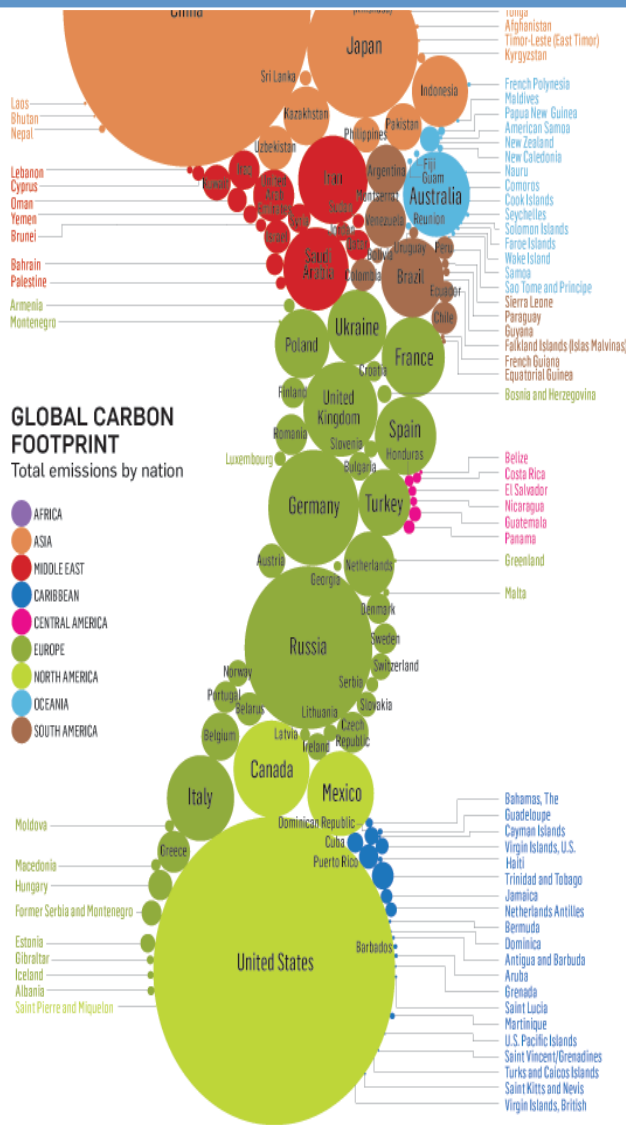


2015

NFP Final Report



Bangladesh

TABLE OF CONTENT

1. Introduction	3
2. Overview of Domestic Network Building Activities	4
a. Potential Needs for JCM	4
b. One Step Service	6
c. Summary of the Study Workshop	6
3. Future Steps	13
4. Recommendations	17

LIST OF FIGURES

<u>Figures</u>	<u>Page No.</u>
Export Volume in July-December, 2014	3
Scopes of Investment in Bangladesh	4
JCM Activities and projects	5
JCM Scheme used in the presentation 16 th February	5
Skype meeting on 16 th February, 2015	8
Possible framework designed for JCM by the Bangladeshi counterparts.	11
Bali Presentation on 26 th February, 2015	12

JCM REPORT

1. Introduction:

Bangladesh situated in the northeastern corner of the Indian subcontinent and bordered by India and Burma. In reality, Bangladesh is a moderate, secular, and democratic country with a population of 160 million, making it the seventh most populous country in the world (larger than Russia). Bangladesh is a big potential market for foreign exports (Figure 1.1), with a growing garment sector providing steady export-led economic growth. Bangladesh will soon attain lower-middle income status of over \$1,036 GDP per capita, due to consistent annual GDP average growth of six percent since the 1990s. Much of this growth continues to be driven by the \$20 billion garment industry, second only to China, and continued remittance inflows, topping \$16 billion in 2013. In 2012, Bangladesh's GDP reached \$123 billion, complemented by sound fiscal policy and low inflation, which measured less than 10 percent in 2012.

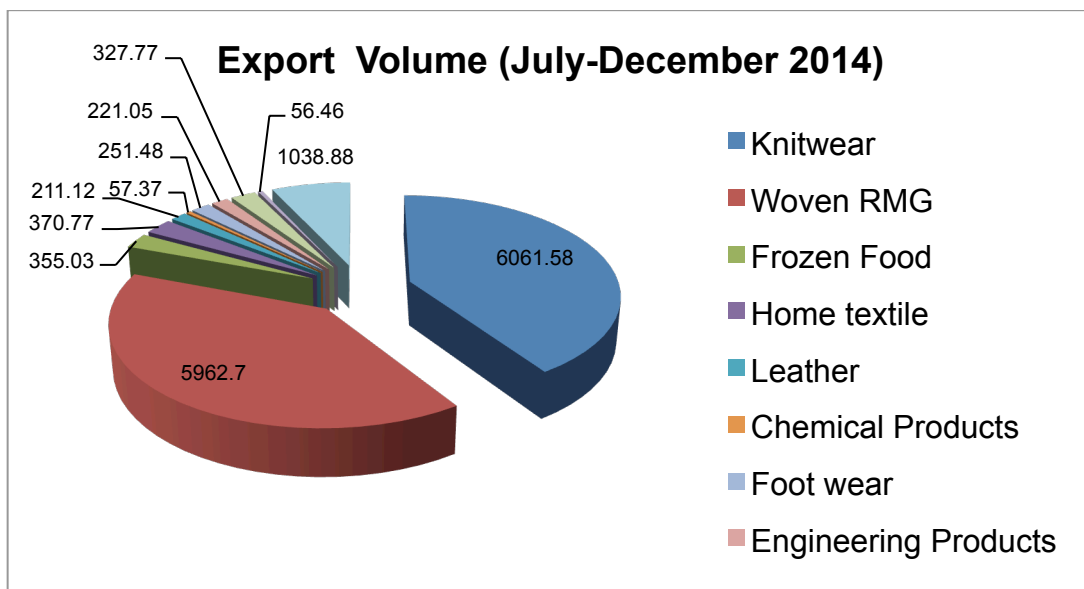


Figure 1.1: Export Volume in July-December, 2014

Carbon footprint analysis of Bangladesh shows a tiny little contribution to the global emission but although it carries a huge potentiality for further development. Bangladesh poses very large possibilities of future investment opportunities which can be developed in the lower carbon

emission sector. Experts consider Bangladesh as a potential candidate for growing economy for the performance of last decade (Figure 1.2).

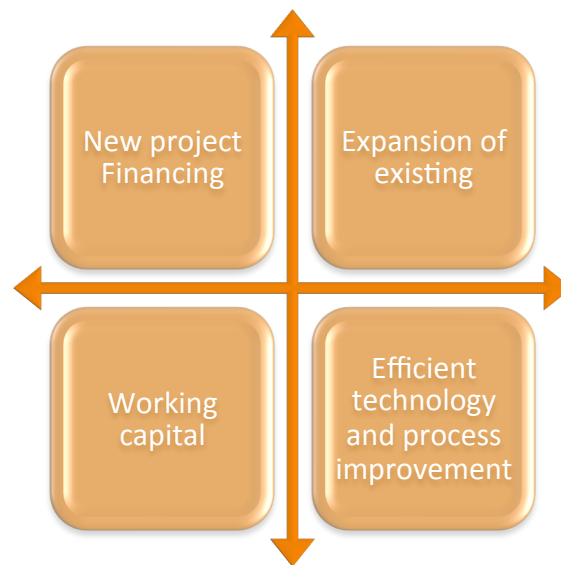


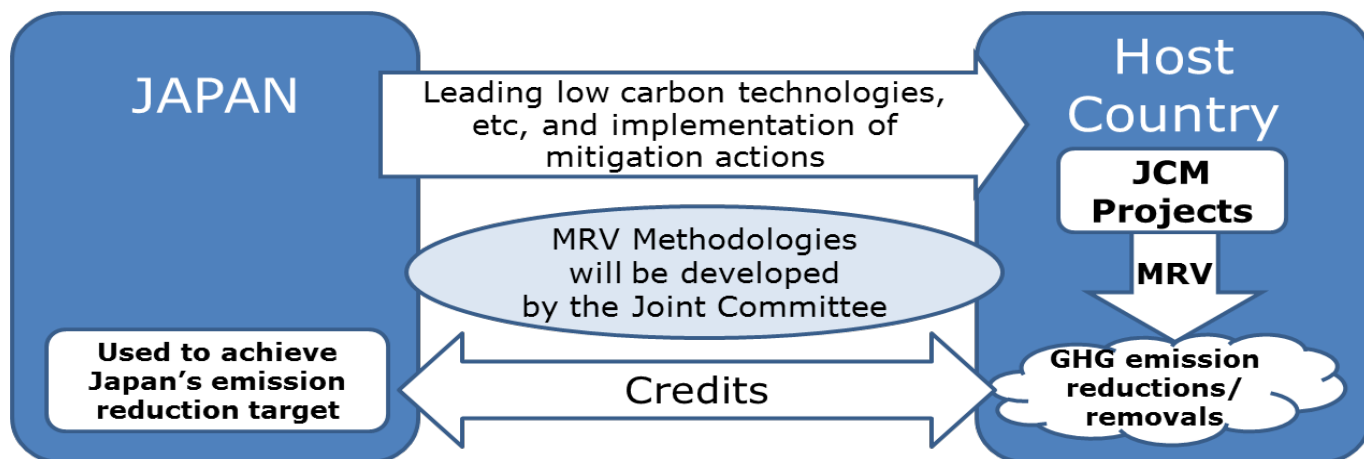
Figure 1.2: Scopes of Investment in Bangladesh

2. Overview of Domestic Network Building Activities:

a) Potential Needs For JCM

During the 3rd Meeting within Bangladesh and Japan there was a detail discussion about the activities, objectives of JCM (Figure 1.3). It can be summarized by the following points,

- ✓ Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- ✓ Appropriately evaluating contributions to GHG emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and use them to achieve Japan's emission reduction target.
- ✓ Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals, complementing the CDM.



Source: <https://www.jcm.go.jp/about>

Figure 1.3: JCM Activities and projects

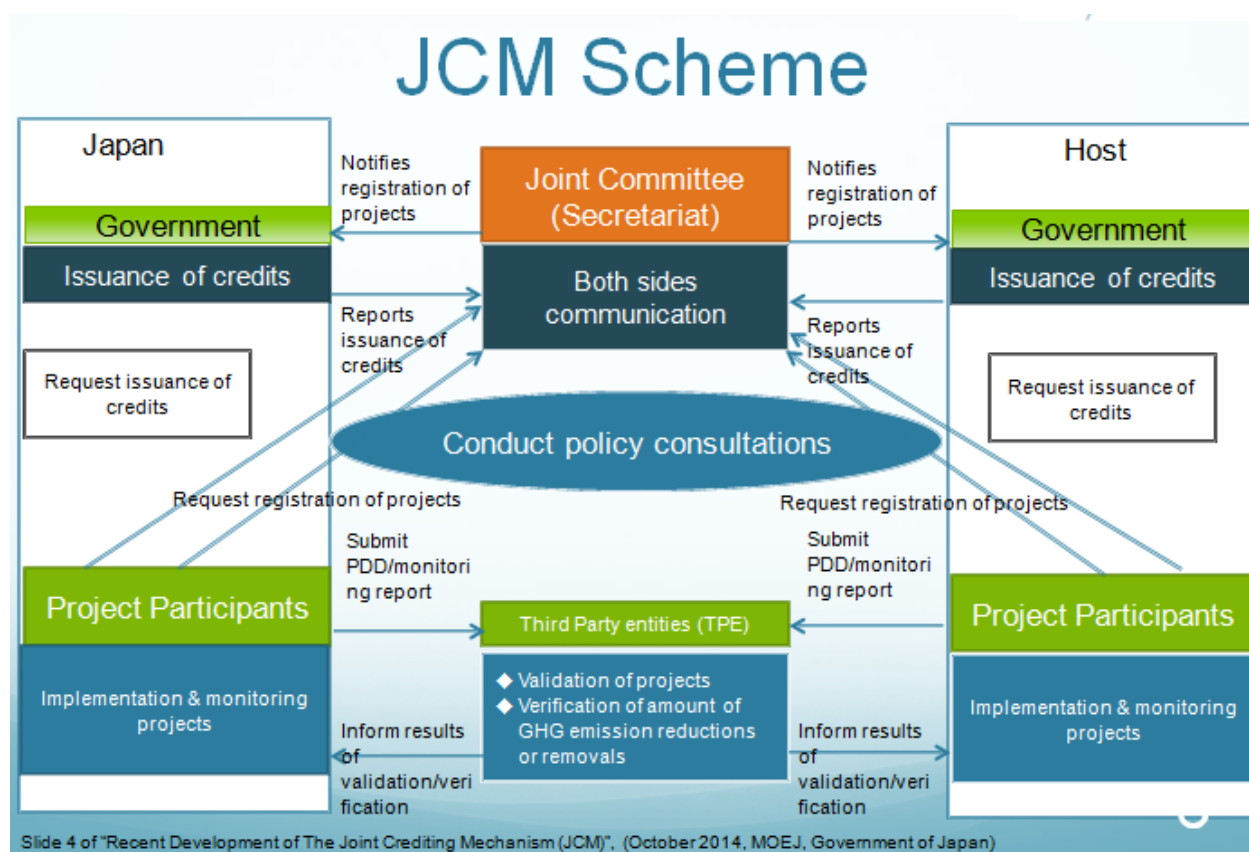


Figure 1.4: JCM Scheme used in the presentation 16th February

JCM scheme (Figure 1.4) has been presented to develop better understanding about project that could be submitted for approval in JCM. Each JCM methodology should be established, in order to reduce emissions by:

- Accelerating the deployment of low carbon technologies, products and services, which will contribute to achieving net emission reductions;
- Facilitating the nationally appropriate mitigation actions (NAMAs) in host countries
- Both Governments determine what technologies, products, etc. should be included in the eligibility criteria through the approval process of the JCM methodologies by the Joint Committee.
- Project participants can use the list of approved JCM methodologies, similar to positive list, when applying for the JCM project registration.

JCM methodologies shall contain the following:

- The requirements for the project in order to be registered as a JCM project.
<Basis for the assessment of validation and registration of a proposed project>
- The requirements for the project to be able to apply the JCM methodology.
<same as “applicability condition of the methodology” under the CDM>

b) One-Stop Service

In Bangladesh Dr. Mafizur Rahman from BUET is the focal person. Hence every approaches from Bangladesh will be discussed with Dr. Rahman first and then will be shared with Japanese Team members. Also Japanese counterparts will discuss their requirements and procedures with Dr. Rahman and Dr. Rahman will disseminate the ideas to the other people from different company and industries of Bangladesh. This whole idea is considered as One-stop Service.

c) Summary of the Study Workshop

Three meeting took place from December to February. Several discussions were made to understand the JCM procedure which can be used in the perspective of Bangladesh. People from different company and industry participated in those meetings and expressed their interest to

collaborate with JCM. These meeting were mainly focused on the brief discussion on what kind of Projects JCM supports as well as potential and challenges for JCM projects in Bangladesh and how the domestic network can contribute.

1st Skype meeting was held on 1st December, 2014 within Japan and Bangladesh to discuss the opportunities in Bangladesh and how it may collaborate with JCM. Dr. Mafizur Rahman, Focal point from Bangladesh share this opportunity with several existing companies as well as people from different industries and they felt keen to know more about JCM project.

2nd meeting was planned in 15th January, 2015. From the 1st week of January, Dr. Mafizur Rahman was trying to fix a date when all the interested candidates from different companies and industries can sit together and discuss their involvement and opportunities with Japanese counterparts. But due to unavoidable circumstances that meeting was postponed.

Then 3rd meeting was held on 16th February, 2015 (Figure 1.5) with the presence of all the members from different companies as well as industries. This meeting was very fruitful as there were two very well organized presentations about JCM as well as 3E Nexus. All the participants asked a lot of questions to understand their involvement in JCM projects and how they can contribute more.

Table 1.1: List of Participants from Bangladesh present in the 3rd meeting

SI No	Name	Designation	Organization
1	Dr. Md. Mafizur Rahman	Professor, Department of Civil Engineering	Bangladesh University of Engineering & Technology (BUET)
2	Engr. Md. Shahariar Kamal	Manager-Credit Risk Management	IDLC Finance Limited
3	Engr. Md. Kamruzzaman	Senior Energy Sector Specialist	USAID-CCEB Program
4	Engr. Md. Mehbuboor Rahman	Assistant Manager-Green Finance	IDLC Finance Limited

5	Engr. Md. Ibrahim Hossain	Proprietor/CEO;	CENTRE FOR ENGINEERING & TECHNICAL ASSISTANCE (CETA);Bangladesh
6	Sanoar Hossain	Professional	Leather Technology



Figure 1.5: Skype meeting on 16th February, 2015

The topic of the first presentation was ‘Joint Crediting Mechanism (JCM) projects for Sustainable Low Carbon Development in Asia- Pacific Region-- 3E Nexus Secretariat, Integrated Research System for Sustainability Science (IR3S), The University of Tokyo, Japan’ presented by Kensuke Fukushi, Ph.D., Professor, Integrated Research System for Sustainability Science (IR3S), The University of Tokyo. The main points of the presentations was summarized here,

- ✓ Explanation of aim of this project – focused on creation of an academic network
- ✓ Background/beginning of the project– carbon tax on electricity bill used as funding for MOEJ and METI
- ✓ Host country and Japan can discuss and decide how to issue MRV, how to make credits. Carbon credits will be shared between the 2 countries, ratio TBD.

- ✓ Explanation of JCM Framework, Joint Committee
- ✓ Platforms to Support Leapfrog – Local governments of Japan wants to share their experiences/technologies, this project is part of the research platform
- ✓ Comparison of JCM with the CDM – JCM is more flexible than the CDM, process is quite similar
- ✓ Criteria of JCM Methodology –carbon reduced should be derived from energy, i.e. converting methane to CO2 is not included
- ✓ For financing, planning to be about 300 million USD per year
- ✓ Investing in long-term large-scale carbon reductions is also important is where we can play a role (i.e. traffic monitoring and data collection in Bangkok)

Another presentation was conducted by Kensuke Fukushi, Ph.D., Professor, Integrated Research System for Sustainability Science (IR3S), The University of Tokyo, Japan on the topic of ‘Energy, Environment and Ecosystems (3E) Nexus Initiative.’ The main points of the presentation were,

- ✓ Importance of co-benefits (i.e. high efficiency power plant also releases low amount of pollutants such as sulfur oxide, etc.). Need to develop cash value of natural environment, reduction of pollution, etc.
- ✓ Explanation of steering committee, first kickoff meeting, current network map, etc.
- ✓ Low carbon in relation to ecosystem is difficult but must be included in the future (i.e. high efficiency coal power-plant reduces acid rain and effect on forest)
- ✓ Hope to make more concrete projects from next year and strengthen the network more to connect industries and academicians, government, etc.
- ✓ Hope that the Bangladesh academicians can be the consultants for the projects.

Different questions were raised during this meeting and were answered by the participants from Japan. Some questions were mentioned below,

- ✓ When doing the FS, people need to go through the One-Stop Service?

- ✓ JCM is approved only when Japanese company is approved, when Bangladesh company has an idea, how can they develop and participate in the JCM projects?
- ✓ Who bears the cost when doing a project for example in industry?
- ✓ For the investment, is it a grant or a loan?
- ✓ Are there guidelines on what kind of technologies that you have to purchase/invest in?
- ✓ Can the industry directly contact the JCM committee?
- ✓ How long does it take to approve a project?
- ✓ Can you please clarify on the Japanese involvement (i.e. manufacturing company), are there certain conditions to make the projects with Japanese companies?
- ✓ Possible way Forwards
- ✓ Involvements and contribution from each Participants
- ✓ Preparation for the upcoming Presentation
- ✓ Academic community/researchers involvement in creating future JCM projects
- ✓ Ideas on how to create an effective network for 3E Nexus/JCM projects within the country
- ✓ Measurement, Reporting, Verification (MRV) methods related to JCM projects, how the domestic network can contribute to MRV

Another meeting before the seminar in Bali was held during 18th-20th February, 2015 in Bangladesh within the Bangladeshi participants. In those meeting Bangladeshi participants discussed what should be the content of the presentation at the Bali Seminar as well as what should be their approaches for JCM Projects. At That meeting they discussed different aspects of JCM projects and potential and challenges of JCM projects (Figure 1.6) from the Bangladesh Perspective. This meeting contributed a lot in the Bali presentation. Each member showed enthusiasm to contribute different ideas in the presentation on how they may develop better project proposal for JCM. The meetings could be summarized as below--

- ❖ JCM-Bangladesh Focal Person Dr. Md. Mafizur Rahman presided over the meeting.
- ❖ Participants tried to sort out scopes and opportunities under JCM umbrella.
- ❖ Different sectors were identified based on their potential, contribution to national economy and environment, possible outcome etc.



Figure 1.6: Possible framework designed for JCM by the Bangladeshi counterparts.

After that on 26th February, 2015, Dr. Mafizur Rahman presented '*Needs, Targets and Opportunities for Green Technology in Bangladesh the future possibilities in Bangladesh*' to develop JCM project (Figure 1.7) for lower carbon emission. Here Dr. Rahman discussed about ongoing agendas where there is a possibilities for JCM to invest in future. He also mentioned current development from Bangladeshi counterparts on the project development.

Figure 1.7: Bali Presentation on 26th February, 2015

3. Future Steps

Bangladesh offers promising opportunities for investment, especially in the energy, pharmaceutical, and information technology sectors as well as in labor-intensive industries. The Government of Bangladesh actively seeks foreign investment, particularly in energy and infrastructure projects, and offers a range of investment incentives under its industrial policy and export-oriented growth strategy, with few formal distinctions between foreign and domestic private investors. Bangladesh has among the lowest wage rates in the world, which has fueled an expanding industrial base led by its ready-made garment industry. The country is well positioned to expand on its success in ready-made garments, diversify its exports, and move up the value chain. Bangladesh's economy is dominated by agriculture and manufacturing. With a largely rural population, agriculture accounts for 18.29% of GDP and employs slightly less than half of the population. Rapidly urbanizing, manufacturing accounts for 28.20% of GDP and employs 14.50% of the population, mostly in the ready-made garment sector. The service sector accounts for 43.35% of the GDP and employs 34.60% of the population.

Few opportunities developed by the Bangladeshi counterparts may includes:

- **Energy Efficiency in Textile, Power, Steel etc sector**
- **Renewable Energy**
- **Waste to Energy**
- **Brick Kiln**
- **Green Buildings**
- **Policy and Awareness campaign**

Energy Efficiency in Textile, Power, Steel etc sectors :

Interventions based on energy audit to reduce energy consumption as well as Bangladesh Government's goal to reduce energy consumption, additional charge for power, potential savings opportunity are driving factor.

- Potential Sectors:

- Textile and Ready Made Garments
- Steel and Rerolling Industries
- Cement Industries Power Generation Industries
- Pharmaceuticals Industries

Renewable Energy :

Bangladesh share on Renewable Energy is growing due to power scarcity and price hike. RE has strengthen its foot step in both on grid and off-grid area of rural Bangladesh

- Types of Renewable Energy:
 - Solar Energy
 - Biogas
 - Wind Energy
 - Hydro-electricity

Table 1.2: RE- Applicability

Sl No	Type	Area	Industry
1	Solar Energy	All over Bangladesh specially off-grid areas	Household level, Clean Energy Generation, Grid connected network
2	Biogas	All over Bangladesh	Household level, Poultry and dairy, Agricultural waste
3	Hydroelectricity	Hilly Region of Chittagong and Sylhet	Grid connected network

4	Wind Energy	Coastal Belt	Grid connected network
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Some ongoing projects on RE are mentioned below:

- IDCOL has installed more than 3 Million Solar Home System all over the country
- Two 30 MW capacity Wind Energy is going to be installed in coastal areas of Cox’s Bazar
- Kaptai dam established in 1960s still has got the potential of generating more than 230 MW of hydroelectricity
- It is expected that large size clean energy projects will share its contribution in national grid

Waste to Energy:

The concept of Waste to Energy is to generate electricity or to produce fertilizer from different sorts of waste. Conversion of waste to energy preserves environment and emerged as good business opportunity. Proposed Waste to Energy project at sanitary landfill near Dhaka, composting facility from municipal waste is drawing investor’s attention in recent years. Few options in this sector will be—

- ETP and reduction of Liquor ration in fabric dyeing
- Composting and preparation of fertilizer from municipal waste
- Electricity generation from sanitary landfill
- Waste Water Treatment/ Sewage Treatment Plant
- Methane Recovery

Brick Kiln:

Brick is one of the basic constructions material and used all over Bangladesh. Contribution of Brick industry is 1% to national GDP in this country. But still Bangladeshi People are practicing traditional Fixed Chimney Kiln (FCK) Technology which has severe impacts on environment. Around 85% of produced bricks come from FCK. Bangladeshi Government as well as ADB, WB are encouraging establishment of new technology to conserve environment.

Opportunities in this sector can be summarized below,

- Due to government restriction all FCK needs to be converted into Zigzag/Hoffman/Tunnel Kiln technology
- License issued for FCK will not be renewed from next year
- New technology requires more investment with flexible terms
- JCM can scope opportunities from here
- Tunnel Kiln technology is a suitable CP project

Green Buildings:

In order to meet compliance issue, enhance brand value and to secure additional premium in pricing sponsors of Textile and RMG sectors are constructing green buildings in Bangladesh. United State Green Building Council (USGBC) certified LEED Green Buildings are raising their head in the country. Due to high initial investment, sponsors are facing bottlenecks. Presently 64 numbers of buildings have been registered as Green with USGBC. Significant amount of carbon credit generated from these projects are rather unutilized or not yet discovered.

- Key Issues of Green Building:
 - Sustainable site
 - Air efficiency and circulation?
 - Water efficiency

- Energy efficiency

Policy and Awareness campaign:

- JCM may also scope opportunities in:
 - Training and awareness program
 - Capacity building of local stakeholders
 - Policy, advocacy knowledge sharing
 - Sharing of best practice all around globe
 - Research and development for scoping further
 - Ensuring the appropriate technologies at an affordable cost

4. Following recommendations may be considered for efficient utilization of resources of JCM:

- a. Apart from investing only in transportation sector, JCM may work out other potential sectors
- b. Investment can be made open for all industry capable of generating carbon credit
- c. Industry belong to local sponsors need to be considered for developing in a wide spread manner
- d. Guideline on JCM investment in BD needs to be formulated before starting.