

*The 5th Regional Stakeholder Forum
Basin Planning and Environmental Management
20-21 September 2018
Landmark Hotel, Vientiane, Lao PDR*



Review and Update of Basin-wide Sustainable Hydropower Development Strategy for the Lower Mekong Basin



1. The MRC-BDS and SP for 2016-2020

- ❖ **Outcome 2:** Environmental management and sustainable water resources development optimized for basin-wide benefits by national sector planning agencies
 - **Output 2.1:** *Basin-wide Strategy for Sustainable Hydropower Development updated and approved*
 - **Objective:** *“Optimal and sustainable hydropower development alternative pathways are explored, proposed and discussed – taking into account opportunities to enhance benefits beyond national borders and minimise adverse transboundary impacts while supporting water, food and energy security”*



2. Need for updated Sustainable Hydropower Strategy

Large-scale hydropower development is likely to have substantial **impacts on economic, social and environmental conditions** in the LMB

Impacts are not equally shared across MRC Member countries and heavily borne by the most vulnerable groups through changes in their livelihoods

- MRC has studied alternative development pathways in the ***Assessment of basin-wide Development Scenarios***
- Major focus of SHDS is **trade-offs in economic, environmental and social values with careful appraisal of associated uncertainties and risks**
- MRC studies recommends **integrated basin development and management planning**, and **basin-wide cooperation** → to achieve BW Sustainable Development

3. Overall Progress

Year 2017

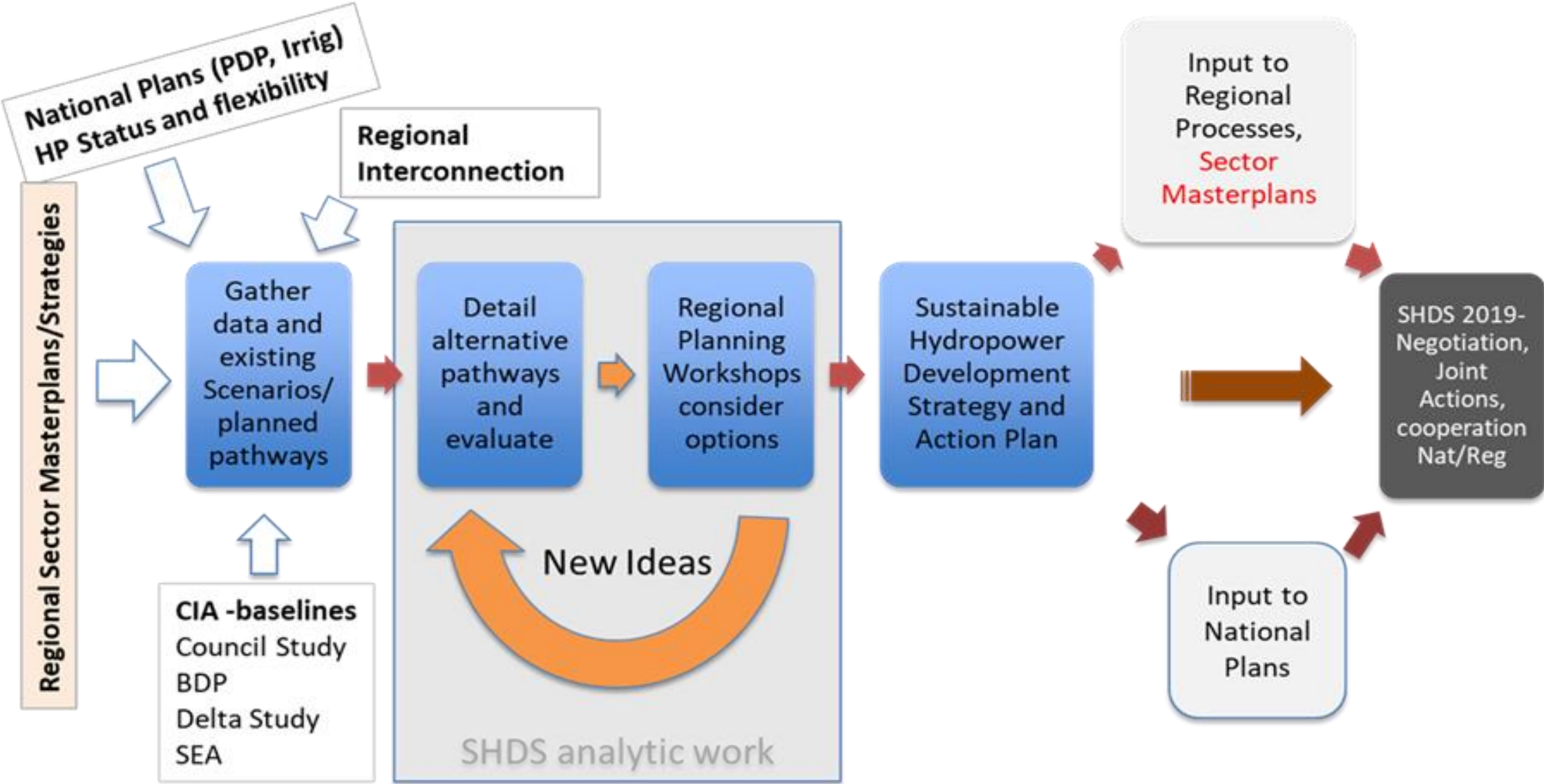
- ✓ **Concept Note (CN)** prepared, discussed and finalized through national and regional consultations
- ✓ Overall **confirmation of high priority** by MCs in 2018
- ✓ JC took note of Concept Note to guide the **implementation in 2018** (24th MRC Council Meeting)

Year 2018

- ✓ **Consultant team (ECA + NEs)** mobilised and kicked off in March
- ✓ **Inception Report** shared with MCs in the Regional consultation meeting on 7th May
- ✓ **Draft Discussion Paper #1** shared and discussed with MCs in the National Meeting during 9 – 20 August



4. Process of Developing SHDS



5. Approach to Defining Pathways

CURRENT PLANS PATHWAY

Equivalent to Council Study M3 Scenario – all planned and proposed projects built by 2040
Represents the 'baseline'

DEFINE ALTERNATIVE PATHWAYS

Deferral of some projects beyond 2040 based on assessments of harm relative to benefits
Investigates the changes in benefits and negative impacts resulting from changes in the project mix

HARMONISE WITH NATIONAL POWER DEVELOPMENT PLANS

Match pathways to national PDPs
Investigates how changes in LMB hydropower development impact on national electricity supply

CASE STUDIES OF BENEFIT ENHANCEMENT / DESIGN MITIGATION

Changes to project design and configuration that cannot be modelled at an aggregate level
Investigates whether design guidance and transboundary cooperation enhance benefits / reduce impacts

6. How Might Alternative Pathways Look?

- **Commissioned:** already operating
- **Committed:** considered to be so advanced as to be irreversible
- **Candidate:** planned or proposed, may or may not be built

Only candidate dams are assumed to be able to be deferred under the alternative pathways

CURRENT PLANS

Build all planned and proposed projects
Equivalent to Council Study M3 scenario
Represents the 'baseline'

POWER UTILITY PERSPECTIVE

- ✓ Minimise costs of electricity supply
- ✓ Avoid resettlement

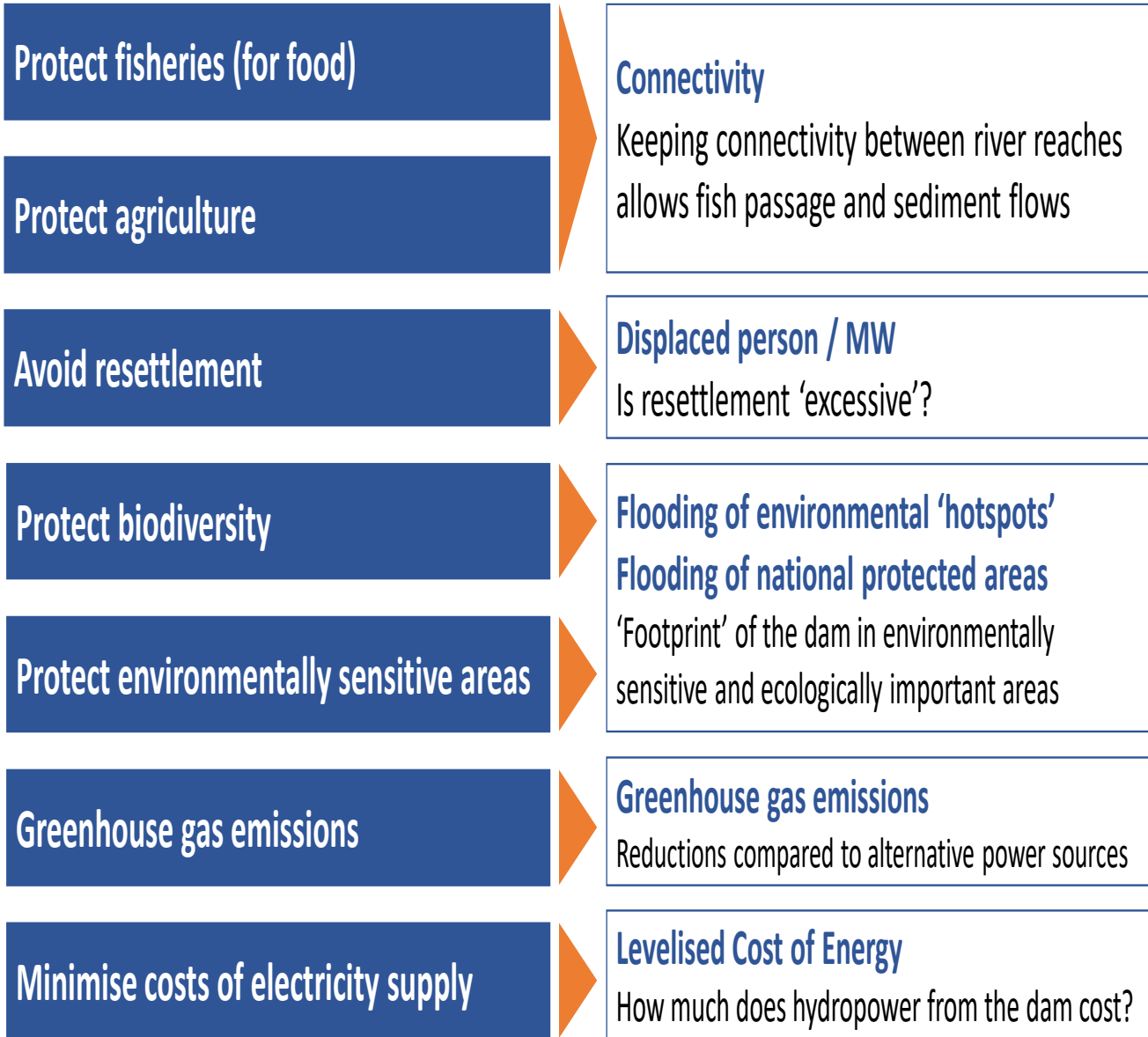
ENVIRONMENTAL PERSPECTIVE

- ✓ Protect biodiversity
- ✓ Protect environmentally sensitive areas
- ✓ Reduce greenhouse gas emissions

SOCIAL (LIVELIHOODS) PERSPECTIVE

- ✓ Protect fisheries (for food)
- ✓ Protect agriculture
- ✓ Avoid resettlement

7. Converting Perspectives to Screening Indicators



CATEGORY	TYPE	SCREENING INDICATORS
SOCIAL (LIVELIHOODS)	Transboundary I	Connectivity
	National II	Displaced persons
ENVIRONMENT	Transboundary III	Flooding of environmental 'hotspots'
	National IV	Flooding of Protected Areas
CLIMATE CHANGE	Transboundary V	GHG savings (*)
	National	--
ECONOMIC	Transboundary VI	Levelised Cost of Energy
	National	--

8. Harmonising Hydropower Development with National PDPs

- **Pathway definition** also has to take into account the need to harmonise intended levels of hydropower development with the national PDPs

Exports under the Current Plans pathway

Changes made from assumptions on allocation of hydropower capacity and energy contained in MRC database

Comparison with National PDPs

- Focus on ensuring transboundary consistency
- Capacity within a country and supplying that country kept unchanged from Current Plans

Proposed Approach

Reconciling Current Plans pathway and national PDPs for Thailand and Vietnam

9. Regional Power System Integration

An inter-connected grid in the region are already being implemented under **Regional Power Trade Coordination Committee (RPTCC)**, but major steps would include:

Increased coordination of operations

- a) Wheeling of power through third countries (Vietnam-Lao-Thailand)
- b) Short-term power exchanges to meet temporary needs
- c) Increased use of hydropower imports for load-following

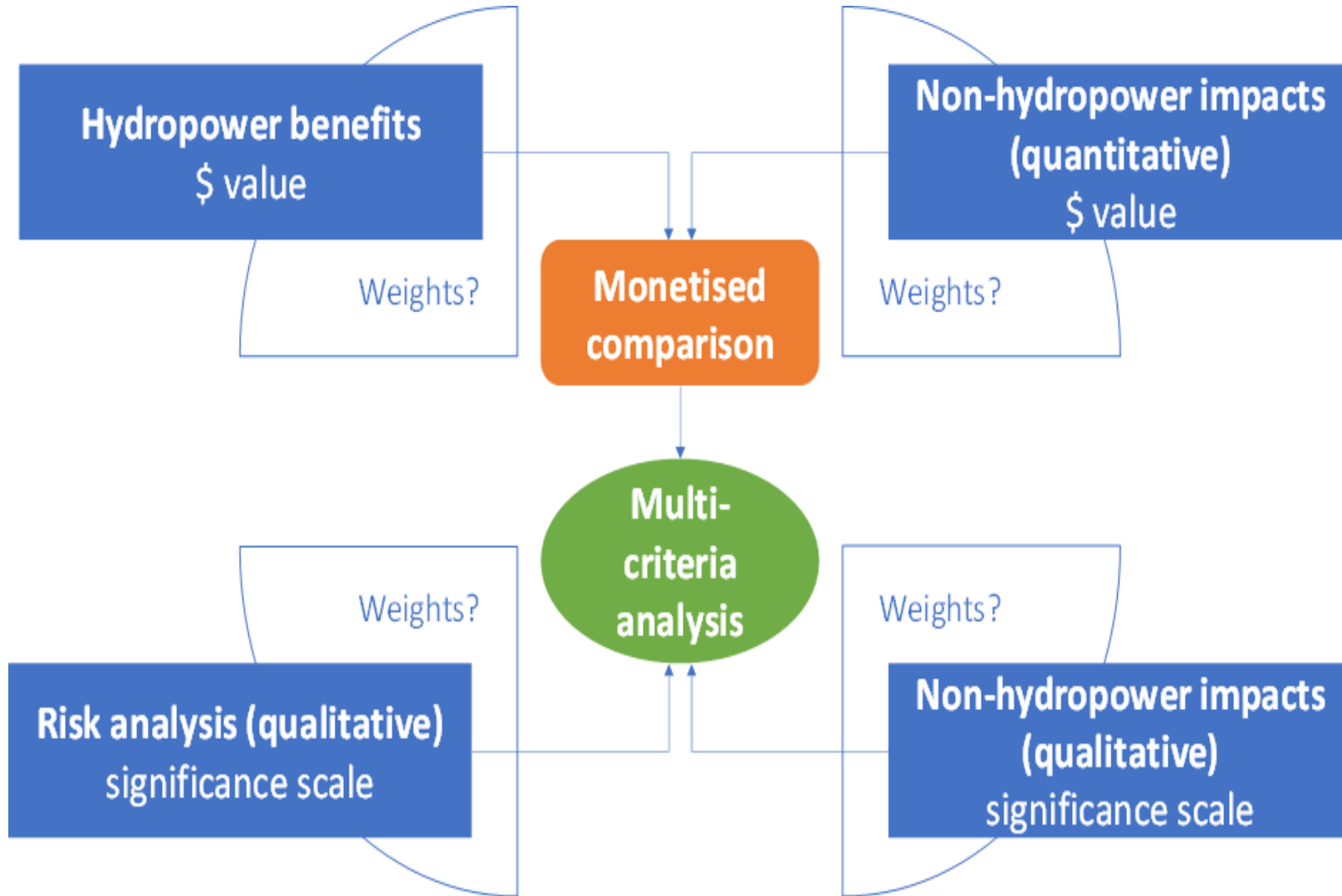
Increased integration of planning and investment

- a) Identifying those power projects with the greatest regional benefits
- b) Regional coordination of timing of investments
- c) Development of benefit-sharing mechanisms between LMB members (including use of power markets)

Regional projects and development of power markets

- a) Coordinated regional power planning and joint investment projects
- b) Sharing of reserves across LMB countries
- c) Active long and short-term trading of power across countries

10. Overall basin-wide pathway evaluation



- **Certainty and reversibility** – there is a case for impacts that are more uncertain and permanent to be given a higher weight.
- **Income distribution** – impacts that disproportionately affect low income / more vulnerable groups might be given higher weights.

11. Next Steps



Keys factors to success

- Same group of participants from hydropower/energy and water resources development should continue engaging until the end of the process exercise
- Fully support from NMCs to invite the “right” participants especially from Energy Planning to the workshops
- Adhere to the agreed schedule and timeline

Thank you

