



TEAM Consulting Engineering and Management

Incentives for Sustainability

From a Consultant's Perspective

MRC's Hydropower Program, Vientiane, Lao PDR, 25-27 Sep 08

Key Stakeholders

1. Private Developers

2. Commercial/Investment Banks

3. Utilities

4. Riparian Governments/NGOs

5. Consultants

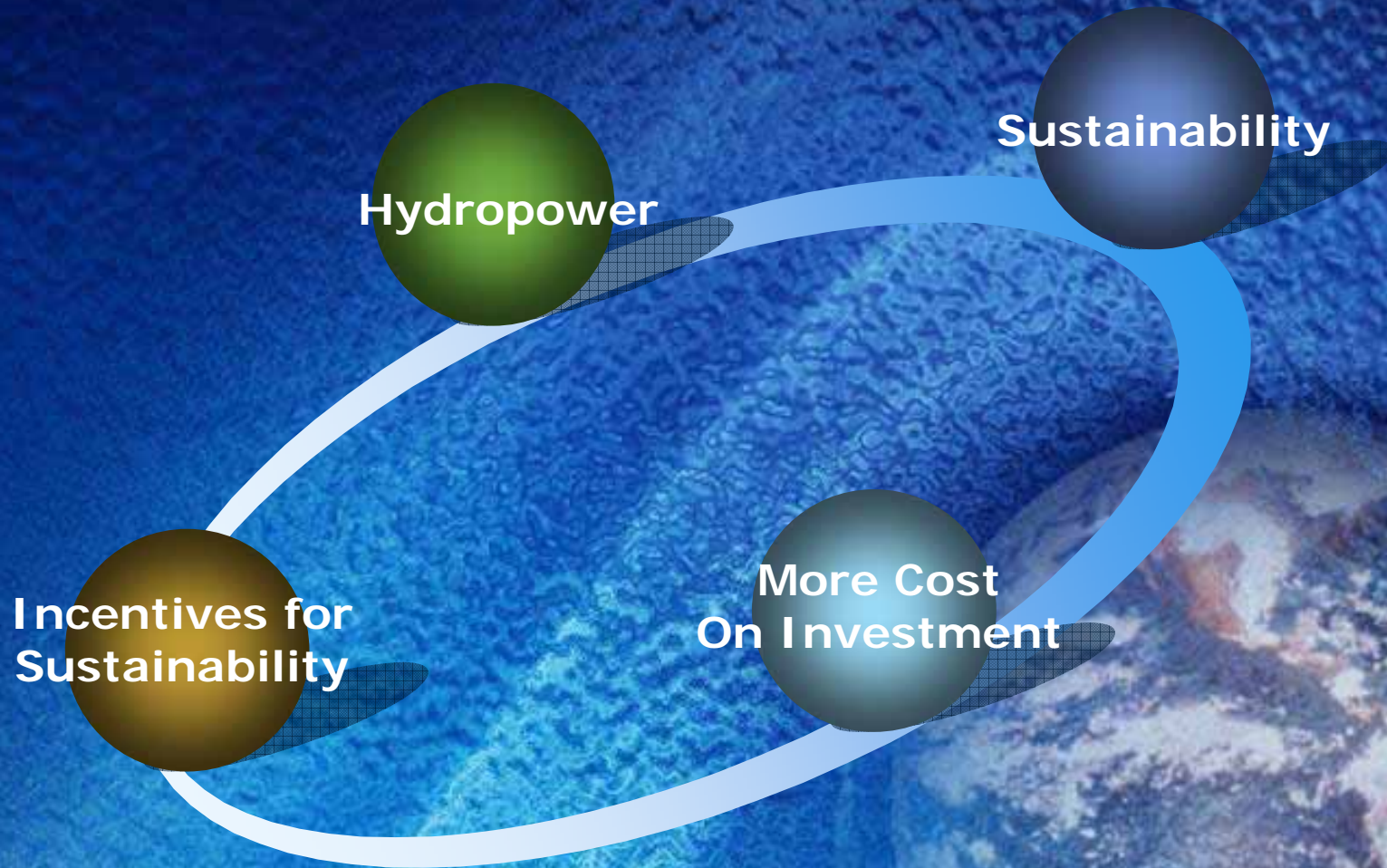
6. MRC

7. Donor Communities

8. Int. Cooperating and Funding Agencies



Relative Cycle

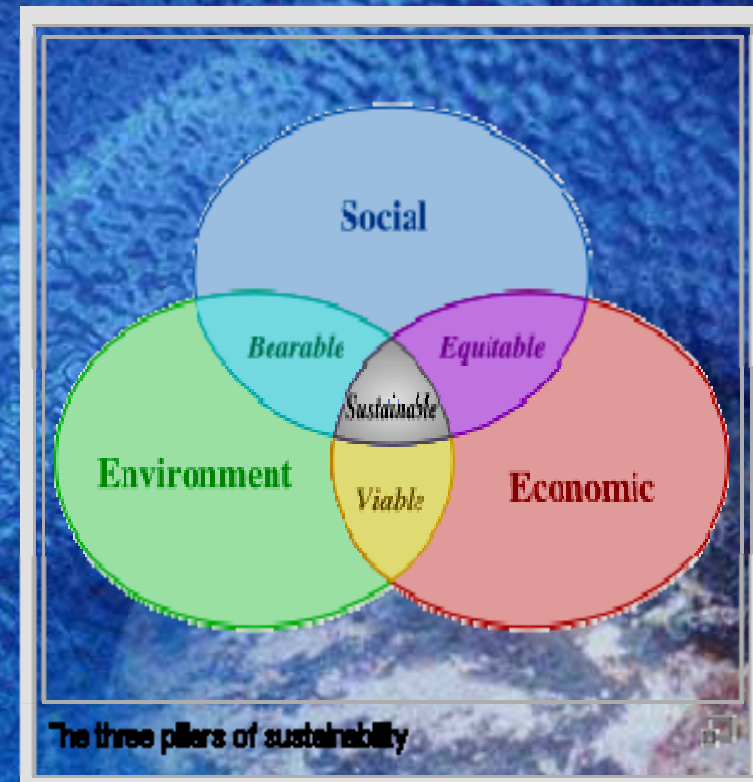


Hydropower Project

Power Plant



The Considering Issues



Perspective of Consultant

- I. Project Planning
- II. Social and Environmental Sustainability
- III. Incentives for Sustainability
- IV. Rules and Regulations
- V. MRC's Support Requirements



I. Project Planning

- Project viabilities on Demand and Supply
 - Power market and Power development (Gen.)
 - Transmission
 - Hydropower potential sites
- Project components in terms of Sustainable development
 - Fish Way
 - Navigation lock
 - Resettlement
 - Access road, etc.



II. Social and Environmental Sustainability

- Environmental Impact Assessment (EIA)
- Social Impact Assessment (SIA)
- Environmental Management (EMP)
- Resettlement Action Plan (RAP)
- Health Impact Assessment (HIA)



The Factors used to Consider

EIA, SIA, EMP, and RAP

Physical
Resources

Ecology
Resources

Human Use
Value

Quality of
Life Value



III. Project Cost and Benefit

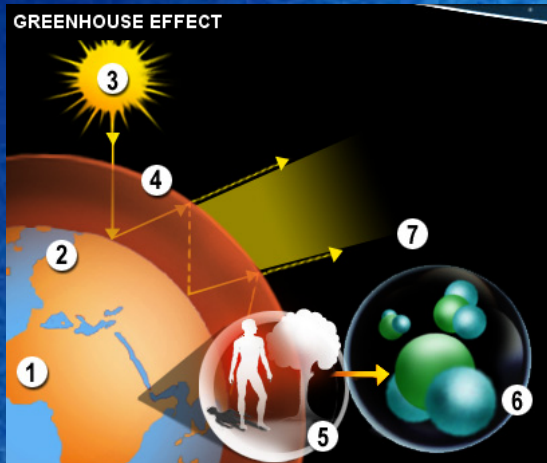
- Costs
 - International Standard
 - Safety
 - EIA, SIA, EMP, RAP, and HIA
- Benefits
 - Basin development plan
 - Less effect on existing project
 - Maintain minimum flow
 - Air Pollution reduction



Incentives for Sustainability

- Tax and Royalty fee
 - Less for clean energy

Environmental Responsibilities



FUEL CONSUMPTION	
MAKE MODEL VARIANT TRANSMISSION FUEL TYPE	
Fuel Consumption (L/100km)	CO₂ Emissions (g/km)
12.4	291
Combined Test	Combined Test
16.7	Carbon dioxide (CO ₂) is the main contributor to climate change
Urban	
9.8	
Extra Urban	

Vehicle tested in accordance with ADR 81/02. Actual fuel consumption and CO₂ emissions depend on factors such as traffic conditions, vehicle condition and how you drive.

More information at www.greenvehicleguide.gov.au



Incentives for Sustainability (Cont.)

- Utilities
 - Transmission system
 - Substation
- Project Life
 - Hydropower project life is normally longer than other type.



IV. Rules and Regulations

- Follow the government Institution and Legislation
- Follow the MRC agreement signed by 4 riparian countries in 1995 stipulating the principles of
 - Reasonable and equitable utilization
 - Inter-basin diversion
 - Freedom of navigation
 - Environmental and ecological balance



Follows the MRB Procedure

- Tributaries

- Tonle Sap, Intra basin uses, and inter-basin diversion



MRC Joint Committee (JC)

- Stricter Procedures for project development on the Mekong mainstream

- Purpose of Uses
- Timing of Uses (wet and dry season)



Agreement by JC



V. MRC's Support Requirements

- Available data
 - Hydrological data
 - Hydrographic Chart Map
- Water Management and Flood Control Software
- Pool of Knowledge Acquired
- Standard Specifications



Conclusion and Recommendations

- Well coordination among key stakeholders for sharing data/information
- Support from MRC for the wealth of its knowledge based on GMS
- Standardization for design and construction requirements
- Incentives for sustainability



Thank You!



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