- Public-private partnership for resource mobilization as well as earning carbon credits on saved emission due to higher efficiency; Syndicated loans from a consortium of banks may be tapped
- Encouraging PPP and IPR issue needs to be investigated properly; WIPO's help may be sought
- Encouraging PPP and revising the Power Sector Master Plan (PSMP)
- Training for technical and managerial personnel to be provided by vendors for turn-key projects; for build-own-operate type of projects, training of Bangladeshi personnel must be made mandatory, particularly for joint or wholly-owned foreign ownership
- Constant up gradation of technology through an information-clearing system ; financial mechanism may need to be tailored accordingly; review battery disposal systems in other countries where this is major problem and suggest measures accordingly; tariffs, taxes may be adjusted for cheaper import of new more efficient components

Beside the above measures, the legal basis for implementing energy efficiency measures for energy conservation should be established by enacting a law on energy by establishing a foundation for GOB regulation in the field of energy use and development of renewable energy (RE). To stimulate the introduction of renewable energy sources in the energy balance of the country, the law may provide tax incentives for investment in renewable energy and exemption from import duties on equipment for renewable energy.

In order to implement productive activities and strategies for energy efficiency, a national body could be established in Bangladesh, which will be responsible for carrying out GoB policy on efficient use of energy resources and energy conservation.

1.4 Technology action plan, project ideas, and other issues in Power Generation and Use Sector

1.4.1 Technology action plan

1.4.1.1 Technology action plan for Natural Gas Combine Cycle (NGCC) technology

a) Aggregation and grouping of identified measures

Following identification of measures in the stakeholder consultation workshop, the identified measures have been grouped under broader strategic measures presented in the table below;

Table 5: Grouping of measures under broader criteria

Technology	Strategic measures	Specific measure	Timeline	
			Short Term (1-5 years)	Long Term 1-10 years
Natural Gas Combine Cycle (NGCC) technology	Investment	Making detail cost estimation with the targeted timeline for establishment of Natural Gas Combine Cycle (NGCC) technology	√	

		Making technology specific proposal and generating funds from the development partners and other international mitigation funding sources	√	
		Organizing syndicated loans from a consortium of banks		√
		Establishing public-private partnership for resource mobilization as well as earning carbon credits on saved emission due to higher efficiency		√
	Capacity development	Reviewing technical and institutional capacities of the existing power sector institutions for operation and management of NGCC technology	√	
		Training for technical and managerial personnel to be provided by vendors for turn-key projects; for build-own-operate type of projects, training of Bangladeshi personnel must be made mandatory	√	
		Developing of a comprehensive action plan for technical and institutional capacity building	√	
	Organizational/ behavioral change	Creating network of experts and among research and other academic institutions to generate updated knowledge on Natural Gas Combine Cycle (NGCC) technology	√	
	Laws/ Policy	Reviewing IPR issue to have free access to the technology and seeking WIPO's help in this regard	√	
		Developing regulatory framework for PPP for Natural Gas Combine Cycle (NGCC) technology installation and management		√

b) Technology Action Plan

Table 6: Technology action plan for Natural Gas Combine Cycle (NGCC) technology

Sector: Power generation					
Specific technology: Natural Gas Combine Cycle (NGCC) technology					
Measures (Grouped under broader category)	Importance of the measure	Implementing agency	Timescale	Cost for the measures (1000 USD)	Monitoring, Reporting and verification for measure
	1	**2**	**3**	**4**	**5**
Investment					
Making detail cost estimation with the targeted timeline for establishment of Natural Gas Combine Cycle (NGCC) technology	To help policy makers and investors to have a clear idea on investment requirement for the implementation of the technology.	Ministry of Power and Mineral Resources (MoPMR), Power Division; Planning and Finance ministry; Private sector; WIPO	2013-2017	60	Readily available detail cost estimation for the policy makers and investors
Making technology specific proposal and generating funds from the development partners and other international mitigation funding sources	To ensure immediate and long-term funds from international sources.	MoPMR, Power Division; Ministry of Planning, Ministry of Finance	2013-2017	40	Communicated technology specific proposal to the development partners and private sector investors
Organizing syndicated loans from a consortium of banks	To generate matching funds from national international sources.	Power Division; IDCOL Domestic & foreign private sector companies	2013-2023	80	Ensured long-term project funding for technology installation on PPP basis
Establishing public-private partnership for resource	To generate immediate and long-term funds from national	Power Division; IDCOL Domestic &	2013-2023	120	Ensured long-term project funding for technology

mobilization as well as earning carbon credits on saved emission due to higher efficiency;	international sources.	foreign private sector companies			installation on PPP basis
Capacity development					
Reviewing technical and institutional capacities of the existing power sector institutions for operation and management of NGCC technology	To identify technical and institutional capacity gaps.	Power Division; private sector; Domestic & foreign private sector companies	2013-2017	80	Identified capacity gap of the respective power sector institutions
Training for technical and managerial personnel to be provided by vendors for turn-key projects; for build-own-operate type of projects, training of Bangladeshi personnel must be made mandatory	To increase technical capacity of power sector experts, this in turn, will help designing and implementing build-own-operate type of projects	Power Division; Ministry of Science and Technology; private sector; Domestic & foreign private sector companies	2013-2017	120	Power sector Institutions are staffed with skilled and expert human resource
Developing of a comprehensive action plan for technical and institutional capacity building	To help policy makers and other stakeholders to prioritize actions and make investment decision on the priority action.	Power Division; Ministry of Planning	2013-2017	80	Readily available comprehensive action plan for the policy makers and investors
Organizational/ behavioral change					
Creating network of experts and among research and other academic institutions to generate updated knowledge on	To facilitate cooperation and information sharing between institutions and experts	Power Division; Ministry of Science and Technology; private sector; Domestic &	2013-2017	40	Increased sharing of information among experts and institutions.

Natural Gas Combine Cycle (NGCC) technology		foreign private sector companies			
Policy and law					
Reviewing IPR issue to have free access to the technology and seeking WIPO's help in this regard	To have free access to the advanced tools and technologies	Power Division; Planning and Finance ministry; Ministry of Science and Technology; WIPO	2013-2017	50	Removed IPR barriers in accessing modern tools technologies
Developing regulatory framework for PPP for Natural Gas Combine Cycle (NGCC) technology installation and management	To facilitate private sector involvement in power generation sector	MoPMR, Power Division;	2013-2023	70	Developed private sector supportive laws and policies to leverage investment in power generation.

Note: In addition to the above cost the required capital operation and maintenance cost of the technology has been presented in the technology fact sheets (Annex I)

1.4.1.2 Technology action plan for solar home PV technology

a) Aggregation and grouping of identified measures

Following identification of measures in the stakeholder consultation workshop, the identified measures have been grouped under broader strategic measures presented in the table below;

Table 7: Grouping of measures under broader criteria

Technology	Strategic measures	Specific measure	Timeline	
			Short Term (1-5 years)	Long Term 1-10 years
Solar home PV technology	Investment	Making detail cost estimation with the targeted implementation timeline of Solar home PV technology	√	
		Making technology specific proposal and generating funds	√	