

# Experience of Colombia



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3rd PCCB Capacity-  
building Hub  
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# Where is Colombia?



Source: WordAtlas.com

In the **top 10** of the countries with the most **water**: Brazil (1st), **Colombia (3rd)** and Peru (8th)

**Area:** 1.141.749 km<sup>2</sup>

**Political division:** 32 departments and 1.122 municipalities

**Capital city:** Bogotá

**Coast:** Atlantic ocean (Caribbean sea), Pacific ocean

**Borders:** Venezuela (2,050km), Brazil (1,643 km), Peru (1,496 km), Ecuador (590 km), and Panama (225 km).

**Longest river:** Magdalena River 1,528 km (949 mi)

# Colombian climate will vary depending on the altitudes of the different regions

Some of the products that grown in each altitude, are:

## Glacial:

Very few living species due to its severe weather.



## Paramo:

Beans, quinoa, corn, and **potato**

## Cold:

Carrot, blackberry, curuba, and **onion**



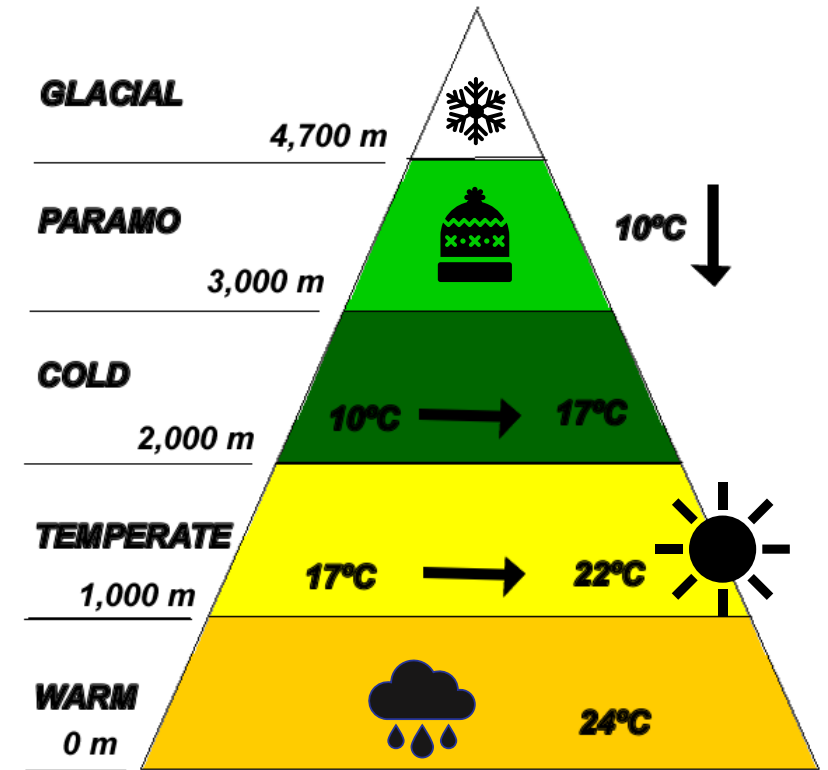
## Temperate:

**Coffee**, cereals, avocado, and flowers



## Warm:

Cocoa, cotton, pineapple, and **banana**



Source: Wikipedia.com

# Demography and economy of Colombia

**Population:** 49,4 million (2019)

**Urban Population:** 75,8% 

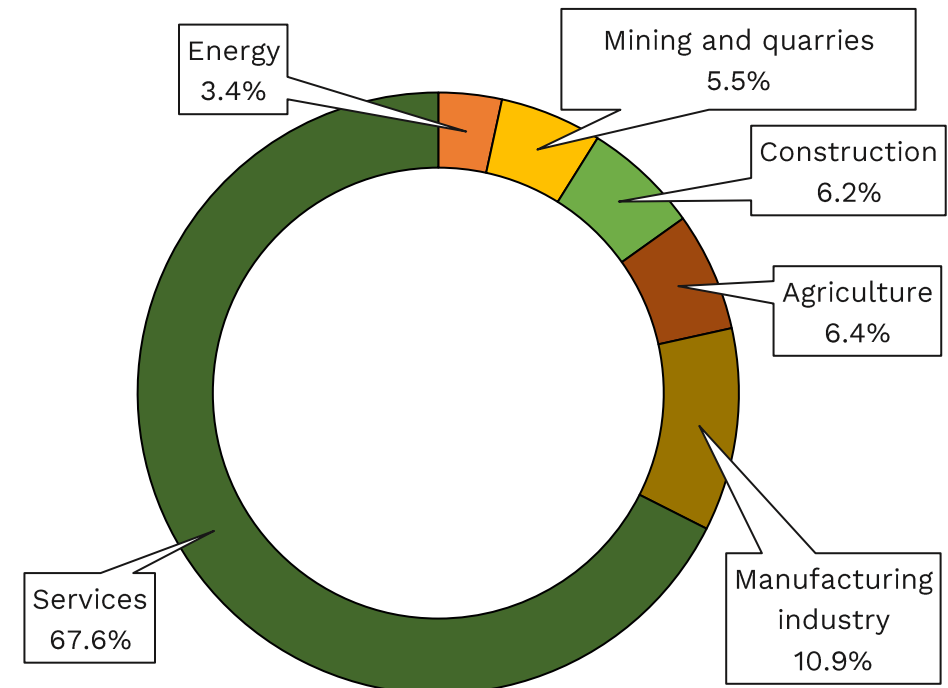
**Rural Population:** 24,2% 

**Major cities:** Bogotá (capital)  
8.262 million; Medellín 3.497  
million; Cali 2.352 million

**GDP:** USD 323,4 billion (2019)\*

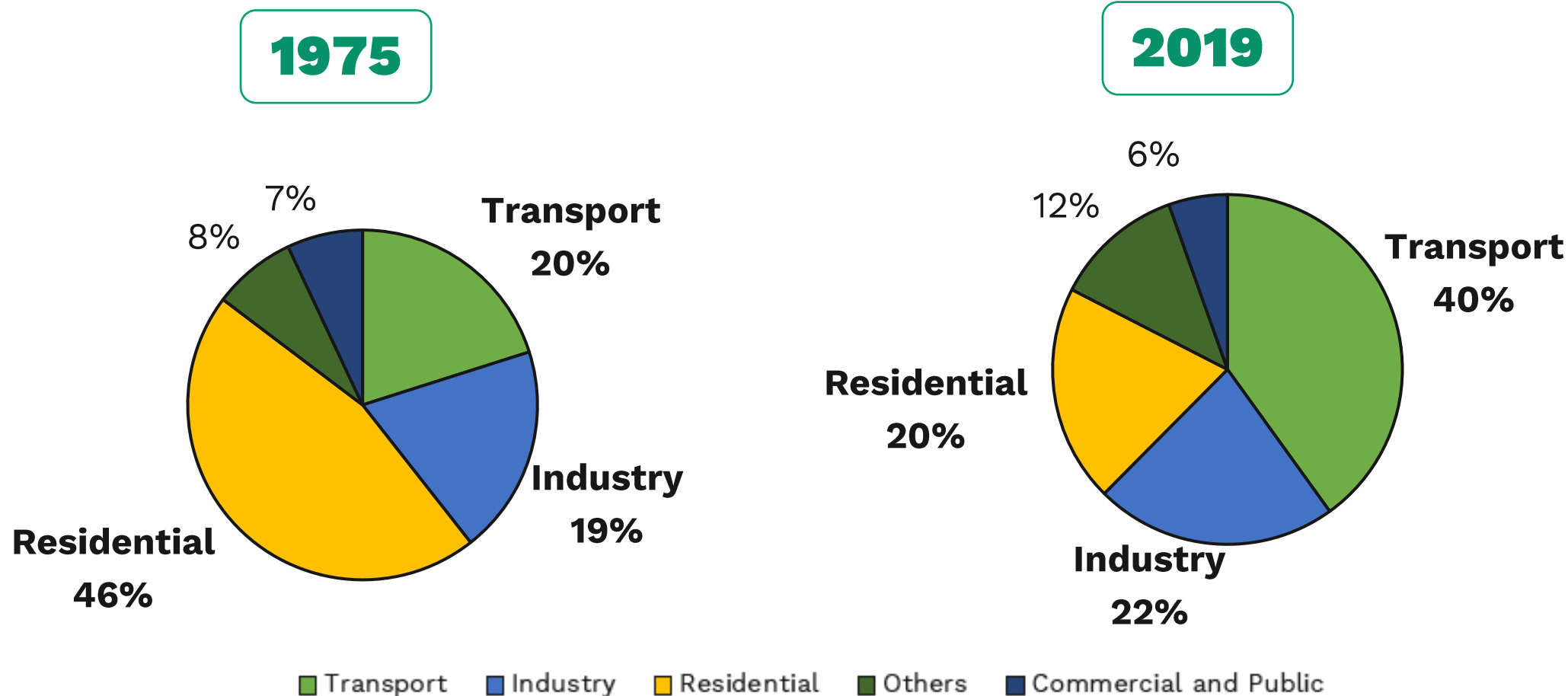
**GDP per capita:** USD 6.547 (2019)\*

% Share GDP by sector (2019)



Between 1975 and 2019, energy consumption has increased to an annual average growth rate of 1.81%

Sector-wise change in final energy consumption share during 1975-2019 (%)

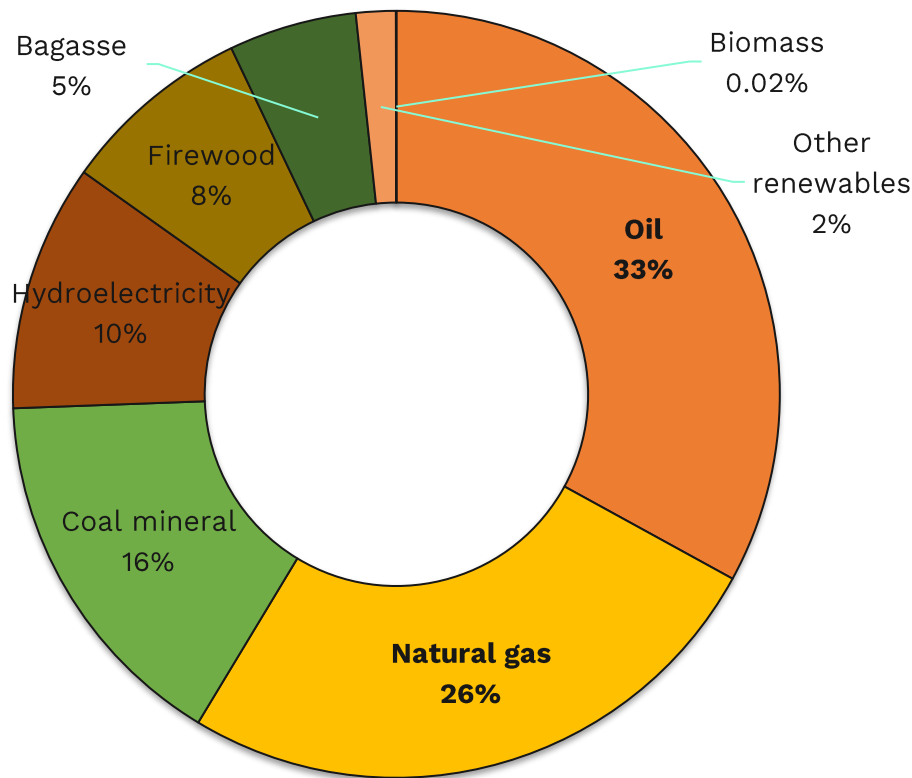


Source: Estudio Nacional de Energía

Source: BECO, UPME

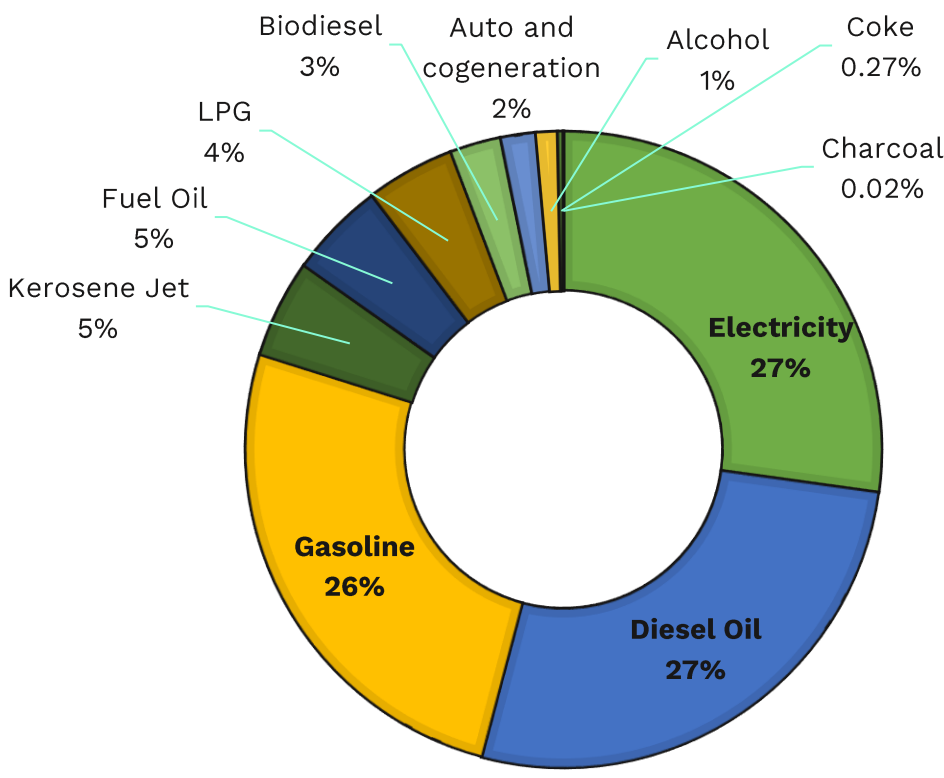
The share of diesel in the energy matrix has increased more than fivefold, as a result of the increase in its demand in the transport sector

Primary Energy Offer 2019 (%)



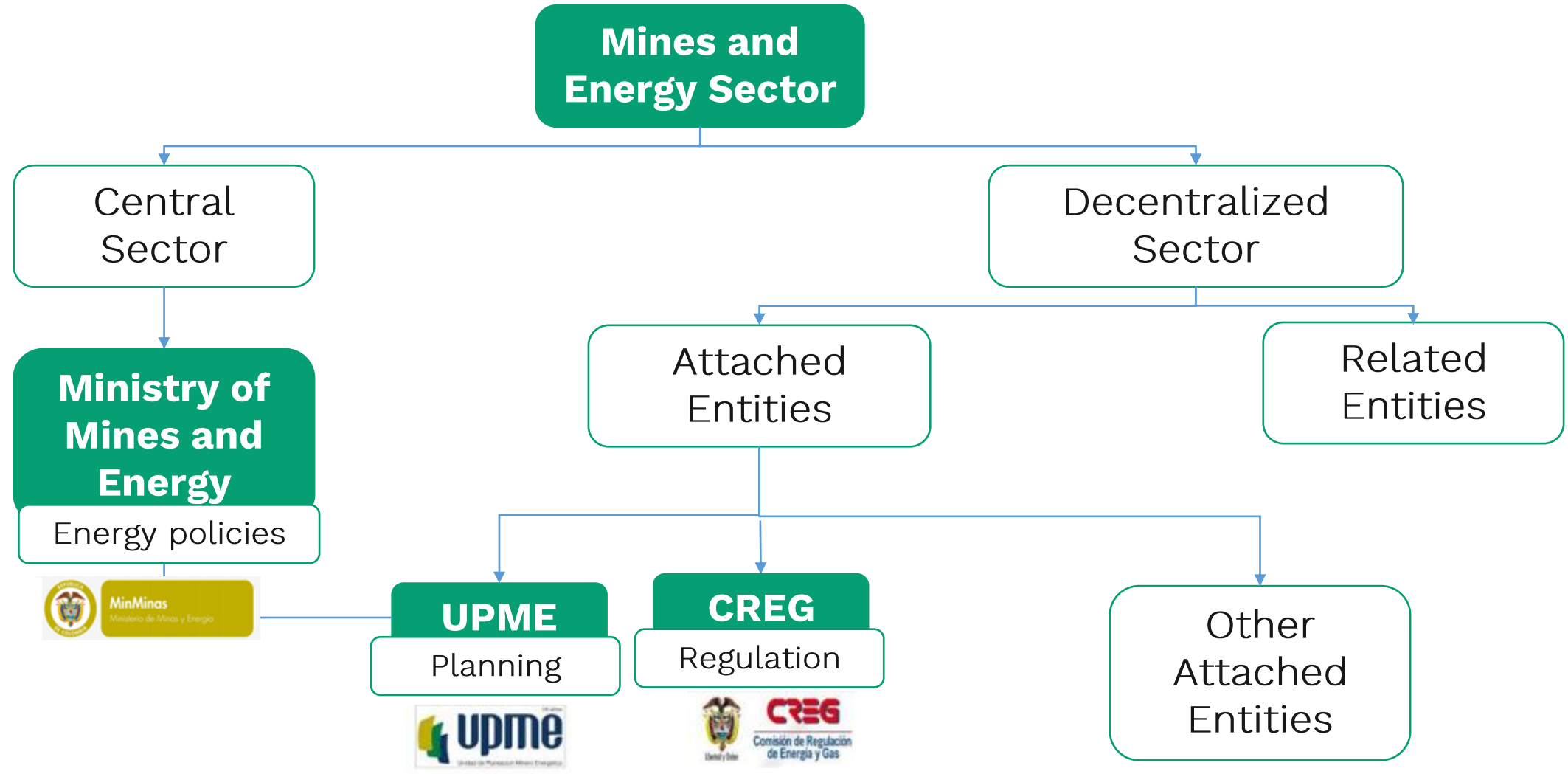
Source: BECO, UPME

Secondary Energy Offer 2019 (%)



Source: BECO, UPME

# *Unidad de Planeación Minero Energética (UPME) is the entity in charge of energy planning in Colombia*



# CREG regulates the provision of home public services of electricity, fuel gas and public liquid fuel services

## Regulatory framework for natural gas

### **Supply** **[competence]**

- Direct bilateral negotiations
- Negotiation through auction

### **Transport** **[monopoly]**

- Maximum regulated charges
- Remuneration for investment and expenses AOM

### **Distribución** **[monopolios]**

- Regulated maximum charges
- Basket of fees per user and per consumption

### **Commercialization** **[monopolies]**

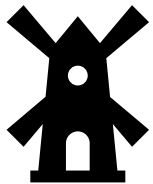
- Unregulated users: competition
- Regulated users: maximum regulated charge



# Main energy and environmental policies

## Law 1715 of 2014

Development and the use of Non-Conventional Sources of Energy



## Law 1844 of 2017

Adoption of the Paris agreement



## Law 1964 of 2019

Promotes the use of electric vehicles in Colombia



## CONPES 3918 (2018)

Strategy for the implementation of the Sustainable Development Goals (SDG) in Colombia



# Key challenges for energy sector in Colombia

## Challenge 1

Availability of local energy resources, universal coverage and improvements in service quality

## Challenge 2

Technological gap and efficient use of energy resources

## Challenge 3

Mitigation and adaptation to climate change



Information

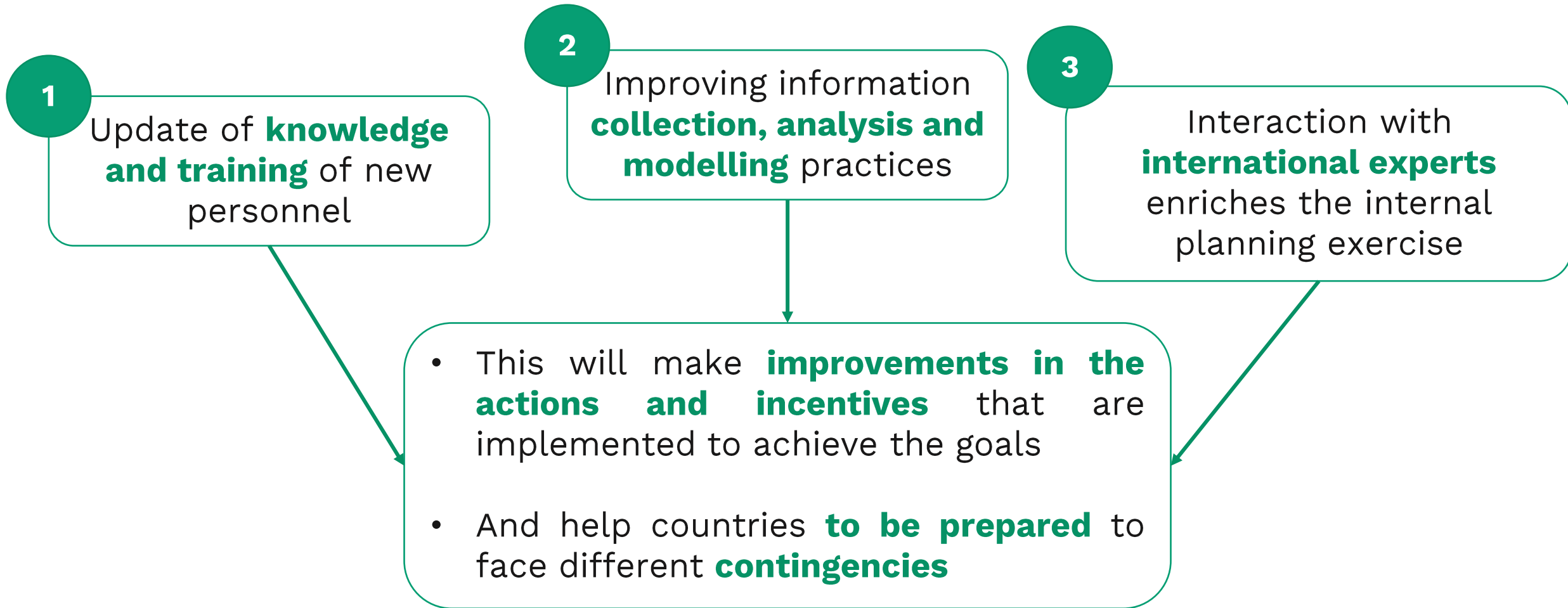
## Challenge 4

Structural changes in the energy sector associated with digitization and decentralization

## Challenge 5

COVID and decision making under uncertainty

# Contribution of IAEA's Capacity building in energy planning



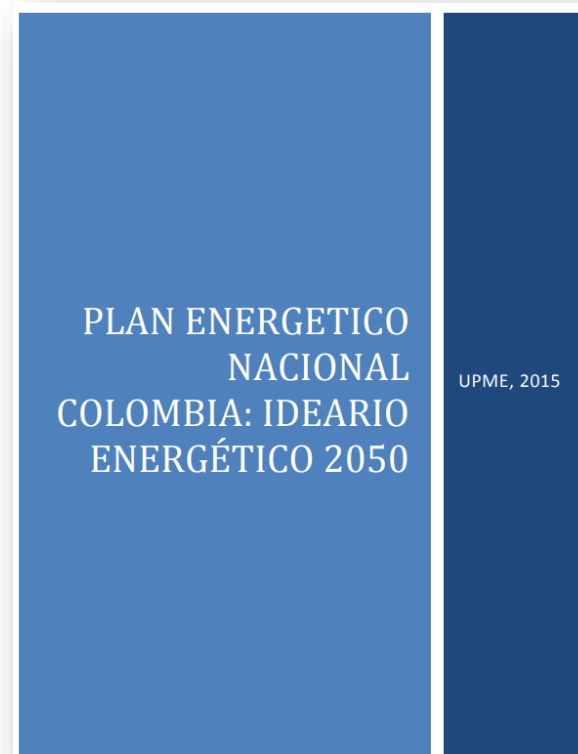
# Support provided by IAEA within Regional Latin America and Caribbean Project

## Objective

Capacity Building at national and regional levels for conducting comprehensive energy sustainable development studies (15 countries)

- 1 phase 2016 – 2017 (focus on national studies)
- 2nd phase 2018-2019 (focus on sub-regional studies)
- 3rd phase 2020-2022 (focus on regional study)

- ✓ Capacities for energy supply – demand analysis
- ✓ Capacities for comprehensive assessment of sustainable development of the energy system
- ✓ Experience exchange in issues related to energy system sustainability



# Support provided by IAEA within Regional Latin America and Caribbean Project

**Training of national experts (on IAEA tools MAED, MESSAGE, FINPLAN and SIMPACTS\*)**



- eLearning
- Face-to-face

**Expert support in conducting national and sub-regional analyses**



- National and regional MAED and MESSAGE\* case studies
- Continuous support available

**Specialised workshops on Indicators for Sustainable Energy Development**



\* MAED – Model for Analysis of Energy Demand  
MESSAGE – Model for Energy Supply Strategy Alternatives and their General Environmental Impacts  
FINPLAN – Model for Financial Analysis of Electric Sector Expansion Plans  
SIMPACTS – Simplified Approach for Estimating Impacts of Electricity Generation

# Gracias



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