



EL
GOBIERNO
DE TODOS



MINISTRY
OF HYDROCARBONS



MINISTRY
OF ELECTRICITY AND
RENEWABLE ENERGY

POLICIES IN THE ENERGY SECTOR

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MINISTER





ELECTRIC SECTOR



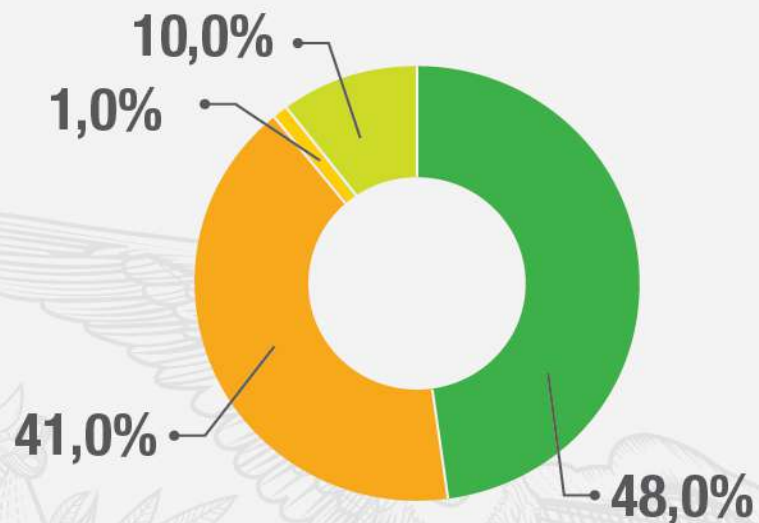
■ Government Policies in the Energy and non-Renewable Resources Sector



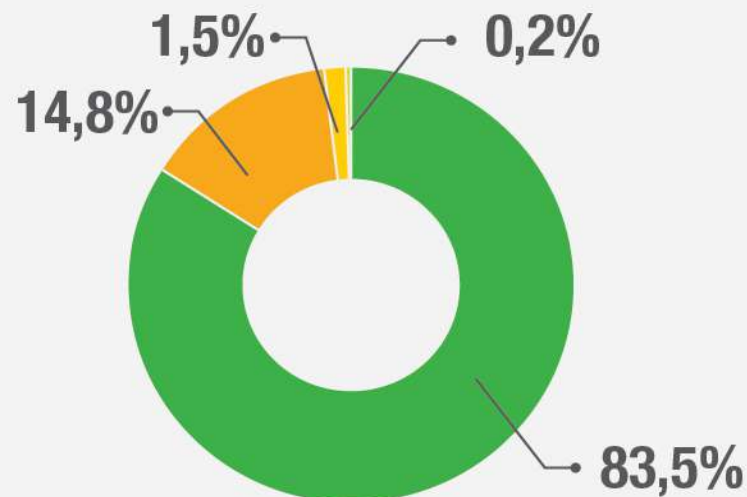
- ✓ **Attract and promote new investments** that contribute to boost the national economy.
- ✓ Work with the private sector to take **advantage of synergies**.
- ✓ Apply **new contractual models** such as Production Sharing Contract and Concessions.
- ✓ Promote **transparent negotiations**, safeguarding the interest of the Ecuadorian State.

■ Clean electric generation matrix

Net energy 2006



Net energy 2017



Hydroelectric



Termic



Non conventional
energy

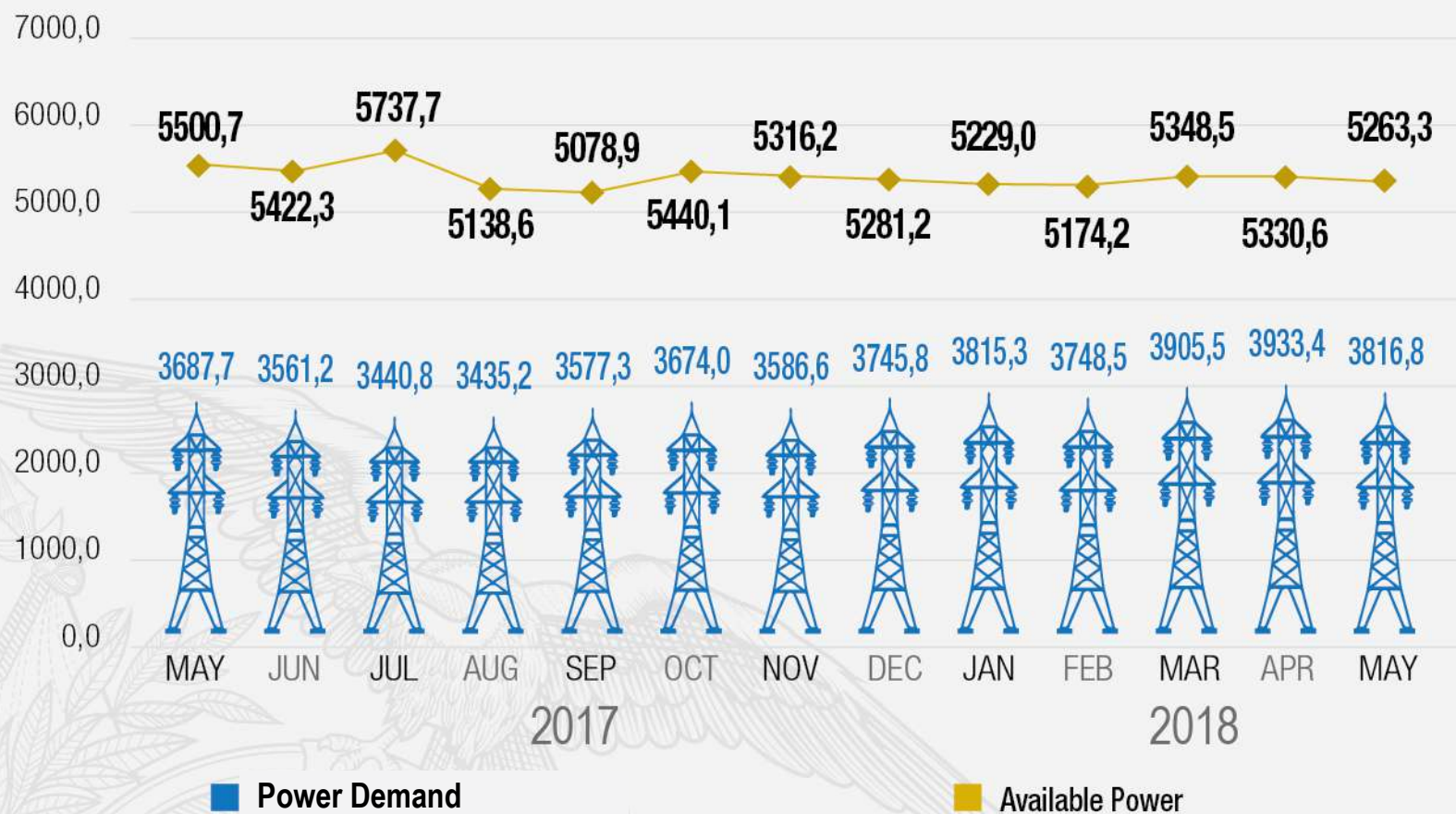


Interconnection



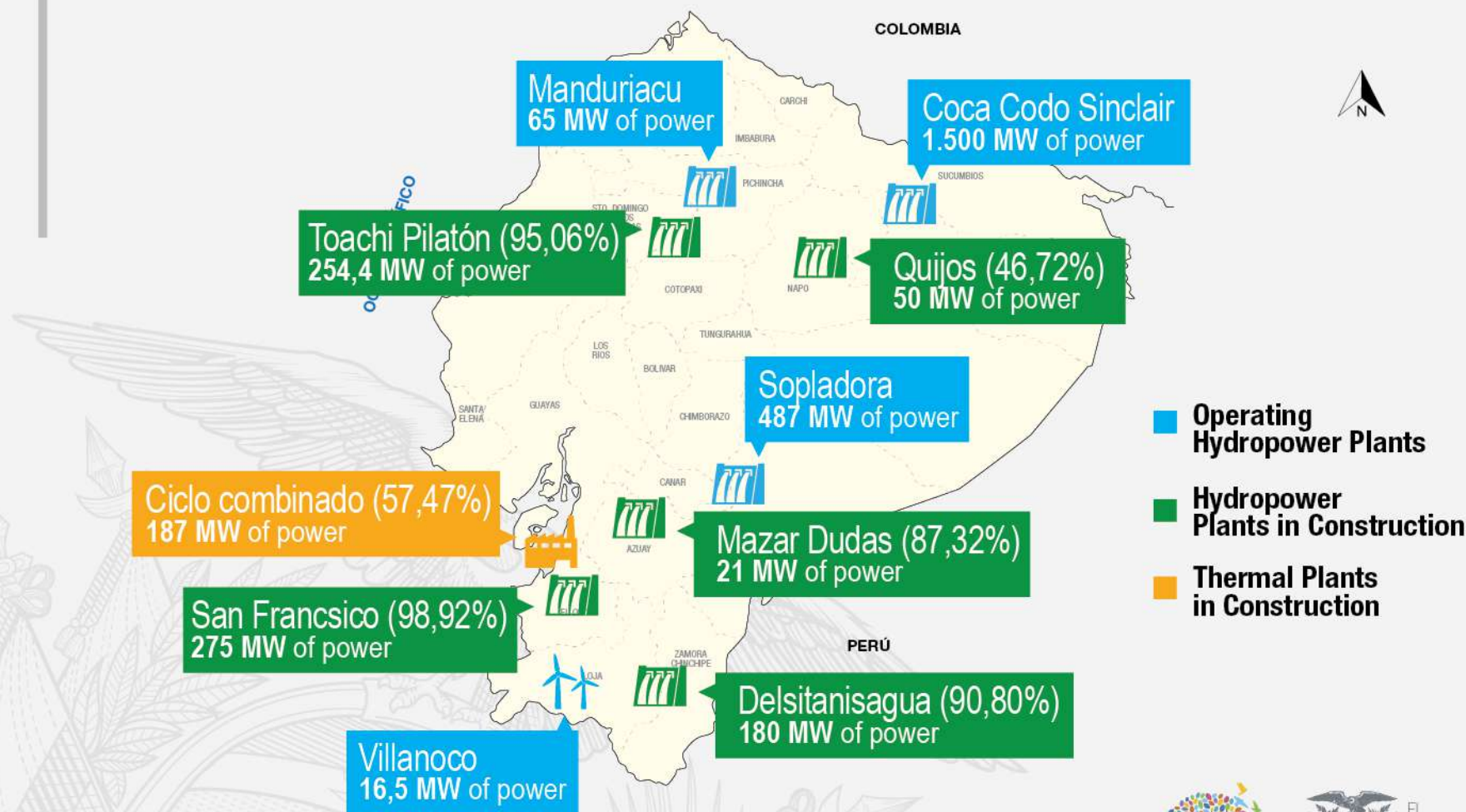
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■ Power Demand and available Generation (MW)

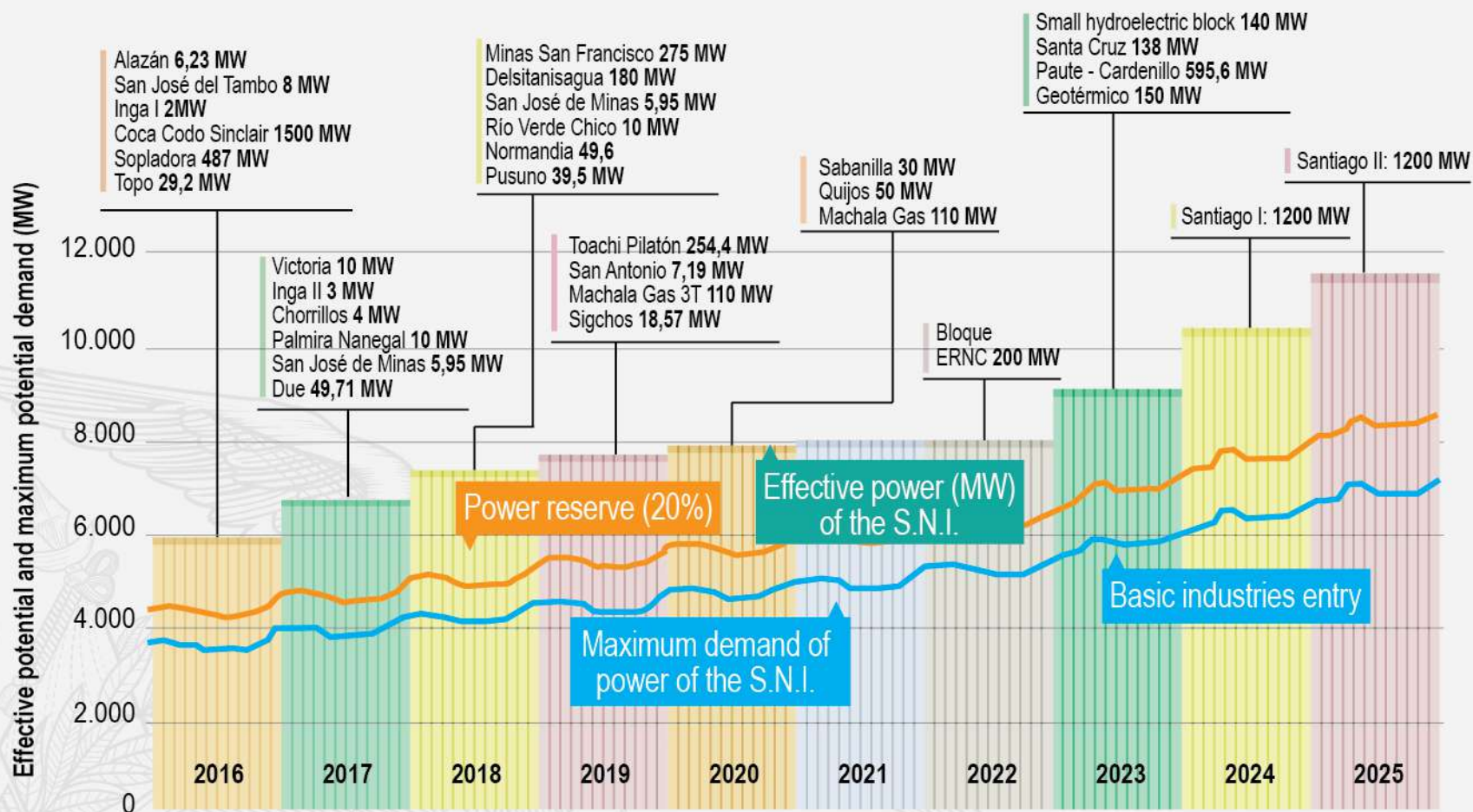


Source: CENACE, May 2018

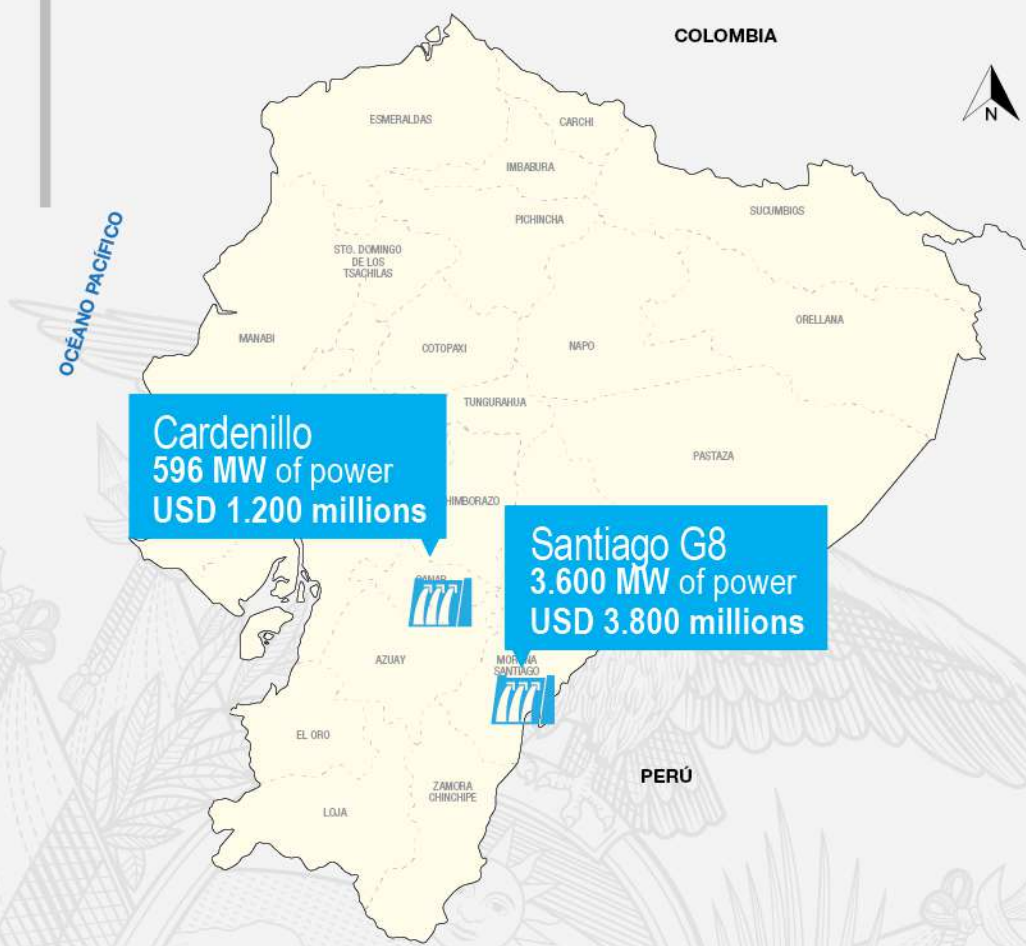
New generation projects



Generation expansion (PME 2016 - 2025)



■ New planned investments in generation



✓ Unconventional Renewable Energy Block:

200 MW - USD 440 million

✓ Small Hydroelectric Plants Block:

140 MW - USD 280 million

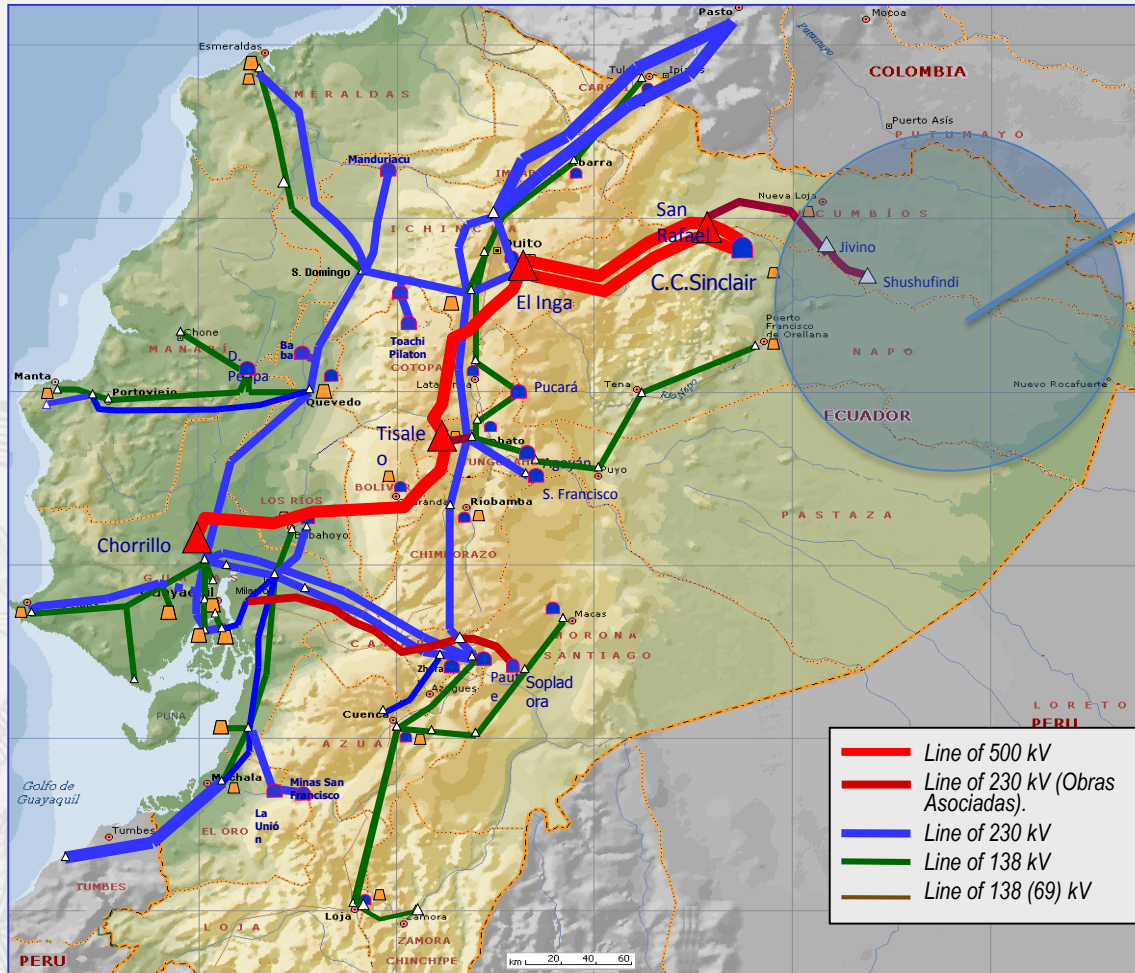
✓ Geothermal Block:

150 MW - USD 600 million

4 700 MW
of capacity to be
installed(2018 – 2025)

USD 6 400 millones
In new investments

Ecuador has a strong transmission system



Connection to the oil electric system

The connection to the oil system will allow:

300 MW

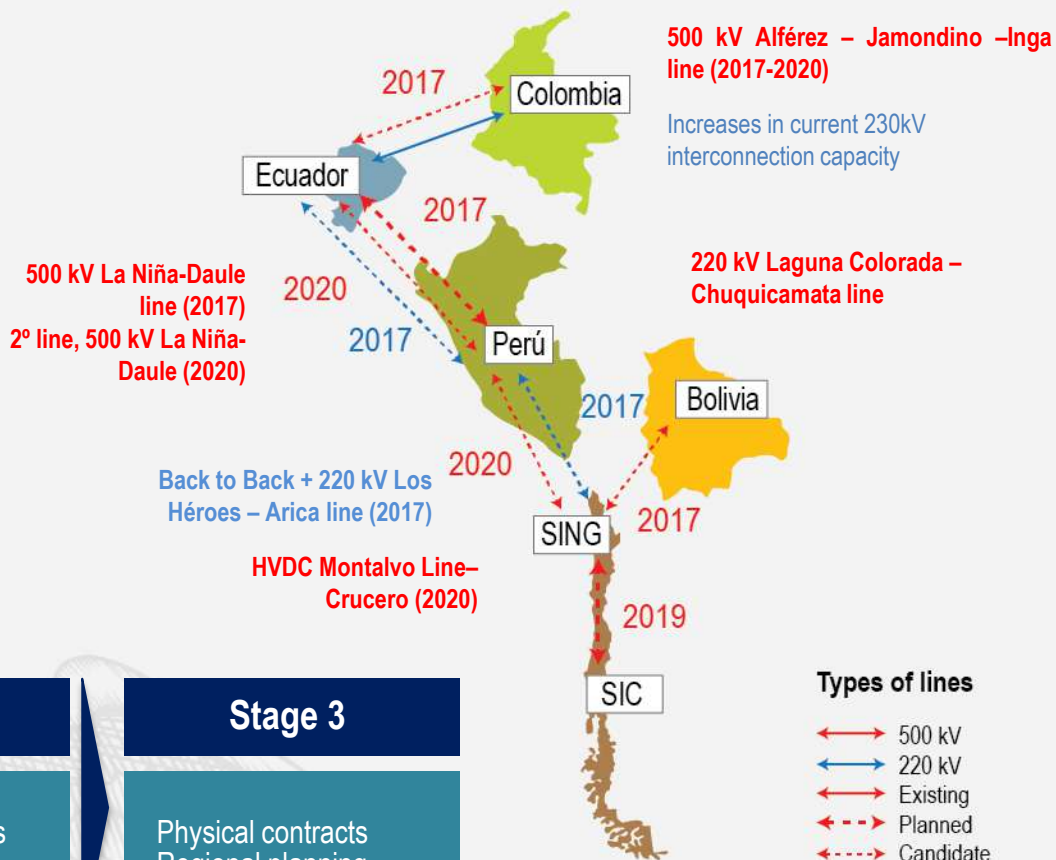
Thermal generation displaced

USD 350 millones

Annual fuel savings



Regional integration framework



■ Galápagos: zero fossil fuel



- ✓ Real and effective commitment to the **sustainable development and conservation** of the Galapagos Islands.
- ✓ **Eradicate** the use of **petroleum derived fuels** from the islands.
- ✓ **BALTRA**
 - Wind power: **2,25 MW**
 - Photovoltaic: **65 kWp**
 - Storage: **1 MW – 4,27 MWh**
 - Interconnection cable: **50 km, 34,5 kV**
 - Santa Cruz Photovoltaic: **1,5 MWp**
- ✓ **HYBRID ISABELA**
 - Dual motors (pinion): **1,62 MW**
 - Photovoltaic: **0,92 MWp**
 - Storage: **620 kW - 305 kWh**
- ✓ **FLOREANA**
 - Dual motors (pinion): **138 kW**
 - Photovoltaic: **21 kWp**
- ✓ **SAN CRISTOBAL**
 - Wind power: **2,4 MW**
 - To be implemented: **1 MWp photovoltaic + 1,4 MWh of storage**

■ Private sector participation framework in the electric sector

Master Plan of Electrification
Planning the expansion considering
technical and economic criteria

Projects or generation blocks (hydro, thermal,
Non-Conventional Renewable Energy)



Authorizes

MEER

Public
Selection
Process

- It is awarded to the offer that, fulfilling the technical requirements, presents the lowest price.
- Winner signs long-term contract with all distributors

Concessions

Public or mixed
companies

Private companies and / or
foreign State companies

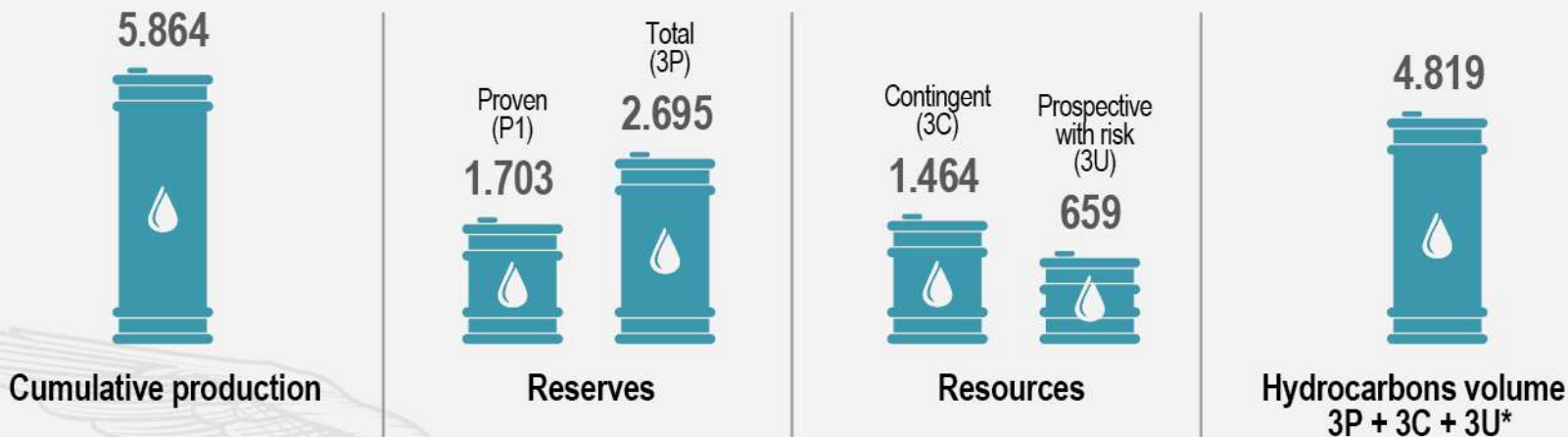


HYDROCARBONS SECTOR



■ Ecuadors Hydrocarbons Potential

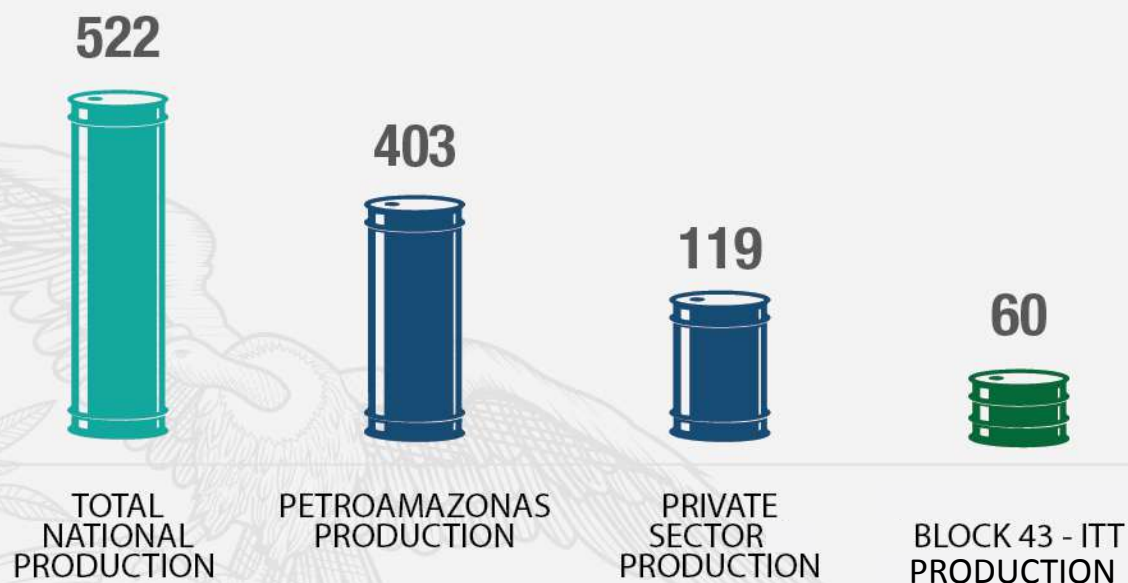
Millions of barrels



8 billion barrels of recoverable reserves, according to British Petroleum report (2016)

■ Oil National Production (May 2018)

Thousand Barrels per Day

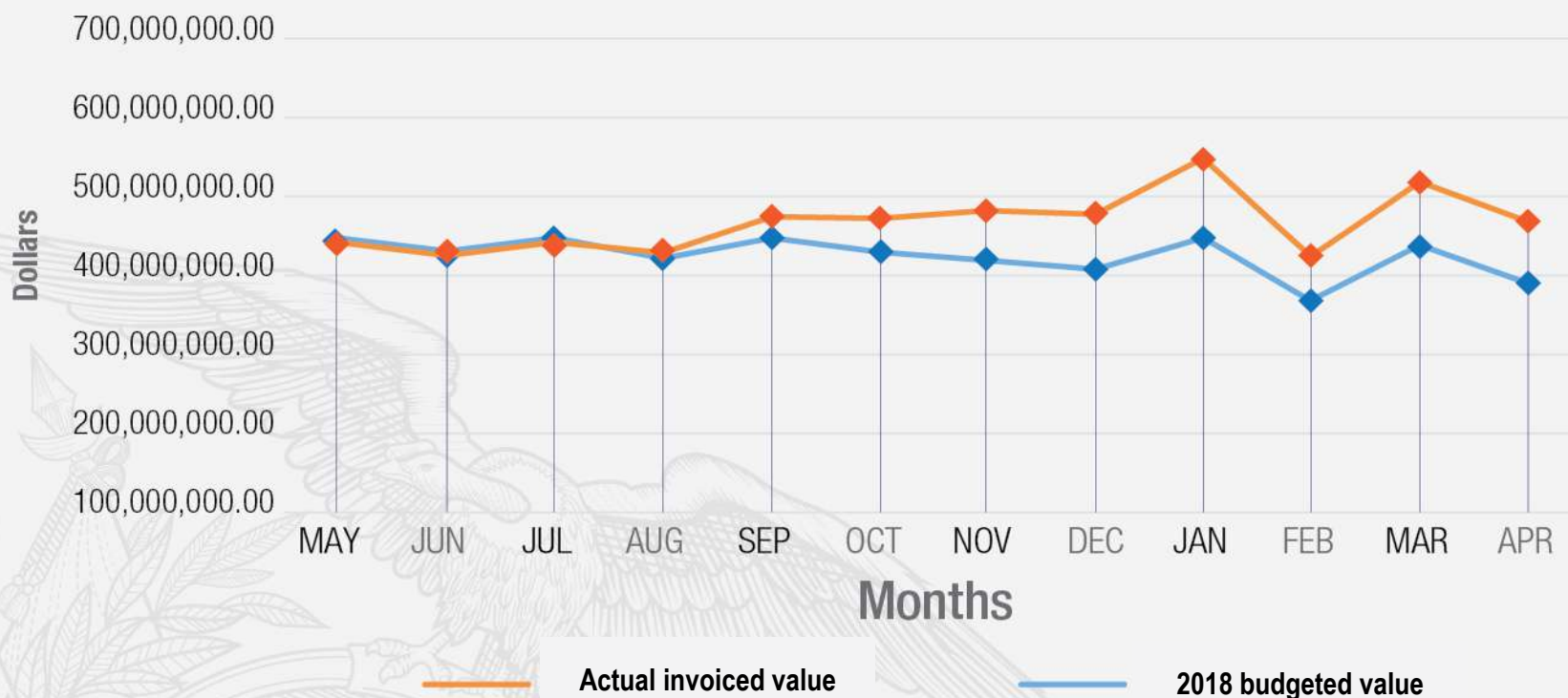


Source: Regulation and control hydrocarbons agency

Exports

MAY 2017 - APRIL 2018

Actual invoiced value vs. 2018 budgeted value



Additional income due to actual price vs. 2018 budget (May 2017 - May 2018)

USD 968.655.283,14

Oil & Gas Fields 2018



- ✓ Petroamazonas EP received a total of **8 technical-economic proposals** from private companies for the development of four Oil & Gas fields, located in the provinces of Sucumbíos Orellana and Napo.
- ✓ Investment: **USD 750 million.**
- ✓ Variable rates **indexed to the WTI.**
- ✓ According to the received proposals, the rates fluctuate **between 12.64 and 26.18 \$/B.**
- ✓ Contracts are under the modality of "**Provision of specific services with financing**".

■ Investment Projects by Sector (MM\$)

Concept	2018	2019	2020	2021	TOTAL
Electric Sector	43	680	1.271	1.614	3.608
Cardenillo	43	302	268	288	901
Santiago	-	378	837	1.023	2.238
Non-Conventional Renewable Energy Block*	-	-	110	220	330
Small Hydroelectric Plants Block*	-	-	56	84	140
Hydrocarbons Sector	1.723	4.473	3.029	4.080	13.305
Exploitation of Block 43 – ITT	480	461	351	356	1.649
I Round Campos Menores	194	343	159	1	696
Oil & Gas Fields 2018	227	230	114	184	755
Intracampos		5	112	1.001	1.118
Surorienté	0	0	160	480	640
Refinery of Manabí	814	3.254	2.034	2.034	8.135
Maritime Terminal Monteverde	8	180	99	25	311
Mining Sector	1.048	1.126	1.056	704	3.934
Strategic Projects	798	685	369	51	1.904
2 nd Generation Projects	77	131	152	-	360
Other projects of Large Mining	58	108	243	353	761
Concessions for Auction or Auction	105	191	282	290	869
Small Mining	10	10	10	10	40

- Based on electrification plan, estimated investment

Sectorial council presentation March 2018