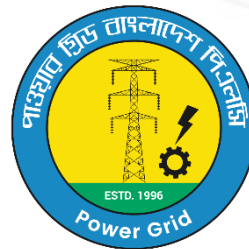


# Best Practices in Implementation of the Planned Transmission Systems

"Building a Reliable, Resilient and Future-Ready Grid"



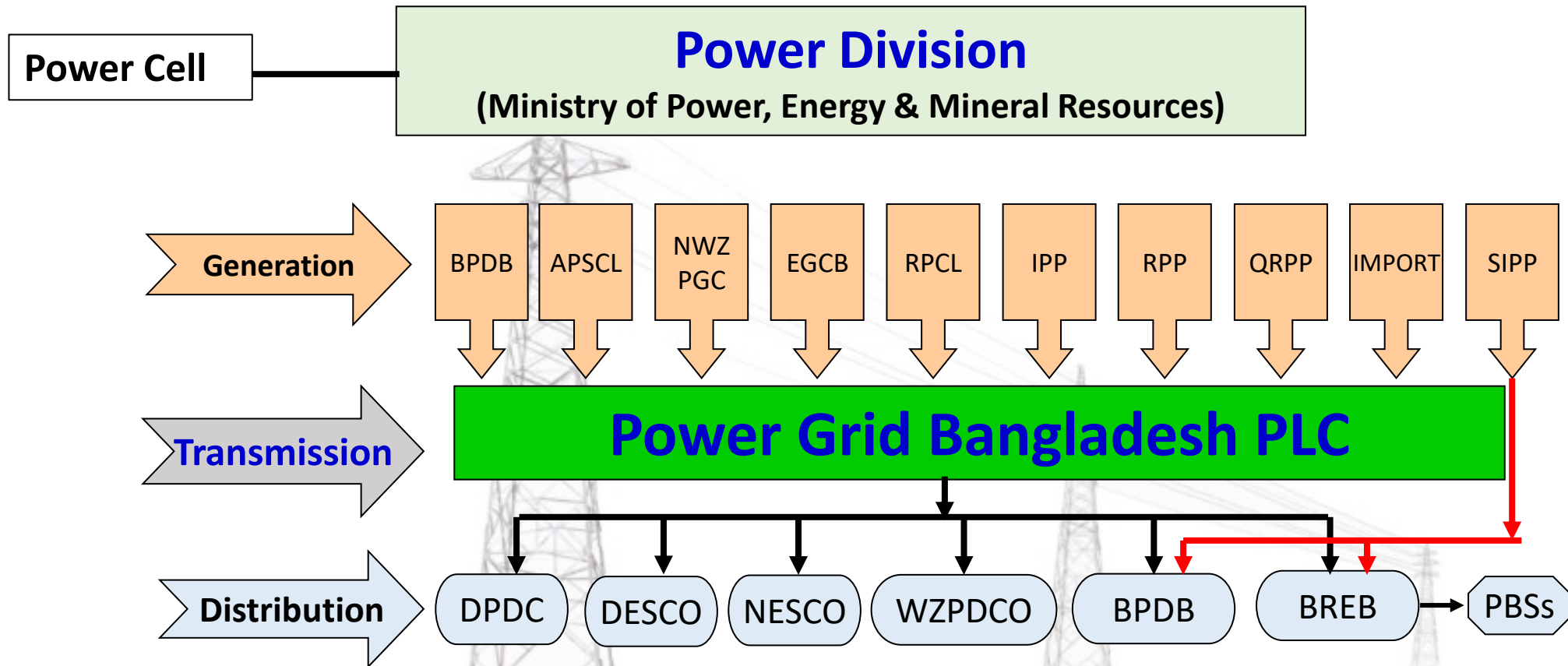
Presented by

**Md. Munjur Alam**

**Superintending Engineer**

**Power Grid Bangladesh PLC**

# Structure of the Bangladesh Power Sector



## Abbreviations:

<b>BERC</b>	: Bangladesh Energy Regulatory Commission
<b>BPDB</b>	: Bangladesh Power Development Board
<b>APSCL</b>	: Ashuganj Power Station Company Ltd
<b>NWZPGCL</b>	: North-West Power Generation Co. Ltd.
<b>EGCB</b>	: Electricity Generation Company of Bangladesh
<b>RPCL</b>	: Rural Power Company Limited
<b>IPP</b>	: Independent Power Producer
<b>RPP</b>	: Rental power Plant
<b>QRPP</b>	: Quick Rental power Plant

## Power Grid

<b>DPDC</b>	: Dhaka Power Distribution Company Limited
<b>DESCO</b>	: Dhaka Electric Supply Company Limited
<b>NESCO</b>	: Northern Electricity Supply Company Ltd
<b>WZPDCO</b>	: West Zone Power Distribution Company Ltd.
<b>BREB</b>	: Bangladesh Rural Electrification Board
<b>PBSs</b>	: Dhaka Palli Bidyut Samity
<b>IMPORT</b>	: Import from Neighboring Country
<b>SIPP</b>	: Small Independent power producer

## Power Grid Bangladesh PLC

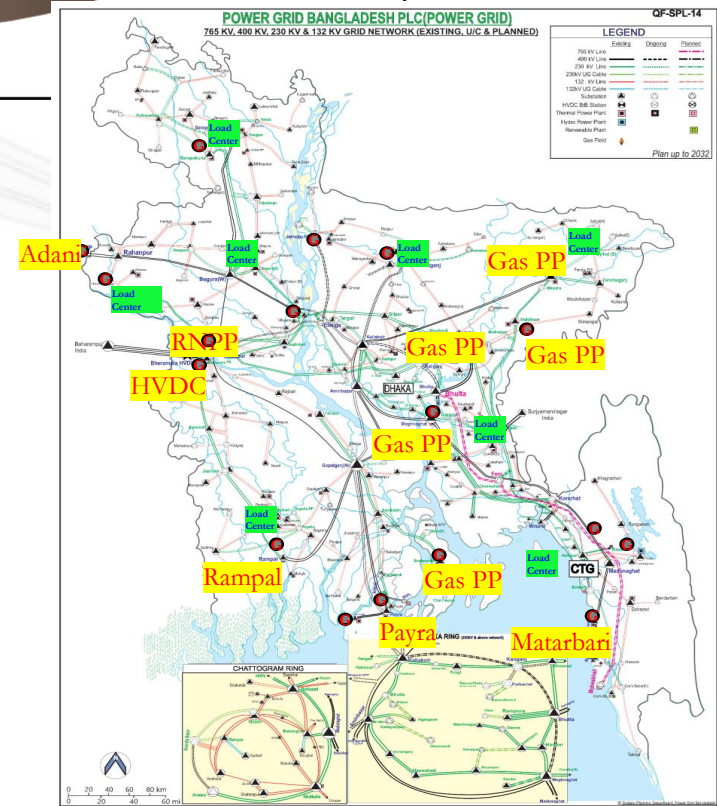
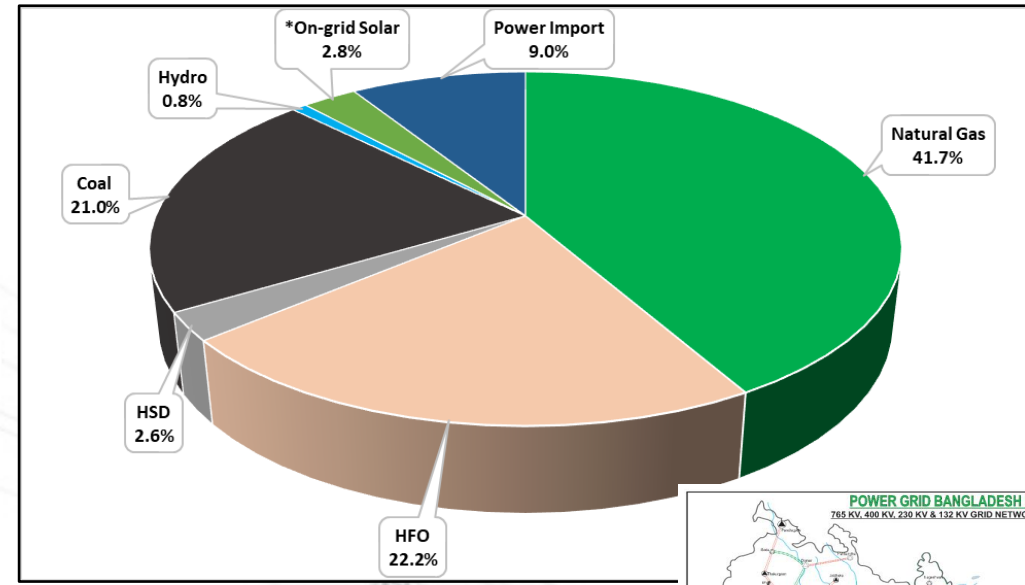
# Bangladesh Power System Overview

## Generation Capacity

☐ Total installed capacity exceeds 28 GW.

❖ Major fuel mix:

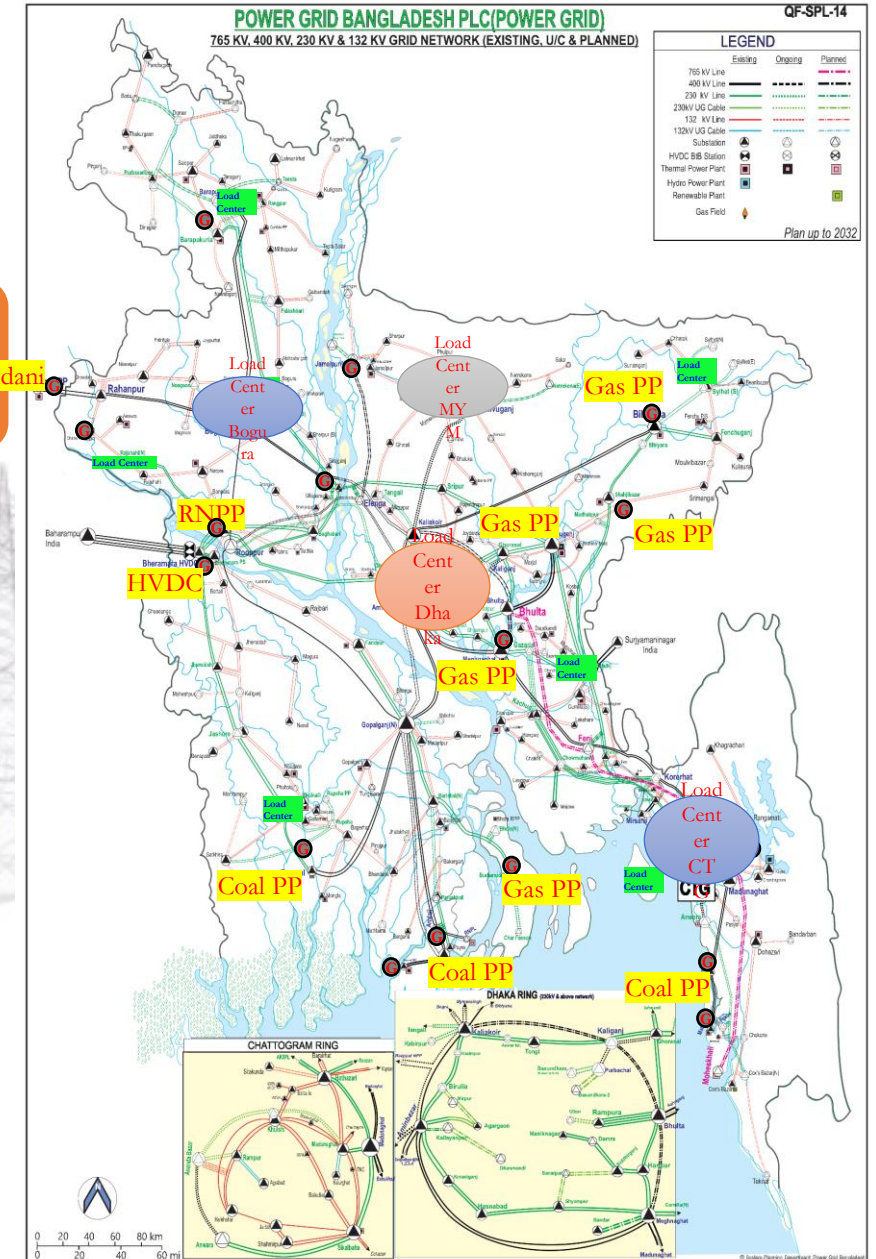
- Natural Gas (41.7%)
- Furnace Oil and Diesel (24.8%)
- Coal (21.0%)
- Imported Power (9.0%)



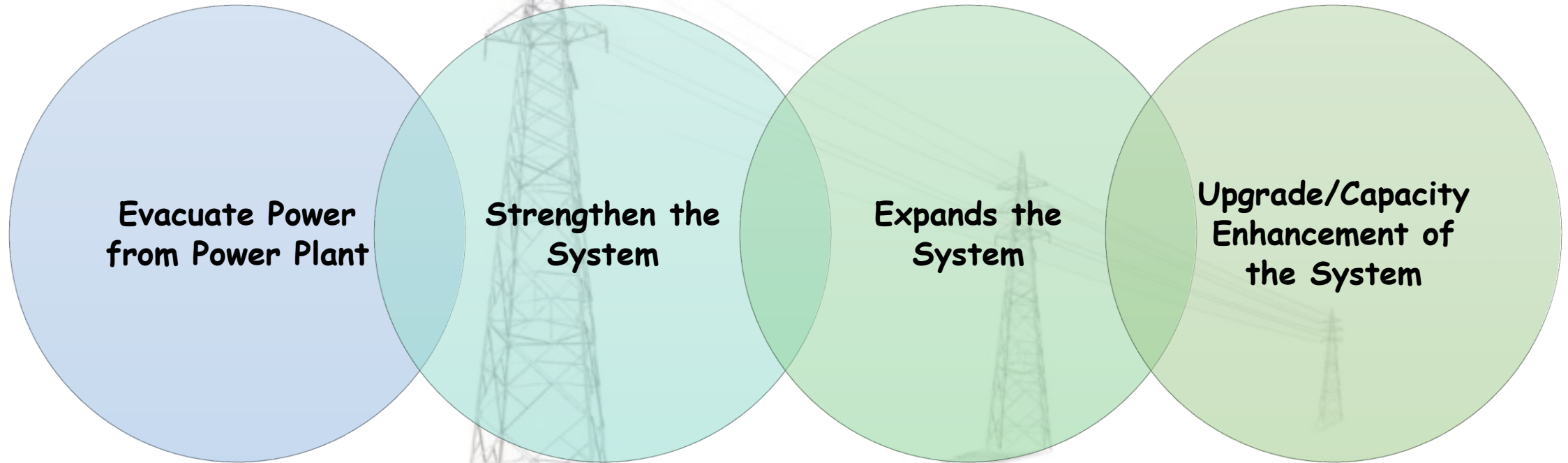
# Bangladesh Power System Overview

## Transmission Network

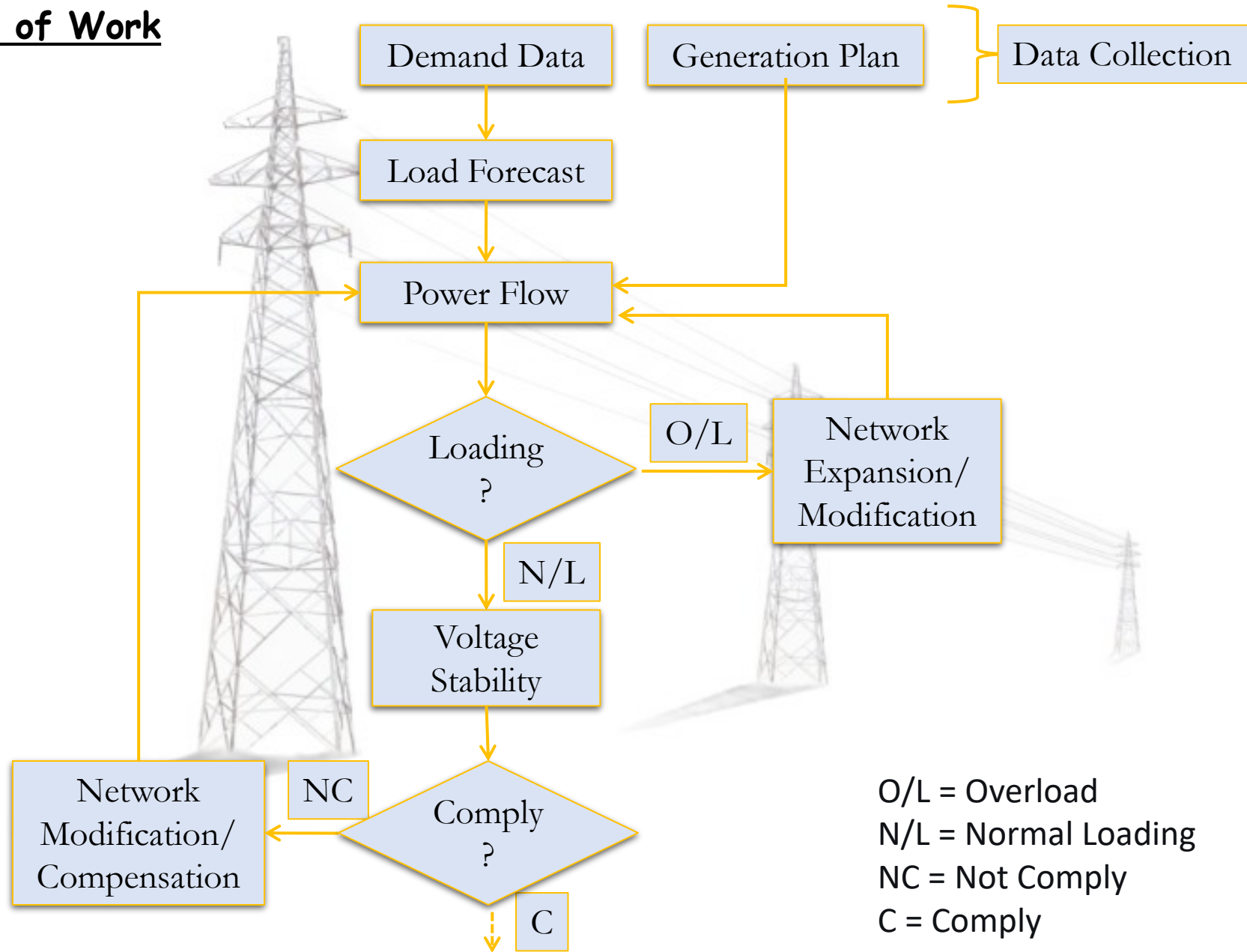
- 400 kV: 3183 ckt-km
- 230 kV: 5156 ckt-km
- 132 kV: 9656 ckt-km
- Overall Grid Capacity: 89,155 MVA (259 Nos. Substation)
- **Maximum load dispatch: 17,200 MW**



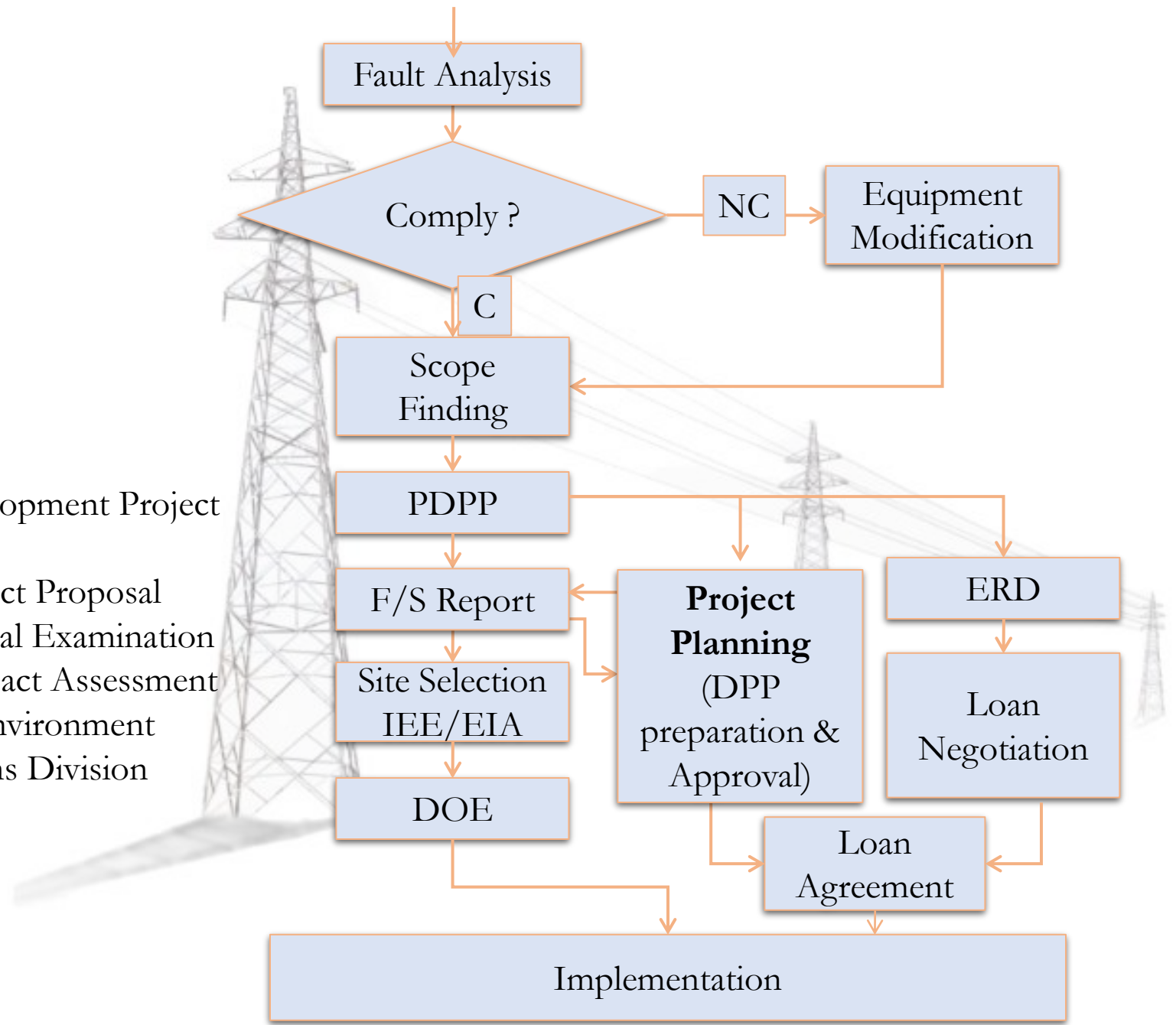
# Need Assessment for Transmission Line Development



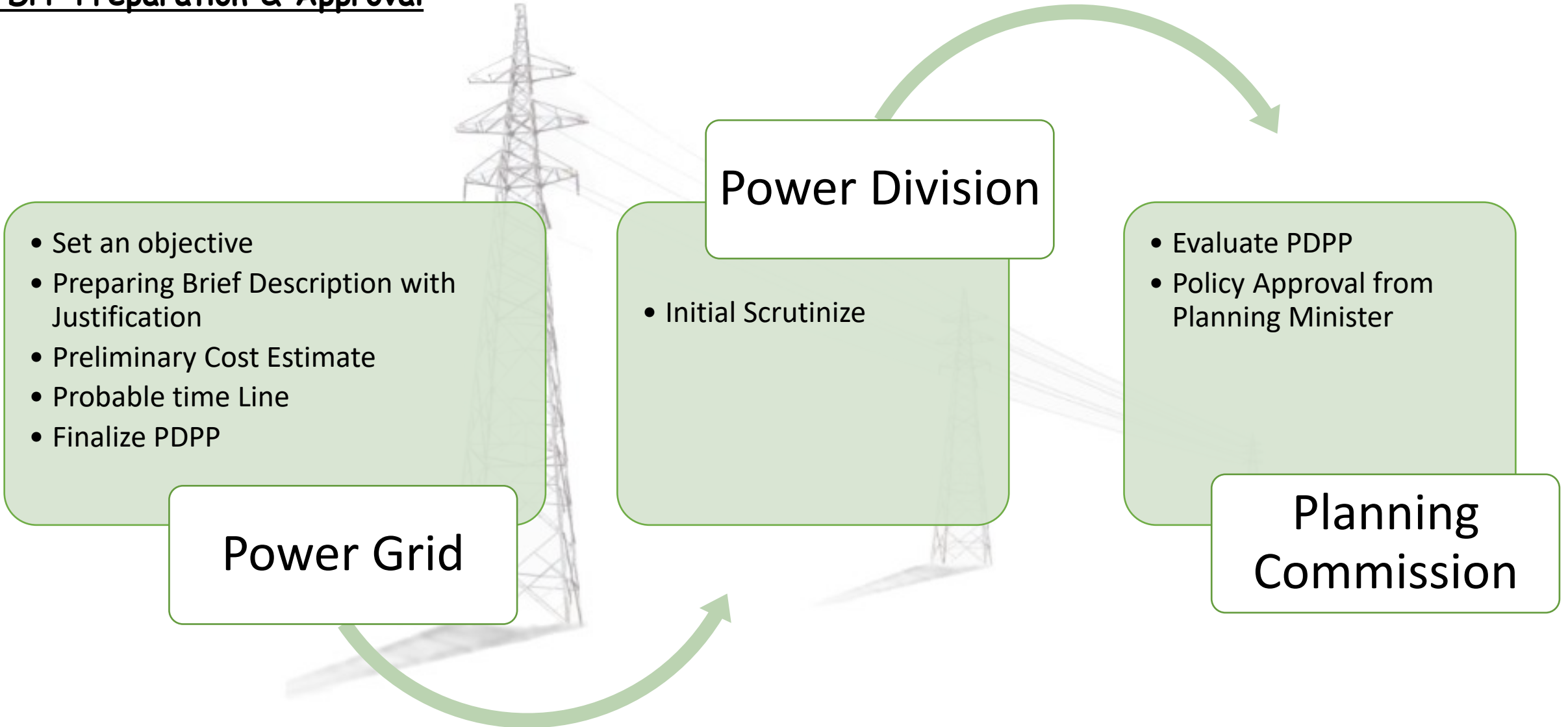
## Preparing Scope of Work



PDPP: Preliminary Development Project Proposal  
 DPP: Development Project Proposal  
 IEE- Initial Environmental Examination  
 EIA- Environmental Impact Assessment  
 DOE- Department of Environment  
 ERD- Economic Relations Division



## PDPP Preparation & Approval



## Feasibility Study

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Project Description

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Market & Demand Analysis

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Technical/Technological Engineering Analysis

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Environmental Sustainability, Climate Resilience and Disaster Risk Analysis

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Cost-Benefit Analysis

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Resettlement Action Plan (RAP)

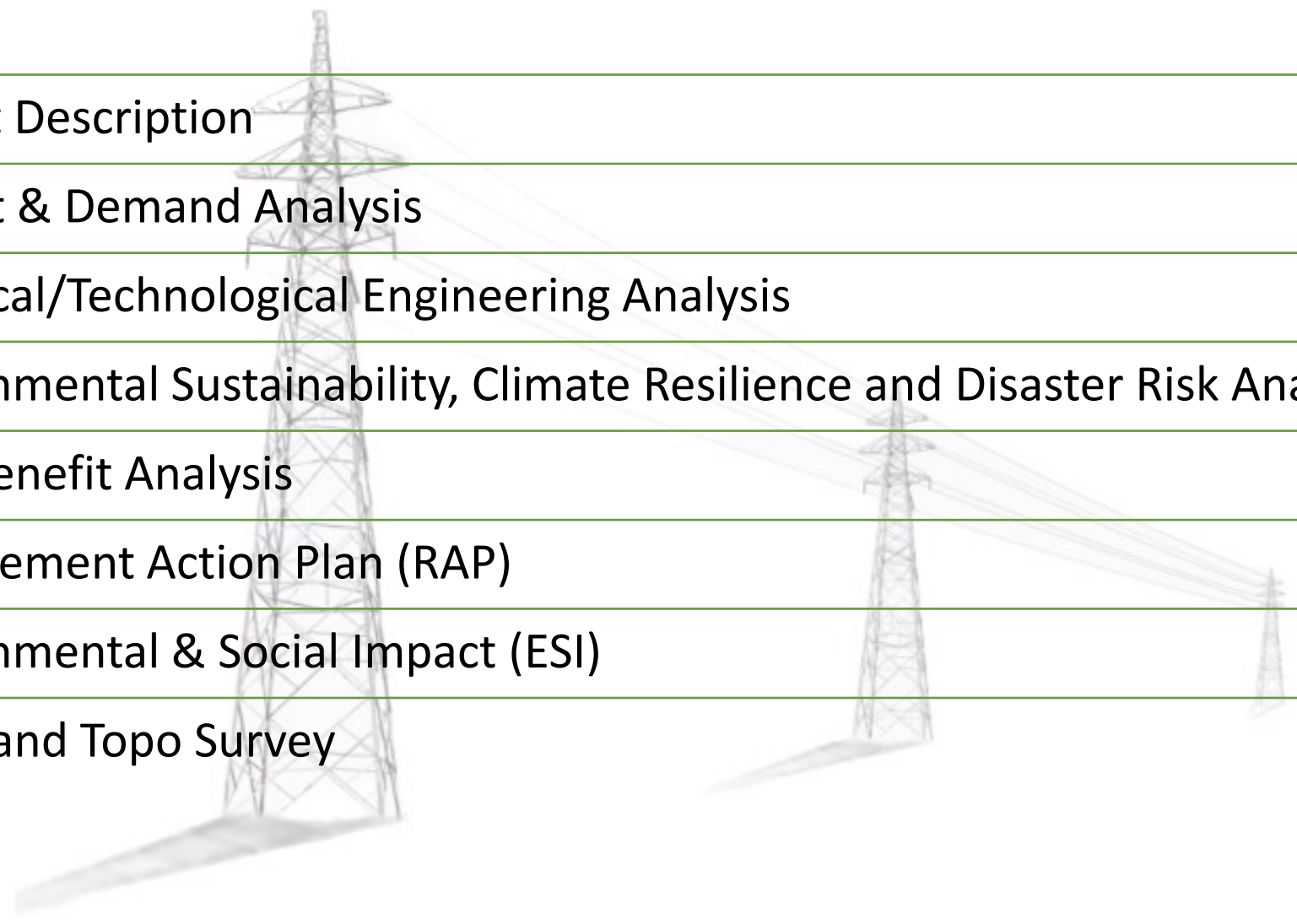
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Environmental & Social Impact (ESI)

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Route and Topo Survey

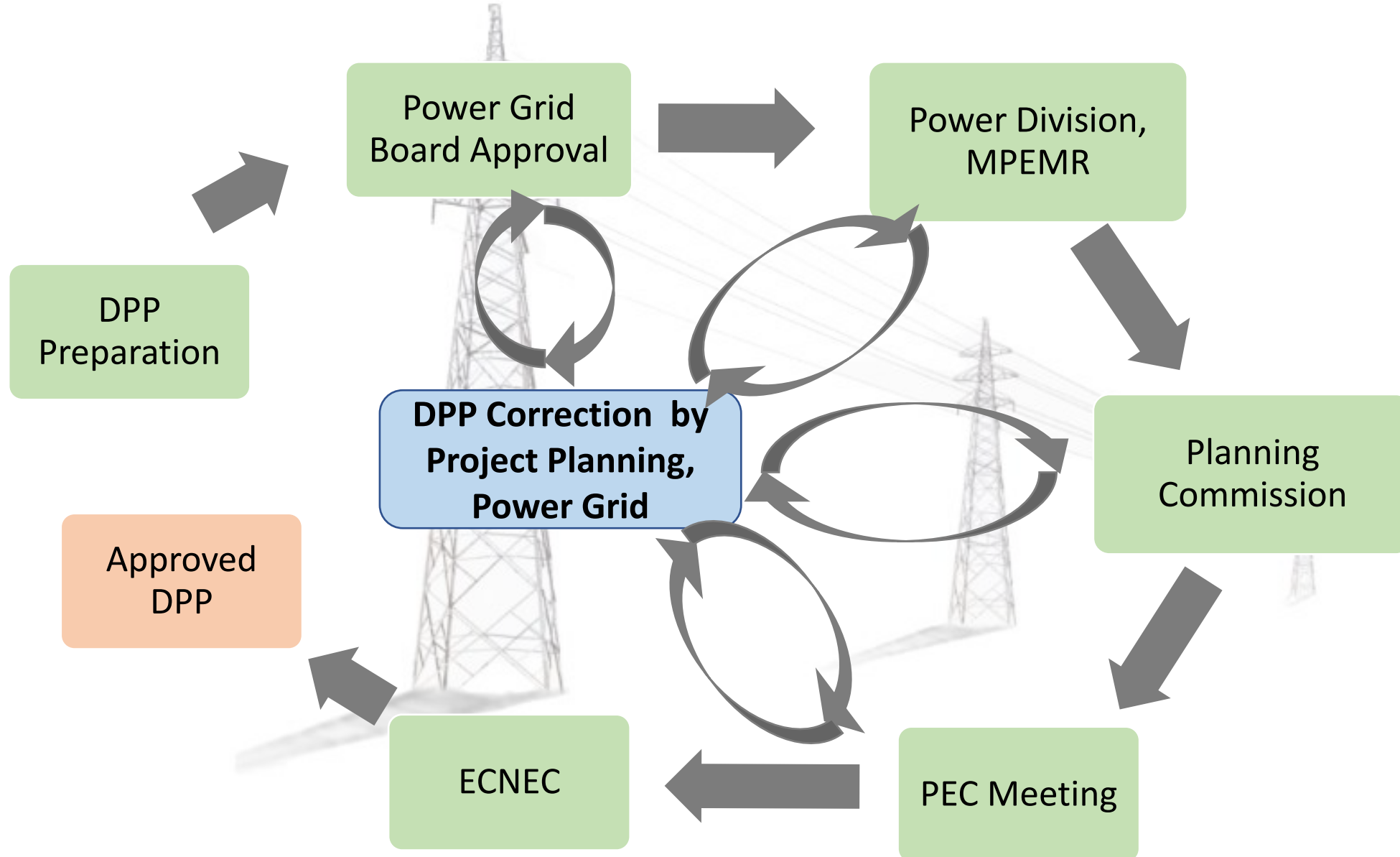
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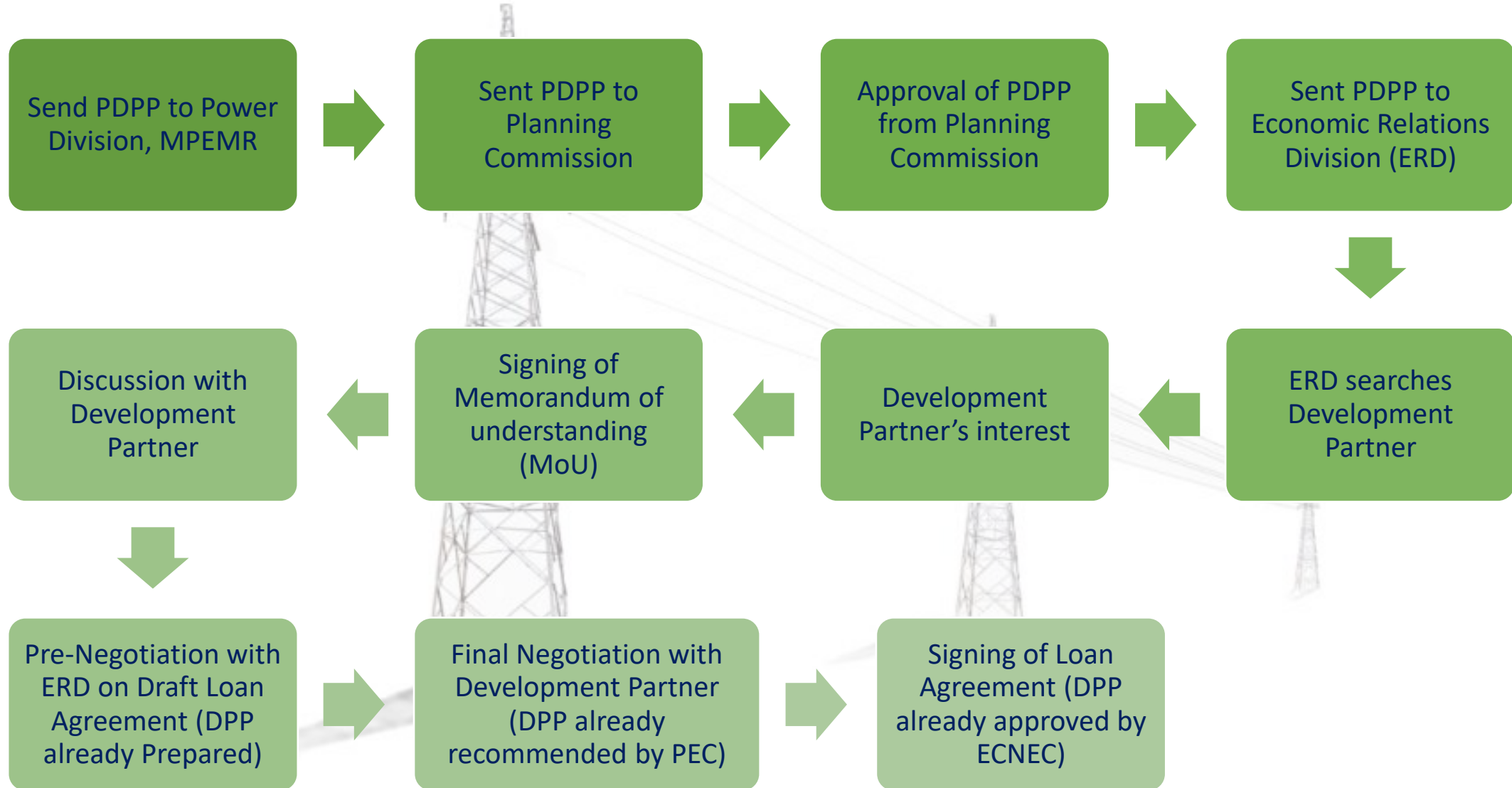
# DPP Preparation & Approval

PEC- Project Evaluation Committee

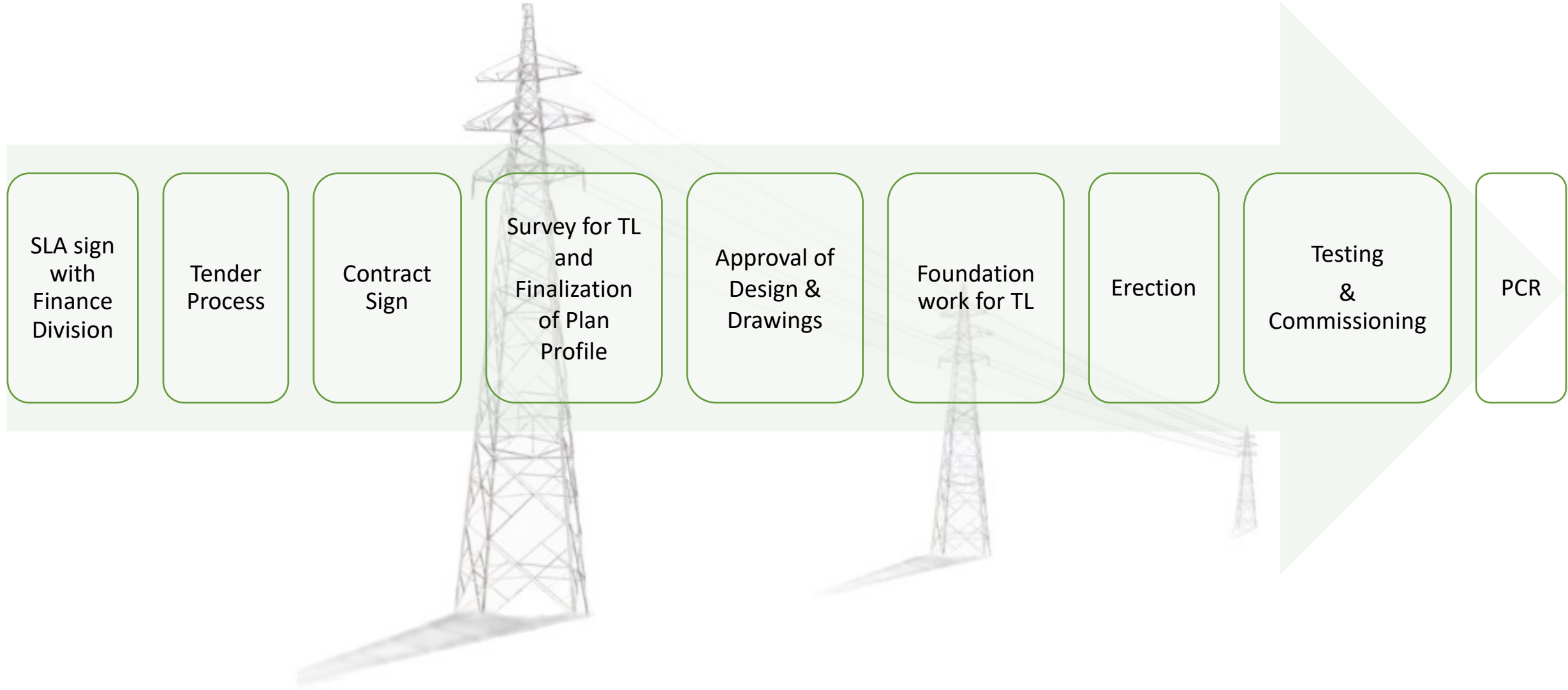
ECNEC- Executive Committee of the National Economic Council



## Loan Agreement Process



# Implementation Process for Transmission Line Project



# Challenges during Transmission Line Project Implementation

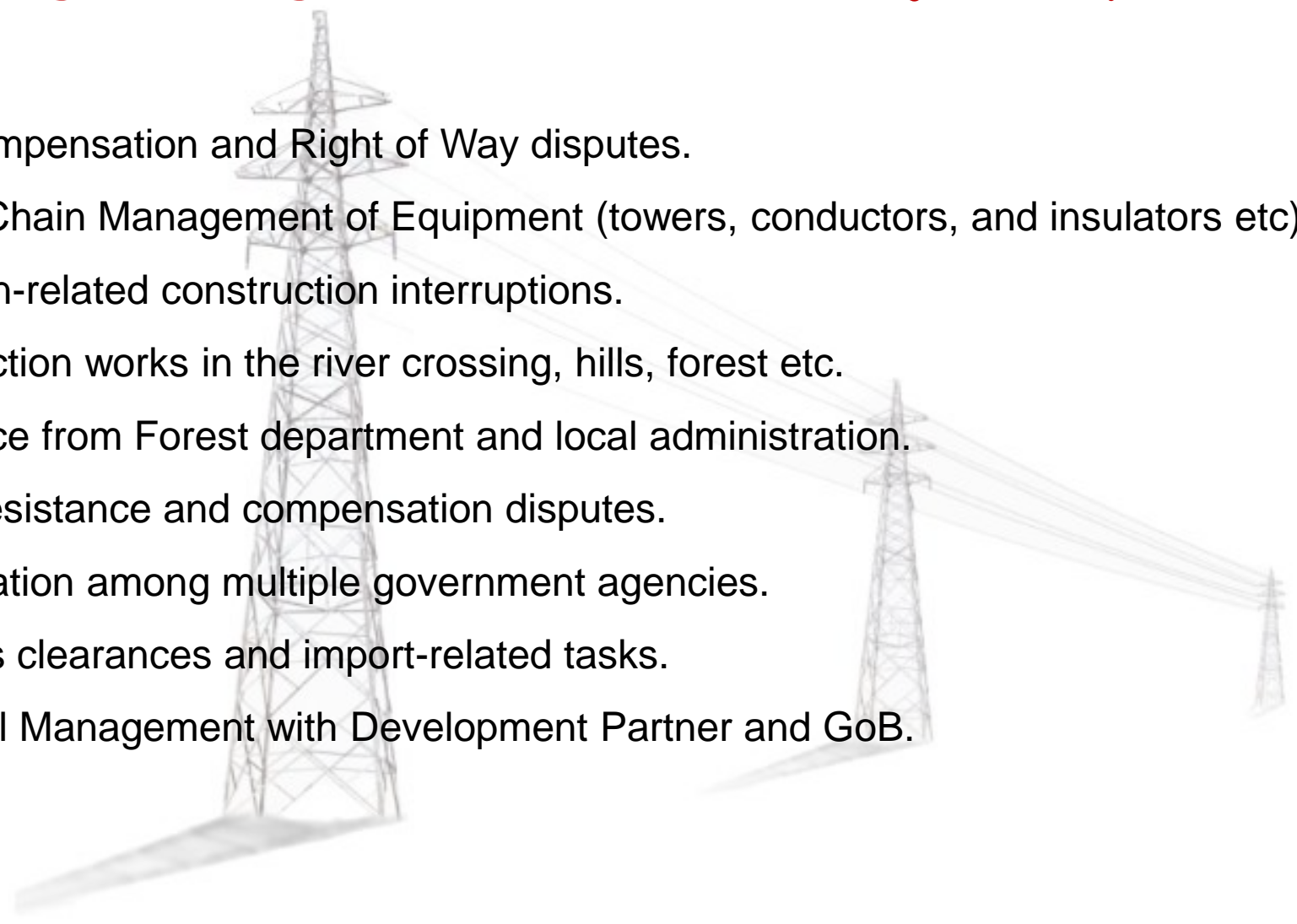
1. Land compensation and Right of Way disputes.
  2. Supply Chain Management of Equipment (towers, conductors, and insulators etc).
  3. Monsoon-related construction interruptions.
  4. Construction works in the river crossing, hills, forest etc.
  5. Clearance from Forest department and local administration.
  6. Public resistance and compensation disputes.
  7. Coordination among multiple government agencies.
  8. Customs clearances and import-related tasks.
  9. Financial Management with Development Partner and GoB.
- 



Figure 1: 400 kV TL line Through the Reserved Forest area



Figure 2: 400 kV TL line Through Hilly Area



Figure 3: 400kV River Crossing Tower at Meghna River

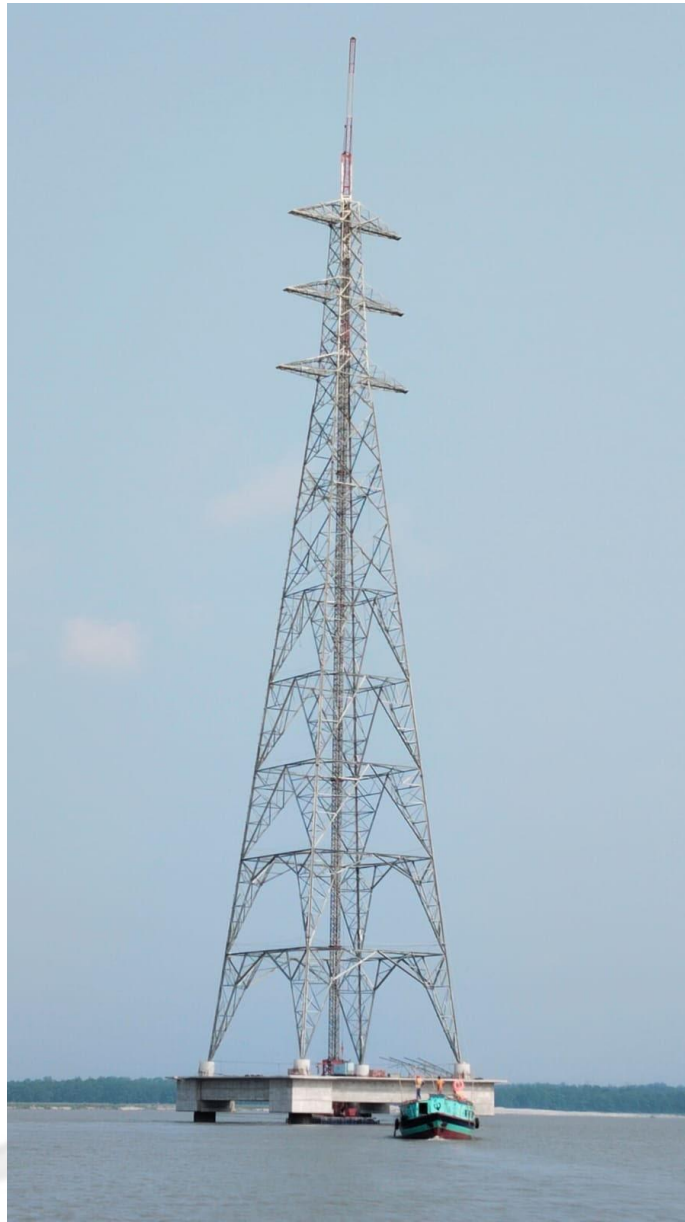


Figure 4, 5: 400kV River Crossing Tower at Jamuna River



Figure 6: 400kV Transmission Line



Q & A



**Thank You**