

# Tariff Setting Methods Best Practice

## Roundtable Discussion input by Algeria

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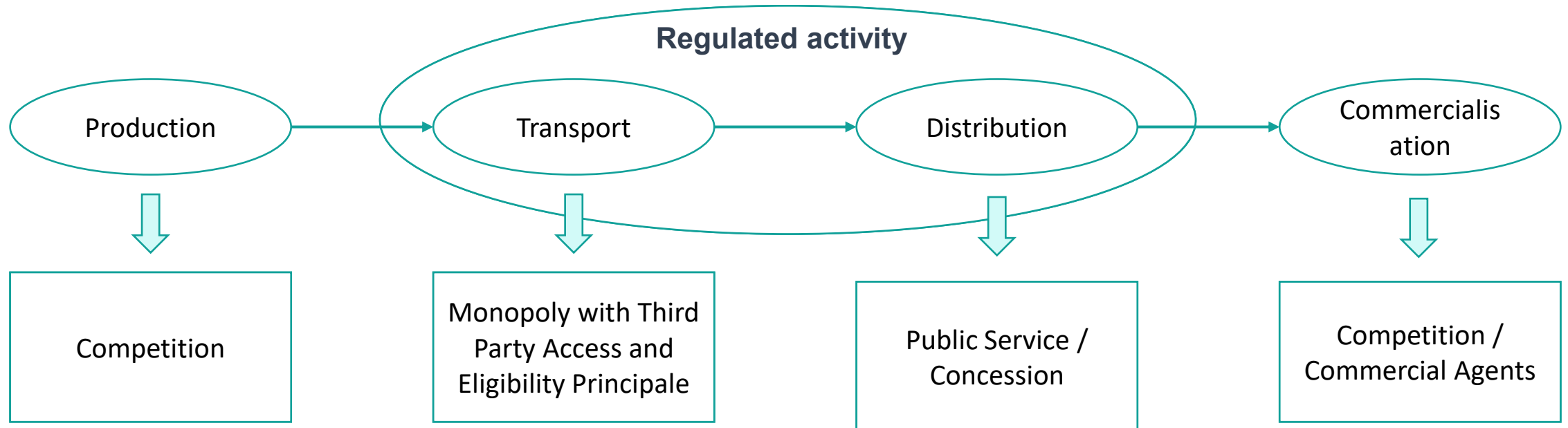
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**Electricity and Gas Regulatory Commission**



## Law 02-01 and main changes

# Changes in terms of organization and pricing



**Creation of the Regulatory Commission - CREG**

# Changes in terms of tariffing

## Before the reform

### Sonelgaz's Unique Operator

- Financial equilibrium;
- Final customer tariffs =  $\Sigma$ (production, transmission, distribution and commercialization costs);
- Set by executive decree.

### Revision of tariffs

- Sonelgaz → revision file– Ministry;
- Analysis at the level of the Ministry;
- Approval → decree.

## After the reform

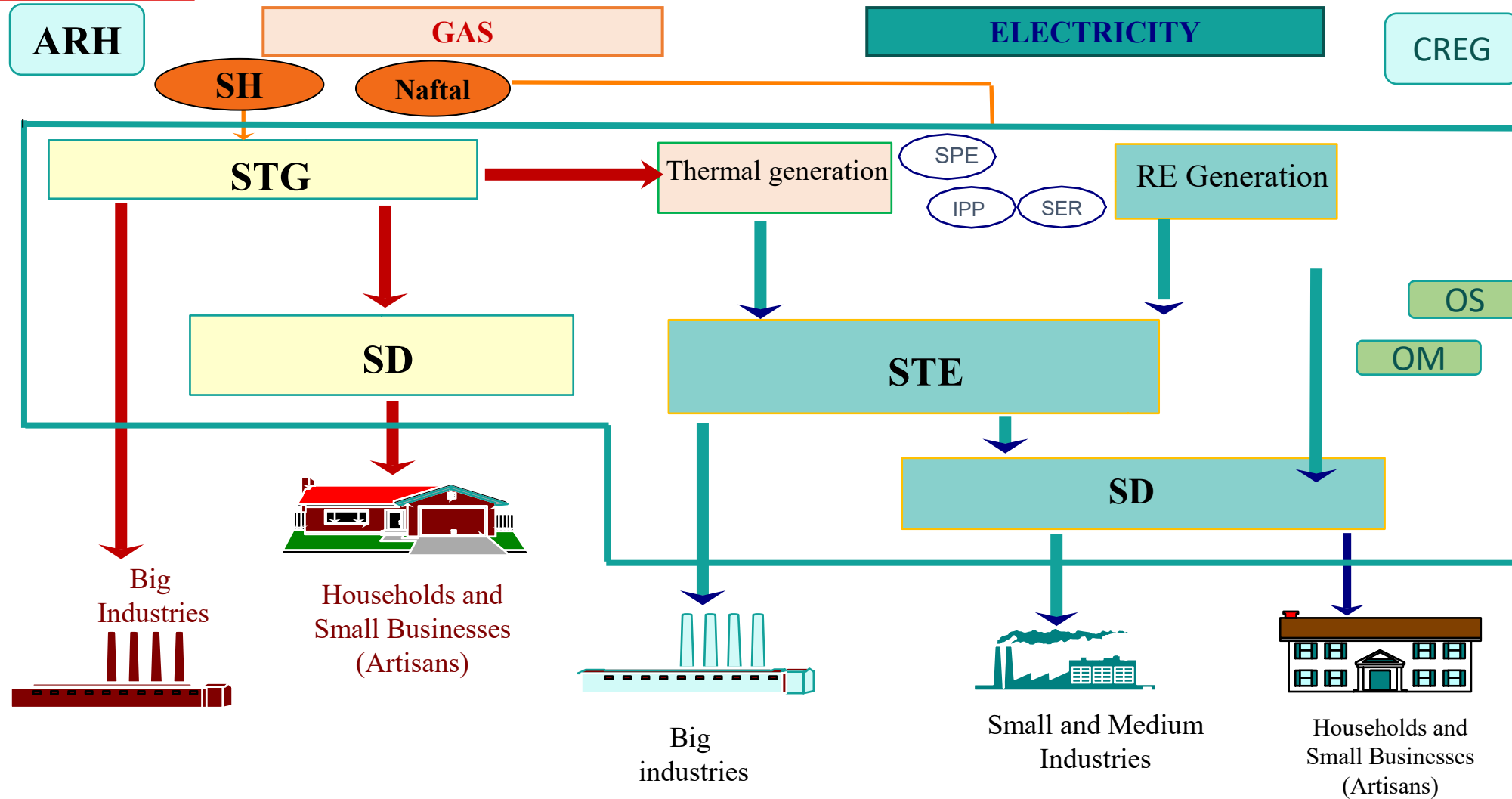
### Remuneration of each operator

- Methodology and parameters defined by Decree No.05-182 (May18, 2005);
- Final customer tariffs Include all costs;
- Set by decision from CREG.

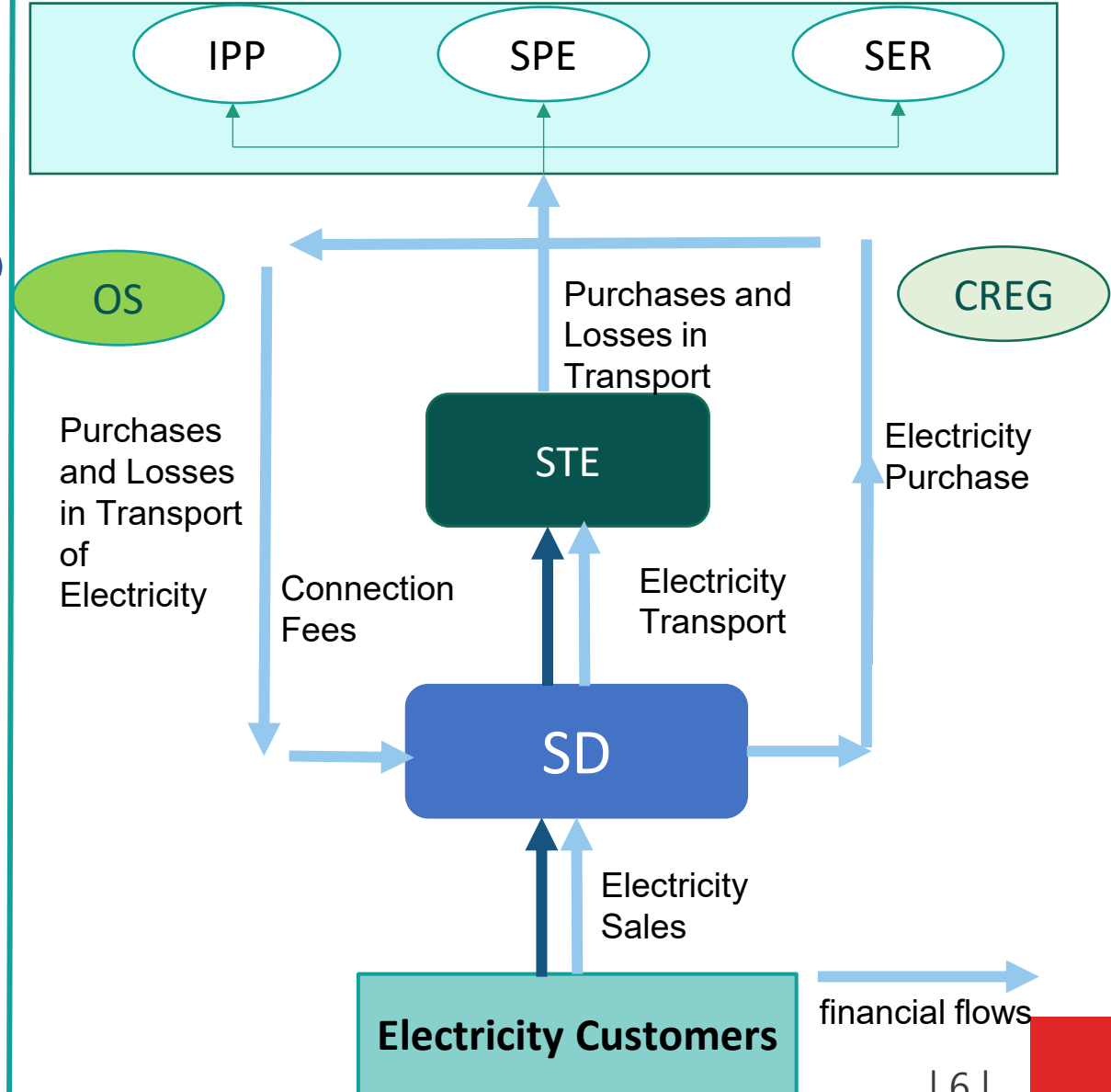
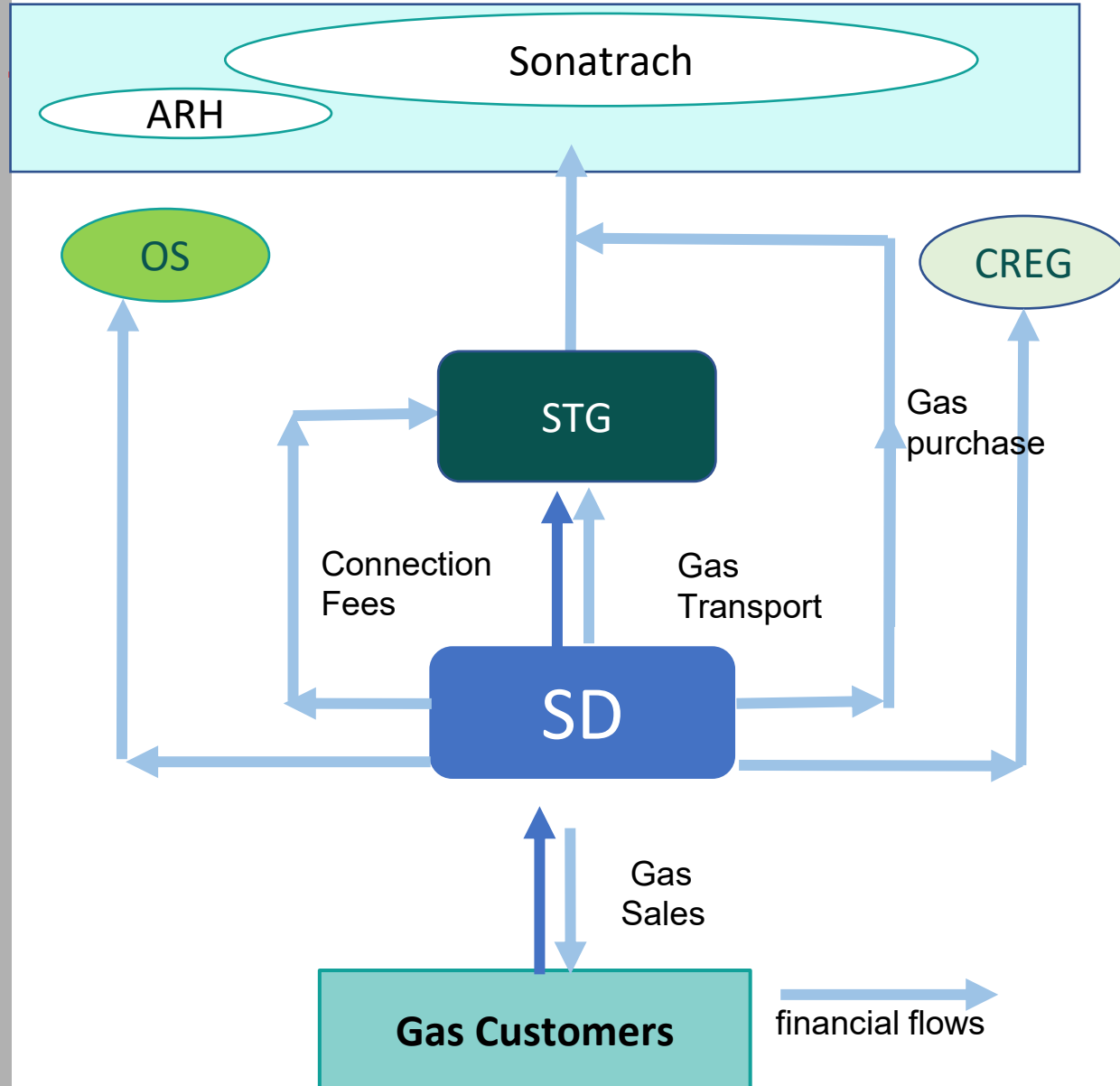
### Revision of tariffs

- Operators → revision file– CREG
- Analysis at the level of CREG
- CREG → approval through decision.

# Sector organization: Physical flows



# Sector organization: financial flows



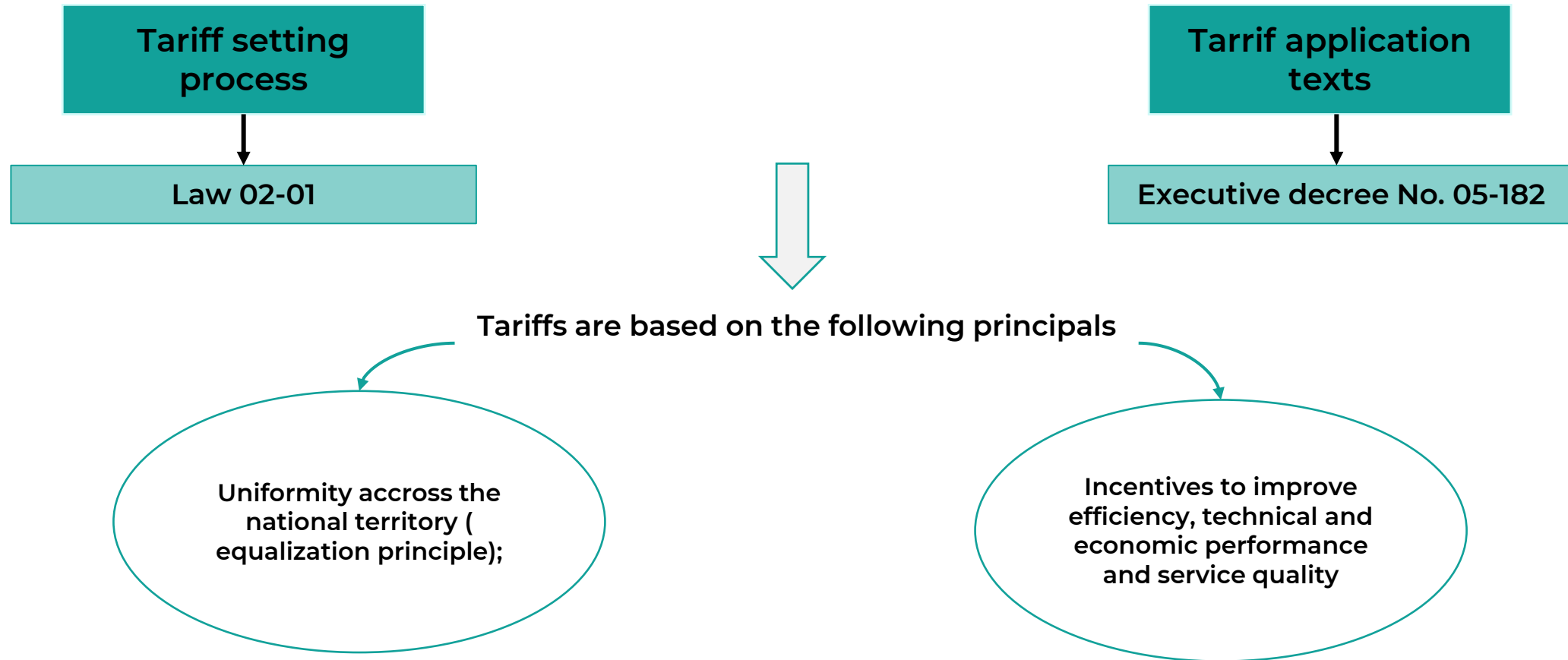
# Economic regulation and tariff approach

- ❑ Under the law 02-01, the CREG is responsible for:
  - Monitoring company accounts and ensuring compliance with regulations governing activities;
  - Determining remuneration for operators ( transmission and distribution);
  - Setting the tariffs for network usage;
  - Establishing tariffs for non-eligible customers;
  - Managing the equalization fund.
- ❑ Renewable Energy Development, CREG:
  - Provides opinions on electricity pricing for renewable energy production.

## Prerequisites for the tariff process



# Prerequisites for the tariff process: Unbundling activities

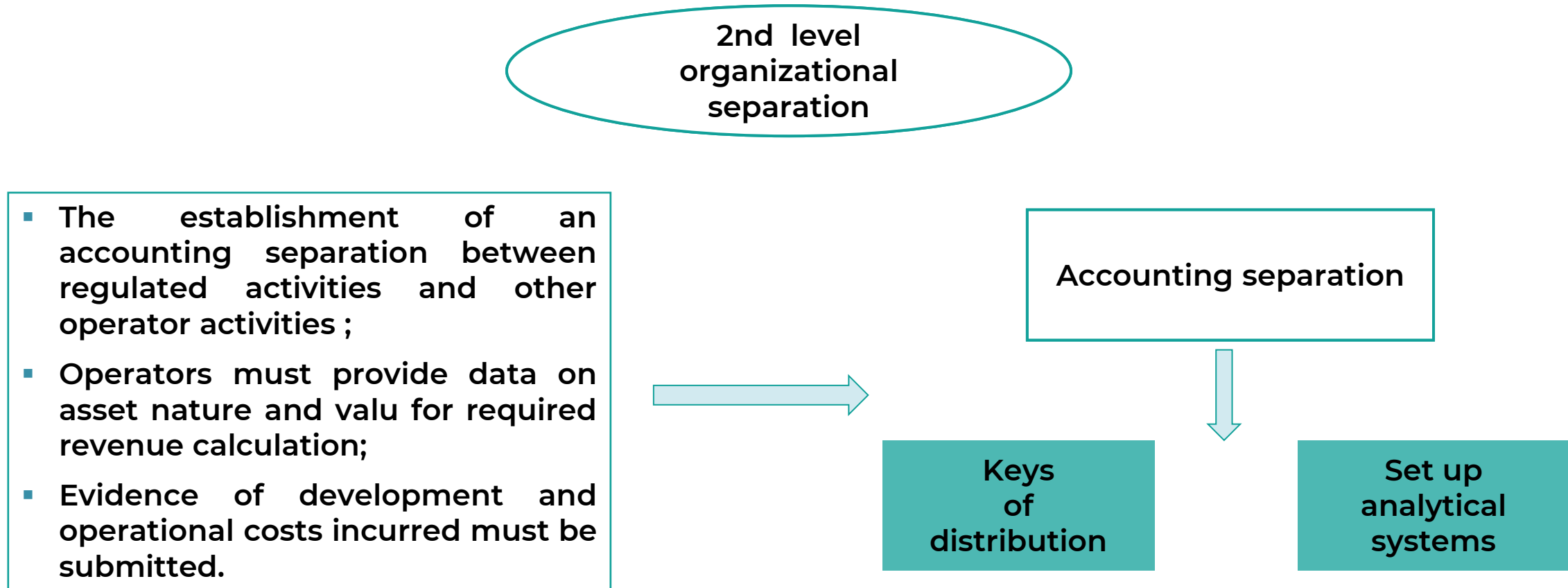


The data necessary for carrying out the pricing exercise are defined in the legislation.

## Prerequisites for the tariff process: Unbundling activities

- ❑ Economic regulation requires remuneration processes for each segment of the energy value chain;
- ❑ Separation of activities involves two levels:

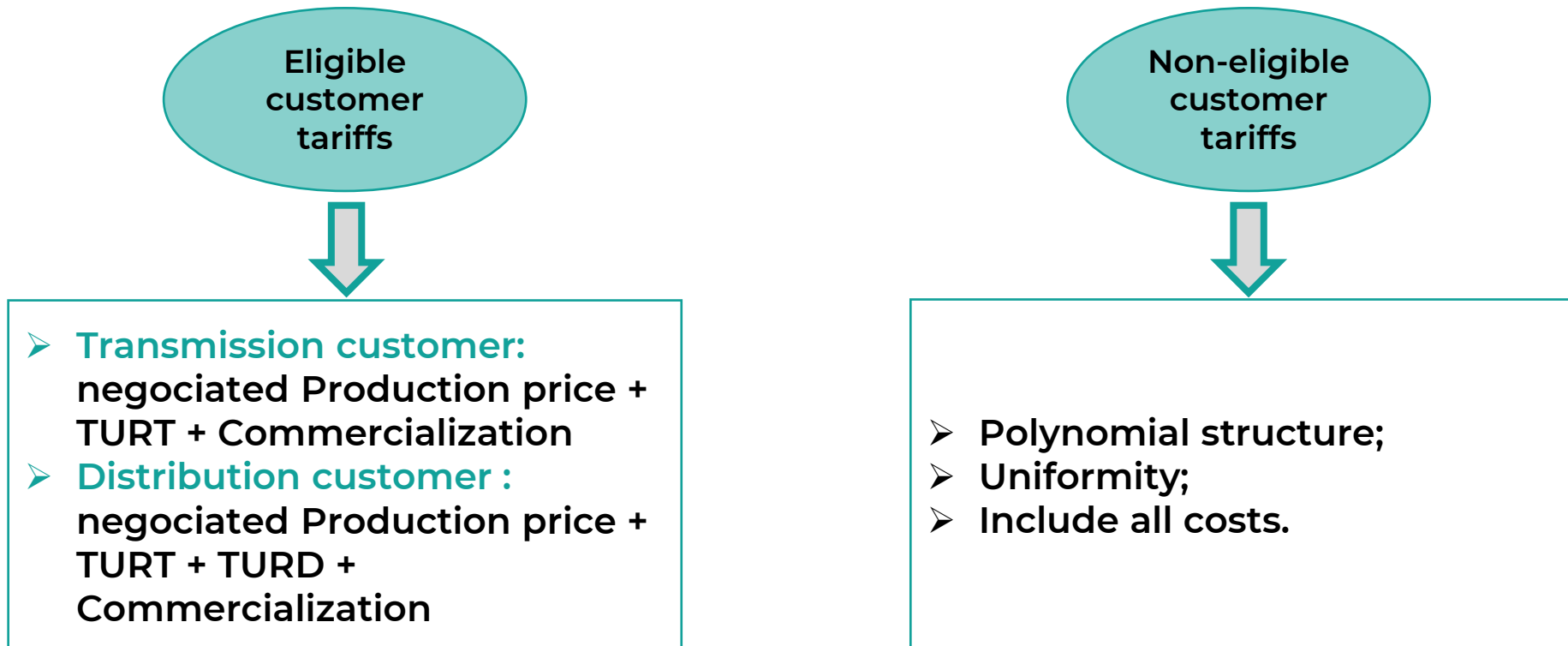
# Prerequisites for the tariff process: Unbundling activities



## Operators' Remuneration

# Operator compensation: Pricing principles

- ❑ In accordance with regulations, prices to end customers include all costs:
  - ✓ Production (for electricity);
  - ✓ Transmission/ Transport;
  - ✓ Distribution;
  - ✓ Commercialization;
  - ✓ System Permanence ( or fixed system costs);
  - ✓ Diversification.



# Remuneration Methodology

Based on the required revenue methodology:

Paramètre		Explication
RR	Required revenue	Authorized turnover to be achieved on energy transmission and sale operations.
CE	Recognized operating expenses	Expenses linked to regulated activity only (verification with audits).
CA	Recognized depreciation	Investment costs distributed according to the economic life of the infrastructure.
TI	taxes and fees	Non-recoverable taxes.
$r^*$ B	Return on invested capital	Operator's profit margin.
r	cost of return on capital taking into account development costs	$= r_{fp} * \% \text{ equity} + r_d * \% \text{ debt}$
$r_{fp}$	Required return on equity	Fixed on the basis of the remuneration practiced in the sector.
$r_d$	Average cost of debt	Average interest rates and other costs of the total stock of debt.
B	Regulated asset base	Assets in service from which accumulated depreciation is deducted

# Production Remuneration

# Production Remuneration

- ❑ Open to competition;
- ❑ Producers are compensated through:
  - Bilateral contracts ;
  - Market mechanisms;
  - Tenders.

**Priority Access of  
Renewable Energy  
Production to the  
Grid**



**Absence of MO : remuneration for production is ensured through bilateral contracts between producer and distributor**



# Transmission Remuneration

# Basic Information on TSO

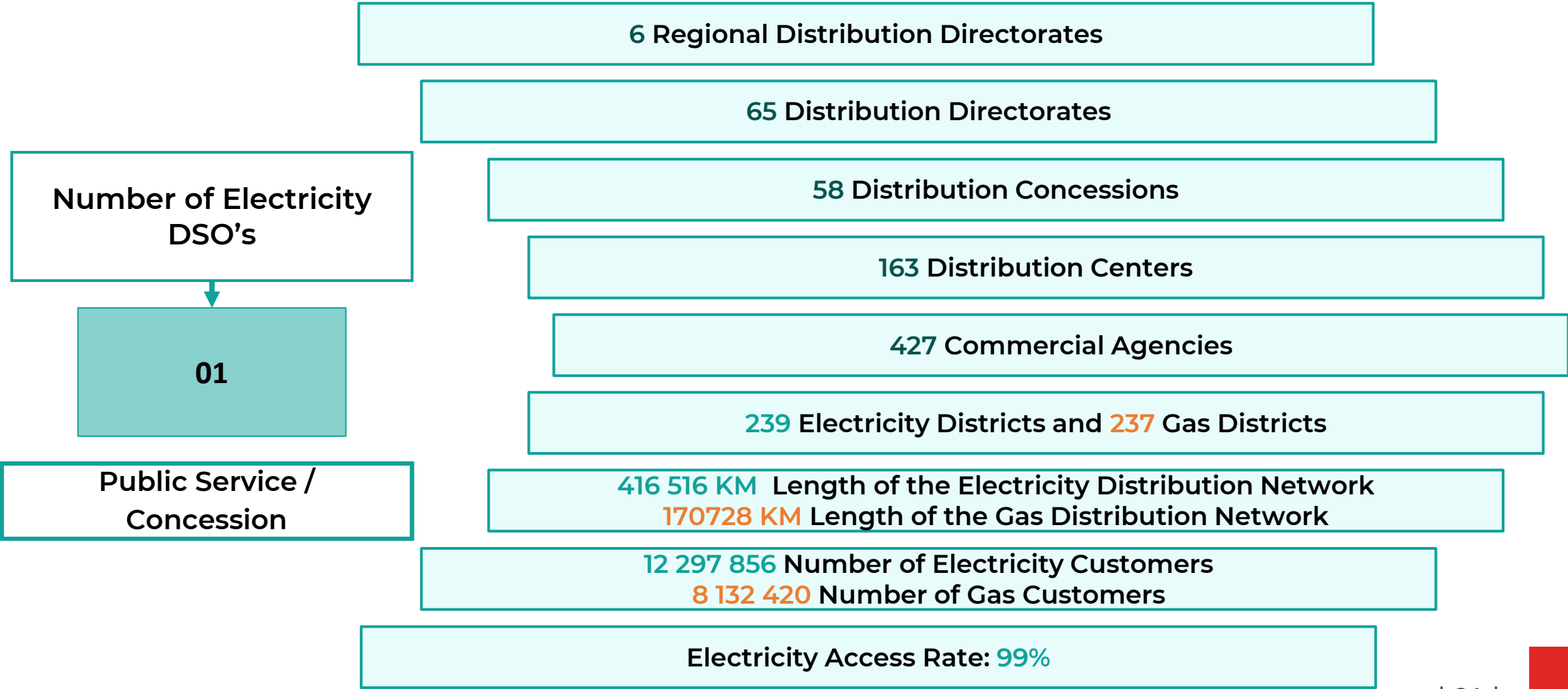


## Access to the transport network

- Guaranteed to the distributor, sales agent, eligible customer;
- Remuneration via a uniform transport network usage tariff (TURT);
- Methodology based on required income.

# Distribution Remuneration

# Basic Information on DSO (2024)



## ❑ Connection to the distribution network

- Carried out in accordance with the legislation:
  - Executive Decree No.10-95, March 17, 2010 establishing the economic rules for network connection rights and other actions necessary to satisfy customers' electricity and gas supply demands;
  - Decision D/01-20, 17/02/2020 relating to the connection procedure for LV & MV customers

## ❑ Access to the distribution network:

- ❑ Accessible to third parties;
- ❑ Granted by the transmission operator;
- ❑ Remuneration via a uniform Distribution Network Usage Tariff (TURD);
- ❑ Methodology based on required revenue.

## Commercialization Remuneration

## ❑ In accordance with regulations, marketing costs:

- For non-eligible customers: are set by the CREG in the form of a marketing margin and cover the costs incurred by:
  - Meter reading;
  - Billing and collection;
  - Customer advice;
  - Handling complaints, ...
- They are negotiated between the eligible customer and the commercial agent.

## ❑ Currently, the distributor carries out the supply activity.

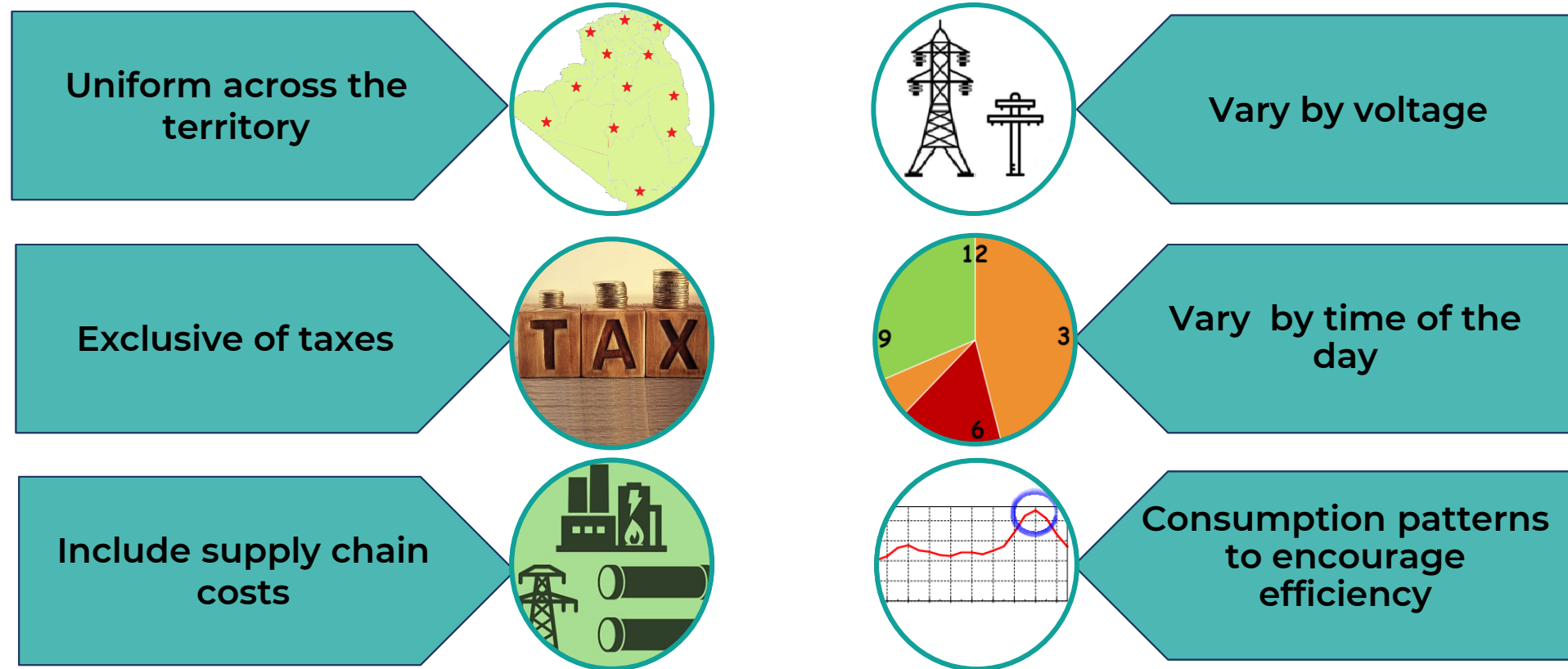


## Other costs

## □ Pay for:

- Operating costs of the Regulatory Commission;
- Costs of the System Operator and the Market Operator;
  - allows to cover dispatching costs, studies, purchase of ancillary services
  - Fixed through the required income;
- Additional costs of supplying energy to isolated networks in the South;
- Costs associated with energy management programs;
- Diversification costs.

# Tariff Setting: General principles



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## 01 Fixed Fee

It covers technical and commercial management costs.

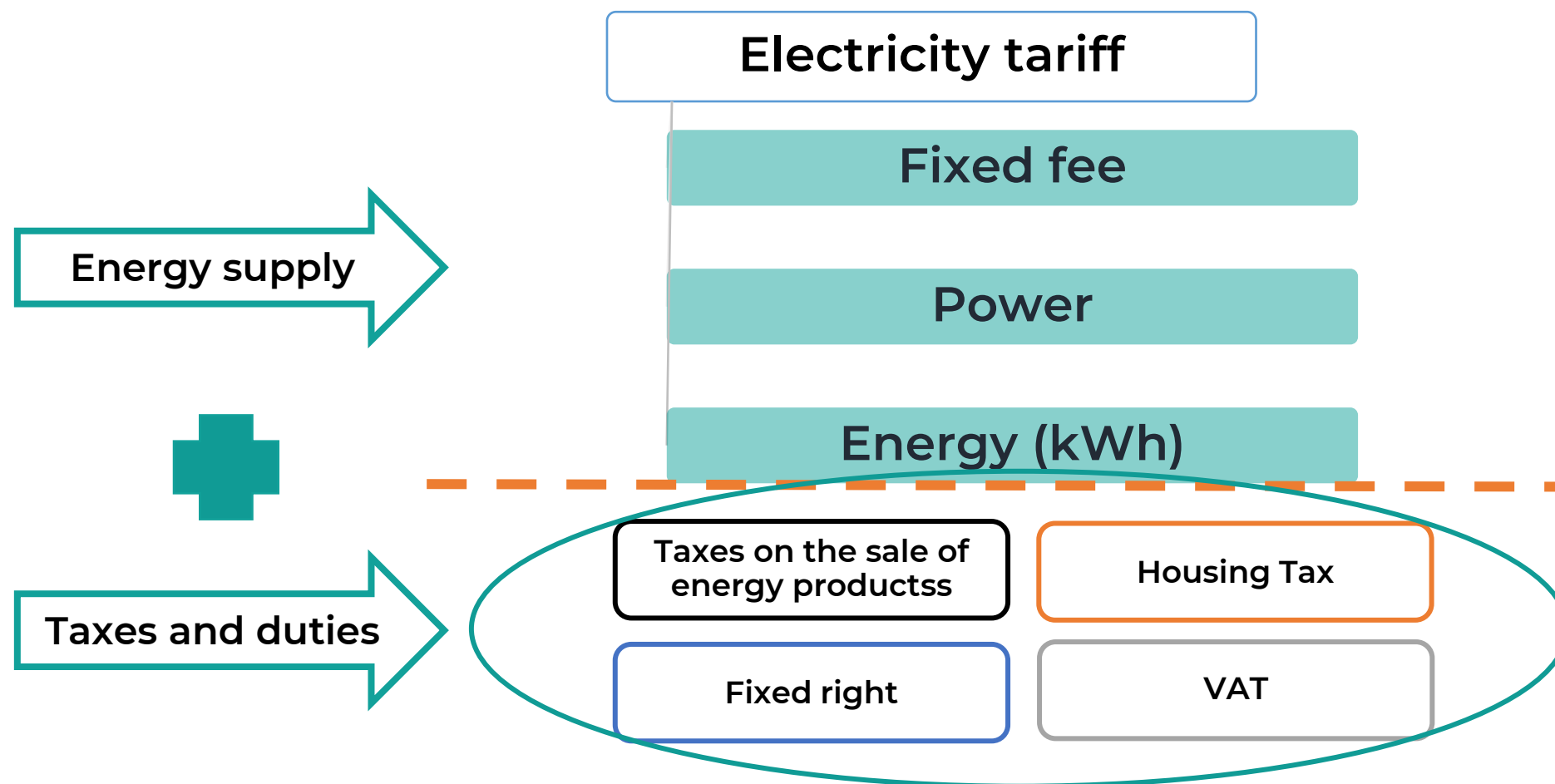
## 02 Power Price

- PMD: Reflects the investment made to provide the customer with a capacity that can be called upon at any time.
- PMA: Encourages the customer to spread out consumption and avoid peak power demand.

## 03 Energy Price

- Active energy: Differentiated according to three tariff periods;
- Reactive energy: Bonus granted for reactive consumption not exceeding 50% of active energy consumption.

# Tariff Setting: Composition of Non-Eligible Customer Bills



# Tariff Setting: Tariff formula

$$F = a + [c * P_{md} + d * P_{ma}] + [\sum e_h * E_h + g * (W - r * E)]$$

- F: invoice amount (DZD);
- a: fixed fee (DZD);
- P<sub>md</sub> : Power made available to the customer (kW) ;
- P<sub>ma</sub> : Maximum absorbed power (kW).
- c, d : billing price (DZD/kW/mois);
- E : Energy (kWh) consumed during the billing period.
- E<sub>h</sub> Energy consumed during the billing period in the time slot h (E =  $\sum E_h$ ) and whose price is differentiated by period of the day (hourly shifts);
- e<sub>h</sub> : Energy prices (cDZDA/kWh) per hourly shift h;
- W: Reactive Energy (kVARh) consumed during the billing period;
- g : Reactice Energy Price (cDZD/KVARh);
- r : report valuetg  $\emptyset = W/E$  ; reactive energy consumption gives rise to a bonus or increase.

# Tariff Setting: Pricing options

## Electricity



High voltage type « B »  
tariff 31 and tariff 32



High voltage type « A » ( medium)  
tariff 41, tariff 42, tariff 43 and tariff 44



Low voltage« non-households »  
tariff 51 NM, tariff 52 NM, tariff 53 NM and  
tariff 54 NM



Low voltage «households »  
tariff 51 M, tariff 52 M, tariff 53 M and tariff  
54 M

## Gas

High Pressure:  
tariff 11 et tariff 21 T

Medium Pressure :  
tariff 21 et tariff 22

Low pressure« non households » :  
tariff 23 NM

Low pressure « households » :  
tariff 23 M

## 1 Subsidies on Investment

State-funded investment programs concern the implementation of public programs;

### ➤ State support system for the deep south:

LV Household and LV/HVA Farmers customers	<ul style="list-style-type: none"><li>• Support rate: 65 % of the amount</li><li>• 12.000 KWh/y.</li></ul>
LV/HVA customers with economic activities (excluding farmers)	<ul style="list-style-type: none"><li>• Support rate: 25 % of the amount</li><li>• 200.000 KWh/y.</li></ul>

## 2 Subsidies on invoices

### ➤ State support system for the highlands:

LV/HVA Household customers	<ul style="list-style-type: none"><li>• 375 KWh/Quarter at the price of the 1st</li></ul>
LV/HVA customers with economic activities (excluding farmers)	<ul style="list-style-type: none"><li>• Support rate: 10 % of the amount</li><li>• Without consumption limitationn</li></ul>



## Incentives to rationalize consumption

# Incentives to rationalize consumption

- The Law 02-01 provide for the possibility of using incentive mechanisms aimed at saving energy;

## Electricity supply prices today include:



Hourly shift rates encouraging customers to consume outside of peak;



Progressive prices encouraging customers to reduce the quantities consumed;



Prices for the maximum power called to encourage non-exceeding of the subscribed power;



An incentive system for reducing reactive energy consumption in the form of a bonus for reactive energy not consumed  $< 50\%$  and a penalty if this threshold is exceeded.

# THANK YOU FOR YOUR ATTENTION!



**CREG**

*Ensuring Fair Regulation and Protecting the Interests of Consumers and Operators*

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