

RGC's Energy Policy and Challenges

Area Focus

Background, Structures, Laws and Regulation, Policy and Strategies, Status of energy demand supply and outlook, and challenges in the sector



**Ministry of Mines
and Energy**



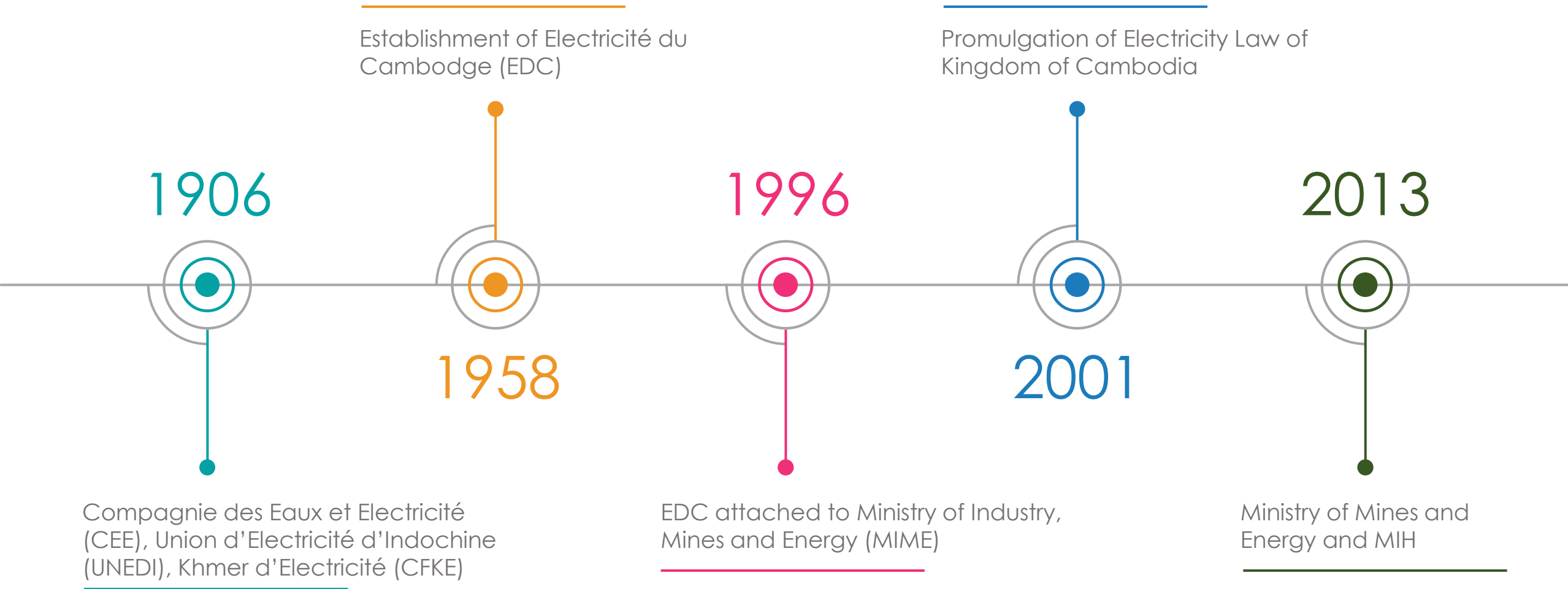
**Electricity
Authority of
Cambodia**



**Electricite Du
Cambodge**



BACKGROUND

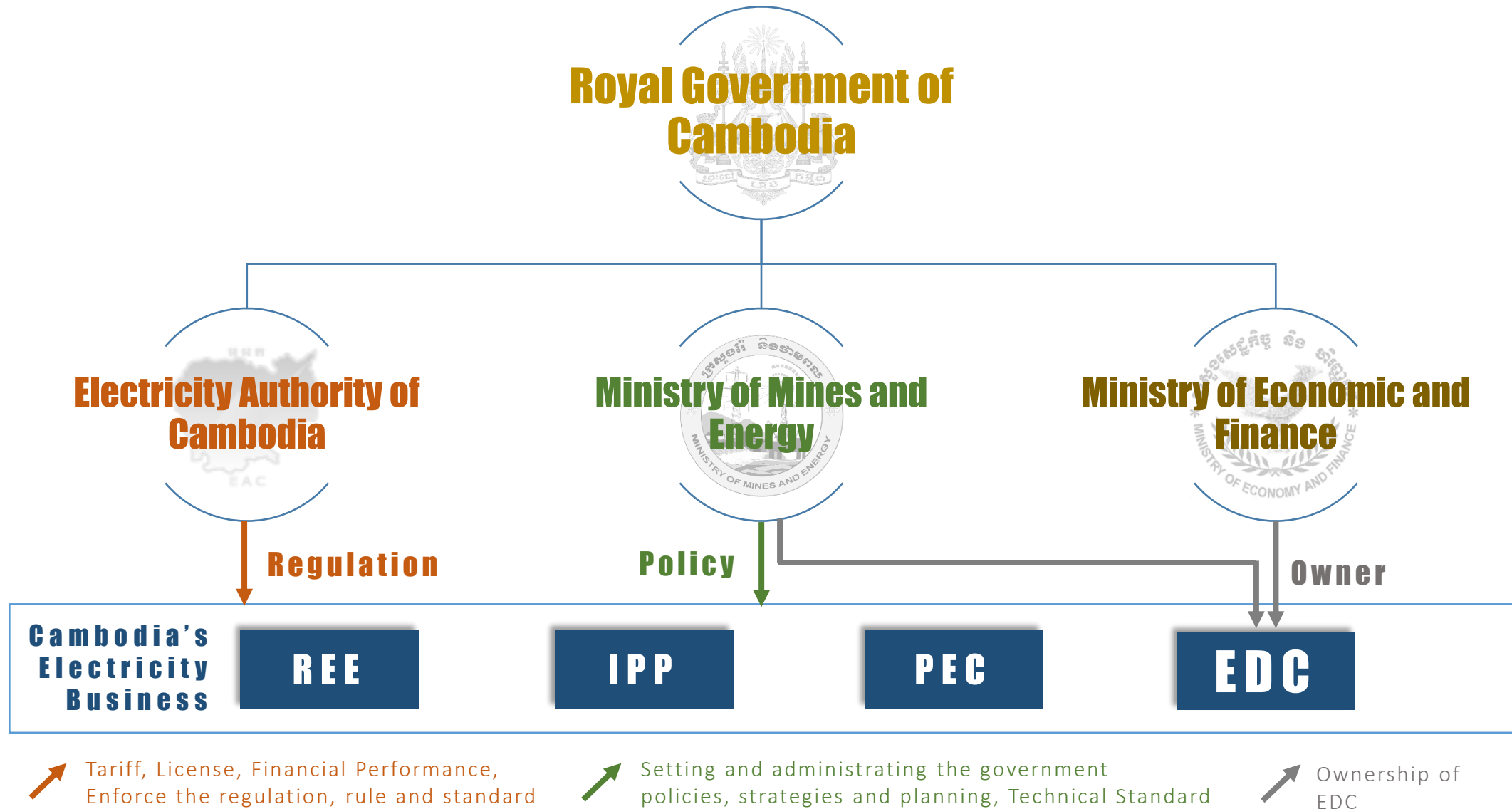


LAWS AND REGULATION

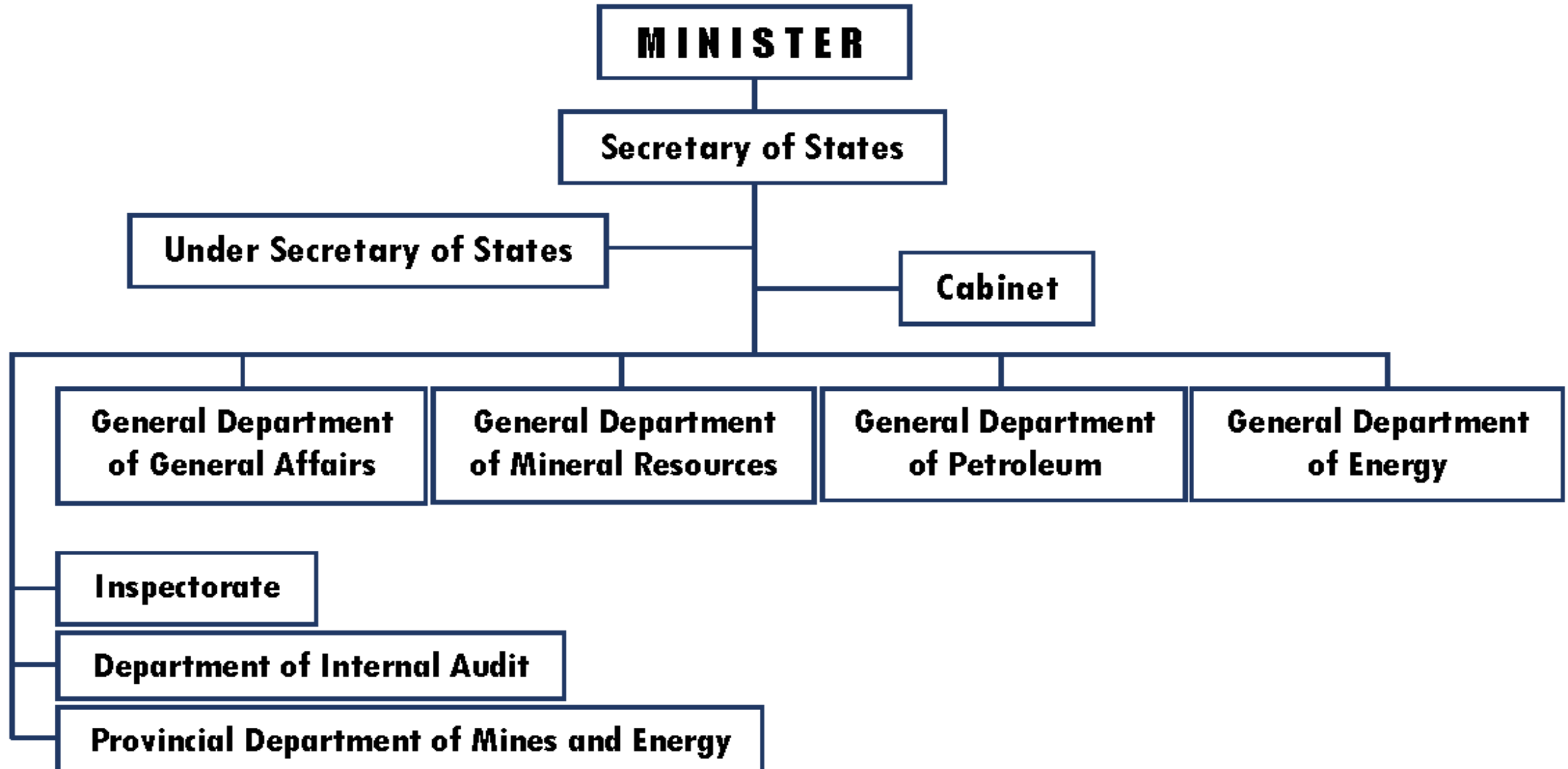


- ❑ **Purpose:** To govern and to prepare a framework for electric power supply and services throughout the Kingdom.
- ❑ **Effective:** Cover all activities related to supply of electricity, provision of services and use of electricity, and other associated activities of power sector.
- ❑ **In Article 3:** It defines the responsibility of Ministry of Mines and Energy (MME) and Electricity Authority of Cambodia (EAC) **separately**

STRUCTURES/National

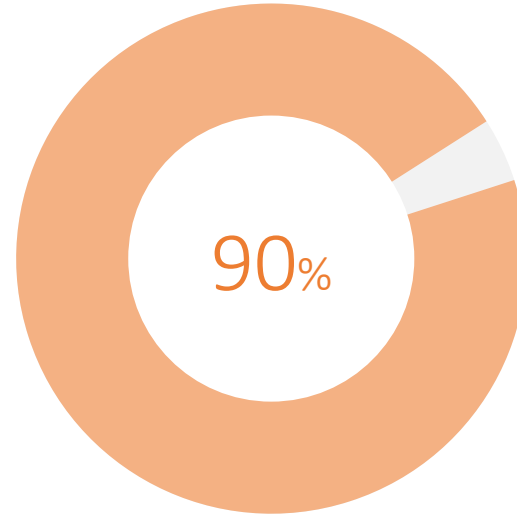


STRUCTURES/Organizational



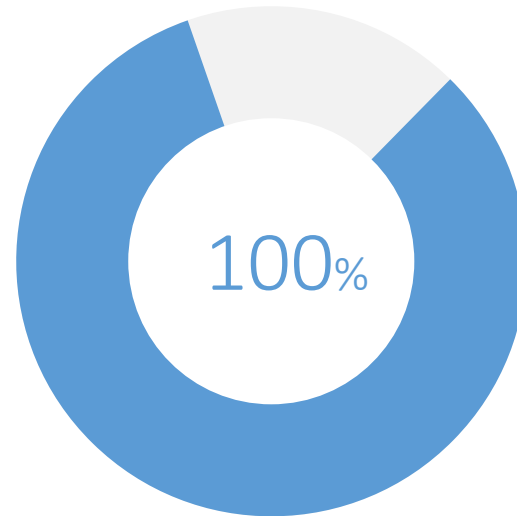
TWO-STEP TARGET OF RURAL ELECTRIFICATION

“to achieve enough electricity supply of proper quality to be able to meet the demand in a sustainable, stable manner and at a reasonable prices throughout the Kingdom of Cambodia”



2030

at least 90% of households will have access to grid-quality electricity



2020

all the villages of the Kingdom of Cambodia will have electricity of some type

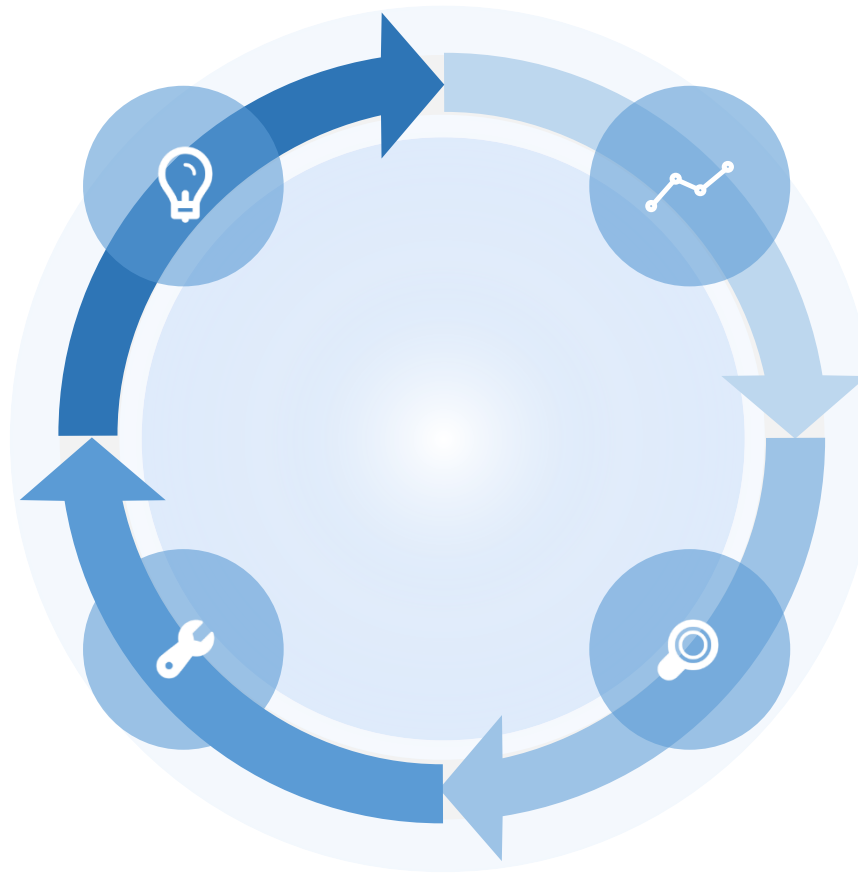
BASICS OF ENERGY POLICY

• SUPPLY

To provide an adequate supply of energy throughout Cambodia at reasonable and affordable price

• EFFICIENCY

To encourage the efficient use of energy and to minimize the detrimental environmental affects resulted from energy supply and consumption.



• INVESTMENT

To ensure a reliable and secured electricity supply at reasonable price, which facilitates investment in Cambodia and development of national economy

• EXPLORATION

To encourage exploration and environmentally and socially acceptable development of energy resources needed for supply to all sectors of Cambodia economy

POWER DEVELOPMENT STRATEGY

• 1 • DEVELOPMENT OF GENERATION

- Increasing diversify of power supply such as hydro, coal, import electricity, biomass and other renewable energy sources to meet the electricity demand, and reduce fuel oil for power generation

• 2 • DEVELOPMENT OF TRANSMISSION LINES

- Develop the national transmission line, GMS & ASEAN power grid, maximize mini-grid to rural areas, and upgrade existing HV, MV and as well as LV transmission lines.

• 3 • DEVELOPMENT OF RURAL ELECTRIFICATION

- Supply from the national grid, mini-grid, grid extension and stand-alone system; renewable energy

RURAL ELECTRIFICATION

Rural Electrification Fund (REF) has been established to accelerate the development of rural electrification



P2P

To facilitate the poor households in rural areas to have access to electricity for their houses from grid supply by providing interest free loan



SHS

To facilitate the remote rural household, which may not have access to the electricity network for a long period, access electricity through SHS



Infra-Dev

To facilitate the private electricity licensee in rural areas to access fund for investing on construction of electricity supply infrastructure



Agri-Pumping

To provide subsidy and electricity for pumping for agricultural irrigation to the licensees connected to the grid system

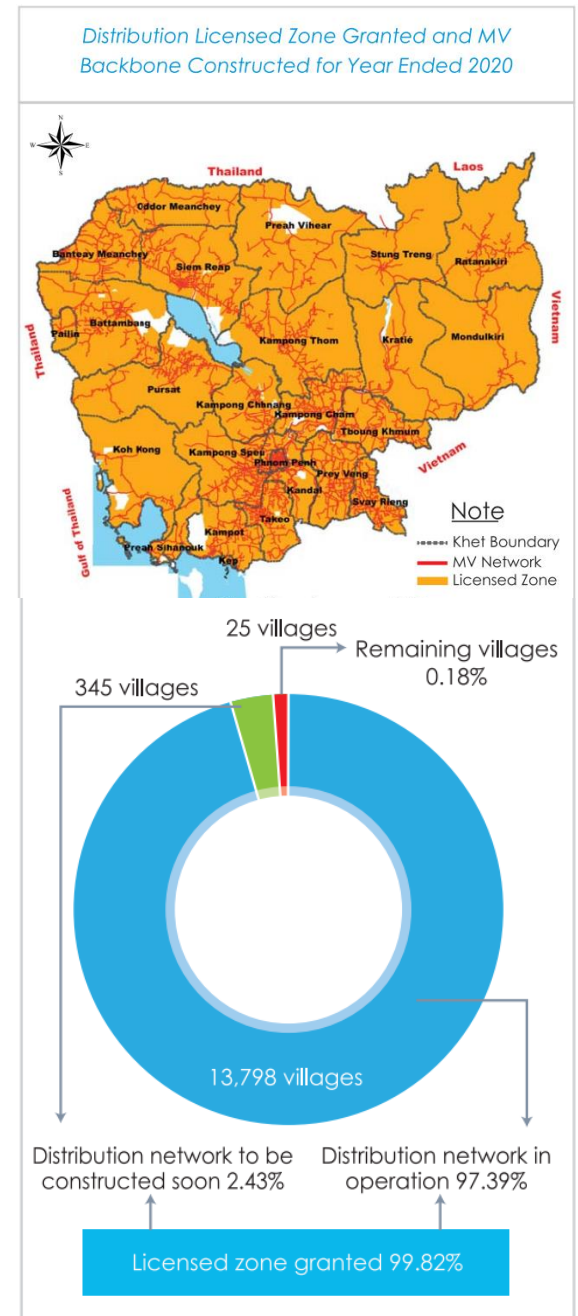


Subsidy

Provide subsidy to the Licensees connected to the Grid System for Reduction of Tariff for Sale of Electricity in Rural Areas

Year	Power Sources Capacity (Megawatt)	Energy Delivered (Gwh)
2006	250	1,000
2007	350	1,200
2008	450	1,400
2009	550	1,600
2010	650	1,800
2011	750	2,000
2012	850	2,200
2013	1,000	2,500
2014	1,200	2,800
2015	1,400	3,200
2016	1,600	3,600
2017	1,800	4,000
2018	2,000	4,500
2019	2,200	5,000
2020	2,400	5,500

Power Sources Capacity (MW)	325	419	490	579	584	793	825	1,088	1,359	1,986	2,115	2,322	2,635	2,999	3,897
Energy Delivered (GWh)	1,203	1,517	1,858	2,077	2,515	2,788	3,527	4,051	4,713	5,990	7,175	8,073	9,739	11,738	12,499
Energy Increase (%)	24.46	26.73	22.52	11.76	21.08	13.26	23.84	14.83	16.35	27.09	19.79	14.78	20.64	20.53	6.48

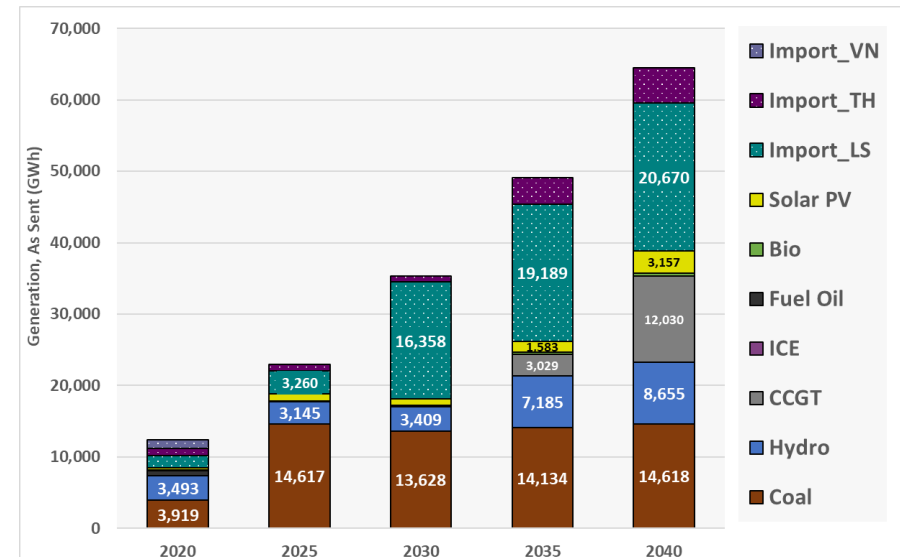
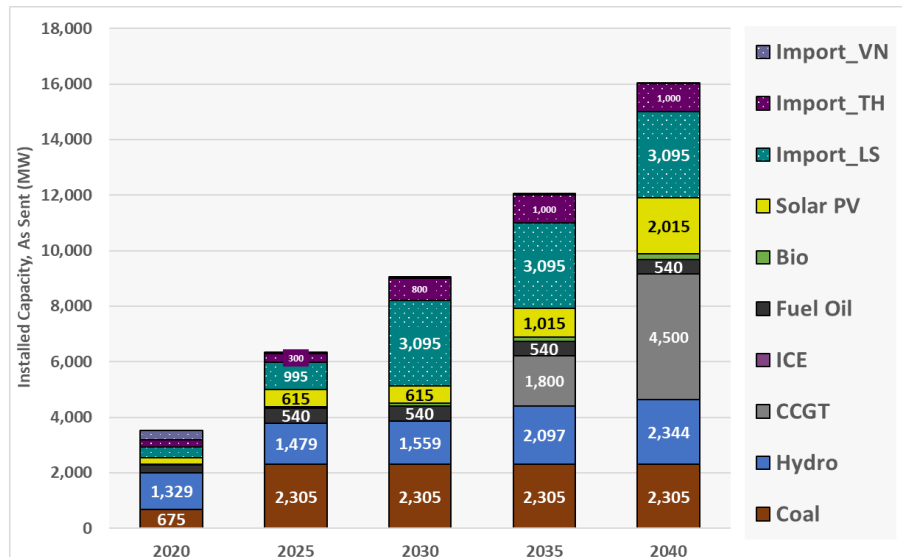
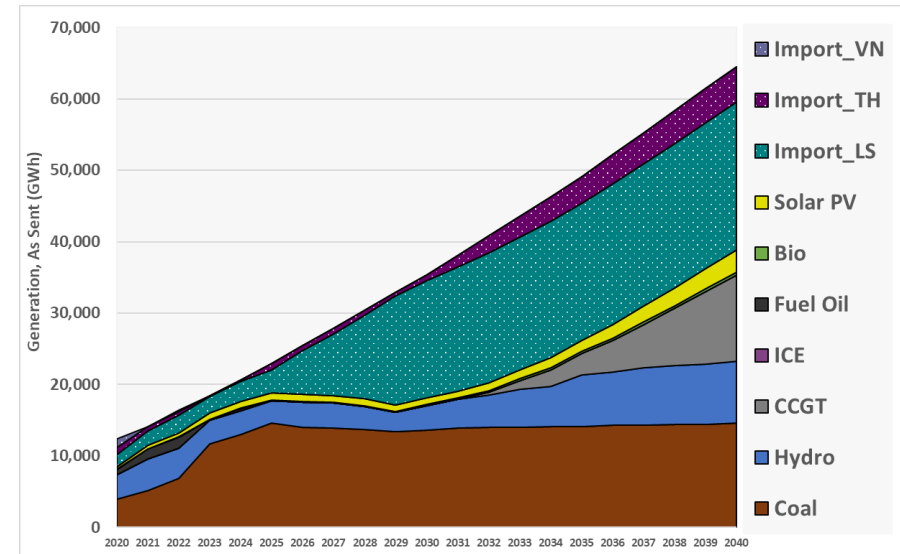
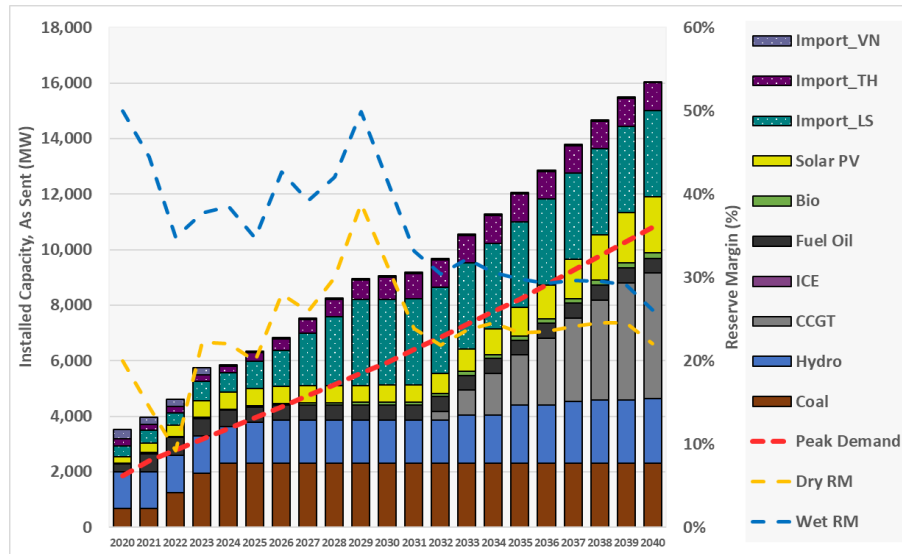


POWER SOURCES

1.2 Data on Different Power Sources for Cambodia

Power Sources	2019				2020				Plan for 2021			
	Installed Capacity		Energy		Installed Capacity		Energy		Installed Capacity		Energy	
	MW	%	GWh	%	MW	%	GWh	%	MW	%	GWh	%
1. Domestic Generation												
- Non-renewable Energy	918.95	38.74%	4,465.86	51.48%	1,318.95	45.23%	4,661.42	54.76%	1,318.95	43.16%	5,476.91	55.09%
+ Coal	675.00	28.45%	3,734.01	43.04%	675.00	23.15%	3,981.58	46.77%	675.00	22.09%	3,840.87	38.63%
+ Fuel Oil	243.95	10.28%	731.85	8.44%	643.95	22.08%	679.84	7.99%	643.95	21.07%	1,636.04	16.46%
- Renewable Energy	1,453.27	61.26%	4,209.39	48.52%	1,597.07	54.77%	3,851.26	45.24%	1,737.07	56.84%	4,465.35	44.91%
+ Hydro power	1,329.70	56.05%	4,025.34	46.40%	1,329.70	45.60%	3,493.15	41.03%	1,329.70	43.51%	4,091.42	41.15%
+ Solar Power	90.00	3.79%	91.71	1.06%	236.80	8.12%	278.84	3.28%	376.80	12.33%	302.51	3.04%
+ Biomass Power	33.57	1.42%	92.34	1.06%	30.57	1.05%	79.27	0.93%	30.57	1.00%	71.42	0.72%
Total Domestic Generation	2,372.22	100%	8,675.25	100%	2,916.02	100%	8,512.68	100%	3,056.02	100%	9,942.26	100%
+ Total Domestic Generation	2,372.22	79.10%	8,675.25	73.91%	2,916.02	74.83%	8,512.68	68.11%	3,056.02	75.70%	9,942.26	71.03%
+ Total Import Power Sources	626.75	20.90%	3,062.65	26.09%	980.75	25.17%	3,985.98	31.89%	980.75	24.30%	4,054.90	28.97%
Total Power Sources	2,998.97	100%	11,737.90	100%	3,896.77	100%	12,498.66	100%	4,036.77	100%	13,997.17	100%

OUTLOOK/Power Capacity and Generation*



*Being finalized in recent PDP revision

BOTTLENECKS IN POLICY PLANNING

STATISTICS: difficulties starting from collecting the data until data interpretation. Additionally, cooperation, transparency, and capability in managing the data are not fully met.

Fund: especially in establishing RE-support policies and in deploying cost clean energy infrastructures.

ADDITIONAL ISSUES

Oil: Cambodia import 100% of petroleum products; no quality specifications

Generation: maximum electricity production from hydropower occurred only in the rainy season

Infrastructure: high costs required to build electricity infrastructure in numerous rural areas, and there have been seen occurrences of power shortage and disruption in electricity distribution.

Tariff: Electricity tariffs in rural areas are higher than in urban areas. (recently unified)

RE Development: Lack of policy and regulations to support the promotion of renewable energy utilization (solar PV regulation: 2018, for example)

