

23rd AP Seminar on Climate Change

Approaches to Mitigation in Bangladesh

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Bangladesh: A south Asian country



Bangladesh: Country context and vulnerability

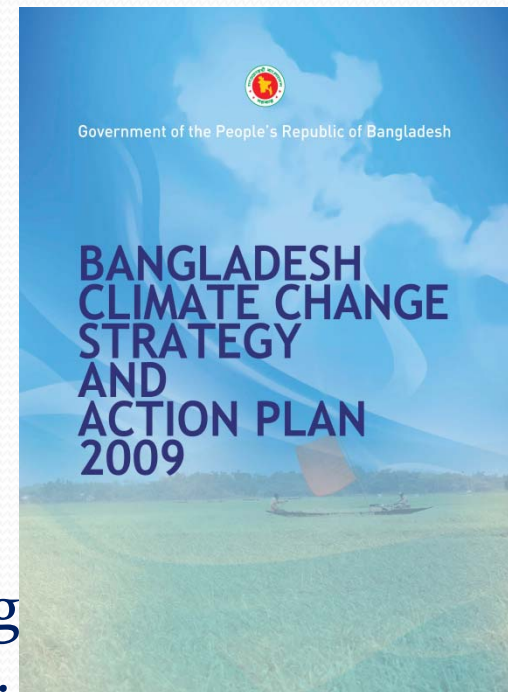
Recognized as one of the most climate vulnerable countries in the world

- ❑ Unique geographical location
- ❑ Deltaic landscape, 80% floodplain
- ❑ Population density very high (1045/km²)
- ❑ High level of poverty
- ❑ Disaster prone, people are exposed to natural hazards
- ❑ Natural resources based economy (predominantly agrarian)

Bangladesh Climate Change Strategy and Action Plan (BCCSAP 2009)

SIX THEMATIC AREAS

1. Food security, social protection and health
 2. Comprehensive disaster management
 3. Infrastructure
 4. Research & knowledge management
 5. **Mitigation & low carbon development**
 6. Capacity building & institutional strengthening
- 44 thematic programmes and 133 major activities



Other Policies/Strategies/Legislations

Climate Mitigation

Bangladesh Renewable Energy Policy 2008 and Draft Update

- Draft Interim Action Plan on Improvement of Energy Efficiency and Conservation 2013
- Bangladesh Energy Regulatory Commission Act 2003
- Bangladesh Sustainable and Renewable Energy Development Authority Act 2012
- Draft Energy Efficiency and Conservation Act 2013

Emission of Green House Gases: An inventory for Bangladesh

The Second National Communication (SNC) has made an inventory of GHG emission for the year 2001 and 2005.

- **Five major sectors have been covered under the inventory:**

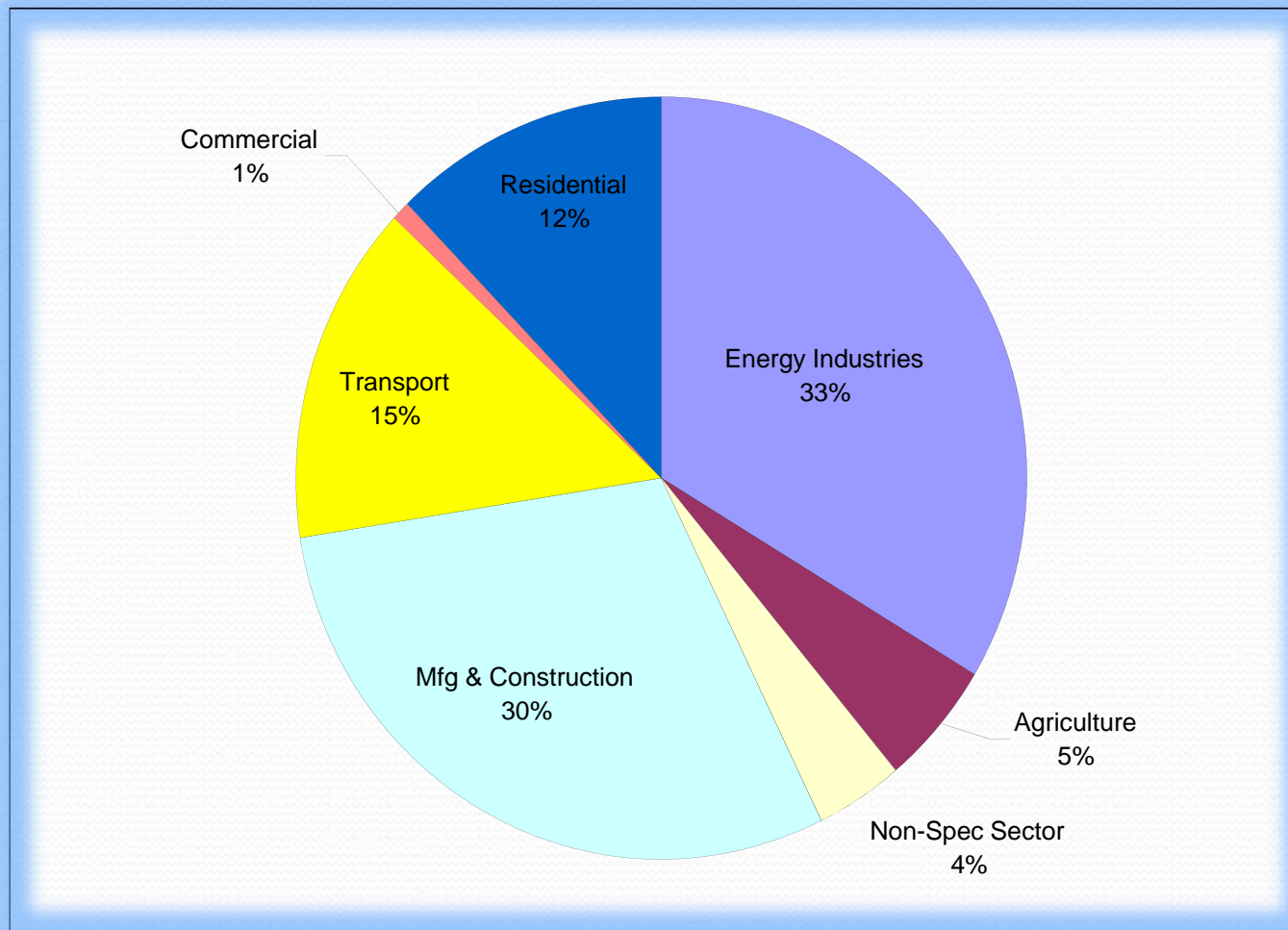


GHGs considered in the inventory are mainly (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), by sources and removals by sinks.

Summary of Energy Sector CO₂ Emission (Gg)

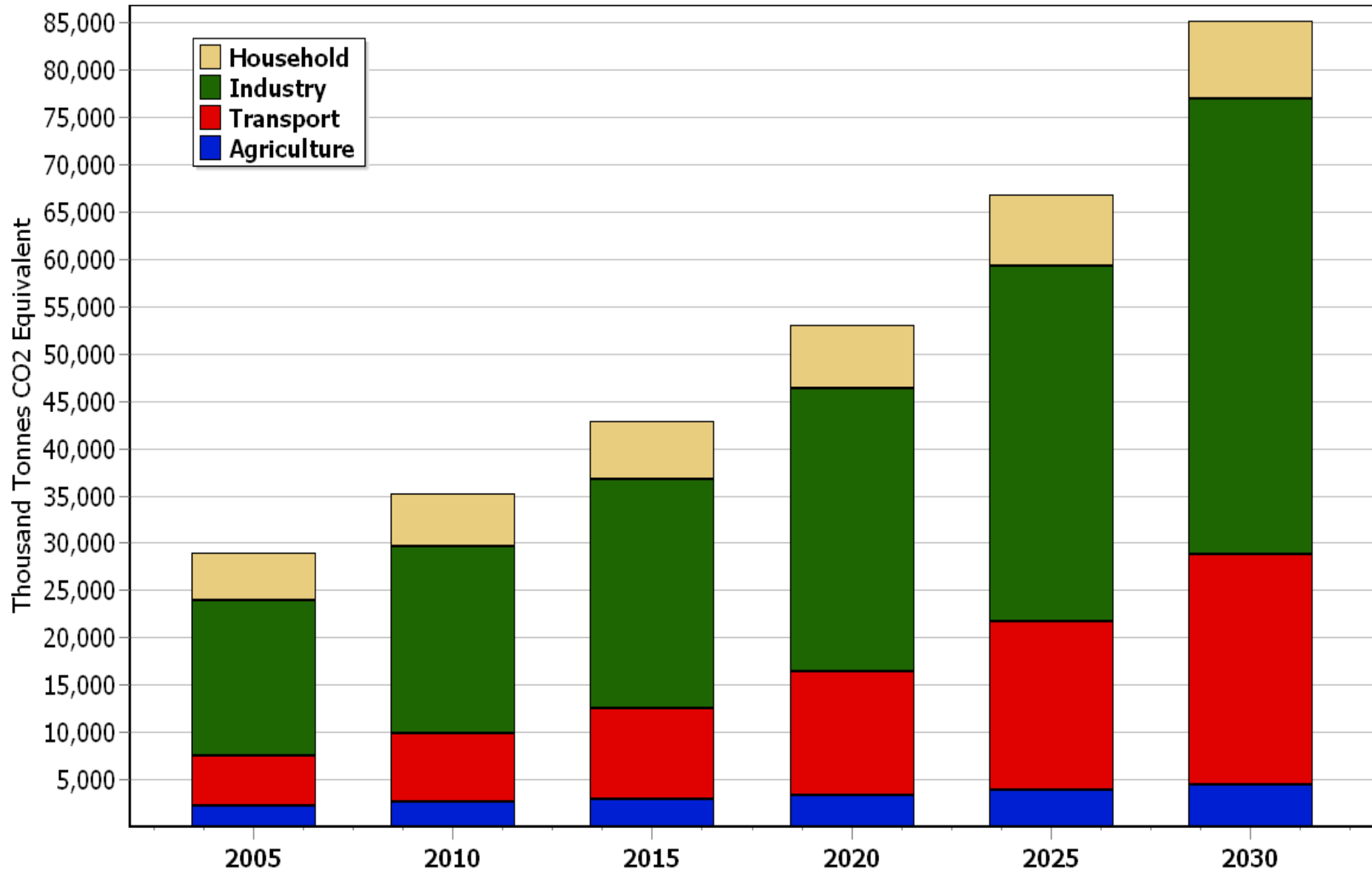
Energy Sub-Sectors	2001	2005
1. Energy Industries	10,693	12,780
2. Manufacturing & Construction	8,755	11,276
3. Transport	4,551	5,500
4. Residential	3,811	4,675
5. Agriculture	1,625	1,993
6. Non-Specified Sector	549	1,426
7. Commercial	226	270
Total Emission from Combustion	30,210	37,920
Fugitive CO₂ Emission	23	30
Grand Total	30,233	37,950

Relative contributions to CO₂ emission by different energy sub-sectors (2005)



Projected CO₂ emissions from various demand sectors 2005-2030

Environment: Carbon Dioxide (Non-Biogenic)

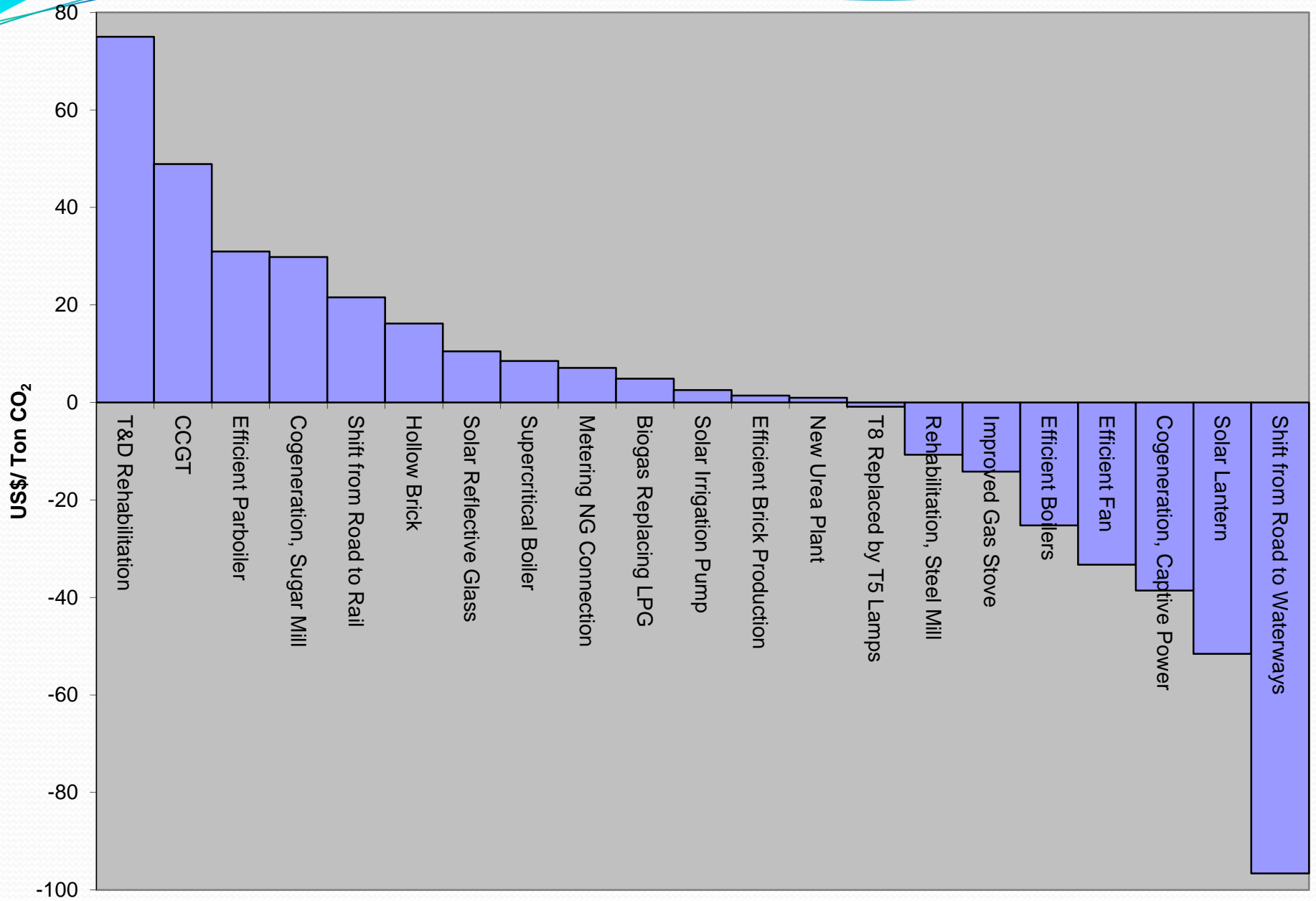


Mitigation Potentials in Bangladesh

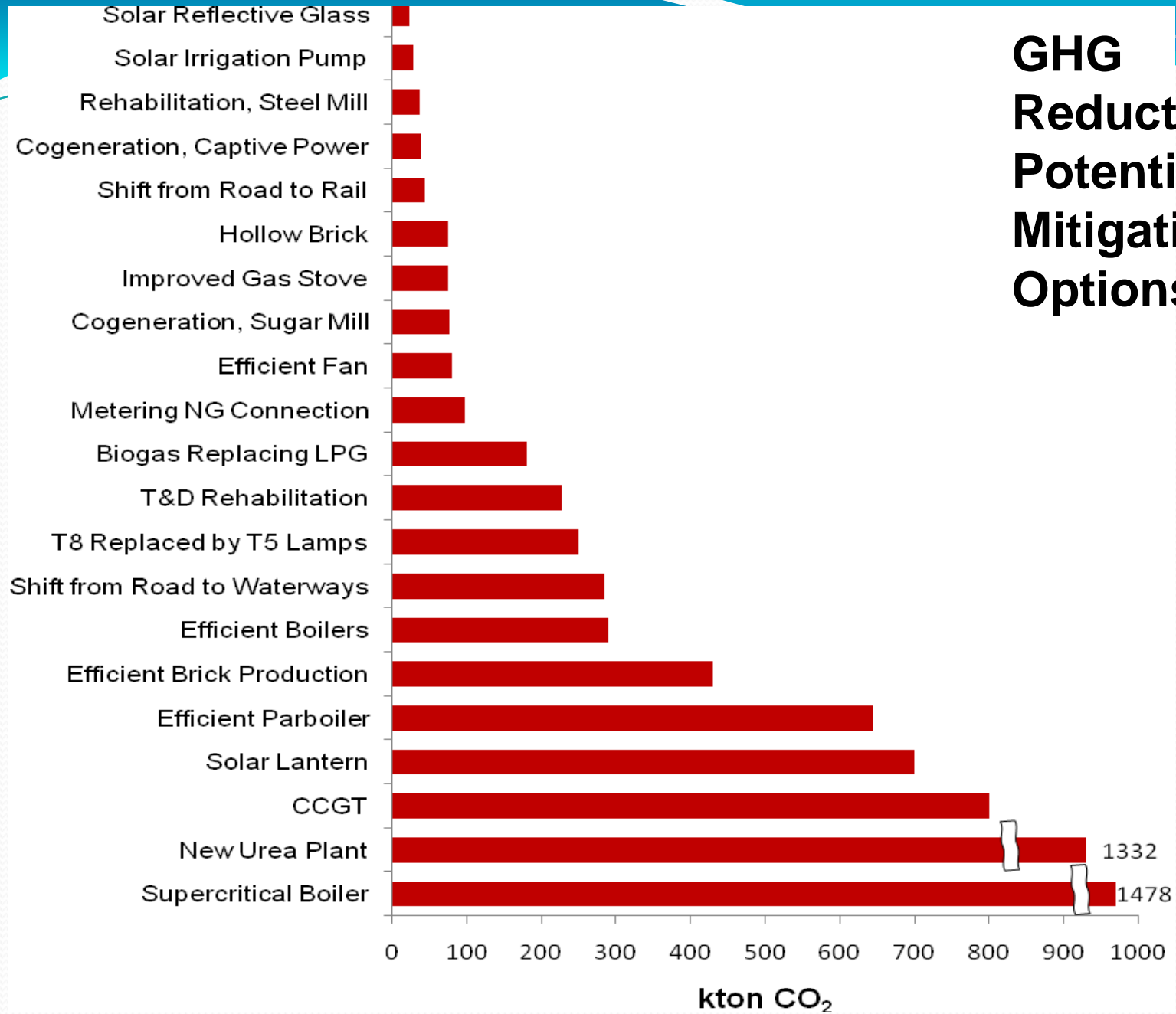
(Identified in 2nd National Communication of Bangladesh)

- Power generation, transmission and distribution
- Transport – road, rail and water
- Energy intensive industries – public and private
- Agricultural sector – solar water pumping for irrigation
- Residential/commercial – natural gas for cooking; buildings
- Cross-sectoral options (boilers; hollow bricks; DSM)
- Renewables (solar PV, biomass and wind)

Cost Effectiveness of Identified Mitigation Options



GHG Reduction Potential of Mitigation Options



Mitigation Activities in Bangladesh

- Already around 03 million Solar Home Systems installed across the country
- 1.5 million Improved Cook Stoves distributed, another two million by 2015
- Few thousand Solar Irrigation Pumps by the next three years
- Installation of Wind Mills in selected areas (wind mapping is complete)
- Energy efficient lighting program with ten million CFLs and LEDs
- Replace old ones and install new ones with energy efficient boilers in power plants and other industrial processes

Status of CDM in Bangladesh

Potential Sectors

Agriculture, Energy, Transport. Residential ,
Industry, Commercial, cross sectoral

**Total Number of Registered projects at CDM Executive
Board (EB) is 18**

Approved CDM projects by DNA in Bangladesh is 9

BOCM-Low Carbon Growth Partnership

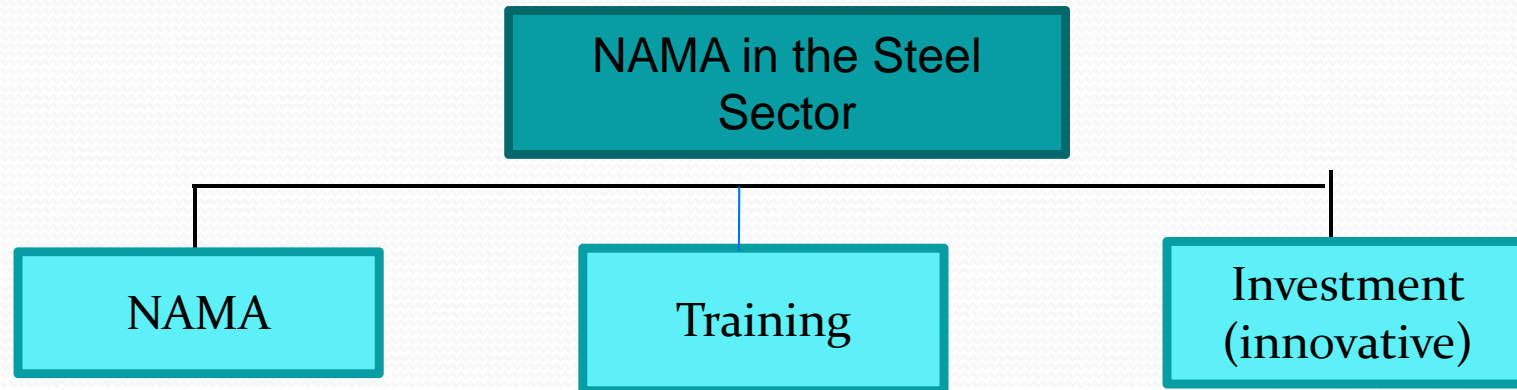
Purposes:

- To facilitate diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development;
- To appropriately evaluate contributions to GHG emission reductions or removals from developed countries in a quantitative manner, through mitigation actions implemented in developing countries, and use those emission reductions or removals to achieve emission reduction targets of Japan;
- To contribute to the ultimate objective of the UNFCCC by facilitating global actions for emission reductions or removals;

Current Status of BOCM in Bangladesh

- MOU between the Government of Japan and Bangladesh was signed in February 2013
- Joint Committee was established and convened two meetings in 2013 and 2014
- Joint Committee already approved relevant methodologies, procedures, plans, guidelines, etc.
- Joint Committee has started designating Third Party Entities (TPE) for BOCM projects

NAMA and pilot investments in the Steel Sector, Bangladesh



- NAMA proposal
- Pre-feasibility

- Energy efficiency
- Workers safety and health

- Waste Heat Recovery



Focus- NAMA Development

- **Advantages of NAMA in the steel sector:**
- Can address issues of competitiveness (if all competitors are included)
- Promotes technologies with low greenhouse gas emission
- May help tailor and channel financial assistance/investment (grants and loan)
- Setting-up the institutional arrangements
- Bangladesh can be the lead in forming the UN mechanism
- Requirement of transparency, Measurement, reporting and verification (MRV).

- **Disadvantages of NAMA in the steel sector**
- May require countries/companies with advanced technologies to give up their competitive edge

NAMA component

MAIN CONCLUSION AND DISCUSSION

- The development of a NAMA in the steel sector is a priority for the Bangladesh Government .
- A detailed Measurement, reporting and Verification (MRV) system should be developed. The MRV system should include both CO₂ emissions and co-benefits.
- The supported NAMA should include an option for crediting or trading of CO₂ emission reductions for the voluntary market. No compliance element accepted at this stage.
- The monitoring should be done by the company and verified by the Department of Environment (DOE). It is crucial to have a national validation and verification system to avoid costly international system, as it has been under the CDM.

Main Conclusion and Discussion (cont.)

- In case it will be decided to involve an international institution/association in the verification process, it will be considered to involve for instance the World Steel Association.
- In the climate space the CDM and voluntary market have developed methodologies, initiated standardised approach and suppressed demand approach. It should be integrated.
- The baseline should be the required/recommended electricity or natural gas /tons steel produced.
- The steel sector in Bangladesh consists of very different levels of steel mills, from basically just a steel mill with one furnace to fully large automatized steel mills. This will be a challenge when developing a NAMA covering the entire sector
- The actual knowledge and overview of the steel sector is limited and an effort should be done to prepare an inventory for this sector.

Challenges

- No other entity/set-up is yet functional to serve as MRV.
- Having credible GHG inventory
- Absence of appropriate institutional capacity
- Limited financial resources we have and the technical know-how.
- Whether right inter-ministerial coordination is in place to implement actions that requires cross-sectoral involvement.
- Setting sectoral importance in action plan
- Inadequate Finance and Technology



Thank You