability of innovation, creativity and improved management of processes developed by the (as) officials (as) public in their institutions.

In the contest were received 136 applications from 74 utilities, of which 10 initiatives passed to the final stage, including the energy data portal created by the National Energy Commission (CNE), [Open Energy](#)

Besides Open Energy were selected initiatives from the Secretariat of Energy, Gendarmerie de Chile, the Chilean Antarctic Institute, the Institute of Public Health, Agriculture and Livestock Service, the Service of Housing and Urbanism of Valparaíso, the Secretary of Environment, the Undersecretary of Housing and Urban Development Antofagasta and Health Authority.

In March 2016, finalists will present to the jury, of government officials, who evaluated and adjudicated the first three places.

Open Energy was created by the Unit of Information and Statistics and Informatics Sub department CNE.

### Executive Secretary of the CNE opens Seminar "Hydrogen Economy and Sustainable Development".

As part of the 100th anniversary of the creation of the Faculty of Engineering of the University of Santiago, the seminar "Hydrogen Economy and Sustainable Development", was opened by the Executive Secretary of the National Commission was held on December 2 last Energy, Andres Romero.

The activity was attended by the Rector of this university, Dr. John Zolezzi; Dean of the Faculty of Engineering USACH, Juan Carlos Espinoza and special guest the Pro Rector for Research and Technology Transfer at the Esslingen University of Germany, Dr. Ing. Walter Czarnetzki.

### Minister of Energy presented the book "Energy Without Borders. The experience of interconnection with Argentina"

On December 3, the Minister of Energy, Maximo Pacheco, presented the book "Energy Without Borders: The experience of interconnection with Argentina", conducted by the CDEC SING.

It is expected that this will be a concrete contribution to the path of regional interconnection to which it aspires Chile and increased competition, the national system flexibility

### President of the Republic receives New Energy Policy for Chile

At the Moneda Palace Michelle Bachelet, President of the Republic, received on Wednesday 30 December in hands of the Energy Minister, Máximo Pacheco, the document "Energy 2050" which is the result of a participatory planning process, which will be the national energy policy in the long term of our country.

The creation of this strategy is a promise from the government program of President Bachelet as a commitment from the Energy Agenda, launched in May 2014 where was shared the vision for the future development of the sector, the social validation and technique required to become state policy that Chile needs.

For its creation, the information obtained from the workshops around Chile -130 meetings that were attended by more than 3,500 people-was considered all the proposals emanating from the strategic Advisory Committee led by the Minister of Energy and composed of 27 key industry players, whose mission was to build a shared vision for 2050 sector, which was reflected in the document "Roadmap 2050" delivered last September 29; 30 plenary sessions and more than 150 meetings of the Expert Groups thematic sessions, along with a series of seminars and workshops; regional workshops; and, following the recommendations of the OECD, a virtual platform to convene a citizen participation.

Bachelet mentioned some of the major goals that defines this policy for the next 35 years: 100% of houses of vulnerable families must be able to have quality access to energy services; at least 70% of national electricity generation would come from renewable sources; all energy projects in the country would have mechanisms association between the community and businesses; Chile is among the three OECD countries with lower average power prices; 100% of the new buildings will have high efficient construction standards, and will be provided with intelligent control systems and energy management; 100% of the principal categories of appliances and equipment sold in the market would be an energy efficient equipment; Chile interconnection would be achieved with the Electric Interconnection System Andean countries and Mercosur, among others.

\* Download the document of the [2050 Energy Policy](#)

## SUMMARY

This report was prepared in **January 2016** in order to provide energy information and statistics for **December 2016**.

The report's content has been organized into four chapters to facilitate analysis. These four chapters provide information about the electricity sector, international and domestic markets for oil and gas, the status and progress of environmental approvals for energy projects, and finally the main regulatory aspects affecting the sector during the month of May.

This publication contains official information from external sources as well as from the National Energy Commission (NEC).

To prepare the report, an average exchange rate of **704.24 pesos per USD** observed in **December 2016**.

According to Exempt Resolution 632/2015 with date **October 7th**, there were **69** electricity generation projects under construction in the SIC and SING, equivalent to a capacity of **5,548 MW**.

The installed capacity of the SIC in May was **15,609 MW** and it was **3,968 MW** in the SING, plus the installed capacity in the Aysén (SEA) and Magallanes (SEM) electricity systems. Together, the four systems with Easter Island and *Los Lagos*; in aggregate represent an installed capacity of **19,742 MW**.

Meanwhile, total electric power generation in the SIC in May was **4,579 GWh**, and in the SING it reached **1,635 GWh**. Therefore, the total generated in **December** was **6,214 GWh**, **4.9%** higher than in **November 2016**.

The maximum hourly demand recorded in the SIC and the SING in May were **7,502 MW** and **2,456 MW**, respectively. The maximum in the SIC was recorded on December 30th while the measurement in the SING corresponds to December 2th, 2015.

Regarding electricity tariffs, it is important to note that the average marginal cost in **December** in the SIC was **43.6 USD/MWh**, a **14.9%** lower than **November 2016**. In the SING meanwhile, the average marginal cost was **50.2 USD/MWh**, **-30.9%** higher than the previous month.

It is worth noting the average market prices recorded in December in the SIC and SING which were **88.0 USD/MWh** and **83.5 USD/MWh**, respectively.

In terms of international fuel prices, the Brent crude price in **December** was **38.0 USD/bbl**, **-14.1%** lower than the previ-

month. Meanwhile, the average price of WTI crude was **37.3 USD/bbl**, and **-12.6%** higher than the previous month.

The Henry Hub price (international natural gas price reference) decreased **-8.2%** compared to **November**, with an average value of **1.91 USD/MBtu**.

The average price of coal was **84.0 USD/ton**, down **-1.3%** over the previous month.

In terms of gasoline prices, those of 93-octane gasoline (unleaded) and diesel should be noted. In May the average domestic price of the former was **CLP 700/liter**, while the average price of the latter was **CLP 502/liter**. In terms of percentages, these represent a fall of **-2.7%** and falls of **-0.2%** respectively in comparison to **November 2016**.

In regard to imports of coal, there was a decrease of **-21.9%** in reference to the previous month, being United States the primary country of origin. In the other hand, Ecuador was the primary country of origin for the crude oil, which also fallen down almost **-26.1%** this month.

A total of **17** energy sector projects were submitted to the Environmental Impact Evaluation System (Sistema de Evaluación de Impacto Ambiental, SEIA): 11 in electricity generation, and 3 for electricity transmission and 3 about oil and gas energy project. Meanwhile, those already being evaluated represent a total investment of **USD 20,959 million**. In addition, **9** projects related to the energy sector obtained favorable environmental qualification resolutions (*Resolución de Calificación Ambiental*, or RCA) in **December**, and of those, 6 were for electricity generation projects, 2 were for high-voltage electricity transmission line projects and 1 were oil and/or gas energy projects.

In conclusion, it should be highlighted among all the important policy issues that occurred in December, the publication in the Official Journal of the **Exempt Resolution No. 679**, which amends with Technical Standard Safety Requirements and Quality of Service System Norte Grande interconnected and the Central interconnected System and incorporates annexes indicated.

Equally important is the delivery made on December 30<sup>th</sup>, the last document called **Energy 2050 - Chile Energy Policy**, prepared by the Ministry of Energy, which aims to build a shared vision for the future development of the energy sector with the social, political and technique validation required to become the state policy on energy that Chile needs.



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## ELECTRICITY SECTOR

### 1 Electricity Generation Projects Under Construction

As indicated in Article 31 of the Node Price Setting Regulation (0586/2012), "installations under construction" are defined as generation units, transmission lines and electrical substations that have been granted the respective construction permits for civil works or have been granted the order to proceed in the fabrication and/or installation of the corresponding electrical or electro-magnetic equipment for electricity generation, transmission or transformation. For more information about NCRE projects, please go to the [CIFES Monthly Energy Report](#)

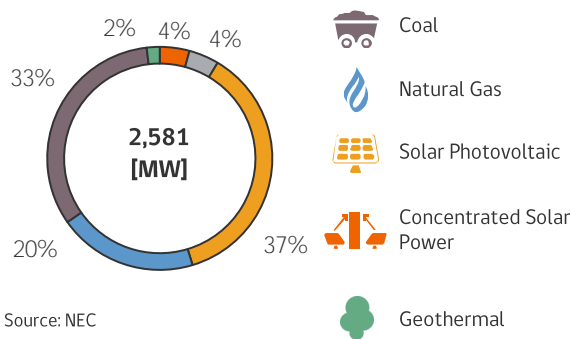
According to Exempt Resolution Num. 701/2015, "Works under Construction Update and Report," as of December 2th there were **31** power generation projects under construction in the SING. Together they represent capacity of **2,581 MW** and are projected to begin operation between January 2016 and February 2018.

#### Projects under Construction in the SING

Category	Date	Project Name	Region	Technology	Power [MW]
Category	ene-16	Andes Solar	II Región	Solar Photovoltaic	21
	ene-16	Jama Etapa II	II Región	Solar Photovoltaic	23
	ene-16	Pampa Camarones I	XV Región	Solar Photovoltaic	6
	ene-16	PV Cerro Dominador	II Región	Solar Photovoltaic	100
	feb-16	Finis Terrae I	II Región	Solar Photovoltaic	69
	abr-16	Arica Solar 1 (Etapa I)	XV Región	Solar Photovoltaic	18
	abr-16	Arica Solar 1 (Etapa II)	XV Región	Solar Photovoltaic	22
	abr-16	Pular	II Región	Solar Photovoltaic	29
	abr-16	Paruma	II Región	Solar Photovoltaic	21
	may-16	Cerro Dominador	II Región	Cogeneration	110
	may-16	Bolero Etapa I	II Región	Solar Photovoltaic	42
	jun-16	Bolero Etapa II	II Región	Solar Photovoltaic	42
	jun-16	Finis Terrae II	II Región	Solar Photovoltaic	69
	jun-16	Quillagua I	II Región	Solar Photovoltaic	23
	jul-16	Uribe Solar	II Región	Solar Photovoltaic	50
	jul-16	Lascar Etapa I	II Región	Solar Photovoltaic	30
	jul-16	Lascar Etapa II	II Región	Solar Photovoltaic	35
	ago-16	Bolero Etapa III	II Región	Solar Photovoltaic	21
	oct-16	Blue Sky 1	II Región	Solar Photovoltaic	52
	oct-16	Blue Sky 2	II Región	Solar Photovoltaic	34
	oct-16	Bolero Etapa IV	II Región	Solar Photovoltaic	41
	oct-16	Sierra Gorda	II Región	Wind	112
	dic-16	Quillagua II	II Región	Solar Photovoltaic	27
	dic-16	Cerro Pabellón	II Región	Geothermal	48
	ene-17	Huatacondo	I Región	Solar Photovoltaic	98
	ago-17	Quillagua III	II Región	Solar Photovoltaic	50
	oct-17	Usya	II Región	Solar Photovoltaic	25
Thermoelectric	ene-16	Cochrane U1	II Región	Coal	236
	may-16	Cochrane U2	II Región	Coal	236
	may-16	Kelar	II Región	NLG	517
	feb-18	Infraestructura Energética Mejillones	II Región	Coal	375

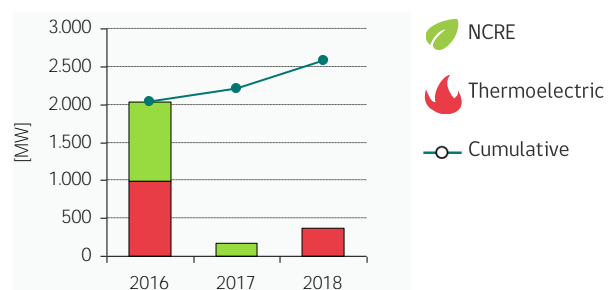
Source: NEC

#### Total under construction in the SING, by technology



Source: NEC

#### Projected operation start date, SING



Source: NEC



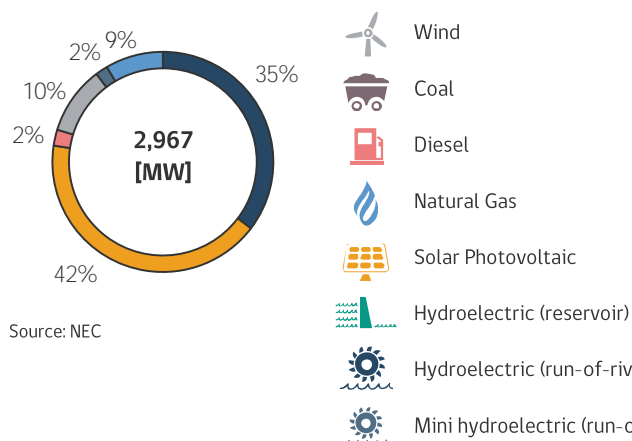
According to Exempt Resolution 701/2015, "Works under Construction Update and Report," as of December 2th there were **38** power generation projects under construction in the SIC. Together they represent capacity of **2,967 MW** and are projected to begin operation between January 2016 and October 2020.

### Projects under Construction in the SIC

Category	Date	Project Name	Region	Technology	Power [MW]
NCRE	ene-16	Carilafquén	III Region	Mini hydroelectric (run-of-river)	20
	ene-16	Chaka Etapa I	III Region	Solar Photovoltaic	23
	ene-16	Chaka Etapa II	III Region	Solar Photovoltaic	27
	ene-16	La Montaña I	III Region	Mini hydroelectric (run-of-river)	3
	ene-16	Malalcahuello	III Region	Mini hydroelectric (run-of-river)	9
	ene-16	Renaico	III Region	Wind	88,0
	ene-16	Valleland	III Region	Solar Photovoltaic	67
	ene-16	Panguipulli	III Region	Mini hydroelectric (run-of-river)	0
	ene-16	Pampa Solar	III Region	Solar Photovoltaic	69
	ene-16	Conejo Etapa I	III Region	Solar Photovoltaic	105
	ene-16	La Chapeana	III Region	Solar Photovoltaic	3
	ene-16	Las Mollacas	III Region	Solar Photovoltaic	3
	feb-16	Quilapilun	III Region	Solar Photovoltaic	103
	feb-16	Solar Cardones	III Region	Solar Photovoltaic	0
	mar-16	Los Buenos Aires	III Region	Wind	24
	mar-16	PFV Olmué	III Region	Solar Photovoltaic	144
	mar-16	Las Nieves	III Region	Mini hydroelectric (run-of-river)	7
	mar-16	La Silla	III Region	Solar Photovoltaic	2
	abr-16	Valle Solar	III Region	Solar Photovoltaic	74
	jun-16	Río Colorado	III Region	Mini hydroelectric (run-of-river)	15
	jun-16	Carrera Pinto Etapa II	III Region	Solar Photovoltaic	77
	jun-16	Los Loros	III Region	Solar Photovoltaic	50
	jul-16	Pelícano	III Region	Solar Photovoltaic	100
	jul-16	San Juan	III Region	Wind	185
	ago-16	Abasol	III Region	Solar Photovoltaic	62
	sep-16	El Romero	III Region	Solar Photovoltaic	196
	sep-16	Divisadero	III Region	Solar Photovoltaic	65
	ene-17	Guanaco Solar	III Region	Solar Photovoltaic	50
	abr-17	Malgarida	III Region	Solar Photovoltaic	28
Conventional Hydroelectric	jun-16	Ancoa	III Region	Hydroelectric (run-of-river)	27
	sep-16	La Mina	III Region	Hydroelectric (run-of-river)	34
	feb-18	Alto Maipo - Las Lajas	III Region	Hydroelectric (run-of-river)	267
	may-18	Alto Maipo - Alfalfal II	III Region	Hydroelectric (run-of-river)	264
	jun-18	Ñuble	III Region	Hydroelectric (run-of-river)	136
	dic-18	Los Cóndores	III Region	Hydroelectric (run-of-river)	150
	oct-20	San Pedro	III Region	Hydroelectric (run-of-river)	170
Thermoelectric	mar-16	Doña Carmen	III Region	Diesel	70
	jun-17	CTM-3*	III Region	Diesel	251

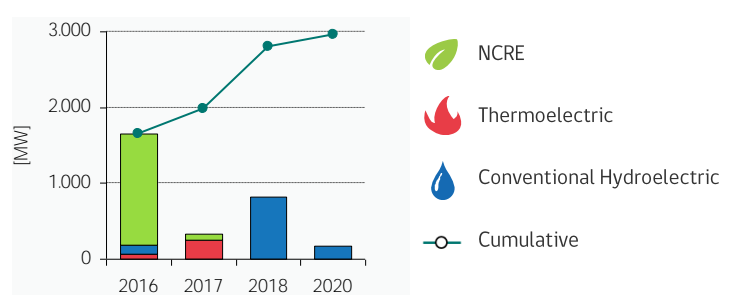
Source: NEC

### Total under construction in the SIC, by technology



Source: NEC

### Projected operation start date, SIC



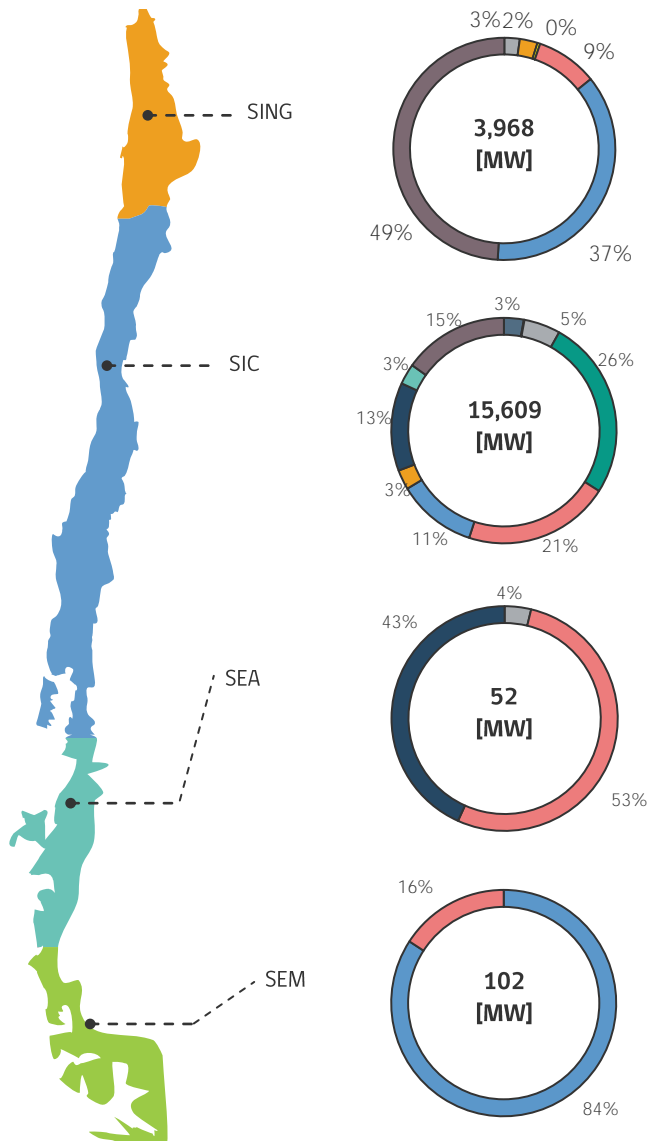
Source: NEC



## 2 Installed Electricity Generation Capacity

The installed electricity generation capacity as of December 2016 was **(\*)19,742 MW**. Of that, **15,609 MW (79.1%)** corresponded to the SIC and **3,968 MW (20.1%)** to the SING. The remaining 0.8% was distributed among the Aysén and Magallanes electricity systems. As of May, **58.0%** of the country's total installed capacity is represented by thermoelectric generation, while **30.4%** is hydroelectric and **11.6%** is NCRE. For more information about NCRE projects, please go to the [CIFES Monthly Energy Report](#)

### Installed Capacity by Technology



Source: CDEC-SIC / CDEC-SING and NEC

### Installed capacity by system

System	Capacity [MW]	Capacity [%]
SING	3,968	20.1%
SIC	15,609	79.1%
SEA	52	0.3%
SEM	102	0.5%

Source: CDEC-SIC / CDEC-SING and NEC



### Power generation plants in testing phase

In addition to the total installed capacity, there are **19** synchronous power generation plants with their respective electricity systems that have not yet been approved for dispatch by the CDEC (in the testing phase). Of these, **16** plants are in the SIC (with a total capacity of **401.6 MW**) and **3** are in the SING (with a total capacity of **57.0 MW**). Thus, there is a total of **458.6 MW** in the testing phase.

\* The total installed capacity also includes Los Lagos (6 MW) and Easter Island (4 MW) systems.

\*Is not considered in this total the Natural Gas power plant, located in Salta (Argentina); connected to the SING (380 MW)

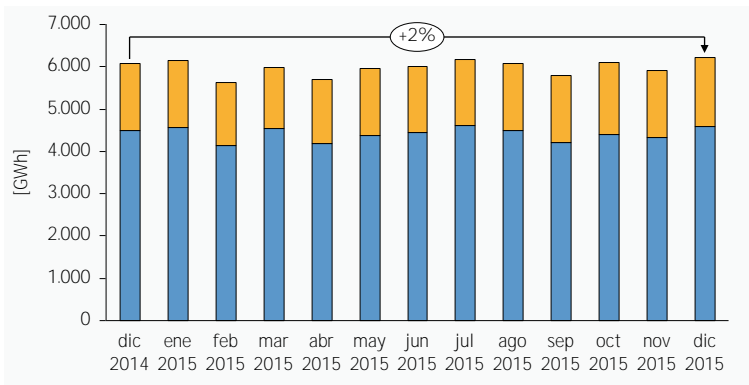




### 3 Electricity Generation







Power generation in the SIC during **December 2016** reached a total of **4,579 GWh**, which were classified as **29%** thermoelectric, **57%** conventional hydroelectric and **14%** NCRE. In the SING, **1,635 GWh** of electric power were generated, **95%** from thermoelectric plants and **5%** from NCRE. Together the systems reached a total of **6,214 GWh**, an increase of **4.9%** over the previous month and equal to December 2015. In resume, if we sort by generation category, we distinguish: **11.5%** NCRE, **42.1%** hydroelectric and **46.3%** thermoelectric generation.

Evolution of gross electric power generation, SIC-SING



Source: CDEC-SIC / CDEC-SING

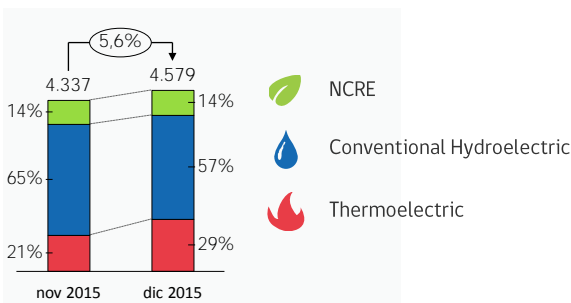
Evolution of gross electric power generation, SIC-SING

Energy Generation [GWh]		Monthly		Annual	
● Total	6,214		4.9%		2.3%
● SING	1,635		3.1%		3.6%
● SIC	4,579		5.6%		1.9%

Source: CDEC-SIC / CDEC-SING

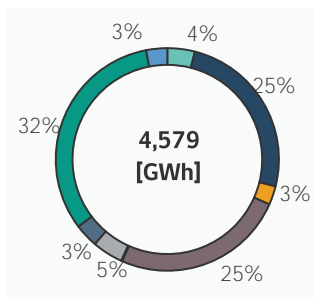
Following is a breakdown of power generation by technology in the SIC and SING.

Monthly Variation in Generation, SIC



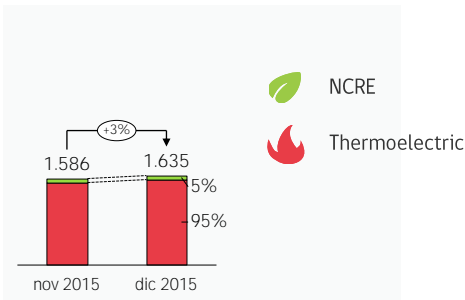
Source: CDEC-SIC

SIC generation by source



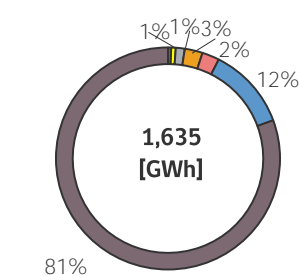
Source: CDEC-SIC

Monthly Variation in Generation, SING



Source: CDEC-SIC

SING generation by source



Source: CDEC-SIC

- Other
- Wind
- Diesel
- Coal
- Biomass
- Natural Gas
- Solar Photovoltaic
- Hydroelectric (reservoir)
- Hydroelectric (run-of-river)
- Mini hydroelectric (run-of-river)

For more information about NCRE projects, please go to the [CIFES Monthly Energy Report](#)

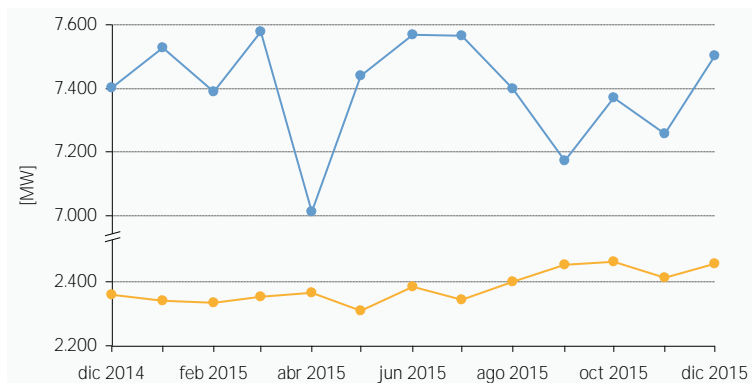




## 4 Maximum Hourly Demand

The maximum hourly demand recorded on December 10th in the SIC was **7,502 MW**, similar to the demand recorded in the previous month and to December 2015. In the SING, the maximum hourly demand recorded on December 22th was **2,456MW**, which represented a **1.8%** increase over the maximum hourly demand recorded in the previous month and a **4.1%** increase over the same month of 2015.

### Evolution of maximum hourly demand, SIC - SING



Source: CDEC - SIC / CDEC - SING

### Variation in maximum hourly demand, by system

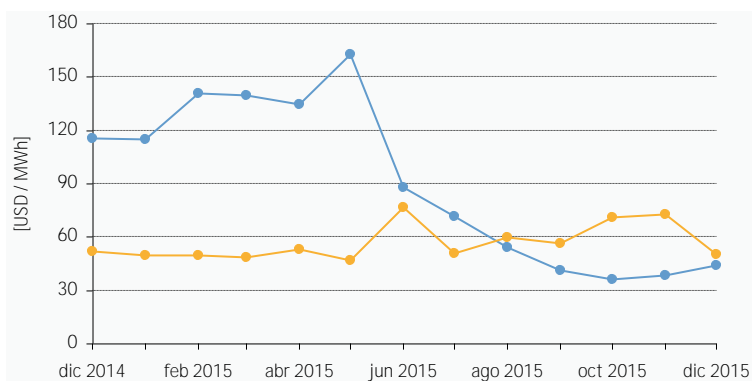
System	[MW]	Monthly	Annual
SIC	7,502	▲ 3.4%	▲ 1.4%
SING	2,456	▲ 1.8%	▲ 4.1%

Source: CDEC - SIC / CDEC - SING

## 5 Marginal Costs

The marginal cost is the variable cost of the most expensive generation unit operating at a specific point in time. In this case, the Quillota 220 kV busbar was used as the reference to obtain the marginal cost in the SIC while the Crucero 220 kV busbar was used as the reference in the SING. The value given for each system corresponds to the monthly average of hourly marginal costs. In December, the average marginal cost in the SIC was **43.6 USD/MWh**, **14.9%** higher than the previous month and **-62.1%** lower than December 2015. In the SING, the average marginal cost was **50.2 USD/MWh**, **-30.9%** less than the previous month and **-2.5%** from December 2015.

### Evolution of marginal costs, SIC - SING



Source: CDEC - SIC / CDEC - SING

### Variation in marginal costs, SIC - SING

System	[USD/MWh]	Monthly	Annual
SIC	43.6	▲ 14.9%	▼ -62.1%
SING	50.2	▼ -30.9%	▼ -2.5%

Source: CDEC - SIC / CDEC - SING

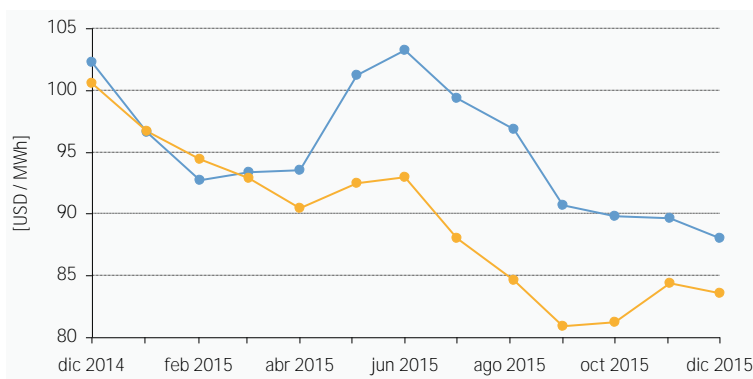


## 6 Average Market Price

The average market price (AMP) for each system is based on the average price of free customer contracts and long-term supply contracts held by distribution companies as applicable, reported to the National Energy Commission by the distribution companies operating in the Norte Grande Interconnected System and the Central Interconnected System. The AMP calculation takes into consideration a four-month window ending with the third month prior to the AMP publication date.

The AMP recorded in May for the SIC was **88.0 USD/MWh**, **-1.8%** lower than the previous month and **-13.9%** than December 2015. The AMP in the SING was **83.5 USD/MWh**, **-1.0%** less than the previous month and **-16.9%** lower than the same month in 2015.

### Evolution of market prices, SIC - SING



Source: CDEC - SIC / CDEC - SING

### Variation in average market prices, by system

System	[USD/MWh]	Monthly	Annual
SIC	88.0	▼ -1.8%	▼ -13.9%
SING	83.5	▼ -1.0%	▼ -16.9%

Source: CDEC - SIC / CDEC - SING

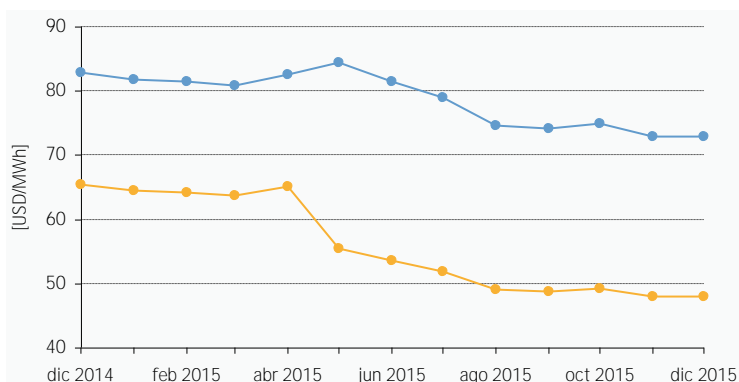
## 7 Short-term Node Prices

Short-term node prices are set twice each year, in May and October. These prices may be indexed monthly, depending on the conditions established in the twice-yearly decree that sets node prices for electricity supply. The prices are calculated by the National Energy Commission (NEC) which submits a technical report with the results to the Energy Ministry. The ministry then proceeds to set the prices via a decree published in the Official Bulletin.

### Node Energy Price

The node energy price is the average over time of the marginal cost of energy in the electricity system operating at the minimum, updated operation and rationing cost. The node energy price in the SIC in December was **72.8 USD/MWh**, without changes compared to the previous month and **-12.1%** to the same month in 2015. In the SING, the node energy price in December was **47.9 USD/MWh**, without variation from the previous month and a **-26.7%** of decrease compared to last year.

### Evolution of node energy prices, SIC - SING



Source: NEC

### Variation in node energy prices, by system

System	[USD/MWh]	Monthly	Annual
PNE SIC	72.8	▬ 0.0%	▼ -12.1%
PNE SING	47.9	▬ 0.0%	▼ -26.7%

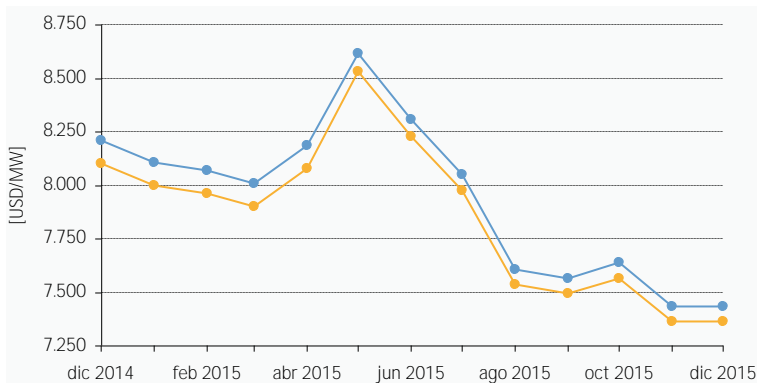
Source: NEC



## Node Power Price

The node power price is the annual marginal cost of increasing the installed capacity of the electricity system taking into consideration the most economic generation plants, required to supply additional capacity during the annual maximum hourly demand of the electricity system, increased by a percentage equal to the theoretical capacity reserve margin of the system. The node power price in the SIC in **December** was **7,431 USD/MW**, without variation compared to the previous month and **-9.5%** lower than the same month in 2015. In the SING, the node power price in **December** was **7,361 USD/MW**, without variation from the previous month and **-9.1%** of decrease compared to last year.

### Evolution of node power price, SIC – SING



Source: CNE

### Variation in node power price

System	[USD/MW]	Monthly	Annual
PNP SIC	7,431	0.0%	-9.5%
PNP SING	7,361	0.0%	-9.1%

Source: CNE

## 8 Node Price in Medium-size Systems

Below we present the node energy price and node power price in medium-size systems for December 2016. These node prices are applied to energy supply at the withdrawal busbars indicated in the following tables:

### Variation in node energy price, medium-size systems

Busbar	[USD/MWh]	Index	Annual
Pta Arenas	61	▲ 4.4%	▲ 3.1%
Tres Puentes	61	▲ 4.2%	▲ 5.7%
Pto Natales	89	▲ 6.2%	▲ 5.1%
Porvenir	83	▲ 6.2%	▲ 11.3%
Pto Williams	279	▲ 0.5%	▲ 6.3%
Aysén 23	85	▲ 0.5%	▼ -11.8%
Chacab23	85	▲ 0.5%	▼ -11.7%
Mañi23	85	▲ 0.5%	▼ -11.7%
Ñire33	85	▲ 5.0%	▼ -11.7%
Tehuel23	85	▼ -1.4%	▲ 7.2%
Palena	84	▲ 5.5%	▼ -18.8%
G.Carrera	111	▲ 5.0%	▲ 8.8%
Cochamó	178	▲ 4.0%	▼ -13.3%
Hornopirén	155	▲ 5.4%	▲ 6.4%

Source: CNE

### Variation in node power price, medium-size systems

Busbar	[USD/MW-mth]	Index	Annual
Pta Arenas	14,906	▲ 6.2%	▲ 11.3%
Tres Puentes	14,906	▲ 6.2%	▲ 11.3%
Pto Natales	8,311	▲ 6.0%	▲ 9.7%
Porvenir	10,419	▲ 5.0%	▲ 8.2%
Pto Williams	19,744	▲ 4.0%	▲ 6.3%
Aysén 23	10,965	▲ 5.5%	▲ 8.8%
Chacab23	10,965	▲ 5.5%	▲ 8.8%
Mañi23	10,965	▲ 5.5%	▲ 8.8%
Ñire33	10,965	▲ 5.5%	▲ 8.8%
Tehuel23	10,965	▲ 5.5%	▲ 8.8%
Palena	15,460	▲ 5.0%	▲ 8.0%
G.Carrera	20,991	▲ 4.0%	▲ 6.4%
Cochamó	20,695	▲ 4.0%	▲ 6.4%
Hornopirén	13,247	▲ 5.4%	▲ 8.6%

Source: CNE

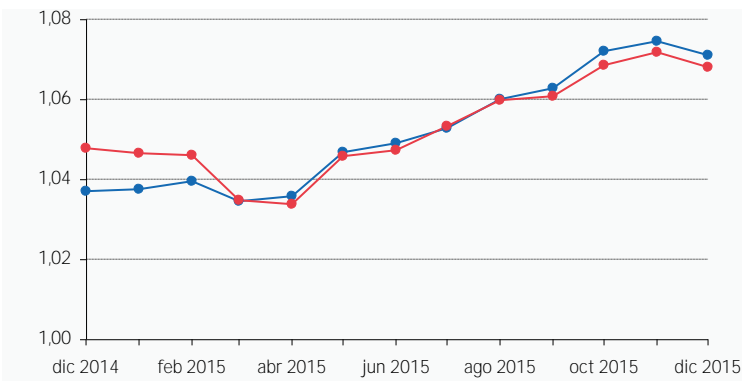


## 9 Evolution of Variable Distribution Cost Indexes

The distribution added value (DAV)\* is set every four years by the Energy Ministry, based on a technical report prepared by the NEC, and corresponds to the average cost of investment, administration, maintenance and operation of electricity distribution networks calculated for an efficient model company operating in Chile. The DAV has a fixed component and a variable component, both of which were established by Article 182 of the General Electrical Services Law and are indexed monthly. Below we provide the evolution of the indexator of the variable component both for high and low voltage for December 2016.

For more information, visit [Decreto N°1T/2012 Proceso de Fijación de Tarifas de Distribución 2012-2016](#).

### Evolution of Indexes



Source: CNE

### Variation in Indexes

System	Index		Monthly		Annual
CDAT	1.071	▼	-0.3%	▲	3.3%
CDBT	1.068	▼	-0.4%	▲	1.9%

Source: CNE

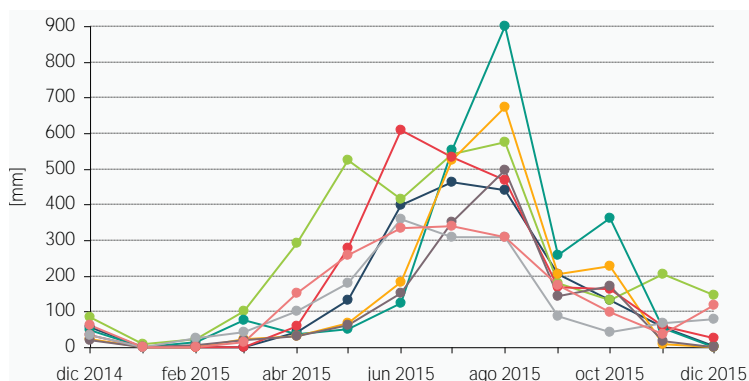
## 10 Hydrological Statistics

Because of the hydro-thermal nature of the Central Interconnected System, which features large hydroelectric (reservoir) plants with for regulation in different periods of time and thermal plants (as well as other technologies), the use of reservoir water must be optimized in order to minimize the total cost of supplying the system. For this reason, we provide information below from monitoring and recording the important variables associated with hydrology, such as rainfall, and the operational status of infrastructure of the hydroelectric plants in relation to the respective reservoir levels and volumes.

### Rainfall Statistics

The monthly rainfall statistics published by CDEC-SIC and updated as of December 2015 are shown below for the main measurement locations.

### Evolution of Annual Rainfall



Source: CDEC-SIC

### Variation in Annual Rainfall

Reservoir	[mm]		Monthly		Annual
Abanico	3	▼	-95%	▼	-95%
Canutillar	147	▼	-29%	▲	73%
Others (**)	0	▼	-100%	▼	-100%
Colbún	0	▼	-100%	▼	-100%
Pangue	24	▼	-59%	▼	-30%
Pehuenche	0	▼	-100%	▼	-100%
Pilmaiquén	78	▲	16%	▲	129%
Pullinque	119	▲	228%	▲	92%

(\*) The relative weight in a type BT1a account with a monthly consumption of 150kWh is 26.97% in the SIC and SING 22.95%.

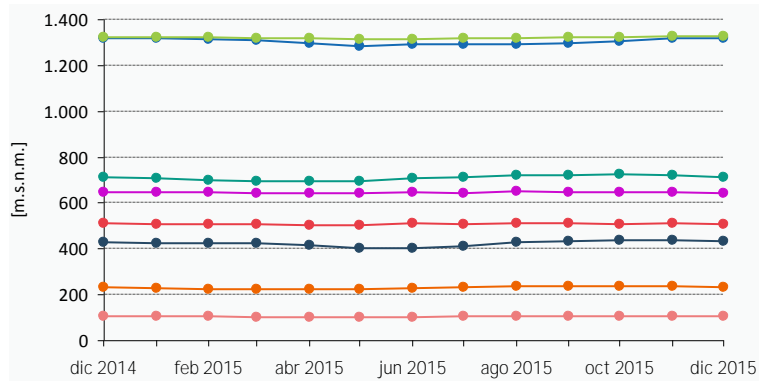
(\*\*) Other: Sauzal, Cypress, Molles, Rapel.



## Reservoir, Lake and Lagoon Levels

According to information submitted by the CDEC-SIC, in December the final levels were found for the following reservoirs, lakes and lagoons:

### Evolution of Reservoir Levels



Source: CDEC—SIC

### Variation in Reservoir Levels

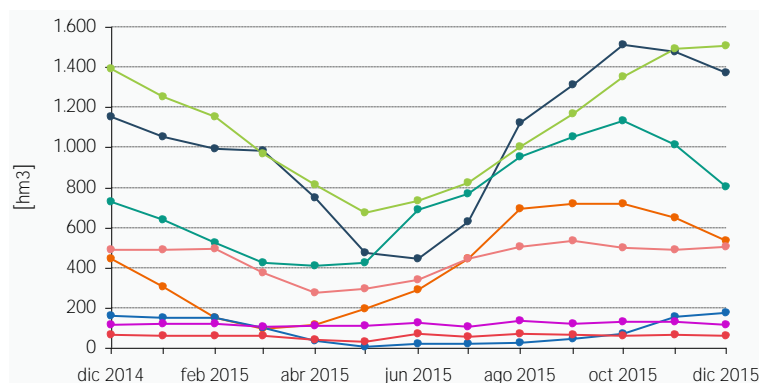
Reservoir	[m.s.n.m.]	Monthly	Annual
CHAPO	232	▼ -1.1%	▲ 0.9%
COLBUN	433	▼ -0.5%	▲ 1.2%
LA INVERNADA	1,318	▲ 0.2%	▲ 0.2%
LAJA	1,325	▬ 0.0%	▲ 0.1%
MELADO	643	▼ -0.5%	▼ -0.1%
PANGUE	507	▼ -0.2%	▼ -0.2%
RALCO	712	▼ -1.1%	▲ 0.4%
RAPEL	104	▲ 0.2%	▲ 0.2%

Source: CDEC—SIC

## Reservoir, Lake and Lagoon Volumes

Based on levels reported by the CDEC-SIC for volumes of water stored in the largest reservoirs, lakes and lagoons, considering the characteristics of each one as of December 2016.

### Evolution of Reservoir Volume



Source: CDEC—SIC

### Variation in Reservoir Volume

Reservoir	[hm³]	Monthly	Annual
CHAPO	650	▼ -9.2%	▲ 46.4%
COLBUN	1,477	▼ -2.3%	▲ 28.3%
LA INVERNADA	154	▲ 112.7%	▼ -3.0%
LAJA	1,490	▲ 10.4%	▲ 7.3%
MELADO	128	▼ -0.2%	▲ 9.7%
PANGUE	64	▲ 4.0%	▲ 0.8%
RALCO	1,013	▼ -10.5%	▲ 39.1%
RAPEL	489	▼ -1.8%	▬ 0.0%

Source: CDEC—SIC

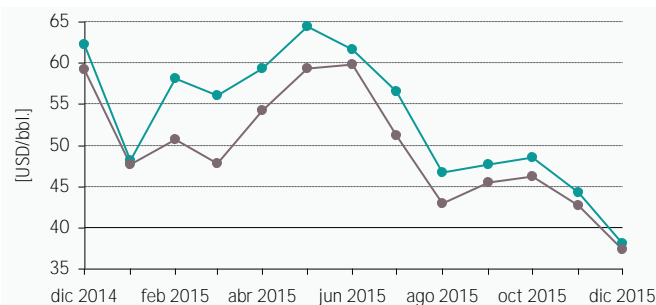


## OIL AND GAS SECTOR

### 1 International Fuel Market Prices

The following information details the moving year evolution of the West Texas Intermediate (WTI) crude oil price index, which is used as a reference in the U.S. market, along with the BRENT oil price index which reflects oil prices for European markets. In **December 2016**, BRENT oil prices averaged **38.0 USD/bbl**, which represents an **-14.1%** decrease from the previous month and a **-38.9%** decrease from December 2014. Meanwhile, the average WTI oil prices was **37.3 USD/bbl**, a **-12.6%** decrease from the previous month but a **-37.0%** decrease from the same month the previous year.

#### Evolution of BRENT and WTI Oil Prices



Source: NEC, based on data from Argus Media Inc.

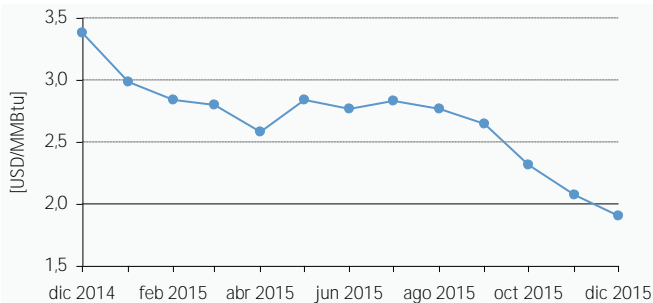
#### Crude Oil Variation (USD/bbl.)

Index	USD/bbl.	Monthly	Annual
BRENT DTD	38.0	▼ -14.1%	▼ -38.9%
WTI	37.3	▼ -12.6%	▼ -37.0%

Source: NEC, based on data from Argus Media Inc.

The following information details the evolution of the Henry Hub (Louisiana) price index, which serves as a reference for liquefied natural gas (LNG) imports to Chile. In **December**, Henry Hub averaged **1.91 USD/MMBtu**, an **-8.2%** decrease from the previous month and a **-43.6%** decrease compared to **December 2014**.

#### Evolution of Natural Gas Price (Henry Hub)



Source: NEC, based on data from the Daily Gas Price Index, NGI Intelligence

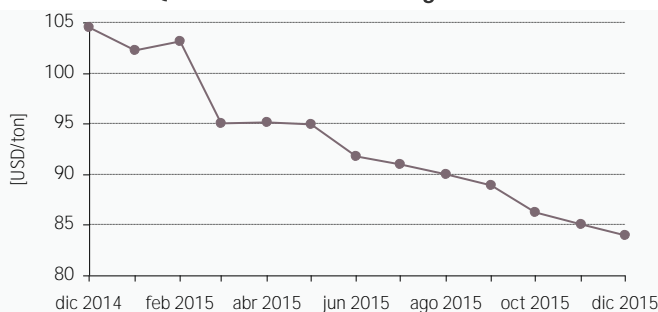
#### Natural Gas Variation (Henry Hub)

Index	USD/MMBtu	Monthly	Annual
HENRY HUB SPOT	1.91	▼ -8.2%	▼ -43.6%

Source: NEC, based on data from the Daily Gas Price Index, NGI Intelligence

The following information details the evolution of the price of EQ 7000 steam coal kCal/kg which in December averaged a price of **84.0 USD/ton**, representing an **-1.3%** decrease over the previous month and a **-19.7%** decrease from the same month in **2015**.

#### Evolution of EQ 7000 Steam Coal kCal/kg



Source: NEC, based on data from Platts Coal Trader International

#### Variation in EQ 7000 Steam Coal kCal/kg

Index	USD/ton	Monthly	Annual
THERMAL COAL EQ. 7.000 KCAL/KG	84.0	▼ -1.3%	▼ -19.7%

Source: NEC, based on data from Platts Coal Trader International

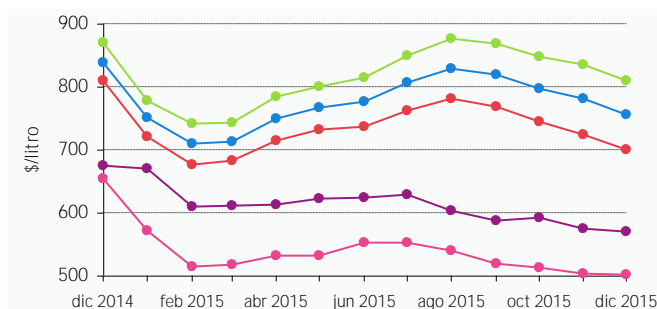


## 2 Domestic Liquid Fuel Prices

The following information details the evolution of different types of petroleum-derived liquid fuels sold or commercialized at gas stations (93-, 95-, and 97-octane unleaded gas, diesel, household kerosene and diesel oil) during the last 12 months, along with the average monthly price in last month for the cities of Antofagasta, Concepción, Puerto Montt and the Santiago Metropolitan Region.

The information presented is prepared by the National Energy Commission which, as part of its legal functions and powers, developed the Online Information System of Gas Station Fuel Prices, [www.bencinaenlinea.cl](http://www.bencinaenlinea.cl)

### Antofagasta Evolution of Liquid Fuel Prices



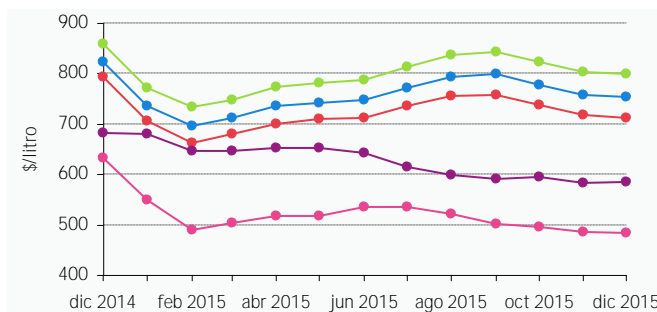
Source: NEC — Online Information System of Gas Station Fuel Prices

### Variation of Liquid Fuel Prices

Fuel Type	\$/liter	Monthly	Annual
Gasoline 93 SP	700	▼ -3.4%	▼ -13.6%
Gasoline 95 SP	755	▼ -3.2%	▼ -9.9%
Gasoline 97 SP	809	▼ -3.1%	▼ -6.9%
Kerosene	570	▼ -0.9%	▼ -15.4%
Diesel	501	▼ -0.5%	▼ -23.5%

Source: NEC — Online Information System of Gas Station Fuel Prices

### Santiago Metropolitan

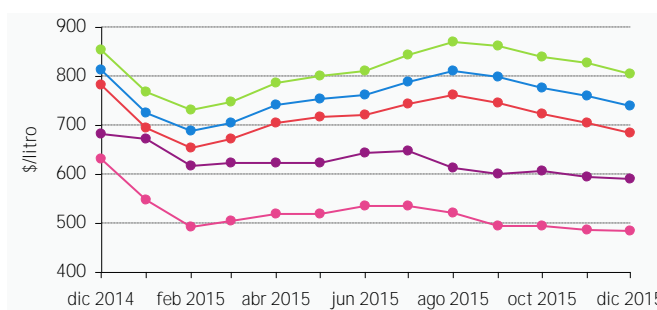


Source: NEC — Online Information System of Gas Station Fuel Prices

Fuel Type	\$/liter	Monthly	Annual
Gasoline 93 SP	712	▼ -0.8%	▼ -10.2%
Gasoline 95 SP	753	▼ -0.6%	▼ -8.4%
Gasoline 97 SP	798	▼ -0.6%	▼ -7.0%
Kerosene	585	▲ 0.3%	▼ -14.2%
Diesel	484	▼ -0.2%	▼ -23.5%

Source: NEC — Online Information System of Gas Station Fuel Prices

### Valparaíso



Source: NEC — Online Information System of Gas Station Fuel Prices

Fuel Type	\$/liter	Monthly	Annual
Gasoline 93 SP	684	▼ -2.7%	▼ -12.5%
Gasoline 95 SP	739	▼ -2.7%	▼ -8.9%
Gasoline 97 SP	805	▼ -2.6%	▼ -5.7%
Kerosene	590	▼ -0.5%	▼ -13.4%
Diesel	484	▼ -0.3%	▼ -23.2%

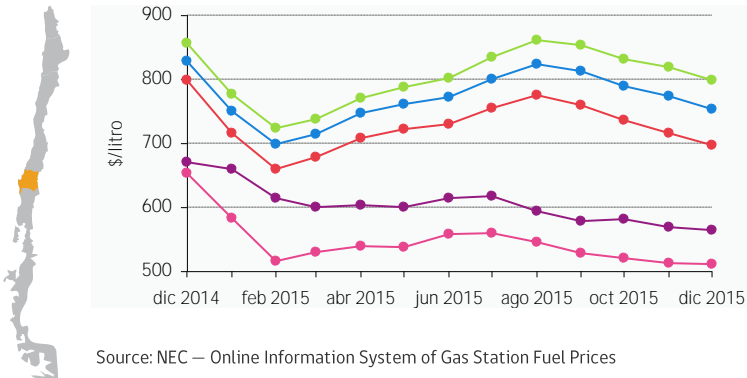
Source: NEC — Online Information System of Gas Station Fuel Prices





### Evolution of Liquid Fuel Prices

#### Concepción

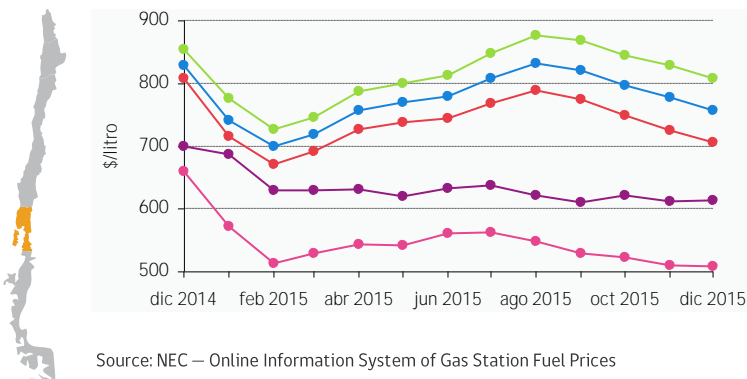


### Variation of Liquid Fuel Prices

Fuel Type	\$/liter	Monthly	Annual
Gasoline 93 SP	696	▼ -2.8%	▼ -12.7%
Gasoline 95 SP	754	▼ -2.6%	▼ -9.0%
Gasoline 97 SP	799	▼ -2.5%	▼ -6.7%
Kerosene	564	▼ -0.8%	▼ -15.9%
Diesel	511	▼ -0.2%	▼ -21.8%

Source: NEC — Online Information System of Gas Station Fuel Prices

#### Puerto Montt



Fuel Type	\$/liter	Monthly	Annual
Gasoline 93 SP	705	▼ -2.8%	▼ -12.7%
Gasoline 95 SP	756	▼ -2.7%	▼ -8.8%
Gasoline 97 SP	807	▼ -2.7%	▼ -5.5%
Kerosene	613	▲ 0.2%	▼ -12.3%
Diesel	508	▼ -0.2%	▼ -22.9%

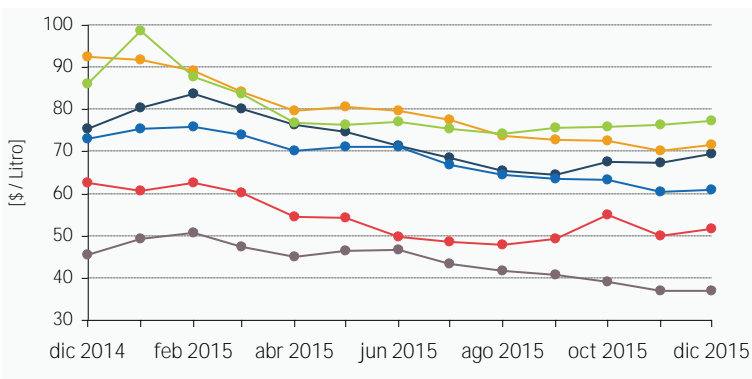
Source: NEC — Online Information System of Gas Station Fuel Prices

## 3 Fuel Gross Margins

The retail sales price of fuels is structured as follows: sales price at the refinery, sales margin and taxes (VAT and specific tax). The following information shows the evolution of the sales margin for 93-octane gas and diesel in the 5th, 6th, 7th, 8th, 12th and Santiago Metropolitan regions.

### 93-Octane Gasoline

#### Evolution of Gross Sales Margin



#### Variation in Gross Sales Margin

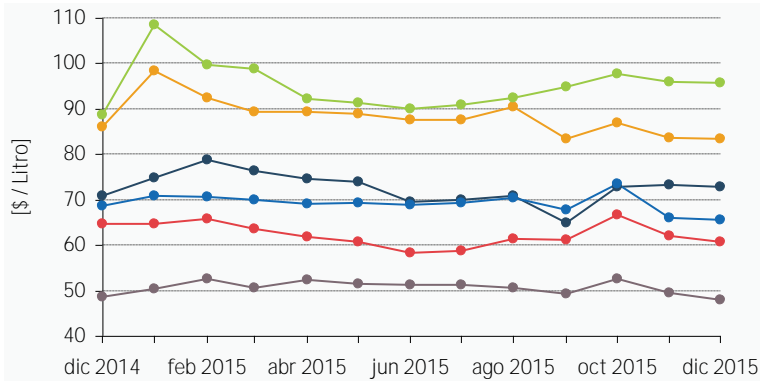
93-Octane Gas	\$/liter	Monthly	Annual
5th Region	69	▲ 3.0%	▼ -7.8%
6th Region	72	▲ 2.0%	▼ -22.5%
7th Region	61	▲ 0.7%	▼ -16.6%
8th Region	77	▲ 1.4%	▼ -10.2%
Santiago Metropolitana	52	▲ 3.2%	▼ -17.4%
12th Region	37	▼ -0.3%	▼ -19.0%

Source: CNE



## Diesel

### Evolution of Gross Sales Margin



Source: CNE

### Variation in Gross Sales Margin

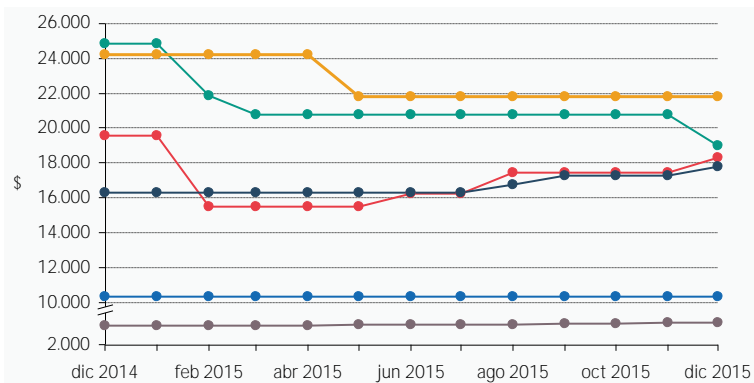
Diesel Oil	\$/liter	Monthly	Annual
5th Region	73	▼ -0.4%	▲ 2.8%
6th Region	83	▼ -0.1%	▼ -2.9%
7th Region	66	▼ -0.5%	▼ -4.5%
8th Region	96	▼ -0.1%	▲ 7.9%
Santiago Metropolitana	61	▼ -2.2%	▼ -6.0%
12th Region	48	▼ -2.9%	▼ -1.5%

Source: CNE

## 4 Domestic Prices of Network Gas Supplied through Concessions

The following information shows the price based on the energy equivalence of natural gas, city gas or propane air, whichever is applicable, distributed to the end consumer as network gas under concession equivalent to 15-kg cylinders of liquified petroleum gas. This price also includes fixed costs and meter rental, charged by the network gas distribution companies when applicable.

### Evolution of Network Gas Prices



Source: NEC — Online Gas Price System

### Variation in Network Gas Prices

Company (Region)	\$	Monthly	Annual
Lipigas (2th)	10.312	0.0%	0.0%
Gasvalpo (5th)	18.289	▲ 5.0%	▼ -6.4%
Metrogas (Metropolitana)	17.787	▲ 3.0%	▲ 9.3%
Gassur (8th)	18.979	▼ -8.7%	▼ -23.6%
Intergas (8th)	21.792	0.0%	▼ -10.0%
Gasco Magallanes (9th)	3.268	▲ 0.5%	▲ 6.1%

Source: NEC — Online Gas Price System

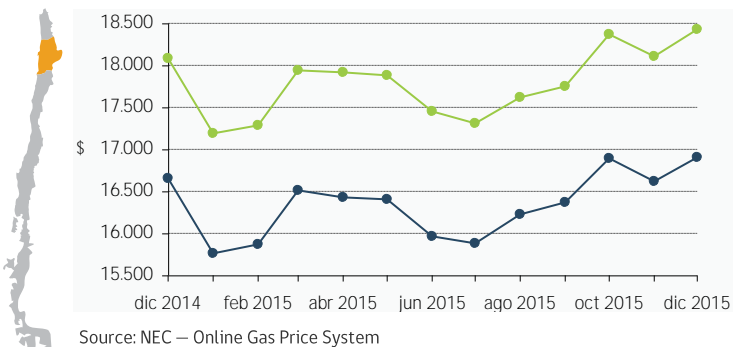


## 5 Domestic Prices of Bottled Liquefied Petroleum Gas

Bottled LPG is liquefied gas fuel, i.e., propane and butane and their blends (with a maximum 30% of butane). The fuel is compressed for bottling in cylinders of varying sizes that are sold to end users for use in heaters, stoves and water heaters/boilers. The cylinders on the local market have a capacity of 2 kg, 5 kg, 11 kg, 15 kg and 45 kg. They are also sold according to quality; one is sold as normal or regular and the other as catalytic, a category required by some heating appliances that only use a fuel with a low content of olefins, diolefins and sulfur. The information below shows the evolution of the average price of bottled LPG in 15-kg cylinders for the cities of Antofagasta, Concepción, Puerto Montt and the Santiago Metropolitan Region.

### Evolution of Bottled LPG Prices

#### Antofagasta

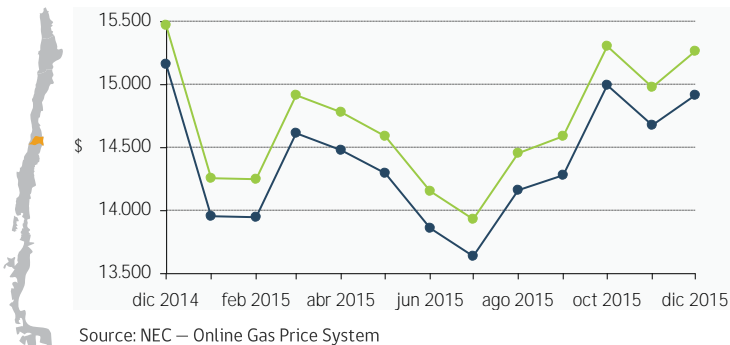


### Variation in Bottled LPG Prices

Type	\$	Monthly	Yearly
Catalytic	18,425	1.8%	1.9%
Regular	16,900	1.7%	1.4%

Source: NEC — Online Gas Price System

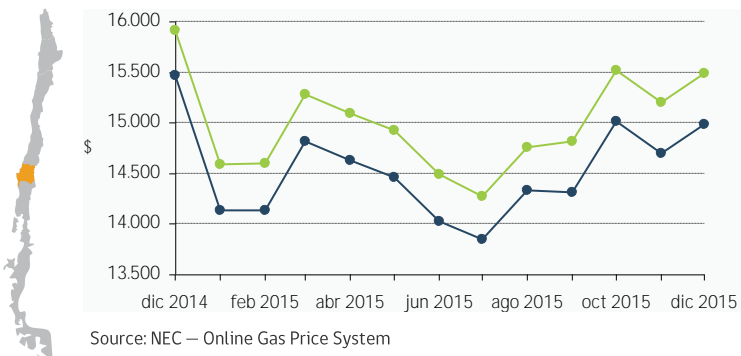
#### Santiago Metropolitan



Type	\$	Monthly	Yearly
Catalytic	15,263	1.9%	-1.3%
Regular	14,909	1.6%	-1.6%

Source: NEC — Online Gas Price System

#### Concepción



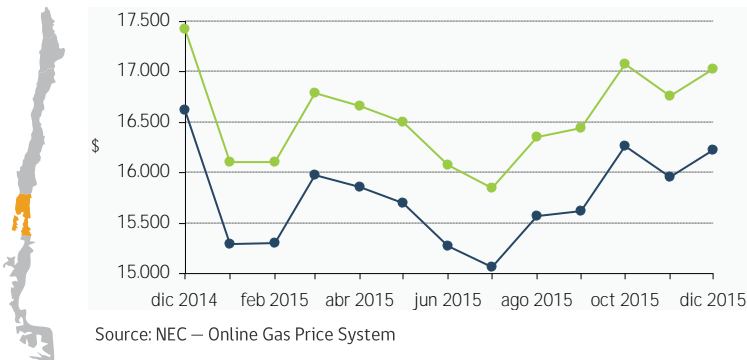
Type	\$	Monthly	Yearly
Catalytic	15,483	1.9%	-2.7%
Regular	14,980	2.0%	-3.1%

Source: NEC — Online Gas Price System



## Evolution of Bottled LPG Prices

### Puerto Montt



## Variation in Bottled LPG Prices

Type	\$	Monthly	Yearly
Catalytic	17,020	1.6%	-2.3%
Regular	16,223	1.7%	-2.4%

Source: NEC — Online Gas Price System

## 6 Fuel imports and exports

Information on imports and exports of primary and secondary fuels corresponds to **November 2015** given that the official information source has a two-month time lag. The information on imports mainly applies to coal, crude oil, diesel and natural gas, equivalent to more than 89% of total national imports (in tons) for November 2016.

The total variation of imports registered a decrease of -7.9% over the previous month and -13.0% compared to November 2015. Meanwhile, the total change in exports recorded a considerable increase compared to the previous month but are higher than November 2015. The main fuel exported during the month of November was IFO representing 36% of total exports in tons.

Imports of the main primary fuels during the month of November are coal from Colombia and the United States; crude oil from Brazil and Ecuador; diesel from the United States and Japan; and liquefied natural gas brought from Trinidad and Tobago..

During November the exports of diesel and gasoline recorded as country of destination Bolivia meanwhile the exported IFO went to Panamá.

Here are the details for each of the fuels with percentage changes and countries of origin / destination .

### Variation in Imports During the Period

Fuel	[Thous-Tons]	Monthly	Annual
Coal	780	9.0%	17.6%
Crude Oil	818	50.1%	30.5%
Diesel Oil	332	-26.3%	33.4%
Natural Gas	170	12.4%	10.4%
Gasoline	42	(**)	-46.4%
LPG	65	-26.7%	-25.5%
Household Kerosene	28.2	-27.3%	(*)
Overall total	2,235	7.4%	17.9%

### Variation in Exports During the Period

Fuel	[Thous-Tons]	Monthly	Annual
Coal	0	(**)	(**)
Diesel Oil	2	-81.6%	-75.3%
Fuel Oil	0	(**)	(**)
Gasoline	4	(*)	117.2%
GLP	16	(*)	(*)
IFO	0	(**)	(*)
Total	23	-79%	-90%

Source: Aduana by COMEX ([www.comexplusccs.cl](http://www.comexplusccs.cl))

Source: Aduana by COMEX ([www.comexplusccs.cl](http://www.comexplusccs.cl))

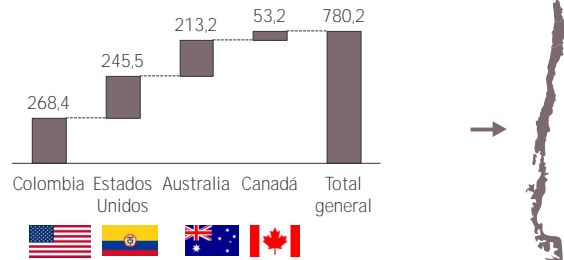
(\*) No transactions recorded during the period under review

(\*\*) Not recorded during the reference month transactions



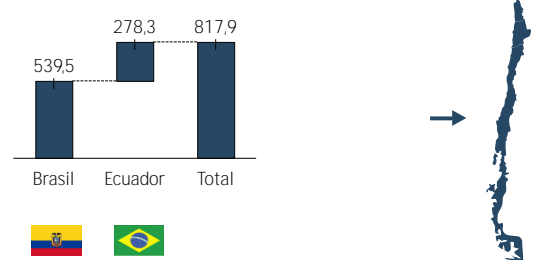
### Imports by Country of Origin (thousands of tons)

#### Coal (\*)



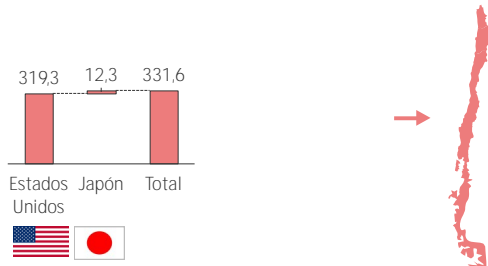
Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

#### Crude Oil



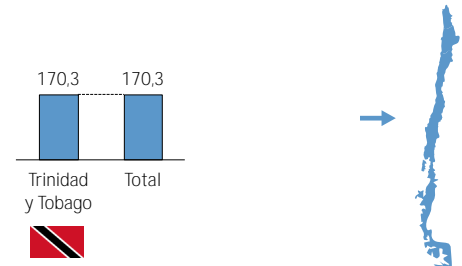
Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

#### Diesel Oil



Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

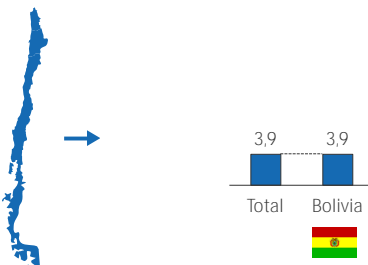
#### Natural Gas



Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

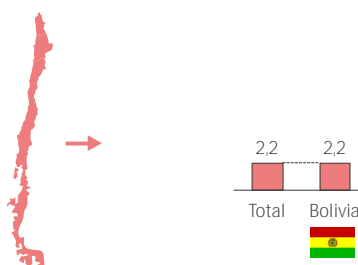
### Exports by Country of Origin (thousands of tons)

#### Gasoline



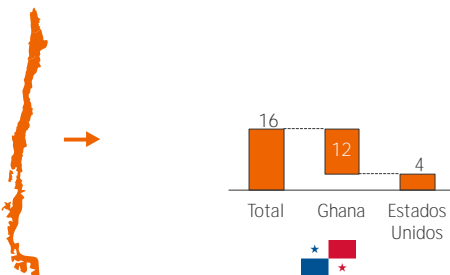
Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

#### Diesel Oil



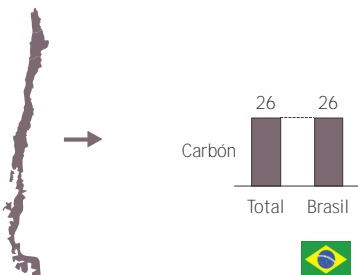
Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

#### IFO



Source: Customs, provided by Comex Service, Santiago Chamber of Commerce

#### Coal



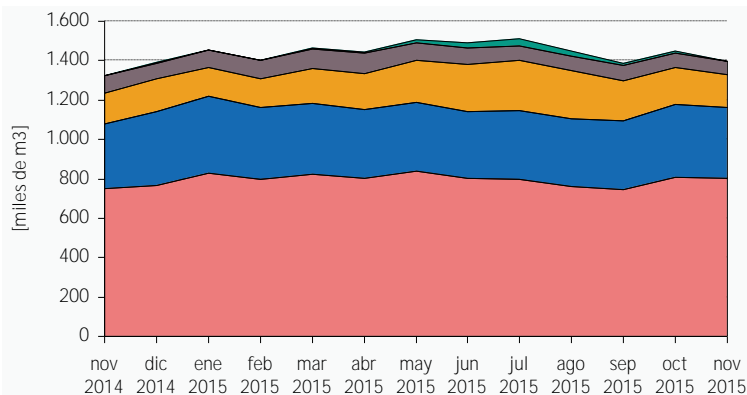
Source: Customs, provided by Comex Service, Santiago Chamber of Commerce



## 7 Fuel Sales

The following information details the evolution and the variation in the sales of the principal oil-based fuels. The information available is presented with a one-month time lag. The fuels analyzed are: domestic kerosene, fuel oils, liquefied gas, diesel oil and unleaded 93-, 95- and 97-octane gas.

### Fuel Sales Evolution, by Type



Source: NEC, based on ENAP data

### Fuel Sales Variation, by Type

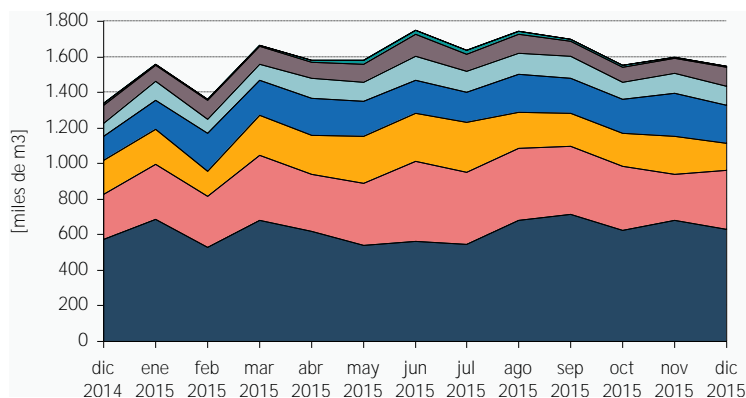
Type	[Thous - m3]	Monthly	Annual
Household kerosene	1	▼ -83.1%	▼ -26.8%
Fuel Oils	68	▼ -9.2%	▼ -22.3%
Liquefied Gas	169	▼ -10.8%	▲ 7.8%
Gasoline	356	▼ -3.5%	▲ 8.7%
Diesel Oil	805	▼ -0.3%	▲ 6.9%
Overall total	1,399	▼ -3.4%	▲ 5.5%

Source: NEC, based on ENAP data

## 8 Fuel Inventory

The following information presents monthly fuel inventory levels (aviation fuel, household kerosene, fuel oils, aviation kerosene, automotive gas, liquefied gas, diesel oil and crude oil) in thousands of m3 for the entire country. This value corresponds to the last business day of the respective month.

### Fuel Inventory Evolution, by Type



Source: NEC

### Fuel Inventory Evolution, by Type

Type	[Thous - m3]	Monthly	Annual
Aviation gas	1	▼ -11.6%	▲ 12.5%
Household K	5	▲ 1.1%	▼ -45.6%
Fuel Oils	106	▲ 20.6%	▲ 0.9%
Kerosene Av.	107	▼ -3.5%	▲ 53.6%
Automotive gas	217	▼ -11.0%	▲ 61.2%
Liquefied gas	151	▼ -28.6%	▼ -22.6%
Diesel oil	333	▲ 30.0%	▲ 31.4%
Crudo oil	628	▼ -8.0%	▲ 10.0%
Overall total	1,549	▼ -3.2%	▲ 15.6%

Source: NEC



## ENERGY PROJECTS UNDERGOING ENVIRONMENTAL EVALUATION

### 1 Projects Submitted for Environmental Evaluation

In December 2016, **17 energy projects** were submitted to the Environmental Impact Evaluation System (SEIA), representing an investment of **USD 1,563 million**. Of these, **13** projects are for electric power generation, **1** projects are for electrical transmission growth and **3** about Oil and/or gas energy project.

#### Detail of energy projects submitted for environmental evaluation

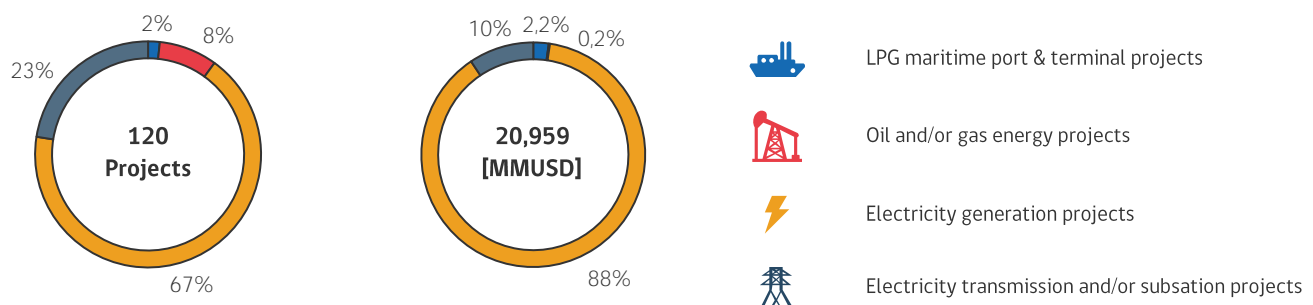
Project Type	Project Owner	Project Name	Presentation Date	Investment [MMUSD]	WEB
Generation	PRIME ENERGIA SPA	Central de Respaldo El Manzano	22-dic-15	70,0	<a href="#">Link</a>
Generation	PRIME ENERGIA SPA	Central de Respaldo Los Cóndores - 100 MW	18-dic-15	50,0	<a href="#">Link</a>
Generation	PRIME ENERGIA SPA	Central de Respaldo Pajonales - 100 MW	22-dic-15	50,0	<a href="#">Link</a>
Generation	ENAP REFINERIAS S.A	Central Nueva ERA	28-dic-15	680,0	<a href="#">Link</a>
Generation	Loa Solar SpA	PROYECTO FOTOVOLTAICO EN-CON SOLAR	23-dic-15	15,3	<a href="#">Link</a>
Generation	Torsa Chile S.A.	Parque Eólico Manantiales	22-dic-15	47,1	<a href="#">Link</a>
Generation	Parque Solar Fotovoltaico Domeyko Spa	Parque Solar Domeyko	22-dic-15	90,0	<a href="#">Link</a>
Generation	Central Los Aromos SpA.	PLANTA SOLAR FOTOVOLTAICA PIEDRA COLGADA	22-dic-15	169,0	<a href="#">Link</a>
Generation	Sociedad Hidroeléctrica Río Conquil S.A.	Proyecto Hidroeléctrico El Mañío	21-dic-15	15,5	<a href="#">Link</a>
Generation	Hydrochile S.A	Proyecto Central Hidroeléctrica Los Maquis	18-dic-15	91,0	<a href="#">Link</a>
Generation	Enel Green Power Chile Limitada	Declaración de Impacto Ambiental Proyecto Fotovoltaico Los Manolos	18-dic-15	170,0	<a href="#">Link</a>
High-voltage electricity transmission line	Sistema de Transmisión del Sur S.A.	Línea Transmisión 220 kV Chiloé - Gamboa	19-dic-15	41,0	<a href="#">Link</a>
High-voltage electricity transmission line	E-CL S.A.	Modificación de Línea de Alta Tensión S/E Chacaya - S/E Cruce-ro	23-dic-15	70,5	<a href="#">Link</a>
Oil and/or gas energy projects	Empresa Nacional del Petróleo - Magallanes	Construcción de Líneas de Flujo de Aguas de Formación y Pozo Reinector Victoria Sur 13	18-dic-15	0,3	<a href="#">Link</a>
Oil and/or gas energy projects	Empresa Nacional del Petróleo - Magallanes	LÍNEA DE FLUJO ÑANCO ZGA	18-dic-15	0,5	<a href="#">Link</a>
Oil and/or gas energy projects	GeoPark Fell SpA	Construcción de línea de flujo pozo Pampa Larga 16	18-dic-15	1,0	<a href="#">Link</a>
Substation	Sistema de Transmisión del Sur S.A.	Subestación Mantilhue	22-dic-2015	1,4	<a href="#">Link</a>

Source: SEIA

### 2 Energy Projects Currently Being Evaluated

In December 2016, there were **120** energy projects awaiting approval of their environmental qualification resolutions (RCA). Of these, 68% are projects related to electric power generation, and the remaining are mixed projects. Together they represent a total investment of **20,959 MMUSD**.

#### Distribution of Projects and their Investment [millions of USD]



Source: SEIA





### 3 Projects with Approved Environmental Qualification Resolution

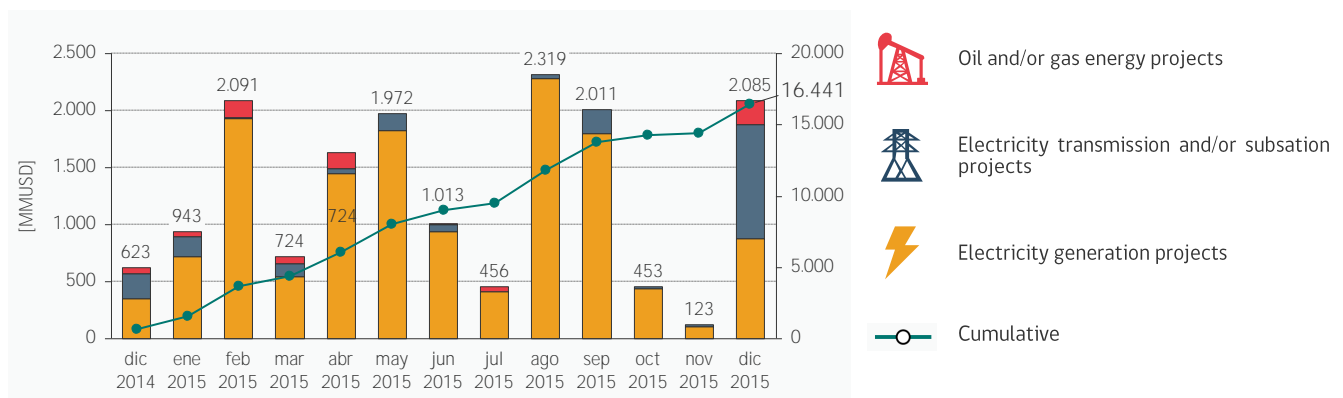
In **December 2016**, the environmental qualification resolutions (RCA) of **9** energy projects were approved. Of these, **5** projects are for electric power generation with total capacity of **462 MW**, **5** other projects are for electricity transmission and/or substations and **2** are Oil and/or gas energy project. Together they represent a total investment of **2,158 MMUSD**.

Presentation Date	Project Type	Region	Project Owner	Investment [MMUSD]	Web
03-dic-2015	Generation	VII	Empresa Eléctrica Chupallar SpA	49,5	<a href="#">Link</a>
04-dic-2015	Generation	RM	Cementos Polpaico S.A.	42,0	<a href="#">Link</a>
10-dic-2015	Generation	I	Espejo de Tarapacá SpA	385,0	<a href="#">Link</a>
10-dic-2015	High-voltage electricity transmission line	Interregional	Interchile S.A	1.000,0	<a href="#">Link</a>
15-dic-2015	Substation	VIII	Cooperativa de consumo de energía eléctrica Chillan	0,8	<a href="#">Link</a>
18-dic-2015	Generation	III	Parque Solar Verano Dos SpA	176,0	<a href="#">Link</a>
22-dic-2015	Oil and/or gas energy projects	XII	Empresa Nacional del Petróleo - Magallanes	204,0	<a href="#">Link</a>
30-dic-2015	Generation	III	Inversiones y Servicios SunEdison Chile Limitada	228,0	<a href="#">Link</a>
04-ene-2016	Generation	III	Soventix Chile SPA	73,0	<a href="#">Link</a>

Source: SEIA

In line with the above table, the evolution is presented for the last mobile year of investment associated to energy projects have received a favorable RCA. The total investment to date totaled **16,441 MMUSD**. In particular, energy power generation projects have a total investment of **13,684 MMUSD** (83.2%), equivalent to **3,912 MW** approved.

### Investment evolution—Approved projects with RCA in the last 12 months



Source: SEIA



## SECTORIAL REGULATIONS

### 1 Proposed Legislations in Process

Bulletin Number	Subject of the Proposed Legislation	Initiative and Urgency	Current Status	Bill Submittal Date	WEB
9890-08	Amends Decree-Law No. 323 of 1931 of the Ministry of Interior and other laws.	Simple Urgency	Second Constitutional Procedure (Senate). Now at the Mining and Energy Commission of the Senate, and that of the Treasury.	29/01/2015	<a href="#">Link</a>
10161-08	Modifies the General Electricity Services Law to introduce mechanisms for fairness in electricity rates.	Great Urgency	The first constitutional procedure (the Senate). October 20, 2015. General approval by the Senate November 25, 2015: new time limit for presenting observations determined as December 7, 2015.	01/07/2015	<a href="#">Link</a>
10240-08	Establishes new power transmission systems and sets up an independent oversight organism for the national electricity system.	Great Urgency	First constitutional procedure (Chamber of Deputies). October 22, 2015. General discussion in the Chamber's Mining and Energy Commission.	07.08.2015	<a href="#">Link</a>

### 2 Sectorial Regulations Published in the Official Bulletin

Decree No. 18 T, dated November 3, 2015, published in the Official Journal on Monday, December 7, 2015, Fixed Operating Rights and Implementation of the new work called - Subestación New Charrúa, sectioning lines 2x500 kV Charrúa - Ancoa 1 and 2 and new line 2x220 kV new Charrúa - Charrúa in the Trunk Transmission System of Central Interconnected System indicating Awardee Company. [Link](#)

Decree No. 19 T, dated November 3, 2015, published in the Official Journal on Monday, December 7, 2015, Fixed Operating Rights and Implementation of the new work called -New Cruise Encuentro Substation in the Transmission System trunk Interconnected System of Norte Grande indicating Awardee Company. [Link](#)

Exempt Decree No. 660, of December 3, 2015, published in the Official Journal on Wednesday, December 9, 2015, modifies Exempt Decree No. 158 of 2015, the Ministry of Energy, Fixing System Expansion Plan Transmission core for the next twelve months. [Link](#)

Decree No. 17T, of October 30, 2015, published in the Official Gazette on December 30, 2015, Fixed Node Prices for Electricity Supply. [Link](#)

Exempt Resolution No. 679 of the National Energy Commission, dated December 21, 2015, published in the Official Gazette on December 30, 2015, Amendment Technical Standards and Safety Requirements in Quality of Service for the Northern Interconnected System large and the Central Interconnected System and incorporates annexes indicated. [Link](#)



### 3 Sectorial Regulations Not Published in the Official Bulletin

Exempt Resolution No. 696, dated December 29, 2015, Informa favorably annual budget of the Center for Economic Load Dispatch of Norte Grande Interconnected System, CDEC-SING, 2016. [Link](#)

Exempt Resolution No. 697, dated December 29, 2015, Informa favorably annual budget of the Center for Economic Load Dispatch Inter-connected System Central, CDEC-SIC, 2016, unless indicated budget items. [Link](#)

Exempt Resolution No. 698, dated December 29, 2015, has published the list of prices of energy and power distribution substations primary and the Central Interconnected System (SIC) of Norte Grande Interconnected System (SING). [Link](#)

Exempt Resolution No. 699, dated December 29, 2015, Communicate and definition of typical technical documents with -Study Bases for Calculating the Components Distribution Added Value Areas; Quadrennium November 2016-November 2020 and Study of Costs Associated Services Electricity Supply Distribution. [Link](#)

Exempt Resolution No. 701, dated December 29, 2015, update and reports generation plants and transmission lines under construction.

### 4 Expert Panel Rulings

7-2015 to 18-2015 opinions concerning discrepancies Setting VNR companies CGE, Chilectra, Chilquinta, CODINER, Electrica del Litoral, SAESA Group, Edelmag, EEPA, Energy Casablanca, Luz Andes, Linares Light and Light Parral, respectively. [Link](#)

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