



# Peruvian Regulatory Framework

*Analyst Update Meeting*

June 2017



# Agenda



Peru – General View

Market description

Regulatory framework

Hot Topics

# Peru

## General View



### Political, economical and energetic stability



#### Population:

**Peru:** 32 millions

**Lima:** 10 millions

**President:** Pedro Pablo Kuczynski (PPK-Peruanos Por el Kambio)

**Congress:** Partido Fuerza Popular (Fujimoristas) (73/130 congresistas)

#### Effective Capacity –2016

Total: 12 775 MW

Hydro: 39% <sup>(1)</sup>

Thermal: 58% <sup>(2)</sup>

Eolic - Solar: 3%

#### Energy Production

2016: 48 326 GWh ( $\Delta + 9\%$ )

2015: 44 540 GWh

Hydro: 47%

Thermal: 50%

Wind - Solar : 3%

#### Peak Demand

2016: 6 565 MW ( $\Delta + 5\%$ )

2015: 6 275 MW

Source : COES 2016

Notes:

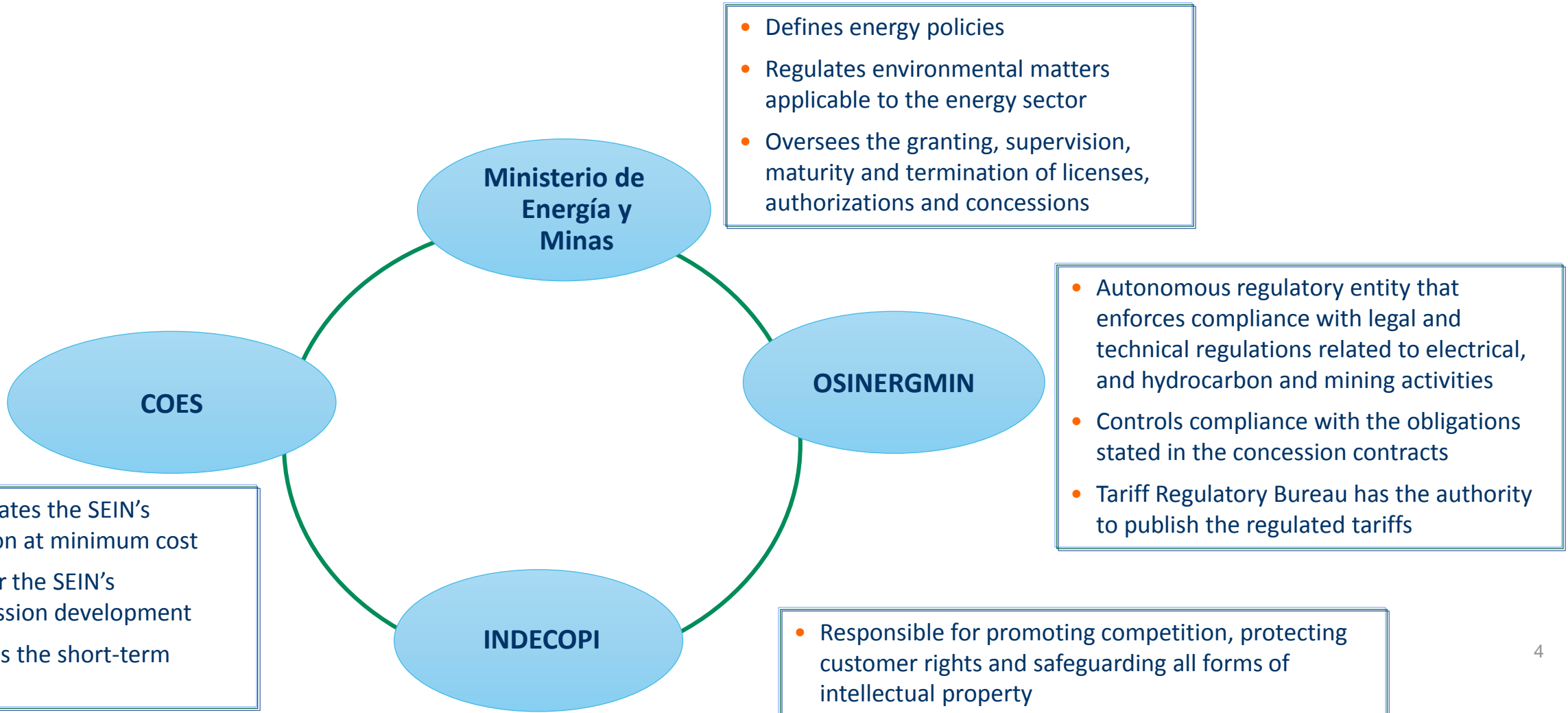
(1): Hydro RER included

(2): Biomass and *Reserva Fría* included

# Institutional Framework



*Institutional framework provides legal and regulatory security*



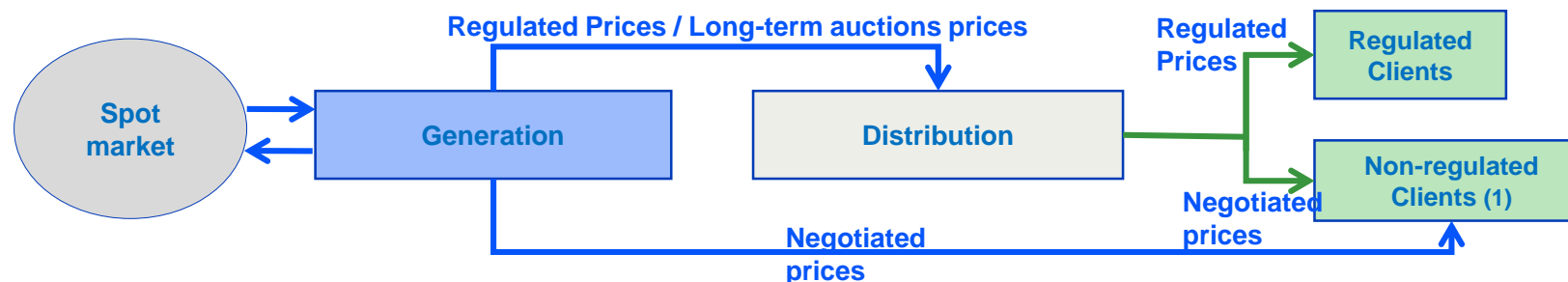
# Market structure



*Separated activities promote investment opportunities and competition*

GENERATION (Gx)	TRANSMISSION (Tx)	DISTRIBUTION (Dx)
<ul style="list-style-type: none"> <li>Competitive Market.</li> <li>Marginal costs in the spot market.</li> <li>Centralized dispatch, organized by variable costs.</li> <li>PPA's for distribution: regulated price (busbar tariff) or prices from auctions.</li> <li>PPAs for free clients: negotiated prices.</li> </ul>	<ul style="list-style-type: none"> <li>Natural monopoly.</li> <li>Regulated business.</li> <li>Centralized planning (Ministerio Energía y Minas).</li> <li>Auction processes to assign standardized BOOT contracts</li> </ul>	<ul style="list-style-type: none"> <li>Natural monopoly.</li> <li>Regulated business, VAD (Valor Agregado de Distribución) is approved for 4 years.</li> <li>Pass-through of Tx and Gx costs.</li> <li>Residential clients with less than 100 kWh are subsidized (<i>Fondo de Compensación Social Electrico- FOSE</i>).</li> <li>Dx is responsible of the street lighting.</li> </ul>

(1) Non-regulated clients: i) Mandatory for those with more than 2,5 MW, ii) Eligible between 0,2 MW and 2,5 MW

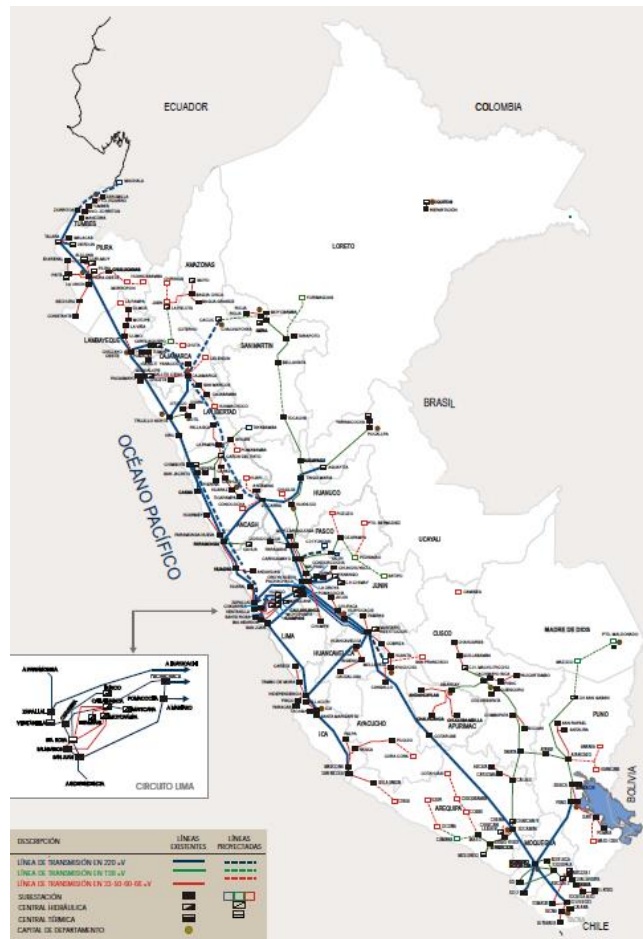


# Transmission

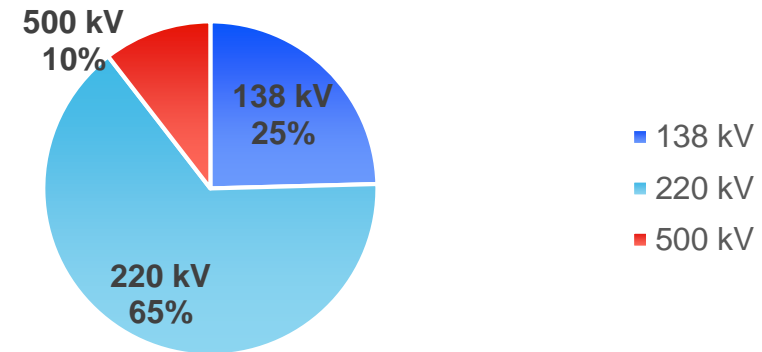
18,747 km of transmission lines with voltage  $\geq 138$  kV.



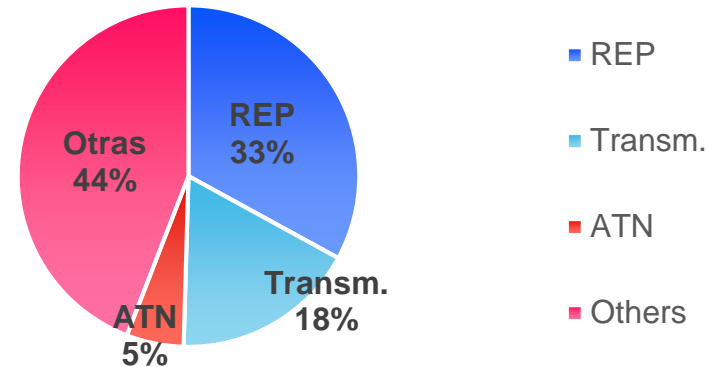
**Strong Transmission system ensures national supply**



Km by Voltage level



Km by company



Source: COES SINAC - 2016

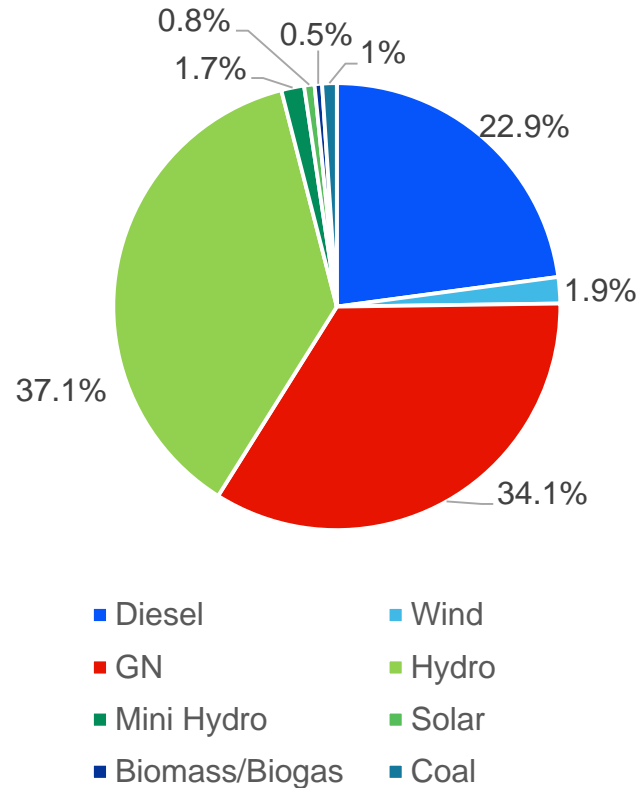
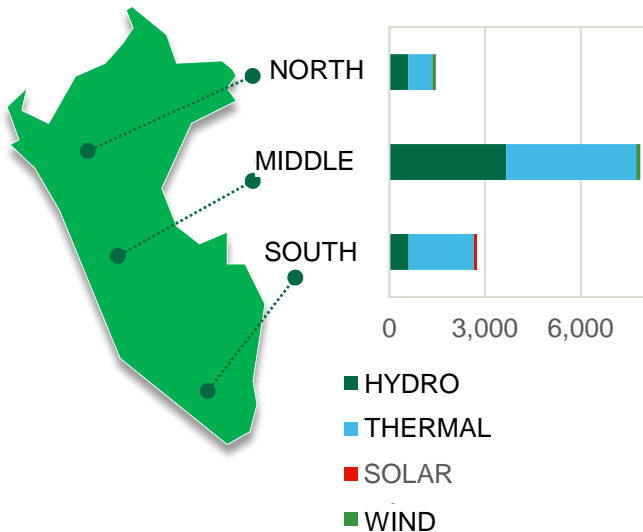
# Generation

Effective capacity



**Enel Peru has a relevant position in the Peruvian energy market**

Effective capacity SEIN 2016 : 12 776 MW



Effective capacity ENEL 2016: 1 977 MW

	MW
<b>ENEL Total</b>	<b>1977</b>
<b>Enel Generación Piura</b>	<b>293</b>
CT Malacas	104
CT Reserva Fría	189
<b>Chinango</b>	<b>198</b>
CH Chimay	155
CH Yanango	43
<b>Enel Generación Perú</b>	<b>1486</b>
CT Ventanilla	479
CT Santa Rosa	418
CH Huinco	268
CH Matucana	137
CH Callahuanca	84
CH Moyopampa	69
CH Huampani	31
<b>ENEL Thermal</b>	<b>1 190</b>
<b>ENEL Hydro</b>	<b>787</b>

**Effective capacity with new TG 6 in Malacas (51 MW) is 2028 MW**

# Generation



## Generation Plants



## ENEL Generación Perú

- 126 customers:

		Sales (TWh)
# Distributors	11	5.6
# Free customer	115	3.7

- Enel Generación is the largest private producer in the country (share: 18%)
- 2028 MW (61% thermal; 39% hydro) (1)
- Sales: 9.3 TWh/year
- Production: 8.8 TWh/year

Note: (1) TG6 Malacas included



# Enel Distribución Perú



*Concession area in the North of Lima with a high economical development potential*



## ENEL Distribución Perú

- 1.37 millions of customers:

		Sales (TWh)
# Regulated	1 366 368	4.9
# Eligible free customer	515	1.1
# Free customer	261	1.6

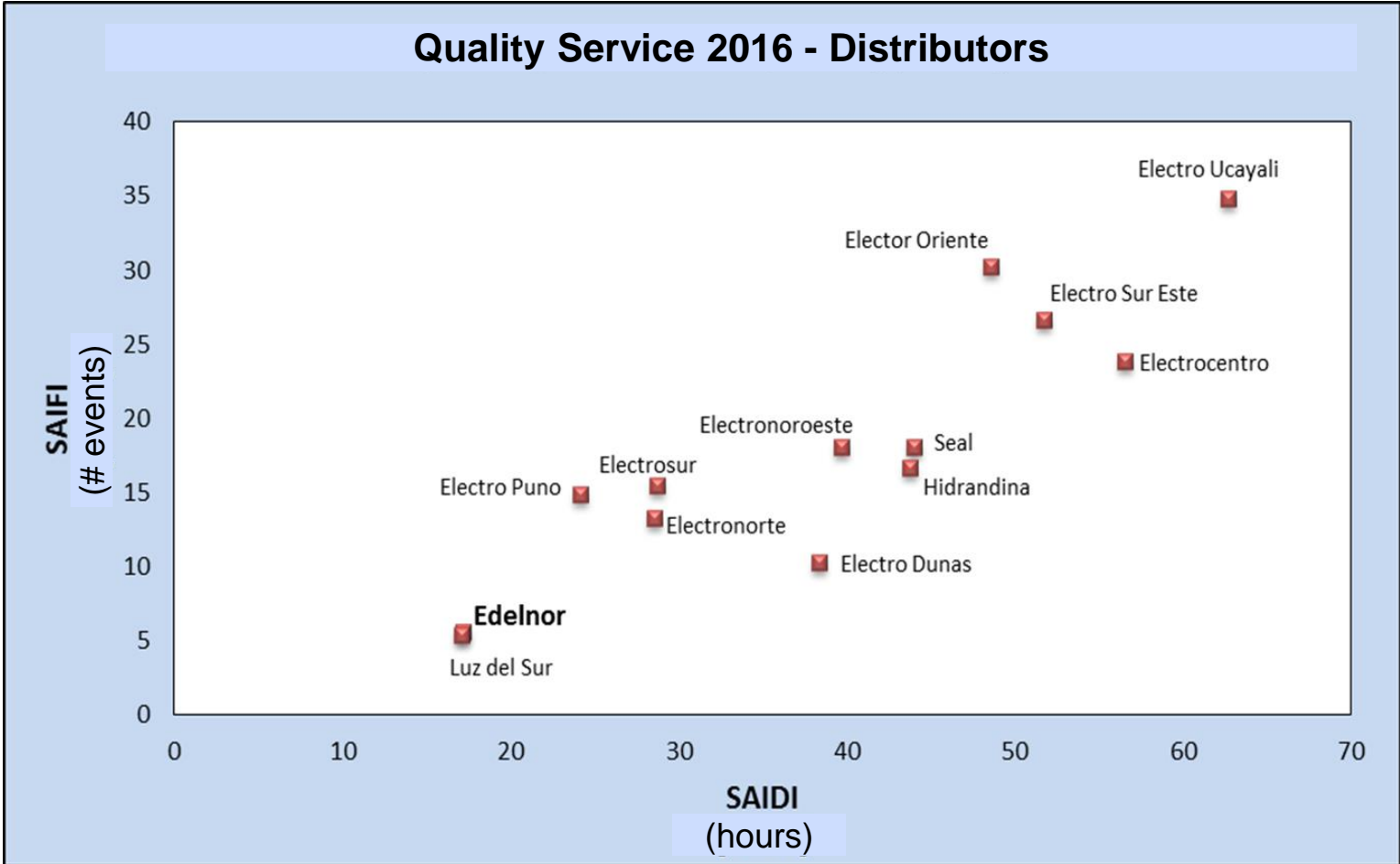
- 410 kWh/month per capita
- 5 millions of people in the influence zone.
- 1,225 MW peak demand.
- 7.6 TWh energy sold.

# ENEL Distribución Perú

Distribution – Quality indicators



**ENEL Distribución (ex Edelnor) delivers best quality service nationwide**

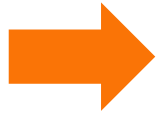


Source: Osinergmin

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Peru – General View



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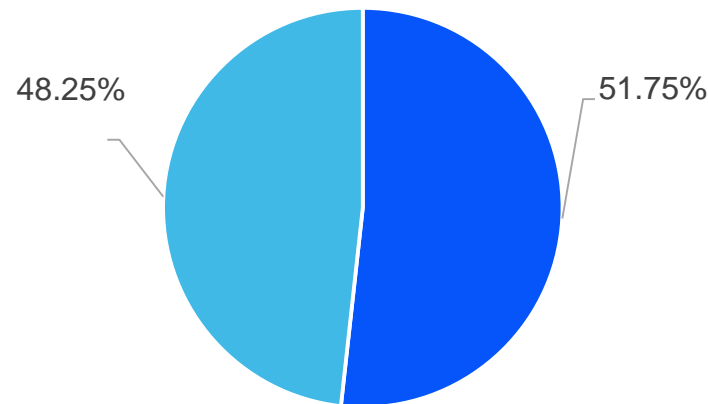
# Peru electricity market

Customers 2016 – regulated and free market



**Economical growth will keep free market expansion**

**Energy Sales 2016**



- Free market
- Regulated market

Energy	Free Market (GWh)	Regulated Market (GWh)	Total (GWh)
Generators	20 002	0	20 002
Distributors	2 359	20 850	23 209
TOTAL	22 361	20 850	43 211
Share	51.75%	48.25%	100%

# customers	Free Market (customers)	Regulated Market (customers)	Total Customers
Generators	381	0	381
Distributors	408	6,992,063	6,992,471
TOTAL	789	6,992,063	6,992,852
Share	0.01%	99.99%	100%

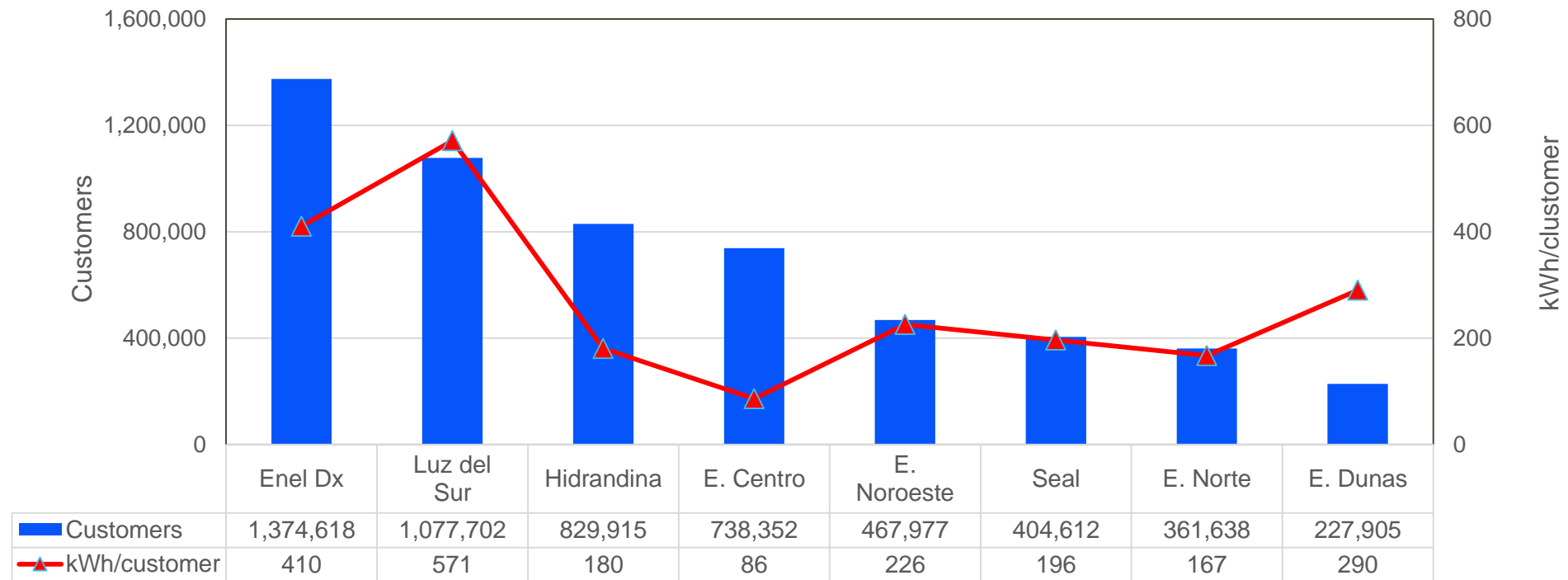
Source : Osinergmin

# Market Position Enel Peru 2016

## Distribution



**Enel Dx is the largest distributor nationwide, with high potential of growth by customers and per capita consumption**



Source: Osinergmin

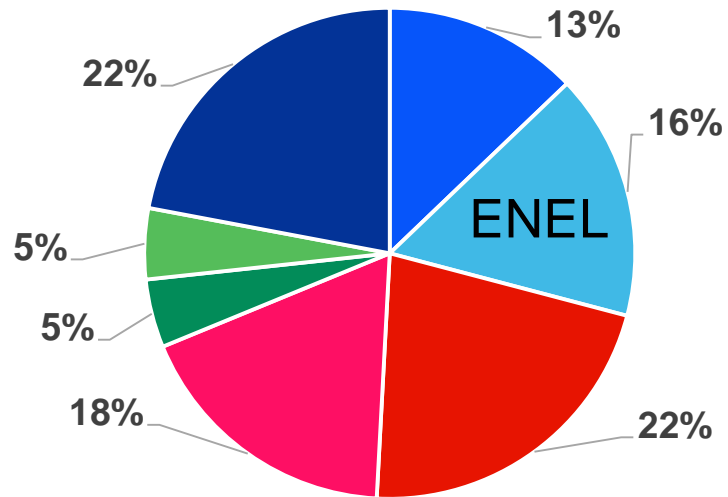
# Market Position Enel Peru 2016

Generation



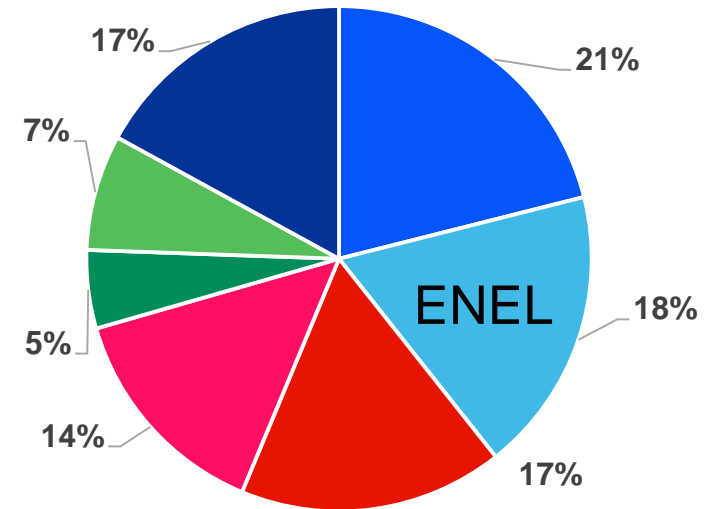
*Enel is the first private generator in the country*

### Effective Capacity



- State
- ENGIE
- ORAZUL
- Others
- ENEL
- IC Power
- Fenix (Colbun)

### Energy Production



- State
- ENGIE
- ORAZUL
- Others
- ENEL
- IC Power
- Fenix (Colbun)

Source: COES - 2016

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# Distribución

## Regulatory Model



**Distribution is a stable & profitable activity with high growth potential**



**Distribution Regulation (VAD):** remuneration based on due investments for a **model company**, tariff studies approved by the Regulator every 4 years. Since 1994, four tariff processes have been done. New tariff setting process will be in November 2018.



**Sub-transmission Regulation:** remuneration based on **committed investments** by the company previously approved by the Regulator in a 4 year period.

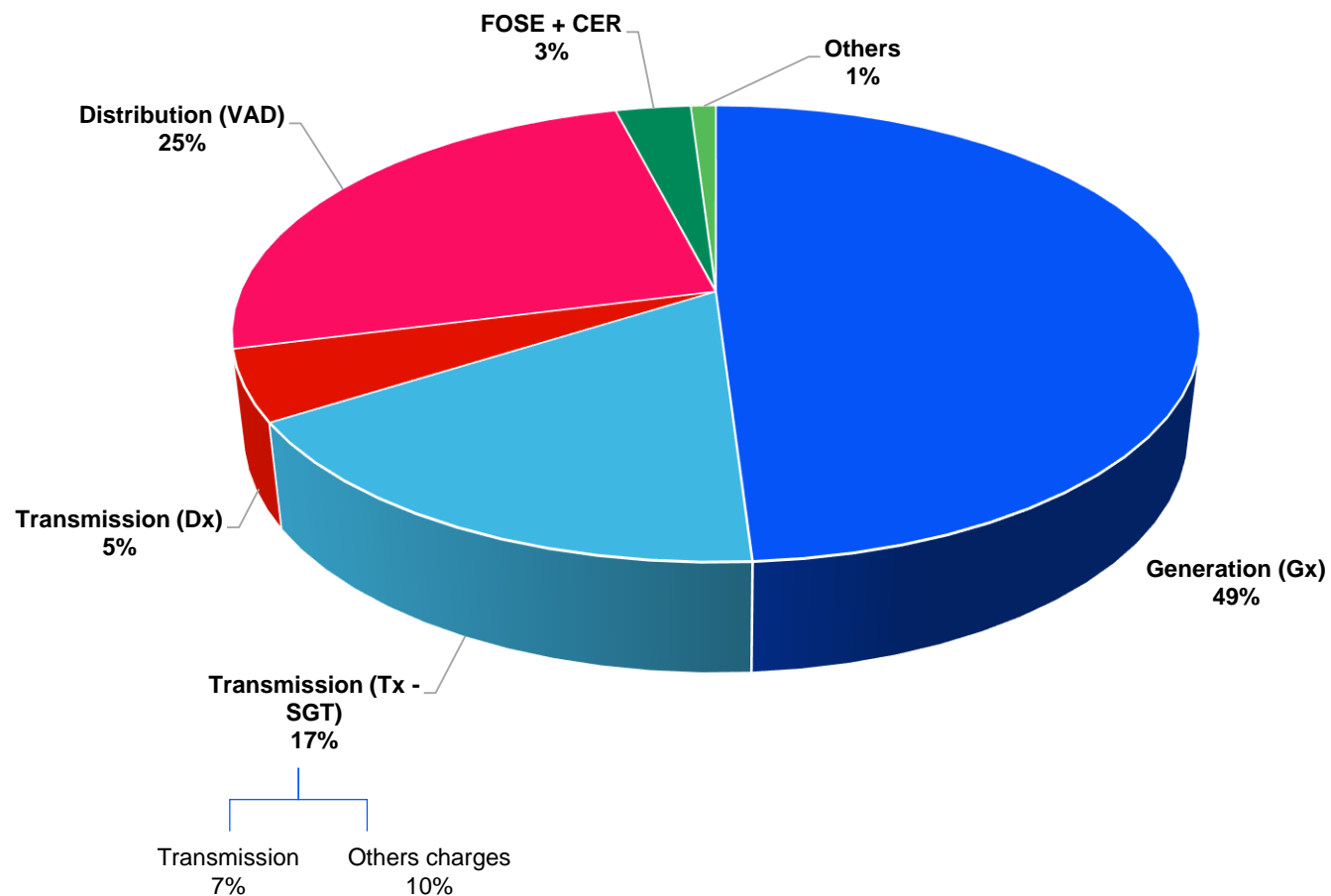
**Since 1994 the WACC rate used for the tariff process is 12%.**

- **Stable regulatory framework.**
- **Guaranteed profitability of investments in distribution and sub-transmission.**



# Tariff structure

Residential tariff (jun 2017): US\$ 175 /MWh for a 200 kWh/month customer



# Regulatory News

Distribution



*A recent regulatory update has been approved with new incentives for investments*

Issue	Regulatory modification - DL 1221
VAD	The new methodology for VAD definition is more focus on a ideal Dx Company that approaches better to real figures.
QUALITY	VAD remuneration incentives investments to improve quality of service based on annual targets. <b>The incentive should not exceed the 5% of the VAD-MT (4 MUSD estimated for Enel).</b>
TECHNOLOGY INNOVATION AND/OR ENERGY EFFICIENCY	An <b>additional incentive on VAD</b> will be recognized, up to 1% of revenues, for companies that implement efficient technologies. Investments projects must be previously approved by the Regulator. <b>(0,5 MUSD per year estimated).</b>
SMART METERING	Distributors will propose to Regulator a gradual plan for conventional metering replacement with smart metering systems. The new smart meters will be owned by distributors. Up to 8 years for its implementation.
ZONAS DE RESPONSABILIDAD TÉCNICA (ZRT)	MINEM will define for each distributor its ZRT. ZRT includes areas which are geographically defined in order to achieve electrification in the whole country. ZRT includes preferably the limit of the regions where the distributor operates.

# Regulatory News

Generation



## Recent regulations to improve market performance and to eliminate market imperfections

Issue	Regulatory modification
<b>Decreto de Urgencia N° 049-2008</b>	Spot market price <i>cap</i> will end by October 2017
<b>New regulation to facilitate spot market access to large users and distributors (MME)</b>	<ul style="list-style-type: none"><li>✓ Large customers can purchase energy to cover up to 10% of their demand</li><li>✓ Distributors can purchase up to 10% of their free market demand.</li><li>✓ Relevant requirements:<ul style="list-style-type: none"><li>○ To implement on time communication systems with market operator</li><li>○ Financial Guarantees</li><li>○ To perform control systems to be remote operated by market operator</li></ul></li><li>✓ COES should implement a system in order to ensure the fulfillment of market conditions.</li></ul>

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# Hot Topics



- **Gasoducto Sur Peruano (GSP) to be delayed:**

The GSP Project was scheduled to begin operations in 2021. The project has been cancelled due to non fulfillment of financial close by the JV. Peruvian government wants to restart a new competition process for the construction.

The estimated date for the adjudication is 1T 2018.

- **Generation over capacity**

Old government tenders to foster new generation capacity (hydro and thermal) are now coming into commercial operation, currently there is a high reserve margin which lowered free customers prices.

A progressive recovery of the price signal is expected, considering the delay of the GSP that will reduce the efficient reserve margin until its operation.

# Thank you

