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Impact of the Electricity Regulatory Authority (ARE) in the Democratic Republic of the Congo and Opportunities for Investments



**Autorité
de Régulation
du Secteur de l'Électricité**
République Démocratique du Congo

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About us

01 ABOUT US



Our Missions



Our Vision and
values



Our
Organization



Goals and
Objectives



WHAT IS ARE?

The Regulatory Authority for the Electricity Sector, ARE in acronym, is a public establishment of an administrative nature, endowed with a legal personality and enjoying administrative and financial autonomy mandated under the Decree No. 16/013 of April 21, 2016 to regulate the electricity sector in the Democratic Republic of the Congo.

ARE was created in 2016 under the Decree No. 16/013 of April 21, 2016 but the operations started only in 2020 after the appointment of the Board of directors and the management team.

The ARE functioning is supported by personnel under the direction of the General manager.

MISSIONS



The missions of the ARE are set by Decree No. 16/013 of April 21, 2016, on the creation, organization and functioning of the ARE. At the end of article 3 of the said Decree, these missions are summarized in the below 5 points :



Ensure the regulation of activities in the electricity sector in the D.R. Congo by controlling the applicable norms and standards within the electricity sector

Guarantee and control the application of the principles and rules of transparency and free competition

Contribute to the creation of a business climate conducive to investment and the proper implementation of activities in the electricity sector

Receive, analyze and audit electricity sector rates

Resolving disputes in the electricity sector

VISION



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1

Regulation

- Ensuring regulation of the Electricity sector in Democratic Republic of Congo



2

Protection

- Guarantee balance and transparency among the different actors. Protect operators and consumers

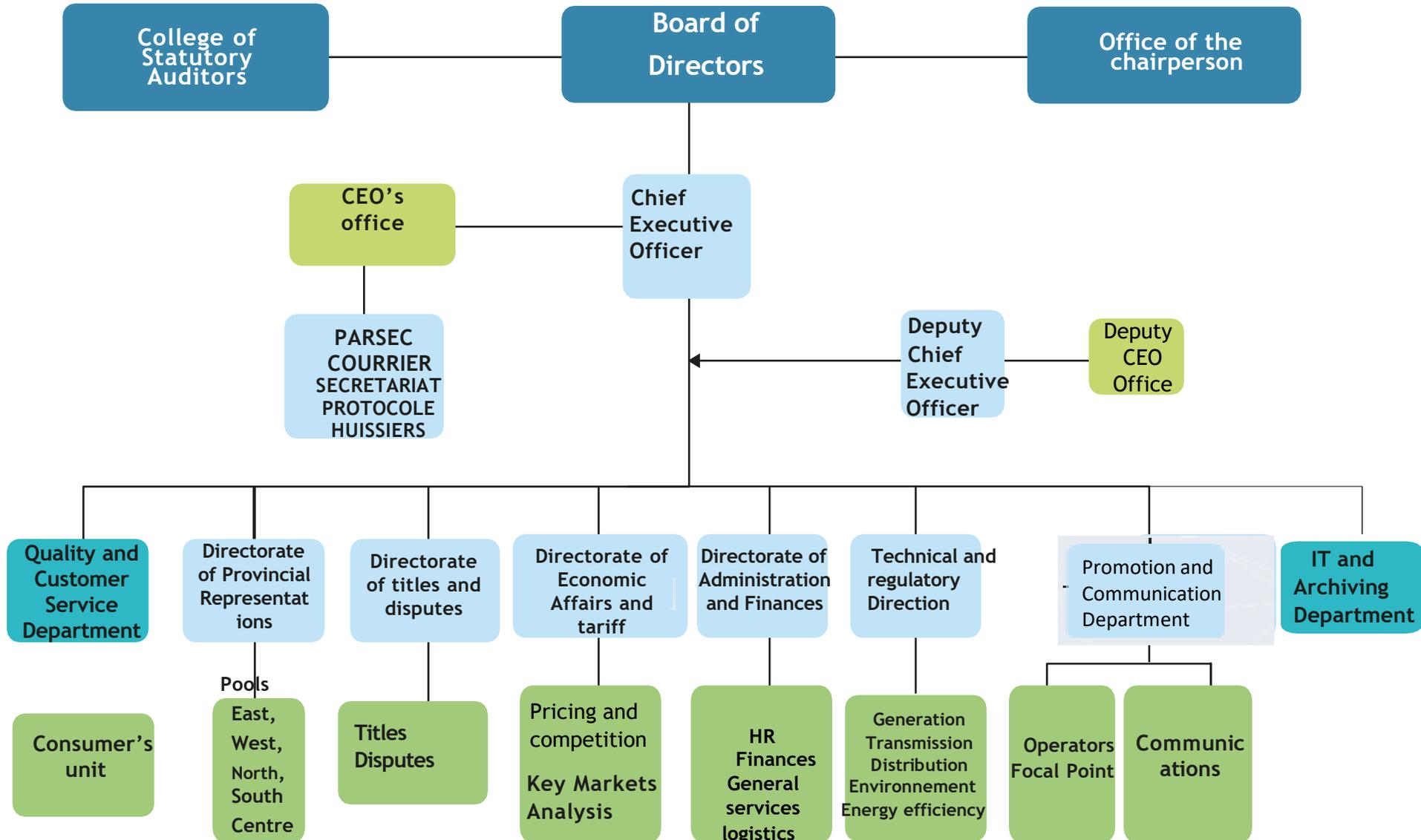


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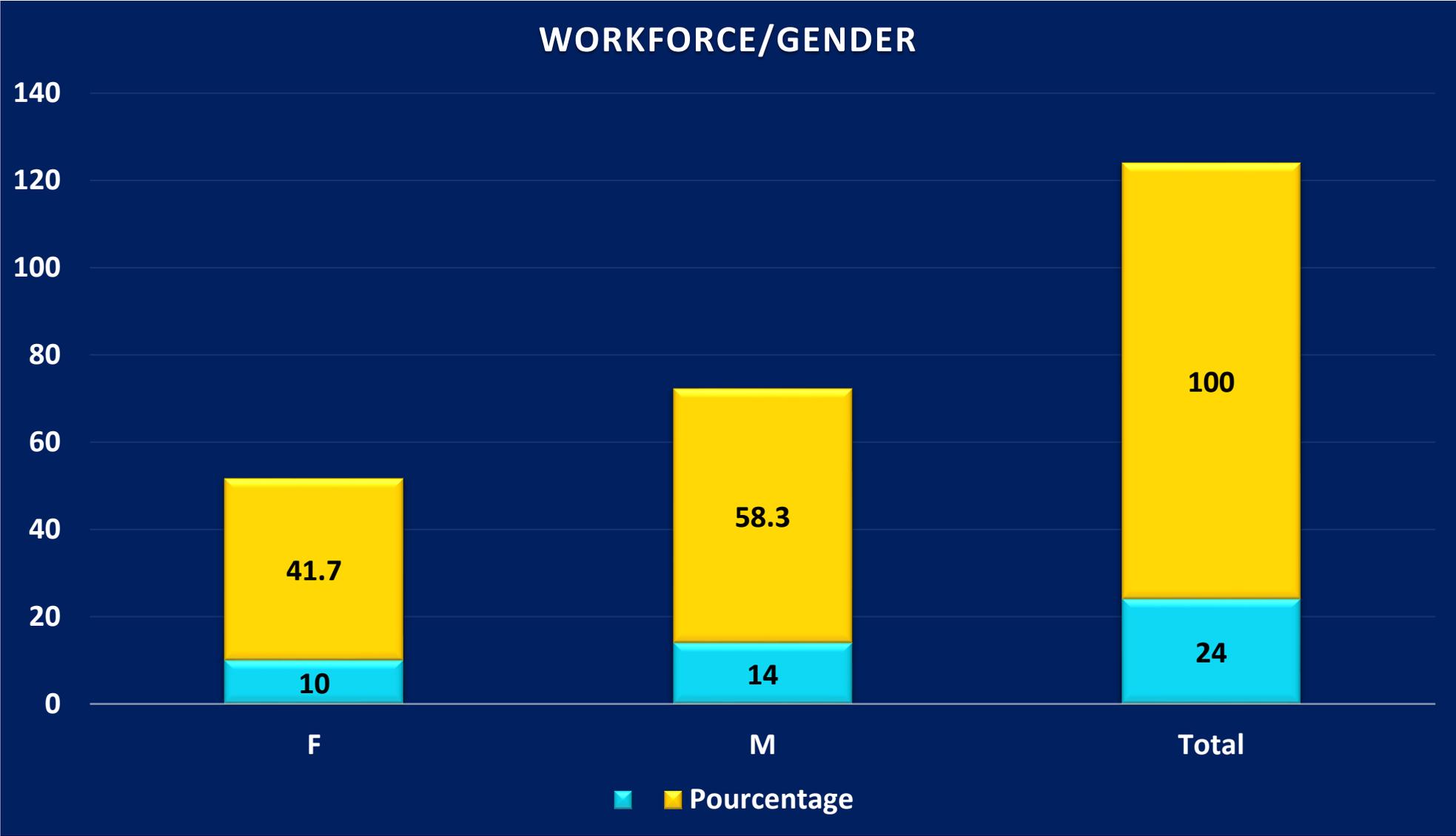
Access to Network

- Guarantee fair access for users to the network and the protection of consumers

ORGANIGRAM OF ARE



GENDER EQUITY IN THE WORKFORCE





In the Democratic Republic of Congo, the electricity sector is governed by the following 14 legal and regulatory texts:

TITLE AND REFERENCE	CONTENT
Law No. 14/011 of June 17, 2014, which aims	1. Effective liberalization of the electricity sector
	2. Promotion and harmonious development of electricity supply in urban, peri-urban and rural areas
	3. The coverage of electricity needs of all categories by quality supplies and in compliance with safety and environmental standards
	4. The creation of the institutional framework and the economic conditions allowing the realization, the securing and the profitability of the investments in the electricity sector as well as the national energy emergence in a mode of public-private partnership
Decree No. 16/013 of April 21, 2016	Establishing, organizing and operating a public institution called the Electricity Sector Regulatory Authority, "ARE" in acronym
Decree No. 16/014 of April 21, 2016	On the creation, organization and operation of a public establishment called the National Agency for Electrification and Energy Services in Rural and Peri-urban Areas, "ANSER" in acronym
Decree No. 18/050 of December 24, 2018	Fixing the mechanisms and procedures for collecting and managing the resources of the Electricity Sector Regulatory Authority, "ARE" in acronym

TITLE AND REFERENCE	CONTENT
Decree No. 18/051 of December 24, 2018	On Mechanisms and methods of collection, management and distribution of resources of the National Agency for Electrification and Energy Services in rural and peri-urban areas, "ANSER" in acronym
Decree No. 18/053 of December 24, 2018	Fixing the conditions for the export and import of electrical energy in the Democratic Republic of Congo
Decree n°18/054 of December 24, 2018	On tax and customs relief measures applicable to the production, import and export of electrical energy
Ministerial decree n° cab/min-Enrh/11/073/ of November 12, 2016	Laying down the practical provisions relating to Decree No. 15/009 of April 28, 2015 on tax and customs relief measures applicable to the production, import and export of electrical energy
Ministerial Order n°031/Cab/Min-Enrh/2017 of April 21, 2017	Setting the terms and conditions for the approval of independent experts, service providers in the electricity sector and suppliers of materials and equipment for electrical refrigeration and air conditioning installations
Order n°81/cab/min/Enrh/18 of December 27, 2018	General specifications for electricity sector activities
Order n°82/cab/min/Enrh/18 of December 27, 2018	Setting the terms and conditions for the sale of excess electrical energy from electricity self-production facilities
Order N°083/Cab/Min/Enrh/18 of December 27, 2018	Fixing the procedures for drawing up the schedule of ancillary electricity services
Order N°084/Cab/Min/Enrh/18 of December 27, 2018	Fixing the general terms of the electricity supply contract between the operator and the customer
Order N°085/Cab/Min/Enrh/18 of December 27, 2018	Concession contracts - type, models of licenses and authorizations of the electricity sector



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02 ELECTRICITY SECTOR

LEGAL TITLE OF ACTIVITIES AND COMPETENT ENTITIES



	TITLE	SCOPE OF APPLICATION	COMPETENT AUTHORITY
1	Concession	Any activity of production, transport and distribution of electricity established on the public domain	Central government for the operation of energy sources or electricity networks of national interest
			Gouvernement provincial (sources d'énergie ou des réseaux électriques d'intérêt local ou provincial)
2	Licence	1. Independent production of power greater than or equal to 1 MW carried out outside the public domain	Provincial or central government
		2. Import or export of electricity	Import and export are the exclusive competence of the central government
		3. Electricity sales	
3	Autorisation	1. Self-production outside the public domain, power between 100 kW and 999.99 kW	Provincial government
		2. Establishment of private power lines using or crossing a public road or 1 point located less than 10 m from an existing line	
4	Declaration	Self-production with power between 51 kW and 99.99 kW	Written declaration to the local administration in charge of electricity.
5	Liberty	1. Establishment of power plants with an installed power of less than 50 kW	
		2. Private power lines contained within a land concession	

The DRC is full of proven, abundant and varied energy potential and resources: biomass, hydraulic power, liquid and gaseous hydrocarbons (including methane gas from Lake Kivu), mineral coal, oil shale, solar and wind potential, tidal power, thermal waters, bioenergy, uranium ore, etc. But these natural endowments are not all sufficiently inventoried or quantified. The table below summarizes this potential.

Tableau 3 : Potentiel énergétique de la RDC

Item	ENERGY SOURCE	ENERGY POTENTIAL
1	Hydroelectric	More than 100,000 MW
2	Solar	Insolation between 3500 and 6750 Wh/m ² /day
3	Wind	Limited potential
4	Geothermal	Potential not yet assessed
5	Biomass	High potential with 145,000,000 Ha of forest
6	Hydrocarbons	Marginal production of 25,000 BBL/D
		Global reserves estimated at BBL 5,692 billion
7	Gas (oil and methane)	10-20 billion Nm ³ (278 billion Nm ³)
8	Biogas and Biofuels	Immense potential in plant resources for their development

ELECTRICAL ENERGY MIX OF THE DRC

It should be noted that several plants have either been shut down or abandoned for several years and some are not operating at full capacity.

The power available to date therefore does not correspond to the theoretical installed power.

Investigations are underway to complete the list of production infrastructures, determine their current state and effective capacity and identify the operators who operate them.

Table 5: Total installed capacity by energy source in the DRC in 2022

Item	ENERGY SOURCE	INSTALLED CAPACITY (MW)	Rate (%)
1	Hydroelectric	2 901,652	97,54%
2	Thermal	75,574	2,35%
3	Photovoltaic	3,495	0,11%
	Total	2980,721	100%

Source : ARE Compilation

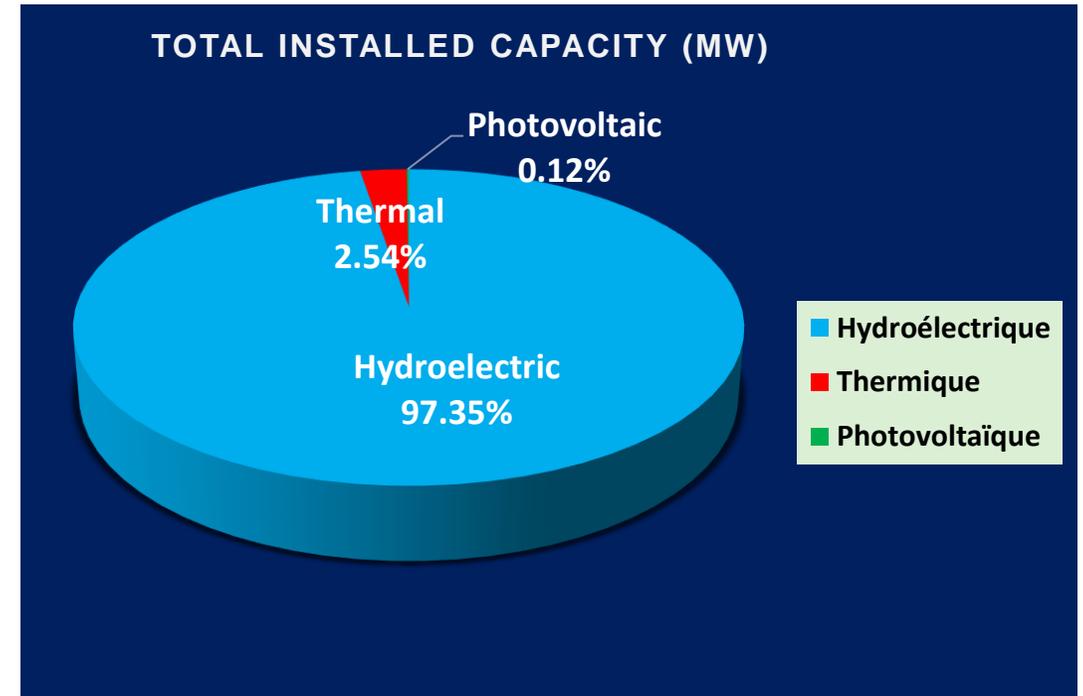


Figure 4: Installed capacity by energy source in the DRC in 2022

ELECTRICAL ENERGY MIX

Table 7: Evolution of installed, available and peak power in the DRC from 2020 to 2022

Description	Year 2020	Year 2021	Year 2022
Installed Power (MW/MWc)	2972,19	2978,05	2980,72
Available Power (MW/MWc)	2009,24	2043,20	2062,04
Annual peak power (MW)	1782,19	1901,93	1912,08

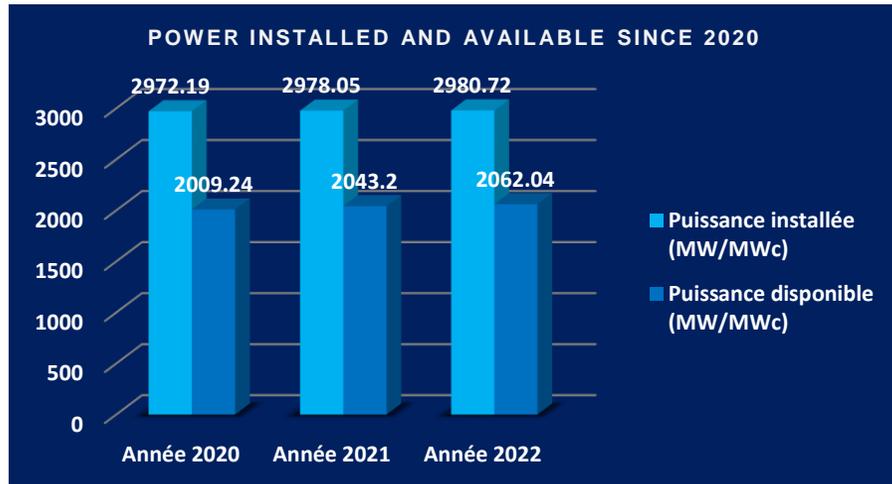


Figure 7: Evolution of overall installed and available power in the DRC from 2020 to 2022

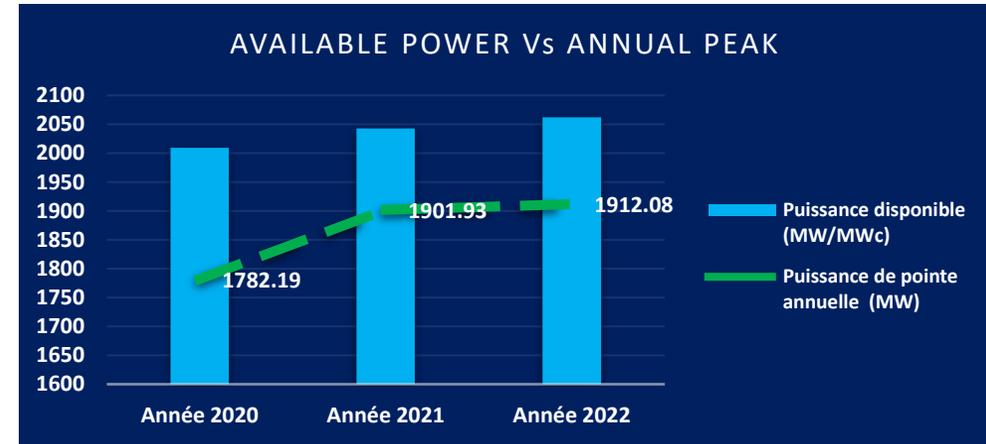


Figure 8: Available electrical power and annual peak in the DRC from 2020 to 2022

Over the past three years, the installed capacity in the DRC has remained almost static with a growth rate of less than 1%. Starting from 3212.19 MW in 2020, the increase was only 5.86 MW in 2021 against only 2.67 MW in 2022.

In addition, the contribution of solar home PV system operators in the electric power supply chain has been estimated at 2 MW in 2022.

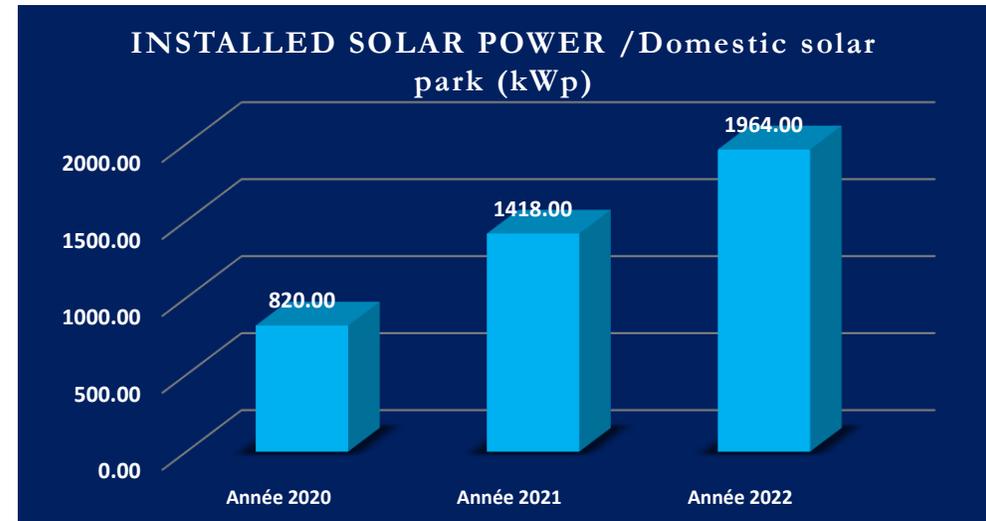
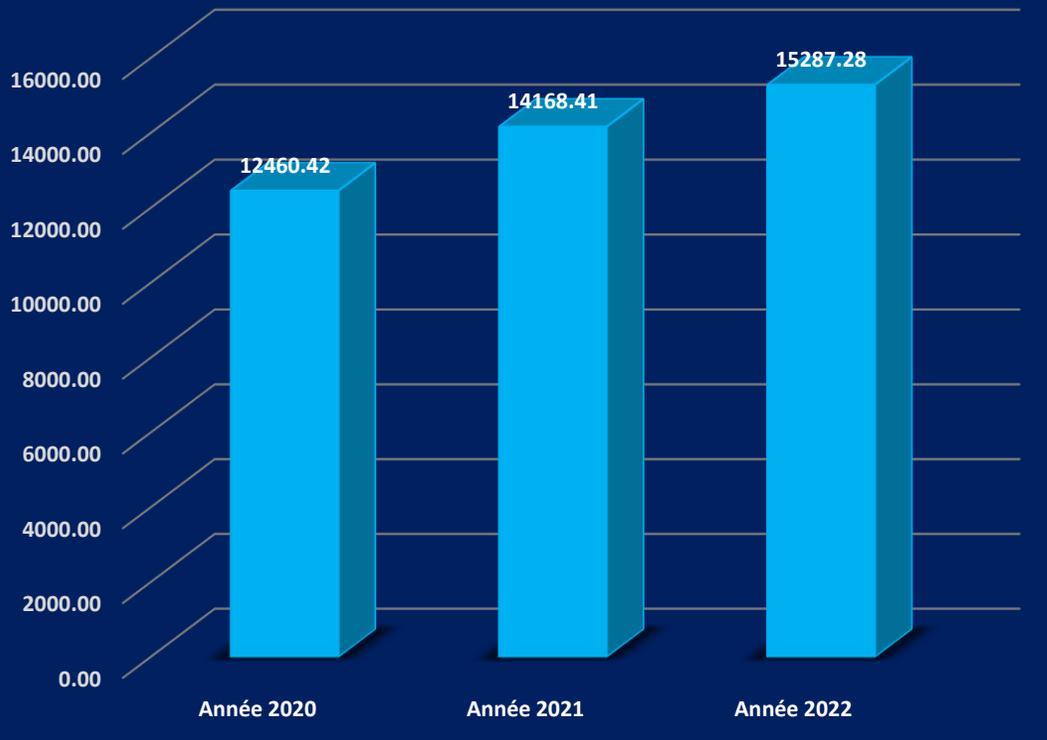


Figure 9: Evolution of the installed capacity of the domestic solar park in the DRC from 2020 to 2022

ANNUAL PRODUCTION IN THE DRC 2020-2022

ANNUAL PRODUCTION (GWh)



Description	Year 2020	Year 2021	Year 2022
Total annual production (kWh)	12 460 200 997	14 168 208 360	15 287 152 522
Thermal Production (kWh)	7 006 730	2 692 170	5 551 870
Photovoltaic production (kWh)	253 462	1 034 471 554	2 089 689 207
Hydroelectric production (kWh)	12 452 940 805	13 131 044 636	1 3 191 911 445

MILLION TONS OF CO2 AVOIDED DUE TO RE

Renewable energy	Mt CO2eq		
	Year 2020	Year 2021	Year 2022
Hydroelectric production	8,4680	8,9291	8,9705
Photovoltaic production	0,0002	0,6776	1,3687
Total renewable Energy production	8,4682	9,6067	10,3392

Table 10: Million tons of CO2 avoided by using renewable energies

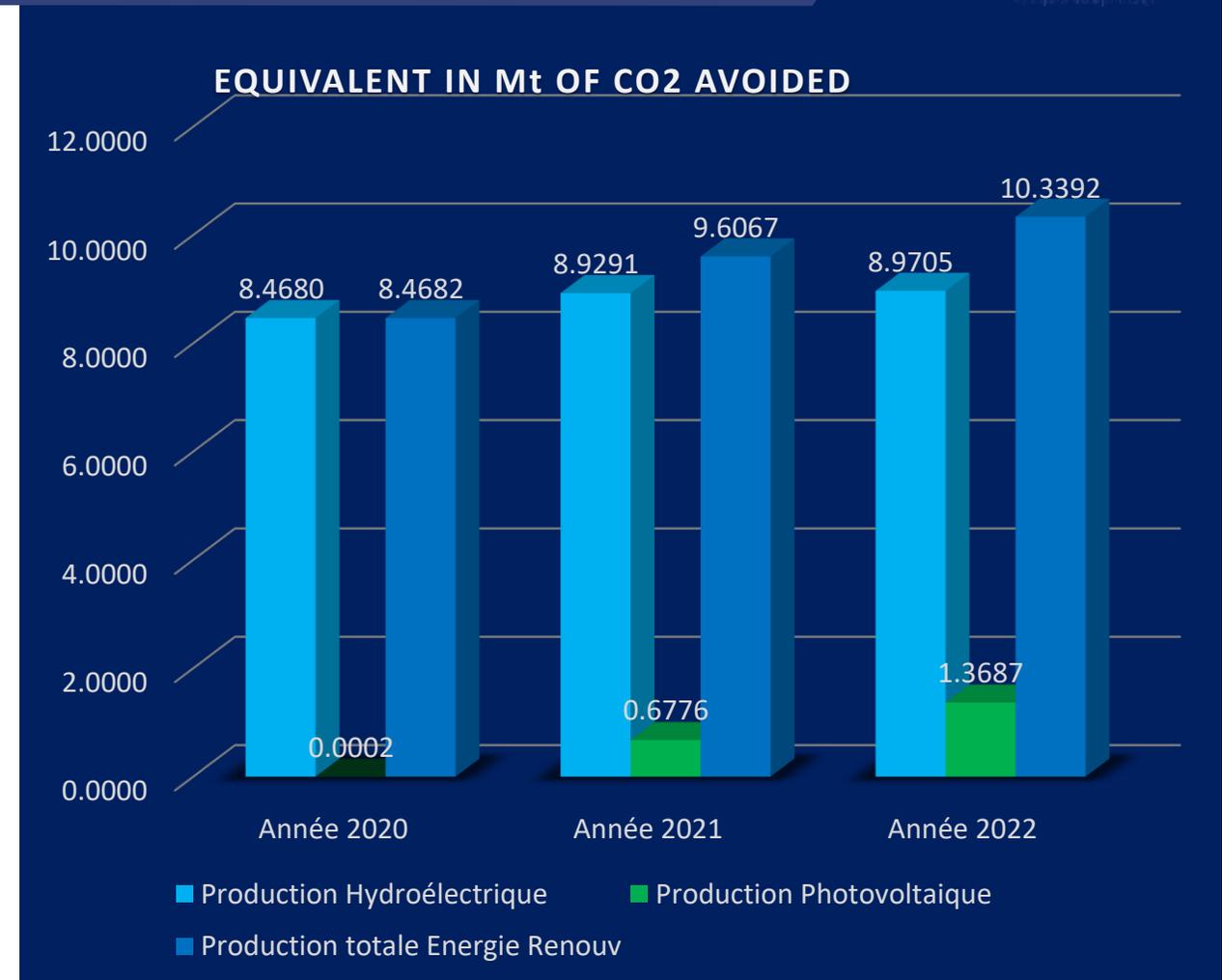


Figure 11: Million tons of CO2 avoided by renewable energies

NUMBER OF CARS EQUIVALENT TO THE CO2 AVOIDED BY THE USE OF RENEWABLE ENERGY IN THE DRC 2020-2022

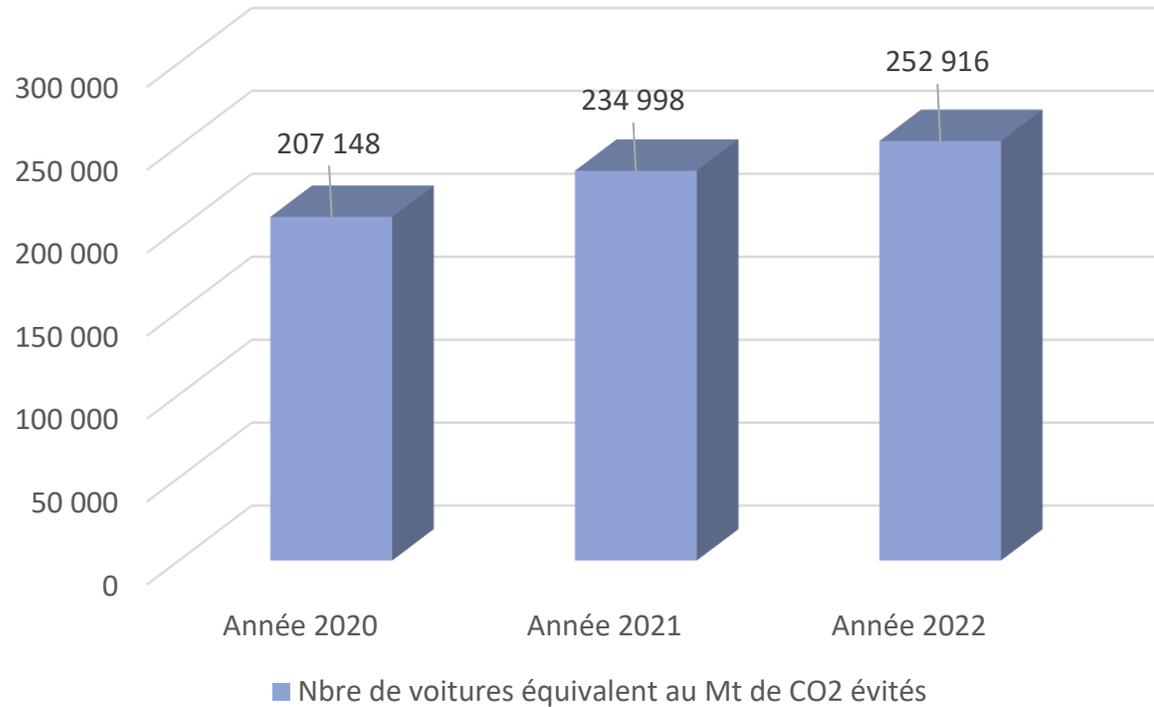


Figure 12: Analogy between Mega tons of CO2 avoided by using renewable energies in the DRC and cars withdrawn from circulation.

NUMBER OF TREES EQUIVALENT TO CO2 AVOIDED BY THE USE OF RENEWABLE ENERGY IN DRC 2020-2022

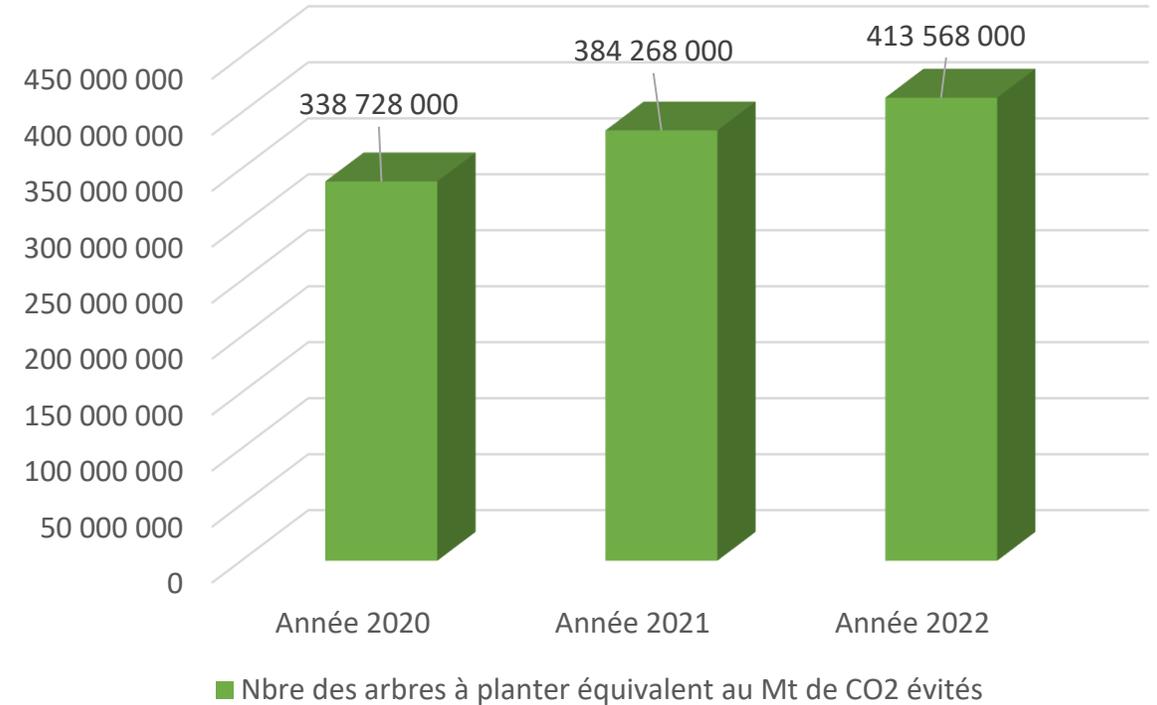


Figure 13: Analogy between the Mega tons of CO2 avoided by using renewable energies in the DRC and the trees planted,

NATIONAL CUSTOMERS

CUSTOMERS SERVED WITH ELECTRICITY FROM 2020 TO 2022



INVOICED CUSTOMERS



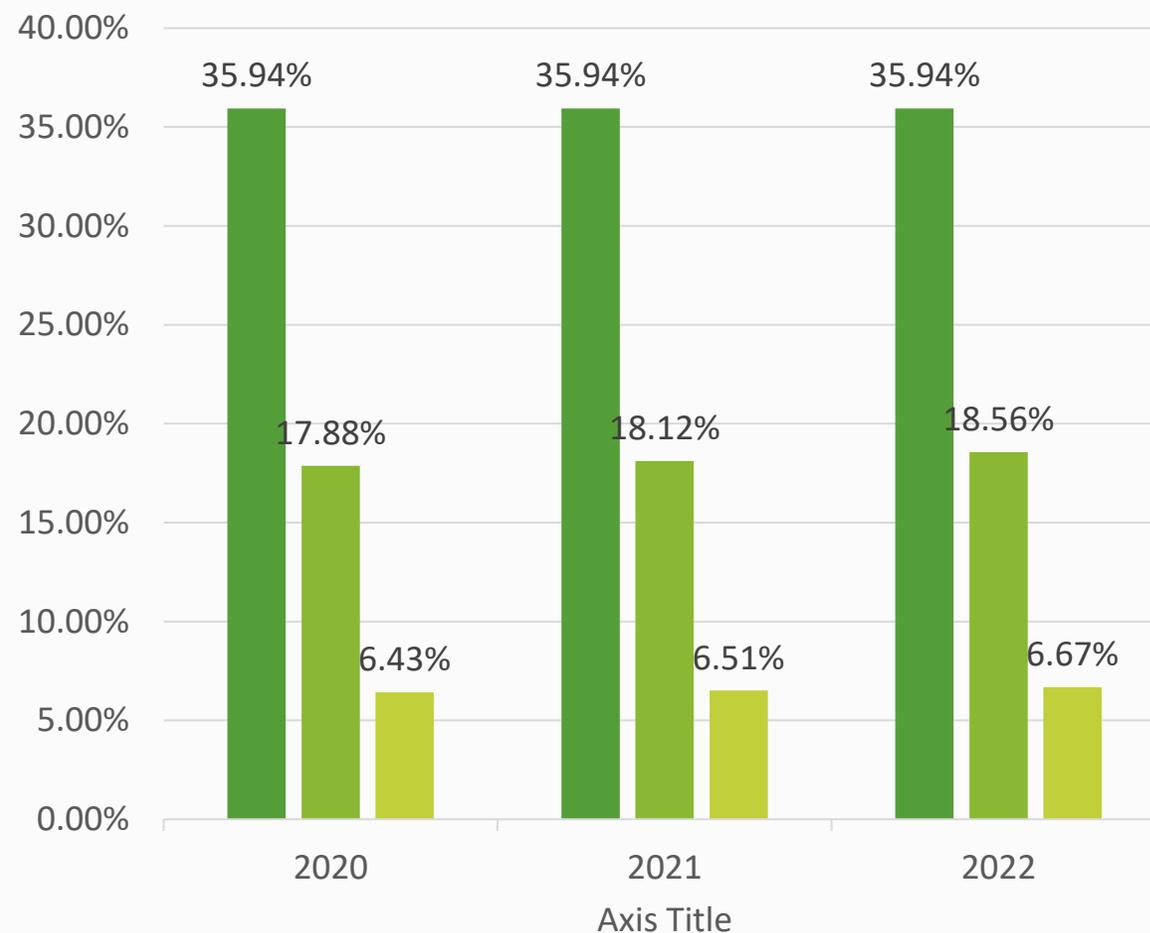
Figure 16: Customers billed from 2020 to 2022

Year	Popzelec	Popz	Popdess	Rate Geographic Coverage
				TC=Popzelec/Popz
2020	33 148 466	92 234 000	5 926 716	35,94%
2021	34 142 922	95 000 000	6 187 026	35,94%
2022	35 167 209	97 850 000	6 527 382	35,94%

Year	Popzelec	Popz	Popdess	Service rate
				TD=Popdess/Popzelec
2020	33 148 466	92 234 000	5 926 716	17,88%
2021	34 142 922	95 000 000	6 187 026	18,12%
2022	35 167 209	97 850 000	6 527 382	18,56%

Year	Popzelec	Popz	Popdess	Electrification rate	Access rate
				TE =Popdess/Popz	TA=TE
2020	33 148 466	92 234 000	5 926 716	6,43%	6,43%
2021	34 142 922	95 000 000	6 187 026	6,51%	6,51%
2022	35 167 209	97 850 000	6 527 382	6,67%	6,67%

Synthesis of DRC electricity indicators 2020-2022



- Taux de couverture géographique
- Taux de desserte
- Taux d'accès

Item	SOURCE	INSTALLED CAPACITY (MW)	Rate (%)
1	Hydroelectricity	374,7	11%
2	Photovoltaic	2625,145	80%
3	Thermal	181	6%
4	Import	101,5	3%
Total		3282,22	100%

Source : ARE Compilation

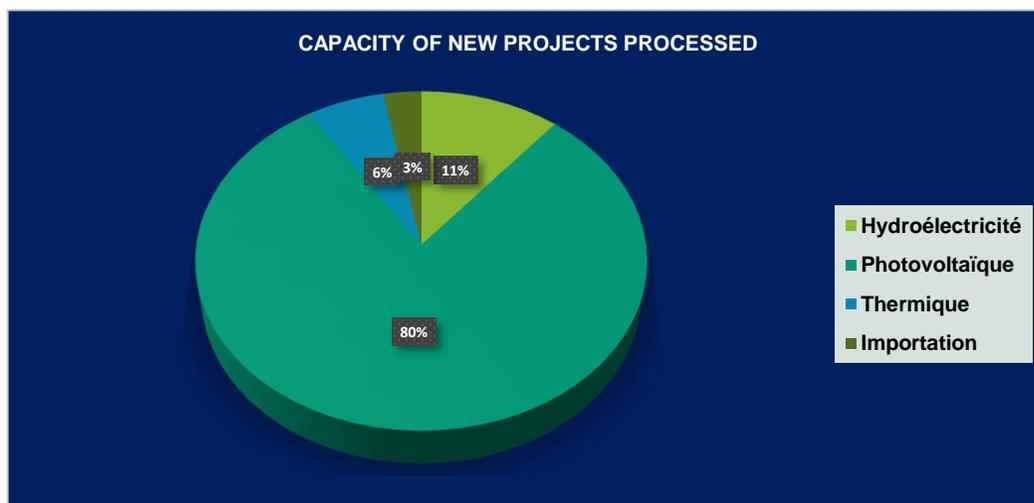


Figure 5: Expansion of installed capacity in the DRC

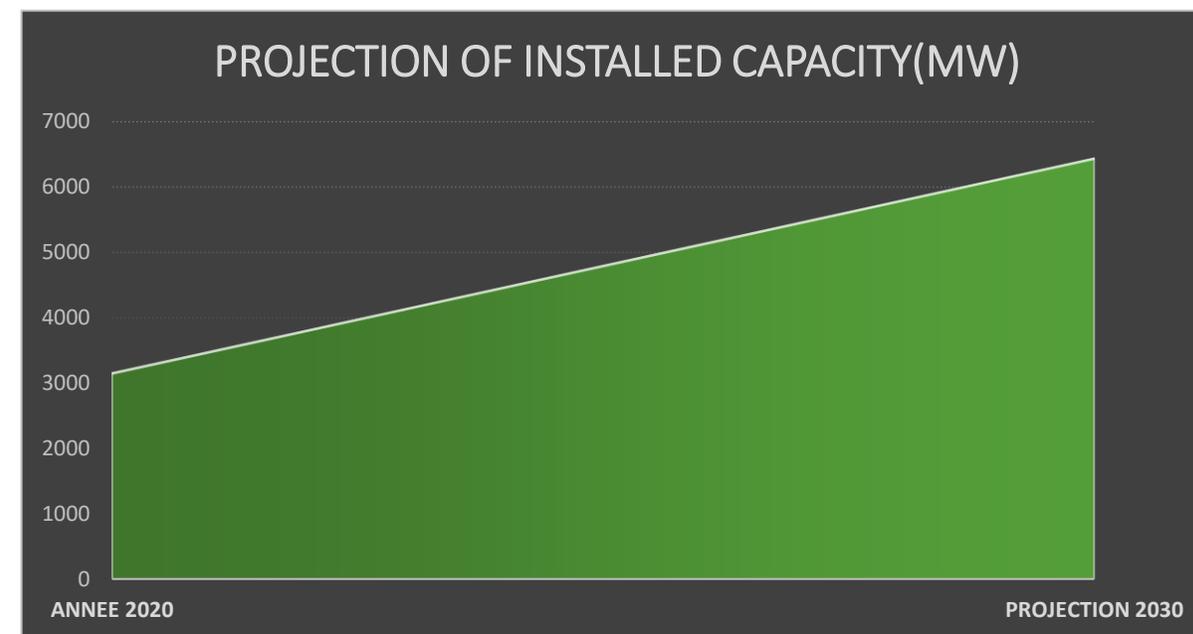


Figure 6: Projection of the energy park of the DRC since 2020



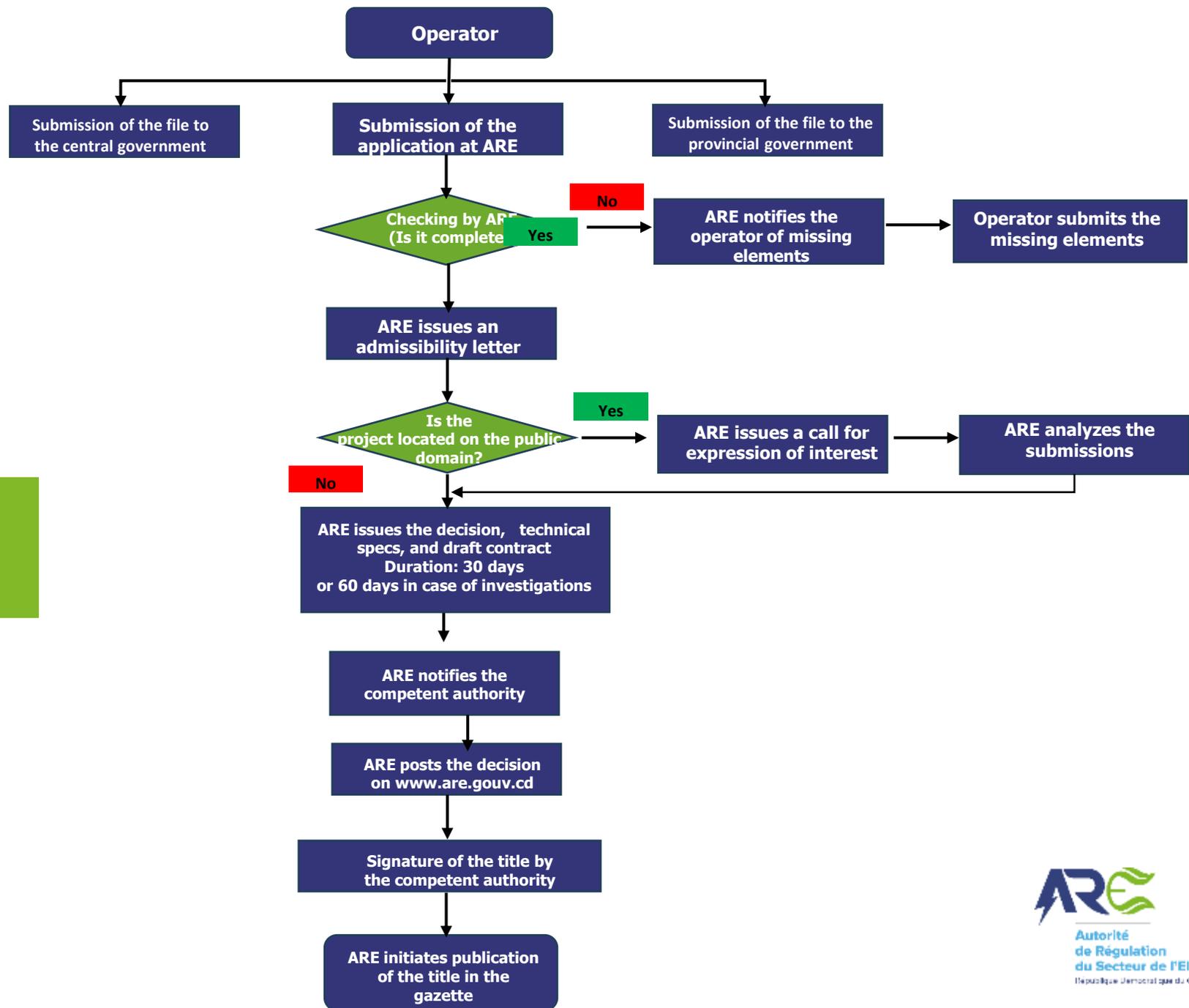
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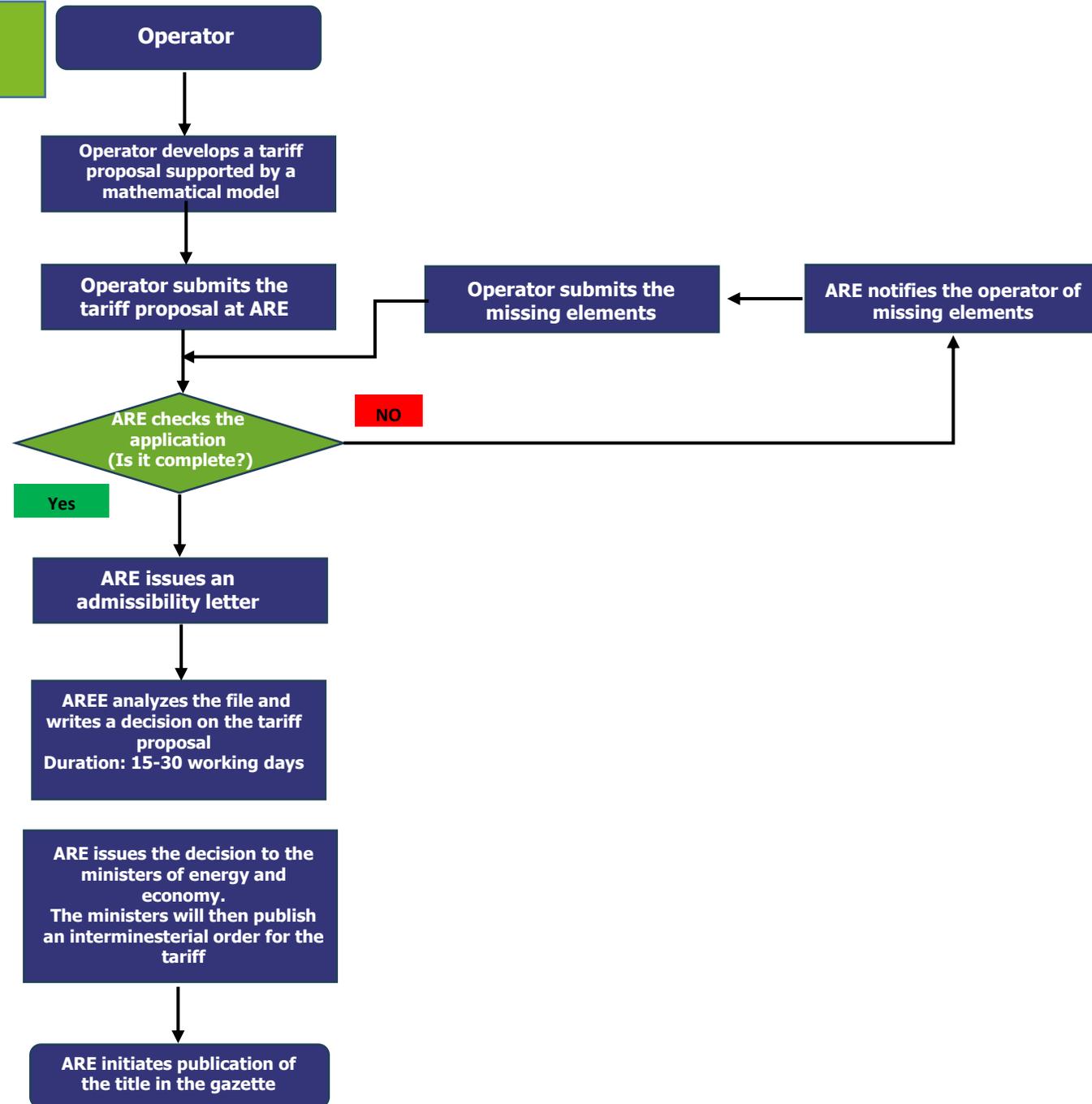
03

MAIN PROCESSES

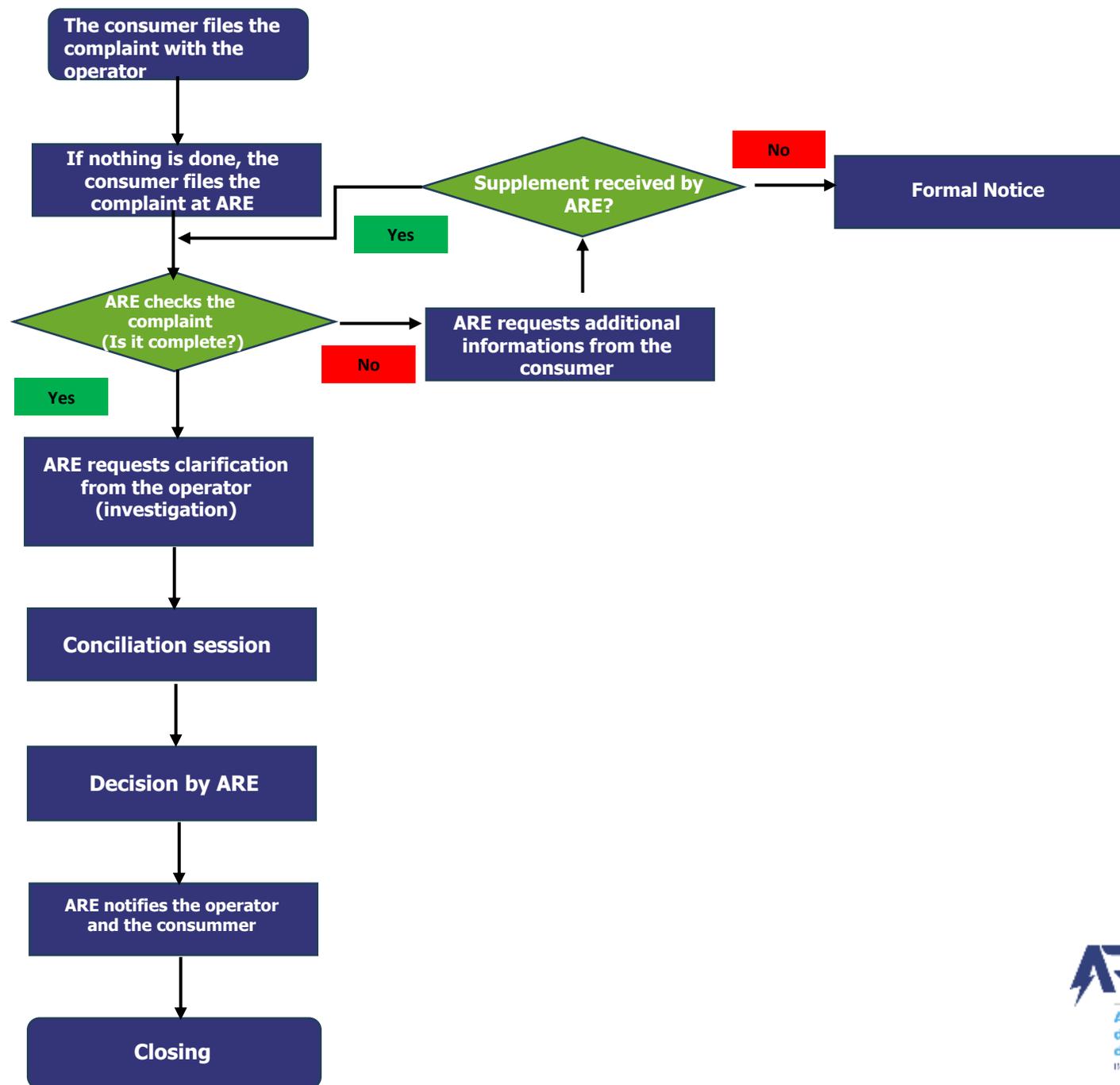
PROCESS FOR GRANTING TITLES



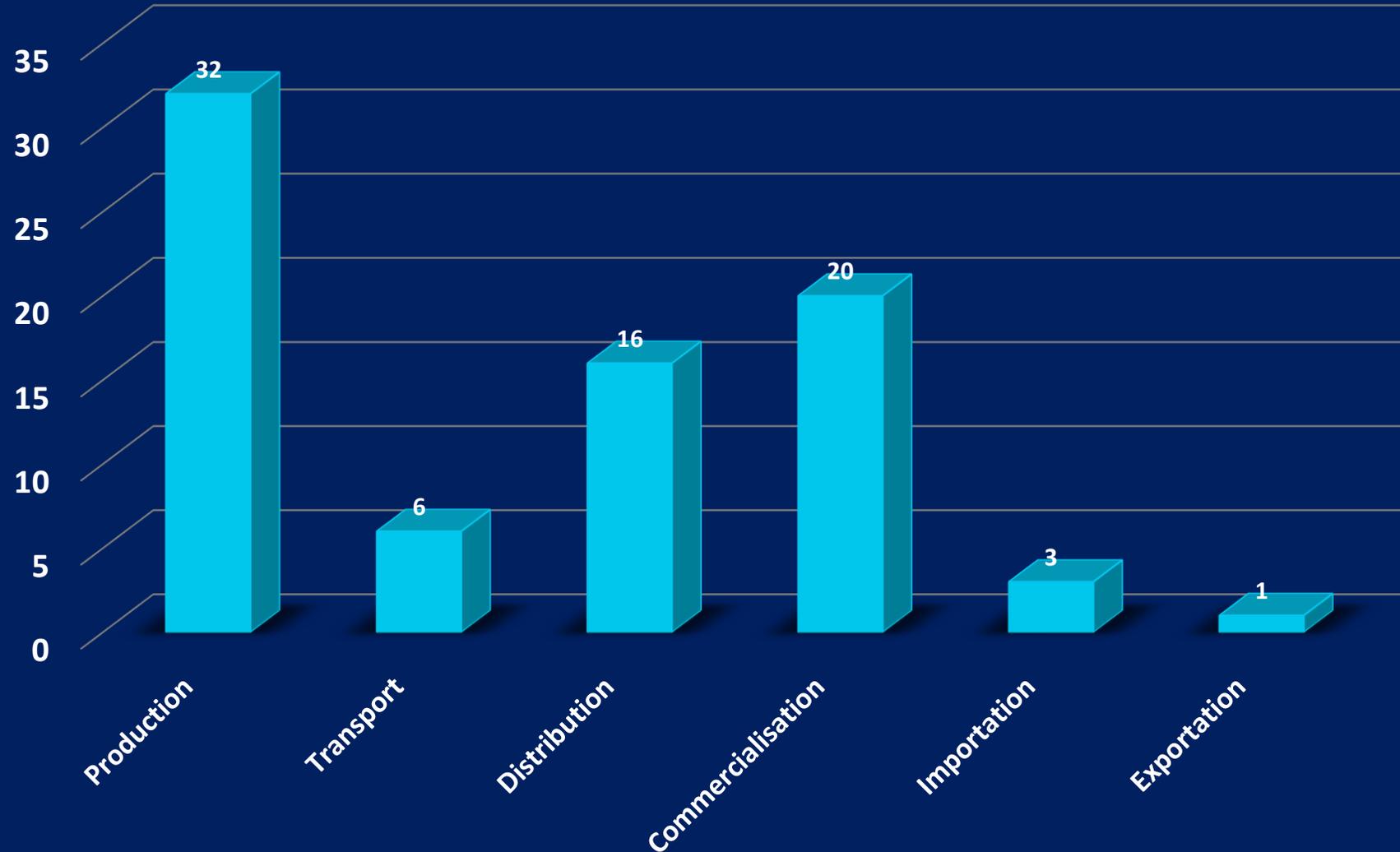
TARIFF SETTING PROCESS



CONSUMER COMPLAINTS PROCESS



NUMBER OF OPERATORS PER SEGMENT



Contact

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- YouTube: <https://www.youtube.com/channel/UCIyx7oreZwULfVpQQRNVT5Q>

