Greater Mekong Sub-region

Eighth Meeting of Regional Power Trade Coordination Committee (RPTCC-8)
Eighth Meeting of Focal Group (FG-8)
Seventh Meeting of Planning Working Group (PWG-7)

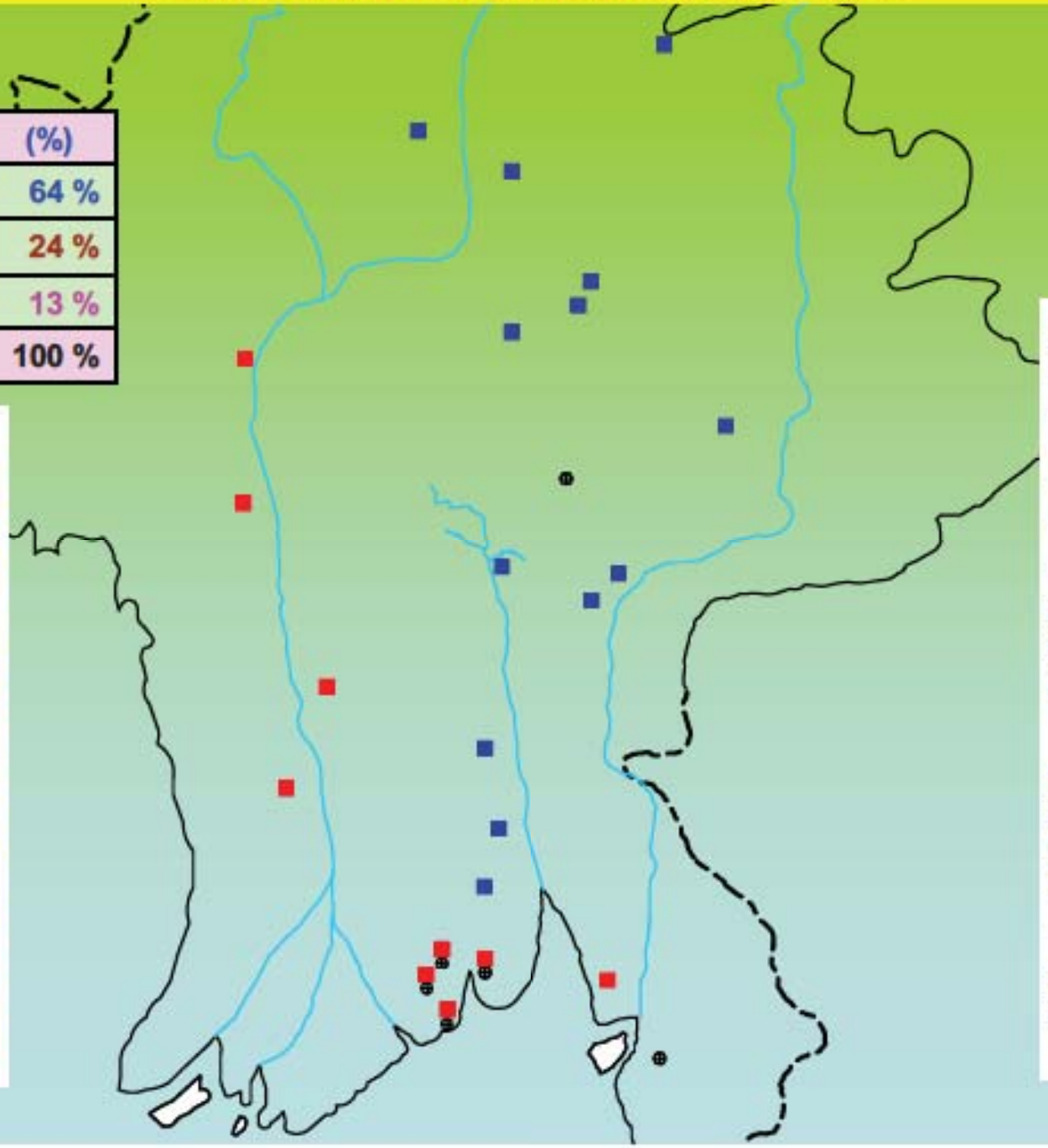
Country Report
on
Progress of Power Development Plans and Transmission Interconnection Projects

MYANMAR

25th ~ 27th November, 2008 **Luang Prabang, Lao PDR**

Current Installed Generation Plants

Type	MW	(%)
Hydro ■	1421.0	64 %
Gas ■	549.9	24 %
Steam ⊕	284.9	13 %
Total	2255.8	100 %



Hydro Power Stations

1. BHP(2)	168 MW
2. BHP(1)	28 MW
3. Kinda	56 MW
4. Sedawgyi	25 MW
5. Zawgyi(1)	18 MW
6. Zawgyi(2)	12 MW
7. Zaungtu	20 MW
8. Thaphanseik	30 MW
9. Paunglaung	280 MW
10.Mone	75 MW
11.Ye`nwe	25 MW
12. Khabaung	30 MW
13. Shwe Li	600 MW
14. KengTawn	54 MW
Total	1421 MW

Gas Turbine P/S

14. Kyunchaung ■	54.3 MW
15. Mann	36.9 MW
16. Myanaung	34.7 MW
17. Shwedaung	55.35 MW
18. Ywama	60.9 MW
19. Thaketa	57 MW
20. Ahlone	99.9 MW
21. Hlawga	99.9 MW
22. Thaton	50.95 MW
Total	549.9 MW

Steam Turbine P/S

23. Thaketa ⊕	90 MW
24. Hlawga	54.30 MW
25. Ahlone	54.30 MW
26. Mawlamyaing	12.00 MW
27. Ywama	9.40 MW
28. Tigyit	120 MW
Total	284.9 MW

Current Installed Generation Plants (Continued)

Existing Hydropower Station

Sr.	Name of Station	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Commi-ssioned Year	Project Cost	
							Local (million)	Foreign (million)
1	Baluchaung.1	Loikaw, Kayah State	(14MWx2Nos) 28MW	200	Francis	9-8-92	K 402	J¥ 16,000
2	Baluchaung.2	Loikaw, Kayah State	(28MWx6Nos) 168MW	1190	Pelton	2-3-74	K 321.1	-
3	Kinda	Myittha, Mandalay Division	(28MWx2Nos) 56MW	165	Francis	4-12-85	K 180.0	DM 127.6
4	Sedawgyi	Madayar, Mandalay Division	(12.5MWx2Nos) 25MW	134	Kaplan	6-6-89	K 98.77	US$ 16.6
5	Zawgyi.1	Yatsauk, Shan (S) State	(6MWx3Nos) 18MW	35	Francis	28-7-95	K 94.27	US$ 9.975
6	Zawgyi.2	Yatsauk, Shan (S) State	(6MWx2Nos) 12MW	30	Francis	16-3-2000	K 450	US$ 18

Current Installed Generation Plants (Continued)

Existing Hydropower Station

Sr.	Name of Station	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Commi-ssioned Year	Project Cost	
							Local (million)	Foreign (million)
7	Thaphanzeik	Kyunhla, Sagain Division	(10MWx3Nos) 30MW	117.2	Kaplan	18-6-02	K 1155	US$ 20
8	Zaungtu	N-W of Bago Division	(10MWx2Nos) 20MW	76.3	Kaplan	22-3-2000	K 3800	-
9	Mone	Sidoktaya Magwe Division	(25MWx3Nos) 75MW	330	Francis	27-11-04	K 1680	US$ 32
10	Paunglaung	N-E of Pyinmana	(70MWx4Nos) 280MW	911	Francis	25-3-05	K 4228.53	US$ 170 J¥ 1724
11	Yenwe	Kyauktaka Bago Division	(12.5MWx2Nos) 25MW	123	Francis	10-2-07	K 7249.084	US$ 8.478
12	Kabaung	Oaktwin, Bago Division	(15MWx2Nos) 30MW	120	Francis	23-3-08	K 8862.225	US$ 8.92

Current Installed Generation Plants (Continued)

Existing Hydropower Station

Sr.	Name of Station	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Commi-ssioned Year	Project Cost	
							Local (million)	Foreign (million)
13	Kengtawng	Moene, Shan (S) State	(18MWx3Nos) 54MW	377.6	Francis	21-3-09	K 15.285	US$ 25
14	Shweli.1	Namkham, Shan (N) State	(100MWx6Nos) 600MW	4022	Francis	30-11-05	-	-

Existing Coal Fire Thermal Power Station

Sr.	Name of Project	Location	Installed Capacity (MW)	Annual Energy (GWh)	Annual Required Amount of Coal (Tons)	Commi-ssioned Year	Project Cost	
							Local (million)	Foreign (million)
1	Tigyit (Coal Fired)	Pinlaung, Shan (S) State	(60MWx20Nos) 120MW	600	640,000	25-12-04 3-5-05	K 15115.185	US$ 42.936

Current Installed Generation Plants (Continued)

Existing Gas Turbine and Thermal Power Station

Sr.	Name of Station	Installed Capacity (MW)	Annual Energy (GWh)	Commi-ssioned Year	Gas Requirement Per day (MMCF)	
					onshore	offshore
1	Kyunchaung	(18.1 MW x 3 Nos) 54.3 MW	300	1974	18	27
2	Mann	(18.45 MW x 2 Nos) 36.9 MW	238	1980	12	18
3	Shwedaung	(18.45 MW x 3 Nos) 55.35 MW	300	1984	18	27
4	Myanaung	(18.45 MW x 1 No) 18.45 MW	200	1984	6	9
		(16.25 MWx1 No) 16.25 MW		1975	5	8
5	Thahtone	(18.45 MW x 1 No) 18.45 MW	300	1985	6	9
		(16.25 MW x 2Nos) 32.5 MW		2001	10	16
6	Mawlamyaing	(6 MW x 2 Nos) 12 MW	60	1980	0	8

Current Installed Generation Plants (Continued)

Existing Gas Turbine and Thermal Power Station

Sr.	Name of Station	Installed Capacity (MW)	Annual Energy (GWh)	Commi-ssioned Year	Gas Requirement Per day (MMCF)	
					onshore	offshore
7	Hlawga	(33.3 MW x 3 Nos) 99.9 MW	640	1996	33	48
	Steam	(54.3 MW x 1 No) 54.3 MW	350	1999		
8	Yawma	(18.45 MW x 2 Nos) 36.9 MW	238	1980	12	18
	Yawma(NEDO)	(24 MW x 1 No) 24 MW	140	2004	8	12
	NEDO steam	(9.4 MW x 1 No) 9.4 MW	60	2004		
9	Ahlone	(33.3 MW x 3 Nos) 99.9 MW	640	1995	33	48
	Ahlone Steam	(54.3 MW x 1 No) 54.3 MW	350	1999		
10	Thaketa	(19 MW x 3 Nos) 57 MW	368	1990	18	27
	Thaketa Steam	(35 MW x 1 No) 35 MW	200	1997		

Unit Generated & Cost per unit

Unit Generated for Year 2008-09		
Type	(mill kWh)	(%)
Hydro	4,027.710	60.83 %
Gas & Steam	2,290.877	34.60 %
Coal	2,19.853	3.32 %
Diesel	39.950	0.60 %
Mini Hydro	43.369	0.65 %
Total	6,621.652	100.00 %

Generation Cost

Currency Unit	Coal	Diesel	Gas		Hydro
			Inland	Off Shore	
Myanmar (Kyat)	31.33	300	3	-	4.5
US (Cent)	-	-	-	12.6	-

Average generation cost and average tariff

Average generation cost & Average Retail Tariff	
Average generation cost (including Salaries & wages, Fuel consumption, Depreciation Maintenance & Repairs, Interest Expenses, Commertial Tax)	26.79 kyat/kWh
Average Retail Tariff	34.23 Kyat/kWh

Current tariffs adequate to ensure full cost recovery.

How will the generated electricity be transmitted to load centre?
Who will finance these transmission line?

Generated electricity is transmited to the load center by transmission lines owned by Ministry of Electric Power No.2.

Envisaged Demand Growth from 2010-2030

Year	Demand (MW)	Demand Growth Rate(%)
2006 - 2007	1,200.00	
2007 - 2008	1,284.00	7.00%
2008 - 2009	1,373.88	7.00%
2009 - 2010	1,470.05	7.00%
2010 - 2011	1,572.96	7.00%
2011 - 2012	1,730.25	10.00%
2012 - 2013	1,903.28	10.00%
2013 - 2014	2,093.60	10.00%
2014 - 2015	2,302.96	10.00%
2015 - 2016	2,533.26	10.00%
2016 - 2017	2,761.25	9.00%
2017 - 2018	3,009.77	9.00%

Year	Demand (MW)	DemandGrowth Rate(%)
2018 - 2019	3,280.65	9.00%
2019 - 2020	3,575.90	9.00%
2020 - 2021	3,897.73	9.00%
2021 - 2022	4,190.06	7.50%
2022 - 2023	4,504.32	7.50%
2023 - 2024	4,842.14	7.50%
2024 - 2025	5,205.30	7.50%
2025 - 2026	5,595.70	7.50%
2026 - 2027	5,987.40	7.00%
2027 - 2028	6,406.52	7.00%
2028 - 2029	6,854.98	7.00%
2029 - 2030	7,334.82	7.00%

New Generation Capacity (2010-2020)

- In order to overcome the present insufficient power supply situation and to meet the electricity demand throughout the country, the Government laid down the energy policy to exploit and utilize enormous hydropower potentials of the country.

- At present, (19) hydropower projects are under construction by

  - (DHPI) Department of Hydropower Implementation,

    the Ministry of Electric Power No.(1)

  - (ID) Irrigation Department

    the Ministry of Agriculture and Irrigation

  - Private Companies

New Generation Capacity (2010-2020) (Continued)

Sr	Name of Project	Name of River	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Implement-ation period
1	Kun	Kun	Phyu Township, Bago Division	20MWx 3Nos 60 MW	190	Francis	2002~2011
2	Phyu	Phyu	Phyu Township, Bago Division	20MWx2Nos 40 MW	120	Francis	2002~2010
3	Shwekyin	Shwekyin	Shwekyin Township, Bago Division	18.75MWx4Nos 75 MW	262	Francis	2001~2009
4	Yeywa	Namtu	Mandalay Division	197.5MWx4Nos 790MW	3550	Francis	2010
5	Tha-htay	Tha-htay	Thandwe Township, Rakhine State	37MWx3Nos 111MW	386	Francis	2005~2015
6	Upper Paunglaung	Paung - laung	Pyinmana Township, Nay Pyi Taw Division	70MWx2Nos 140MW	454	Francis	2004~2011

New Generation Capacity (2010-2020) (Continued)

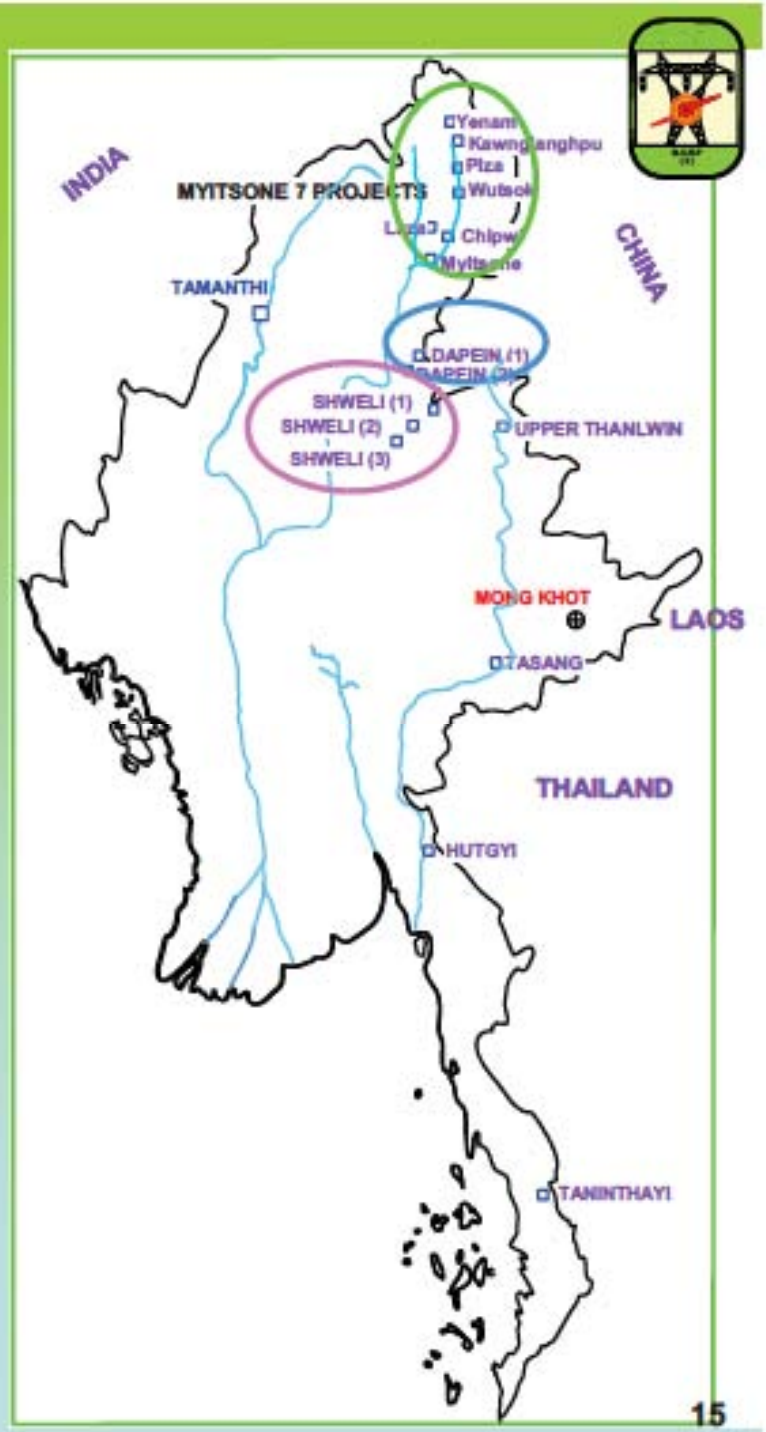
Sr.	Name of Project	Name of River	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Implement-ation period
7	Nancho	Nancho	Pyinmana Township, Nay Pyi Taw Division	20MWx2Nos 40MW	152	Francis	2006~2010
8	Thaukyegat(2)	Thaukye-gat	Tounggu Township, Bago Division	40MWx3Nos 120MW	604	Francis	2006~2011
9	Ann	Ann	Thandwe District, Rakhine State	5MWx2Nos 10MW	44.53	Francis	2004~2010
10	Dapein (1)	Dapein	Bamaw Township, Kachin State	60MWx4Nos 240MW	1065	Francis	2007~2010
11	Tamanthi	Chindwin	Pakhouku Township, Sagaing Division	200MWx6Nos 1200MW	6685	Francis	-

New Generation Capacity (2010-2020) (Continued)

Sr.	Name of Project	Name of River	Location	Installed Capacity (MW)	Annual Energy (GWh)	Type of Turbine	Implement-ation period
12	Manipur	Manipur	Kalay Twonship, Sagaing Division	95MWx4Nos 380MW	1903	Francis	-
13	Chipwinge	Chipwi	Chipwi Township, Kachin State	33MWx3Nos 99MW	320	Pelton	2009~2010
14	Baluchaung(3)	Balu-chaung	Loikaw Township Kayah Stat	24MWx2Nos 48MW	334	Francis	2008~2012
15	Upper Keng Tawng	Nam - Teng	Lin Khe Township, Southern Shan State	17MWx3Nos 51MW	267	Francis	-
16	Tasang	Thanlwin	Shan State	7100	35446	-	2020
17	Kyee-on Kyee-wa	Mone	Magway Division	74	330	-	-
18	Bu-ywa	-	Magway Division	42	195	-	-
19	Myogyi	-	Mandalay Division	30	135	-	-

Power Projects for Cross-border Power Interconnection

Sr. No.	Name of Project	Installed Capacity (MW)	Annual Energy (GWh)	Current Status and Progress
1.	Yenam	1,200	6,650	Negotiation for Joint Venture Agreement with China Power Investment Corp: (16,500 MW)
2.	Kawnglangphu	2,700	14,730	
3.	Pisa	2,000	11,080	
4.	Wutsok	1,800	10,140	
5.	Chipwi	2,800	15,210	
6.	Laza	1,900	10,440	
7.	Myitsone	4,100	18,320	
8.	Dapein (1)	240	1,065	MOA with DUHD Submitting Joint Venture Agreement to Cabinet.
9.	Dapein (2)	140	633	MOU with DUHD in (25.9.08)
10.	Shweli (1)	600	4,022	Commissioning in 2008 by DHPI & YUPD.
11.	Shweli (2)	640	3,310	MOU signed with Huaneng Lancang River Hydro Power Co. Ltd in 14th Nov 2009.
12.	Shweli (3)	800	3,995.5	Will be implemented by DHPI.
13.	Upper Thanlwin	1400	7,338	MOA with Hanergy Holding Group Ltd.
14.	Ta Sang	7110	35446	JV Basis with MDX Group, Thailand, But project is delayed.
15.	Hutgyi	1,360	7,325	Negotiation for MOA with EGAT
16.	Tanintharyi	600	3,476	MOU with Italian-Thai.
17.	Mong Khot	3x123	-	Thailand
18.	Tamanthi	200x6	6688	Agreement signed NHPC (India)
Total		31,059		



Power Projects
for Cross-border Power interconnection (Continued)

- Shweli-1 Hydropower Project (600 MW) is implemented by the joint - venture basis with YUPD of China and MOEP(1).
- It's commercial operation started on 6th November 2008 and it becomes the first interconnection project.
- 50 % of generation sent to Yunnan, China.

- The MOU is planned to sign between MOEP (1) and Huaneng Lancang River Hydropower Co. of China to develop the Shweli-2 Hydropower Project (640MW).

- The Shweli-3 Hydropower Project (800MW) will be construct by MOEP(1).

Power Projects
for Cross-border Power interconnection (Continued)

- The MOU was signed between
  MOEP 1 and China Power Investment Corporation (CPI) of China
  to develop seven Hydropower Projects (16,500 MW) on the Mekha river basin.
- The commercial operation of the first machine is expected in coming seven years.

- The MOU was signed between
  MOEP 1 and DUHP (Datun United Hydro Power Development Co.) of China
  to develop the Dapein(1) Hydropower Project (240 MW).
- Its commercial operation will be started in 2010 and it will become the second interconnection project.
- The second stage of Dapein Hydropower Project Dapein(2) (160 MW) will also be cooperated with DUHP.

Power Projects
for Cross-border Power interconnection (Continued)

- Ta Sang Hydropower project (10x 711 MW) was planned to be developed by joint-venture basis with MDX Group Co., Ltd, Thailand and MOEP 1. But the development of the project is delayed.

- The MOA was signed between MOEP 1 and EGAT of Thailand to develop the Hutgyi Hydropower Project (1360 MW).
- The final feasibility study report and detailed design report of Hutgyi Hydropower Project have been completed in Aug 2007 and Sept 2007 respectively.

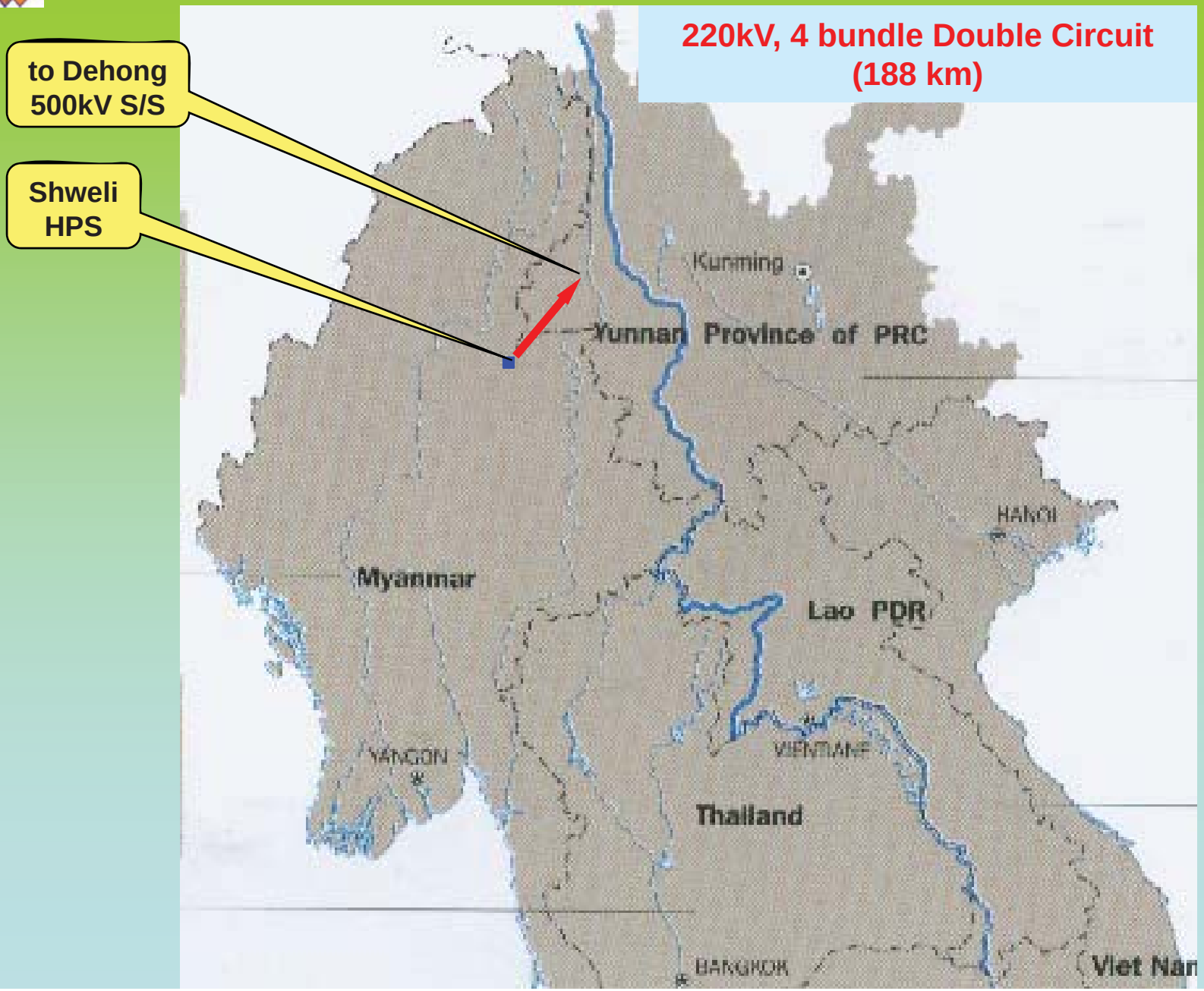
- The MOU was signed between MOEP 1 and Italian-Thai for the joint development of the Taninthayi Hydropower Project (600 MW).

Private Sector Participation

Local investors are allowed to participate in the scheme of Independent Power Producer (IPP) for hydropower projects

- ✓ The MOU on **Thaukyegat(2)** Hydropower Project (120 MW) was signed between MOEP(1) and Asia World Company Limited on 2nd May 2008.
- ✓ The MOU on **Baluchaung No.(3)** Hydropower Project (48 MW) was signed between MOEP(1) and High Tech Concrete Technology Company Limited on 2nd May 2008.
- ✓ The MOU on **Saidin** Hydropower Project (76.5 MW) was signed between MOEP(1) and Futrue Energy Company Limited on 5th November 2009.(BOT)
- ✓ The MOU on **Upper Baluchaung** Hydropower Project (40 MW) was signed between MOEP(1) and King Anawrahta Company Limited on 5th November 2009.(BOT)

First interconnection lines in operation



First interconnection lines in operation (Contd:)

In the current situation, Myanmar and China developed the **Bilateral Power Trading** between two countries.

The **Power Purchase Agreement** for Shweli(1) Hydropower Plant was recently signed between MEPE and the Joint Venture Company (SHPC) in September 2009.

LARGE SCALE OF POWER PURCHASE FROM SHWELI (1) HYDROPOWER PLANT

SHWELI (1) HYDROPOWER CO. LTD	Yuan	Cent (US)	Kyat
	0.184	2.69	26.9

- The transaction price for electricity purchased by Myanmar Power Grid from Shweli (1) Hydropower Co. shall be kept at the **same transaction price for electricity purchased by Yunnan Power Grid**, that is RMB 0.184 Yuan/kWh.
- If adjustment has been made to the transaction price for power purchase by one side of Power Grid, both side shall be adjusted accordingly.

CROSS-BORDER POWER TRADE

AT PRESENT, MOSTLY CROSS – BORDER SMALL SCALE POWER PURCHASE FROM THAILAND AND CHINA EXISTED UPON APPROVAL OF MINISTRY.

RATE OF SMALL SCALE POWER PURCHASE FROM CHINA

Name of Town	Yuan	Cent (US)	Kyat
Muse, Namkhan, Manhero, Hopin, Kunlon, Manton	1.2	17.587	175.87
Muse(105 mile)	1.4	20.518	205.18
Kyukoke	1.5	21.975	219.75

RATE OF SMALL SCALE POWER PURCHASE FROM THAILAND

Name of Town	Baht	Cent (US)	Kyat
Tachileik	6.25	17.692	176.92
Phayathonesu	6	16.973	169.73
Myawaddy	4.5	12.725	127.25

Power for export to India

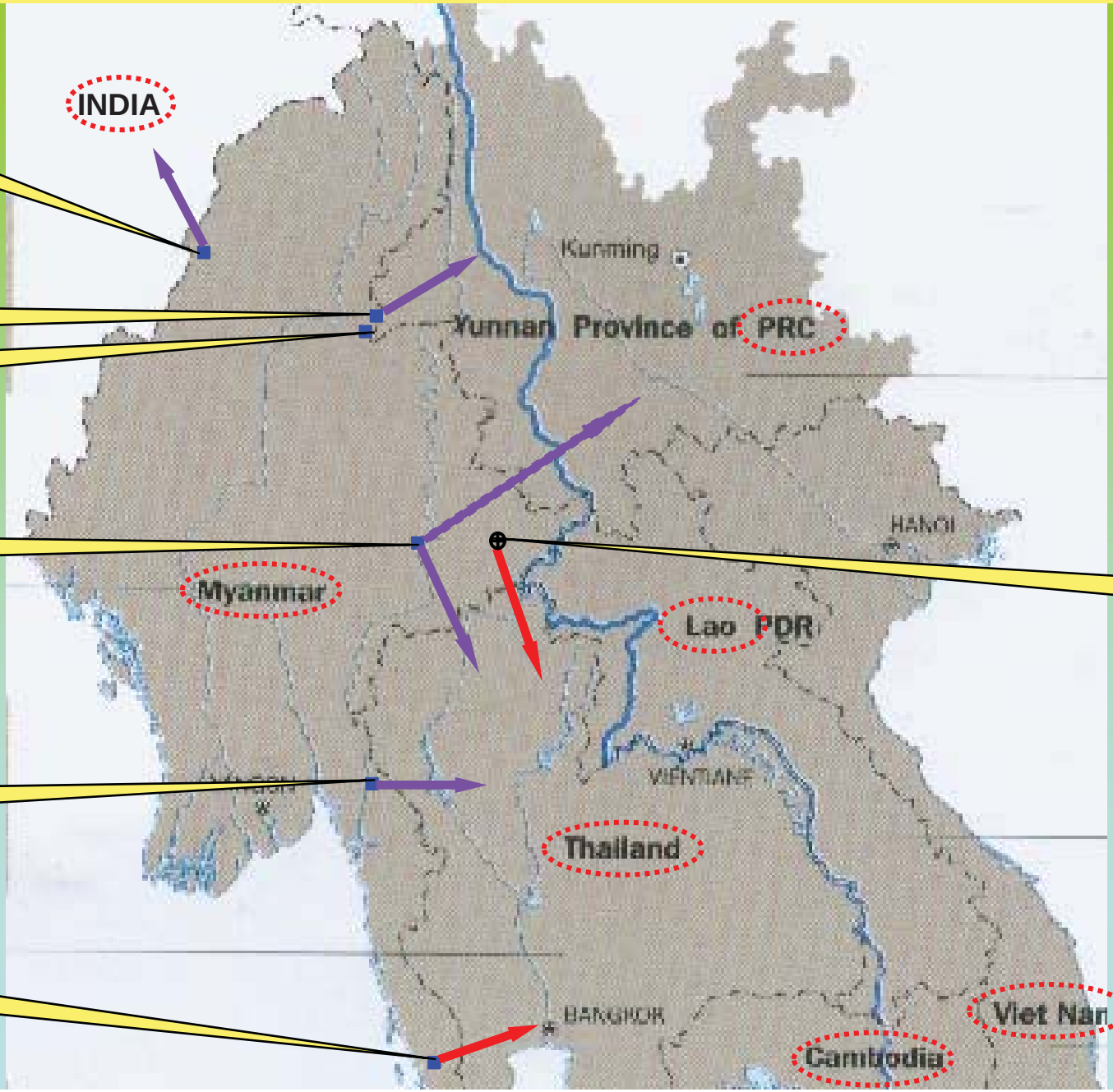
Tamanthi HPP

2008, MOU on Hydropower Development Projects in Chindwin River Basin with National Hydroelectric Power Corporation (NHPC) (India)

This project is multi purpose project,
Generating the average annual energy about 6685 million kWh, (200x6 =1200MW)
Irrigating for 1 million acres of farm lands,
Improving the navigation and preventing the floods.

For the implementation of the project and consulting services, the agreements were signed with National Hydroelectric Power Corporation (NHPC-India) and Colenco Power Engineering Ltd.(CPE-Switzerland) on(25.10.2004) and (10.3.2006) respectively.

230kV,500kV interconnection lines under plan (2010-2020)



Tamanthi HPP

Dapein 1 HPP

Dapein 2 HPP

Ta Sang HPP

Hutgyi HPP

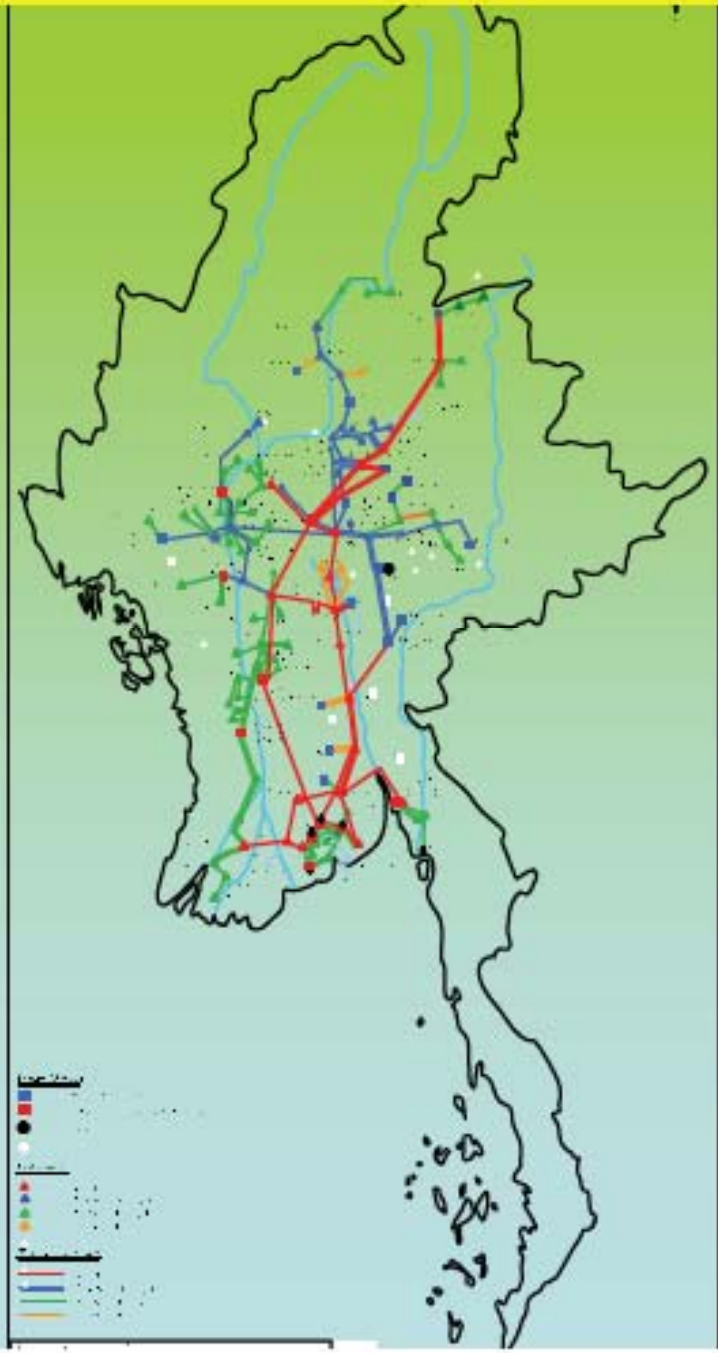
Tanintharyi HPP

Mong Khot Coal Fire PS

230 kV

500 kV

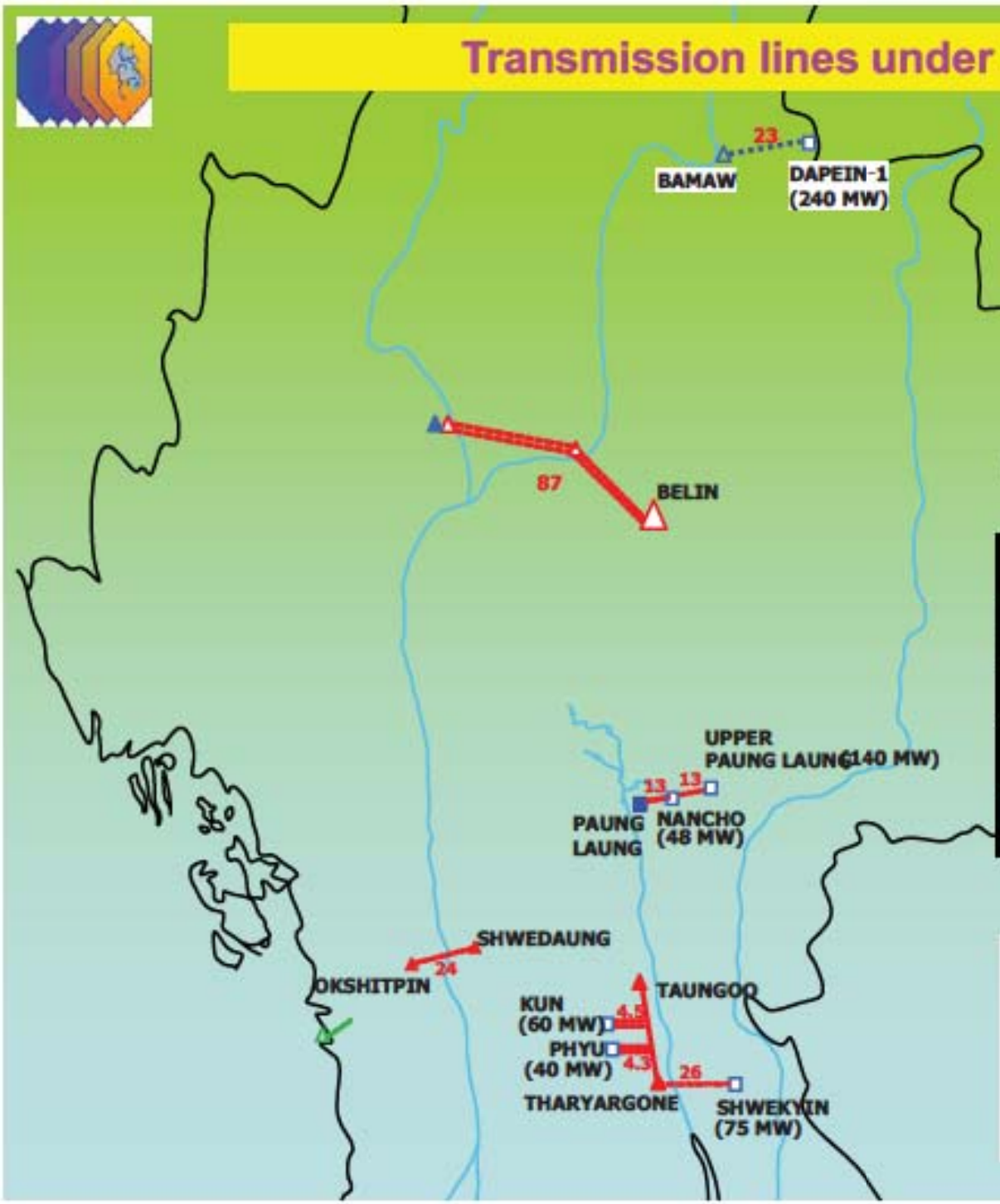
Transmission lines in operation



Existing		
kV	Nos. of Lines	km
230	29	2680
132	28	2012
66	72	2520
Total	129	7212

No transmission line owned and operated by the IPP/BOT developer.

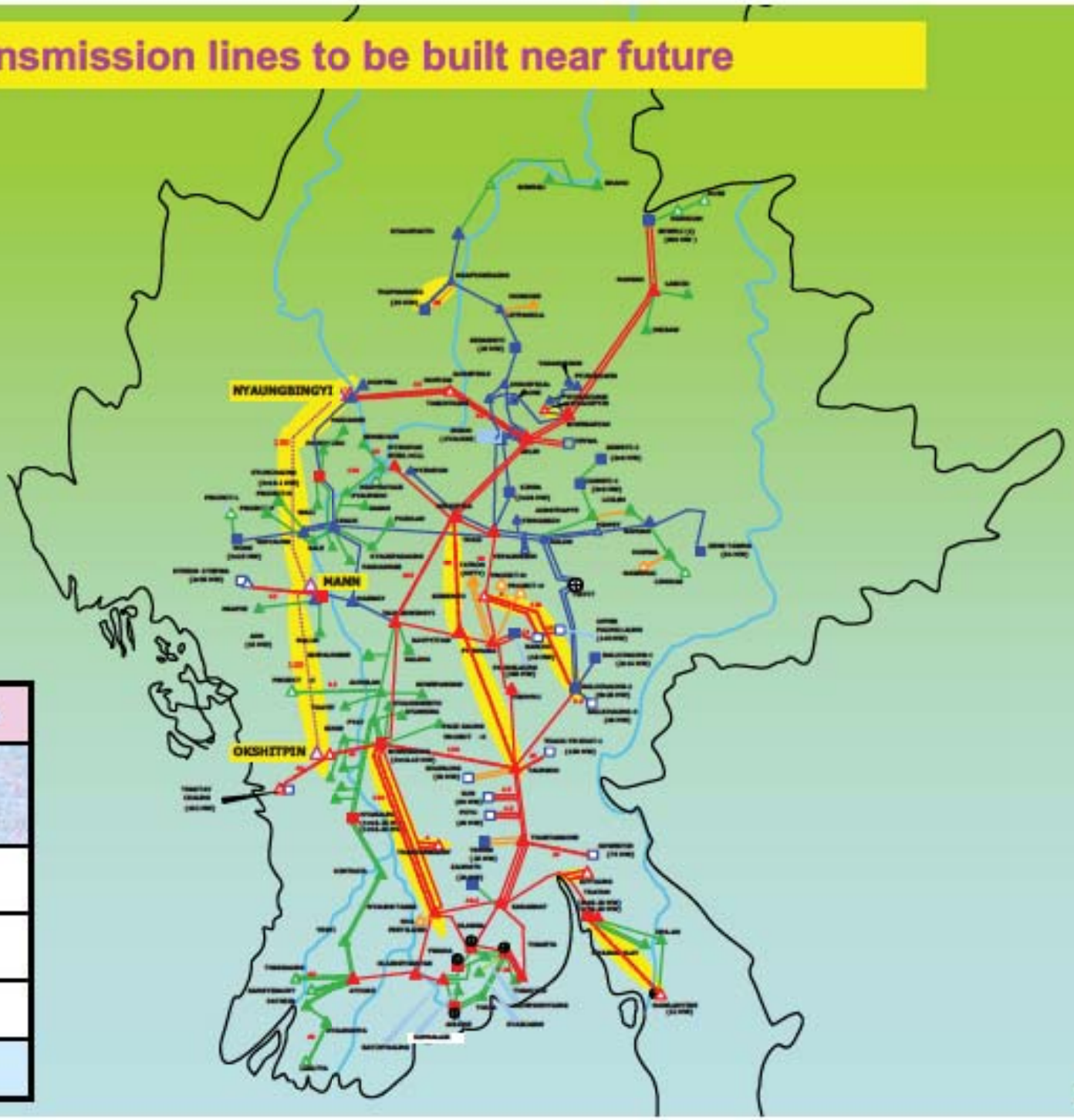
Transmission lines under construction



Under Construction		
kV	Nos. of Lines	km
230	6	277
132	1	37
Total	7	314

These transmission lines will be financed, constructed and operated by MEPE,MOEP-2.

Transmission lines to be built near future



T/L to be built Near Future		
kV	Nos. of Lines	km
500	2	400
230	6	820
132	1	58
Total	9	1278

Future Myanmar Grid System

T/L to be built between (2010 ~ 2020)		
kV	Nos. of Lines	km
500	6	2,833
230	49	5,374
132	7	636
Total	62	8,843

transmission lines to be built between (2010 ~ 2020) (Continued)

Sr	Name of 500 kV T/L	Length (km)
1	Belin - Naypyitaw - Taungoo - Kamanut 500 kV Transmission Line	507
2	Monywa - Mann - Okshitpin - Hinthada 500 kV Transmission Line	587
3	Myitsone - Moemeik - Belin 500 kV Transmission Line	692
4	Htamanthi - Myitsone 500 kV Transmission Line	354
5	Htamanthi - Monywa 500 kV Transmission Line	370
6	Tasang - Naypyitaw 500 kV Transmission Line	322
	Total	2833

Sr	Name of 230kV T/L	Length (km)
1	Thahtay Chaung - Okshitpin 230 kV Transmission Line	80.5
2	Naypyitaw - shwemyo 230 kV Transmission Line	48.3
3	Thahtay - Maei - Ann 230 kV Transmissoin Line	209.3
4	Ann - Kyauktaw 230 kV Transmission Line	193.2
5	Bhamo - Myitkyina 230 kV Transmission Line	136.85
6	Bhamo - Moemeik 230 kV Transmission Line	128.8
7	Moemeik - Ngapyawdaing 230 kV Transmission Line	120.75
8	Ngapyawdaing - Ohntaw 230 kV Transmission Line	144.9
9	Thaukyekhat - Taungoo 230 kV Transmission Line	40.25

transmission lines to be built between (2010 ~ 2020) (Continued)

Sr	Name of 230kV T/L (continued)	Length (km)
10	Bawgata - Thayargone 230 kV Transmission Line	32.2
11	Hinthada - Myaungtaga 230 kV Transmission Line	128.8
12	Manipur - Gantgaw 230 kV Transmission Line	136.85
13	Gantgaw - Pakkhokku 230 kV Transmission Line	152.95
14	Pakkhokku - Myingyan 230 kV Transmission Line	64.4
15	Belin - Myingyan 230 kV Transmission Line	128.8
16	Naypyitaw - Thephyu 230 kV Transmission Line	48.3
17	Minekhot - Kengtong 230 kV Transmission Line	119.14
18	Minekhot - Minesat 230 kV Transmission Line	61.18
19	Minekhot - Tacheleik 230 kV Transmission Line	103.04
20	Tapein(1) - Shweli(1) 230 kV Transmission Line	112.7
21	Tapein(1) - Tapein(2) 230 kV Transmission Line	16.1
22	Shweli(1) - Shweli(2) 230 kV Transmission Line	24.15
23	Shweli(2) - Shweli(3) 230 kV Transmission Line	51.52
24	Shweli(3) - Moemeik 230 kV Transmission Line	48.3
25	Moemeik - Mansan 230 kV Transmission Line	88.55
26	Tagaung - (Moemeik - Ngapyawdaing) 230 kV Transmission Line	144.9
27	Myitsone - Myitkyina 230 kV Transmission Line	96.6

transmission lines to be built between (2010 ~ 2020) (Continued)

Sr	Name of 230kV T/L (continued)	Length (km)
28	Myitkyina - Hopin 230 kV Transmission Line	112.7
29	Hopin - Indaw 230 kV Transmission Line	112.7
30	Indaw - Ngapyawdaing 230 kv Transmission Line	144.9
31	Htamanthi - Hopin 230 kV Transmission Line	161
32	Htamanthi - Phaungpyin 230 kV Transmission Line	161
33	Phaungpyin - Kalewa 230 kV Transmission Line	144.9
34	Kalewa - Monywa 230 kV Transmission Line	152.95
35	Shwesayae - Monywa 230 kV Transmission Line	40.25
36	Upper Thanlwin - Kunlon - Theinni 230 kV Transmission Line	144.9
37	Theinni - Minenaung 230 kV Transmission Line	120.75
38	Kholan - Minenaung 230 kV Transmission Line	88.55
39	Tasang -Minesat 230 kV Transmission Line	64.4
40	Hutgyi - Mawlamyaing 230 kV Transmission Line	198.03
41	Hutgyi - Thaton 230 kV Transmission Line	96.6
42	Mawlamying - Ye 230 kV Transmission Line	132.02
43	Ye - Dawei 230 kV Transmission Line	80.5
44	Mayyon - Myeik 230 kV Transmission Line	64.4
45	Myeik - Dawei 230 kV Transmission Line	96.6

transmission lines to be built between (2010 ~ 2020) (Continued)

Sr	Name of 230kV T/L (continued)	Length (km)
46	Mayyon - Bokpyin 230 kV Transmission Line	209.3
47	Bokpyin - Kawthaung 230 kV Transmission Line	193.2
48	Hinthada - Athoke 230 kV Transmission Line	128.8
49	Athoke - Pathein 230 kV Transmission Line	64.4
	Total	5374.18

Sr	Name of 132kV T/L	Length (km)
1	Ann - Mann 132 kV Transmission Line	128.8
2	Upper Kengtaung - Kholam 132 kV Transmission Line	56.35
3	Upper Sedawgyi - Sedawgyi 132 kV Transmission Line	24.15
4	Buywa - Kyeeon Kyeewa 132 kV Transmission Line	136.85
5	Buywa - Pakkhokku 132 kV Transmission Line	112.7
6	Tasang - Kengtaung 132 kV Transmission Line	40.25
7	Thaton - Kawkareik 132 kV Transmission Line	136.85
	Total	635.95

Electrification Ratio

Year	Electrification Ratio
Before 1988	10.59 %
2005-06	15.83 %
2009 May	23.27 %
2020	60 %
2025	80 %

Thanks for your kind attention.