CDM Development in Sri Lanka

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The Project for Capacity Development of CDM Promotion in Sri Lanka
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Clean Development Mechanism

Implementing projects in Non Annex 1 countries (developing countries), that reduce emissions of GHG from the atmosphere and sell the amount reduced to Annex 1 countries (developed countries)

Specific Criteria of CDM Projects

- Must be voluntary
- Have country's approval
- Meet sustainable development goals of the country
- Reduce GHG emissions above and beyond BAU
- Include participation of stakeholders
- Not contribute to environmental decline
- Limited to non-nuclear technology
- Limited to countries ratified Kyoto Protocol

Sri Lankan Scenario

- UNFCCC - Adopted at Rio Summit in 1992
- Sri Lanka - Ratified the UNFCCC in November, 1993
- Kyoto Protocol - Adopted to the UNFCCC in 1997
- Sri Lanka - Acceded to the Kyoto Protocol in September, 2002
- Established DNA registered with UNFCCC EB in June, 2003

Sri Lankan Scenario contd.

- Initiated CDM Projects in 2003
- First CDM Project Registration with UNFCCC in 2005
- Sector – Energy Industry (03 Mini Hydro Projects)

Sri Lankan Scenario contd.

Registered Projects – 06

04 Mini Hydro and 02 Biomass

Quantity of projected CERs – 198 ktCO2e/year

Sri Lankan Scenario contd.

Registered Projects – 06

03 Mini Hydro – Registered in 2005

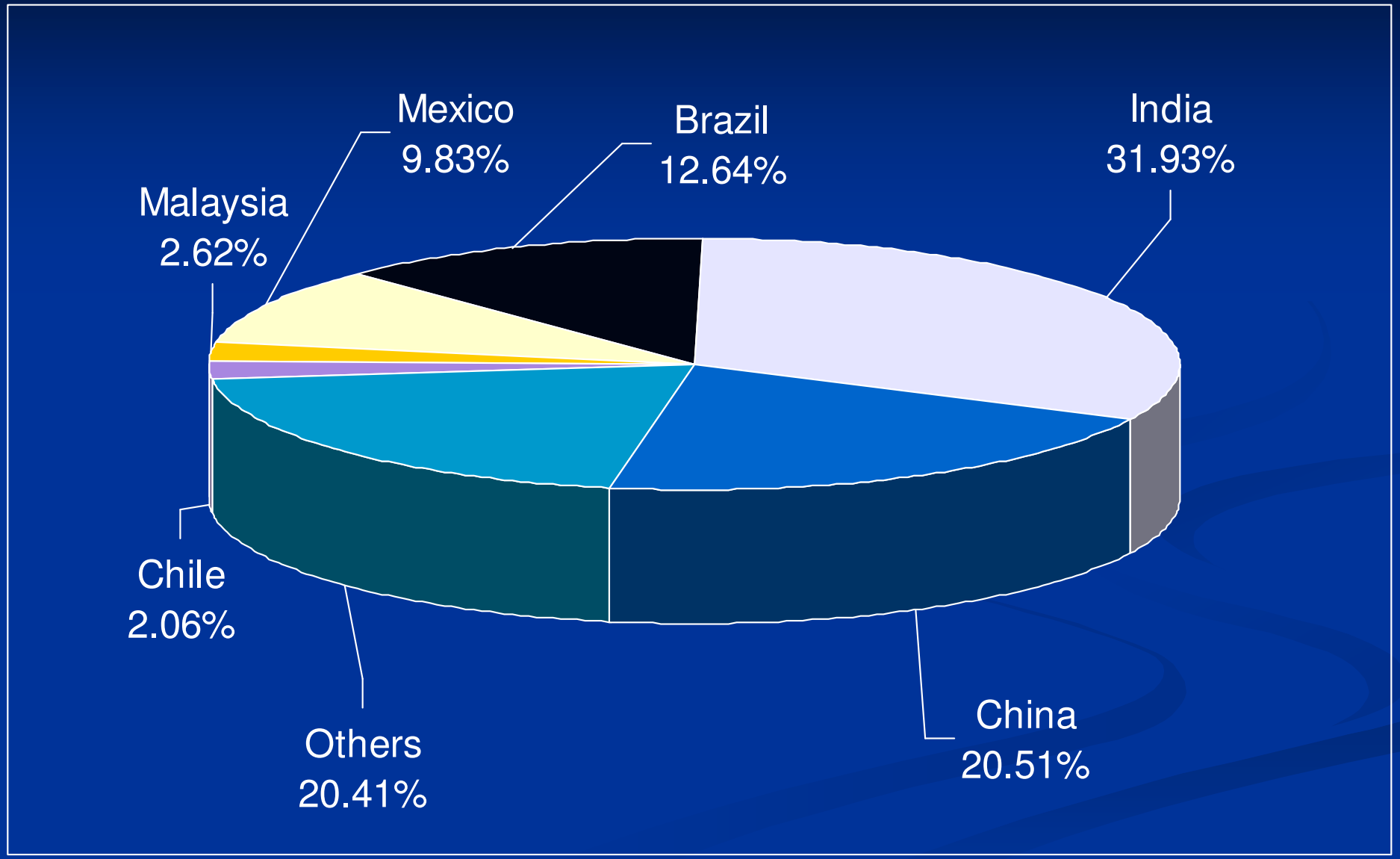
01 Mini Hydro – Registered in 2006

02 Biomass – Registered in 2009

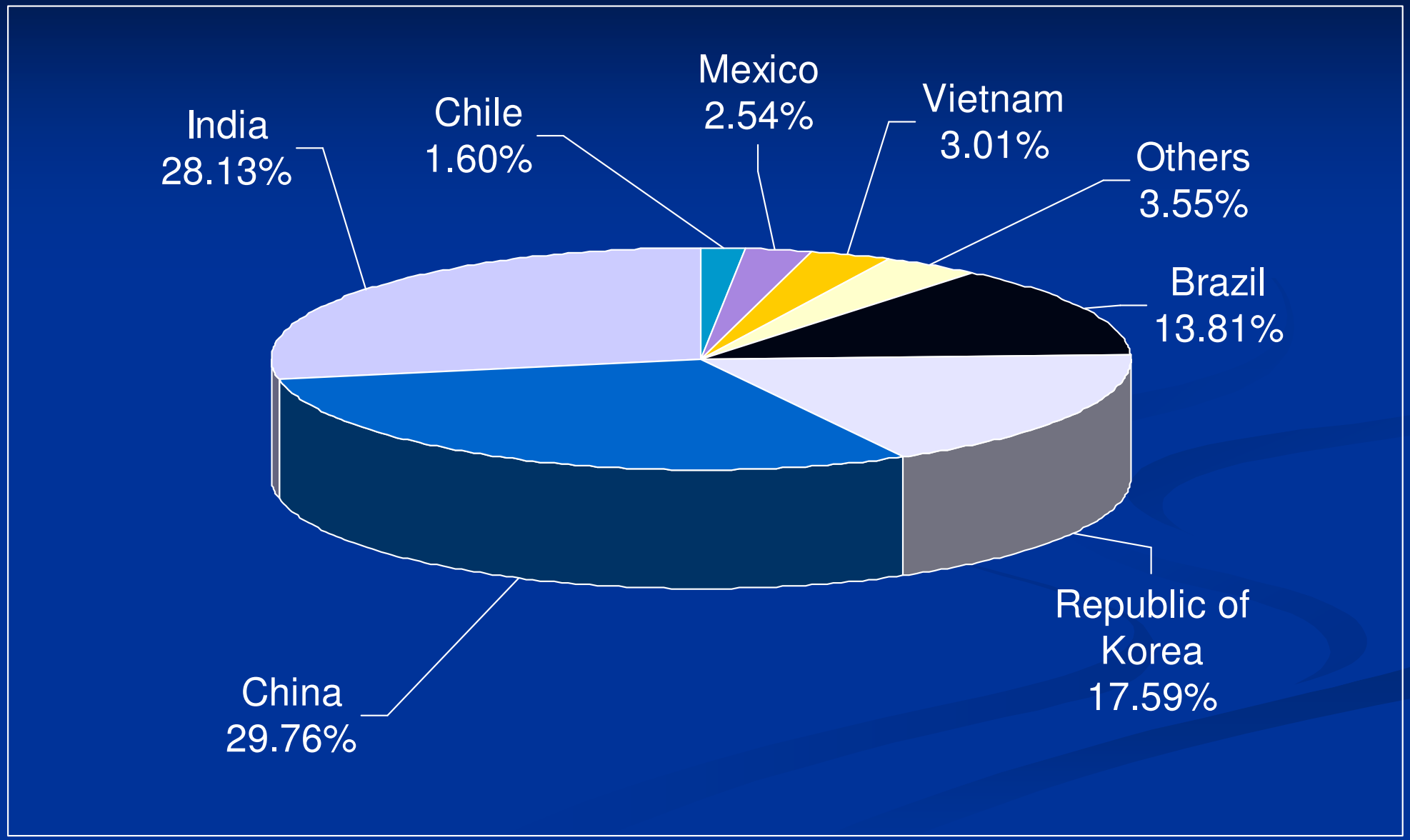
Sri Lankan Scenario contd.

- Request Registration - 01 Project
- At Validation – 12 Projects
- Notification for Prior Consideration of CDM – 44 Projects
- PDD Submission – 33
- PIN Submission – 134
- Rejected – 03 Projects

Registered Projects by Host Party

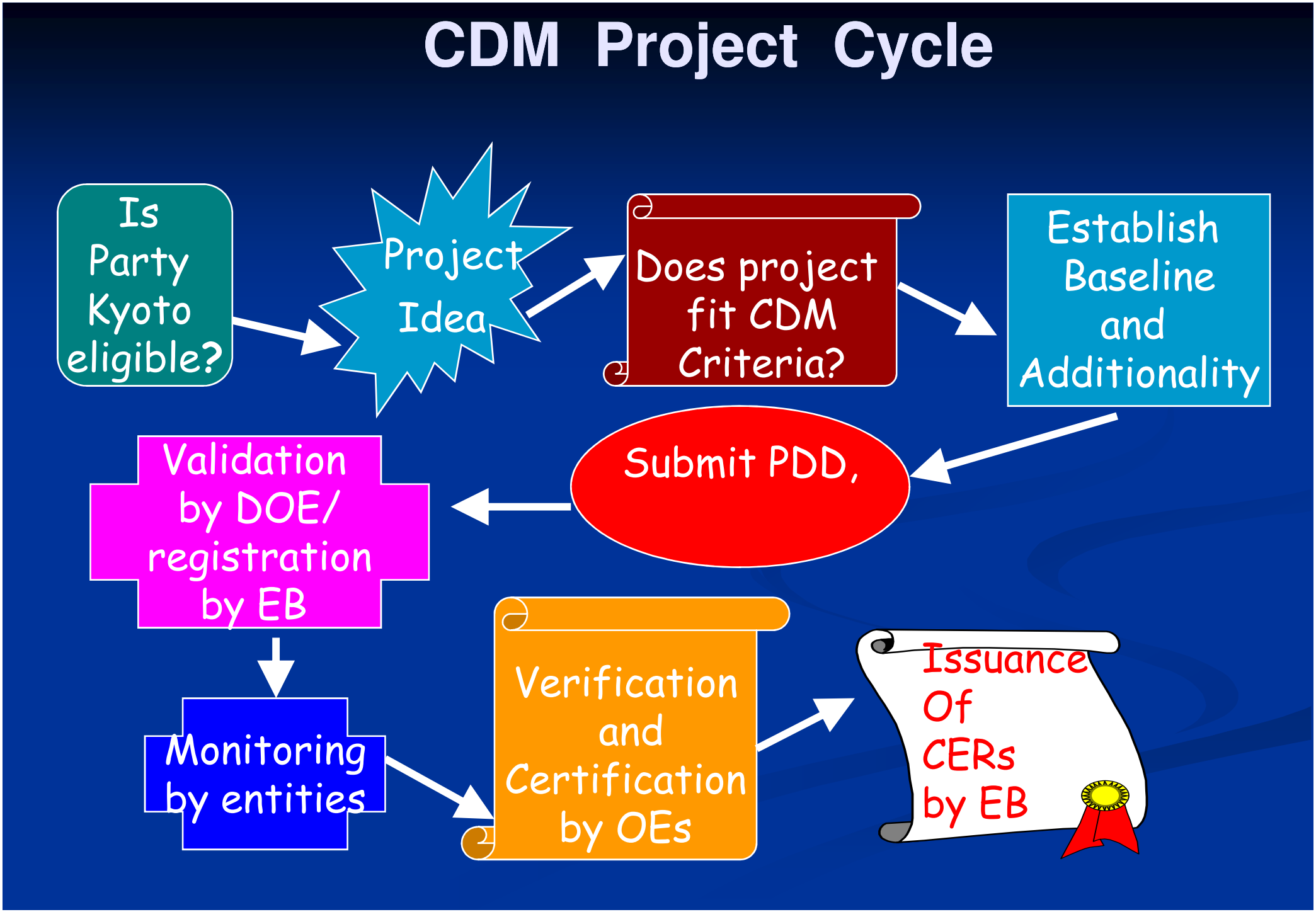


CERs Issued by Host Party



The Constraints

CDM Project Cycle



Identification of a CDM Project

- **Reduce GHG emissions above and beyond BAU**
- Additionality
- Potential sector
- Bundling of small projects
- Programmatic CDM

Example - Power Sector CDM Project

- Coal Power Plant generate 1140 g CO_2/KWh
- Natural Gas Plant generates 360 g CO_2/KWh
- Difference is 780 g if power generated using Natural Gas instead of Coal
- This 780 g can be sold as CDM credits

Transport Sector CDM Project

- Diesel Vehicle emits 3.14 kg CO_2/kg Fuel
- NG Vehicle emits 2.75 kg CO_2/kg Fuel
- Difference is 0.39 kg CO_2/kg Fuel
- This 0.39 kg CO_2 can be sold as CDM

Landfill Gas Recovery CDM Project

Baseline emissions = 100 t CH_4 /year

(without CDM) = 100 x 21(GWP) t CO_2/ year

= 2100 t CO_2/ year

Project scenario = 1 t CH_4 – After flared 2.75 CO_2

(with CDM) = 2.75 x 100 t CO_2 /year

= 275 t CO_2/year

The difference can be sold as a CDM Project

Example for Forest CDM Project

- Agro-forestry sequester 1000 t CO_2 ha^{-1}
- Degraded forest sequester 200 t CO_2 ha^{-1}
- Industrial forest plantation take up 800 t CO_2 ha^{-1}

Identification of a CDM Project

- **Reduce GHG emissions above and beyond BAU**
- Additionality
- Potential sector
- Bundling of small projects
- Programmatic CDM

Additionality

PP should provide explanation to show that the project would not have occurred due to:

- Investment barrier
- Access to finance barrier
- Technological barrier
- Barrier due to prevailing practice

Identification of a CDM Project

- **Reduce GHG emissions above and beyond BAU**
- Additionality
- Potential sector
- Bundling of small projects
- Programmatic CDM

Potential Sectors (15)

- Energy
- Industrial
- Transport
- Waste sector
- Forestry
- Agriculture

Identification of Scope, Type and Methodology

- Sectoral scope : Energy industries (renewable sources)
- Scope number : 1
- Type : RENEWABLE ENERGY PROJECTS
- Title of the approved baseline methodology : Grid connected renewable electricity generation
- Reference of the approved baseline methodology : AMS I.D. (Version 13)

Prior Consideration

PP should provide explanation/proof to show that the CDM was considered first

Calculation of CERs

- Baseline emissions (tCO2 e) – 45,199/yr
- Project emissions (tCO2 e) – 1,399/yr
- Emission reductions (tCO2 e) – 43,800/yr

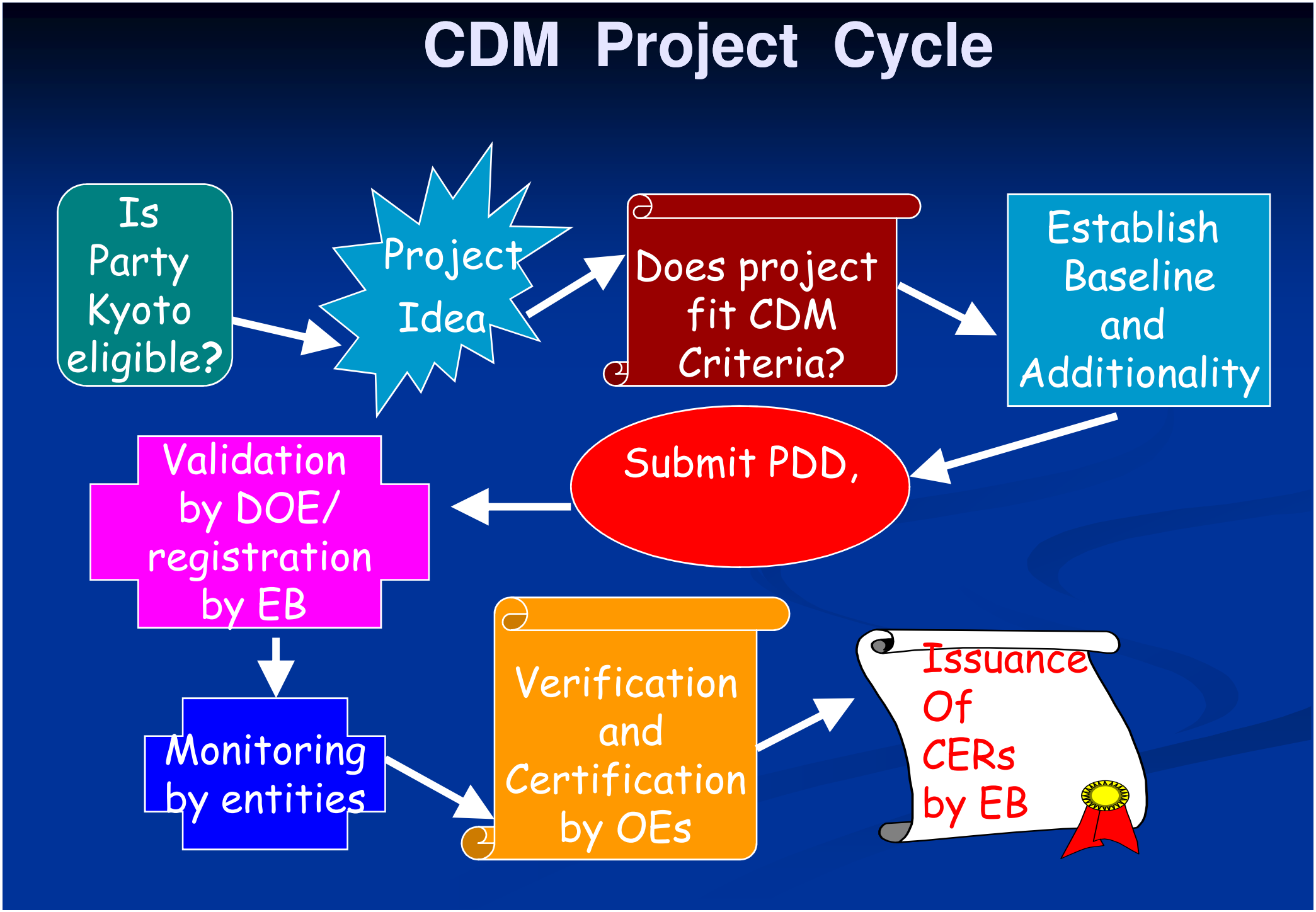
Identification of a CDM Project

- **Reduce GHG emissions above and beyond BAU**
- Additionality
- Potential sector
- Bundling of small projects
- Programmatic CDM

Constraints in developing PDD

- Inadequate technical capacity
- Financial constraints
- Information constraints
- Investment risks

CDM Project Cycle



Designated Operational Entity (DOE)

- Independent third party assigned by EB.
- Responsibilities:

  Validate proposed CDM project

  Verify and certify GHG reductions from CDM projects

  Maintain publicly available list of CDM projects

  Maintain amount of CERs approved for each project

Designated Operational Entity (DOE)

- DNV
- SGS
- SUD

Subsidiary companies in India

Validation/Validators

Function – Present to UNFCCC

- CARs and CLs
- Time period

  Changing of methodologies by UNFCCC

  Changing of validation protocol

  Suspension of Registration

Constraints and Risks at Validation

- Inadequate technical capacity
- Information constraints
- Financial constraints

Registration

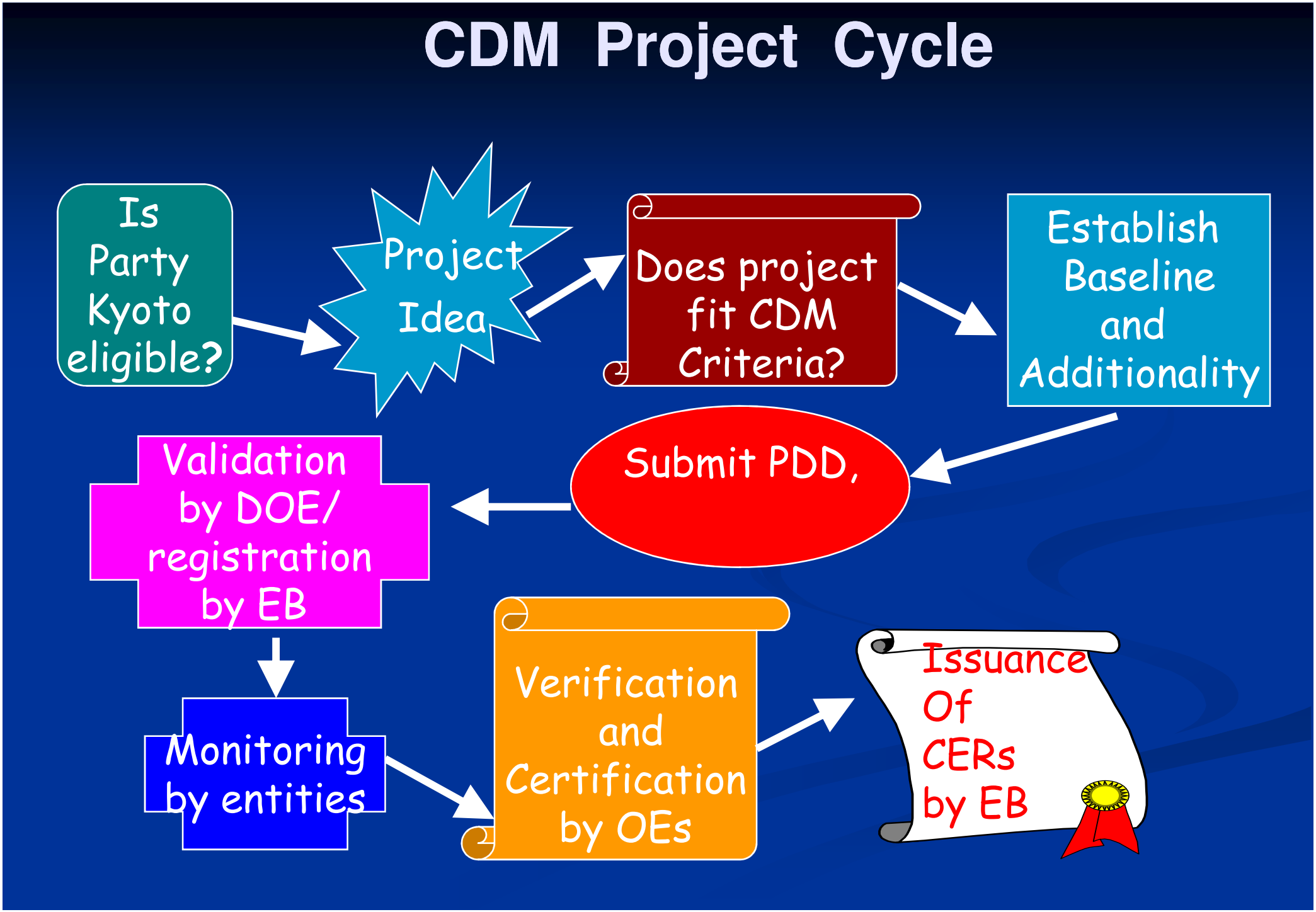
- Constraint

  Given time period to address the issue

  Small fee

Registration

CDM Project Cycle



Monitoring, Verification and Certification

Designated Operational Entity (DOE)

- Actual data collection and recording
- Quality assurance - Calibration of instruments

Issuance of CERs

- Correct price for CERs

Constraints in CDM development

- Inadequate technical capacity
- Financial constraints
- Information constraints
- Investment risks

ERP Agreements

Solutions

Intervention of DNA and SLCF – Ministry of ENV

- Project identification
- Bundling and Programmatic CDM
- PDD writing
- Information (data base)
- Support documents
- Local expertise

Solutions

Intervention of DNA and SLCF – Ministry of ENV

- Financing of CDM Projects
  - Loan guarantee
  - Upfront financing
  - Marketing support
    - Buyers
    - ERP Agreements

Sri Lankan Potential for CDM by Sectors

Sector	CO_2 Reduction Potential (tCO_2/yr)
Hydro Power	613,200
Wind	672,768
Biomass (Grid power)	1,680,000
Biomass (Industrial heat)	512,000
Biomass (Absorption refrigeration)	400,000
Energy conservation Electricity/Petroleum	178,500
Transport	600,000
Agro residue (rice husk/saw dust)	224,000
MSW	500,000
Forestry	1,352,000
Total	6,730,000

Batagoda et al, 2007.

Thank you