



Sustainable Hydropower and Regional Cooperation in Myanmar
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Power Interconnections in the Greater Mekong Subregion

Chong Chi Nai
Director, Southeast Asia Energy Division
Asian Development Bank

GMS at a glance



- A region of more than 320 million people; more than 2.5 million km² area
- Vision – a more integrated, prosperous, and harmonious subregion
- “3Cs” – Connectivity, Competitiveness, Community

Source: IRMSU (http://51011313126g20-irmsu.blogspot.com/2011/09/blog-post_1006.html)

Energy Resource

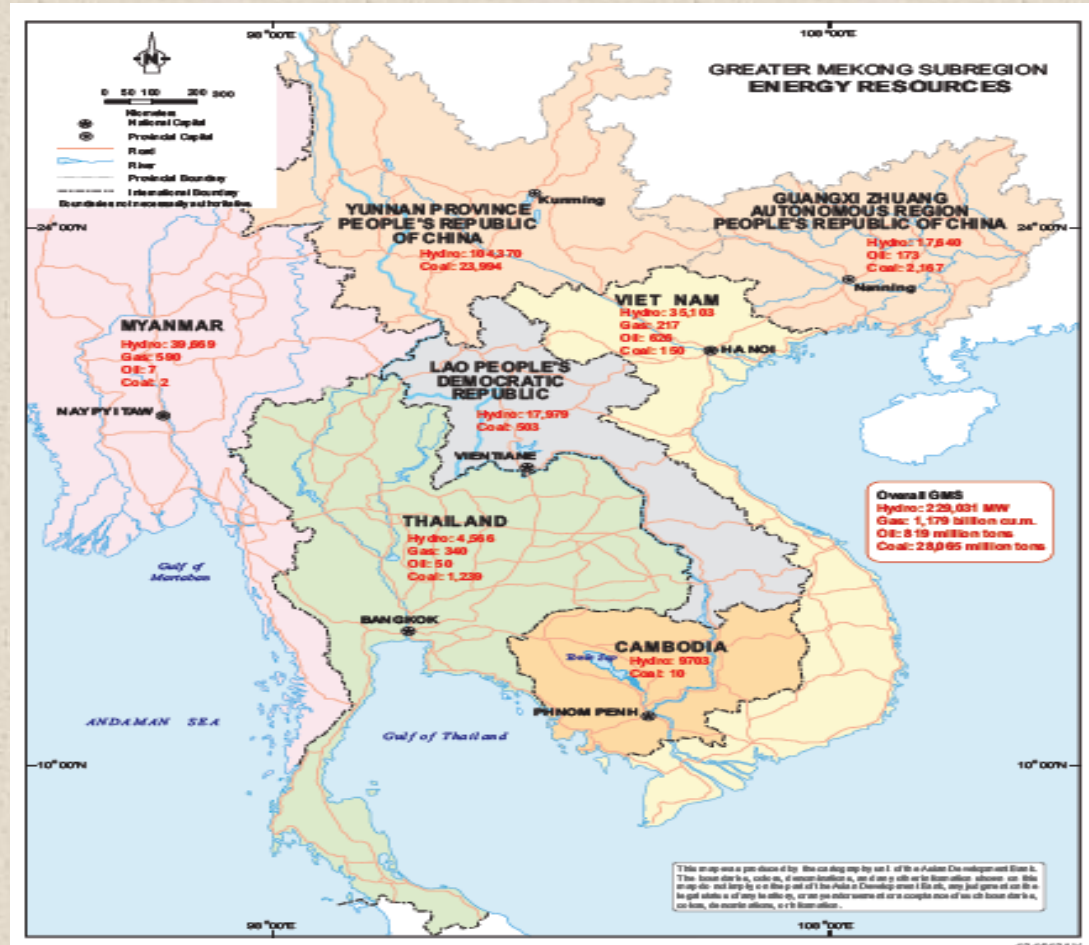
Estimates:

~229 GW
hydropower
potential

~1.2 bn cubic meter
of natural gas

~0.82 bn tons of oil

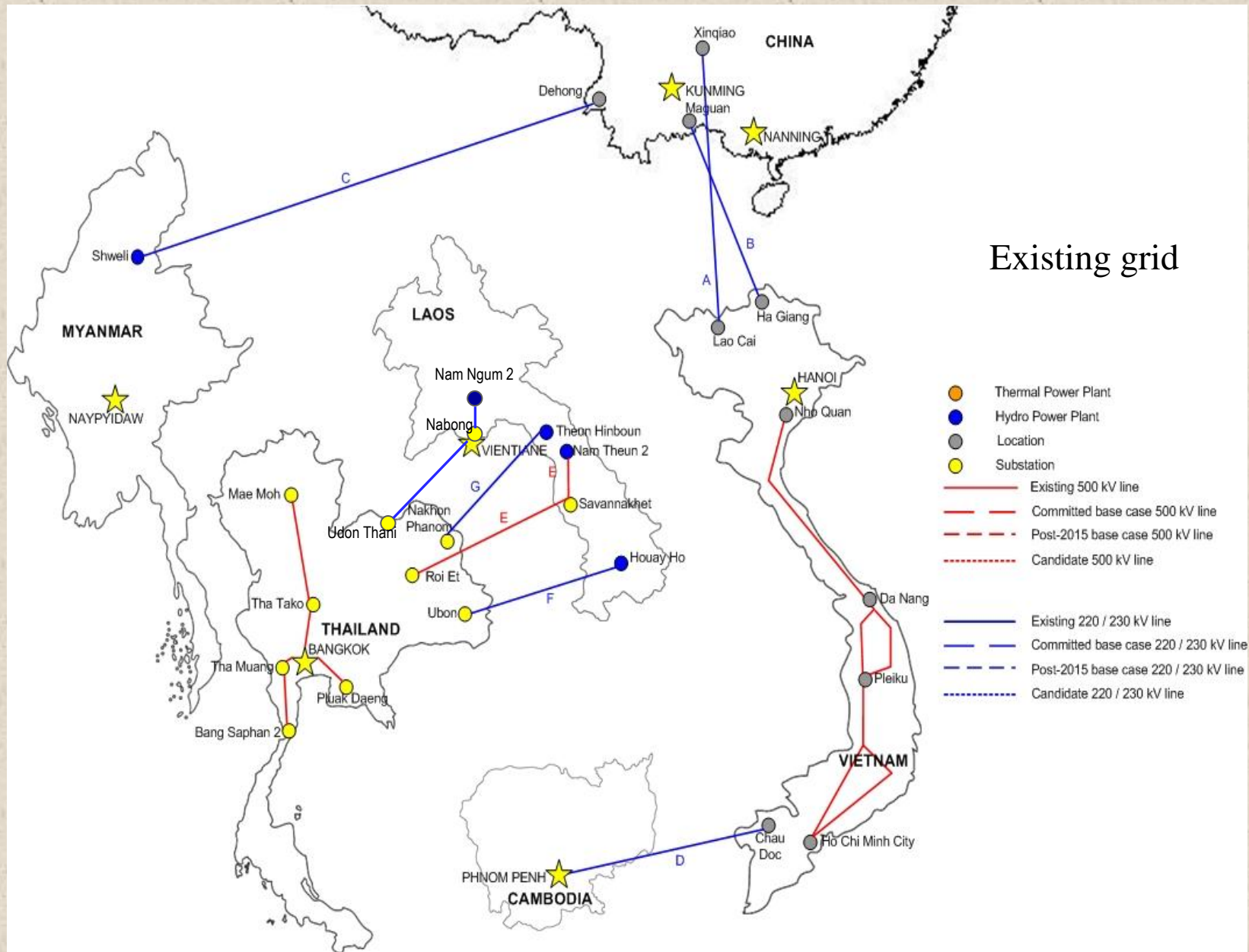
~28.0 bn tons of
coal



Source: ADB. 2012. *Greater Mekong Subregion Power Trade and Interconnection: 2 Decades of Cooperation*. Manila. September.



Current Interconnections and Power Trade



Existing cross-border connections

From	To	Voltage	Capacity	Year
Xinquao, Yunnan, PRC	Lao Cai, Vietnam	220 kV	250 – 300 MW	2006
Maguan, Yunnan, PRC	Ha Giang, Vietnam	220 kV	200 MW	2007
Shewli I HPP, Myanmar	Dehong, Yunnan, China	220 kV double circuit	600 MW	2008
Chau Doc, Vietnam	Phnom Penh, Cambodia	220 kV (Vietnam) 230 kV (Cambodia) double circuit	200 MW	2009
Ban Nabong, Lao PDR	Udon Thani, Thailand	500 kV (operated at 230 kV)	615 MW	2010
Nam Theun 2 HPP, Lao PDR	Roi Et, Thailand	500 kV double circuit	1,000 MW	2010
Houayho HPP, Lao PDR	Ubon 2, Thailand	230 kV	150 MW	1999
Theun Hinboun HPP, Lao PDR	Sakhonnakhon, Thailand	230 kV	200 MW	1998

Existing cross-border connections

From	To	Voltage	Capacity	Year
Xekaman 3 HPP, Lao PDR	Thanh My, Vietnam	220 kV double circuit	250 MW	2012
Hong Sa TPP, Lao PDR	Mae Moh, Thailand	500 kV	1,470 MW	201??

Power Trade

GMS Power Trade and Net Imports, 2010 (GWh)

	Imports	Exports	Total Trade	Net Imports
Cambodia	1,546	–	1,546	1,546
Lao PDR	1,265	6,944	8,210	(5,679)
Myanmar	–	1,720	1,720	(1,720)
Thailand	6,938	1,427	8,366	5,511
Viet Nam	5,599	1,318	6,917	4,281
PRC	1,720	5,659	7,379	(3,939)
Total	17,069	17,069	34,139	–

() = negative, – = nil, GWh = gigawatt-hour, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Note: The table refers to trade within the Greater Mekong Subregion only and does not consider power flows from the Guangxi Zhuang Autonomous Region and Yunnan Province to the rest of the PRC, and Thailand's power imports from Malaysia.

Source: Calculated from table on GMS Power Flows, 2010.

Stages of Regional Power Development

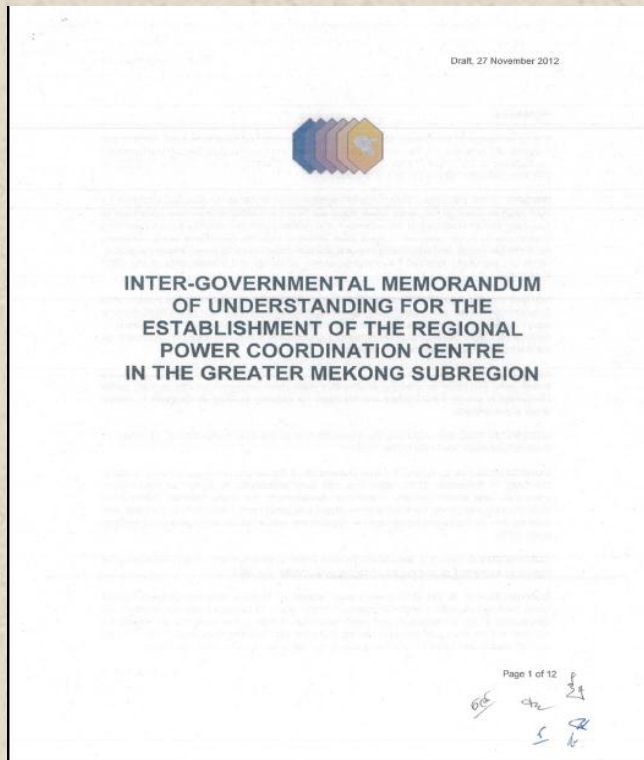
Stage 1: Bilateral cross-border connections through power purchase agreements (PPAs)

Stage 2: Grid-to-grid power trading between any pair of GMS countries, eventually using transmission facilities of a third regional country

Stage 3: Most GMS countries with multiple seller–buyer regulatory frameworks, towards the implementation of a wholly competitive regional market

GMS is in Stage 1 transitioning to Stage 2

Regional Power Coordination Centre



An institution with legal identity fully dedicated to managing cross-border power infrastructure and trade in the GMS, and owned by GMS countries

Issues to be considered

- Domestic demand <-> export
- IPP to utility trade
- Utility to utility trade
- Border region distribution trade
- Managing the social and environmental impacts of hydropower development



Thank You!

cnchong@adb.org