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For sustainable development



# MRC Guidelines and Tools for Sustainability Development of Hydropower – SHDS, PDG, PNPCA, and Future Updates



*Mekong<sup>+</sup> New Frontiers in Sustainable Hydropower Development  
Hydropower Sustainability Forum*

*4<sup>th</sup> – 6<sup>th</sup> August 2017*

*Oslo, NORWAY*

# 1. Strategic Priorities for Basin Development

1. Address opportunities and consequences of ongoing developments including development in upper-Mekong basin
2. Expand and intensify irrigated agriculture for food security and poverty alleviation
3. **Improve sustainability of hydropower development**
4. Acquire essential knowledge to address uncertainty and minimize risk of identified development opportunities
5. Seek options for sharing potential benefits and risks of development opportunities
6. Adapt to climate change
7. Integrate basin development planning considerations into national systems



## 2. Role of MRC in SHD as per MA 1995 (1)



- Before 1<sup>st</sup> HDS-2001 – **investigation and assessment of individual projects and DOS for hydropower development** (*engineering, economics, less focus on environment and social*)
- **Facilitate co-operation in hydropower sector** as guided by Articles of MA 1995:
  - **Article 1: Areas of *Cooperation*** – *in all fields including hydropower*
  - **Article 2: Projects, Programs and *Planning***
  - **Article 3: *Protection* of the Environment and *Ecological Balance***
  - **Article 4: Sovereign *Equality* and Territorial *Integrity***
  - **Article 5: *Reasonable* and *Equitable* Utilization**



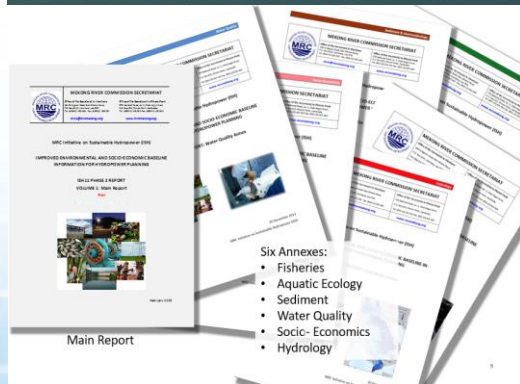
# 3. MRC Tools for Sustainable HD



➤ Strategy, Guidance and Procedures developed to fundamentally support sustainable hydropower planning and management in LMB:

## 3.1. MRC Basin-wide Strategy for Hydropower Development (MRC HDS2001)

- Consideration of Integrated Water Use, Environmental and Socio-economic Factors
  - Efficient Hydropower Generation and Distribution Mechanisms
  - Information System and Capacity Building
- ➔ A variety of *Studies, Guidelines and Tools* which were used to provide guidance for MRC's involvement in hydropower activities in Basin including inputs to BDP



# 3. MRC Tools for Sustainable HD

## 3.2. Preliminary Design Guidance (PDG2009)

– provides a framework for technical review for proposed mainstream dams:

- ✓ *Hydrology and Hydraulics*
  - ✓ *Sediment Management and River Morphology*
  - ✓ *Fisheries and Fish Passage*
  - ✓ *Aquatic Ecosystems and Water Quality*
  - ✓ *Navigation*
  - ✓ *Safety of Dams*
- Application, through PNPCA process, on 3 mainstream dams project namely: Xayabour (2011), Don Sahong (2015) and Pak Beng (2017) → **Technical Review Report (TRR)**

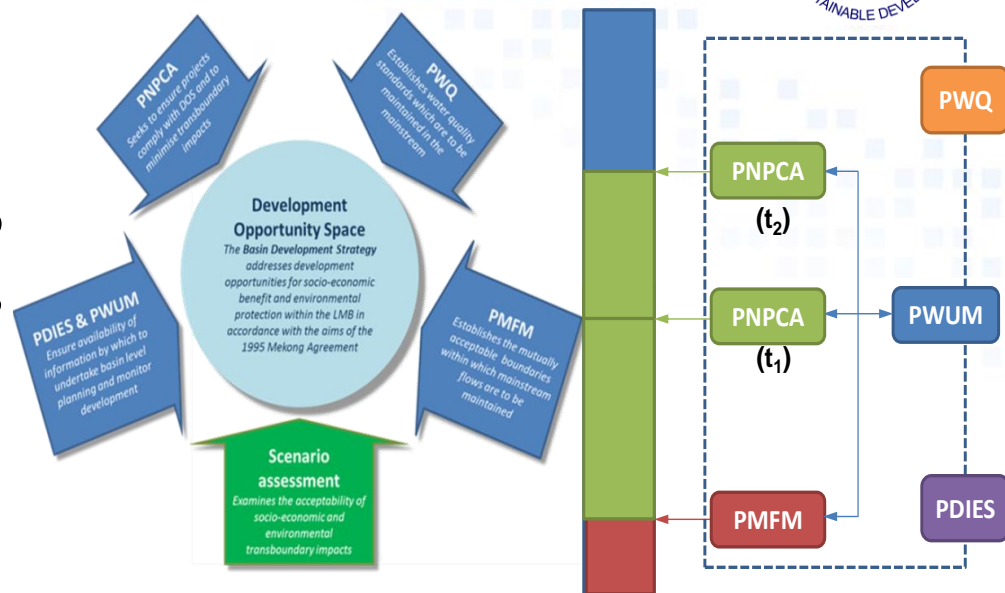












# 3. MRC Tools for Sustainable HD

## 3.3. Procedure for Notification, Prior Consultation and Agreement (PNPCA2003)



- PNPCA derives from Article 5 of MA 1995 where all Parties agree to **reasonable** and **equitable** use of Mekong River system
- Prior Consultation is aimed at **evaluating whether proposed development is consistent with principles and objectives of cooperation agreed in MA 1995, and its alignment with PDG**



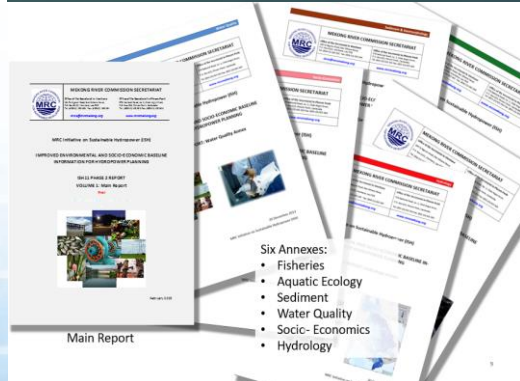
Type of River	Season	Scope of water-use	Required procedure
 Mainstream	 Dry	Inter-basin (from the Mekong basin to another basin)	 Specific Agreement
		Intra-basin (within the Mekong basin)	 Prior Consultation
	 Wet	Inter-basin (from the Mekong basin to another basin)	 Prior Consultation
		Intra-basin (within the Mekong basin)	 Notification
 Tributary	 Both	Both inter and intra-basin	 Notification

# 3. MRC Guidelines and Tools for SHD (2)



## 3.4. Other Studies, Guidelines and Tools:

- Environmental & Socio-Economic Baseline Information for Hydropower Planning (ISH11)
- Identification of Ecologically Sensitive Sub-Basins for Sustainable Development of Hydropower on Tributaries (ISH01)
- Guidelines on the multi-purpose evaluation of hydropower Project (ISH02)
- Guidelines for hydropower environmental impact mitigation and risk management in Lower Mekong mainstream and tributaries (ISH0306)
- Basin-wide Hydropower Sustainability Assessment Tool (RSAT)



# 4. Update of MRC's SHDS2019

## 4.1 Objective of MRC's SHDS 2019

❖ **Optimal** and **sustainable** *hydropower development pathway alternatives* are designed taking into account:

- Development opportunities to enhance benefits beyond national borders;
- Minimisation of adverse trans-boundary impacts;
- Supporting water, food and energy security.





# 4. Update of MRC's SHDS2019



## 4.2 Principles (adapted from 1998, Council Approved)

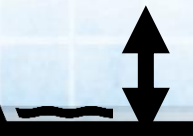
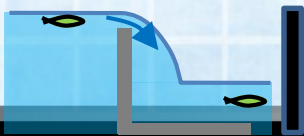
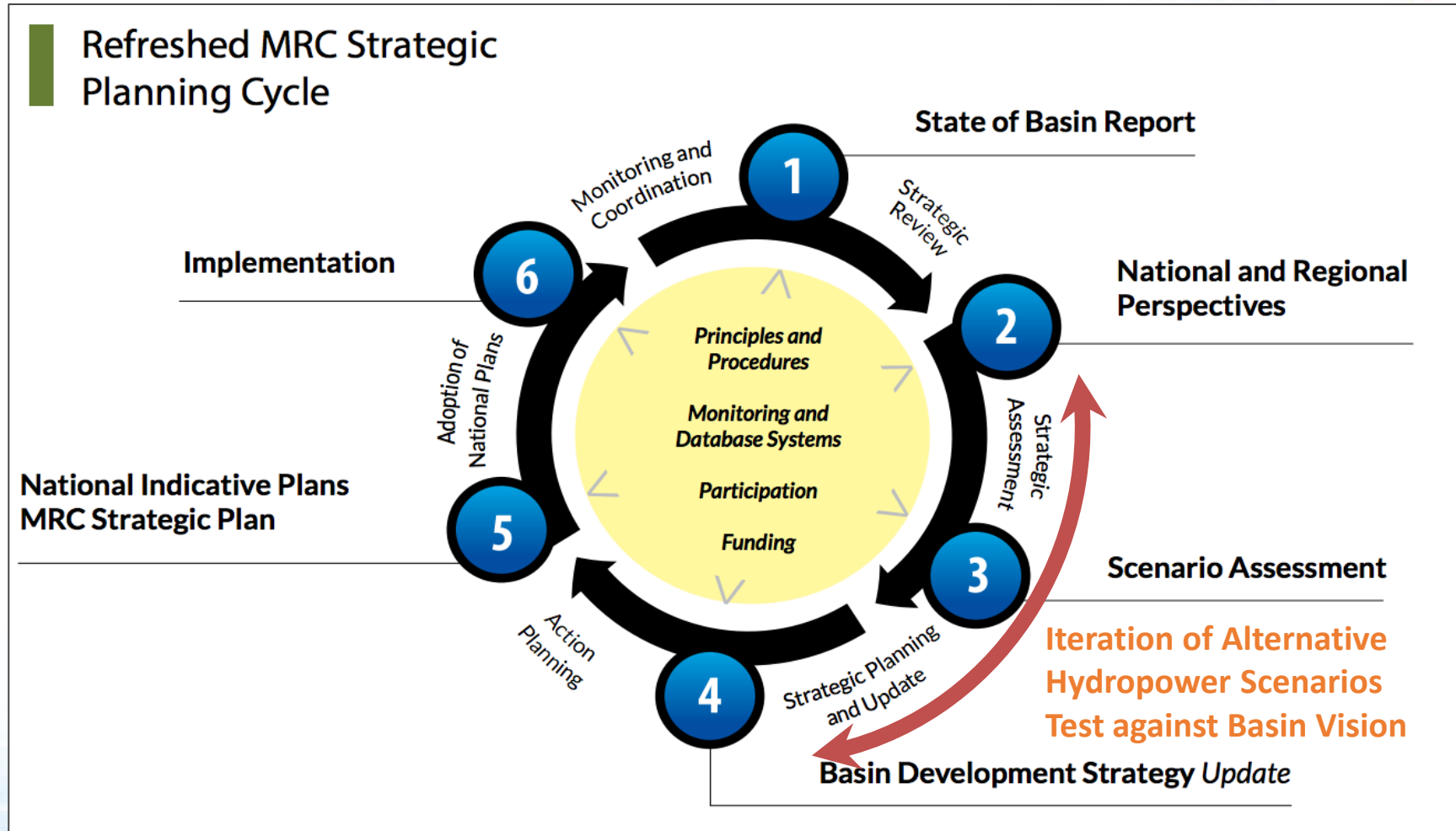
1. Sharing of Data and information
2. Close co-operation with international institutions
3. Focus on IWRM based planning for HP to meet objective:
  - Sector integration
  - Improvement of national plan towards the Basin Strategy
  - Informing regional energy/transmission planning as appropriate
4. Guided by:
  - “*Good practice*” CIA (e.g. Council Study, BDP2, SEA),
  - *Design Guidance* (e.g. PDG and ISH0306), and
  - *Stakeholder participation*
5. Encourage private sector involvement in Sustainable HP practice



# 4. Update of MRC's SHDS2019

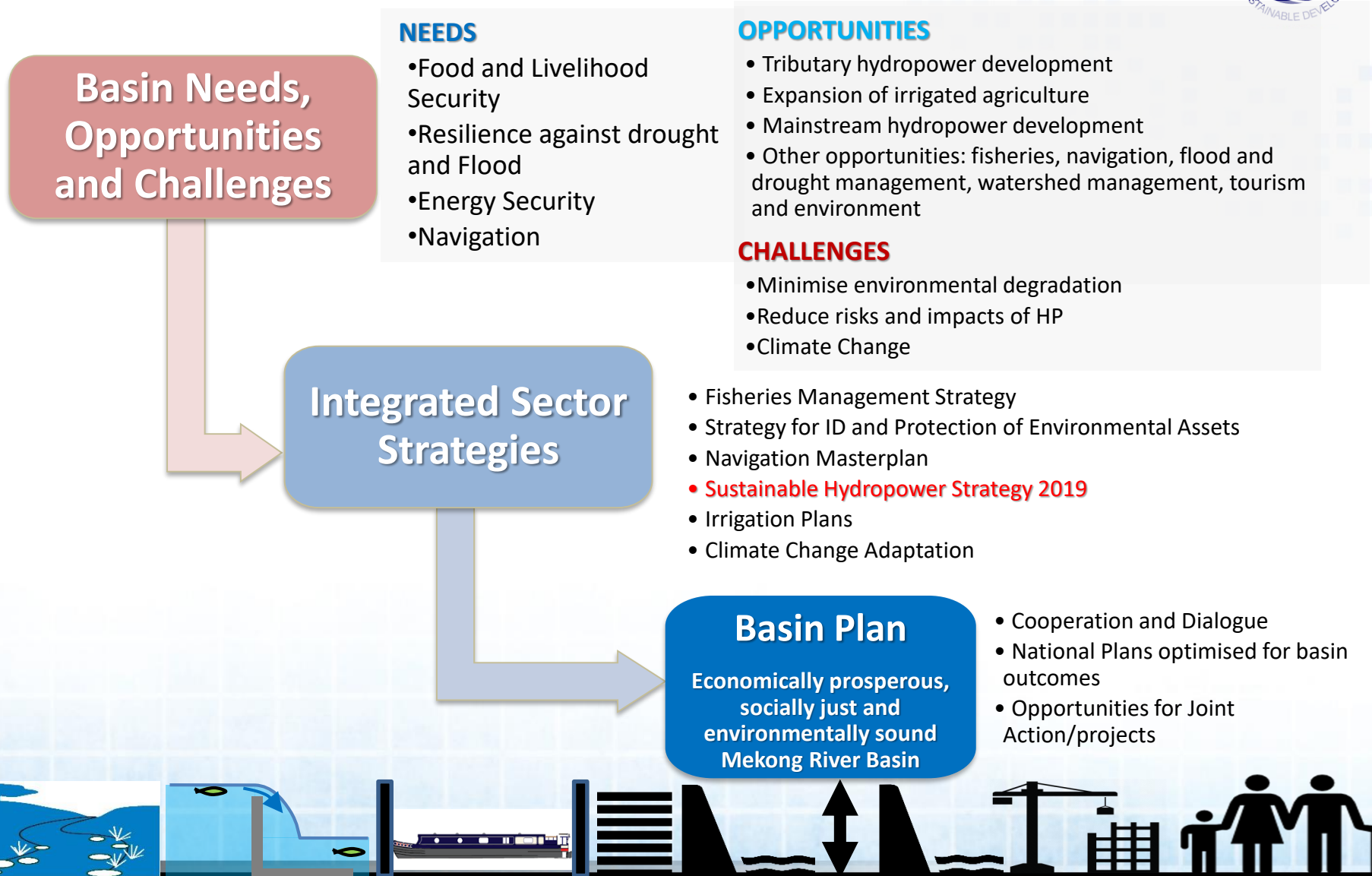


## 4.3 Part of the Planning Cycle



# 4. Update of MRC's SHDS2019

## 4.4 Methodology – Integrated Planning Approach



# 5. Update of MRC's PDG (DG2018)



## 5.1 Objective of MRC's DG2018

❖ **Updated DG2018** for proposed mainstream and (significant tributary) dams on LMB provides:

➔ *Contemporary, research based performance standards, design and operating principles;*

➔ *Covering compliance monitoring and adaptive management;*

➔ *To be endorsed by the Joint Committee by mid-2018*



# 5. Update of MRC's PDG (DG2018)



## 5.2 Principles (adapted from PDG2009)

MRC's Design Guidance 2018 will be provided in the form of:

1. ***Performance targets, design and operating principles for mitigation*** (not prescriptive design requirements);
2. Emphasise ***joint compliance monitoring and adaptive management***;
3. Adopts ***a consistent approach*** across the basin in the design of individual dams, as well as the proposed mitigation and management measures.
4. Allows developers the ***flexibility to identify and propose the best solutions***.

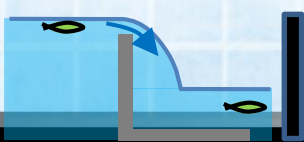


# 5. Update of the MRC's PDG (DG2018)



## 5.3 Lessons from PNPCA Implementations and Needs

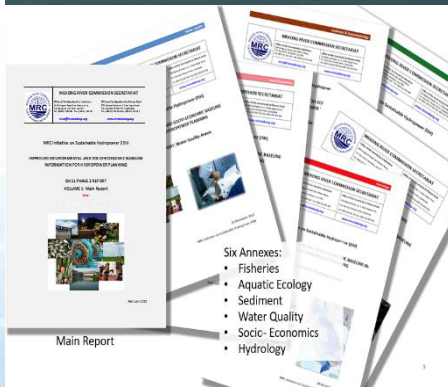
- **Guidance** on *minimum primary data requirements*;
- **Good social impact assessment and resettlement practices**;
- Emphasis on the **avoidance** of impacts (through strategic planning);
- Options for **joint planning, joint coordination and joint monitoring** particularly at trans-boundary level;
- Elaborate on **adaptive management**;
- **Guidance** as to **quality of EIA** to avoid delays in the provision of adequate information for assessment;
- **Operating rules** for projects are often not provided in PNPCA documents;
- **Inclusion of the need for Trans-boundary CIA requirements** – with reference to current MRC preparation of guidance for TbEIA.



# 5. Update of MRC's PDG (DG2018)



## 5.4 Consideration of Additional Sections in DG2018



- 1. Hydrology and Water Flow:** Dealt with separately in PNPCA (*ramping rates, flow variation, minimum flows etc.*);
- 2. Socio-economics and Livelihoods:** Considered in PNPCA but no guidance, focus on transboundary and take account of national standards;
- 3. Transboundary EIA:** Currently under preparation by MRCS through WB funds, will allow separation of local and TB impacts to be fully set out.

# 5. Update of the MRC's PDG (DG2018)



## 5.5 Scope of Review

- ✓ **All sections** of PDG2009 will be reviewed and selectively updated;
- ✓ Philosophy to be used “**performance standards**” rather than “prescriptive designs” will be retained;
- ✓ **New sections** may be added to cover areas of agreed gaps as highlighted bullet 5.4;
- ✓ **Clear links** to Mitigation Guidelines (ISH0306);
- ✓ **Stakeholder inputs** and ideas will be gathered where possible;
- ✓ **Consultation** with, and **endorsement** of, MRC Member Countries will be vital to gain an agreed set of guidelines in DG2018.





# 6. Update of MRC's SHDS2019 and PDG2018



## Timeline

- Concept Notes **approval** by MRC JC – **by November 2017**
- Stakeholder Forum (with CS) – **by December 2017?**
- Inception Report of SHDS2019 – **by April 2018**
- **MRC-JC consideration and approval of update PDG (DG2018 Draft Final) – by August 2018**
- Interim Report of SHDS2019– **by August 2018**
- **Final Report and Recommendations – by September 2019**
- **4 Regional Consultation Meetings, 2 Stakeholder Forums**
- **MRC JC's endorsement and Council's approval of SHDS2019 – by November 2019**



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# Thank you

