

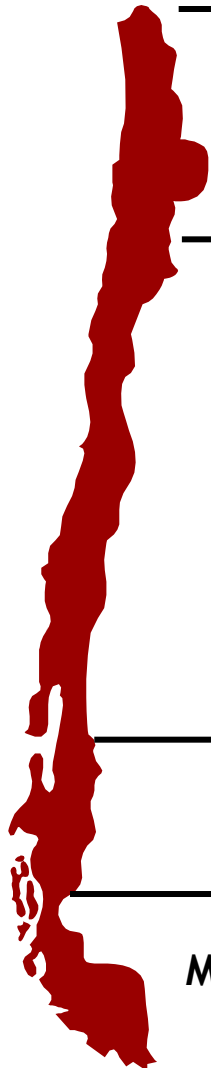


Energy Chilean Market Current Situation & Expected Evolution

SONAMI, December 2014

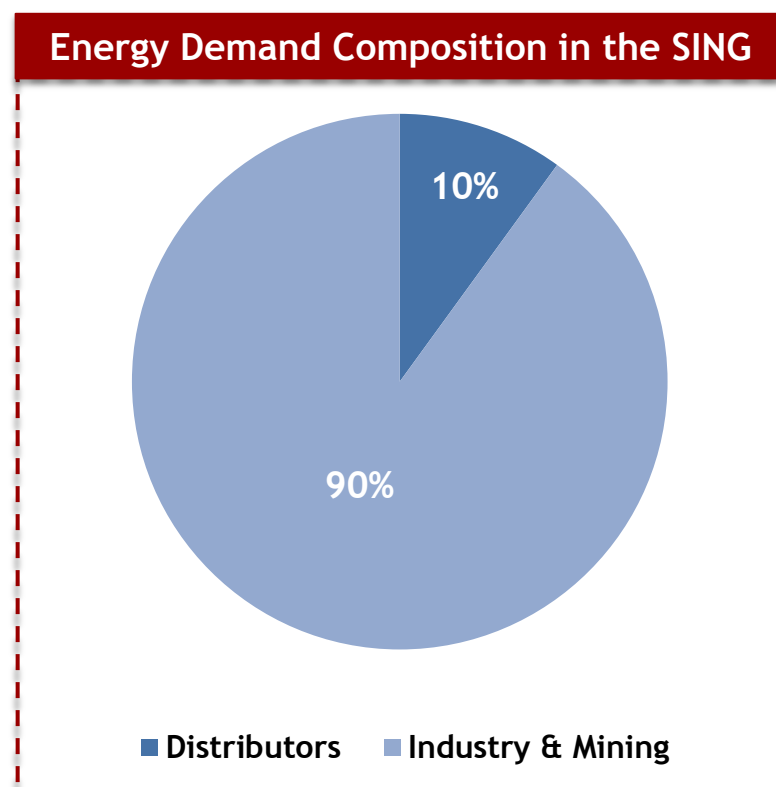
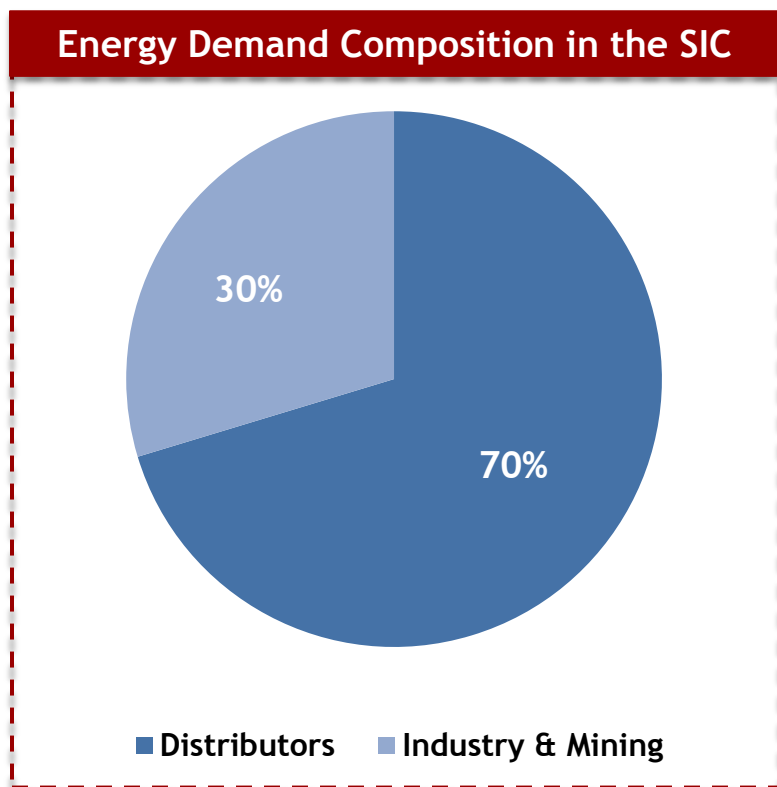


ANTOFAGASTA
MINERALS

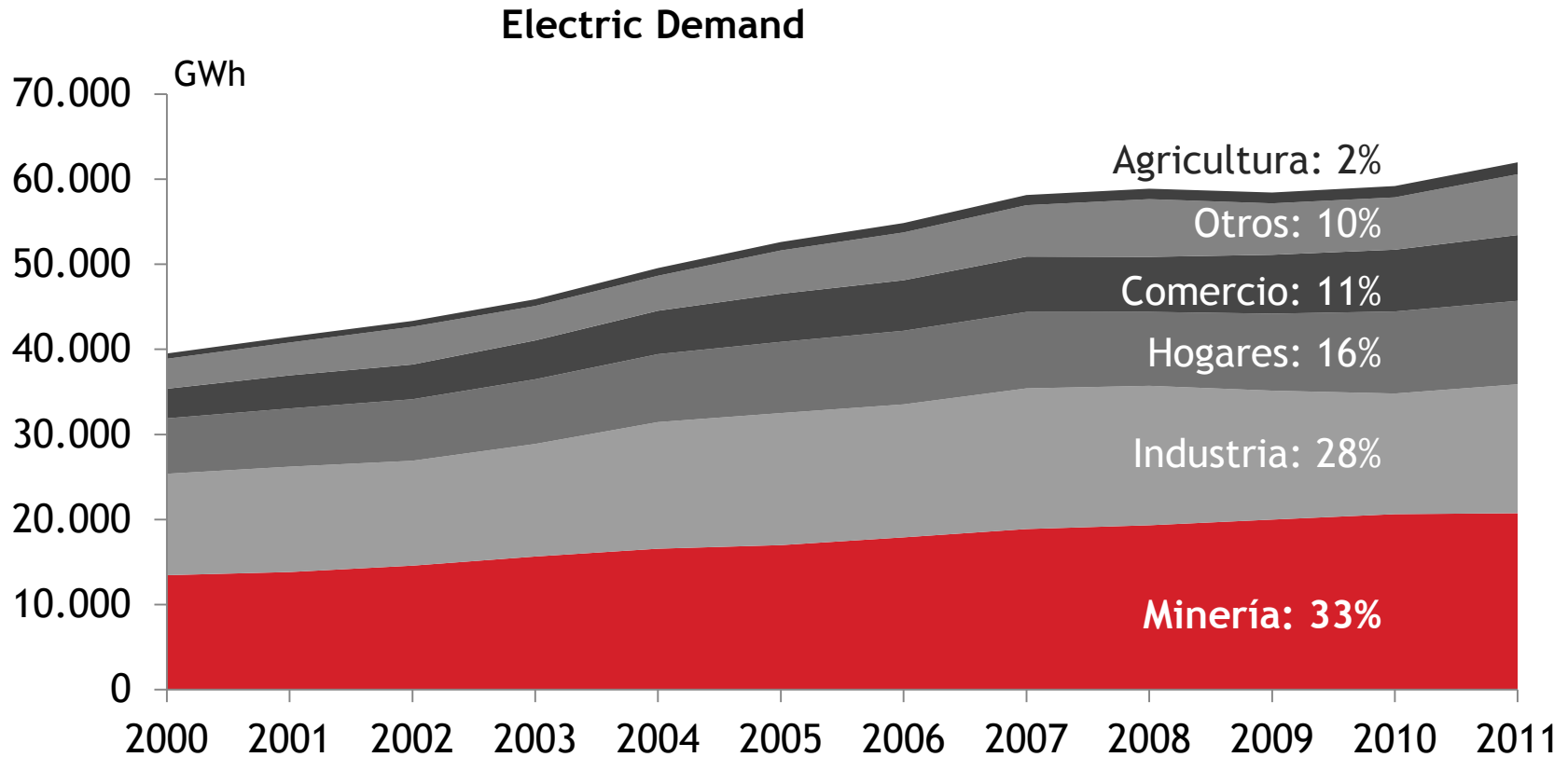


			Installed Capacity 2013	Maximum Demand 2013
SING	XV	Arica y Parinacota	3.930 MW	2.243 MW
	I	Tarapacá		
	II	Antofagasta		
SIC	III	Atacama	14.150 MW	7.283 MW
	IV	Coquimbo		
	V	Valparaíso		
	XIII	Metropolitana		
	VI	Bdo. O'Higgins		
	VII	Maule		
	VIII	Bío-Bío		
	IX	Araucanía		
	XIV	Los Ríos		
	X	Los Lagos		
Aysén	XI	Aysén	100 MW	
Magallanes	XII	Magallanes	81 MW	

The SIC and SING grids presents a very different demand composition. The mining sector represents 1/3 of the total energy demand in Chile.

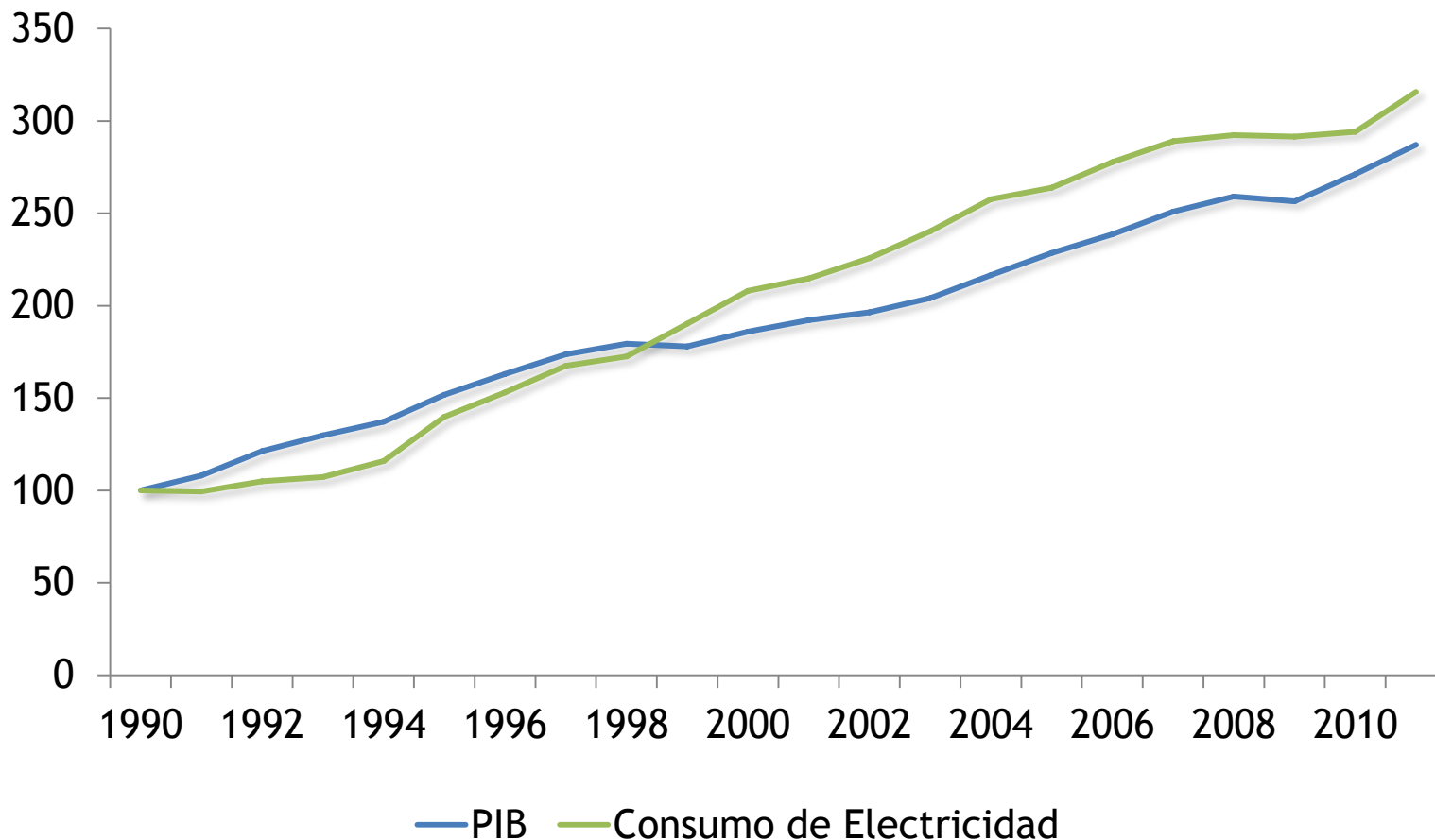


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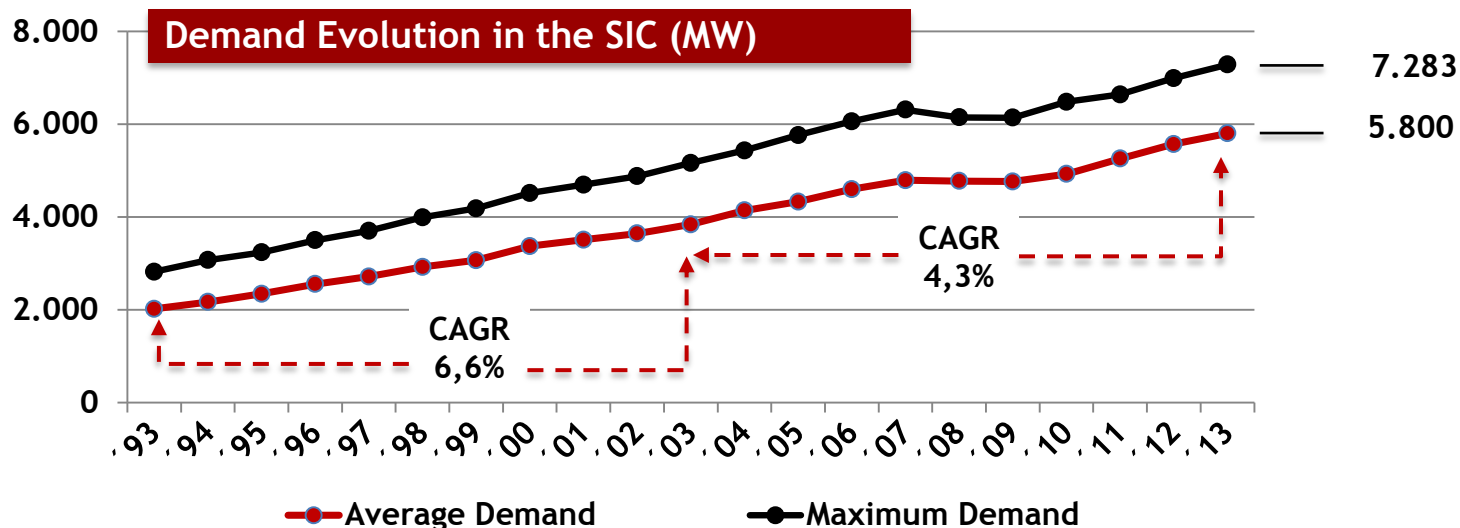
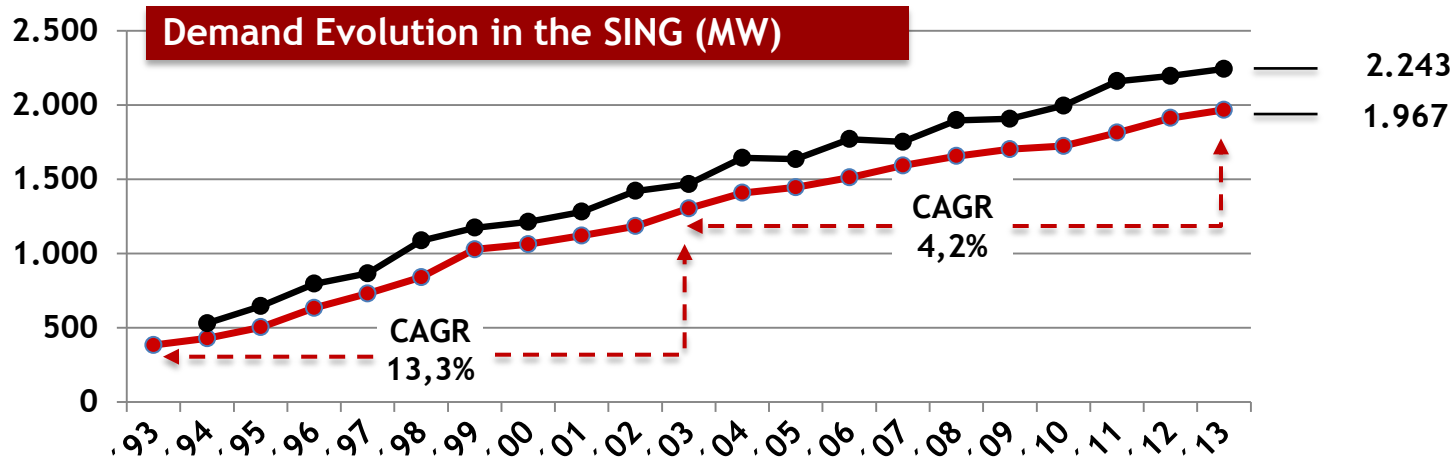
Source: Sistema de Información Estadístico Ministerio de Energía

PIB & Energy Demand Base 100 = year 1990



Source: EIA, Banco Mundial

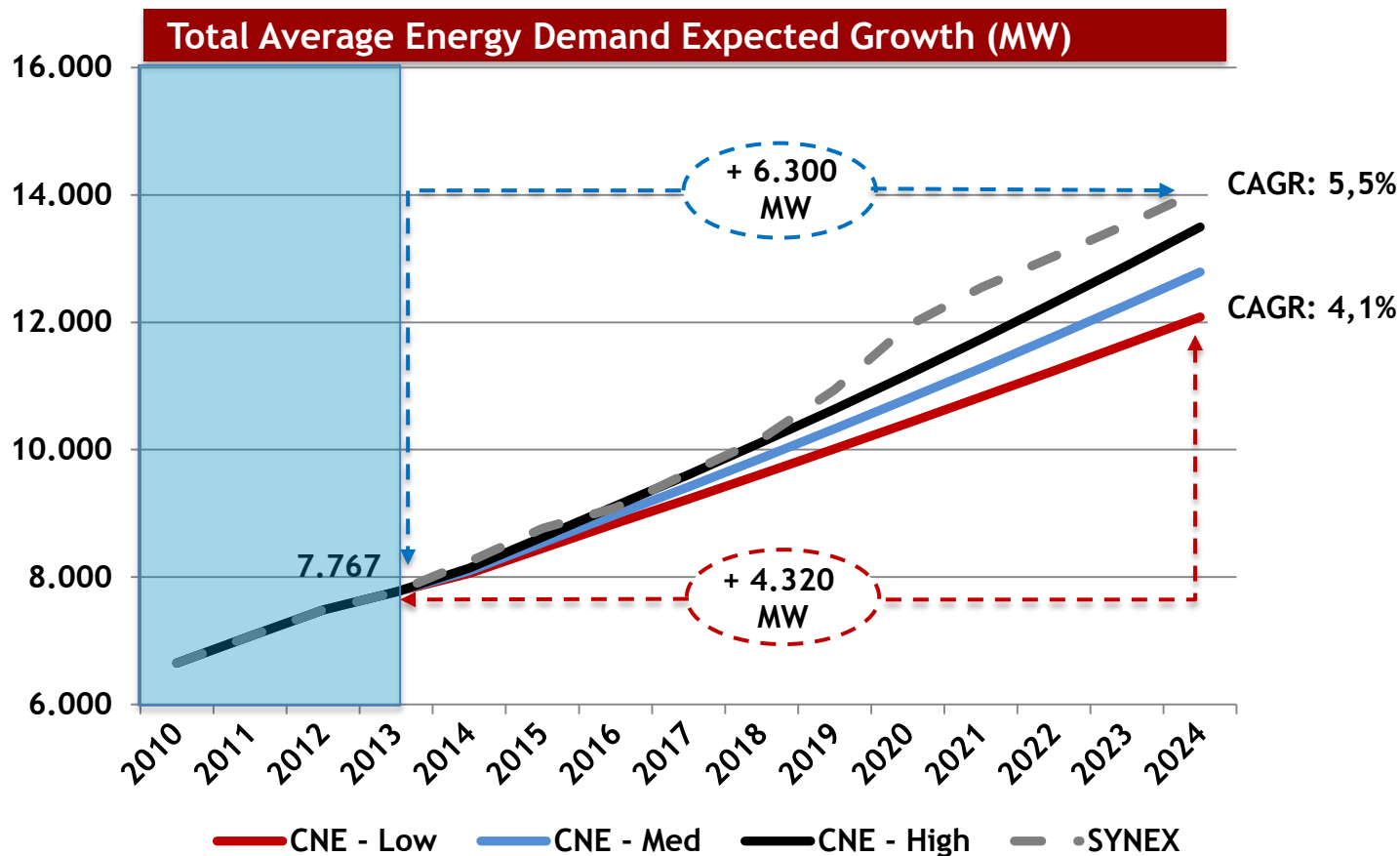
Average annual energy demand has shown a growth rate of 4,3% per annum during the last decade.



● Average Demand

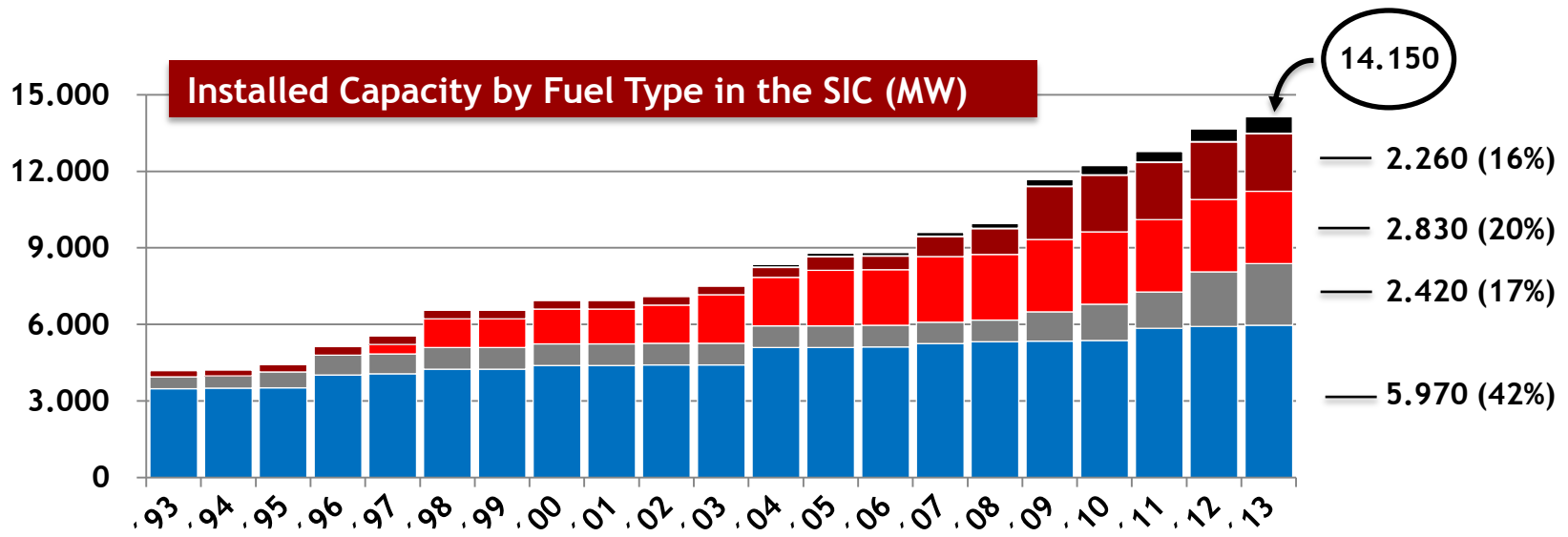
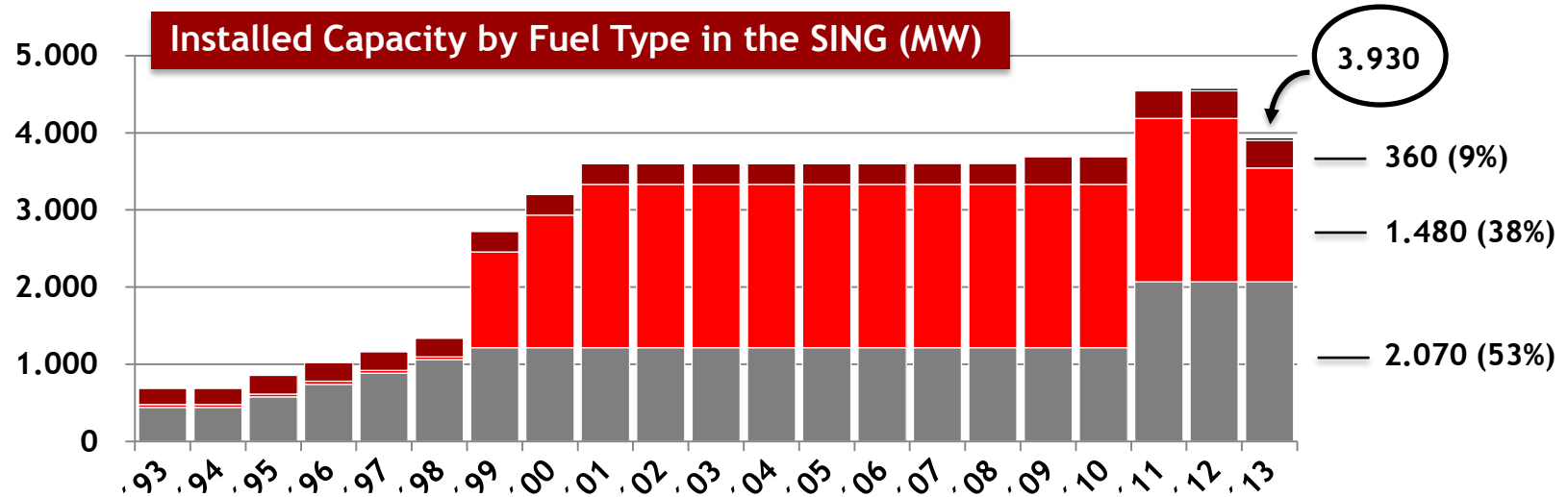
● Maximum Demand

The combined SIC/SING energy demand is expected to growth by 4.300 - 6.300 MW in the next decade.



(*) SYNEX demand projections considers: (i) GDP annual growth rate of 4,5%; (ii) Demand growth for distribution companies estimated as a correlation of GDP; (iii) large industrial & mining demand growth estimated individually.

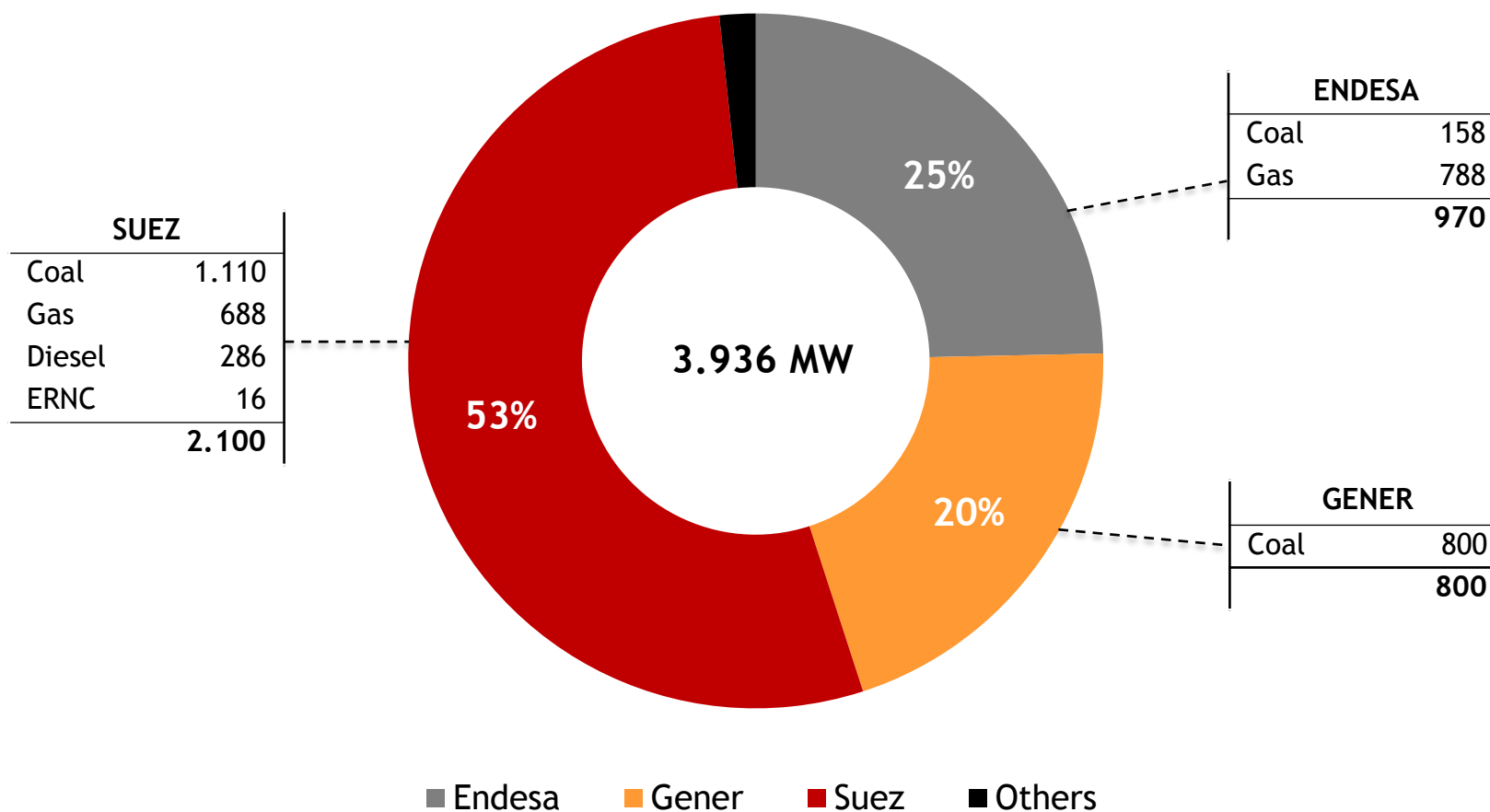
**Total installed capacity of 18.080 MW(as of Dec.2013)
33% Hydro, 25% Coal, 24% Gas, 14% Diesel, 4% Other**



■ Hydro ■ Coal ■ Gas ■ Diesel ■ Other

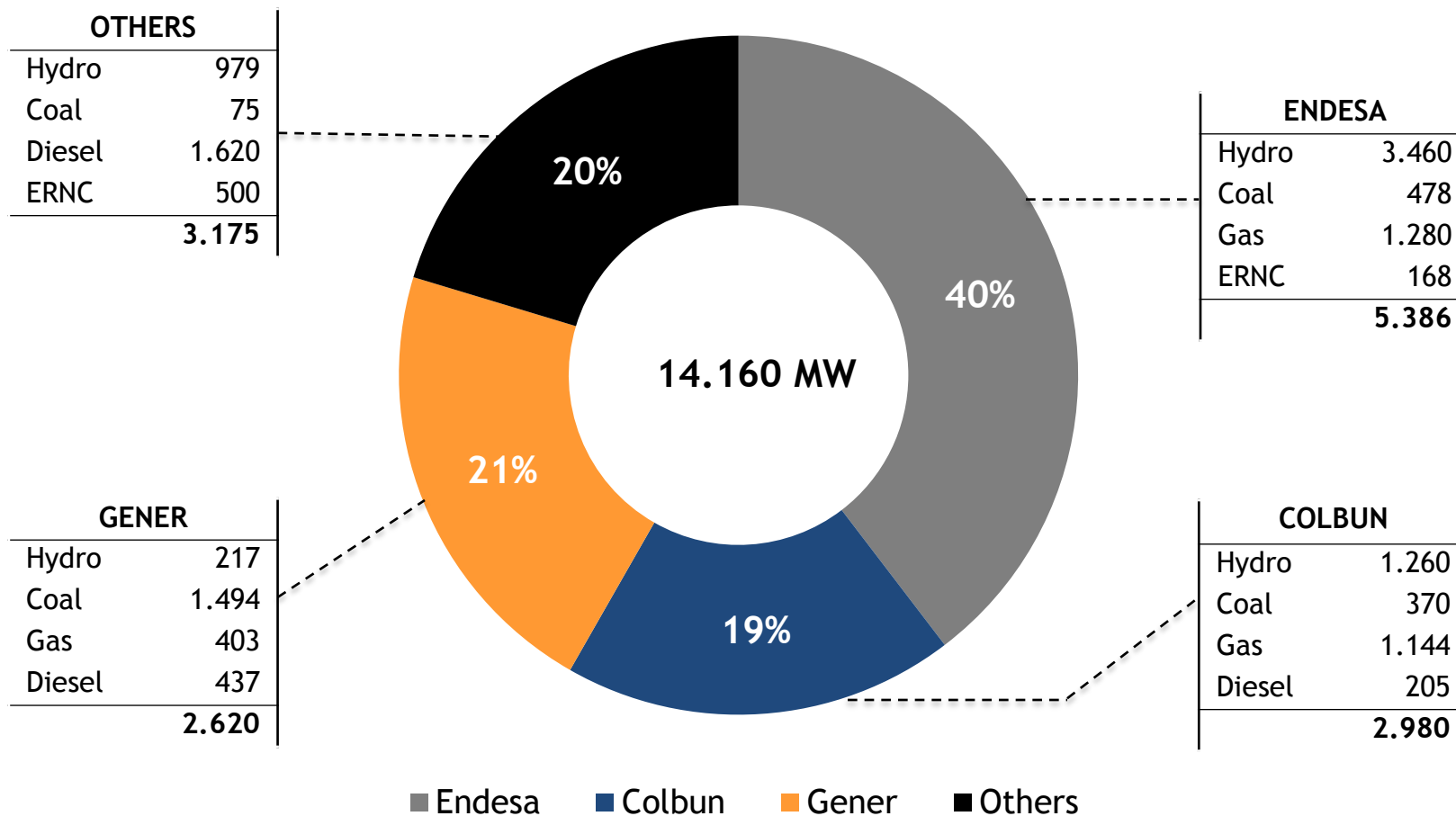
High concentration of energy supply. 3 companies hold 98% of the total installed capacity in the SING grid.

SING Total Installed Capacity in MW (as of Dec 2013)

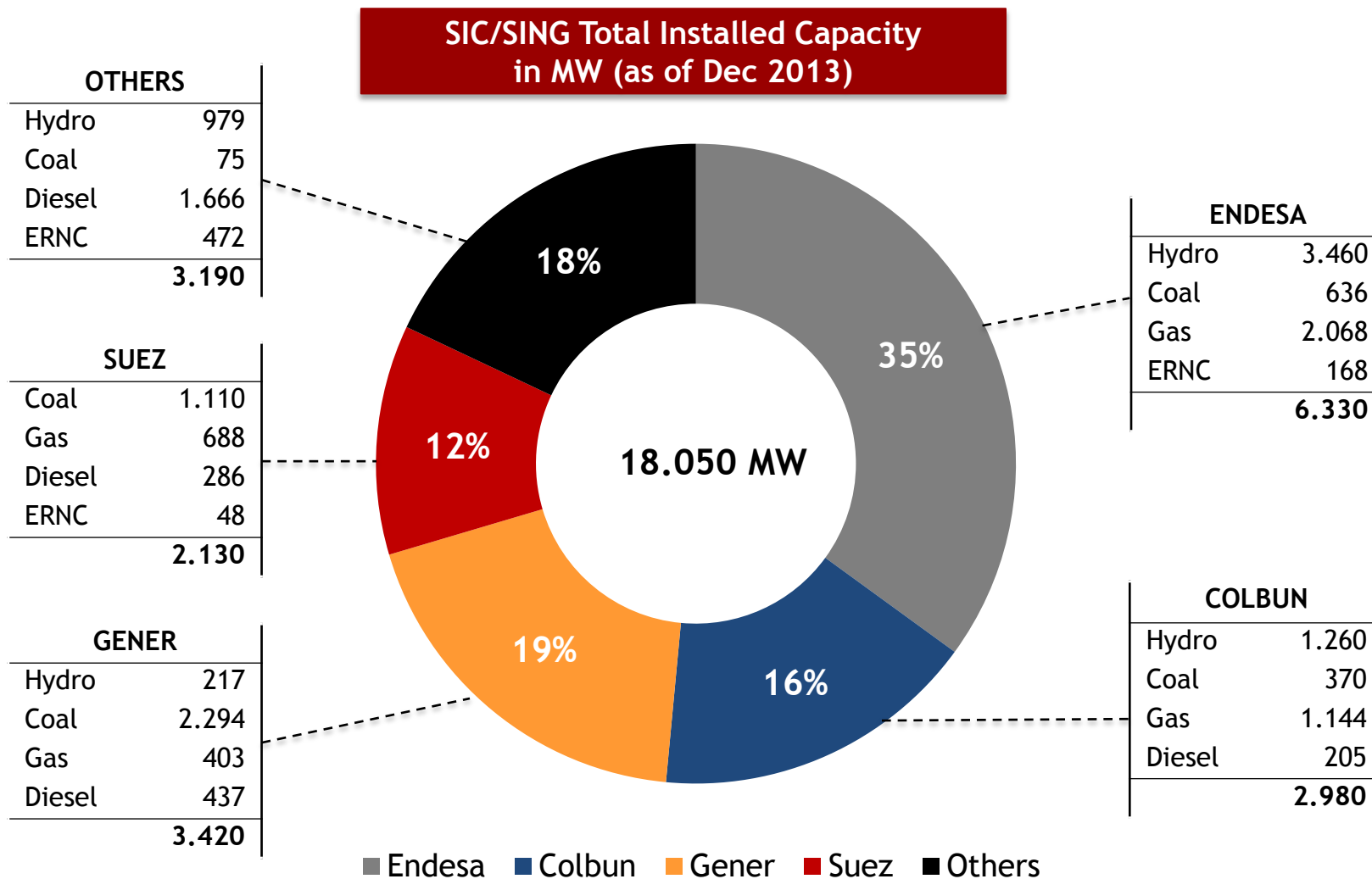


High concentration of energy supply. 3 companies hold 80% of the total installed capacity in the SIC grid (91% of Hydro-Coal-Gas supply).

SIC Total Installed Capacity in MW (as of Dec 2013)



High concentration of energy supply. 4 companies hold 82% of the total installed capacity in the SIC/SING grids (93% of Hydro-Coal-Gas supply).

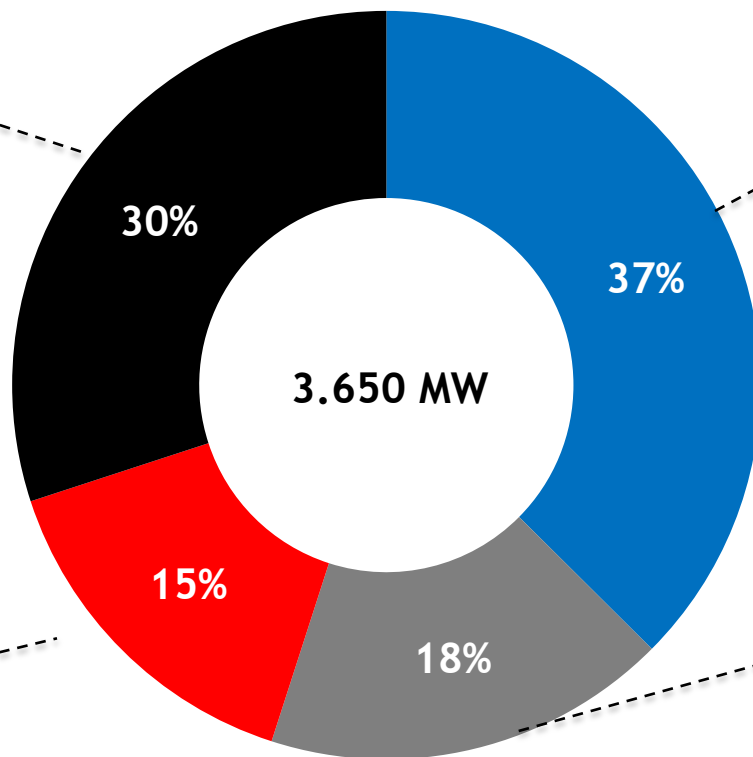


The 3.650 MW of plant capacity currently under construction will be able to satisfy only 2.080 MW of additional energy demand.

SIC/SING Projects Under Construction in MW (as of Dec 2013)

ERNC	
Solar	740
Wind	370
Total Capacity	1.080
Capacity Factor	25%
Energy Generation	270

Gas	
Kellar (SING)	540
Total Capacity	540
Capacity Factor	85%
Energy Generation	490

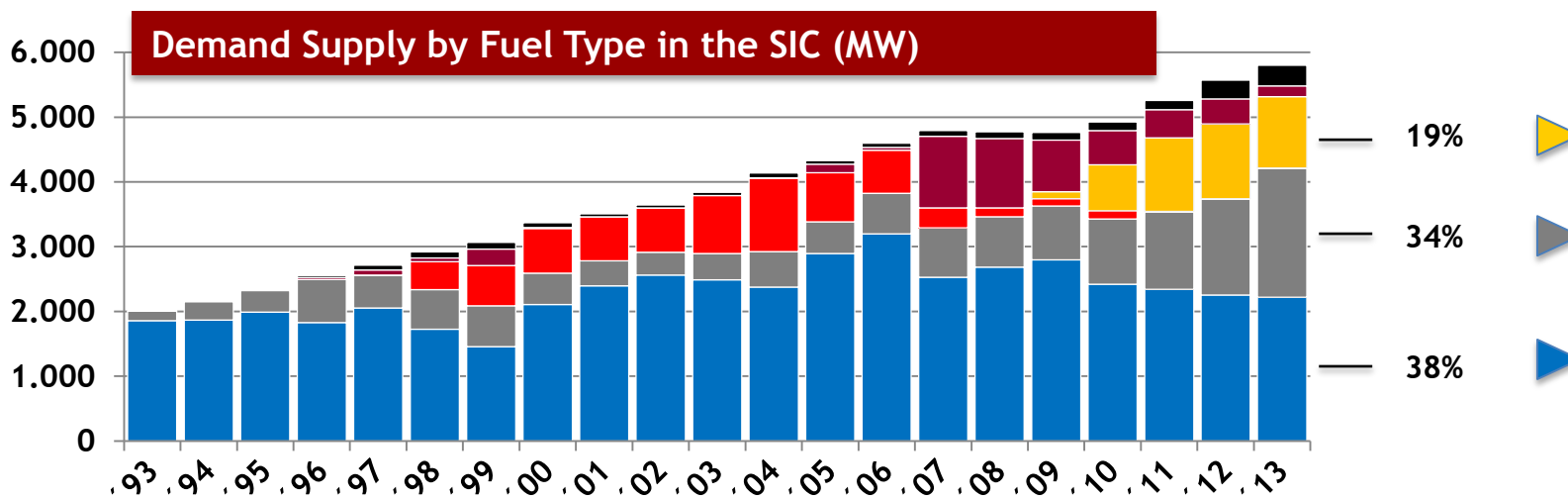
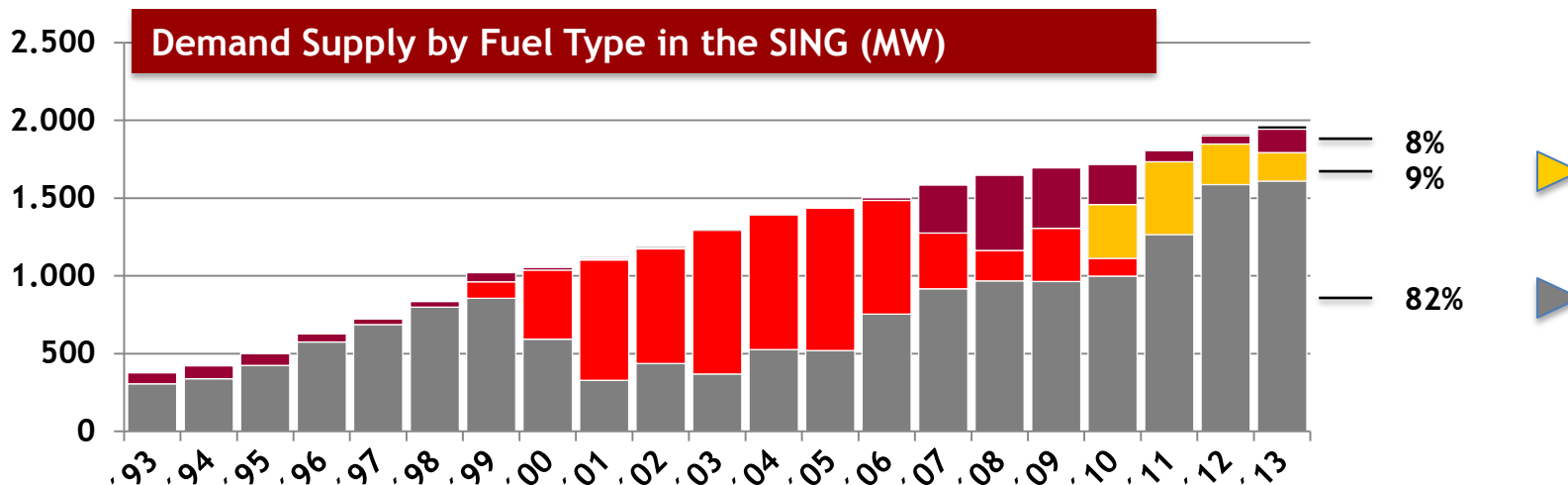


Hydro	
Angostura	316
Alto Maipo	531
Ñuble	136
San Pedro	144
El Paso	60
San Andres	40
Others	120
Total Capacity	1.350
Capacity Factor	55%
Energy Generation	740

Coal	
Guacolda 5 (SIC)	150
Cochrane (SING)	530
Total Capacity	680
Capacity Factor	85%
Energy Generation	580

■ Hydro ■ Coal ■ Gas ■ ERNC

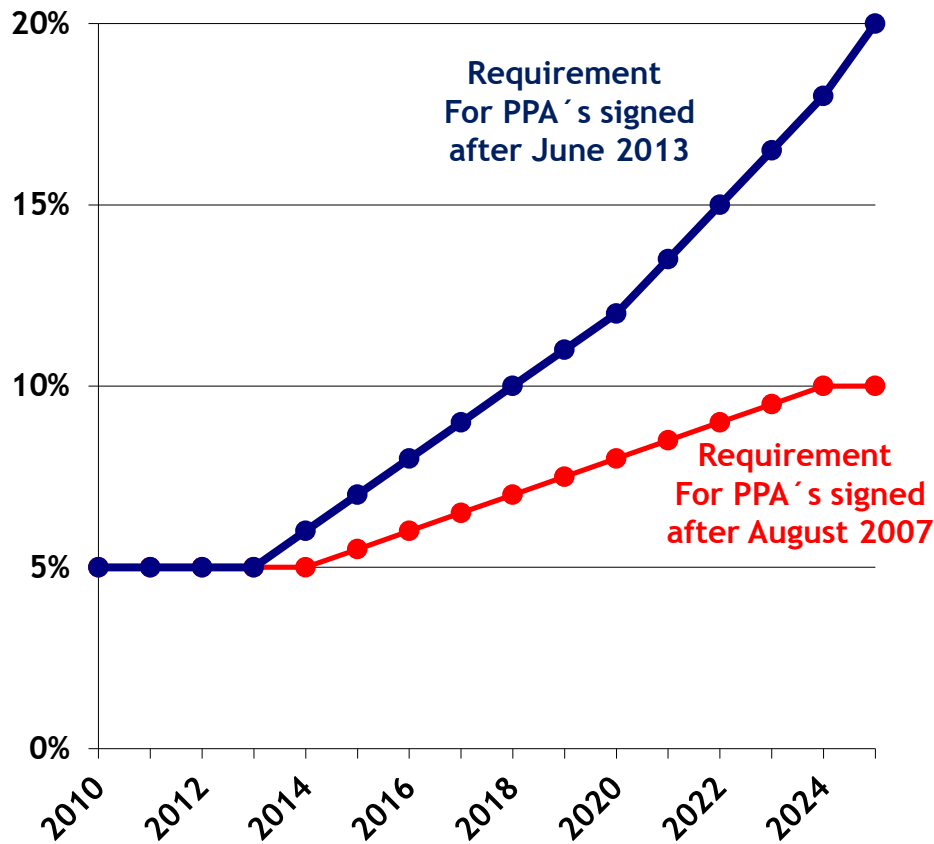
Total energy supply 2013 composed primarily by coal-based generation (46%), hydro (29%) and LNG (17%)



■ Hidro ■ Coal ■ Gas ■ LNG ■ Diesel ■ Other

Source: CNE, CDEC

Current ERNC Law (N° 20.257) establishes a requirement to energy generation companies to provide a % of their commercialized energy throughout Non-Conventional Renewable Sources (ERNC).

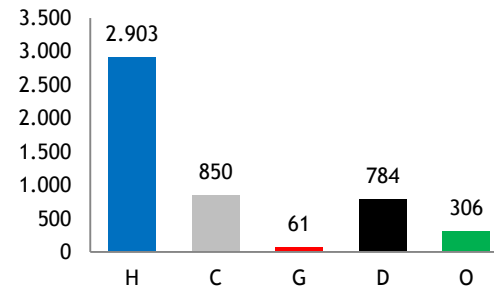
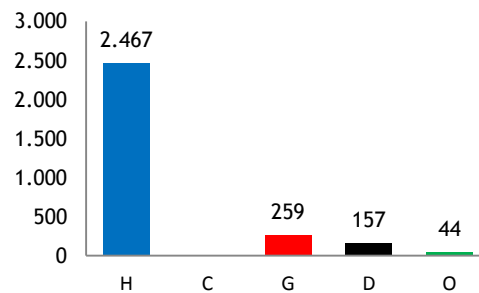
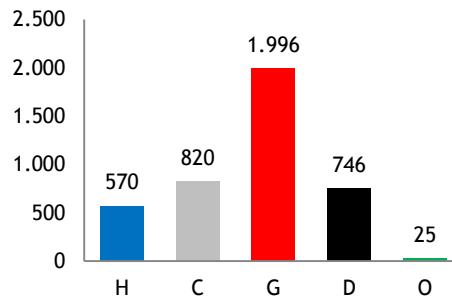
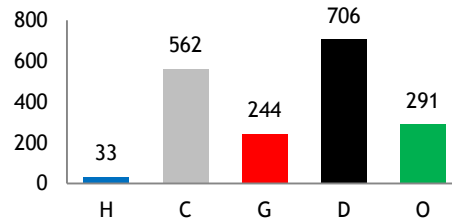


• Non - Conventional Renewable Sources of energy are defined as:

- Biomass
- Geothermal
- Solar
- Wind
- Mini Hydro (< 20 MW)
- Waves/Tide

• Non compliance with the ERNC law has a fine of 0,4 UTM/MWh (30 USD/MWh).

Installed Capacity



New Transmission Lines

1 Diego de Almagro - Cardones

- Contractor: Eletrans
- Size: 2 x 220 kV
- Expected COD: Oct 2017

2 Cardones - Polpaico

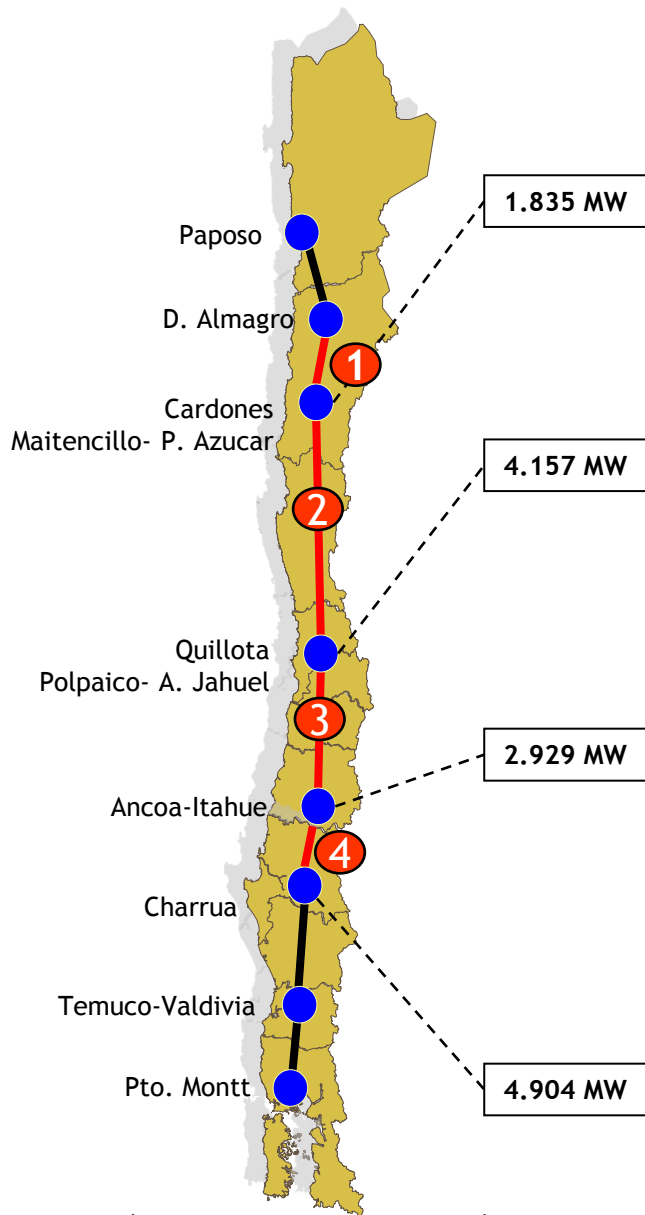
- Contractor: InterChile
- Size: 2 x 500 kV
- Expected COD: Jan 2018

3 Alto Jahuel - Ancoa

- Contractor: Elecnor
- Size: 2 x 500 kV
- Expected COD: Jan 2015

4 Ancoa - Charrúa

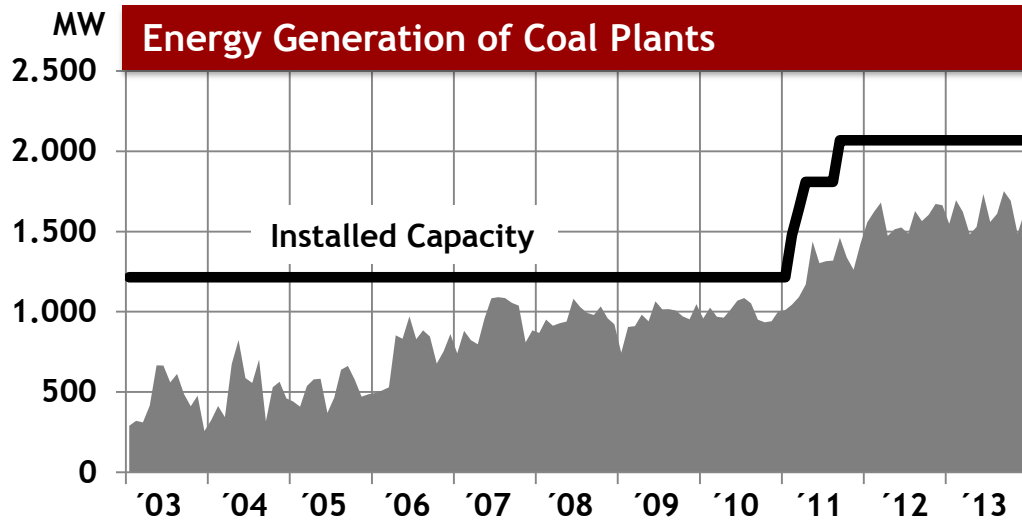
- Contractor: Elecnor
- Size: 2 x 500 kV
- Expected COD: Jan 2018



H: Hidroeléctricas (Embalse y Pasada), C: Carbón, G: Gas, D: Diésel, O: Eólicas, Biomasa, Desechos

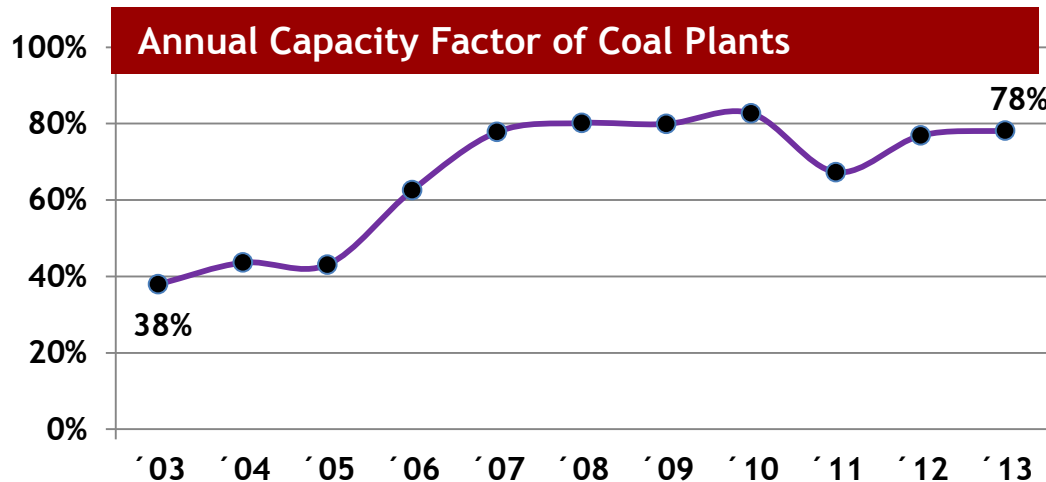
ANNEX

Coal-based generation units operating at full capacity. Current installed capacity and projects under construction (Cochrane - 560 MW) contracted for the long term.

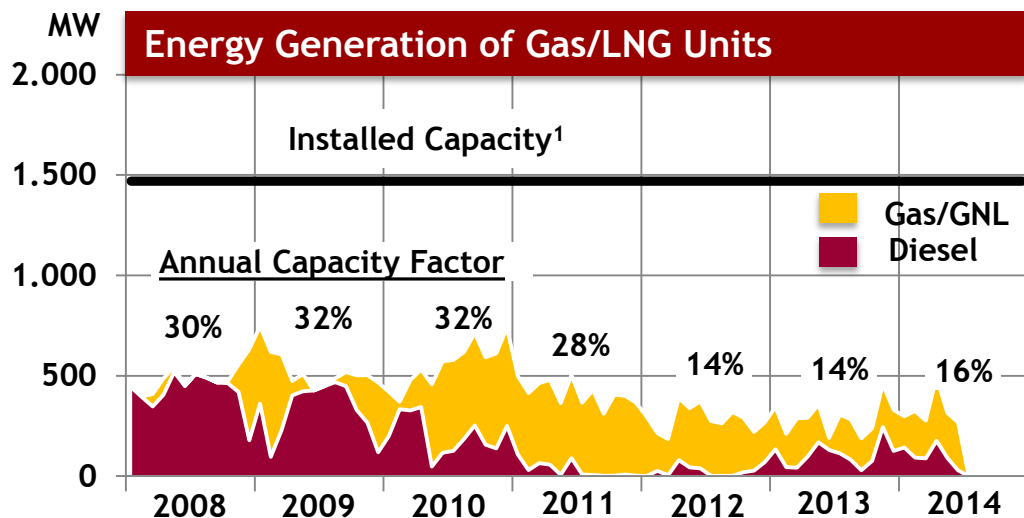


Company - Unit	MW
SUEZ - Central Tocopilla	438
SUEZ - Central Mejillones	341
SUEZ - CTA	165
SUEZ - CTH	165
GENER - Tocopilla	277
GENER - Angamos	523
ENDESA - Celta	158
TOTAL	2.068

SUEZ 54% ; ENDESA 37%; GENER 9%



Limited use of LNG generation because of high fuel prices and lack of long-term PPA contracts. Current spare capacity estimated in 1.000 MW



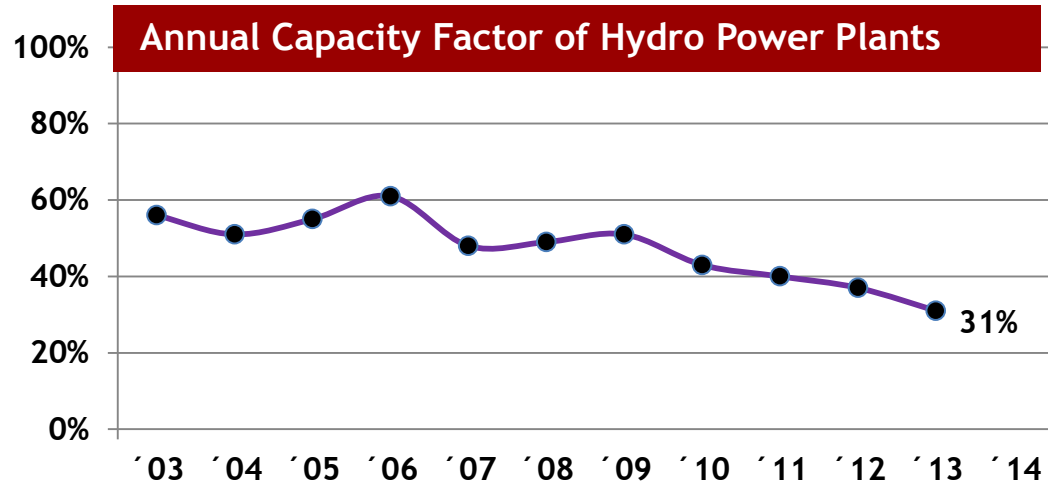
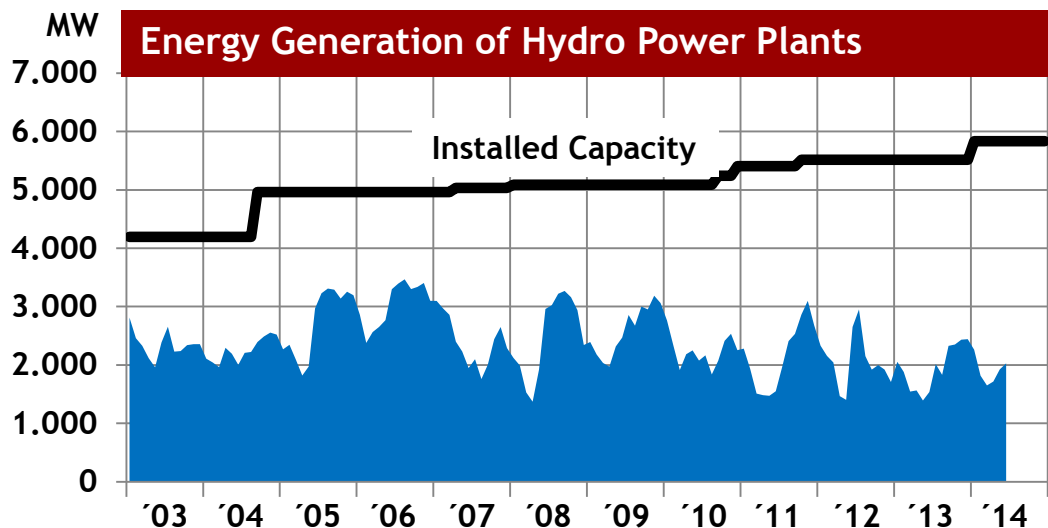
¹ Does not consider Salta CC Unit (642 MW)

Company - Unit	MW
SUEZ - TG3	38
SUEZ - CTM3	250
SUEZ - U16	400
ENDESA - Gasatacama	788
TOTAL	1.476

Total Capacity: SUEZ 47% ; ENDESA 53%

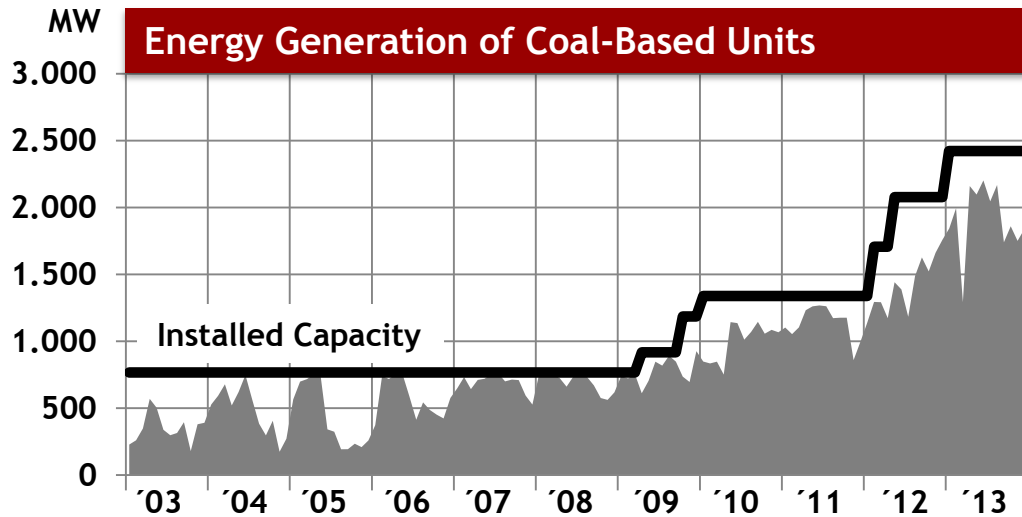
- New 500 MW LNG-based power plant under construction (Kelar - BHP) will serve additional demands of BHP's mining operations .

Adjustment of marketing policies in the light of successive years of draught. Small companies comfortable selling energy to the spot market or to dominant players (ENDESA- COLBUN - GENER).



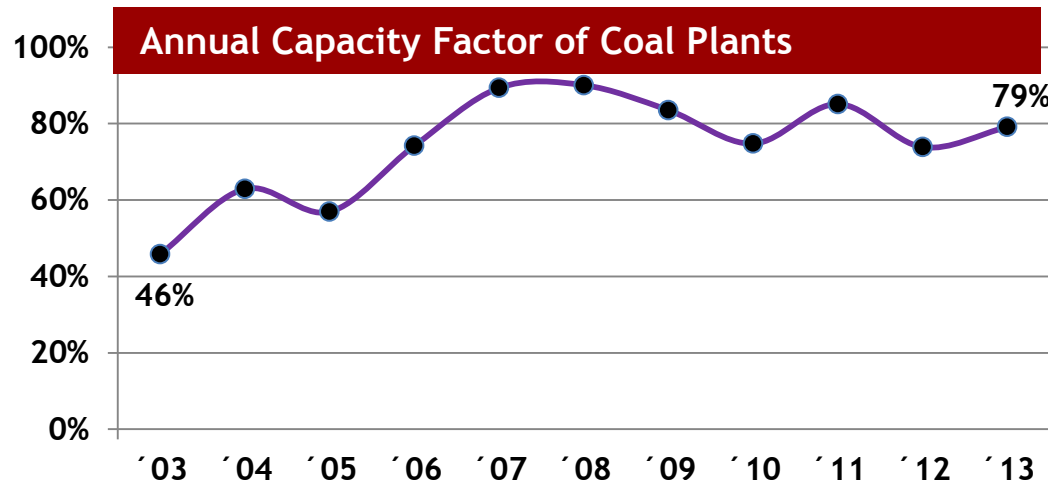
Installed Capacity (2013)	MW	%
ENDESA	3.460	58%
COLBUN	1.260	21%
PACIFIC HYDRO	500	8%
GENER	271	5%
OTHERS	479	8%
→ Duke Energy	140	
→ Pilmaiquén	52	
→ Hidromaule	39	
→ Hydroenergía	16	
→ Coyanco	14	
→ Others	218	
TOTAL	5.970	100%

Coal-based generation units operating at full capacity. Current installed capacity and projects under construction (Guacolda 5 - 152 MW) contracted for the long term.

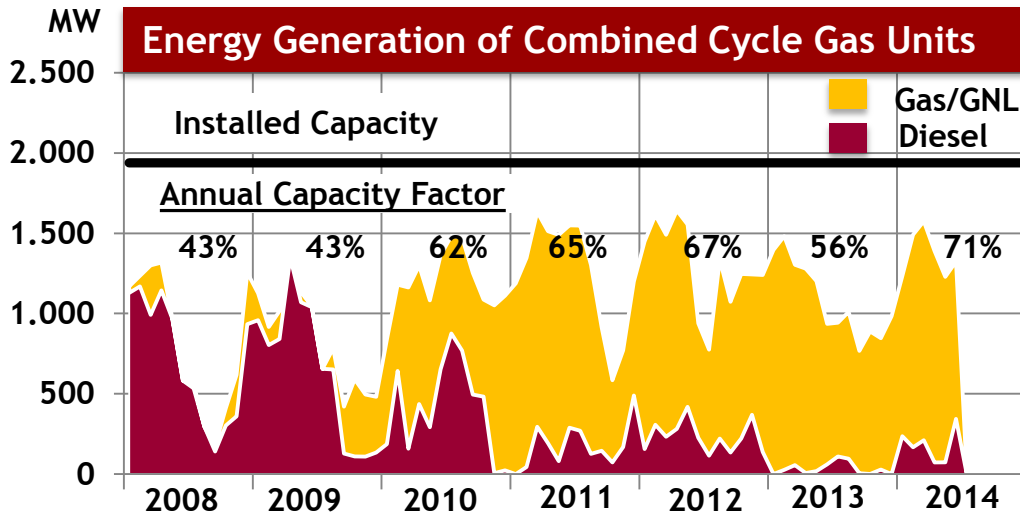


Company - Unit	MW
GENER - Ventanas	876
GENER - Guacolda	610
ENDESA - Bocamina 1&2	477
COLBUN - Santa María 1	370
Others - ENAP	88
TOTAL	2.420

GENER 61% ; ENDESA 20%; COLBUN 15%

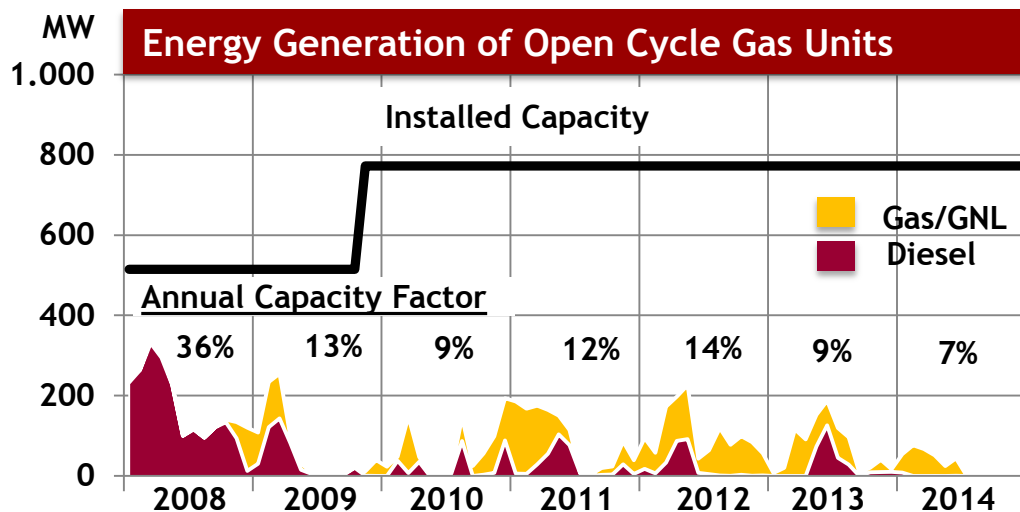


Limited use of LNG generation because of high fuel prices and lack of long-term PPA contracts. Current spare capacity estimated in 1.000 MW



Company - Unit	MW
ENDESA - San Isidro 1	379
ENDESA - San Isidro 2	399
COLBUN - Nehuenco 1	367
COLBUN - Nehuenco 2	398
GENER - Nueva Renca	379
TOTAL	1.922

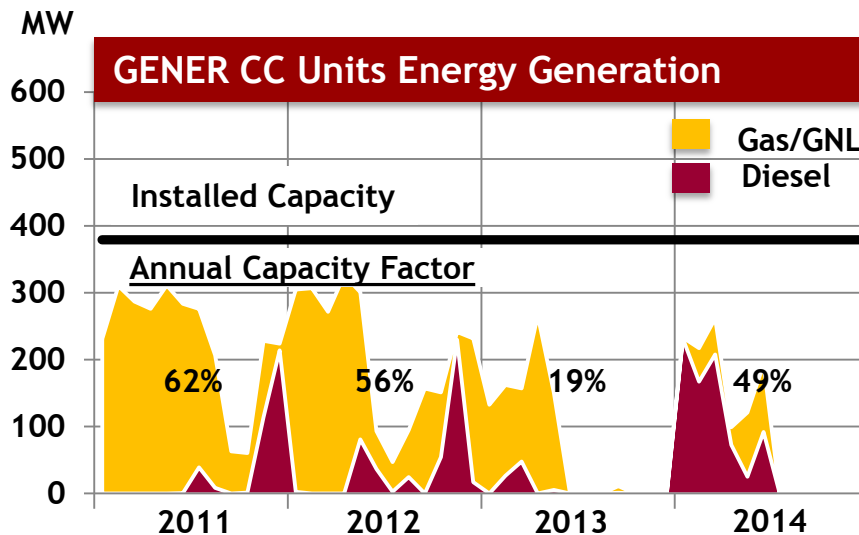
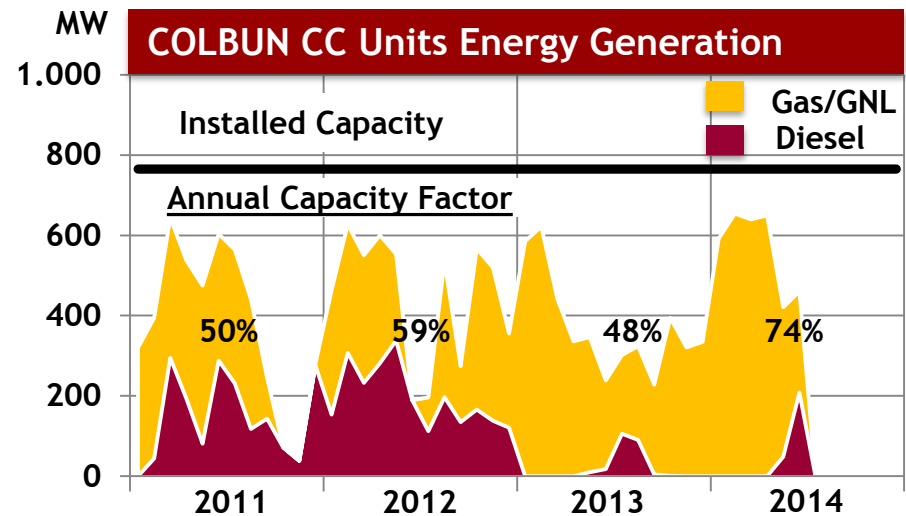
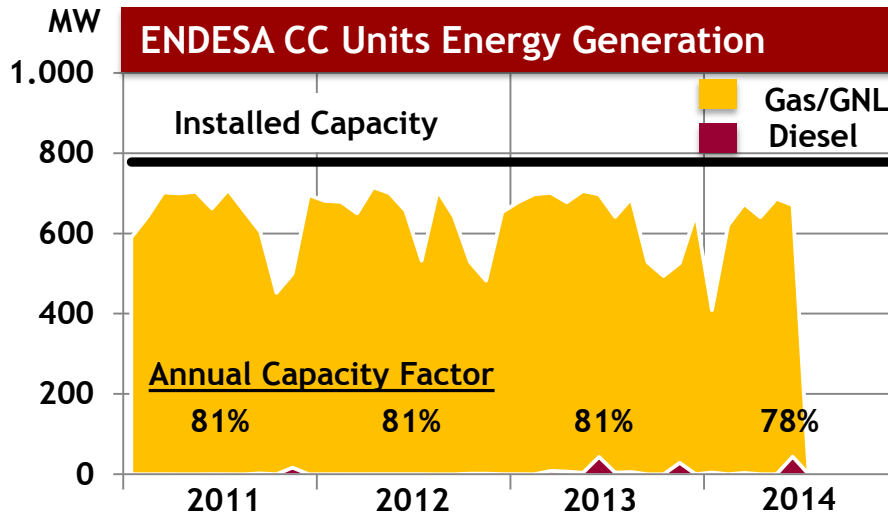
ENDESA 40% ; COLBUN 40%; GENER 20%



Company - Unit	MW
ENDESA - Taltal	245
ENDESA - Quintero	257
COLBUN - Nehuenco III	108
COLBUN - Candelaria	270
TOTAL	880

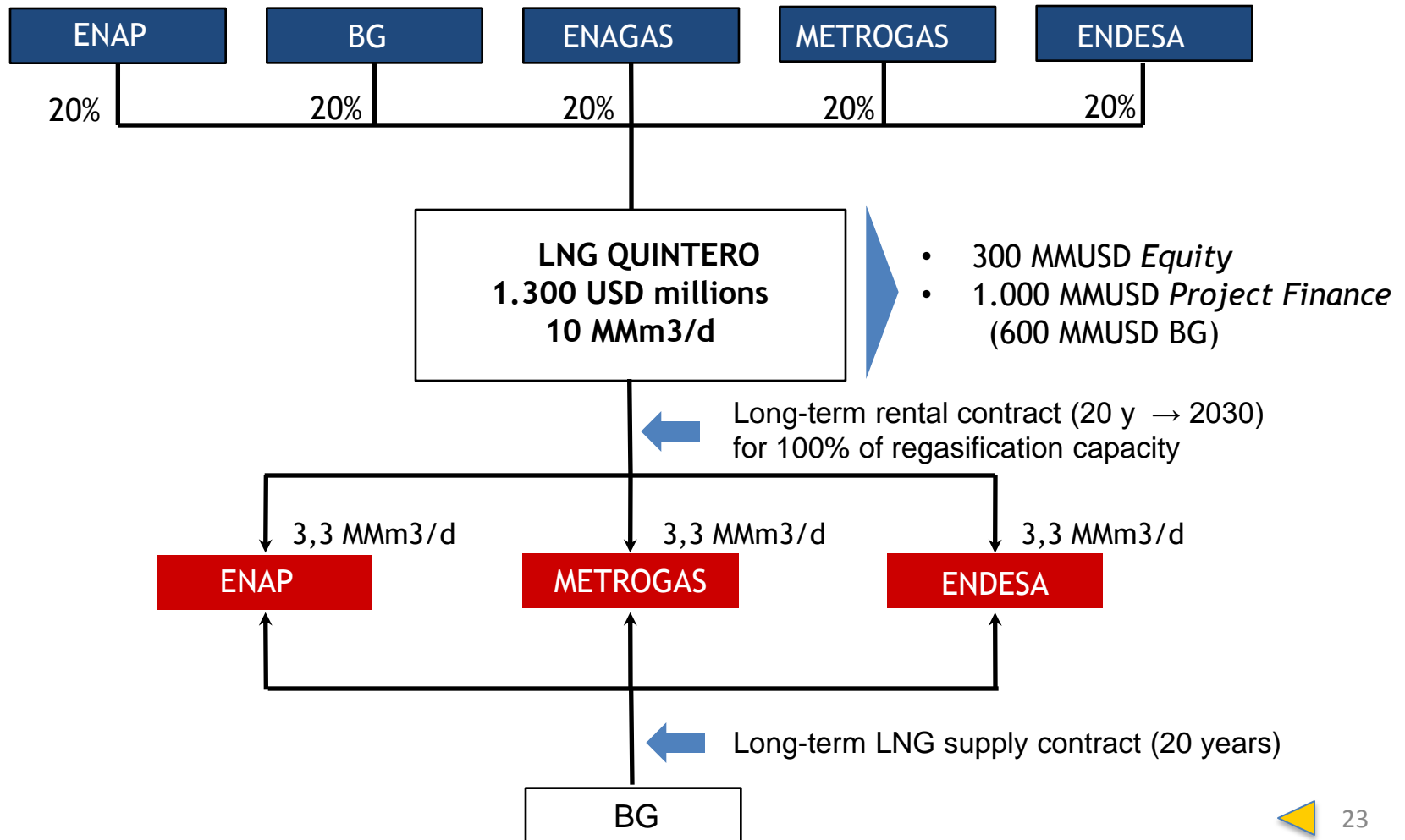
ENDESA 57% ; COLBUN 43%

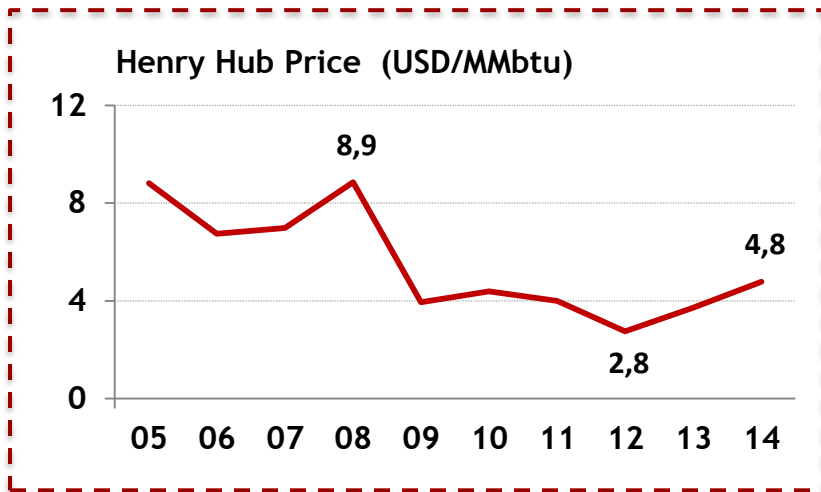
Capacity factor of Combined-Cycle units in the SIC grid.



- ENDESA benefits from long-term LNG supply contract with BG (@ 8,0 USD/MMBTU).
- COLBUN and GENER use spare LNG availability from METROGAS and ENAP at higher prices.

Current LNG terminal in the SIC grid fully contracted with ENDESA (energy generation); METROGAS (household consumption) and ENAP (industrial process).





Long - Term Energy Price	Value
Henry Hub Price* (USD/MMBtu)	5,0 - 7,0
Liquefaction Cost (USD/MMBtu)	4,0 - 5,0
Transport & Regas. Cost (USD/MMBtu)	2,0 - 3,0
Total Gas Cost (USD/MMBtu)	11,0 - 15,0
Energy Generation - Fuel Cost (USD/MWh)	85 - 110
Generation Company Margin (USD/MWh)	20 - 25
Energy Price (USD/MWh)	105 - 135

(*) ExxonMobil; IEA

