

Kingdom of Cambodia

Country Report Presentation

Cambodian Power Development Planning

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Electricité du Cambodge (EDC)

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Basic Facts Of Cambodia

- Country: Area 181,035 sq km, water 2.5%. Population 14,241,640. Pop growth rate 1.75%
- GDP growth rate 4.8%
GDP/capita \$795 (2010)
- GDP by sectors:
 - agriculture 29%,
 - industry 30%,
 - service 41%. (Data released on 2010)
- Hydro power potential about 10,000 MW, at present the capacity < 1% used



Cambodia Power Sector Overview

- Cambodia's power sector was severely damaged by years of war and neglect, and people was very sorrow in the world.
- EDC 's Capacity Output in Phnom Penh 2008:217MW and 1,271GWH
- Projection in Cambodia 2024: 3,045 MW and 16,244GWh
- Annual energy consumption per capita: 103kWh
- Currently 22 small isolated power system
- At present, only 22.47 % of households has access to electricity (54% of Urban HH and 13% of Rural HH)

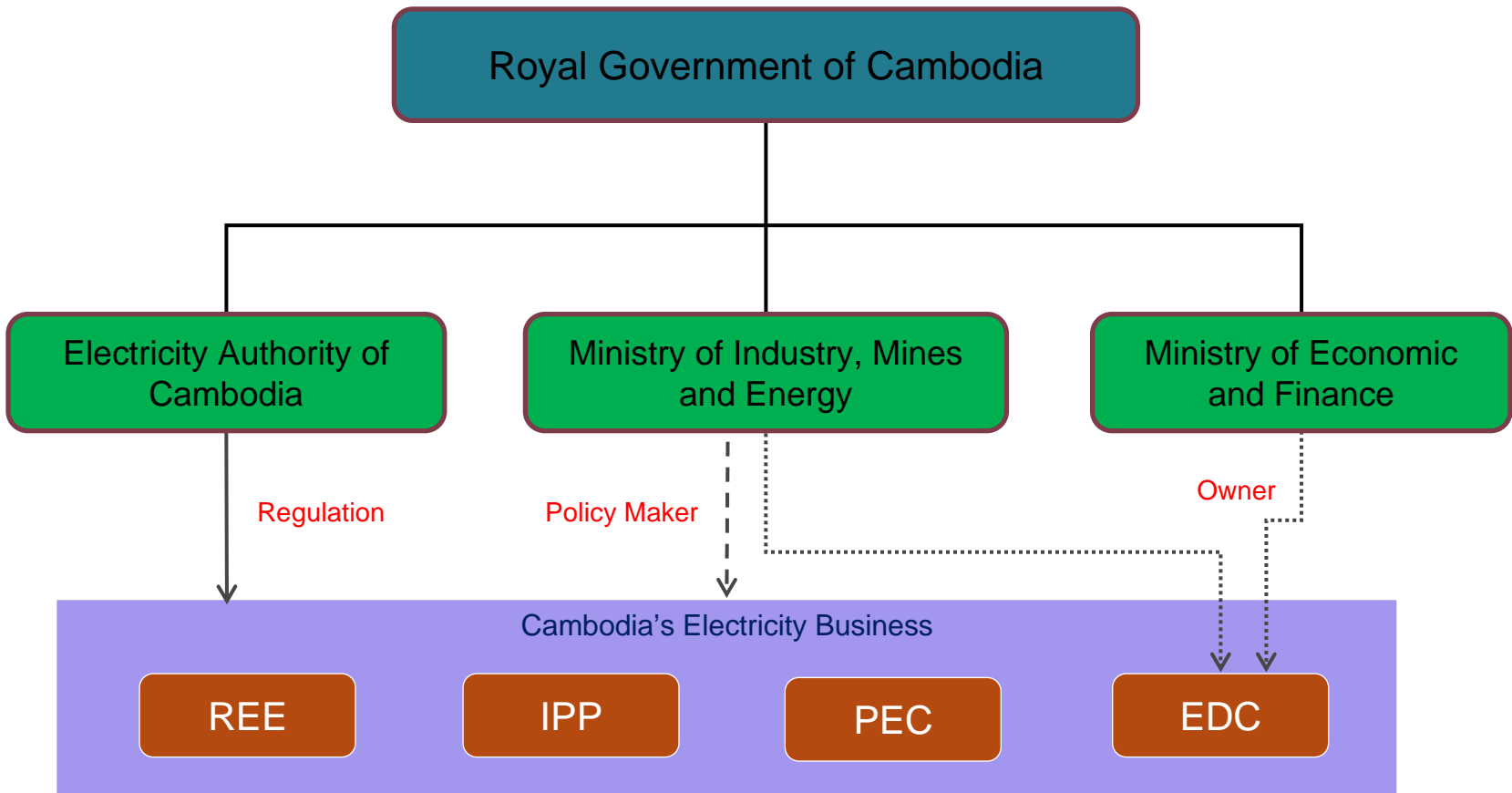
Installed Capacity and energy Imported in year 2008 (MW)




IPP	264.977
Consolidated Licensees	42.784
EDC	76.86
Total	384.621

Energy Imported from Vietnam	150
Energy Imported from Thailand	80
Total	230

Hydropower	Diesel/HFO	Wood, other biomass	Coal	Total
12	353	5	15	385

Current Structure of Electric Power Sector



	-Ownership of EDC
	-Policy, Planning, Technical Standard
	-Tariff, License, Financial Performance, Enforce the regulations, Rule and Standard.

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 reasonable 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 effects resulted from energy supply and consumption.

Policy Target

- 100% of villages have access to electricity services by 2020
- 70% of rural households have access to quality electricity services by 2030

Cambodia Power Development Planning

(Cambodia Power Sector Strategy)

- Cambodia Power Sector Components:

A- Development of Generation

B- Development of Transmission

C- Power trade with neighboring countries

A- Development of Generation

No.	Domestics Generation Expansion Plan	Fuel Type	Install Capa.MW	Year
1	Kamchay Hydro Power Plant	Hydro	193.2	2011
2	Coal Power Plant (I) in Sihanouk Ville - Phase 1	Coal	100	2012
3	Kirirom III Hydro power Plant	Hydro	18	2012
4	Atay Hydro Power Plant	Hydro	120	2012
5	Coal Power Plant (I) in Sihanouk Ville - Phase 2	Coal	100	2013
6	Tatay Hydro Power Plant	Hydro	246	2014
7	Lower Stung Russei Chhrum Hydro Power Plant	Hydro	338	2015
8	700 MW Coal Power Plant (II) -Phase 1	Coal	270	2013
9	700 MW Coal Power Plant (II) -Phase 2	Coal	100	2014
10	700 MW Coal Power Plant (II) -Phase 3	Coal	100	2015
11	700 MW Coal Power Plant (II) -Phase 4	Coal	100	2016
12	Lower Sesan II + Lower Srepok II	Hydro	400	2016
13	Stung Chay Areng Hydro Power Plant	Hydro	108	2017
14	700 MW Coal Power Plant (II) -Phase 5	Coal	100	2017
15	Sambor Hydro Power Plant	Hydro	450/2,600	2019
16	Coal Power Plant (III) or Gas Power Plant	Coal/Natural Gas	400	2020
Total			3,173.2	

Current Situation of Hydro Power

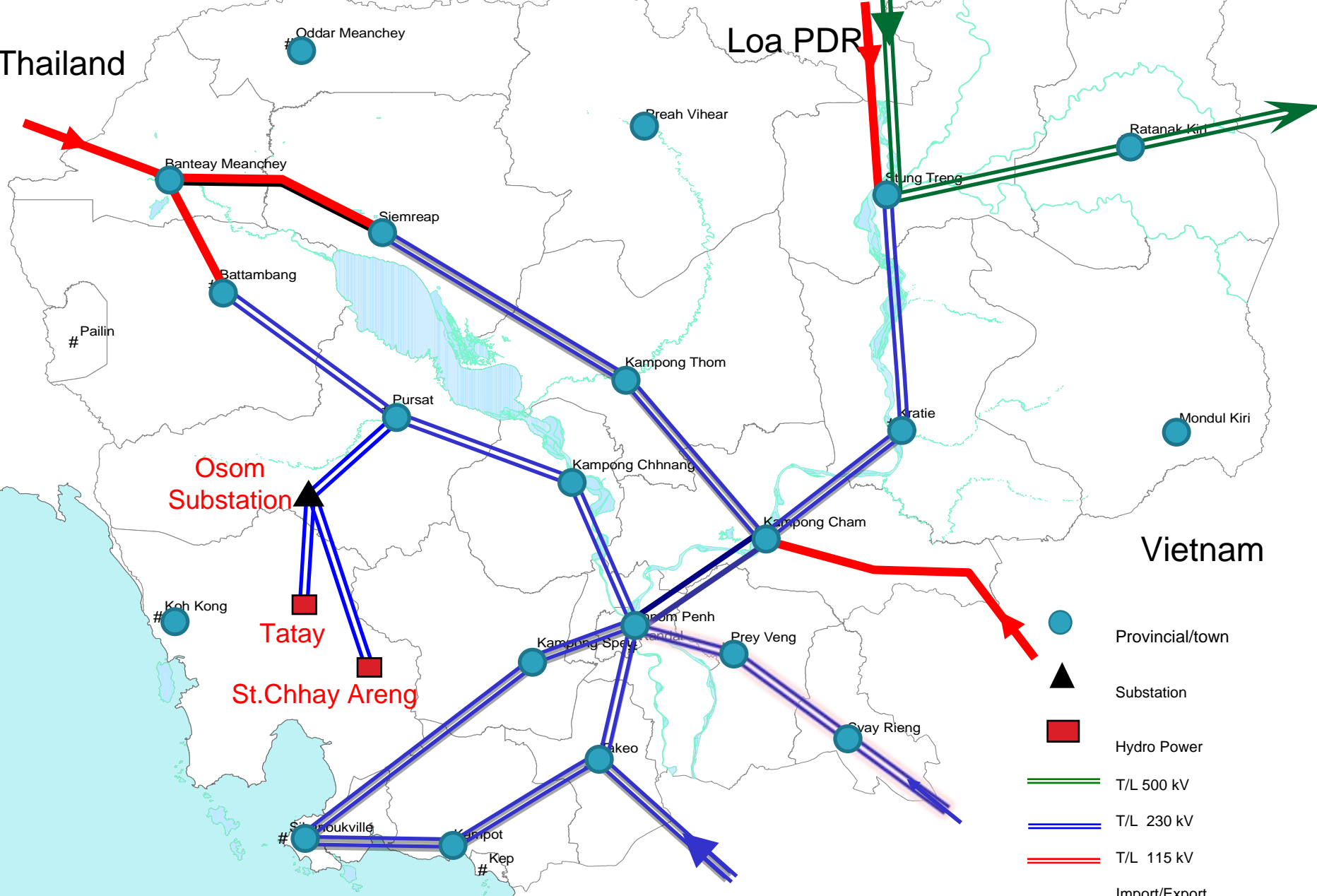
- Cambodia has a huge of hydro potential about 10,000 MW
- The existing data for the Master Plan Study on hydro power in Cambodia is around 7,500 MW. (75%). within the 29 sites of hydro power sources.
- Currently the huge of hydro power are located in the North-East 72% and North-West 27%,and Others 1% only.

B- Development of Transmission

Thailand

Loa PDR

Vietnam



Osom Substation

Tatay

St.Chhay Areng

- Provincial/town
- ▲ Substation
- Hydro Power
- T/L 500 kV
- T/L 230 kV
- T/L 115 kV
- ↔ Import/Export

No	Transmission Line Development Plan	year
1	Transimssion line 230 kV Takeo-Kampot and substation in Kampot	2012
2	Transimssion line 230 kV Stung Treng-Lao PDR and substation in Stung Treng	2012
3	Transimssion line 230 kV Kampot-Sihanoukville and 2 substations in Veal Rihn and Sihanoukville.	2012
4	Transimssion line 230 kV Phnom Penh-Kampong Chhnang-Pursat-Battambang and 3 substations in Kampong Chhnang-Pursat-Battambang.	2012
5	Transimssion line 230 kV Pursat-Atay Hydro Plant and substation in Osorm	2012
6	Transimssion line 230 kV Phnom Penh-Kampong Cham	2012
7	Transimssion line 230 kV Kampong Cham-Kratie	2013
8	Transimssion line 230 kV Kratie-Stung Treng	2013
9	Transimssion line 230 kV Phnom Penh-Sihanoukville (national road 4)	2013
10	Transimssion line 115 kV EPP-Neak Lournng-Svay Rieng and 2 substations in Neak Lournng and Svay Rieng.	2015

11	Transimssion line 230 kV Tatay hydro plant-substation Osorm	2015
12	Substatio GS4 at South of Phnom Penh (SPP) and Transimssion line 115 kV west of Phnom Penh-EPP.	2015
13	Additional Transimssion line 230 kV Phnom Penh-Kampong Cham on the extisting pole in order to transmit the power from Lower Sesan II hydro plant+ Lower Srepok II hydro plant supply to Phnom Penh.	2017
14	Transimssion line 230 kV Cheay Areng hydro plant-substation Osorm	2017
15	Transimssion line 230 kV Kampong Cham-Kampong Thom-Siem Reap and substation in Kampong Thom.	2019

C- Power trade with neighboring countries

- Import from Vietnam at High voltage 230 kV 120MW by year 2010 to serve southern grid and Phnom Penh
- Import from Thailand at 115 kV starting 2007 to serve northern grid up to 80 MW
- Import from Lao to Stung Treng Province at 22 kV with capacity until 5 MW by 2010
- 9 Cross border 22 MV links from Vietnam 10.25 MW and 8 from Thailand about 15.5 MW to serve Cambodian communities close to the border (2008)
- 12 Cross border 22 MV links from Vietnam 22.7 MW and 8 from Thailand about 22.5 MW to serve Cambodian communities close to the border (2009)

Issues Organization Faces

The kind of issues is to face the inadequate power generation capacity results in crisis in power supply service, which impacts not only the living standard of the society but also economic growth of the country is that **the energy generation source is very important component in power supply system.**

*Thank you
for your Attention*

End of Presentation

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