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# Ministry of Energy and Mines

**Peru Investment  
Roadshow**  
September 20-21, 2018

**Francisco Ísmodes**  
Minister



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**Mining**



**Oil & Gas**



**Electricity**

# MINING SECTOR

Promote and develop mining activities with competitiveness and sustainability





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# Our vision to 2030

By 2030, the mining sector aspires to be:

- Competitive and formalized, modern and safe, with consolidated investments and with added value.
- Agile and have stable public policies, articulator of territorial development, with access to ownership of concessions.
- Coexistence with other productive activities, responsible for the environment and the social and cultural environment.
- All environmental liabilities properly remediated and revegetated mine closures.

# Peru: vast geological potential yet to be explored

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- A modern **Mining Cadastre** that is accessible and reliable
- At the national level, **mining concessions** take up 14% of the territory
- Only 1,3% of the current mining concessions is at the exploration stage (0,3%) and exploitation stage(1%)

Source: Statistical Bulletin as of December 2017 - MINEM.



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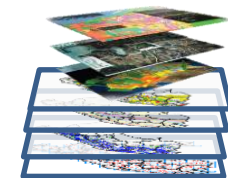
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# Geological and Mining Cadastre System



Technical institution affiliated to the Ministry of Energy and Mines, in charge of generating up-to-date, national geological information as well as granting mining concessions and administering the National Mining Cadastre.

- Viewable in over 180 countries across 5 continents.
- More than 600,000 daily interactions and 1,200 million accumulated.
- Multiple award winner:
  - ❖ Award for best practices in public management 2012
  - ❖ Latin American Award 2013 ESRI
  - ❖ Award for best practices in geo-information 2012
  - ❖ Latin American Award 2018 ESRI





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# New Department of Mining Promotion and Sustainability

## Goals:

- Propose and implement policies to promote investments in mining.
- Articulate with the sectors involved in granting permits for mining development with the intent of simplifying procedures and facilitating granting of permits.
- Conduct research to promote sustainable mining with high social and environmental standards.
- Disseminate mining statistics and investment opportunities in mineral exploration.





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# Mining & Energy Centre of Excellence “RIMAY”

## Goals:

- Share and promote best practices in mining and energy.
- Generate consensus for a more sustainable use of mining-energy resources (use of new technologies and remediation of environmental liabilities).
- Take advantage of lessons learnt in mining and energy operations.

# RIMAY







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# Mining and Energy Management and Information Committee

**Aim:** strengthen the presence of National Government at local level in order to:

- Act proactively in the processing of complaints and environmental and social concerns.
- Ensure compliance of commitments assumed by the Government.
- Exercise more vigilance and be more active in environmental care and in the remediation of environmental liabilities.
- Implement more effective and measurable social projects which benefit communities.
- Guarantee access to energy for all Peruvians.

## Remediation of environmental liabilities

- Propose new laws that encourage the remediation of environmental liabilities (“Works for Taxes” mechanism)



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# Projects yet to be awarded

## ❖ COLCA

- Copper porphyry project.
- Zone of influence: Districts of Cotabambas and Tambobamba, Apurimac region
- Current status: Held by ProInversión, in study.

## ❖ JALAOCA

- Two identified areas:
  - Pucasalla:** Copper – gold project
  - Llamoja:** Copper – molybdenum project
- Zone of influence: Provinces of Aymaraes and Antabamba, Apurimac region
- Current status: Estimated award date November 2018





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# In 2017

❖ Mining Investment grew **17.8%** compared to 2016 (US\$ 3,928 million)



Canadian investments comprised **US\$ 772.3** million<sup>1</sup>

❖ Exploration mining investments grew **28.5%**<sup>1</sup> (US\$ 484 million)



**7%**<sup>2</sup> of the world's exploration budget

❖ Peru produced<sup>3</sup>:



2.45 MM TMF of copper  
(2nd world copper producer)



4.86 MM ounces of gold  
(6th world gold producer)

Source:

1/ Mining Yearbook- MINEM.

2/ S&P Global Market Intelligence (March 2018)

3/ Monthly Statistical Declaration. Date: December 2017.



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# Peru: Global player

## MINERAL RESOURCES

| PRODUCT    | LATIN-AMERICA | WORLD |
|------------|---------------|-------|
| Silver     | ①             | ①     |
| Gold       | ②             | 7     |
| Copper     | ②             | 3     |
| Zinc       | ①             | 3     |
| Lead       | ①             | 4     |
| Tin        | 3             | 11    |
| Molybdenum | ①             | 3     |

## MINING PRODUCTION

| LATIN-AMERICA | WORLD |
|---------------|-------|
| ②             | ②     |
| ①             | 6     |
| ②             | ②     |
| ①             | ②     |
| ①             | 4     |
| 3             | 6     |
| ②             | 4     |

Source: US Geological Survey, "Mineral Commodity Summaries 2018".



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Increased competitiveness  
of Peruvian exports

**As of 2017, Canada is...**

- ✓ **7th most important market** for Peruvian exports
- ✓ **Represents 3% of the total value of exports**  
(US \$ 917 million)
- ✓ **Exported products: gold, lead, copper, zinc and tin**

**While Peru is...**

- ✓ **Canada's 2nd largest bilateral trade partner** in South and Central America
- ✓ **3rd most important destination for Canadian investments** in the region

# Trade between Canada - Peru

Free Trade Agreement Canada - Peru



CPTPP: Comprehensive and Progressive  
Agreement for Trans- Pacific Partnership



# Canadian mining investment in Peru

## Current operations

| Investor                            | Operator                        | Metal                               |
|-------------------------------------|---------------------------------|-------------------------------------|
| Teck Resources Limited <sup>1</sup> | Compañía Minera Antamina S.A.   | Copper, zinc, silver and molybdenum |
| Barrick Gold Corp.                  | Minera Barrick Misquichilca S.A | Gold and silver                     |
| Hudbay Peru S.A.C                   | Hudbay Peru S.A.C               | Gold, silver, molybdenum and copper |
| Tahoe Resources Inc,                | Shahuindo S.A.C.                | Gold and silver                     |
| Tahoe Resources Inc,                | La Arena S.A.                   | Gold and silver                     |

<sup>1</sup>22.5% of the shares of Compañía Minera Antamina S.A.



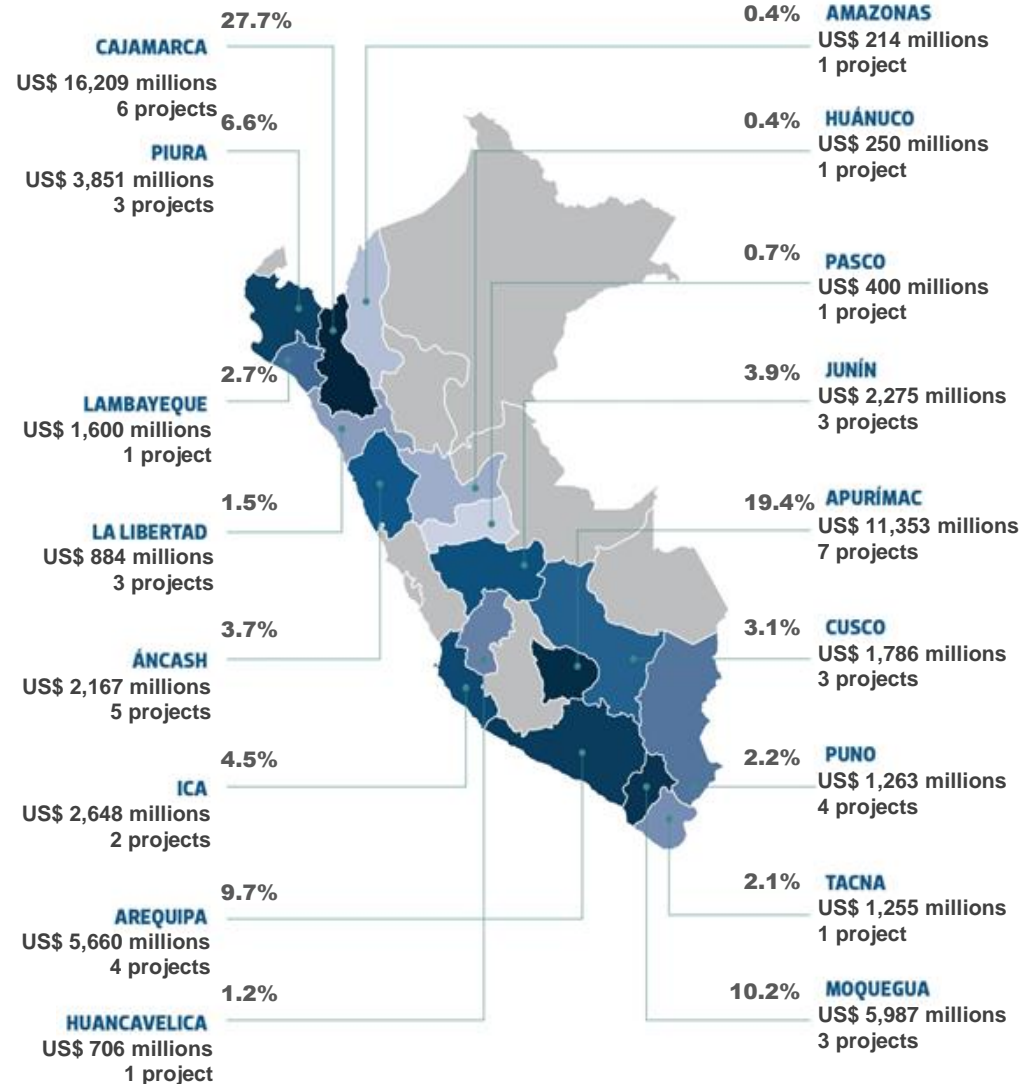
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# Mining projects to 2021


Goal: "Make feasible no less than **US\$ 21 billion** in investment by 2021"

- **US\$ 14 billion** have already been committed.
- There are currently **49 projects in our portfolio** which represent an investment amount of **US\$ 58 billion**.



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# US\$ 14,000 million in Committed projects

|                       | Enterprise                     | Country   | Phase                  | Investment  |
|-----------------------|--------------------------------|---|------------------------|-------------|
| Marcona Expansion     | Shougang Hierro Peru           |    | Completed construction | US \$ 1 100 |
| Shahuindo Expansion   | Shahuindo SAC                  |    | Completed construction | US \$ 109   |
| Quellaveco            | Angloamerican                  |    | Under construction     | US \$ 5 300 |
| Mina Justa            | Marcobre SAC                   |    | Under construction     | US \$ 1 600 |
| Toromocho Expansion   | Minera Chinalco                |    | Under construction     | US \$ 1 355 |
| Toquepala Expansion   | Southern Peru Copper Corp      |    | Under construction     | US \$ 1 255 |
| Quecher Main          | Minsur S.A.                    |    | Under construction     | US \$ 300   |
| Relaves B2 San Rafael | Minera Yanacocha SRL           |    | Under construction     | US \$ 200   |
| Ariana                | Ariana Operaciones Mineras SAC |  | Under construction     | US \$ 125   |
| Corani                | Bear Creek Mining S.A.C.       |  | Detail engineering     | US \$ 585   |
| Pampa de Pongo        | Jinzhao Mining Perú S.A.       |  | Detail engineering     | US \$ 2 500 |
| Pachapaqui Expansion  | ICM Pachapaqui S.A.C.          |  | Feasibility            | US \$ 117   |





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# Additional projects to reach 2021 goal

|              | Company                    | Country  | Phase          | Investment  |
|--------------|----------------------------|--|----------------|-------------|
| Zafranal     | Cia. Minera Zafranal       |    | Feasibility    | US \$ 1 160 |
| Cañariaco    | Cañariaco Copper Perú S.A. |    | Feasibility    | US \$ 1 600 |
| El Galeno    | Lumina Copper SAC          |    | Feasibility    | US \$ 3 500 |
| Tia María    | Southern Peru Copper Corp  |    | Feasibility    | US \$ 1 400 |
| Haqira       | Minera Antares Peru SAC    |    | Prefeasibility | US \$ 2 824 |
| Michiquillay | Southern Peru Copper Corp  |   | Prefeasibility | US \$ 2 500 |
| Cotabambas   | Panoro Apurímac S.A.       |  | Prefeasibility | US \$ 1 486 |

# Canadian mining investment in Peru

## Portfolio of exploration projects

In our Portfolio of Mining Exploration Projects, 12 Canadian investment projects were selected. The following table lists only those with an investment amount greater than US\$ 4 million.

| Investor                                    | Operator                        | Exploration Project          | Investment amount (US\$ Millions) |
|---|---------------------------------|------------------------------|-----------------------------------|
| Panoro Minerals Ltd / Cordillera Copper Ltd | Panoro Apurímac S.A.            | Cotabambas-Ccalla (2°MEIAsd) | 35.0                              |
| Tahoe Resources Inc .                       | Shahuindo S.A.C.                | Shahuindo                    | 13.2                              |
| First Quantum Minerals Ltd.                 | Minera Antares Perú S.A.C.      | Cristo de los Andes 1        | 5.2                               |
| Chakana Resources                           | Chakana Resources S.A.C.        | Soledad                      | 4.3                               |
| Pan American Silver Corp                    | Pan American Silver Huarón S.A. | San Pedro                    | 4.0                               |
| <b>TOTAL</b>                                |                                 |                              | <b>61.5</b>                       |

A photograph of an oil and gas refinery at sunset. The sky is filled with soft, pink and orange clouds. In the foreground, there are several large, white, cylindrical storage tanks. In the background, there are tall, complex distillation columns with multiple levels of scaffolding and ladders. The overall scene is industrial and captures the beauty of the refinery during the golden hour.

# OIL & GAS SECTOR

Promote and develop activities in oil & gas  
with competitiveness and sustainability



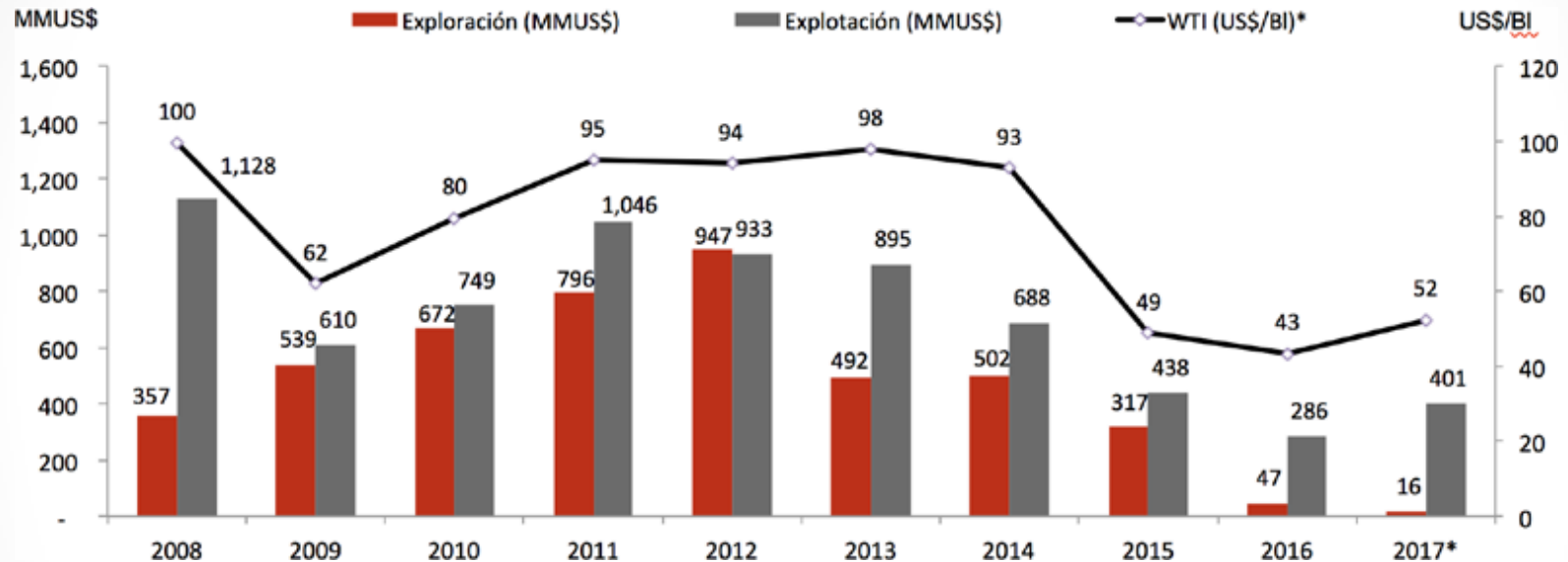
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# Advances in Oil & Gas sector

- New Vice Ministry of Oil & Gas implemented in 2Q 2018
- New Hydrocarbons law intended to promote upstream investment currently being discussed by Congress
- Public participation regulations have been released for comments
- New regulations regarding remediation of environmental liabilities have been released for comments
- Regulations for enhancing the massification of natural gas connections are being prepared
- Bid for the distribution of natural gas in 7 regions was called on July 2018 and should be awarded 4Q 2018
- In 2Q 2018 the consultant who is making a technical and economical assessment of the best alternative for the transportation of natural gas to the southern regions of Peru was hired

# Oil investment evolution



(\*) Source: I PERUPETRO December 2017, / Price WTI: EIA, Diciembre 2017.

## In 2017:

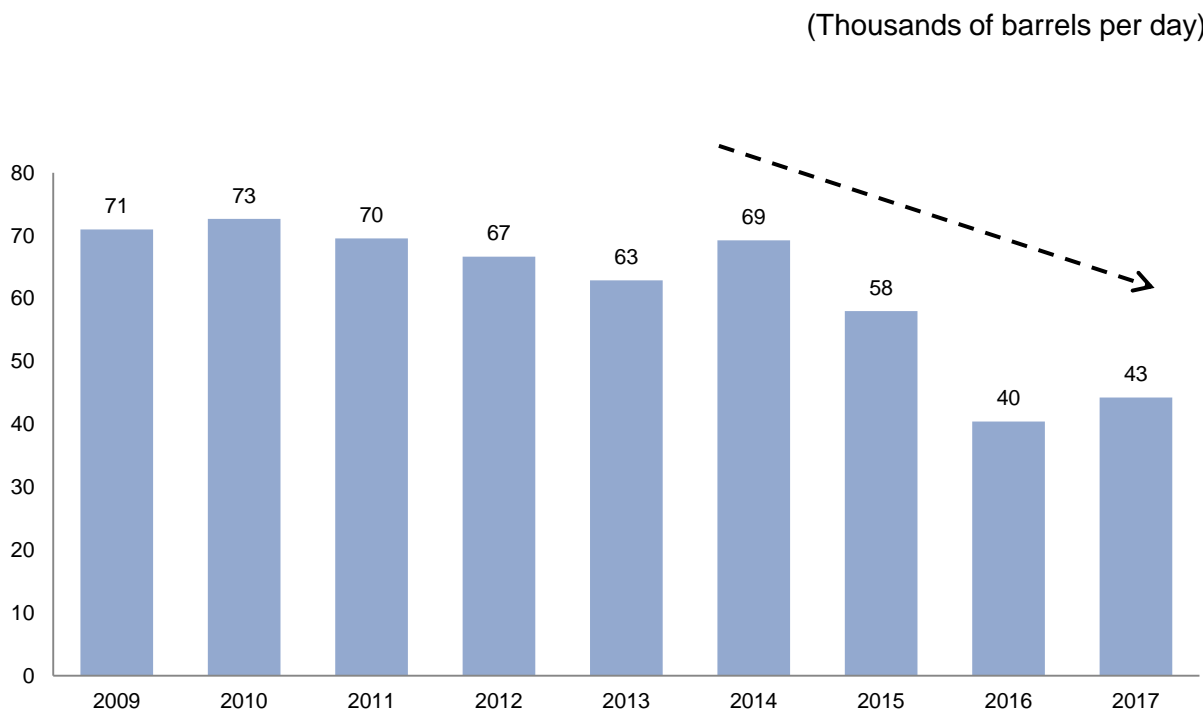
- Investment in exploration fell by 98% compared to 2012 (peak)
- Investment in exploitation fell by 65% compared to 2008 (peak)



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# Oil production evolution



Source: PERUPETRO.



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# Proposal for a new Hydrocarbons Law

## Goals

- Increase investment in exploration and production activities (US\$5,000 millions expected by 2025)
- Increase oil and gas production and reserves (100,000 BPD expected by 2025)
- Promote exploration activities in nonexplored and underexplored areas
- 20-year extension of Oil & Gas contracts subject to new investment commitments and compliance of environmental regulations
- Transparency (anticorruption clause included in Oil & Gas contracts)
- Oil & Gas contracts may be terminated in the event of a breach of environmental obligations that cause serious damage to human health or to the environment
- PeruPetro's new functions (in addition to being renamed as Agencia Peruana de Hidrocarburos – the Peruvian Hydrocarbons Agency)



# ELECTRICITY SECTOR

Promote and develop electrical activities  
with competitiveness and sustainability





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# Advances in electricity sector

- Modernization and ordering of the regulatory framework for electricity generation, prices and renewable energies
- Promotion of electric and hybrid vehicles to contribute to the care of the environment, avoiding the emission of greenhouse gases
- Regional electricity interconnection with neighboring countries (Ecuador, Chile and Bolivia)
- World Sun Expo and Meet Sun-World (International Solar Alliance - ISA) – global leader in solar energy – will be held in Lima (June 2019\*)



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## ❖ Rural Electrification Projects

“Achieve universal access to electricity,  
clean water, internet and telephony”

**Benefit more than 420,000\*  
homes (covering 18.5% gap)**

### Core Actions

- **1st Massive Program:** 65,000 photovoltaic panels installed in 160,000 homes
- **2nd Massive Program (100 ,000 homes)**
  - In evaluation for its definition and next tender in II semester 2019.
  - Incorporation of new technologies in integral projects.



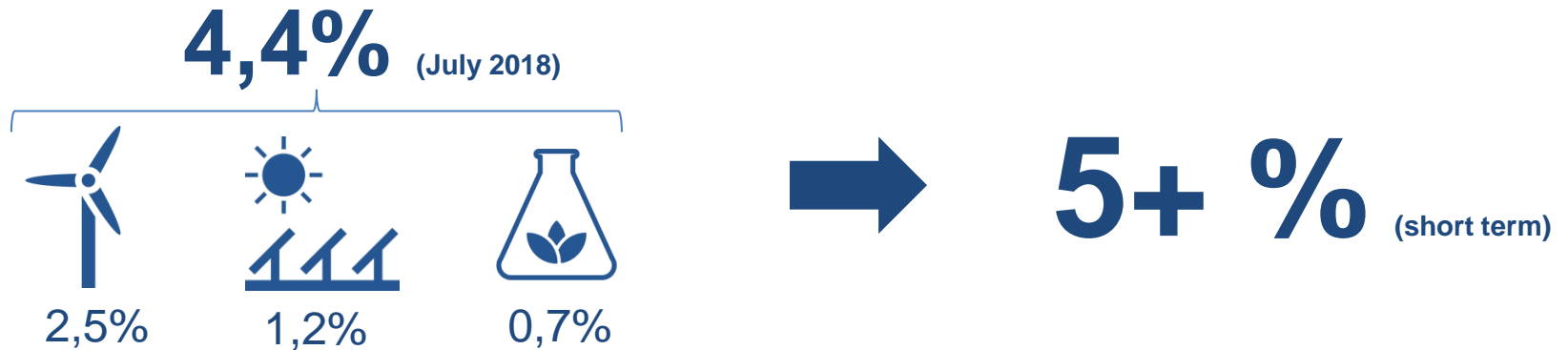
## ❖ Transmission Lines Projects

| PROJECTS IN CHARGE OF PROINVERSION                                    | Investment<br>(US\$ MM) |
|---|-------------------------|
| Transmission Plan   |                         |
| 1. Nueva Planicie Substation 500/220 kV                               | 24,1                    |
| 2. SVC Planicie   | 24,8                    |
| 3. Repowering T.L. Carabaylo – Chimbote – Trujillo 500 kV             | 32,6                    |
| 4. SVC Trujillo   | 31,8                    |
| 5. Carhuaquero Substation 220 kV                                      | 9,5                     |
| 6. 220 kV Pariñas - Nueva Tumbes Link, Substation and associated      | 53,5                    |
| 7. 220 kV Tingo María – Aguaytía Link, Substation , Lines and         | 20,5                    |
| 8. Nazca Nueva Substation 200 / 60 kV                                 | 17,7                    |
| 9. Chincha Nueva Substation 200 / 60 Kv                               | 20,1                    |
| 10. 500 kV la Niña – Piura Link, Substation, Lines and associated     | 132,1                   |
| 11. 500 kV Piura Nueva – Frontera T.L. (Interconnection with Ecuador) | 167,0                   |
| <b>Total</b>  | <b>533,7</b>            |



## ❖ Renewable Energy Projects

- Renewable energies as a % of national energy matrix:



- Recently inaugurated renewable energy plants:

- Wayra Wind Power Plant, 126 MW. May 20, 2018
- Intipampa Solar Power Plant, 44MW. March 31, 2018
- Doña Catalina Power plant with biogas, 2,6 MW. August 29, 2018

# Thank you



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