



**Background session**

# **Short Briefing on the MRC Strategic Environment Assessment (SEA) of Proposed Mainstream Dams**

**Line-Agency / Developer Dialogue Meeting  
Preliminary design guidance for proposed mainstream  
dams in the lower Mekong Basin**

**Presentation by  
Lawrence J.M. Haas**

**Initiative on Sustainable Hydropower (ISH)**

# Key Points

## SEA Timeframe and Approach

- Timeframe May 2009 – June 2010
- Implemented by MRC with NMCs (line-agencies)
- Consultative process at national and regional levels with government, private sector and CSO / NGOs
- China engaged as strategic partner – information exchange on design and operation issues of Lancang-Mekong dams and influences

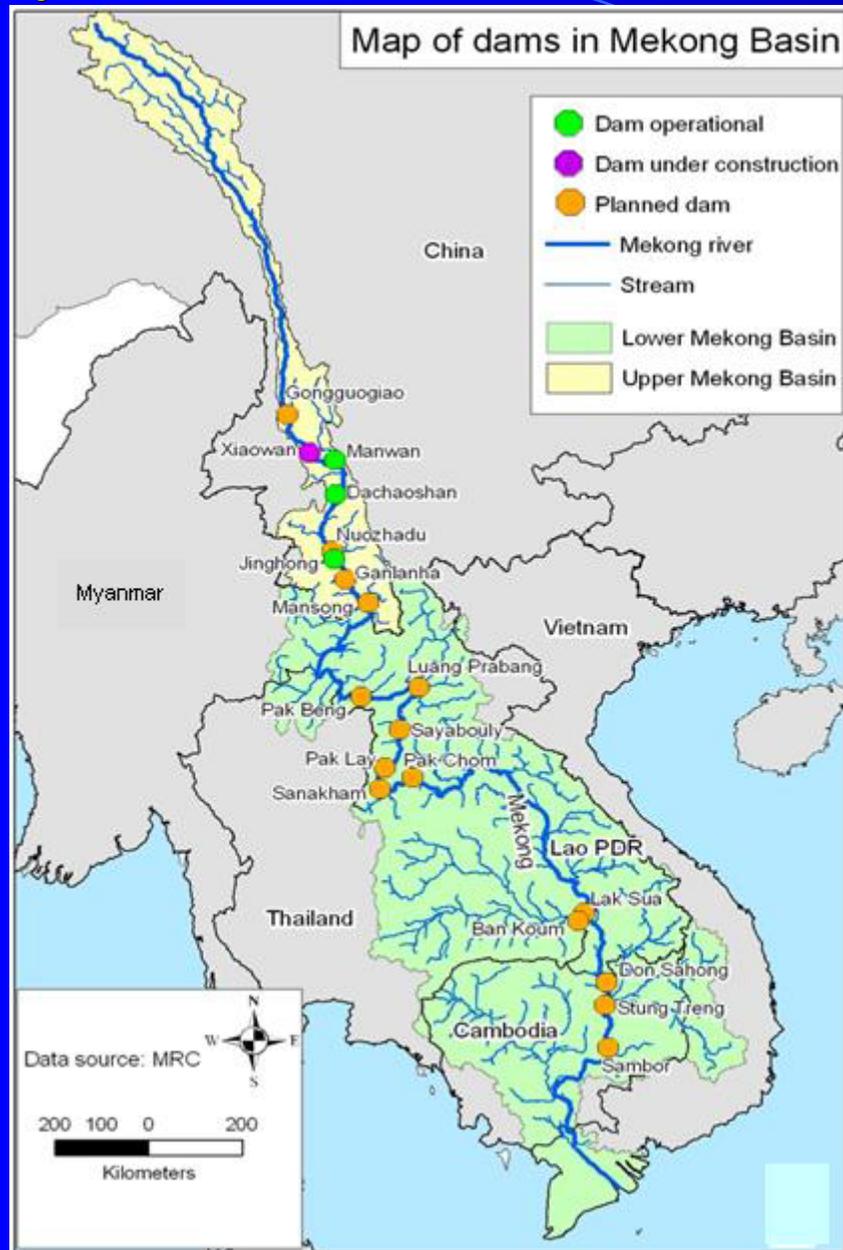
## SEA Implementation

- Undertaken as a multi-disciplinary, cross-cutting initiative by MRCS involving all relevant MRC programmes
- Directed by SEA Work Group, chaired by the CEO of MRCS
- Coordinated by MRC Initiative on Sustainable Hydropower (ISH)
- Consulting Team resource is the Integrated Centre for Environment Management (ICEM) based in Hanoi with national/ international team
- SEA does not do new research – it compiles, digests and synthesizes MRC and National data – best available information

## Wider Context: The 1995 Mekong Agreement of the 4 Member States



- **Advisory agreement**
- **Focus on mutually beneficial water and related resource development and utilization**
- **Spirit of cooperation, joint planning and information sharing**
- **Based on rights, interests and responsibilities of riparian states for water utilization**
- **Basin development scenarios and multi-sector Programme work to inform decisions**



## Dams on the mainstream Mekong

Upper Mekong – 8 existing or planned  
Lower Mekong – at least 11 proposed

## Dams on Mekong Tributaries

Existing and planned – 94 (only hydro dams – does not include irrigation dams)

# Purpose of the SEA

evaluate the development opportunities and risks of proposed LMB mainstream dams and the regional distribution of these factors, as well as avoidance, mitigation and enhancement alternatives and strategies

## Through assessing:

- Alternative mainstream development strategies using a baseline and assessment framework developed with stakeholder input
- The regional distribution of costs and benefits with respect to sector economic development, social equity and environmental protection
- factors in balancing the role of hydropower and other strategic options (i) to meet the region's medium to longer-term electricity needs for domestic supply (ii) to attract FDI, where assured power supply is a factor, and (iii) the foreign exchange earning needs of Cambodia and Lao PDR.



# Other objectives of the SEA

A comprehensive SEA of mainstream hydropower development in the LMB including:

## **Specific recommendations:**

- supporting MRC and national decisions relating to mainstream development plans
- for improving the guidelines for SEA in the hydropower sector

## **Environmental safeguards and sustainable hydropower:**

identifying scope for avoidance, mitigation and enhancement measures linked to sustainable hydropower planning in the LMB

## **A set of tools and a database:**

for future SEAs in the hydropower sector and sub-basins and enhanced capacity as input to MRC's Basin Development Plan and Strategy

# Multiple Uses of SEA outputs

## Informing



SEA  
Tool

- As a collaborative process
- The various outputs

- Recommendations on opportunities and risks & regional distribution issues (e.g. significance, avoidance, mitigation and enhancement)
- Implementation of PNPCA for individual mainstream dams (e.g. issues, methods, cooperation)
- MRC Strategic Plan 2011-15: e.g. on gaps new work
- Basin Development Plan (BDP): as the integrating platform for planning
- Possible Future Updates of the Preliminary Design Guidance
- Wider stakeholder constituencies on mainstream developments



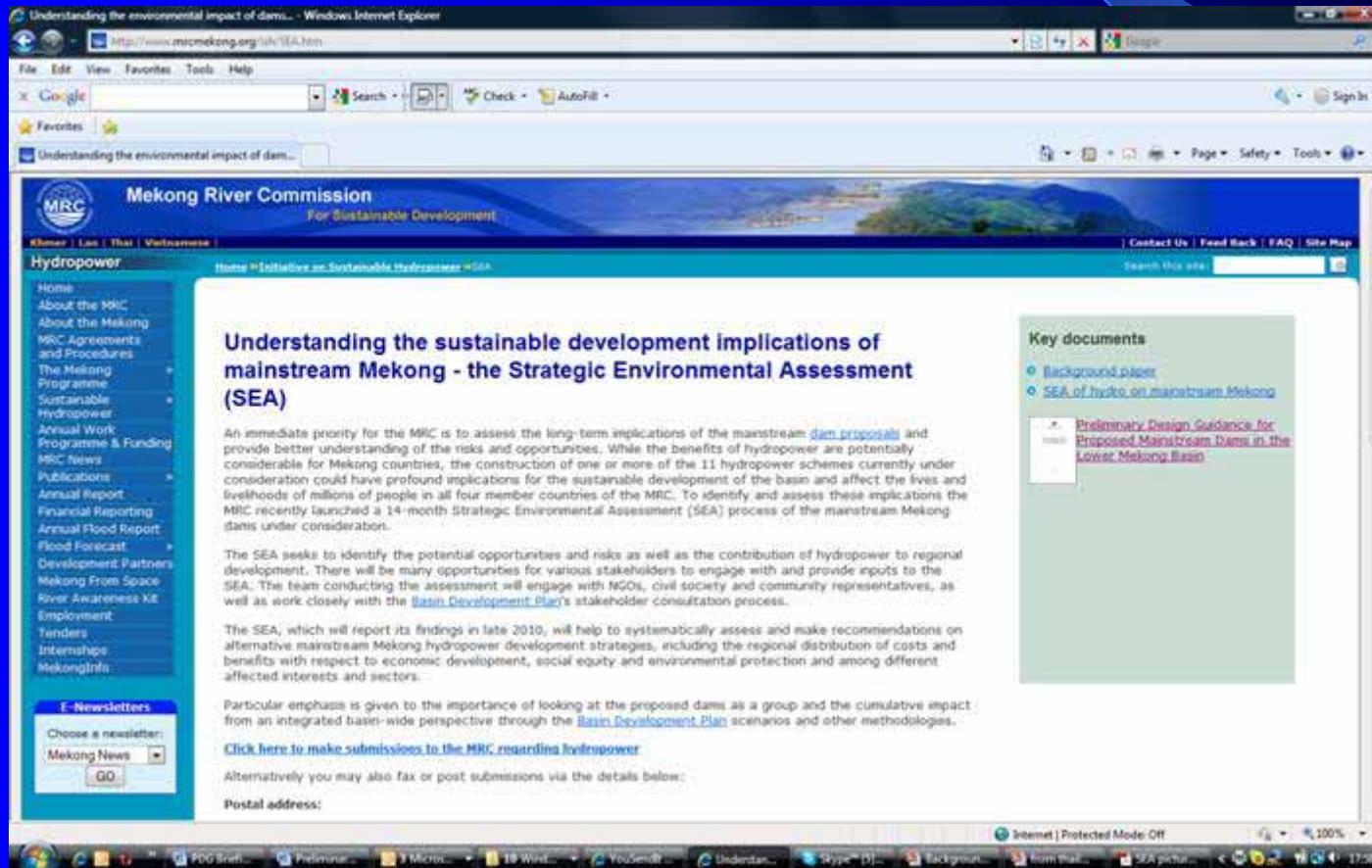
## Article 5 A and B: Reasonable and Equitable Utilization – PNPCA

Rationale of PNPCA: for Member States to timely receive sufficient information on proposed use; and to:

- optimize water use; *Pareto Optimum Principle*
- determine whether greater benefits can be derived through cooperation and trade-offs;
- establish the right of claim by the proposing party against further proposed uses;
- assess the potential impacts on multi-stakeholder rights and interests;
- avoid inter-state disputes through established due process;
- provide for planning security

# Multiple channels for 2-way information flow on the SEA

- Example of MRC Website, where all SEA documents will be available
- In addition to national & regional dialogue, open solicitation of views and material for the process to consider





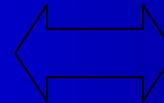
# Revisiting what an SEA is

Planning System

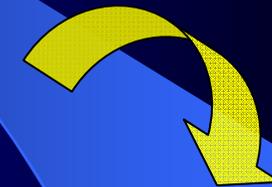
Introduced in 1990s now in Legislation of some MRC countries

Sector and policy / Programme level

Basin, sector, policy or programme proposals or studies



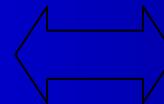
SEA as a family of adaptable tools including CIA



Baseline data and assessment framework for series of projects

Project level

Project proposals & feasibility studies



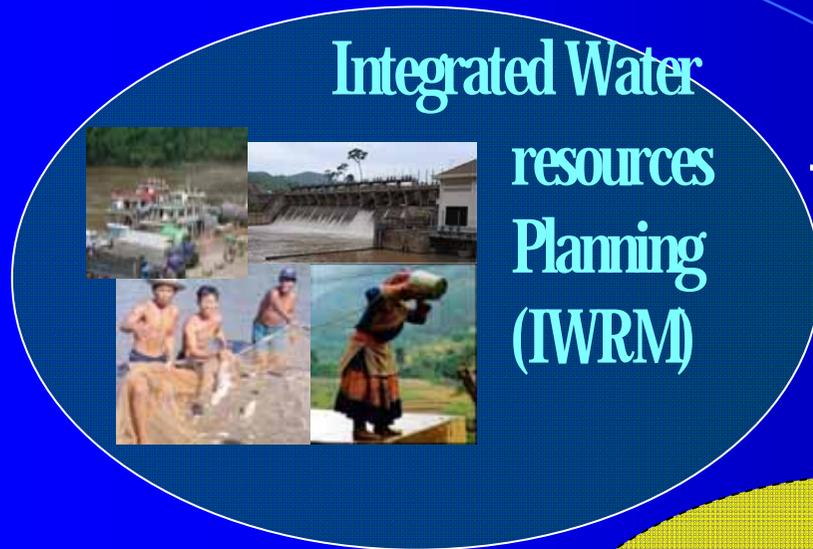
Project EIAs

Introduced in 1970s-1990's  
Now commonly accepted



Dam Cascade

# Bridging Two Worlds: IWRM & Energy Sector



**MRC Procedures  
e.g. (PNPCA)**



## IWRM (1995 Mekong Agreement)

- Dublin principles
- Cross-sector development balance
- Water allocation and efficiency
- Participation
- Public finance
- ...

## Energy Policy and Cross-Border Power Trade Agreements

- Energy Security
- Power Markets to underpin economic growth strategies
- Export Earnings
- Climate mitigation (GHG Power sector as largest)
- Power purchase agreements, tariff negotiations
- Private and PPP finance
- ...

# Energy Perspective

## Electricity consumption in LMB / GMS

relative to other countries + Human Development Index

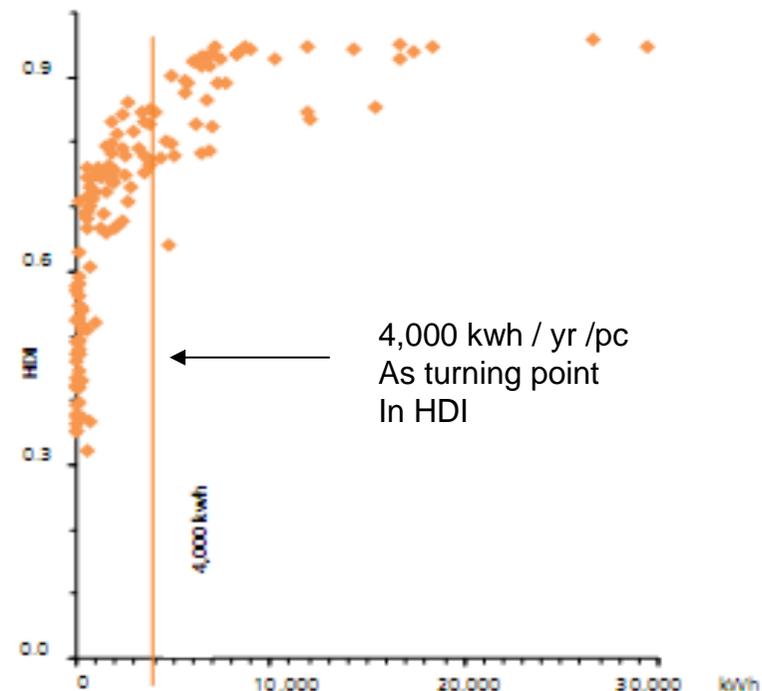
### Per Capital Electricity Use

Economy	Kilowatt-hour(kWh)
Cambodia	56
PRC	1,684
Guangxi	1,100
Yunnan	1,252
Lao PDR	187
Myanmar	78
Thailand	1,950
Viet Nam	573
World	2,701
Developing Countries	1,221
OECD	8,795
United States	14,240

Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development, PRC = People's Republic of China.

Sources: United Nations Development Programme (UNDP). 2007. 2007. *Human Development Report 2007/2008*; National Bureau of Statistics. 2006. *China Energy Statistical Yearbook 2006* (Source of Guangxi and Yunnan data.)

### UN Human Development index + Per Capital Electricity Use (2005)

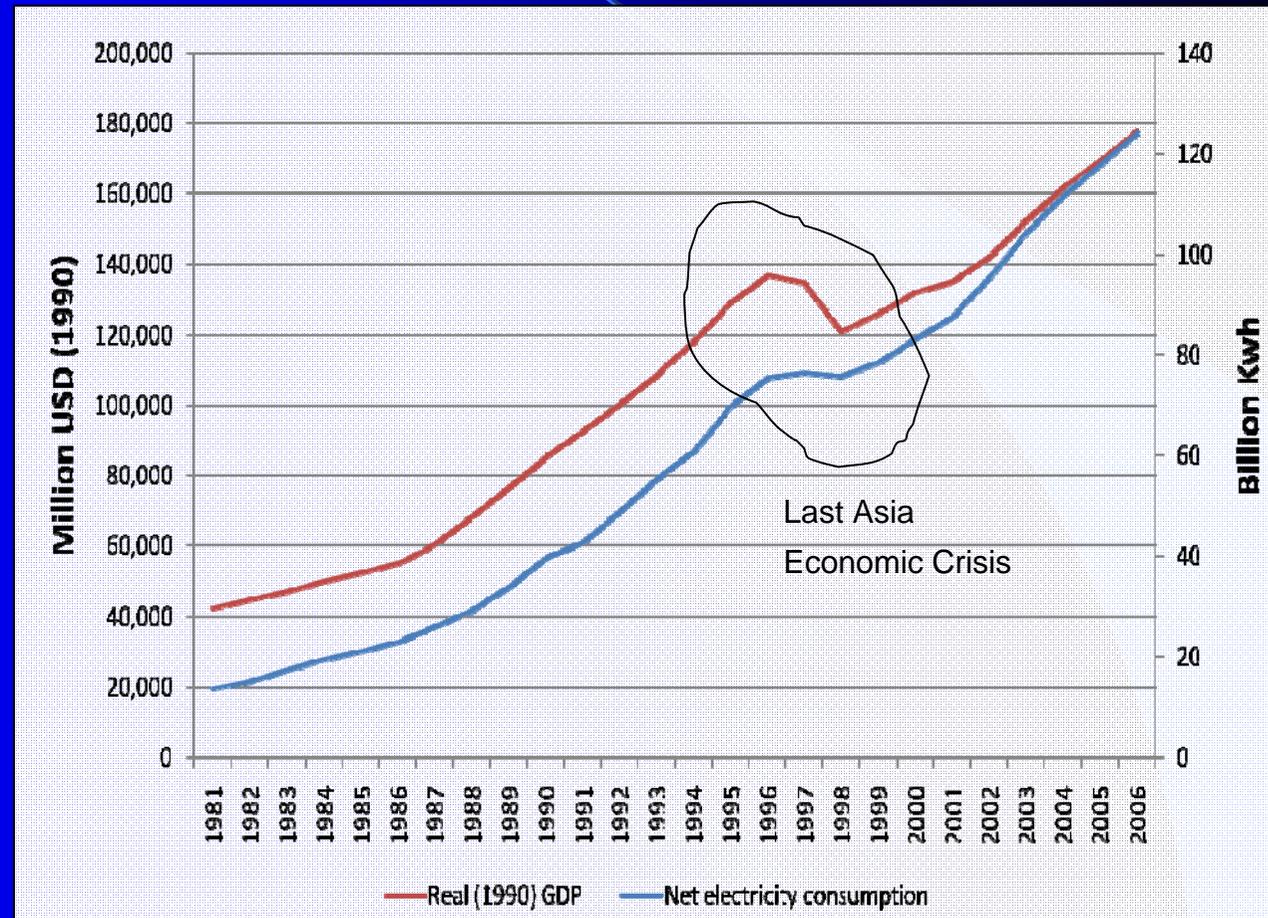


## Past trend in GDP growth + electricity consumption

Example:  
Thailand  
growth of net  
electricity  
consumption  
and GDP 1982-  
2006

**Growth + Electricity**

**No trend decoupling  
of overall energy  
consumption seen  
yet - as in OECD  
economies**





# What this means from a Regional Power Planner Perspective

## Grid Based Generation Expansion

### Future Capacity Additions

- Natural Gas?
- Coal?
- Oil?
- Hydro from tributaries or LMB mainstream?
- Nuclear?
- Co-generation, etc
- Grid-scale biomass
- Grid-scale Wind, Solar
- Other Grid-scale renewable?

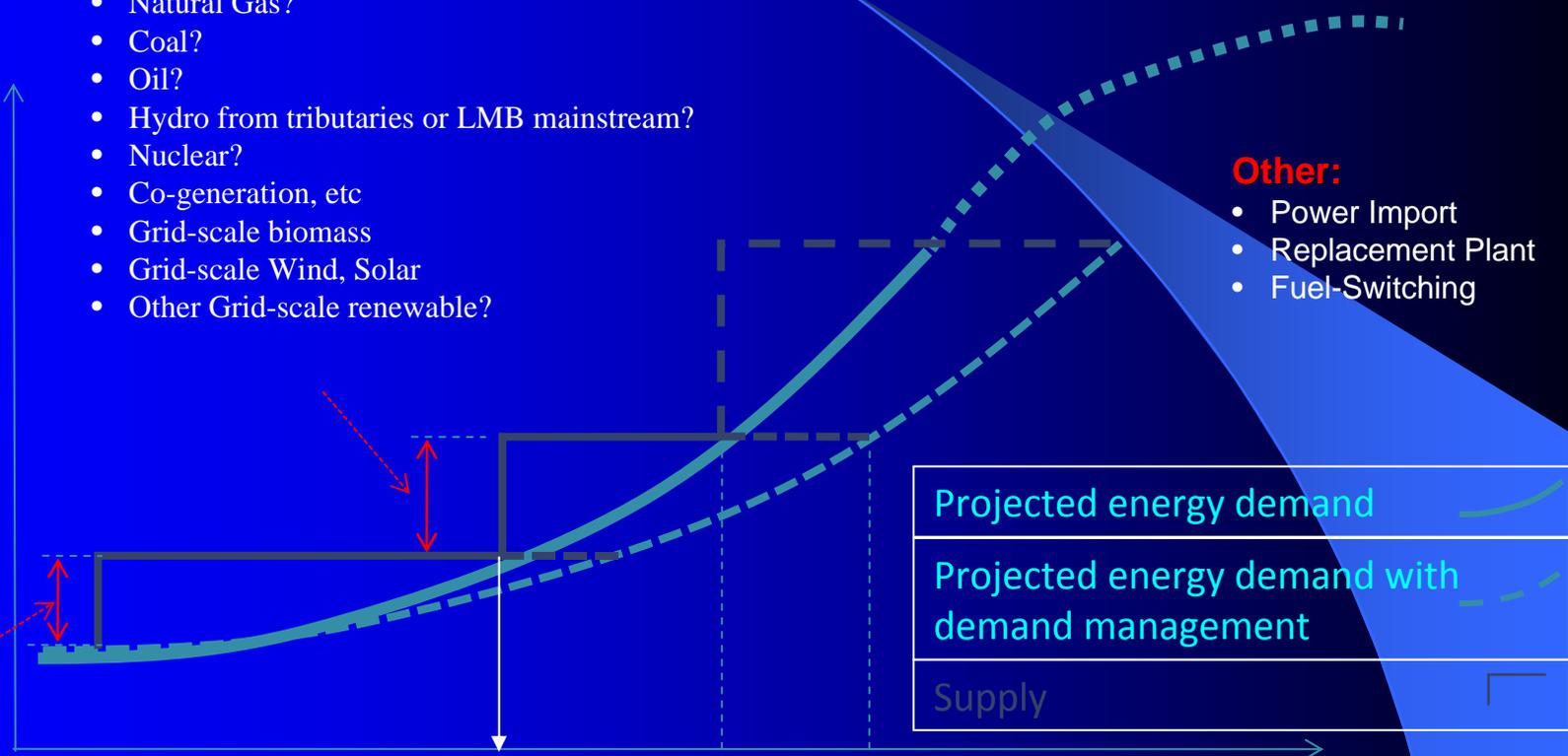
### Other:

- Power Import
- Replacement Plant
- Fuel-Switching

Energy Demand

### Existing Capacity

- Natural gas
- Coal
- Oil
- hydropower
- biomass
- Etc.



Today

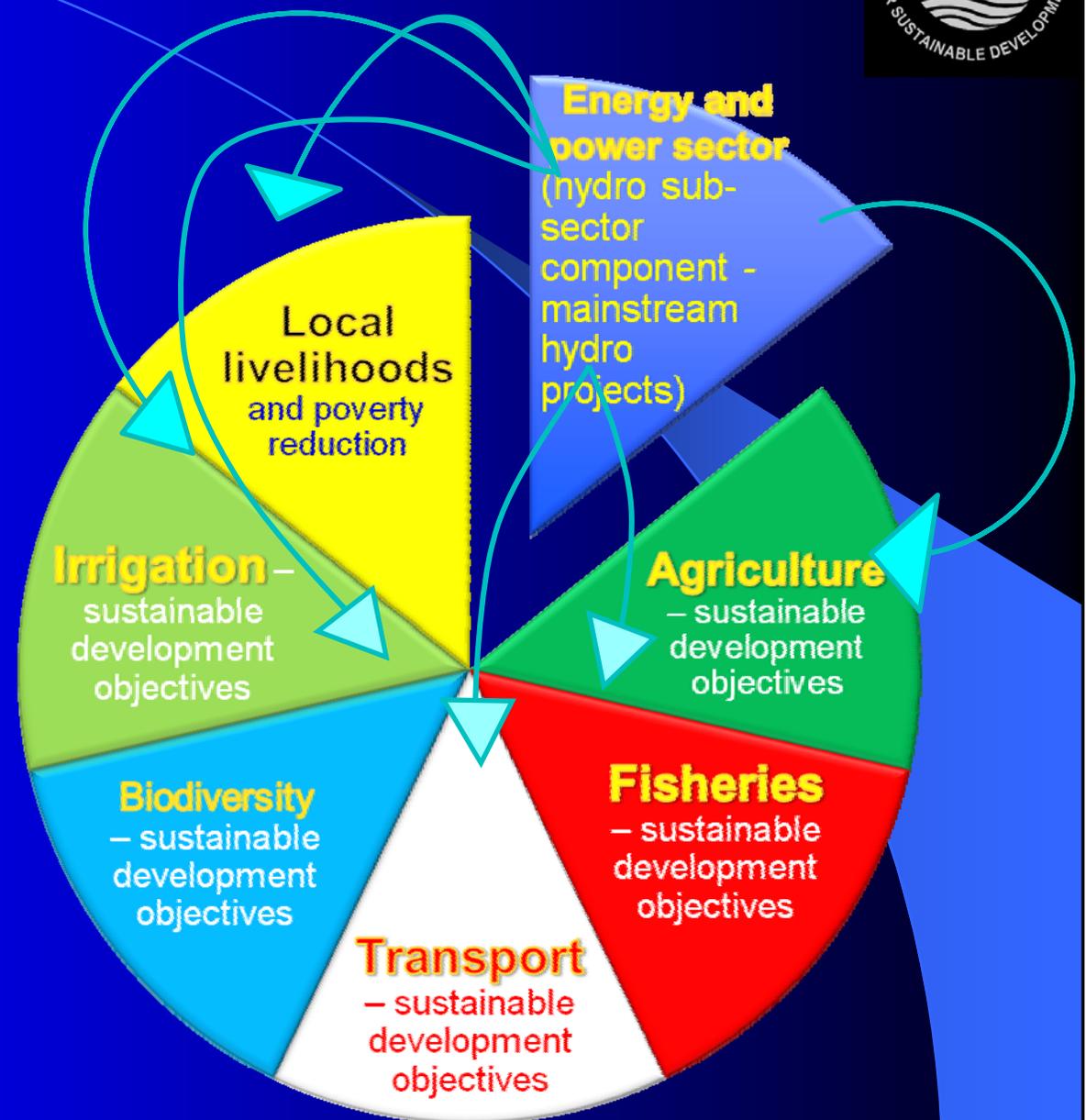
time

Need for new generation delayed through demand-side management & supply-side efficiency measures

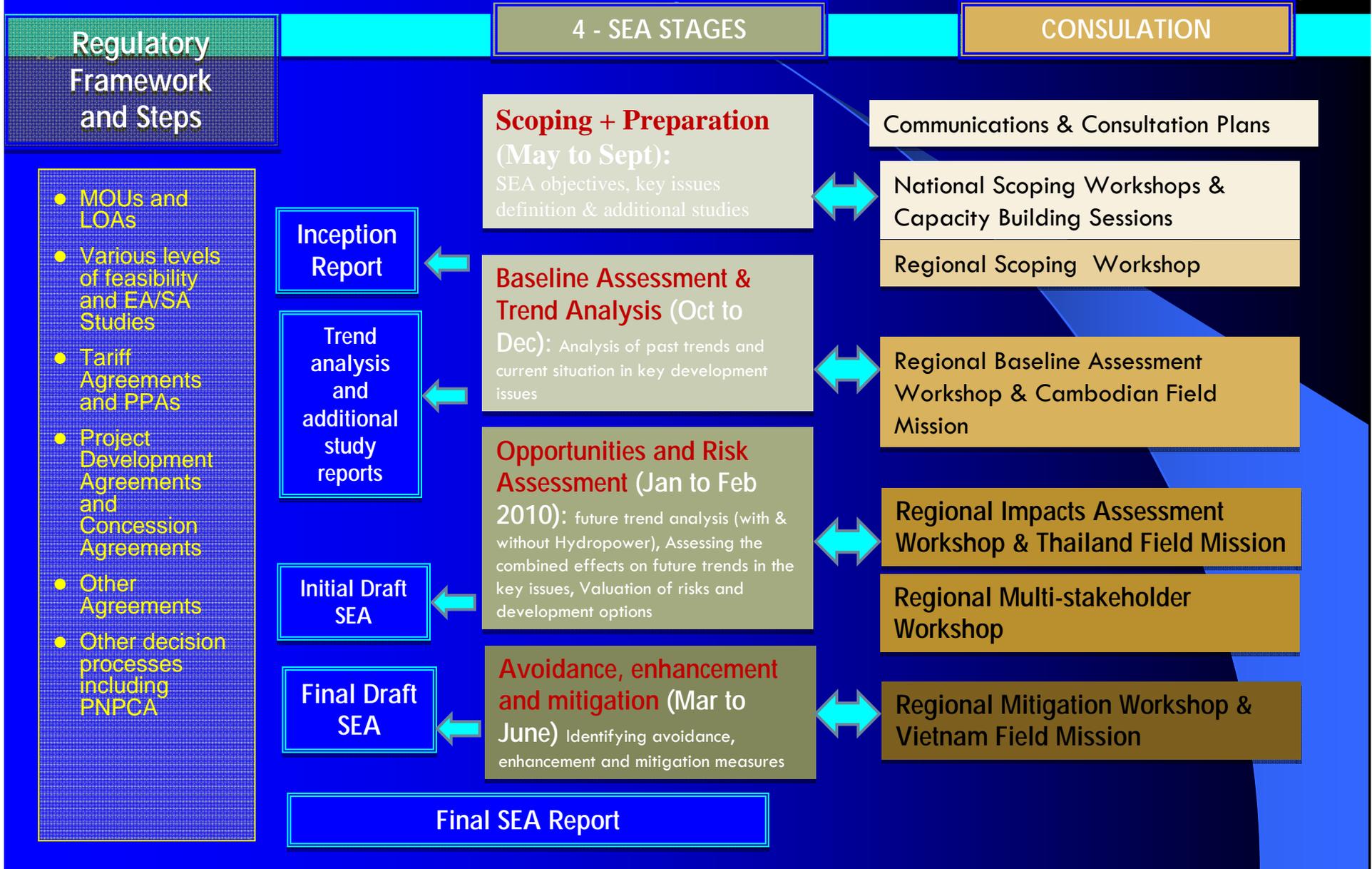
\*RoW = Rest of World

## Picture from IWRM Perspective is different

- Integrating hydropower in IWRM basin perspective
- Sustainable development and management across sectors
- BDP presentation to follow on defining “development space” within which national systems plan



# SEA process for mainstream developments



# Where we are now?

## At the End of SEA Preparation Phase

- Scope: and key strategic issues for sustainable development and management of the mainstream Mekong River;
- Methods: Review and finalise the methods and phasing for the assessment;
- Additional Studies: define those required as part of the SEA that respond to NMC / Line-Agency and other stakeholder interests;
- 4-Country working arrangements: Define collaborative relationships between SEA activities and other MRC initiatives and programs and embed the SEA into the MRC operational and institutional structure and processes;
- Cooperation with China — Technical visit early November to exchange information on SEA analysis and supporting information
- Communications and consultation plan - for the SEA which all stakeholders will respect as balanced, appropriate way to engage them in the process; and
- Data Sources and Access - Identify data sources and information gathering in each country.



# National consultations completed

DATE	MEETING	LOCATION	SEA STAGE
<b>NATIONAL CONSULTATIONS</b>			
<i>Vietnam</i>	<i>Scoping Phase</i>		
			<i>JUNE – SEPT</i>
JUNE 29-30	VN Government line agency meetings	Ha Noi	What are the key development issues for the Mekong River ?
JULY 02	VN National Workshop		
<i>Lao PDR</i>			
JULY 06-07	LAO Government line agency meetings	Vientiane	
08-09	LAO National Workshop		
09	LAO Civil Society meeting		
10-11	LAO Field : Xayabouly, Luang Prabang		
<i>Cambodia</i>			
JULY 14-15	KH Government line agency meetings	Phnom Penh	
16-17	KH National Workshop		
17	KH Civil Society meeting		
18-19	KH Field Stung Treng, Sambor		
<i>Vietnam</i>			
AUG 03	VN Civil Society Meeting	Ha Noi	
<i>Thailand</i>			
AUG 14	THAI National Workshop	Bangkok	
Sep 30 -01 Oct	<b>THAI Government Line agency meetings</b>		
Nov 03	<b>THAI Civil Society Meeting</b>		

**SCOPING**



## Outputs of the Preparation Phase due in October 2009

- Inception Report
- 8 Thematic Methodology Papers
- 4 Country Reports
  - Line agency workshops
  - CSO / NGO consultation meetings

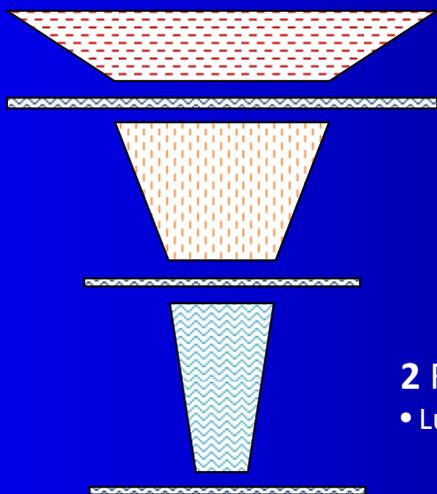
After MRC / NMC rapid review these will be made available on the MRC Website

# Methodology overview



1. SCOPING

100s of development Issues



Government Line Agency Meetings

- meetings with 40 agencies in the LMB

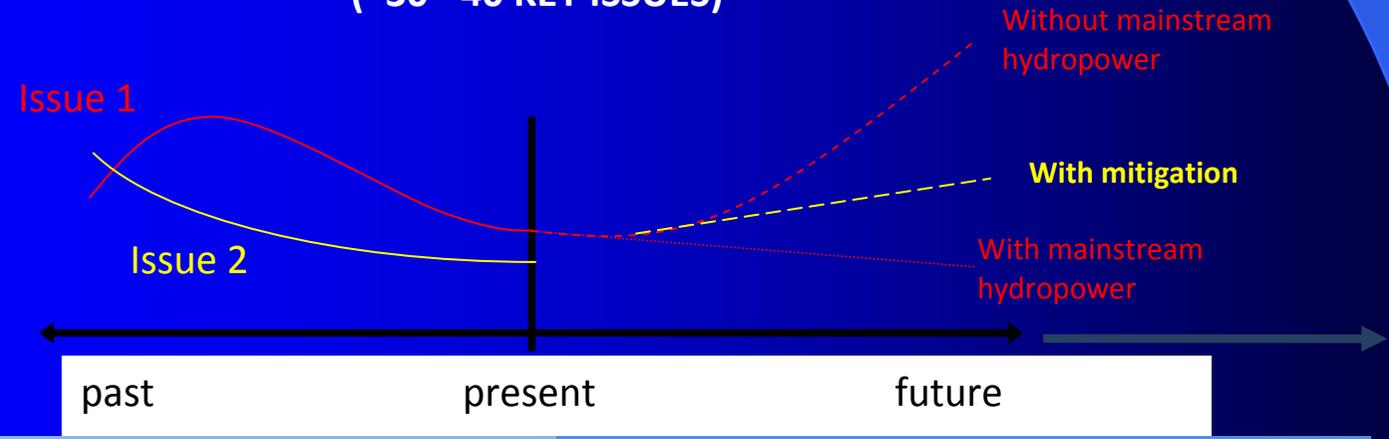
National Scoping & Capacity Building Workshop & Civil Society Meetings

- 4 National Scoping Workshops
- 3 Civil Society meeting
- Thai Civil Society meeting to follow in November

2 Field Missions & Opinion from experts

- Luang Prabang, Xayabouri, Pak Lay, Sanakhan, Pak Chom

8 THEMES (~30 - 40 KEY ISSUES)



4. MITIGATION

2. BASELINE ASSESSMENT

3. IMPACTS ASSESSMENT

# SEA Schedule: Remaining Consultative events

DATE	MEETING	LOCATION	SEA STAGE
<b>NATIONAL CONSULTATIONS</b>			
<b>REGIONAL CONSULTATIONS</b>			
<i>Cambodia</i> <b>Baseline Assessment Phase</b> <i>OCT - DEC</i>			
JAN	21-25	Phnom Penh	<b>BASELINE ASSESSMENT</b> <b>NT</b> What are the past & current trends for these issues?
	22-23	Sambor	
	27-28	Phnom Penh	
<i>Lao PDR</i> <b>Impacts Assessment Phase</b> <i>JAN - MAR</i>			
MAR	29-30	Vientiane	<b>IMPACTS ASSESSMENT</b> What are the future trends for these issues, with & without mainstream hydropower?
	31	TBD	
APR	01-02	TBD	
<i>Thailand</i>			
APR	05-06		<b>MITIGATION</b> What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
	08-09		
	13-14	Bangkok	
<i>Viet Nam</i> <b>Avoidance, Enhancement &amp; Mitigation Assessment Phase</b> <i>APR - JUN</i>			
JUN	18, 21-22	Hanoi/Ho Chi Minh	<b>MITIGATION</b> What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
	24-25	Can Tho	



**Thank you**

