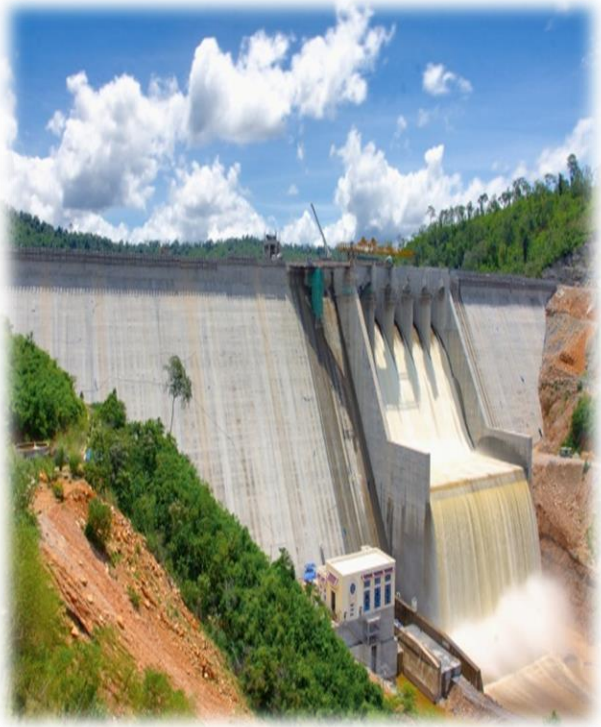
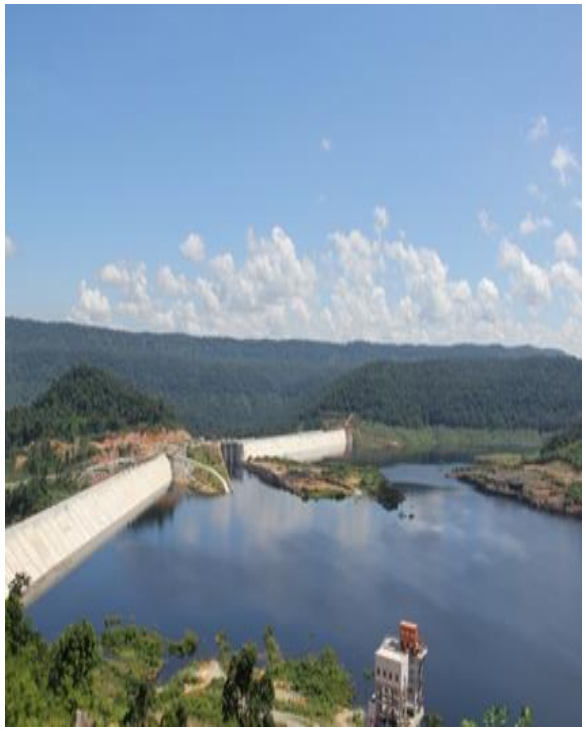
KINGDOM OF CAMBOIDA

NATION RELIGION KING

MINISTRY OF MINES AND ENRGY





Lancang-Mekong Rountable at Beijing, China on 17-19 Oct 2018

MINISTRY OF MINES AND ENRGY

Prospects and Practices of Sustainable Energy Projects and Clean Energy Application

MINISTRY OF MINES AND ENRGY

Content:

I. Cambodia Geography

II. Energy Organization, Policy and Strategy

III. Power Supply and Demand (2017-2018)

IV. Power Development Projects (2012-2018)

V. Clean Energy Challenges

VI. Conclusion

MINISTRY OF MINES AND ENRGY

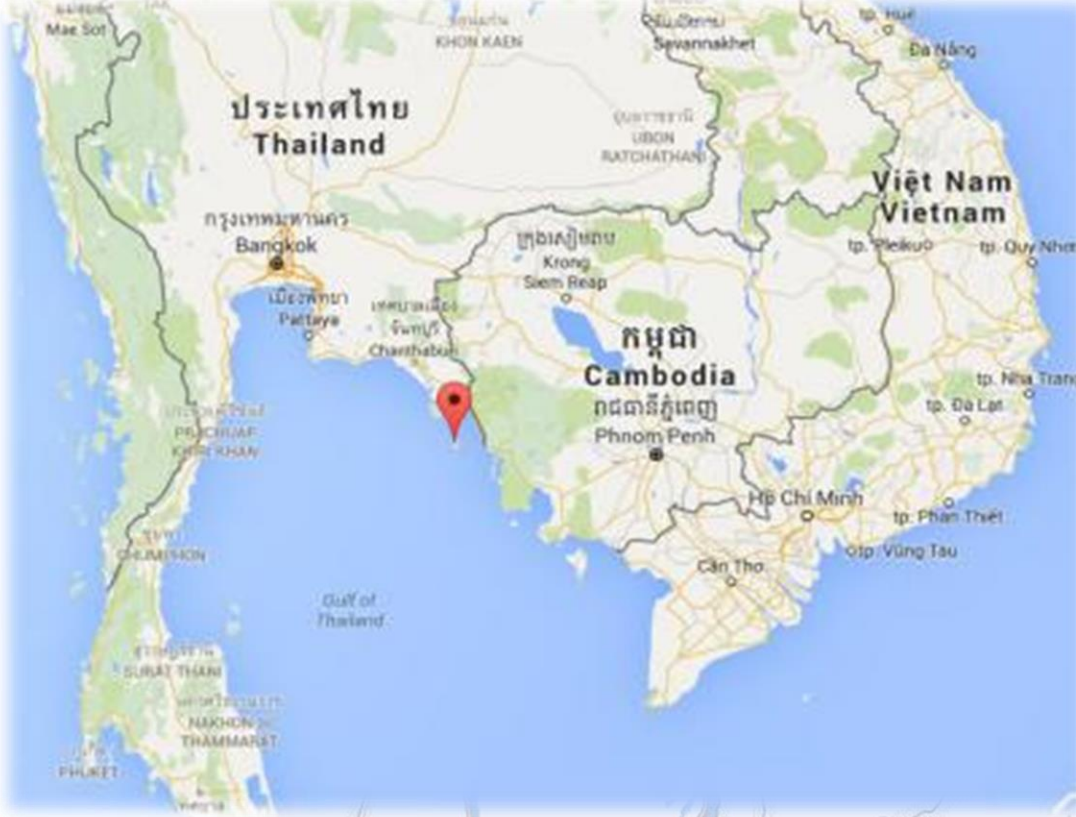
I. Cambodia Geography

Kingdom of Cambodia

Capital City: Phnom Penh
Population: 16.3 Millions
Language: Khmer
Religion: Buddhism
Land Area: 181,035 Km^2
Flag:

Points of Cambodia

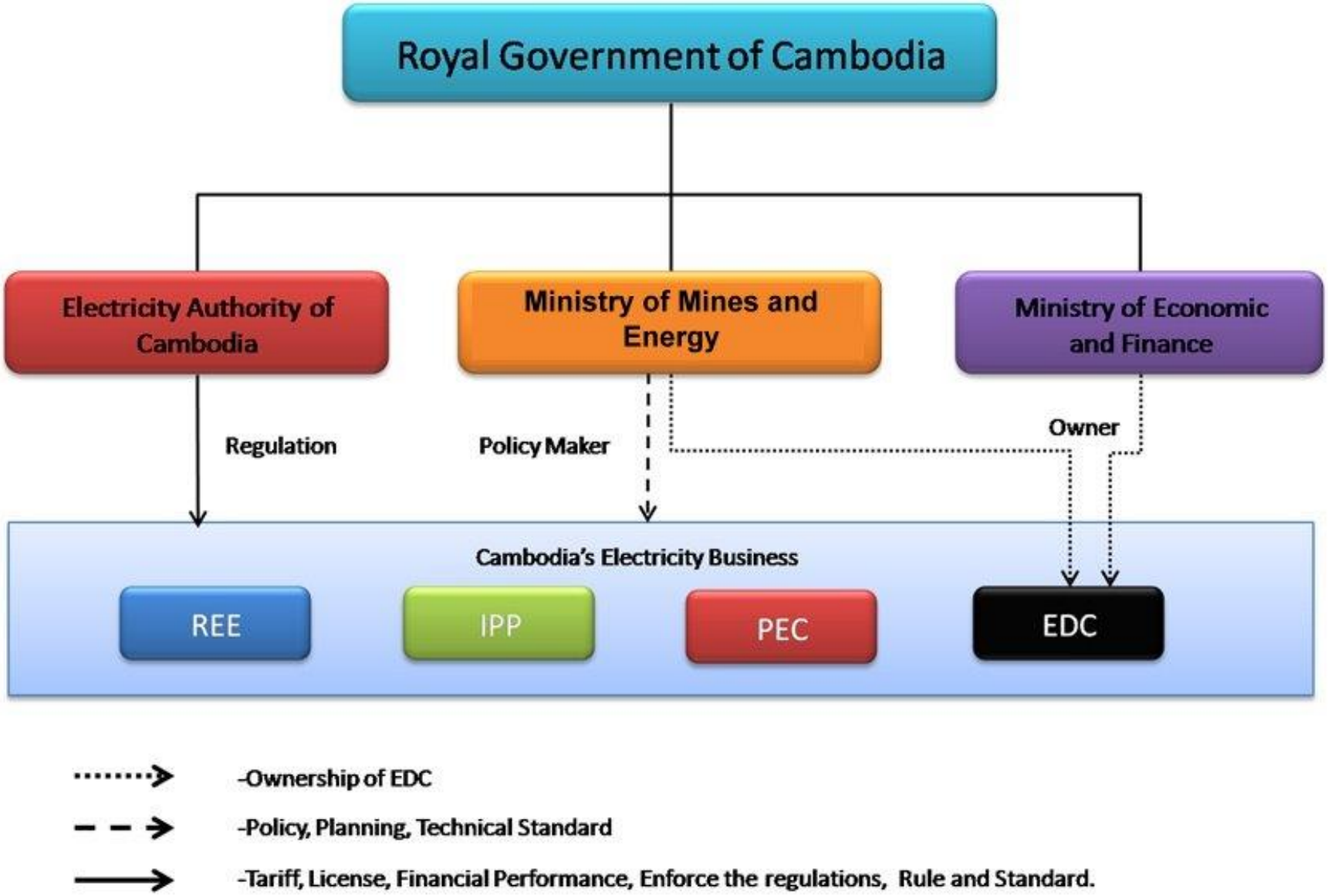
- Location: Southeast Asia,
- Climate: Tropical (Rainy & Dry Season)



MINISTRY OF MINES AND ENRGY

II. Energy Organization, Policy and Strategy

Structure of Electricity Organization



National Energy Policy

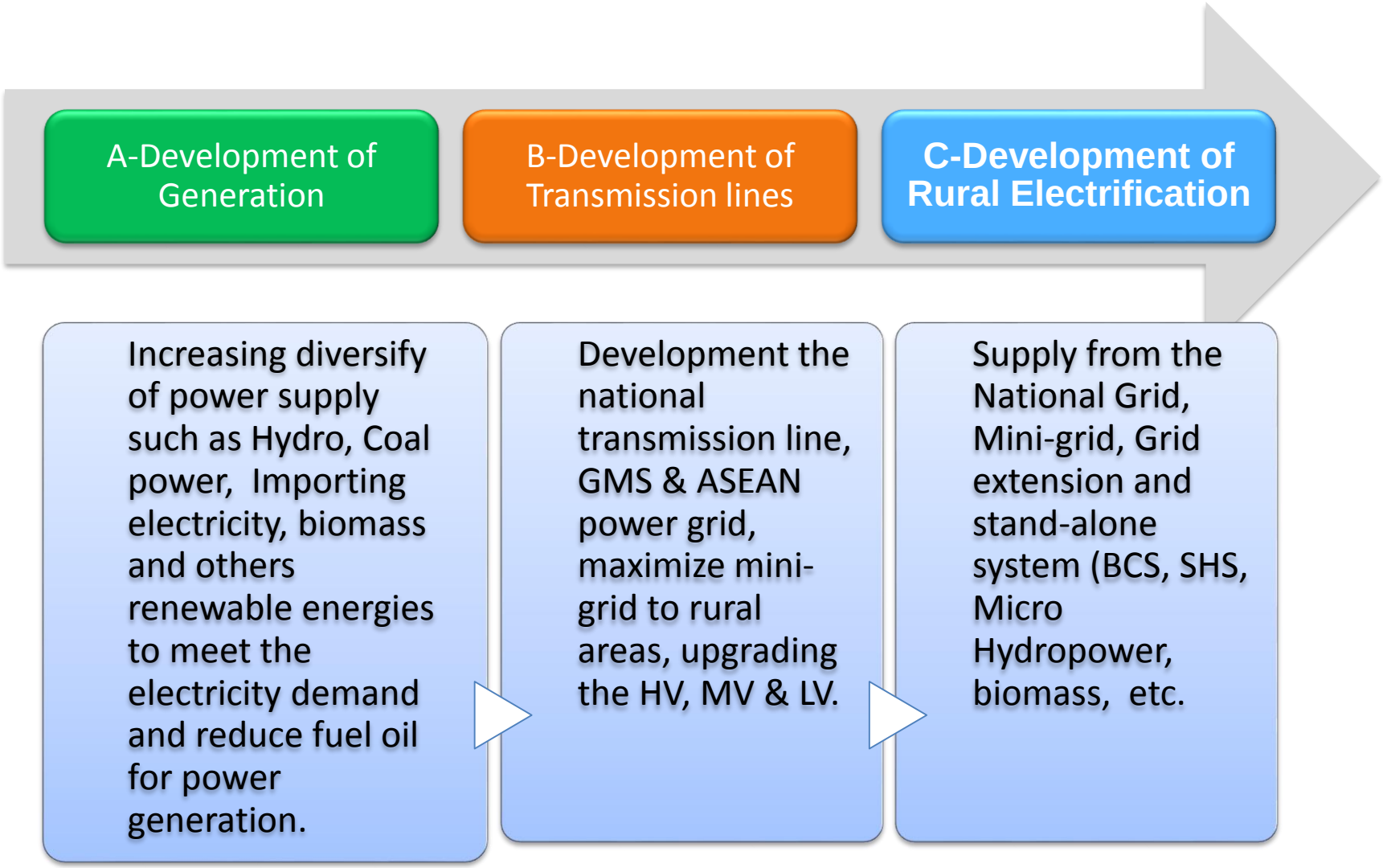
To provide an adequate supply of energy throughout Cambodia at reasonable and affordable price,

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

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

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

Cambodia Power Strategy



MINISTRY OF MINES AND ENRGY

III. Power Supply and Demand

(2017-2018)

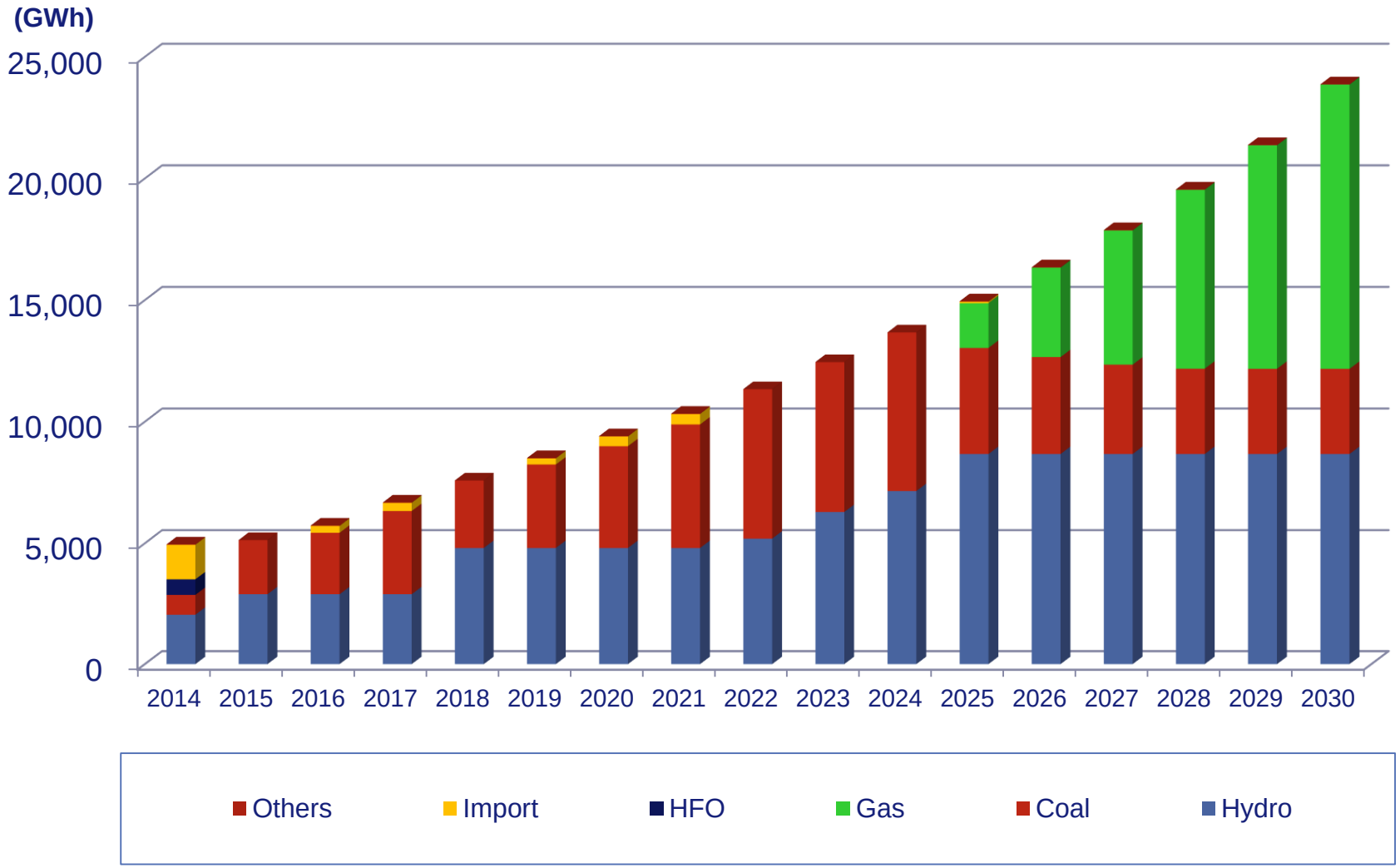
Cambodia Power Sources Year 2017-2018

Power Sources	2017			Plan _2018		
	MW	Million kWh	%	MW	Million kWh	%
1. Internal						
Coal Power Plant	538.00	2,829.12	35.51	538.00	3,020.58	33.27
Hydro Power Plant	979.70	3,217.79	40.39	1,329.70	4,209.25	46.36
Power Generation	251.33	381.14	4.78	251.33	260.43	2.87
Renewable Energy	84.27	48.61	0.61	72.27	60.06	0.66
Industry	13.19	9.59	0.12	10.63	8.68	0.10
Total Internal	**1,866.49**	6,486.25	81.42	**2,201.93**	6,505.68	83.26
2. External (Import)						
Thailand	135.50	269.56	3.38	135.50	266.37	2.93
Vietnam	277.00	1,153.85	14.48	277.00	1,178.19	12.98
Lao PDR	4.00	56.52	0.71	4.00	75.62	0.83
Total External	**416.50**	1,479.93	18.58	**416.50**	1,520.18	16.74
Total Power Sources	**2,282.99**	7,966.18	100	**2,618.43**	9,079.18	100

Inter-connection with Neighbor Countries

- Thailand
  - Actual: 7 points of 22 kV cross border, 115 kV in 2007
  - Request For New Connection points:
    - 7 points of 22 kV and 35 kV cross border
- Vietnam
  - Actual:
    - 19 points of 22 kV and 35 kV cross border
    - 230 kV in 2009
  - Request For New Connection points:
    - 3 points of 22 kV and 35 kV cross border
- Lao PDR
  - Actual: 2 point at 22 kV
  - Other requests in progress
  - Future: 230 kV in 2017-20

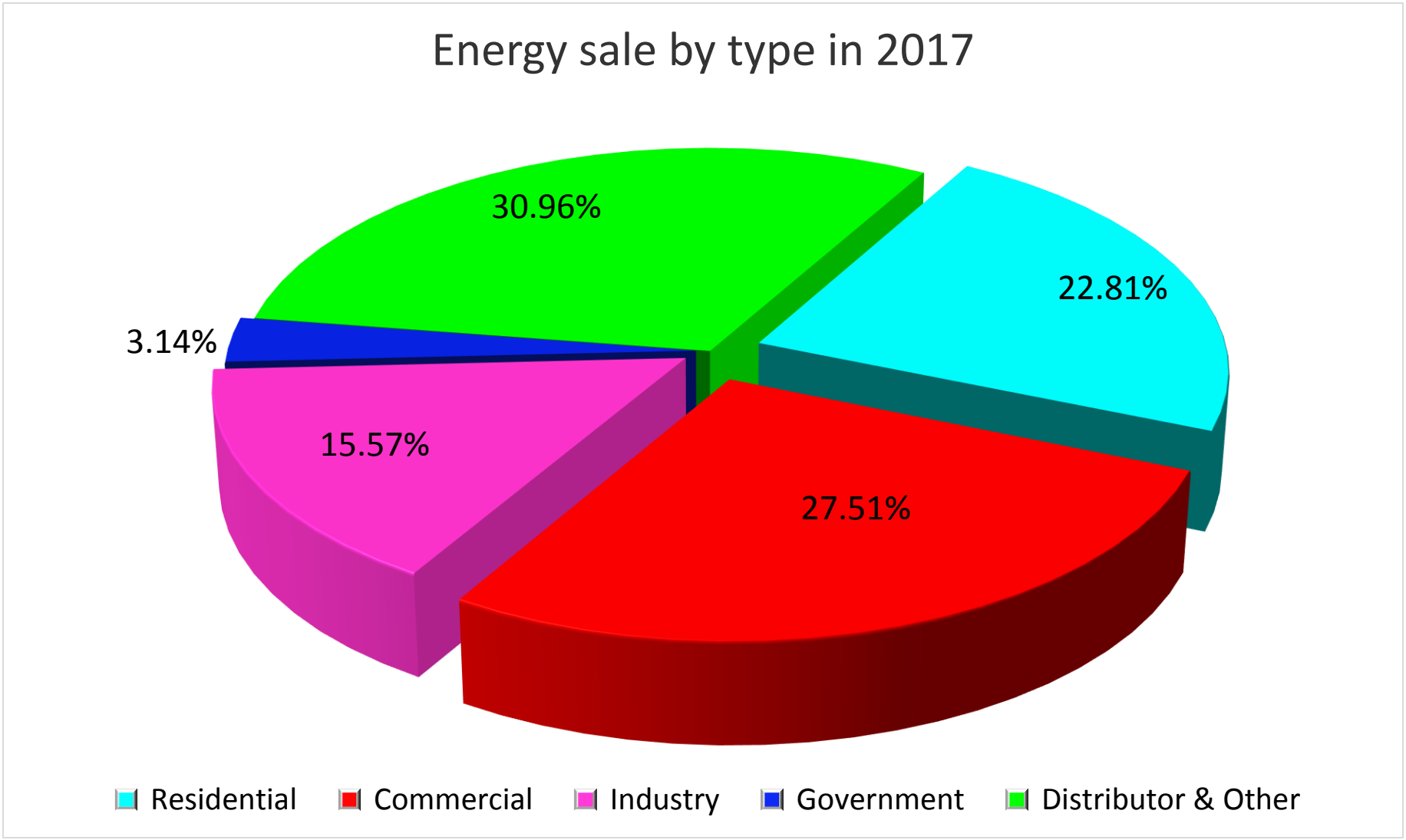
Energy Basic Plan (2014-2030)



Source: Power Development Master Plan

Note: If Cambodia can explore the Domestic Natural Gas, Gas Power Plant can be considered from 2025.

Energy Consumption Year 2017



MINISTRY OF MINES AND ENRGY

IV. Power Development Projects

(2012-2018)

Kamchay Hydropower Plant

- Install Capacity: 194.1 MW (3 x 60 MW, 3 x 3.1 MW, 0.8 MW, 4 MW)
- Reservoir
- Location: Kampot Province

- COD: 1-Aug-2012

Kirirom III Hydropower Plant

- Install Capacity: 18 MW (2 x 9 MW)
- Reservoir
- Location: Koh Kong Province
- COD: 27-Sept-2012

Atay Hydropower Plant

- Install Capacity: 120 MW (4 x 25 MW, 2 x10 MW)
- Reservoir
- Location: Pursat Province
- COD: 1-Sept-2013

Tatay Hydropower Plant

- Install Capacity: 246 MW (3 x 82 MW)
- Reservoir
- Location: Koh Kong Province
- COD: 22 Jun 2015

Lower Stung Russei Chrom Hydropower Plant

- Install Capacity: 338 MW
  (2 x 103 MW, 2 x 66 MW)
- Reservoir
- Location: Koh Kong Province
- COD: 15-July-2014

Sihanouk Ville Coal Power Plant N.1 (CEL)

- Install Capacity: 2 x 50 MW
- Location: Sihanouk Province
- COD: 2-Dec-2013

Sihanouk Ville Coal Power Plant N.2 (CIIDG)

- Phase 1: 2 x 135 MW
- Location: Sihanouk Province
- COD: 19-03-2015

- 1x135 MW
- SCOD: 2017

Lower Sesan II Hydropower Plant

- Install Capacity: 400 MW(8 x 50 MW)
  1st Unit : 50 MW in Nov 2017
- Location: Stung Treng
- Run of River
- SCOD: Dec 2018

Phnom Penh Sugar Power Plant (Biomass: Sugar Cane)

- Installed Capacity: 5 MW
- Location: Kampong Speu
- Operation Date: 2013

KAMADHENU VENTURES (Biomass: Sugar Cane)

- Installed Capacity: 20 MW
- Location: Kratie
- Operation Date: 2013

Koh Kong Sugar Power Plant (Biomass: Sugar Cane)

- Installed Capacity: 8 MW
- Location: Koh Kong
- Operation Date: Early 2017

Rui Feng Power Plant (Biomass: Sugar Cane)

- Installed Capacity: 6 MW
- Location: Preah Vihea
- Operation Date: March 2017

Solar Farm

- Installed Capacity: 10 MW
- Location: Bavet city, Svay Rieng
- Operation Date: 01 Oct 2017

New Power Development Projects

No.	Project Type	Capacity Installed (MW)	Unit	Status	COD
1	Coal Fire Power Plant	700 (2x350)	1	Start Construction (End of 2018)	2021
			2		2022
2	Solar Farm	60		Start Construction (End of 2018)	Early 2019
3	Wind Farm	Under feasibility study by Blue Cycle Company (US)			

V. Clean Energy Challenges

- **Unbalance of Power supply and demand during rainy and dry season. (Root cause: almost hydro power plant can generate electricity only 30% of total capacity installed in dry season.)**
- **Low quality of Solar rooftop at rural area.**

VI. Conclusion

- Cambodia will further expanding the capacity of low-cost and high technology electricity production, especially from renewable and clean energy source, along with continued development of all levels of the transmission network aimed at strengthening energy security and ensuring efficient, safe, high quality, reliable and electricity supply and distribution to respond to develop needs.
- Enhancing and continuing active involving in energy cooperation under the regional framework.

THANKS YOU !!!