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ACCIONA ENERGÍA  
Doing business in Chile

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September 29th, 2016





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RENEWABLE ENERGY  
CONSTRUCTION - CONCESSIONS  
WATER - INDUSTRIAL - SERVICE

## ACCIONA IN NUMBERS

**+30.000**  
collaborators

In more than 30 countries in 5 continents

**+75 years**  
of history

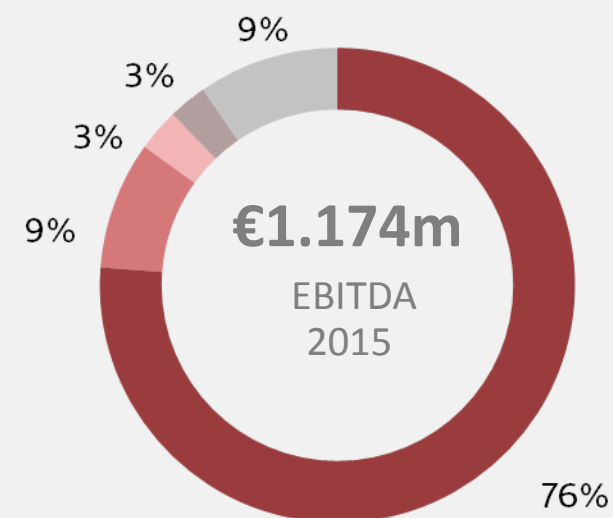
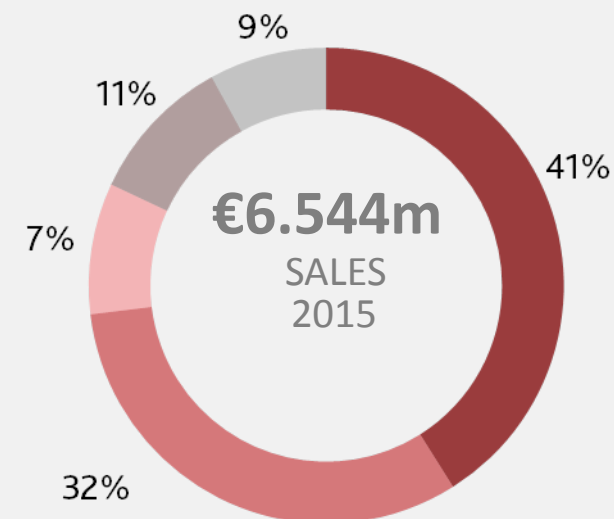
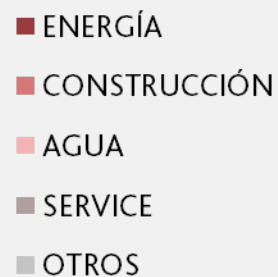
~50% family controlled

**€223 m**

In net investment (2015)

**€876 m**

R+D period 2010-2015  
(5<sup>th</sup> in Spain, 144<sup>th</sup> UE)





## GLOBAL LEADER IN RENEWABLE ENERGY



### **8.638 MW OWNED FACILITIES**

in 15 countries / 5 continents

### **ALSO FOR CLIENTS**

+1.900 MW installed for third parties.

### **100% CLEAN TECHNOLOGIES**

Wind, Solar PV, CSP, Hydro and biomass.

### **VERTICAL INTEGRATION**

*Know-how* in all value chain.

### **+20 YEARS OF EXPERIENCE**

Longest track record in the industry.

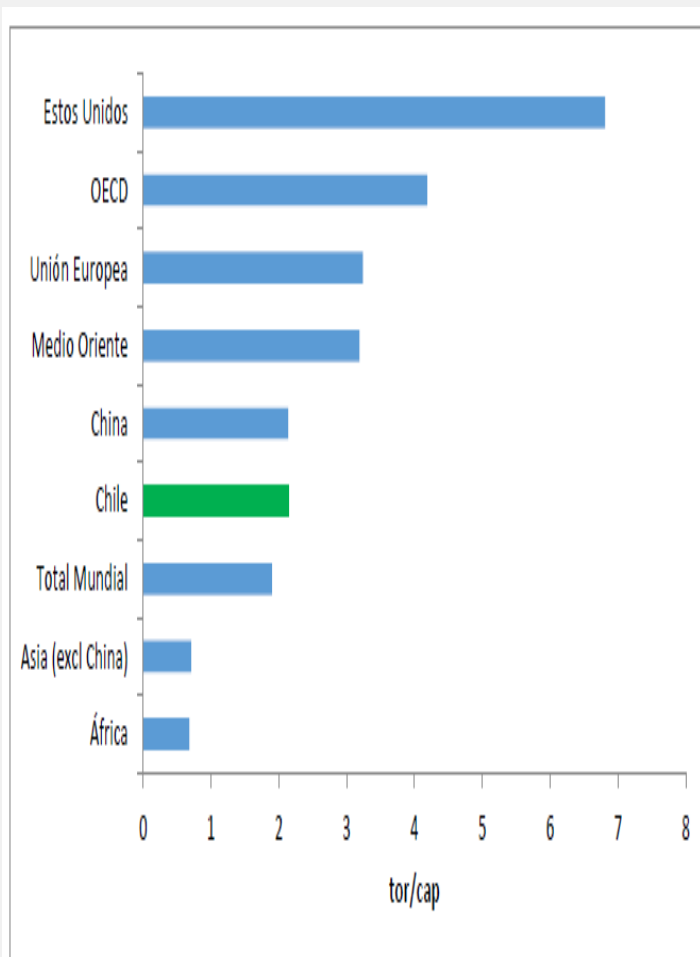
*Updated March 2016*



CHILE LEADING THE  
ENERGY  
TRANSFORMATION IN  
LATAM

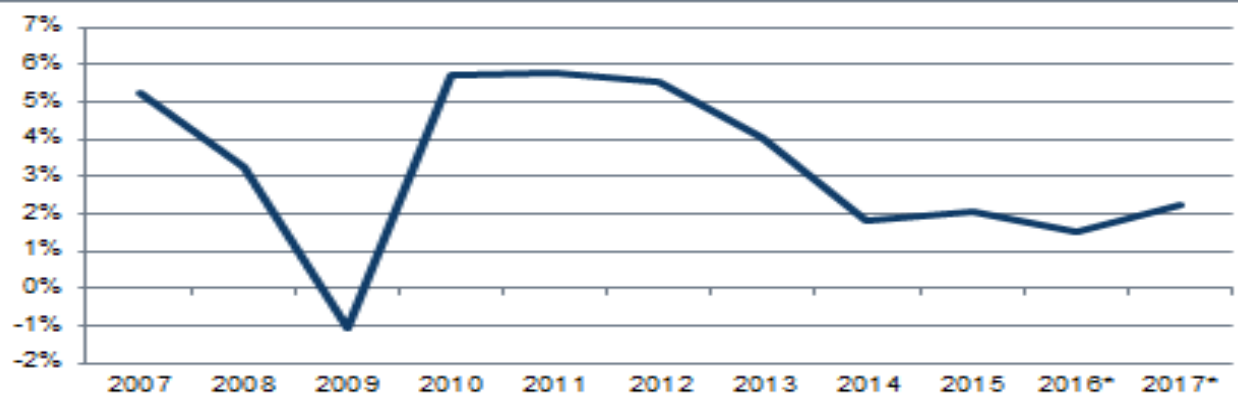
## CHILE

### MACROECONOMIC FIGURES



Fuente: IEA

#### Real GDP growth rate



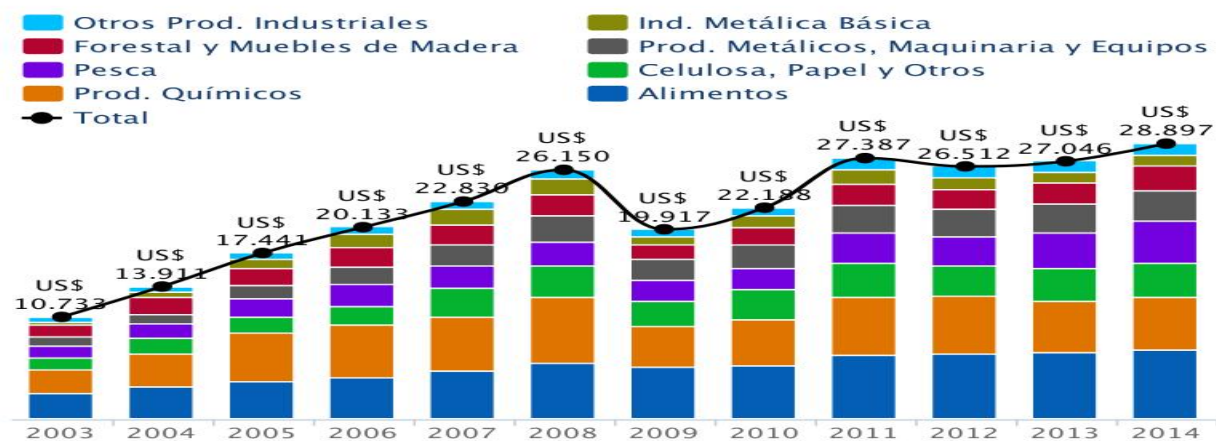
\*Estimated.

Source: IHS Economics and Country Risk

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#### Exportaciones por Sectores Industriales

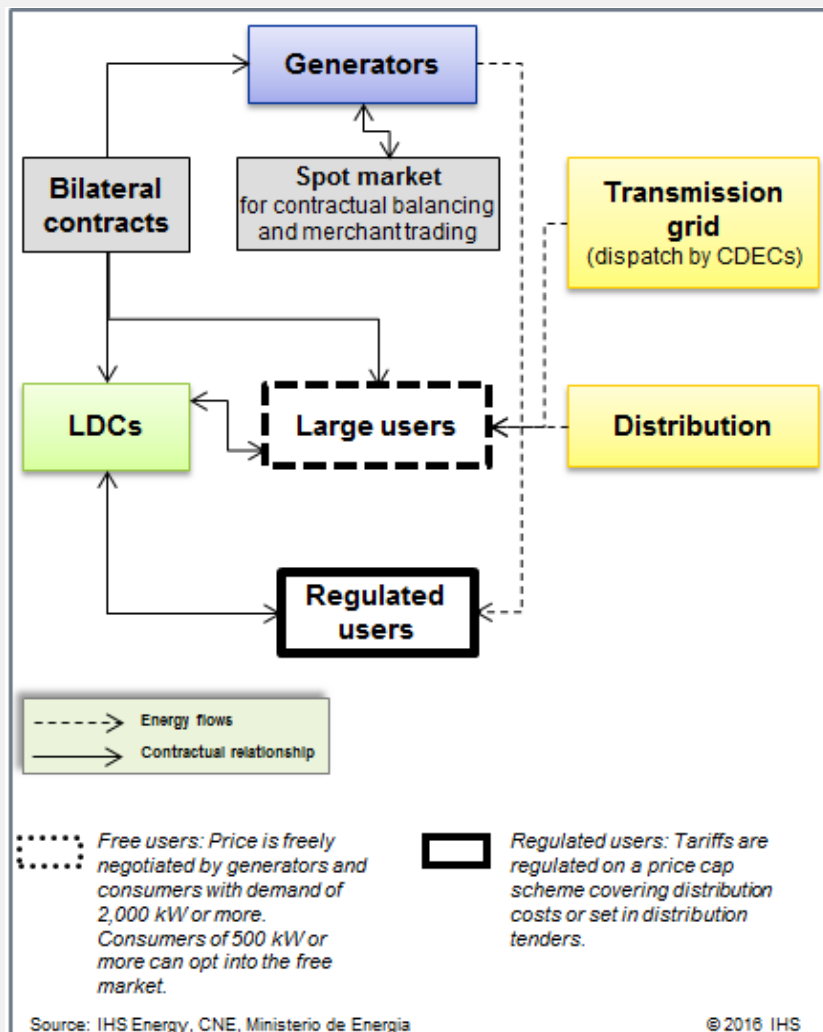
Cifras en millones de US\$, año 2014



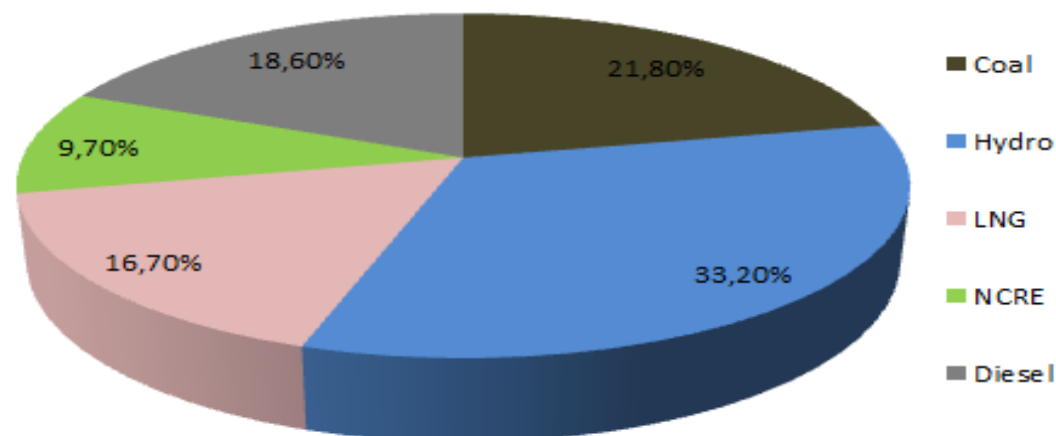
Source: Sofa

## CHILE

### ELECTRICITY SECTOR



SIC + SING Installed Capacity: 19.606MW



Source: CNE, Feb 2016

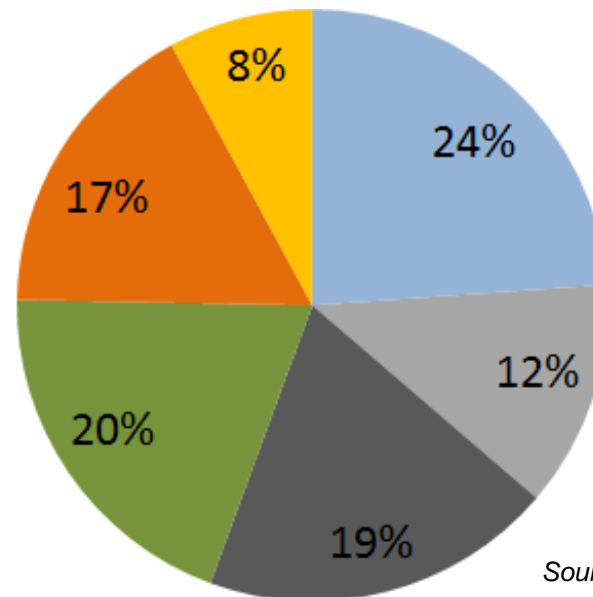
	Operation	Construction	RCA approved	RCA in qualification	Total Pipeline	Potential
Wind	1.169	387	6.686	2.325	10.567	37.500
Solar PV	1.375	1.635	10.700	4.852	18.562	1.250.000
Solar CSP	39	110	1.222	1.585	2.956	548.000
Biomass	481	-	171	120	772	1.000
Geothermal	-	48	70	50	168	5.000
Mini Hydro	589	22	338	120	1.069	3.000
Pump Storage	-	-	300	-	300	3.000
<b>TOTAL</b>	<b>3.653</b>	<b>2.202</b>	<b>19.487</b>	<b>9.052</b>	<b>34.394</b>	<b>1.847.500</b>

Source: ACERA, August 2016

## CHILE - NON CONVENTIONAL RENEWABLE ENERGY AGENDA 2050 SUMMARY

### MAIN NCRE TARGETS:

- 20% NCRE generation by 2025
- 70% NCRE generation by 2050
- > 45% of new capacity will be NCRE
- 20% Energy efficiency
- Multisectorial agreement
- Social and environmental guidelines
- Regional interconnection



**EXPECTED INSTALLED CAPACITY BY 2025  
TOTAL: 26.000MW**

- Hidráulica
- Gas Natural
- Carbón/Petróleo
- Eólica
- Solar
- Otras EERR

Source: Agenda de Energía. Ministerio de Energía de Chile





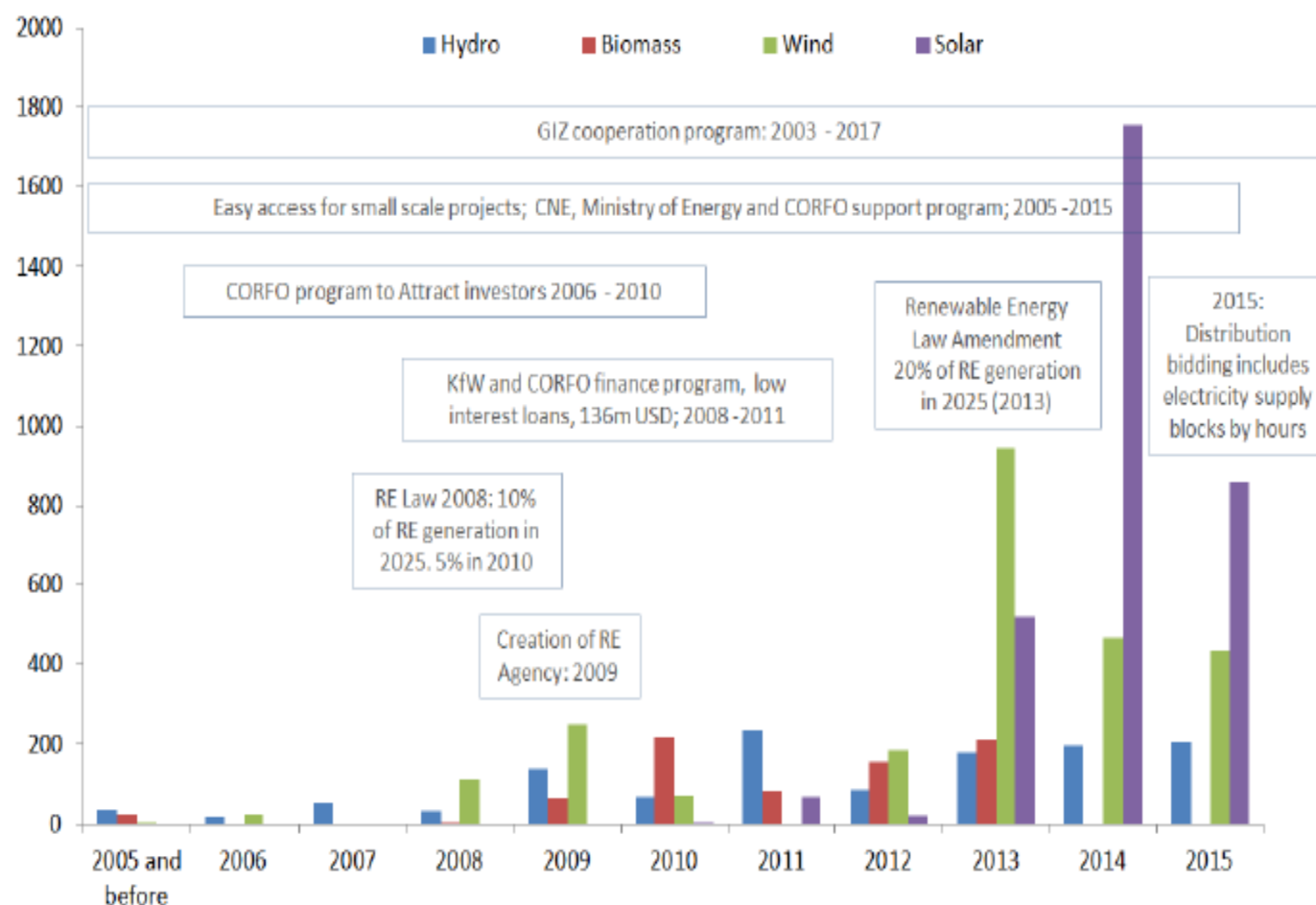
## CHILE - NON CONVENTIONAL RENEWABLE ENERGY

10 YEARS OF SUPPORT POLICY, MARKET BASED, NO DIRECT SUBSIDIES

### Policy Evolution

- Importance of stable, long term regulatory framework
- 3 governments, similar goals
- Development of first long term “AGENDA 2050”
- Neutral with RE technologies, except geothermal
- Foster competition with conventional sector
- Wind and PV main investments until at least 2025

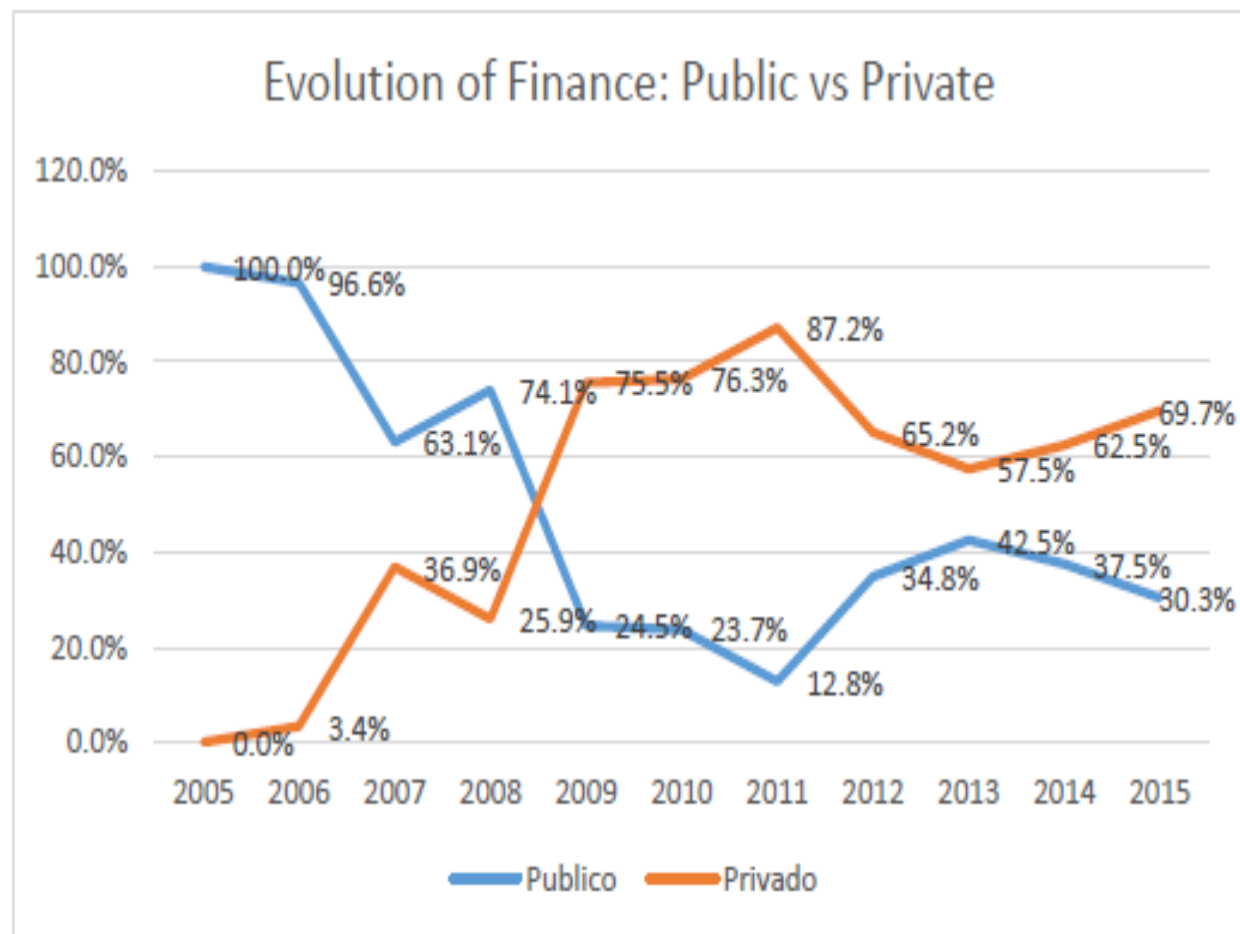
Figure 2: Finance over time by technology and main policy interventions.



## CHILE - NON CONVENTIONAL RENEWABLE ENERGY

### IMPORTANCE OF STRONG FINANTIAL SYSTEM

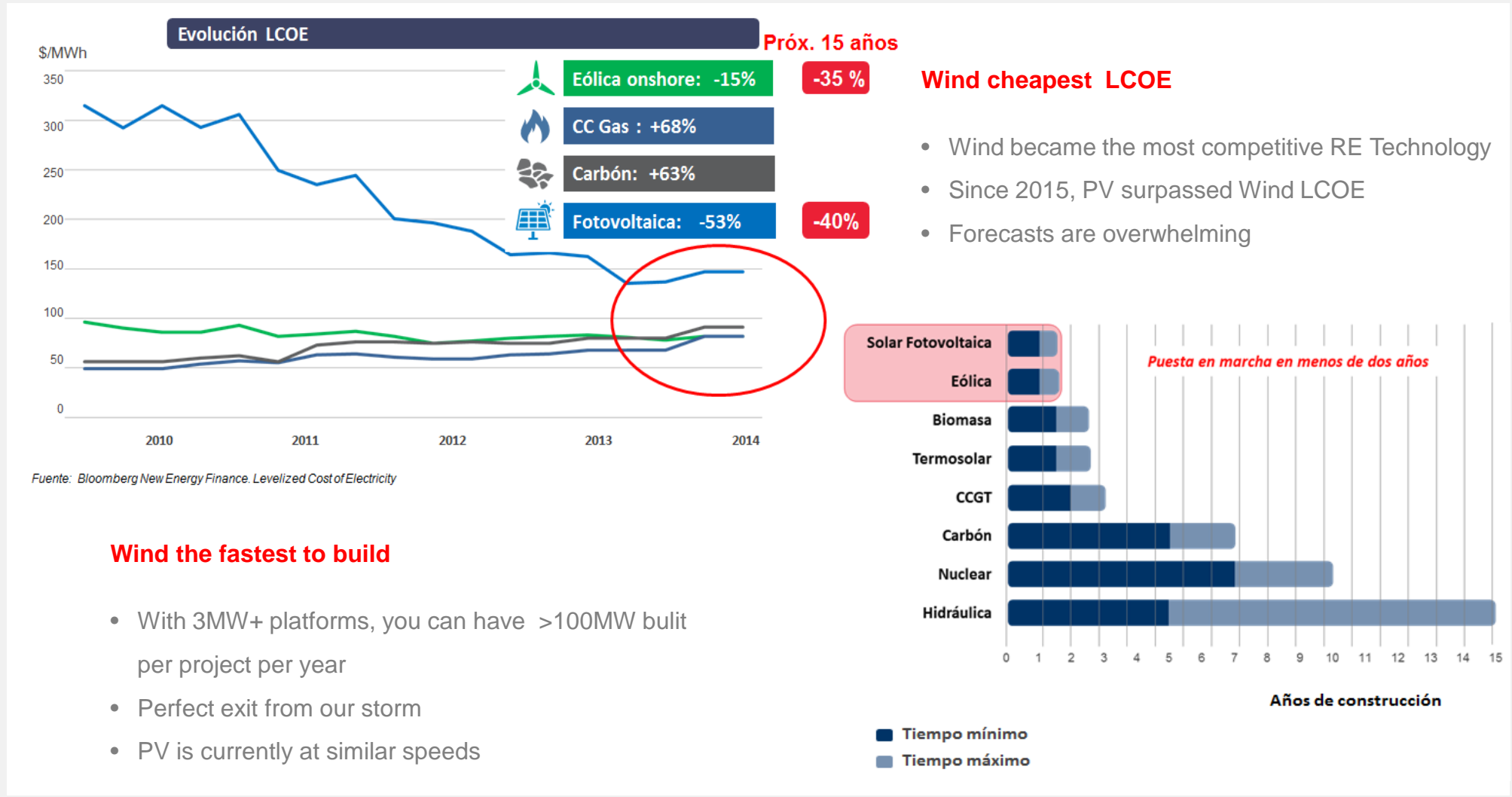
Figure 1 : Evolution of project's finance, public vs. private, 2005 – 2015



#### Public vs Private funding

- In first 3-5 years public funding is the main trigger
- Long term private finance is main driver
- Institutional investment for mature industry (not there yet)
- AFPs, Insurance companies, Industrial groups, family offices still not playing significant role
- Non-recourse or limited recourse project finance main tool
- Bonds, corporate funding and other mechanisms still not fully developed

# CHILE - NON CONVENTIONAL RENEWABLE ENERGY SAVED BY TECHNOLOGY- CHEAP AND FAST TO DEPLOY





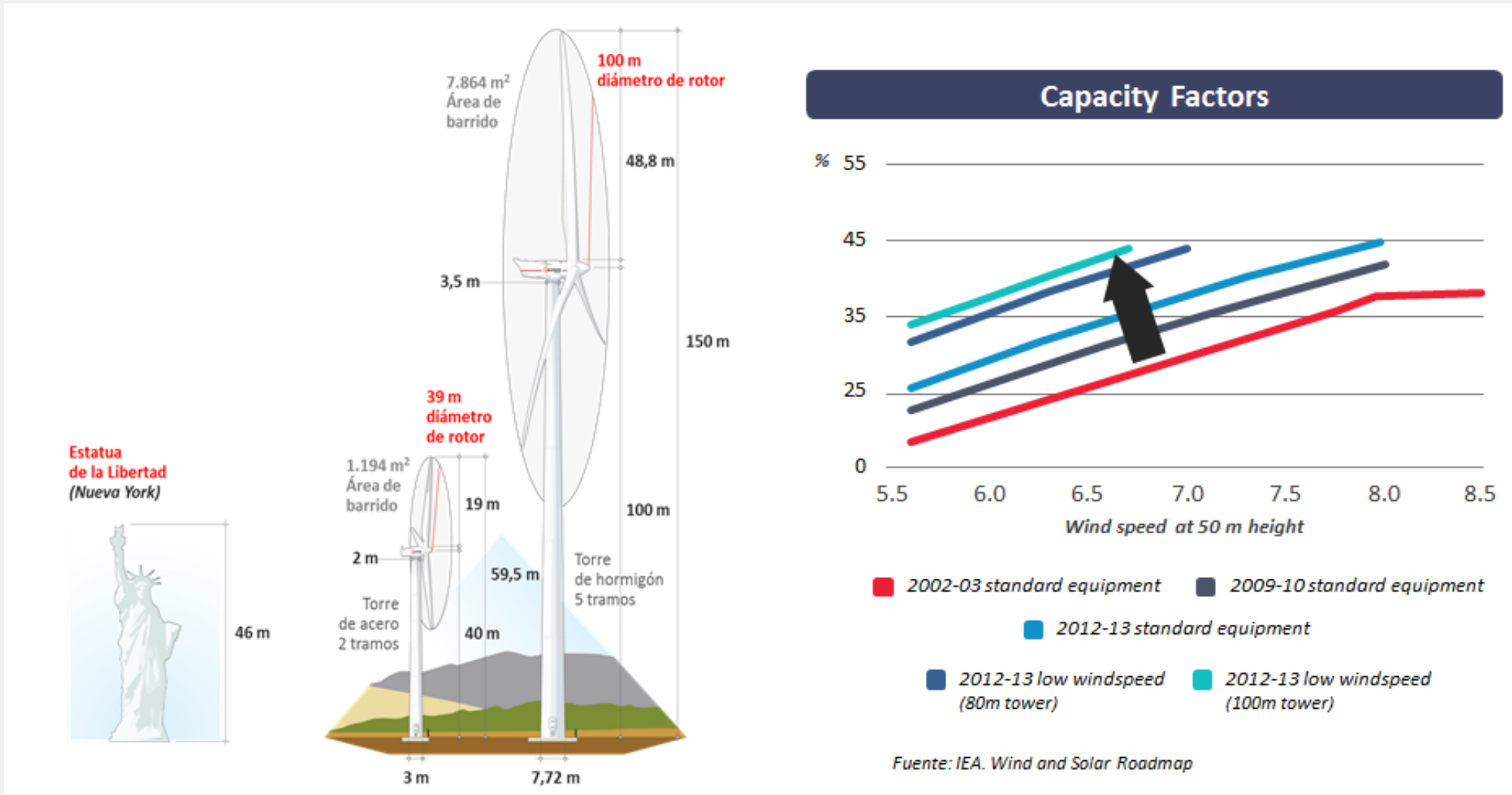


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WIND POWER PLAYING A MAIN ROLE  
IN THE SHAPE OF CHILE'S  
ELECTRICITY SUPPLY

## CHILE WIND POWER

NON CONVENTIONAL WIND NEEDS NEWEST, AD-HOC TECHNOLOGIES



## CHILE WIND POWER

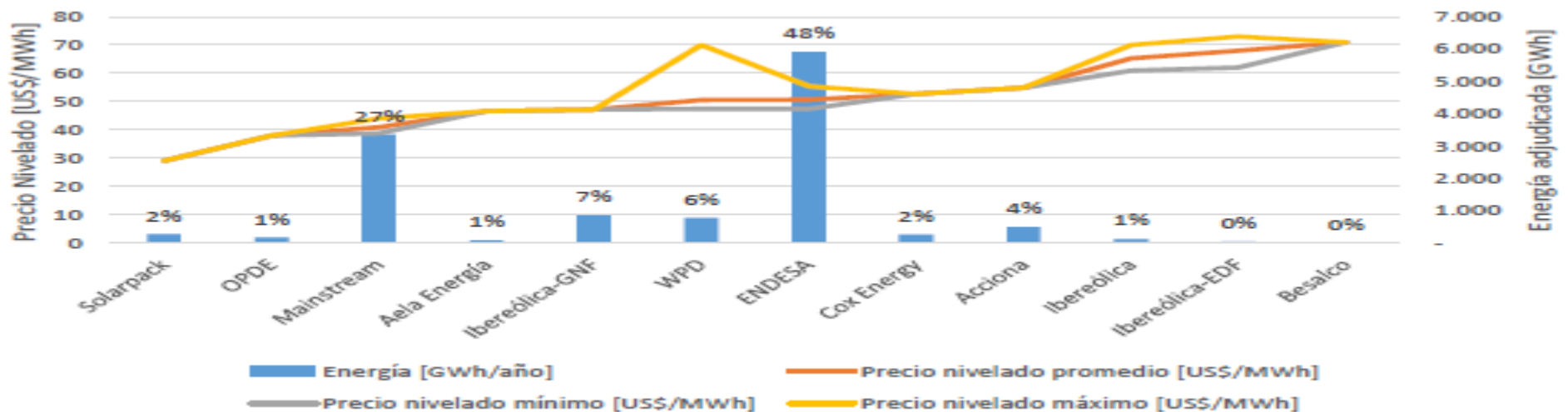
### REGULATED CLIENTS PUBLIC TENDERS MAIN WINNER

Bloque de suministro	1	2A	2B	2C	3
Energía licitada [GWh/año]	3.080	680	1.000	520	7.150
Horario	00:00 – 23:59	00:00 – 07:59 y 23:00 – 23:59	08:00 – 17:59	18:00 – 22:59	00:00 – 23:59
Fecha inicio suministro	01/01/2021				01/01/2022

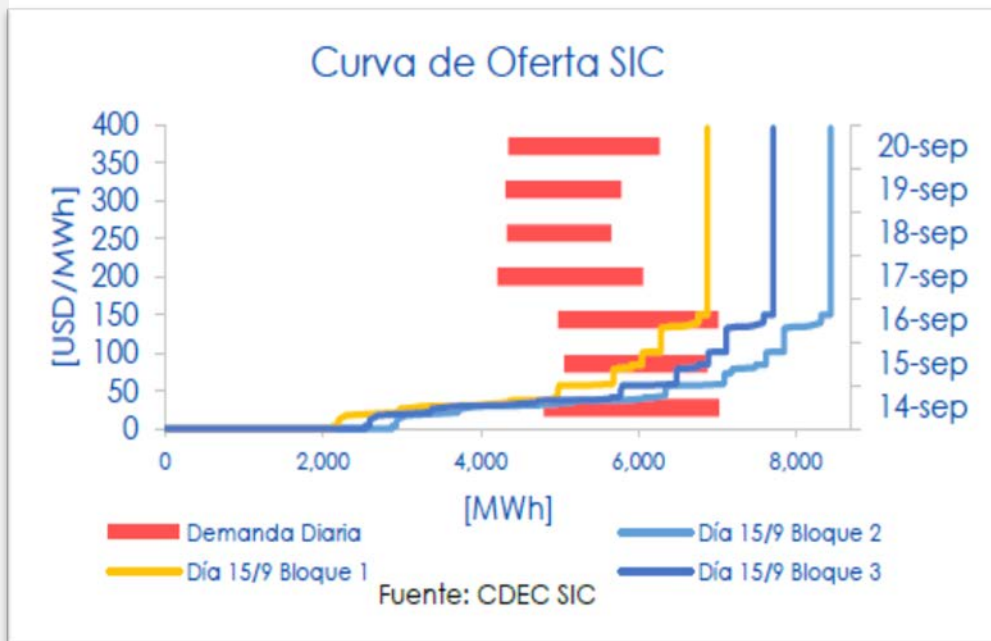
#### Latest Public PPA tender

- 3rd of its type (2014 – 2015)
- Technological neutral
- > 30% of total regulated consumption
- 20 year PPAs
- 5 years to supply
- Small portion for hourly blocks
- 7X Energy offered
- All new capacity awarded for renewables

Tecnología	Porcentaje	Tecnología	Suma de MW
Mix convencional + ERNC	48%	Eólica	3.047
Eólica	47%	Solar fotovoltaica	816
Solar fotovoltaica	2%	Hidro de pasada	18
Eólica, Solar fotovoltaica	2%	<b>Total general</b>	<b>3.880</b>
Hidro	1%		



## CHILE WIND POWER COMPETITIVE, SAFE, SUSTAINABLE TECHNOLOGY

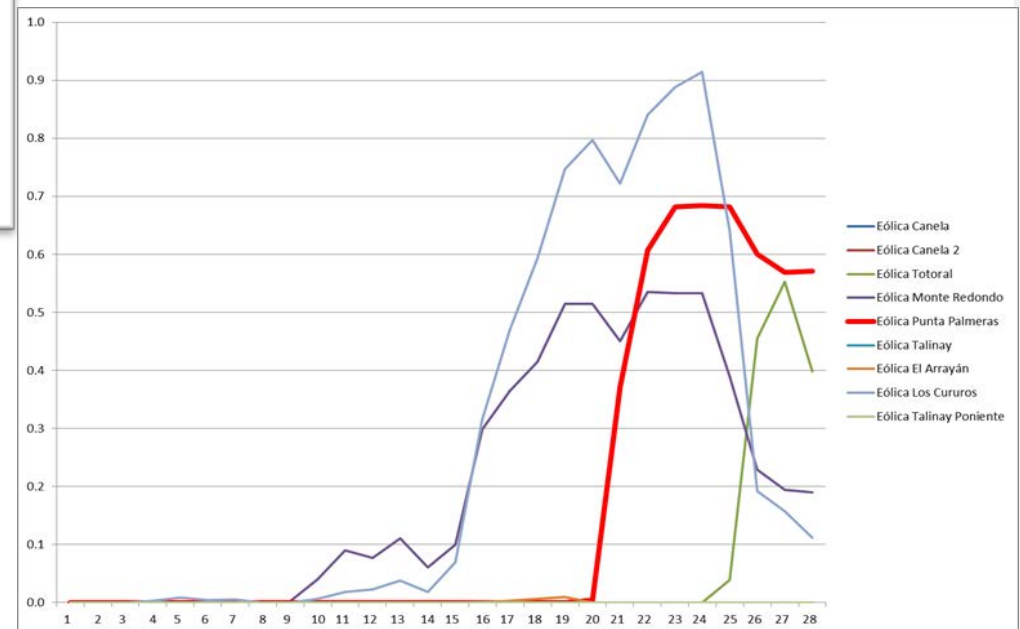


### Main systems issues

- Multi nodal pricing
- Tx restrictions, Price decoupling
- Stretch offer curve
- Volatile prices
- Wind and PV curtailment

### September 2015 Earthquake

- Epicenter in Canela, beside all mayor windfarms
- 8,3 Richter
- All coast evacuated, including thermal plants personnel
- Wind Farms fully reconnected in 24hrs







A BRIGHT DECADE FOR WIND,  
AN EVEN BRIGHTER FUTURE

## CHILE WIND POWER CONCLUSIONS AND CHALLENGES

### **NCRE sector steadily growing**

- 3GW of new wind already contracted by 2022
- Investment wind more than EUR\$700M per year until at least 2025
- Private PPA market will catch up with Public PPAs
- Restrictions to CO2 emissions will increase
- ILO 169 and other social & environmental policies will raise the bar

### **Main challenges ahead**

- Compete with PV for the future market growth
- Grid integration in Chile's unique geography
- Develop local know how, industrial and service capacity
- Export energy to regional neighbours



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THANKS FOR YOUR ATTENTION