

# **POWER CELL**

**Government of the People's Republic of Bangladesh**

**POWER DIVISION**

**MINISTRY OF POWER, ENERGY & MINERAL RESOURCES**

**INSTITUTIONAL AND ORGANIZATIONAL FRAMEWORK FOR  
SUSTAINABLE ENERGY DEVELOPMENT CENTRE (SEDEC)**

**A NATIONAL 'NODAL INSTITUTION' FOR PROMOTION OF  
SUSTAINABLE ENERGY DEVELOPMENT & USE**

**DRAFT FINAL REPORT**



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Promotion of the Use of Renewable Energies (PURE)**

## ACRONYMS

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Centre
BPDB	Bangladesh Power Development Board
BERC	Bangladesh Energy Regulatory Commission
BoT	Board of Trustees
BUET	Bangladesh University of Engineering & Technology
BSTI	Bangladesh Standards & Testing Institute
CEO	Chief Executive Officer
CFL	Compact Fluorescent Lamps
DoE	Department of Environment
DU	Dhaka University
DG	Director General
EE	Energy Efficiency
EEIOs	Energy Efficiency Improvement Options
FBCCI	Federation of Bangladesh Chamber of Commerce & Industry
GDP	Gross Domestic Product
GOB	Government of Bangladesh
GTZ	German Technical Cooperation
IDA	International Development Agency
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KfW	Credit Institution for Reconstruction (Kreditanstalt fuer Wiederaufbau)
kW	Kilowatt
kgoe	Kilogram Oil Equivalent
kWh	Kilowatt hour
LGED	Local Government Engineering Department
MDG	Millennium Development Goal
MNES	Ministry of Non-Conventional Energy Sources
MoC	Ministry of Commerce
MoEF	Ministry of Environment & Forests
MoF	Ministry of Finance
MoI	Ministry of Industries
MPEMR	Ministry of Power, Energy & Mineral Resources
MW	Megawatt
MWh	Megawatt hour
NEP	National Energy Policy
NGO	Non-Government Organization
PURE	Promotion of the Use of Renewable Energies
PV	Photovoltaic
PRSP	Poverty Reduction Strategy Paper
RE	Renewable Energy
REB	Rural Electrification Board
SEDA	Sustainable Energy Development Agency
SEDEC	Sustainable Energy Development Centre
SE	Sustainable Energy
SEU	Sustainable Energy Unit
SHS	Solar Home Systems
SME	Small & Medium Enterprises
SWOT	Strength, Weaknesses, Opportunities & Threat
TOR	Terms of Reference
UNDP	United Nations Development Programme

# TABLE OF CONTENTS

## *EXECUTIVE SUMMARY*

1.0	BACKGROUND - SITUATION ANALYSIS.....	1
1.1.	THE NEED TO SET UP A NATIONAL ‘NODAL INSTITUTION’ IN THE SUSTAINABLE ENERGY SECTOR.....	2
1.1.1	EXPERIENCE OF THE REGION ON THE POSITIVE ROLES OF DEDICATED ‘NODAL INSTITUTIONS’ IN PROMOTING SUSTAINABLE ENERGY .....	2
1.2	BILATERAL INTERESTS BETWEEN GOVERNMENTS OF BANGLADESH GERMANY IN INSTITUTIONALIZATION OF SUSTAINABLE ENERGY.....	3
1.3	THE ROLE OF THE SUSTAINABLE ENERGY UNIT (SEU) UNDER A SHORT TERM T.A. SUPPORT BY UNDP.....	3
1.4	THE GOVERNMENT DECISION TO SET UP A ‘NODAL INSTITUTION’ ON A ‘FAST TRACK’ BASIS.....	3
2.0	THE APPROACH / METHODOLOGY USED.....	5
3.0	IDENTIFICATION OF THE ‘BARRIERS’ TO SUSTAINABLE ENERGY .....	5
4.0	THE BROAD OBJECTIVES OF SEDEC.....	6.
5.0	VISION & MISSION OF SEDEC.....	7
6.0	ROLES & RESPONSIBILITIES OF SEDEC WITH JUSTIFICATIONS.....	7
7.0	SELECTING THE APPROPRIATE INSTITUTIONAL FORM FOR SEDEC - A ‘SWOT ANALYSIS’ .....	11
7.1	THE VARIOUS GOVERNMENT INSTITUTIONAL FORMS.....	11
7.2	THE DECISION OF MPEMR TO SET UP SEDEC AS A GOVERNMENT TRUST.....	12
8.0	BASIC STRUCTURE OF THE TRUST.....	14
8.1	THE BOARD OF TRUSTEES.....	14
8.2	MANAGEMENT OF THE TRUST.....	15
8.3	LAUNCHING & OPERATION OF THE TRUST - THE DRAFT DEED OF TRUST .....	15
9.0	PROPOSED FUNCTIONAL STRUCTURE & ORGANOGRAMME OF SEDEC.....	16
10.0	OBSERVATIONS ON INCENTIVE CONCEPT.....	19
11.0	RECOMMENDATIONS ON SPECIALISTS AS PROPOSED.....	19
12.0	INSTUTIONAL OPERATING BUDGET FOR SEDEC.....	20
13.0	SET UP BUDGET FOR SEDEC.....	21
14.0	SOURCES OF FINANCE, REQUIREMENT & FUND MANAGEMENT BY SEDEC.....	22
15.0	AREAS OF NEW PROGRAMME FOR SEDEC.....	23.

## ***EXECUTIVE SUMMARY***

Bangladesh suffers from a chronic crisis of energy - both in its rural and urban areas. There is an acute crisis of electric power in all areas, despite Government's several reforms to improve the situation. Bio-mass, the 'poor-man's oil', on the other hand is also becoming scarce to meet the cooking needs of the poor in rural areas. Only about 38% of the population have access to electricity. The country faces several challenges in meeting its development goals - the two most important ones being (i) to achieve the Government Vision to provide "*Electricity for All by 2020*" and (ii) to *halve its poverty level by 2015*. The use of natural gas is highly overstressed, as 90% of electric power is presently gas-based. Bangladesh should, therefore, diversify the use of its primary energy resources on a priority basis, using efficient technologies. The renewable energy resources, like Solar, Bio-mass, Wind, Mini/Micro-Hydro should become integral part of its mainstream energy-mix. In fact, to resolve its acute energy problems in the electric power sector, both in the urban and rural areas, Bangladesh urgently needs a 'two-pronged' strategy: (i) gradually increase the share of Renewable Energy in rural areas to enhance the energy access of the poor and (ii) plan and implement Energy Efficiency and Conservation measures to conserve energy. The integrated output of this strategy is expected to result in a better sustainability of Bangladesh's energy resources which will provide wider energy access to the people, especially those living in rural areas and thus help in reducing the poverty to attain the MDG and PRSP goals.

The increased share of Renewable Energy and Rural Energies, as well as intensifying efforts to save and conserve energy through implementation of energy efficiency improvements in all areas of energy use, as recommended in the National Energy Policy (NEP 1996) and its revised draft, will not only serve the rural needs but empowerment of women, substantial improvement of the environment and reduction of poverty would take place. Most important of all, the concept of 'Sustainable Energy'(SE) which means energy for sustainable economic growth, as a logical step for sustainable development, as envisaged in the Earth Summit and the following international meetings, will gain ground. With depleting non-renewable (fossil fuel based) energy supplies and increasing need to provide energy and electricity to remote areas, the Government Vision of to provide "*Electricity to all by 2020*" will be easier to achieve.

Although some break-through has been made in the renewable energy sector in Bangladesh to reach electricity to off-grid rural areas, using the Solar (Photovoltaic) Home Systems and, to some extent, also in the Bio-gas sector, the full potential of the above 'two-pronged strategy' to make energy more sustainable could not yet be tapped in the country, the reason being lack of concerted and coordinated efforts in the area of sustainable energy through a dedicated 'nodal institution. India's great success in rapid replication of sustainable energy technologies has been achieved primarily through establishment of such a 'nodal institution' - the Ministry of Non-Conventional Energy Resources (MNES) and its financing subsidiary - Indian Renewable Energy Development Agency (IREDA), who played key roles in promotion and facilitation of the use of renewable energies.

Realizing this gap in Bangladesh, the Government of Germany, had shown keen interest in the past in supporting Bangladesh Government set up such a 'nodal institution' and a technical co-operation initiative, aiming at promoting renewable energy was launched in June 2004 by the German Government under the name and style : "*Promotion of the Uses of Renewable Energies*" (PURE). Amongst its other activities, PURE is mandated, amongst its other activities, to provide support for developing an institutional frame-work and a strategy for setting up a 'nodal institution'.

Meanwhile, a Sustainable Energy Development Unit (SEU) was set up under a short term Technical Assistance (T.A) Programme to the Ministry of Power, Energy and Mineral Resources (MPEMR). Under this T.A. support (starting in August 2004). UNDP prepared a Sustainable Energy Programme (SEP) for Bangladesh, which aimed at institutionalization sustainable energy. In its Programme Support Document (PSD), submitted to MPEMR in March 2006, it recommended to set up a 'nodal institution' - Sustainable Energy Development Agency (SEDA).

The Hon'ble Prime Minister issued an advanced order in December 2005 to set up the much needed dedicated institution on a 'fast-track' basis, based on which the Power Cell requested PURE to commission Consultants to provide support in working out and recommend a form and structure of the 'nodal institution', in the frame-work which, this work has been commissioned by PURE and the Report submitted with its findings and recommendations.

An analysis of the various Government and other institutional forms were made through a 'SWOT' analysis and based on the findings of an interim Working Paper presented by the Consultants to the Power Cell in an official meeting held on 3<sup>rd</sup> April, 2003, it was decided that the 'nodal Institution' will be set up as a **Government Trust**, considering its various advantages over a pure Government institution. Although the name of the Trust was proposed in the meeting to be Sustainable Energy Development Agency (SEDA), it has been named: "Sustainable Energy Development Centre (SEDEC), based on a later suggestion of MPEMR.

The various advantages of setting up SEDEC as a Government Trust, instead of a pure Government body are:

- As a Government Trust, it can be set up on a fast-track basis
- The donor funds will be easier to access by a Trust
- The Trust will be more market-driven
- As a Trust, the institution can work with a better incentive-oriented salary structure than a Government institution, which will attract competent persons to it and recruitment will be easier at all levels
- A Trust can operate with a better transparency in terms of its management Operation

In a Government Trust, a Board of Trustees is formed (BoT), which acts as the 'driving force' of the organization. The members of the Trustee Board are mostly drawn from the relevant public sector institutions. The Government of Bangladesh becomes the owner of the Trust through a legal mechanism, which is the Deed of Trust. Through such a Deed, a Trust becomes an integral part of the Government. The Government's legally appropriate official of the line Ministry, becomes the Author of the Trust, who, in this case is the Secretary, MPEMR. The Trust Deed is executed by the Author of the Trust and the Trust can be legally set into action on execution of the said Deed of Trust.

**A Draft Deed of Trust** was prepared in cooperation with Institute for Policy Support (IPSU), which was reviewed by the Consultants and some incorporations, changes, modifications were suggested and submitted to the Power Cell, which is enclosed in ANNEXURE, which contains details of the composition of the Trustee Board, the rules of business of the proposed Trust and other details, which are self-explanatory. While the Deed of Trust is being finalized and processed by MPEMR, the Functional Structure, a Basic Organogramme, the broad tasks of each Division have been formulated.

The Trust is proposed to be headed by a Director General and supported by three Directors - Director (Planning & Development), Director (Programme & Operations), Director (Finance & Administration), who will head three **Functional Divisions**. The Organogramme envisages that to run this specialized 'nodal body professionally, in all, supports from about fourteen (14) **Sector or Technology Applications Specialists** will be required for its two Divisions - Planning & Development and Programme & Operations Divisions, as shown in the Organogramme, presented in the Report. The services are proposed to be on a contract basis and high level of incentive based salaries at the Top and functional management levels have been proposed to attract qualified professionals.

Based on the proposed **Basic Organogramme**, enclosed in the Report and an **Annual Operating Budget** has been worked out, which amounts to about **Tk. 32.91 million**, i.e. about Tk. 3.29 crores/year, excluding the Programme/'Flagship Projects'. The initial **Set Up Cost of SEDEC is budgeted at about Tk. 29.0 million**, including, advance rent (for 6 months), Office Furniture, Fixtures, including Air-Conditioners and 5 Project Vehicles.

A schematic on the requirement, applications and management of Funds/Finances required to set up and operate SEDEC has also been enclosed, which shows that apart from foreign donors, raising funds from '**levies**' on **conventional fossil fuels**, as proposed in the Deed of Trust has a great potential. Based on imposing of even very small amount of 'levies', proposed in this report as '**Sustainable Energy Development Surcharge**' (**abbreviated SEDS**), on the present consumptions of natural, gas, petroleum fuels, coal and also electric power, there is a total potential to raise about **Tk. 200 crores** per year. The SEDEC, should, therefore, if and when floated, launch all-out efforts through an inter-ministerial coordination between MPEMR and the Ministry of Finance, to tap the potential of the 'levy mode', which would ensure SEDEC's financial sustainability on long term.

Apart from UNDP's initial Programme Budget of US\$ 11 million (including US\$ 1 million from a private donor), it is very likely that other donors from Europe, Japan etc., may come forward with new programme funds for SEDEC. Based on various other programme / project identifications in the areas of initial set up costs for SEDEC, capacity building, implementation of Pilot/'Flagship Projects' etc., there is a good possibility that SEDEC can expect a total Programme Fund to the extent of about US\$ 30 million on short to mid term, from all such donors, including UNDP as donor-initiator.

## 1.0 BACKGROUND - SITUATION ANALYSIS

Energy is a key infrastructure for attaining the goal of socio-economic development of a country. In fact, the per capita consumption of energy and electricity is now widely accepted and as an important indicator of the state of development of a country. Recent energy crisis has compelled countries to introduce a series of policy changes with technological and technical interventions at the international, regional and national levels in order to help mitigate the effects of such situations if and when they appear in future. Thus, the availability of reliable and quality energy that is energy security, of any country assumes the same importance as any other form of security on a long term perspective. The scenario has further been compounded with the advent of global concerns for environment. Energy planning for developing countries like Bangladesh is a challenge of enormous proportions, especially if the target is set to ensure the sustainability of development.

The historic Earth Summit held in Rio de Janeiro set the pace of sustainable development for global community and individual countries. Sustainable development is meant to reflect the close connection between economic, social and environmental changes.

Bangladesh is a South Asian country, ridden with problems of high density of population, low income level and consequently low consumption of energy. The Per Capita consumption of total primary energy is only about 225 kilogram of oil equivalent (kgoe). Most of the people live in rural areas and about half (49%) of the total energy consumed comes traditional bio-mass (crop residues, dung, tree wastes etc.), used primarily to meet the cooking needs of rural people. About 51% of total energy (115 kgoe per capita) is supplied from commercial fuels - indigenous Natural Gas, imported Petroleum and Coal. Only about 38%<sup>+) of the population have access to electricity, its Per Capita consumption being only about 155 kWh. For rural population, electricity extension goes to only about 23% of the households. As energy is considered to be an important vehicle for development and electricity is the most convenient form of secondary or derived energy, there is no doubt that fast development of energy and electricity is required for the economic growth, envisaged by Millennium Development Goal (MDG), set by UN General Assembly in 2000, which aims at halving the poverty level of Bangladesh by 2015. For sustainable development in Bangladesh, access to energy services will be needed in all avenues of development process e.g. water, industrial and agricultural productivities, health care, education, job creation, gender equality and climate change impacts. In fact, in order that development goals reach the maximum population, there is a strong need for sustainable energy development.</sup>

The fact that, Bangladesh suffers from a chronic crisis of energy, is more due to lack of appropriate resource management rather than the endowment of its energy resources. In terms use of energy from renewable sources, the country could not make any mentionable break-through, excepting in the Solar Photovoltaic Home Systems (SHSs) for off-grid electrification of remote rural areas and to some extent, also in the Bio-gas sectors. Bio-mass, is an area that deserves more serious attention studies and efforts, since, the potentials for other renewable sources of energy - Wind and Mini/Micro-Hydro, appear to be limited. The people in rural areas suffer from a crisis of Bio-mass, the more efficient use of which, through scaling up of the dissemination of improved cook stoves, expansion of Bio-gas programmes and use of efficient rice husk boilers, for example, could free enough quantity of it for its more value-added energy applications, such as power generation, using 'New Bio-mass Technologies'. For several years, Government of Bangladesh has embarked upon a program of Power Sector reforms. These include bringing the entire country under affordable and reliable electricity supply, increasing the energy sector's efficiency, including electricity supply to remote rural areas of the country. Such measures, it has been argued, would bring the country on the road to energy security and sustainability. Important steps in this direction, include wider scale tapping of renewable sources of energy and implementing measures for energy efficiency and energy conservation so that maximum people gets the benefit of energy and electricity. The energy intensity, as is the international trend, will be reduced and environment-friendly technologies will be introduced in the main stream of energy development.

As part of energy reform measures and extension of planned electricity services, a Power Cell was set up in 1995 with the mandate to lead private power development, power sector reform and restructuring, formulation of a regulatory frame-work, update power sector master plans, tariff levels. In about 10 years (1996-2006) since Government's approval and declaration of the **National Energy Policy (NEP 1996)** and establishment of the Power Cell, under the Power Division of the Ministry of Power, Energy & Mineral Resources (MPEMR), the country has made some progress on its way to energy security and sustainability. However, a lot yet remains to be done.

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<sup>+) Source : Updated (May 2006) data of Power Cell</sup>

## 1.1 THE NEED TO SET UP A NATIONAL ‘NODAL INSTITUTION’ IN THE SUSTAINABLE ENERGY SECTOR

The Power Cell was mandated, amongst its other tasks to lead the institutionalization of the private sector power, also to promote, facilitate and coordinate issues on Renewable Energy, until such time that an institution, wholly dedicated to Renewable Energy is set up. To fulfill its tasks in this direction the Power Cell prepared a Draft Renewable Energy Policy (revised in February 2004) and submitted it to the Power Division of the Ministry of Power, Energy & Mineral Resources for approval. It addressed, amongst others, a ‘one-window’ operation for Renewable Energy Projects by Power Cell.

Meanwhile, a the revised Draft National Energy Policy (NEP) which is pending approval, in its efforts to make a national policy convergence in the energy sector, has addressed most of the issues and has placed greater importance on :

- Renewable Energy
- Rural Energy to provide better energy access to the poor
- Energy Efficiency & Conservation Measures

The increased share of Renewable Energy and Rural Energy, which will not only to serve the rural needs but empowerment of women, substantial improvement of the environment and reduction of poverty would take place, if recommendations on above issues are implemented. Most important of all, the concept of ‘Sustainable Energy’(SE) which means energy for sustainable economic growth, as a logical step for sustainable development, as envisaged in the Earth Summit and the following international meetings, will gain ground. With depleting non-renewable (fossil fuel based) energy supplies and increasing need to provide energy and electricity to remote areas, the **Government Vision of to provide “Electricity to all by 2020” will be easier to achieve.**

To resolve the acute energy problems in the electric power sector, both in the urban and rural areas, **Bangladesh needs a ‘two-pronged’ strategy:** (i) gradually increase the share of Renewable Energy in rural areas to enhance the energy access of the poor and (ii) plan and implement Energy Efficiency and Conservation measures to conserve energy. The integrated output of this strategy is expected to result in a better sustainability of Bangladesh’s energy resources which will provide wider energy access to the people, especially in rural areas and thus help in reducing the poverty to attain the MDG and PRSP goals.

### 1.1.1 EXPERIENCE OF THE REGION ON THE POSITIVE ROLE OF ‘NODAL INSTITUTIONS’ IN PROMOTING SUSTAINABLE ENERGY

Bangladesh lags way behind its neighbouring country - India in the sustainable energy sector, which has become a developing country model in scaling up its efforts in the sustainable energy sector. The significant success of India has been primarily due to the institutionalization of sustainable energy through a state ‘nodal institution’ - the **Ministry of Non-Conventional Energy Sources (MNES)** and its financing subsidiary - Indian Renewable Energy Development. Agency IREDA) The Ministry was created in 1992 by upgrading the erstwhile Department of Non-Conventional Energy Sources (DNES).

**The main responsibilities of the Ministry included promotion and facilitation of the development and utilization** of the entire spectrum of energy from sustainable sources, from traditional to the modern technologies, Improved Cook Stoves to Solar (PV) Home Systems, Solar (PV) Pumps, Wind Power Plants, Biomass-gasification based Power generation, Small Hydropower and also implementation of Energy Efficiency & Conservation measures and use of other alternate fuels etc., by promotion and facilitation activities, including setting up of ‘Flagship Projects’. Most of the States also established nodal agencies to promote renewable energy in their jurisdictions, mainly through administering MNES Programmes and occasionally implementing some programmes of their own.

In Nepal the **Alternative Energy Promotion Centre (AEPC)**, set up by the Nepal Government under a Board’s Act, contributed a great deal in very rapid dissemination of Renewable Energy in Nepal in the Bio-gas, Solar and Micro-Hydro sectors, by converging all such efforts through its promotional and facilitation functions. In the Bio-gas sector, for example, Nepal has installed about 150,000 units of Bio-gas plants, through its Bio-gas Support Programme (BSP), where, amongst, other institutions, AEPC also played a key role.

The main reason behind Bangladesh's comparatively poor performance is the fact that sustainable energy in its real perspective could not yet be institutionalized in the mainframe energy development plans and programmes of the country. All national activities in the Renewable Energy sector are presently being implemented in an uncoordinated and un-directional manner by various public sector institutions, NGOs and a number of private sector companies. The Stakeholders in sustainable energy sector, however, have been advocating since long the need for such a dedicated 'nodal institution', which will integrate and converge all efforts that are being carried out in the sustainable energy sector in a well coordinated and concerted manner.

## **1.2 BILATERAL INTERESTS BETWEEN GOVERNMENTS OF BANGLADESH AND GERMANY IN INSTITUTIONALIZATION OF SUSTAINABLE ENERGY**

The Government of Bangladesh, fully realizing that a gap exists for setting up a 'nodal institution' to promote, facilitate and accelerate of all sustainable energy activities in Bangladesh, had shown keen interest in the past and based on such an interest the Governments of Germany and Bangladesh agreed to launch a technical cooperation initiative under the name and style: Promotion of the Use of Renewable Energies (PURE), which was started in June 2004. PURE is already conducting a series of activities such as promotion and facilitation activities in the country, for example, promoting replication of Solar Home Systems in rural (off-grid) areas, dissemination of Improved Cook Stoves, exploring the possibilities of setting up of 'Flagship Projects' in the Poultry based Bio-gas sector etc. and overall promotion and public awareness creation in the sustainable energy sector through Fairs/Exhibitions of Renewable Equipment/Systems. Amongst such activities, aimed at and promoting the use of Renewable Energy, as mentioned, PURE is mandated to provide support for developing an **institutional framework and a strategy for setting up such a national 'nodal institution'**, in the framework of which this Consulting work has been commissioned and the Draft Final Report has been prepared.

Apart from the use of Renewable Energy, a strategic sub-sector for better management of energy from all resources, in which Bangladesh failed to capitalize, till date, is **Energy Efficiency & Conservation**, where almost no or 'half-hearted' efforts have been launched by the Government, with no directional policies, legal frame-work, or serious efforts for its institutionalization. A good potential exists in the country to **save at least about 1200 MWh<sup>+</sup>** (in terms of power or gas units) through relatively short term (3-year) efforts. Preliminary findings of a recent German Appraisal Mission, working in association with National Consultants and through a Stakeholders' Interaction, have identified that there are good opportunities **to save about 20 - 30% energy in the Domestic and Industrial sectors** through implementation of measures such as i) wider use of Energy Efficient lights (Compact Fluorescent Lamps or CFLs) (ii) use of Energy Efficient Motors/Motor-Pump Systems (iii) Boiler Efficiency Improvements / Better thermal House-keeping (iii) Waste Heat Recovery / Co-generation and other measures.

The German Appraisal Mission has also expressed keen interest in supporting the institutionalization process of the proposed 'nodal institution' with T.A. supports with expertise, identification and implementation of 'Flagship Projects' and also in formulation of appropriate legal frame-work (e.g. Energy Efficiency & Conservation Act) which would be required for implementation of identified and recommended measures in this direction.

## **1.3 THE ROLE OF THE SUSTAINABLE ENERGY UNIT (SEU) UNDER A SHORT TERM T.A. SUPPORT BY UNDP**

Under a Sustainable Energy Formulation Programme (SEP), the United Nations Development Programme (UNDP) in Bangladesh came forward (since August 2004) with a short term T.A. support to the Power Division of the of the Ministry of Power, Energy & Mineral Resources (MPEMR) to prepare a Sustainable Energy Programme for Bangladesh. Under this programme, a 'Sustainable Energy Unit' (SEU) was established in August 2004. The Government of Bangladesh provided the required office space and facilities and UNDP Bangladesh provided the required support by International and National Consultants, logistics support staff, office equipment and the operational costs for SEU. The SEU has formulated the final Sustainable Energy Program (SEP), which is in its last leg of finalization with the Government. A Programme Support Document (PSD) for the SEP was submitted to the Secretary, Power Division on 7 March, 2006, which included the need and the objectives of a national 'nodal agency' for institutionalization of sustainable energy in Bangladesh.

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<sup>+</sup>) Dr. Carsten Hellpap, Leader of the Mission, Dr. Albrecht Kaupp, Dr. Gunthram Glasbrenner, Prof. Dr. Ijaz Hossain, Prof. Dr. Shahidul Islam Khan Stakeholders' Interaction by German Appraisal Mission, held on 3<sup>rd</sup> May, 2006 at Spectra Coonvention Centre and also Minutes of a Meeting held between Secretary, MPEMR and the Mission Leader on 8 May, 2006

#### **1.4 THE GOVERNMENT DECISION TO SET UP THE NATIONAL 'NODAL INSTITUTION' ON A 'FAST TRACK' BASIS**

In December 2005, the Hon'ble Prime Minister issued an advanced order to set up a 'nodal agency' for sustainable energy and Power Cell was instructed to initiate the process of formally establishing the new institution. As a first step, it is required to design the necessary institutional form, management and organizational structure (including staffing), operating budget and indicative operation plans.

In view of the urgent need to improve the current power crisis of the country, the Government has decided to set up the 'nodal institution' on a fast-track basis, for which it became necessary, before working out the detailed structure, management etc., to decide on the appropriate form of such an institution, which would act at the national level for coordination, project identification, planning, monitoring, capacity building and implementation support in the sustainable energy sector. Such a 'nodal institution' would also facilitate financing of sustainable energy programmes / projects of interested stakeholders - Government, NGOs and private sector investors/promoters - who are already engaged in or have the potential to work in this sector.

An interim Working Paper was prepared by the Consultants and submitted in an official meeting, called by the Power Cell, held at the office of Power Cell/SEU on the 3<sup>rd</sup> of April'06, where, based on a 'SWOT' Analysis presented in the Working Paper, recommendations were given by the Consultants to set up the 'nodal agency' as a Public Trust, i.e. a Trust which is owned by the Government. The UNDP representatives and also representatives from Institute for Policy Support Unit (IPSU) were present in the said meeting and subsequent co-ordinations between the Consultants and IPSU were suggested for better coordinated work on the issue to initiate the process of launching the proposed Trust.

In the said meeting of 3<sup>rd</sup> April'06, it was proposed to name the 'nodal agency' as Sustainable Development Agency (abbreviated SEDA). However, based on a later suggestion from MPEMR, the institution has been proposed to be named 'Sustainable Energy Development Centre (SEDEC)'. Hence, until such time that a final decision on the name is officially taken by the Government, the proposed 'nodal agency' will be named **Sustainable Energy Development Centre (SEDEC)**.

It may be mentioned that in UNDP's Sustainable Energy Programme (SEP) and also in its Programme Support Document (PSD), the 'nodal institution' was proposed to be named SEDA.

## 2.0 THE APPROACH / METHODOLOGY USED

The following Approach / Methodology has been applied in recommending the appropriate Institutional Form, Functional Divisions & Basic Organization Structure of SEDEC:

- Identification of Barriers to sustainable energy in Bangladesh
- Use of the identified Barriers as a strategic tool to design the institution through alleviation/reduction of such Barriers
- Formulation of the Broad Objectives of SEDEC
- Formulation of the Vision & Mission Statements
- The Charter (detailed Roles & Responsibilities) of SEDEC with Justifications
- Selection of the appropriate Institutional Form for SEDEC

The required Organizational Structure and the Basic Organogramme designed on above concepts, led to the Operating and Set Up Budgets for SEDEC as a 'nodal institution'. The possible Sources of Finances and strategies to raise them, required for SEDEC's Set up Cost, Operating Costs and also to implement its Programmes/'Flagship Projects' has been discussed.

## 3.0 IDENTIFICATION OF THE 'BARRIERS' TO SUSTAINABLE ENERGY

Before proposing the form, structure, management and organization of SEDEC, it is important to identify the various 'Barriers' that have been and are still are continuing to be responsible for the slow 'take-off' of sustainable energy activities in Bangladesh, so that the institution may be appropriately designed to alleviate/reduce such barriers.

Through past interactions with Stakeholders in National Workshops, Seminars, the various 'barriers' which are responsible for slowing down the replication of sustainable energy interventions in Bangladesh, may be identified and listed as follows :

### (A) Policy & Institutional Barriers

- *Absence or lack of implementation of appropriate and firm Government Policies*
- *Absence of a dedicated institution, which would provide 'one-window' promotion and facilitation of support and services*
- *Absence or lack of implementation of Regulations, Acts/Enactments  
Facilitation of sustainable energy interventions*
- *Absence or lack of coordination between the Stakeholders*

### (B) Capacity / Knowledge level Barriers .

- *General lack of Awareness of both general people and national policy/decision-makers about technologies that capitalize energy from sustainable sources and the great positive impacts achievable through energy efficiency and conservation measures*
- *Lack of Capacity (Limited Technology Transfer, Technical Know / Human Resource building)*
- *Lack of Information / Data in the sustainable energy sector*

### (C) Financial / Economic Barriers

- *High Initial Capital Costs in some cases*
- *Irrational pricing of energy from conventional sources*
- *Financial Risks and uncertainties*
- *Non-availability of finance from traditional financial institutions/banks*
- *Lack of innovative Financial Mechanisms*

**(D) Quality / Standards / labeling**

- *Poor Quality & lack of standardization often irreversibly damage an emerging market for a sustainable energy product or technology*

**(E) Market Promotion / Market Mechanism / Post-installation Services**

- *Lack of Market Motivation and Market Infrastructure*
- *Lack of Post-Installation Services*

**(F) Socio-cultural Barriers**

- *Reluctance, especially amongst the poor in rural areas, to switch over from presently practiced or traditional technologies to modern / improved technologies*
- *corruption and lack of credit culture to pay bills for energy services / loans especially amongst the rich*

**THE USE OF THE IDENTIFIED BARRIERS AS A MAJOR STRATEGIC TOOL TO DESIGN THE INSTITUTION THROUGH ALLEVIATION/REDUCTION OF SUCH BARRIERS**

In fact, most of the ‘barriers’, as identified above are interlinked to each other in some form or other and lead to the strong justification for setting up a ‘nodal institution’, the prime objective of which will be to promote and facilitate sustainable energy intervention in Bangladesh by alleviating/reducing such barriers.

The various ‘Barriers’, therefore, have been used as feedback to formulate the Vision, Mission, Objectives, the Roles & Responsibilities, Basic Structure, Form and Functions and other relevant issues of the proposed ‘nodal institution’ - SEDEC.

**4.0 THE BROAD OBJECTIVES OF SEDEC**

The proposed ‘nodal institution’ - SEDEC will have the following Broad Objectives:

- **Promotion, development and dissemination sustainable energy programmes / projects** in Bangladesh with a strong orientation to providing wider energy access to the people, especially those living in rural areas of the country
- **Formulation and updating** of short, medium and long term **policies and legislations** on Sustainable Energy and advising / supporting the Government in implementing the same through appropriate agencies by institutional strengthening, if required
- **Facilitation and accelerated scaling up of sustainable energy technologies by setting up ‘Flagship Projects’** in cooperation with appropriate Partner Organizations
- **Facilitate** interested investors/promoters in accessing **national and international financing sources and also technology and expert services** for project / market identifications for sustainable energy projects
- **Build Capacities** (*Training / Technical Know How/ Standardization & labeling*)
- **Create an an Information / Data base** on sustainable energy covering all sustainable energy activities
- **Co-ordinate, monitor and facilitate, all activities** between all stakeholders in the area of sustainable energy - Government, NGO, private sector, financing agencies, equipment & technology suppliers, standardization and labeling institutions(for ensuring a base-line quality)

## 5.0 VISION & MISSION STATEMENTS OF SEDEC

Based on the broad objectives, the Vision and Mission of SEDEC may be stated as follows :

### VISION

An institution which will be recognized for its functions for *promotion of the use of 'Sustainable Energy'* and will act as a national nodal institution and a *Centre of Excellence for Sustainable Energy in Bangladesh*

### MISSION

The Mission of SEDEC will be *to contribute to the long term energy security of the country by integrating use of energy from all sustainable sources into the mainstream energy of the country*, to provide better and environment-friendly energy access to a wider cross-section of people for improving their living conditions, especially for the rural poor and thus help Bangladesh reduce its level of poverty as set in *Poverty Reduction Strategy Paper (PRSP)* and meet the *Millennium Development Goals (MDG)*

## 6.0 ROLES & RESPONSIBILITIES OF SEDEC WITH JUSTIFICATIONS

An analysis of the Broad Objectives SEDEC, as presented in Section 2.4 leads to formulation of the Charter (detailed Roles & Responsibilities) of SEDEC as a nodal institution. The formulation of its Charter has been made with brief observations on the logic and possible strategies to achieve them, as this will help to appropriately design the form, structure, function, manning and budget of the nodal institution.

- (1) **Work as an independent 'One-window' institution**, which will be responsible on behalf of the Government for all matters, pertaining to 'Sustainable Energy'(SE).

The term 'Sustainable Energy' (abbreviated SE) used in the Project Support Document (PSD), submitted to MPEMR and this Report would mean and include energy from **Renewable Sources** (i.e. Solar Energy, energy from Bio-mass/Bio-gas, Wind, Mini/Micro-hydro, Tidal, Geothermal and others) and also **Energy Efficiency & Conservation** measures, which would save/conserves energy, generated and used from all primary and secondary energy sources (i.e. renewable energy, natural gas, petroleum, coal and electricity as secondary energy). The institution will be set up in a form so as to enjoy a strong support from the highest Government authorities for **promotion and facilitation of sustainable energy** and to receive the due importance it deserves.

- (2) **Develop short, medium and long term plans** which will support the Government Vision in achieving: 'Electricity for All by 2020'.

Off-grid electrification of remote rural areas, using Solar Photovoltaic Home Systems (SHS), for example, will continue to be replicated as a primary strategy to achieve this Vision, as almost 20 - 25% of the rural households, it has been estimated will never be connected to the grid due to their remote locations and high distribution costs.

- (3) **Formulate/converge/modify/amend Policies** as and when required and advise the Government on them. Formulation new policies, regulations & Acts and their updating and convergence should constitute to be one of the key tasks of SEDEC to launch a nationally coherent and directional effort to promote sustainable energy.

- (4) **Prepare strategic national plans on sustainable energy with recommendations and setting up 'milestones' to implement them**

The resources, capacities and routines of all public sector institutions, such as BPDB, REB who are also presently mandated to plan and implement the issues related to sustainable energy are neither adequate or appropriate, as these institutions have their thrusts to look after issues related to routine management of conventional energy issues. Therefore, this should also be a key task of SEDEC, without which the national direction in the sustainable energy sector would be missing.

- (5) **Promote and facilitate the use of indigenously available renewable energy and other ‘clean energy’ technologies** and integrate such uses with national activities for sustainable development.

The priority areas for use of renewable energy will be in rural areas of Bangladesh, to provide easier and cost-effective energy access especially to the rural poor. Apart from providing access to Electric Power from renewable energy sources (e.g. the large-scale replication of SHSs), the promotion of the thermal uses of renewable energy sources such as efficient uses of Bio-mass and use of Bio-gas as a domestic cooking fuel (also for electricity generation) should receive priorities. Such approaches will reduce the Greenhouse emissions (‘clean energy’) and thus fulfill Bangladesh’s environmental commitments to the global community

- (6) **Identify, Promote, facilitate, and implement Energy Efficiency & Conservation measures on a priority basis,**

The above has been identified as a priority requirement to make the use of energy available from all sources more efficient and thus more sustainable. Such activities may include, but will not be limited to, strengthening of the existing institutions with similar mandate, (e.g. strengthening of the existing Energy Audit Cell), training and certification of independent Energy Auditors / Energy Consulting institutions / ‘Energy Managers’ in the public and private sector Industries. One of the first and key activities of SEDEC will be to assist the Government in formulation and implementation of related legislation e.g. **Energy Efficiency & Conservation Act**, by involving appropriate Government agencies, legally mandated to enforce such Acts. In view of the positive impacts which can be achieved within a relatively short period, this sub-sector should be given a high priority.

- (7) **Create a comprehensive Information/Data-base,** covering all SE activities (past, on-going and also proposed) in Bangladesh, which will be required to support a sound Planning and New SE Project Identifications and their Development. For this purpose, the existing Renewable Energy Information Network (REIN), which is already doing a comprehensive work in this direction, may, for example, be strengthened and integrated with SEDEC.

- (8) **Organize and activate a National Network on sustainable energy.**

This will comprise of all key actors in the field - Government, NGOs, Civil Society, Financial Institutions, Private sector, Donors etc., for information collection and sharing.

- (9) **Build own capacities, as well as facilitate developing institutional and technical capacities of other stakeholders**

Capacity building will be required for launching initiatives in the SE sector for institution’s own, as well as for those of the stakeholders - GoB institutions, non-government organizations (NGOs), private sector, financial institutions / fund managers, civil society organizations (CSOs) and also community based organizations (CBOs) for coordination, management, technical assistance and monitoring of SE projects/programmes.

- (10) **Set up own ‘Flagship Projects’ in new and emerging area of renewable energy & energy efficiency & conservation**

‘Flagship Projects’ will be of key importance for rapid replication of all SE projects, based on experience of developing countries in general and that of Bangladesh in particular. SEDEC will require a Program & Operations Division to plan and implement such ‘Flagship Projects’

- (11) **Facilitate development of National Standards and labels for SE equipment and technologies.**

In many cases, there are no specified Standards and labeling procedures available globally for SE equipment and systems. However, to ensure a minimum quality assurance, certain minimum standards and labeling procedures need to be developed nationally, whether such standardization procedures are globally available or not. For cases in which such Standards are available, they need to be followed and for cases these are not existing they need to be developed. For this purpose, the existing capacities of **Bangladesh Standard and Testing Institute (BSTI)**, who are legally mandated for Standardization and labeling procedures, should be strengthened, in close cooperation with Bangladesh University of Engineering & Technology (BUET), for example.

**(12) Assess & evaluate SE projects independently through professional monitoring**

Both technical and financial monitoring of SE projects are quite important, as the experience of Bangladesh and also those of other developing countries have shown that many projects have failed in the past due to lack of appropriate monitoring. Both technical and financial monitoring need to be conducted and the final impacts of the project need to be evaluated their to arrive conclusions on their success.

**(13) Build and maintain a critical “Resource Bank” through Studies, Action Research & Development (R & D) activities,** especially in new and emerging areas of Sustainable Energy, where knowledge and experience levels are not existing in the country and/or are low. Here experiences of ‘Best Practices’ and also Action Research will be necessary which can be built into a “Resource Bank” for access by all concerned stakeholders.

**(14) Support national and local initiatives by maximizing local manufacturing, fabrication, assembly, design, supply, installation, maintenance and distribution of SE technologies in Bangladesh.**

This approach will not only make sustainable energy technologies more cost-effective, but result in transfer of technology and creation of job opportunities and thus make contribution to GDP. Typical examples are : supporting/encouraging local manufacturing, assembly of components of systems used in renewable energy applications which, such as Electronic Charge Controllers, Solar PV Cell Assembly Plants etc. India, for example, has developed an enormous national capacity in these areas, being encouraged by MNES.

**(15) Support Small & Medium Enterprises (SME) and facilitate them to develop effective service delivery mechanisms for SE technologies.** The SMEs play an important role in the industry scenario in Bangladesh, who need to be supported in their service delivery mechanism in the sustainable energy sectors.

**(16) Review and adapt ‘Best Practices’ in the region and adapt them,** especially in areas of new and emerging technologies to avoid unnecessary duplication of further Action Research & Development (R&D) by making best use of already existing experience of successful SE Projects in the region

**(17) Facilitate potential investors/promoters of sustainable energy access services** related to SE market development, project development and related activities, including preparation of project feasibility studies etc. However, SEDEC should not distort the market by directly getting involved.

**(18) Create funds for establishment and operating costs of the SEDEC, as well as funds for setting up ‘Flagship Projects’**

First a ‘Seed Fund’ will need to be raised to cover the Set Up Cost and initial and operating cost of SEDEC for at least first 1-2 years. A ‘Corpus Fund’ will also be required, which shall not be used for purposes other than ensuring a sustainable income for SEDEC to partly or wholly meet its operating costs (for example, from earnings through a fixed deposit in scheduled banks). SEDEC will also need funds to set up its own ‘Flagship Projects’. Funds will also be raised from ‘levies’/other taxes on conventional fuels (e.g. natural gas, petroleum, coal etc.) and electric power. Private and institutional donations, grants, soft loans from national and international sources may also be raised to create a ‘Sustainable Energy Development Fund’ for promoting SE Projects.

**(19) Facilitate potential investors/promoters of sustainable energy in accessing national and international funds for implementation of SE Projects**

SEDEC will coordinate between potential investors/promoters and national and international SE Project financing organizations for facilitate their access to SE funds. It is recommended that such funds are not managed by SEDEC itself, but through independent Fund Management institutions, who are mandated to act as investment companies.

**(20) Facilitate interested investors/promoters in the SE sector develop new and innovative Markets and Market Mechanisms**

Potential investors/promoters hesitate to invest in SE sector, where markets and mechanisms to access them are quite specialized and does not exist. SEDEC will provide here a facilitating service, without distorting the market, i.e. only in special cases where specialized Consultants / Services are not available.

- (21) **Create strong awareness amongst people** by developing and implementing a ‘**National Communication Strategy**’ which will increase the **knowledge base** and create greater awareness on SE amongst the people.
- (22) **Increase energy access to the rural poor and integrate it with their livelihood** to make an overall contribution to the poverty reduction by tying up the sustainable energy activities with their livelihood. While improving the energy access of the rural poor their livelihood priorities should be considered and integrated with their energy access process.
- (23) **Develop the SEDEC into a “Centre of Excellence”** for promotion & dissemination of sustainable energy in Bangladesh, whereby the prime functions will comprise **of promoting and facilitating / support implementation of SE Projects** with required capacities and services for rapid scaling up of SE Projects in the country.

## 7.0 SELECTING THE APPROPRIATE INSTITUTIONAL FORM FOR SEDEC - A 'SWOT ANALYSIS'

The various institutional forms that have been analyzed to select an optimum institutional form for the 'nodal institution' are as follows :

- as an independent Government institution
- as a Public Trust

The pure Government institutions function and operate directly under a concerned Ministry and are fully governed by the Government rules of business, in terms of Government Pay scales, the level of bureaucracies etc. The proposed 'nodal institution' being an independent apex body in sustainable energy sector, may be considered to be set up in the **Governing Council Concept** (example: Energy Efficiency and Conservation Centre, India, AEPC, Nepal)

Keeping the objectives, roles & responsibilities of SEDEC in mind, the following two basic types of institutional models were analyzed in recommending the appropriate form and structure of the proposed 'nodal institution' SEDEC:

**Option - A : As a Government Institution** which could be set up directly under the Ministry of Power, Energy & Mineral Resources (MPEMR).

**Option - B : As a Government Trust**

### A 'SWOT ANALYSIS' TO SELECT THE APPROPRIATE FORM OF THE NOADAL INSTITUTION

In principle, the basic objectives of SEDEC can be approached through both forms. However, since each of the above basic forms of the institution have their own advantages and disadvantages, a 'SWOT' analysis was made to arrive at a conclusion to recommend the appropriate institutional form that would fulfill its objectives and, at the same time, allow it to be launched on a 'fast-track' basis, operate efficiently with a high transparency and with the least level of bureaucracy.

## 7.1 THE VARIOUS GOVERNMENT INSTITUTIONAL FORMS

This model analyzed the option to set it up directly under the Power Division of the Ministry of Power, Energy and Mineral Resources (MPEMR). The advantages and disadvantages all of the following types of Government institutions were compared:

- a pure Government Institution - Examples : LGED, Department of Environment, DOE
- an Autonomous Government Institution - Examples : BPDB, BWDB
- a statutory Government body - Example : Bangladesh Rice Research Institute

An analysis of the above three types of Government institutional forms indicate that the pure Government and the Autonomous type institutions would not be quite appropriate for SEDEC as a 'nodal institution, as they suffer from the following **major disadvantages** :

- they are fully governed by Government rules and regulations
- their service rules and salary structures are fully governed by the Government
- their set up time is quite long
- the 'bureaucratic barriers' are high, tied up with long decision-making process
- these are not well suited as organizations that requires services of a high level professionally qualified personnel, as there is very little scope for staff development

A Government institution form that appears to have a relatively better scope as an 'Apex body' or a 'Nodal Institution' is a **Statutory Corporate body**, which is operated, based on a Board of Governors' or **Governing Council Concept**.

### **Relative advantages of a Statutory Corporate bodies run by a Governing Body / Governing Council :**

- (i) they are run by a Board of Governors / Governing Council and hence are powerful
- (ii) they are empowered to formulate the service conditions of its employees
- (iii) they can formulate their own service rules and can offer relatively attractive
- (iv) their structures and policies can be tailored to meet their requirements

### **Disadvantages :**

- (i) the Government deserves the right to approve the terms and conditions of services
- (ii) the Government may seek or retain a large control, which is a big disadvantage
- (iii) a statutory body is also be characterized by a high degree of bureaucracy inherent in its structure which tries to retain Government control

**SEDEC** could be considered as a **Governing Council, chaired by the directly concerned Ministry of the Government as ‘Apex’**, in this case, headed by the Minister In charge of Ministry of Power, Energy & Mineral Resources (MPEMR).

### **The ‘Apex (Key POLICY) level’- GOVERNING COUNCIL Concept.**

- Minister In charge of Ministry of Power, Energy & Mineral Resources - Chairperson
- Secretary, Ministry of Power, Energy & Mineral Resources - Vice Chairman
- Representatives from relevant Ministries - ex-officio Members
- Reps. from relevant Implementing Agencies (BPDB, REB etc.) - ex-officio Members
- Experts from Academic Institution (BUET, D.U.) - Members
- Representative from one NGO - Member
- Representative from FBCCI (Private sector) - Member
- Executive Chairman (or Executive Director), SEDEC - Member-Secretary

The Members of the Governing Council comprise of representatives from relevant Ministries, Implementing Agencies BPDB, REB, DESA, DoE, Independent Experts, Experts from appropriate Academic Institutions - e.g. one Professor of Bangladesh University of Engineering & Technology (BUET), one Expert Professor from Dhaka University, one NGO Representative and one Representative from FBCCI, representing the private sector.

The Bureau of Energy Efficiency & Conservation in India, for example, has been set up and operates on this concept.

## **7.2 RESULTS OF THE ‘SWOT’ ANALYSIS & THE DECISION OF MPEMR TO SET UP SEDEC AS A GOVERNMENT TRUST**

SEDEC could, on the other hand, also be set up as a **Government Trust**, directly under the concerned Ministry, i.e. MPEMR, whereby such a Trust can operate as an independent body with a high flexibility, without being bound to the Government rules, regulation, bureaucracy and the salary structure. A ‘SWOT’ analysis, was therefore, made between the relatively prospective Governing Council concept and a Trust, the mode of operation of which is discussed in detail under Section 8.0

The results of the ‘SWOT’ analysis between the Government and the Public Trust Model is summarized below, which spoke in favour of taking a decision to set up the proposed ‘nodal institution - SEDEC as a Public Trust :

### **Disadvantages of the Government Council Concept**

- The Government ‘nodal agency’ would require a long lead-time
- The decision-making process and the resulting project/program implementation will be slow
- High bureaucratic barriers may typically be encountered in its operation as a direct Government organization
- The usual salary structures proposed by the Government do not provide enough incentives for the Government employees to operate it in an efficient manner.

### **Advantages of the Government Trust Model**

- The 'nodal institution can be launched on a 'fast-track' basis, as desired by the Government and all stakeholders
- Experience of Bangladesh with other Government Trusts have shown that for a Trust it is easier access donor funds in view of the quick decision making process
- A Trust is free to work on a market-driven basis and can take up financially self-sustaining programmes
- A Trust can offer better incentive-oriented salary / remuneration structure than a Government institution
- A Trust model can be designed to work with a better degree of transparency and efficiency in terms of its management operations

### **Disadvantages of the Trust Model**

Basically, if the institution is set up as a Trust, the following disadvantages may be faced :

- Accessing funds generated through Government levies may not be easily accessible for a Trust
- Enforcing compliances of government regulations / Acts etc. by a Trust would not be directly possible

However, there is a strong logic that being a Public Trust, its recommendations, such as any action for fund-raising, e.g. through 'levies' or enforcement of Government Regulations (e.g. Energy Efficiency & Conservation Act, if and when enforced), to the Government, will be honoured and executed by the Government, in this case, through support and co-ordination of the concerned Ministry, i.e. MPEMR with other relevant Ministries (e.g. with Ministry of Industries, Ministry of Finance etc.) from whom such a decision-making may be required.

Hence, a final decision has been taken by MPEMR, as also recommended in the Interim Working Paper, presented in the meeting of 3<sup>rd</sup> April, held at Power Cell, to float the proposed nodal institution as a Public (Government) Trust.

The analyzed Government Model has been enclosed in ANNEXURE of this Report for the purpose of reference only. The Structure and Functional Divisions, shown therein were preliminary, which have further been modified subsequently in the Trust model, as submitted in this report.

## 8.0 BASIC STRUCTURE OF THE TRUST

In a Government Trust, a Board of Trustees is formed (**BoT**), which acts as the ‘driving force’ of the organization. The Government of Bangladesh becomes the owner of the Trust through a legal mechanism, which is the **Deed of Trust**. Through such a Deed, a Trust becomes an integral part of the Government.

The Government’s legally appropriate official of the directly concerned Ministry, becomes the **Author of the Trust**, who, in this case is the **Secretary, MPEMR**. A Deed of Trust is executed by the Author of the Trust and the Trust can be legally set into action on execution of the said Deed of Trust.

The basic structure of the Trust is best explained in the enclosed “**Top Management & Functional Structure of SEDEC**”, which is self-explanatory.

### 8.1 THE BOARD OF TRUSTEES

As shown, the Board of Trustees (BoT) is the key policy decision-making body of the Trust. Members of the Trustee Board are proposed to be drawn primarily from the public organizations engaged in most relevant areas, represented by their heads, who become the *ex-officio* Members of the Board.

Representatives of the Board of Trustees from the public sector bodies, such as BPDB, REB shall not be below the rank of a Joint Secretary.

One representative from Bangladesh University of Engineering & Technology (BUET), one from an NGO and a representative from Federation of Bangladesh Chamber of Commerce & Industries (FBCCI) are drawn to represent a nationally recognized professional institution, the non-government and the private sector respectively. Representatives from major donors may also be included in the BoT as Observers.

A list of the Names and Designations of the Trustee is proposed as follows :

- (i) The Government of the People’s Republic of Bangladesh, represented by the Secretary, Ministry of Power, Energy & Mineral Resources (MPEMR) - Chairperson
- (ii) Bangladesh Power Development Board (BPDB), represented by its Chairman
- (iii) Bangladesh Energy Regulatory Commission (BERC) represented by its Member (nominated by Chairman BERC)
- (iv) Sustainable Energy Development Centre (SEDEC), represented by its Director General
- (v) Bangladesh Power Development Board (BPDB), represented by its Chairman
- (vi) Rural Electrification Board (REB), represented by its Chairman
- (vii) Bangladesh Oil, Gas & Minerals Corporation (BOGMC) or Petrobangla, represented by its Chairman
- (viii) Local Government Engineering Department (LGED), represented by its Chief Engineer
- (ix) Ministry of Environment & Forests (MoEF), represented by its Joint Secretary
- (x) Ministry of Finance, represented by its Joint Secretary
- (xi) National Board of Revenue(NBR), represented by Member, nominated by the Board
- (xii) Bangladesh University of Engineering Technology (BUET), represented by an expert professor in the field of Energy Studies
- (xiii) Representative from a Non-Governmental Organization (NGO), acceptable to the Government
- (xiv) Federation of Bangladesh Chamber of Commerce & Industry (FBCCI), represented by its President (or a senior official designated by FBCCI, representing the private sector)
- (xv) 3 Observers from major Donors

## 8.2 MANAGEMENT OF THE TRUST

The Chief Executive Officer (CEO) of SEDEC will be named the **Director General (DG)** and be appointed by the Trustee Board to head SEDEC. He is also the Secretary to the Board of Trustee.

The Board will meet at least twice a calendar year, but optimally more frequently.

To assist the Board for smooth functioning of SEDEC, the BoT is proposed to function through an **Executive Committee (EC)**. The EC, for example, comprises of the Chairperson of the Trustee, the Director General, a Treasurer and a Board Member, to be appointed in the first meeting of the Board.

The Director General of SEDEC will be the Member-Secretary of the Executive Committee. The DG will be responsible to manage, monitor and oversee all day-to-day affairs of the proposed SEDEC and to see that the Roles and Responsibilities of SEDEC are met. The Executive Director will form a Management Coordination Team (MCT) to assist him to carry out the annual work plan and the budget.

## 8.3 LAUNCHING & OPERATION OF THE TRUST - THE DRAFT DEED OF TRUST

As already mentioned, the basic legal instrument to launch and operate the Trust is the Deed of Trust. A Draft Deed of Trust is enclosed in ANNEXURE. Based on the decisions of the meeting held on the 3<sup>rd</sup> of April '06 between GTZ-PURE, the Power Cell, UNDP and IPSU, where an Interim Working Paper was presented, as mentioned under Section 1.4, a co-ordination was suggested by Power Cell/SEU, between the GTZ-PURE Consultants and IPSU representatives present, for preparation of a Draft Deed of Trust.

Based the Draft Deed of Trust, suggested by IPSU, who had the main Terms of Reference to prepare the Deed of Trust as a legal instrument, required to launch the Trust, the GTZ-PURE Consultants suggested some modifications/changes/incorporations and a convergence was reached on the Draft Deed which was submitted to the Power Cell. A covering sheet with comments on the required changes/incorporations etc. and also the full text of the Draft Deed Trust with such suggested changes is enclosed (changes in *Italics*).

**The enclosed Draft Deed of Trust** addresses, amongst others, the following key issues related to the set up and functioning of the Trust:

- Trust Property
- Name & Address of the Trust
- Objectives of the Trust
- Source of Funding
- Functions of the Trustees
- The Trustee Board and its Composition
- Issues related to Management of the Trust
- Financial Arrangements, Maintaining Bank Accounts, Auditors
- Other Issues related to Indemnity, Policies & Procedures  
Staff Rules & Regulations, Language Amendments  
Reconstitution,

The Draft Deed of Trust enclosed in ANNEXURE is self-explanatory in terms of describing its objectives, functions and other issues. The detailed Roles & Responsibilities of proposed SEDEC as a 'nodal institution', as presented under Section 6.0, have been reflected and covered through the "Objectives of the Draft Deed of Trust". as enclosed.

## 9.0 PROPOSED FUNCTIONAL STRUCTURE & ORGANOGRAMME OF SEDEC

The design of SEDEC's Functional Divisions have been proposed, based on the Objectives/Roles & Responsibilities/Charter of SEDEC. As evident from the enclosed schematic presentation - "**Top Management & Functional Structure of SEDEC**", its structure and functions are described as follows:

The Top Management (CEO proposed to be named Director General)

The Functional Management :

- A Planning Division, headed by Director (Planning & Development)
- A Programme & Operations Division headed by Director (Programme & Operations)
- A Finance & Administrative Division, headed by Director (Finance & Admin.)

### **The Top Management**

SEDEC will be headed by a **Director General (DG)**, who will be a highly accomplished professional-cum-manager with proven and long track-records in areas of energy/power sector management, having a strong academic background in areas of engineering/economics/management disciplines. Experience in liaising with international donor agencies for raising institutional finances is recommended to be considered as an added qualification while selecting the Director General. He/She will be appointed by the Trustee Board and will be responsible to the Board in all matters related to the overall management, technical and financial performance of SEDEC in meeting its goals and objectives as a national 'nodal institution' and will maintain a continuous liaison with the line Ministry, i.e. the MPEMR, all other Trustee Board Members, as well with other top levels of the Government and international donor agencies and will manage the Trust in strict adherence to the rules of business of the Trust.

The Director General will be supported by three (3) Directors - **Director(Planning & Development)**, **Director (Programme & Operations)** and **Director (Finance & Administration)** who will assist him/her in taking all decisions and fulfilling the tasks of SEDEC as a national 'nodal institution' to promote sustainable energy development of the country in the best professional manner and with a high degree of transparency.

The functions of each Division are broadly outlined below. The Job description and Limits Authorities etc. will be worked out after SEDEC is set up (in a second stage). However, the broad functions of each Division are outlined below to best understand the design the philosophy of SEDEC's Structure and the proposed Organogramme.

### **The Planning Division**

This Division will be headed by a Director (Planning & Development), who will be responsible to the Top Management for all matter related to Policy, Project Development, issues on Energy Economics and Energy-related Environment issues. He/She will also look after all promotional aspects related to sustainable energy. The Director (Planning & Development) will be an individual with engineering/applied sciences/economics plus management background with a long and proven track-record in planning and management of issues related to energy. He will be supported by six (6) Sector Specialists in areas of :

- Policy & Institution
- Project Development
- Energy Economics
- Environment
- Communications (Promotions/Media)
- Information/Data-base/MIS

The responsibility of the Planning Division will be to carry out the following functions to meet the goals and objectives of SEDEC :

- *Formulate/update/modify/converge Policies and Programmes in the sustainable energy sector*
- *Advise Government on implementation of such policies through the Top Management and the Board*
- *Promote Awareness and launch Programme and maintain close communications through public media (Television, Newspapers, Radio etc.) in the areas for popularizing and removing ' Knowledge Barriers' in the sustainable energy sector*
- *Organize Seminars Workshops, involving all stakeholders, including the decision-making levels of the Government, as well as NGOs and private sectors to assist Government in taking a 'bottom-up' approach to formulate and implement new policies on sustainable energy*
- *Support the SEDEC in all matters pertaining to identification, market and financial analysis / Feasibility Studies of sustainable energy projects.*
- *Facilitate Investors/Promoters in accessing services of competent Consultants, professionals working in areas related to identification, market analysis and conducting techno-economic studies, so far these services are available outside SEDC, so that private sector capacities are promoted in such areas of planning and the market is not distorted*
- *Work in close coordination with the Programme & Operations Divisions and incorporate their findings/advise into the planning approaches*

**Programme & Operations Division** will be headed by a Director (Programme & Operations), who will be supported by two Deputy Directors - (i) a Dy. Director (Programme) and a (ii) Dy. Director (Operations). While the Dy. Director (Programme) will manage the overall programme activities of SEDEC, including capacity building, the Dy. Director (Operations) will be required to professionally manage all implementation and project management/operational aspects of SEDEC's 'Flagship Projects'. The Operations wing of the Programme & Operations Division will also provide technical advisory/facilitation/monitoring services to other institutions on various implementation and operational aspects of sustainable energy projects undertaken and/or operated by them. This Division will be supported by six (6) Specialists, based on SEDEC's objectives :

- Programme Specialist
- Operations Specialist
- Capacity Building Specialist
- Renewable Energy Specialist (sub-sectors : Solar/Wind Energies)
- Renewable Energy Specialist (sub-sectors : Bio-mass/Mini/Micro Hydro)
- Energy Efficiency Specialist (Electric Power)
- Energy Efficiency Specialist (Thermal)

The Director (Programme & Operations) will be an individual with an engineering/applied sciences/economics with management background with a strong experience and exposure in areas of project implementations/project management/operations, preferably in the areas of energy / renewable energy:

This Division, being supported by the above professional specialists will carry out the following functions:

- *Build Capacities of SEDEC's own personnel, as well as the capacities of other institutions in all areas related to sustainable energy, in terms technical know how, designing and planning of renewable energy and energy efficiency and conservation projects, their implementation aspects, standardization aspects*
- *Implement other Technology Applications related Programmes of SEDEC, such as 'Flagship Projects' in all areas of sustainable energy, including, but not limited to Solar PV, Solar Thermal, Bio-mass/Bio-gas, Wind Energy Energy Efficiency & Conservation Projects*
- *Support/ facilitate all stake-holders - public, NGO and private sector institutions in design, implementation and operation of sustainable energy projects, including support in accessing competent Consultants, Equipment/ Technology Suppliers, working in areas of renewable energies, energy efficiency & conservation*

- *Advise / facilitate conducting Energy Audits of Industries and all other potential sectors, in cooperation with the existing Energy Audit Cell (EAC), Inspectorate of Boilers and/or Private sector Energy Auditors to identify potential areas of improving Energy Efficiency and maintain close liaison Industry Managers in charge the uses of energy/utilities (electric power, gas etc.). Also, facilitate concerned stakeholders in implementing the identified the energy saving opportunities*
- *Monitor and evaluate the 'Flagship Projects' of SEDEC, as well as those of other stakeholders in the sustainable energy sector on their implementation and operation aspects including, but not limited to evaluating the successes of such projects (for example for evaluating their technical success and acceptability, socio-economic impacts etc.)*
- *Monitor and evaluate also 'full-scale' sustainable energy projects being operated in the country by other Stakeholders in terms of their technical successes, social acceptability and related issues*
- *Using the feedback obtained from 'Flagship Projects/Programmes' of SEDEC's own projects advise potential promoters/investors in taking decisions/modifications in terms of appropriate project design and their implementation aspects*
- *Work in close coordination with SEDEC's own Planning & Finance Divisions and support these Division with the feedback of information / data obtained from SEDEC's own 'Flagship' operations, as well as with monitoring evaluation of data/information on performances of sustainable energy projects implemented by other institutions in the country.*

### **The Finance & Administrative Division**

The Finance & Administrative Division will be headed by a Director (Finance & Administration). He/She is recommended to be a FCA/ICMA, who should have a strong experience and exposure in the area of financial and administrative management, having served in national/multinational institutions/NGOs and having dealt in matters related to budgeting, financial planning and operations. For this position, it is recommended to consider individuals with strong liaison with international financing institutions, as this is a need-oriented qualification. He/She will be supported by a Dy. Director (Finance & Administration), a Fund Disbursement Officer and an Assistant Fund Disbursement Officer. The Division will conduct its own independent financial monitoring, through a financial Monitoring Officer for evaluation of proper requirement and application of funds and overall performances of sustainable energy projects, undertaken by SEDEC and/or by other stakeholders.

This Finance & Administration Division will carry out the following functions :

#### ***The Financial Functions of the Division :***

- *Overall planning, formulation of SEDEC's own operational funds, as well as continuously source and manage SEDEC's Programme/Project Funds to meet its Promotion and Facilitation Objectives in the area of sustainable energy*
- *Be responsible for preparation of the Annual Budgets of SEDEC and for all financial matters, including, but not limited to the following :*
  - *Sourcing of Finance to meet SEDEC own operational budget*
  - *Application of Funds under various 'expenses heads' to meet SEDEC's own operation, as well as to meet its Programme/Project Operations*
  - *Plan and implement short, mid and long term financial strategies for SEDEC, to raise SEDEC's annual operating finance, which may include, creation of a 'Corpus Fund', which, through a regular interest earning will ensure a financial security for a sustainable operation of SEDEC*
  - *Work-out and assist the Trustee Board recommend the implementation of a 'levy' system on conventional fuels in close coordination with the Planning Division of SEDEC, the Director General and the Ministry of Finance through the Trustee Board*
  - *Coordinate and interact with international donors and also the Ministry of Finance for raising and disbursement of Funds, required for implementing SEDEC's Programmes/Projects in the sustainable energy sector*

- *Plan, formulate and implement new and innovative financial mechanisms for sustainable energy programmes and projects, in close consultation with the Planning and also Programme & Operations Division of SEDEC*
- *Coordinate and maintain close liaison with international donors who provide large investment funds in areas of sustainable energy and facilitate the potential investors/promoters in accessing such financing sources*
- *Coordinate with other 'Fund Management' institutions, who will be involved in, managing replication projects, funded by large international investment financing institutions*
- *Coordinate also between 'Clean Development Mechanism (CDM)' funding institutions, GEF and other environment-energy related international funding institutions and national industry promoters /investors for encouraging investments in areas and renewable energy and energy efficiency. For this purpose, the division will work in close cooperation with the National Designated Authority (DNA)*
- *Be responsible for managing the financial operations of SEDEC's all on-going projects through an independent financial monitoring system*

### ***Tthe Administrative Functions of the Division***

The Dy. Director (Finance & Administration), under the Director (Finance & Administration) will carry out also the administrative functions, in addition to his financial functions, as described above, being supported by an Administrative & Accounts Officer and an Accounts Assistant as shown. In addition, the Division will be supported by 3 Executives (for general services) and three Office Assistants for routine administrative and coordination works with public, private and NGO institutions, whose services will be available to all Divisions. The Finance & Administrative Division will require supports from other logistics staffs, e.g. Drivers (6) for Vehicles, Messengers/Peons (2), Tea Boy and Security Guards (3) The administrative functions of the division will include :

- *overall management the office functions of SEDEC*
- *manage personnel (Human Resources Management)*
- *management of Accounting Banking/ Cash / Billing Services*
- *manage all other logistic services for SEDEC (transport, security and others)*
- *work in close coordination with the Fund Disbursement Officers in keeping Accounts and performing banking and fund receipts and disbursement functions*

### **10.0 OBSERVATIONS ON INCENTIVE CONCEPT**

One of the basic positive objectives of setting up SEDEC as a Trust has been to provide enough freedom and incentives, i.e. a good salary structure, to the personnel, as SEDEC's function will be a highly professional one. As evident from the estimated operating budget, it has been proposed to offer attractive salaries at all levels. All recruitments are recommended to be on a contract service basis. The salaries as shown in the operating budget, are proposed on a consolidated basis, which are in line what international agencies like UNDP and others are presently paying to the National Consultants at the highest levels.

### **11.0 RECOMMENDATIONS ON SPECIALISTS AS PROPOSED**

SEDEC is proposed to function as a highly professional institution. Therefore, there is a strong need to support the Top Management with services of Specialists, in each important sector/sub-sector. The fourteen (14) Specialists as shown in the Organogramme are tailored meet this requirement, considering the sectoral and sub-sectoral professional functions, which SEDEC has to perform. However, their recruitment can be phased out to match the Programme/Projects. The Specialist appointed need not be very senior professionals, but mid-level ones, with about 5-8 years experience, as they will act as counterparts to the international consultants and thus grow the strength of their professionalism over time.

## 12.0 INSTITUTIONAL OPERATING BUDGET FOR SEDEC

Based on the Organogramme as proposed, the following Annual Operating Budget is envisaged for SEDEC. As evident, the annual operating cost (excluding the actual Programme / 'Flagship Project' costs) of the Trust is estimated to be about **Tk. 32.91 million/Year, (Tk. 3.29 crores)** including all management & manpower and logistic costs. The total manpower strength works out to be 46, including 14 Sector Specialists, whose appointments can be phased out as per need of given Programmes / Projects undertaken by SEDEC.

### OPERATING BUDGET FOR SUSTAINABLE DEVELOPMENT CENTRE (SEDEC)

[Salaries are assumed on 'contractual basis' (consolidated)]  
[see Proposed Organogramme]

#### A) MANAGEMENT & MANPOWER

	Nos	Salary/Month (Taka)	Cost/Year (Taka)
<b>A-1 Top Management &amp; Exec. Secretary</b>			
1.0 Executive Director (ED)	1	180,000	2,160,000
2.0 Executive Secretary to ED	1	20,000	240,000
<b>A-2 Functional Management</b>			
3.0 Director (Planning & Development)	1	150,000	1,800,000
4.0 Director (Programme & Operations)	1	150,000	1,800,000
5.0 Director (Finance & Administration)	1	150,000	1,800,000
6.0 Dy. Director(Programe)	1	100,000	1,200,000
7.0 Dy. Director(Operations)	1	100,000	1,200,000
8.0 Dy. Director(Finance & Administration)	1	100,000	1,200,000
9.0 Sector Specialists (all 3 Divisions)	14	80,000	13,440,000
10.0 Fund Disbursement Officer	1	35,000	420,000
11.0 Asstt. Fund Disbursement Officer	1	25,000	300,000
12.0 Manager (Admin. & Gen. Accounts)	1	35,000	420,000
13.0 Admin. & Accounts Officer	1	25,000	300,000
14.0 General Services Executives	3	25,000	900,000
15.0 Monitoring & Evaluation Officers	2	25,000	600,000
<b>A-3 Office Logistic Staff</b>			
16.0 Office Assistants	3	10,000	360,000
17.0 Messengers/Peons	2	4,000	96,000
18.0 Tea Boy	1	3,000	36,000
19.0 Drivers	6	10,000	720,000
20.0 Security Guards	3	2,800	100,800
<b>Sub-Total Salaries/Wages Cost/Year</b>	<b>46</b>	<b>1,229,800</b>	<b>29,092,800</b>

#### B) Other Operating Costs

		Cost/Month	
1.0 Office Rental - Single unit House (Rent)		80,000	960000
2.0 Stationaries/Printing etc.		25,000	300000
3.0 Telephone/Fax/Internet		25,000	300000
5.0 Honorarium for Trustee Board Memb.	14 x 12	2000	336000
6.0 Utilities (Electric Water, etc.)		50,000	600000
7.0 Transport Fuel (6 x Tk. 15,000/-pm)		75,000	900000
8.0 Travels/Tours (outside Dhaka) at Tk. 30,000/- p.m (Site Vists etc.)		30,000	360000
10.0 Entertainment at Tk. 5000/-p.m		5,000	60000
<b>sub-Total General Admin. Cost</b>			<b>3816000</b>

#### ESTIMATED ANNUAL OPERATING BUDGET FOR SEDEC

**32,908,800**

Equiv. Euro

387162

Equiv. US\$

457067

Exchange Rate	Equiv. Tk.
Euro 1	85
US\$ 1	72

### 13.0 SET UP BUDGET FOR SEDEC

Although the Assets of the Sustainable Energy Unit (SEU) will be taken over by SEDEC (Ref.: Draft Deed of Trust- Schedule - II), which includes a few Computers, Working Tables and Chairs, these will not meet the requirements of SEDEC to be set up as national institution. The following Budget has been estimated as Set Up Cost for SEDEC:

#### OFFICE SET UP BUDGET FOR SEDEC

SEDEC will start off as a Trust with its existing assets, which includes computers, work desks split air-conditioners, whose present worth is estimated at about Tk. 800,000/-

However, to go into full fledged operation, within the 1st year, i.e. after receiving the initial set up fund, SEDEC will require a full fledged office set up to accommodate all its proposed personnel and the entire logistics facilities.

A 2 to 3-storied single unit house is recommended to accommodate all office facilities required for SEDEC, located in appropriate areas (e.g. Gulshan / Banani/DOHS etc.), on a rental basis.

The set up cost for SEDEC will include, advance rent, furniture / fixtures/computers/office décor. air-conditioners, project vehicles etc.

1.0 Advance Office Rent - 6 months	480000
2.0 Furniture/Fixtures	1,000,000
3.0 Computers - 30 Nos. @ Tk.60,000/unit	1,800,000
4.0 Office Décor (Paneling etc.)	1500000
5.0 Air-Conditioners - 8 Nos.	520000
6.0 Projects Vehicles 2 Field Vehicles	
2 Microbuses, 1 Twin-cabin Pickup	10000000
1 Car, 2 Nos. Motorcycles	14100000

<b>TOTAL SET UP COST FOR SEDEC</b>	<b>Taka</b>	<b>29400000</b>	<i>Exchange Rate</i>	<i>Equiv. Taka</i>
	<i>Equiv. Euro</i>	<b>345882</b>	<i>Euro 1</i>	85
	<i>Equiv. US\$</i>	<b>408333</b>	<i>US\$ 1</i>	72

**Note :** The Motorcycles have been included for the Executives/Officers for monitoring purposes at field levels

As set up cost, it is recommended that a major part of this cost be sourced from donors, such as UNDP, the Government of Germany and others, who have already shown keen interests to come forward to contribute towards set up costs for office, Technical Assistance (T.A.) and funding of 'Flagship Projects' Of SEDEC.

## 14.0 SOURCES OF FINANCE, REQUIREMENT & FUND MANAGEMENT BY SEDEC

Funds will be required by SEDEC to meet its following basic three (3) financial requirements:

- 1) **SEDEC's Set Up Cost** + an initial (at least 1-Year) establishment (oper.) budget
- 2) To implement its **SE-Programmes / 'Flagship Projects'**, i.e :
  - Technical Assistance / Formulation Programmes
  - Promotion / Awareness Activities
  - Capacity Building Programmes
  - 'Flagship Projects'
- 3) To meet the regular **Operating Costs of SEDEC**  
(Salaries/Wages/Rent, General Office Admin. and Logistic expenses etc).

A financial management flow chart for SEDEC is enclosed, which schematically summarizes its financial requirements, the possibilities and potentialities of raising funds for SEDEC's activities from various sources and the flow for various types of funds required to finally reach its goal of promoting scaling up of SE projects. As mentioned in the previous Section, SEDEC will require a **set up cost of about Tk. 29 million**. To this an operational safety for covering one year's operating budget, which works out to be about **Tk. 32.9 million** should be added, as Programme funds may be delayed. Hence, if SEDEC needs to be set up on a 'fast-track' basis, it is recommended that it starts off with at least **Tk.5- 6 crores**, which may be raised as 'seed fund' from GOB sources.

However, since international donors do not usually come forward to support the regular operating costs of a national institution, it is strongly recommended that SEDEC approaches Government, to create a **'Corpus Fund' of about Tk. 50 crores**. This 'Corpus' Fund will be used for generating a regular cash flow from interests earned through a fixed deposit in a scheduled bank, which will ensure the financial security of meeting SEDEC's regular operating costs. Such a 'Corpus' Fund can be raised from very small 'levies' proposed to be charged on all fossil fuels. This may take time through the BoT and Inter-ministerial co-ordinations and may have to be passed as a Bill in the Parliament. Ways, should, therefore, be found to raise about Tk. 5 - 6 crores for immediate launching of SEDEC, which can be raised, for example, by charging a small Rent on Electricity Consumer Meters.

### THE FUND GENERATION POTENTIAL FROM 'LEVIES' ON FOSSIL FUELS

There is a great potential to raise a large amount of funds, if even small 'levies' are charged on all conventional (fossil-based) energy resources by the Government and SEDEC should tap this potential through an appropriate Government mechanism. Since Ministry of Finance is also a proposed member of BoT (Ref.: Draft Deed of Trust), it should not be difficult, although it may take a longer time. An estimate on 'levies', as shown in the enclosed schematic, indicates that @ Tk. 1.00 per 1000 cubic feet (i.e. per MCF or Tk. 001 per cubic feet) of natural gas, a 'levy amounting to about **Tk. 45.6 crores per year** will be generated from natural gas alone, at the present natural gas consumption rate of about 456 billion cubic feet/year. At about Tk. 0.05/litre levy on petroleum, another about **Tk. 44 crores/year** can be raised. If the power utilities charge a very small levy of Tk. 0.05 per kWh, a further amount of about Tk. 108 crores per year can be raised. Along with a small levy charged on Coal, a total amount of Tk.198 crores or say, a total of about **Tk. 200 crores / year** can be generated from all conventional or fossil fuel based energy, based on their present consumptions. Many countries of the world, including Thailand, charge such levies for developing future energy resources (as 'depletion premium'). It is highly recommended that Bangladesh charges such 'levies' on all present fossil and electric power under a proposed name "*Sustainable Energy Development Surcharge*" (*abbr : SEDS*).

### FUNDS FOR PROGRAMME / 'FLAGSHIP BUDGET' OF SEDEC

UNDP had proposed about US\$ 10 million (SEP) and about 1 million is committed from a private donor, which, in total, amounts to about US\$ 11 million, Taking into consideration also the interests of other donors from Europe, Japan etc., it is expected that on short to mid term (2007 - 2015) SEDEC may receive a total of about **US\$ 30 million** in terms of Programme Funds in various areas of Renewable Energy and Energy Efficiency & Conservation.

## **‘REPLICATION FUNDS’ & ITS MANAGEMENT BY SEDEC**

Once the ‘Flagship Projects’ are successfully implemented, the large donors, like the WB / IDA/ADB and others, for example, the governments of countries like Germany and Japan, through KfW, JICA etc., may come forward with investment funds for scaling up of the sustainable energy projects, which is also shown in the schematic fund management flow chart (under serial 4). In fact, this is the ultimate national objective behind setting up SEDEC as a promoting and facilitating ‘nodal institution’.

However, it is recommended that instead of getting directly involved in managing such replication or investment funds, specialized fund management institutions be involved for this purpose, whereby SEDEC should play a coordination and monitoring role only. The Indian experience with IREDA has shown that on long term ‘playing a bank’ by a promoting and facilitating institution may create problems, as is currently being (reportedly) faced by IREDA. Once the ‘market force is unleashed’ through promotion and facilitation activities, it takes its own course and should not be distorted.

### **15.0 AREAS OF NEW PROGRAMME BUDGET FOR SEDEC**

SEDEC, immediately after its set up, should start off with new thrusts in the following programme areas where there are gaps, as identified by the Consultants :

- Technical Assistance (T.A.) in **institutional set up of SEDEC** and formulation of New Programmes in the following areas :
  - Energy Efficiency & Conservation Programmes, including :
    - *Formulation of an appropriate Energy Efficiency & Conservation Act and assist Bangladesh Government with strategies to implement the same*
    - *Capacity Building in the Energy Audit sector*
    - *Introduction of Energy Saving & Innovative lighting*
    - *Efficient Motor/Motor-Pump Systems*
    - *Boiler Efficiency Improvement & Improved thermal House-keeping in Industries*
    - *Co-generation in Industries, using I.C. Gas Engines for Captive Power*
  - Support SEDEC identify and prepare new projects in the renewable energy sector, including, but not limited to :
    - *‘Flagships’ on Solar Pumping Programme for Rural Water Supply*
    - *National Bio-mass Inventory (resource, use, net balance/ and net availability) Study*
    - *A national programme on design, testing and dissemination of improved husk-fired Boilers used for Rice parboiling*
    - *Further feasibility study in the Wind Power sector and demonstration (‘Flagship’) Projects*

**PROGRAMME BUDGET FOR SEDEC  
(INCLUDING 'FLAGSHIP PROJECTS')**

SOURCES OF FUNDS	US\$ million	EXPECTED SCHEDULE
<b>UNDP (SEP) BUDGET</b> (All Programme Areas, including a private donor)	11.0	7-YR. SE PROGRAM (2007 - 2015)
<b>OTHER POSSIBLE DONORS</b> (yet to be sourced.) European sources, Japan and Others [For suggested New Programmes for SEDEC] :		
i) Initial Institutional Set Up of SEDEC - Technical Assistance Services	2.0	
ii) Intensification of SEDEC's Energy Efficiency & Conservation Program.	2.0	
iii) New 'Flagship Projects' in the Energy Efficiency sector	3.0	
iv) 'Gap' Areas of RE (e.g. Bio-mass Inventory Study, 'Flagship Projects in Bio-mass & Wind Power Generation)	12.0	
<b>TOTAL EXPECTED PROGRAMME BUDGET FOR SEDEC (UNDP &amp; OTHER DONORS)</b> Short - Mid Term	<b>30.0</b>	(2006/07- 2015)

## ANNEXURE

- The Alternative Model for SEDEC as a Government Institution  
(used in 'SWOT' analysis : for reference only)
- **Draft Deed of Trust** (Ref : IPSU Draft with suggested modifications  
*(in Italics)*)

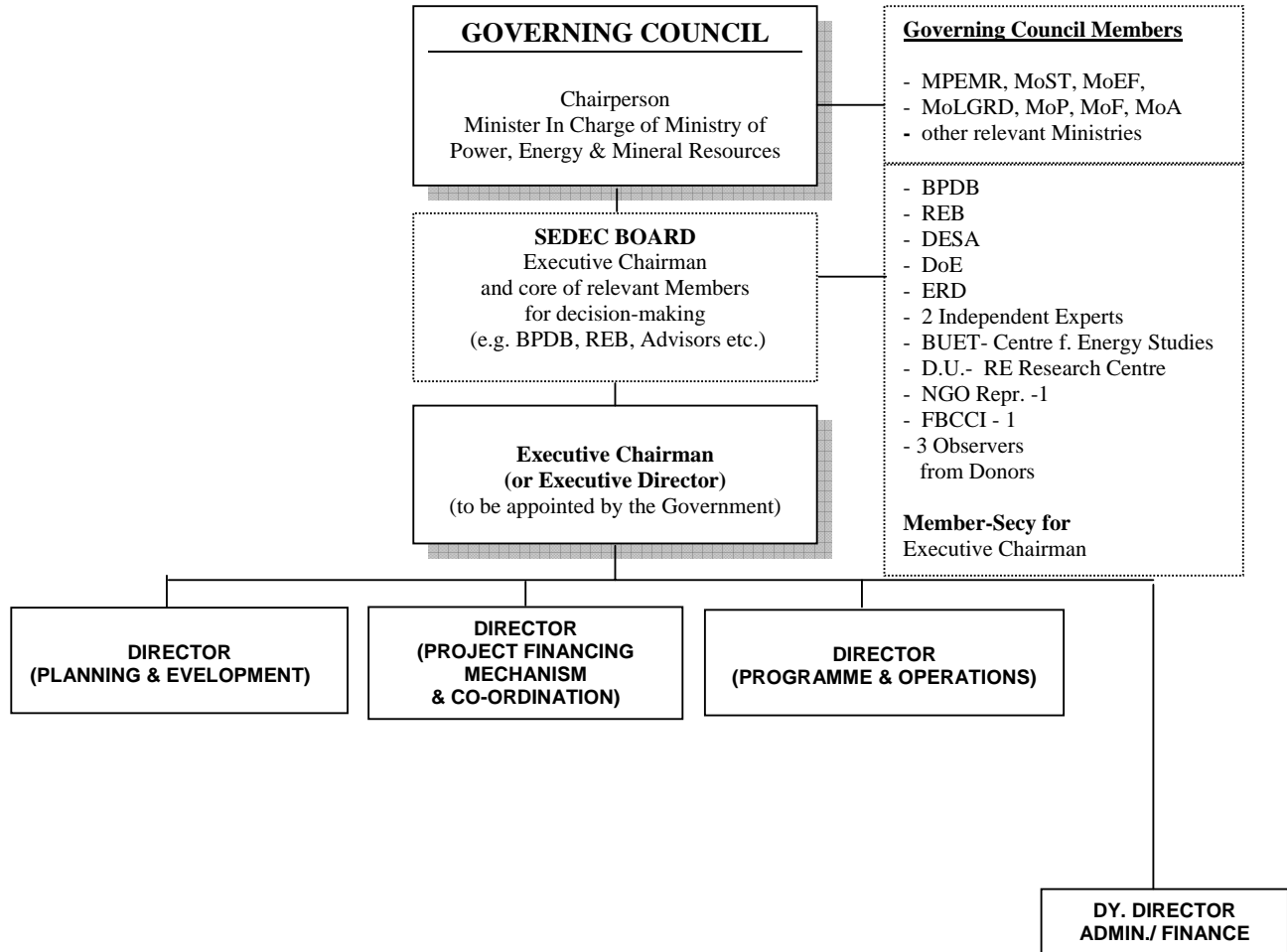
*[Note : after suggesting this Draft Deed of Trust, the name : Sustainable Energy Development Agency - SEDA has been changed to Sustainable Energy Development Centre (SEDEC), based on a later decision of MPEMR]*

**Option - 'A' : SEDEC as a Government Model**

(used in selecting the Institutional form of SEDEC)

*For reference only, as originally proposed in the Initial Working Paper*

[Finally, the Government **Trust Model** has been selected through a 'SWOT' Analysis]



29 April 2006

Mr. B.D. Rahmatullah  
Director General  
Power Cell  
Sustainable Energy Unit  
Bidyut Bhaban (10<sup>th</sup> Floor)  
1, Abdul Gani Road, Dhaka-1000

**COMMENTS / SUGGESTED CHANGES / INCORPORATIONS  
IN THE DRAFT DEED OF TRUST FOR SEDEC**

Dear Mr. Rahmatullah,

Reference to the Draft Deed of Trust sent us, we are pleased to attach our comments and suggested changes/incorporations on same.

We are continuing our works further on the institutionalization of SEDEC<sup>+</sup>. We appreciate the cooperation received so far from Power Cell, Sustainable Energy Unit, SEU and UNDP and look forward any other feedback from you.

Very truly yours

Dr. K. Islam & Dr. Anwar Hossain  
Consultants to GTZ-PURE for  
Institutionalization of SEDA

Attachments    three (3) a separate sheets on Comments/Suggestions/Incorporations in the Draft Deed  
with the full text of Draft Deed of Trust, incorporating the recommended changes/incorporations

**Update :**

<sup>+</sup>) *Note : Based on a later decision of MPEMR, the name has been suggested to be changed to SEDEC.  
Hence, inl the Deed of Trust and elsewhere, the name SEDA has been replaced by SEDEC*

**COMMENTS / SUGGESTED CHANGES / INCORPORATIONS  
IN THE DRAFT DEED OF TRUST FOR SEDA**

**1.0 General Comments**

It is recommended to include a **Section on DEFINITIONS** of the terms used in the Draft Deed of Trust, being a legal document.

Comment on the term '*Sustainable Energy*' used throughout the Deed : There is no legal or naturally developed meaning as such of 'sustainable energy'. More acceptable terms are : (i) energy for sustainable economic growth (ii) **energy for sustainable development** (iii) sustainable national energy management etc. However, since this term is already being used widely in national and international documents, one may continue with this term in the Deed, for the sake of convenience of being a short terminology, once a proper definition is provided under the Section on 'DEFINITIONS'.

Example: "**Sustainable Energy**" would mean and include *Energy for Sustainable Development*, including Renewable Energy and also Efficient use and Conservation of Energy from all sources.

**2.0 Recommended Incorporations / changes / deletions**

Introductory part : '**WHEREAS / BACKGROUND**'

**Section C**

Suggested to add: .....*The proposed Draft National Energy Policy (NEP) 2006 in its Section on "Renewable Energy Policy", on the other hand, identifies that the first priority in the area of Renewable Energy is to create and build capacity of an independent renewable energy apex organization.*

**Section H** : change to : *The Author is desirous of immediately converting the Sustainable Energy Unit (SEU) into a Trust.....*

**Section I** :.....*It is expected that UNDP and the Government of Germany will provide support for the institutionalization of SEDA as a Trust;*  
[Note : last sentence under Section I]

**Article - 3**

- (i).....including *support* to policy implementation.....
- (ii).....to develop *short, medium* and long term plan.....
- (v).....*initiatives of the Government*
- (vii).....*enhancement of energy efficiency and conservation of all sources of energy, targeting all energy consumers*
- (xi).....*for mainstreaming sustainable energy management.....*
- (xiv) to integrate, *whenever possible, technically feasible and financially attractive carbon financing....*
- (xv) to help in protecting the environment and to assist developing commercially viable industries in Bangladesh which contribute to a *cleaner environment through efficient use of energy, its conservation and/or use of alternative sources of energy.*
- (xvi) .....*awareness of the people to conserve and use any source of energy in an efficient manner.*

- (xviii) *to design and institutionalize all data/information on Sustainable Energy in the form of a Management Information System (MIS), including assessment of impacts on national projects and programs on energy efficiency and conservation with respect to financial and economic indicators and national energy balance;*
- (xix) *to facilitate creation of testing procedures / standardization and labeling schemes, in so far applicable, for equipment/components of a system used for a given energy application, to ensure that the 'nameplate ratings'/minimum standards as claimed by the manufacturers of such equipment are met. Also facilitate introduction of labeling schemes for household appliances, taking into consideration the option to introduce voluntary or mandatory minimum standards for locally manufactured, as well as imported goods. This will be done with the help of Bangladesh Standards and Testing Institution (BSTI), Bangladesh University of Engineering & Technology or any other competent organization;.*
- (xxii) *to support and Research & Development (R & D), especially action research in areas of new and emerging areas of sustainable energy technologies;*

**Article - 5 Source of funding**

Add under this Section 1 : *The Trust may receive an initial corpus fund of minimum Tk. 20 crores. This corpus fund should not be used for any purpose other than to generate income to meet the operating costs of SEDA (salaries, wages, transport, office and logistic expenses etc.);*

- 4. [Note : If a corpus fund is provided, this is superfluous]
- 5. the Trust may also receive funds from 'levies' and other fees on Conventional Energy as 'Green Tax';
- 8. the Trust may also accept a certain portion of 'Certified Emission Reductions (CER)' credits through CDM Mechanism, in so far this is legally permissible as per COP rules;

[Note : only project owners are the rightful recipients of additional revenue streams under 'Certified Emission Reductions' CER. If the Trust desires to be onward lenders at the same time it will not receive such credit facilities]

**Article - 6**

- (v) to spend any portion of the income *excluding the corpus fund* for purchasing.....
- (xiii) to frame..... *SEDEC's own rules and regulations*.....  
.....*amend the same from time to time*.....

**Article - 7**

**Section 2**

In case of members under (i) - (ix): except for the Director General / Executive Director of SEDA, the term 'ex-officio member' should be added.

- (xiv) change to : *two representatives of the donors* (delete name of any Institution)

**Section 3**

Para 3.....*the Director General* of SEDEC will be the Member-Secretary of the Board.

Para 7.....the Trustees *except for donors' representatives* shall be entitled to.....

**Article 9**

Para 4 .....To run the *affairs of the Trust*.....

**Article 14**

[typogr. error : *By-laws*.....

**Article 16**

Para 2            rephrase : *The Director General shall have the authority to terminate the services of any personnel of the Trust, in accordance with the Staff Rules and Regulations and inform the Board of such action(s).*

## DRAFT DEED OF TRUST

This, Deed of Trust, made on the ----- day of April 2006, by the Government of the People's Republic of Bangladesh (GoB) represented by the Secretary, Power Division, Ministry of Power, Energy and Mineral Resources (MPEMR) hereinafter referred to as the "Author" which stands for "Author of the Trust" (unless excluded by or repugnant to the subject or context be deemed to include its successors, administrators, representatives and assigns).

### WHEREAS/BACKGROUND

- A. Sustainable Energy, in its right perspective, has not yet been institutionalised in the mainframe of energy development plans and programmes in the country in spite of several energy policies available in the country which make mention of Sustainable Energy interventions for the future. However, without any nationally coordinated or unidirectional efforts, a number of interventions or projects have happened in Bangladesh, initiated by different bodies or agencies and dependent on funding made available by different donor agencies. These efforts cannot be categorized as part of any coordinated national Sustainable Energy approach for the country, but as individual efforts by Government bodies and/or non-governmental organizations as thought appropriate by the project proponents. Never-the-less, these initiatives brought about a reasonable level of understanding of sustainable energy technologies, important issues of environment & Climate Change related to it and the benefits that go with the installation of sustainable energy systems in a developing country like Bangladesh.
- B. The quest for sustainable energy sources has reached a peak in recent times all over the world, more so with oil crisis facing the world. Renewable energy technologies are capturing an increasingly larger market share of new bulk power. The panoply of renewable energy technologies includes wind turbine, biogas, biomass, photovoltaic, geothermal, small hydropower and ocean energy conversion. On the other hand, energy conservation and efficiency in the conventional power sector also offer a number of obvious benefits, including improved use of national resources, reduced energy imports, improved balance of trade, conservation of foreign exchange, reduced capital requirements for new energy production facilities, and reduced environmental pollution from energy use and production.
- C. In roughly over 8 years (1995-2004) since the drafting of the National Energy Policy (NEP) and the setting up of the Power Cell, Bangladesh has not progressed much to energy security and sustainability. The single most important issue endemic to the energy sector in Bangladesh is the absence of any institutional platform for the promotion of sustainable energy technologies in Bangladesh. *A Background Document on the Draft National Energy Policy (NEP) 2006 in its Section on "Renewable Energy Policy", on the other hand, stipulates that the first priority in the area of Renewable Energy is to create and build capacity of an independent renewable energy apex organization.*
- D. The Power Division and UNDP agreed to initiate the process for establishment of an amalgamated national energy institution and a 'Sustainable Energy Unit (SEU)' was established in August 2004 under Power Division as a first step towards institutionalised sustainable energy in Bangladesh. The Government of Bangladesh provided the required office space (2500 sq. ft), fittings/fixtures and facilities on the 10<sup>th</sup> Floor of Biddut Bhaban, 1 Abdul Gani Road and UNDP Bangladesh provided the required office equipments, furniture, logistics, experts, support staffs and operational cost for the SEU. Subsequently, GOB and UNDP agreed to launch a formulation mission to design a long-term Sustainable Energy Programme.
- A national 'Sustainable Energy Framework' was presented in a national consultation workshop in April 2005 chaired by the State Minister for Power where the Framework was endorsed in principle to establish an independent agency called 'Sustainable Energy Development Centre (SEDEC)' for promotion of sustainable energy as envisaged in the Framework Document.
- E. The asset of SEU, provided by UNDP and GOB, will be assigned as property of the Trust (SEDEC).
- F. In December 2005, the Hon'ble Prime Minister issued an advanced order to set up a 'nodal agency' for Sustainable Energy and Power Cell was instructed to initiate the process of formally establishing the new institution. Director General of Power Cell and selected officers from other relevant agencies were to carry out the operational procedures of SEDA to prevail over the current acute crisis of power deficiency. SEDA would act as the 'Nodal Agency' at the national level for coordination, project identification, planning,

monitoring, capacity development and implementation support of Sustainable Energy initiatives in the country. SEDA would also facilitate project financing support for the interested stakeholders - government, NGOs and private sector, in the Sustainable Energy sector

- G. The Programme Support Document (PSD) for the Sustainable Energy Programme (SEP) submitted to the Secretary, Power Division by UNDP on 7 March 2006, which clearly spelled out the objectives and activities of the SEDEC.
- H. *The Author is desirous of immediately transforming the Sustainable Energy Unit (SEU) into a Trust in the name of Sustainable Energy Development Agency (SEDEC). SEDEC should be vested with sufficient authority by the Government to formulate and implement own policies as an independent autonomous.*
- I. Moreover, other development partners showed their interest to support the Government in the sustainable energy development. Under the technical cooperative initiative aiming at promoting renewable energy, Government of Germany and Bangladesh agreed to launch a project called 'Promotion of the Use of Renewable Energy (PURE)' in 2004. One of the project intervention areas is to support the institutionalisation process for promoting renewable energy in Bangladesh. *It is expected that UNDP and the Government Germany will provide support for institutionalisation of SEDEC as a Trust*
- J. The Author formed a Trust of the properties under the Trust Act, 1882 mentioned in schedule-II.
- K. Persons mentioned in schedule-I here to have been designated to be the Trustee to hold the said scheduled property on the Trust mentioned herein after, who are herein after collectively referred to as the Trustee.
- L. The deed of Trust required amendment and having amended the said deed, the Board of Trustees wish to have the amended Deed of Trust registered under the Registration Act, 1908.

**THEREFORE, NOW THIS INDENTURE WITNESSETH AS FOLLOWS:**

#### **ARTICLE-1: TRUST PROPERTY**

1. In order to effectuate the said objective of creating and establishing the Trust, the Author does deliver to and make over to the Trustees (including the Author who shall appoint representatives of the Author as set out in Article 7 below) to have and to hold the same in Trust for the objective of the Trust as described below (Article 3) and to be used and appropriated for the benefits in terms of the objective and the Author hereby relinquishes for all time any claim to or interest in the properties and assets: the properties described in Schedule II of this Deed of Trust.
2. The Trustees will have ownership as well act as a retainer as applicable of all additional properties and all results derived from different activities, which are obtained from the funds of the Trust or are in any other way donated to the Trust.
3. All properties, movable and immovable of the Trust shall vest in the Trustees and shall be administered for the promotion of the objectives of the Trust by the Trustees in accordance with the provisions of this Trust Deed.
4. The Trust, being a non-profit organization, shall be entitled to seek registration as such for purposes of tax exemption from the concerned Government Authorities.

## ARTICLE-2: NAME AND ADDRESS

The name of the Trust shall be the “SUSTAINABLE ENERGY DEVELOPMENT CENTRE” which in short shall be known as SEDEC and the office of the Trust shall be situated at present in the Sustainable Energy Unit on the 10<sup>th</sup> Floor of Biddut Bhaban, 1 Abdul Gani Road, Dhaka. The Trustees may in future decide on an appropriate place or places as may deem fit and proper at their discretion. The permanent office of the Trust may be donated by the Government of Bangladesh, as may be convenient.

## ARTICLE-3: OBJECTIVE OF THE TRUST

In support of the mainstreaming sustainable energy and achieving socio-economic development through energy interventions, the Trust shall function as a “Centre of Excellence” for Sustainable Energy. The objectives of the Trust shall be as follows:

- (i) to work as a independent institution which will be responsible on behalf of the Government for all matters pertaining to sustainable energy including *support to* policy implementation and sectoral coordination in the country;
- (ii) to develop *short, medium and long term* plan towards achieving GOB’s vision ‘Electricity for all by 2020’;
- (iii) to formulate/converge/modify policies as and when required and advise the Government on them;
- (iv) to prepare strategic action/implementation plan on sustainable energy and support their implementation, in cases where necessary;
- (v) to build its own capacity for coordination, management, technical assistance and monitoring of the sustainable energy programmes/projects/initiatives *of the Government*;
- (vi) to promote indigenously available renewable energy resources and other clean energy technologies and to integrate with the national sustainable development initiatives;
- (vii) to facilitate *enhancement of energy efficiency and conservation of all sources of energy, targeting all energy consumers*;
- (viii) to address energy conservation and efficiency issues and seek to promote energy use improvement measures such as energy audits and ISO 14001 certification;
- (ix) to help in developing the institutional and technical capacity of stakeholders for sustainable energy initiatives - GoB institutions, private sector, financial institutions, non-government organizations (NGOs), civil society organizations (CSOs) and also community base organizations (CBOs);
- (x) to integrate livelihood priorities within energy access for economically disadvantaged communities;
- (xi) to promote market based commercial instruments *for mainstreaming sustainable energy management* in Bangladesh;
- (xii) to develop ‘SEDEC’ as an ‘One-stop-shop’ for promoting market based sustainable energy interventions and to organize expert/consultants’ Services to SE ‘Actors’ who may desire such services on an outsourcing basis;
- (xiii) to establish and maintain a ‘Sustainable Energy Fund’, which will provide support to various kinds of sustainable energy projects with special *soft* terms and conditions in order to promote sustainable energy in Bangladesh;
- (xiv) to integrate, *wherever possible, technically feasible and financially attractive carbon financing* into the conventional project development and financing process for clean energy technology projects;

- (xv) to help in protecting the environment and to assist developing commercially viable *industries in Bangladesh which contribute to a cleaner environment through efficient use of energy, its conservation and/or use of alternative sources of energy;*
- (xvi) to develop and implement a ‘National Communication Strategy on Sustainable Energy Promotion’ in order to increase the knowledge-base and create greater awareness of the people *to conserve and use any sources of energy in an efficient manner;*
- (xvii) to organize and activate a National Network on sustainable energy composed of all key actors in the field- GoB, NGOs, civil society, financial institutions, private sector, donors for effective info collection and sharing;
- (xviii) *to design and institutionalize all data/information on Sustainable Energy in the form of a Management Information System (MIS), including assessment of impacts on national projects and programs on energy efficiency and conservation with respect to financial and economic indicators and national energy balance;*
- (xix) *to facilitate creation of testing procedure / standardization and labeling scheme for equipment/components of a system used for a given energy application, to ensure that the ‘nameplate ratings’/minimum standards as claimed by the manufacturers of such equipment are met. Also facilitate introduction of labeling schemes for household appliances, taking into consideration the option to introduce voluntary or mandatory minimum standards for locally manufactured, as well as imported goods. This will be done with the help of Bangladesh Standards and Testing Institution (BSTI), Bangladesh University of Engineering & Technology or any other competent organization;*
- (xx) to support national and local initiatives for manufacturing, design, supply, installation, maintenance and distribution of sustainable energy technologies in Bangladesh;
- (xxi) to support small and medium enterprises and to develop an effective service delivery mechanism for sustainable energy technologies;
- (xxii) *to support and Research & Development (R & D), especially action research in areas of new and emerging areas of sustainable energy technologies;*
- (xxiii) to review emerging technology in the region/international and promote/initiate best practices;
- (xxiv) to provide services to potential investors/promoters for sustainable energy market development, project identification and development, including preparation of project feasibility studies;
- (xxv) to coordinate between sustainable energy investors and potential national and international funding agencies and also national funding sources - donations, grants, loans etc. for promotion of Clean Development Mechanism and other co-financing mechanisms;
- (xxvi) to undertake any other work or project in any other field or area which may be conveniently and beneficially done through the facilities of the SEDEC, for effective disposal of the objectives of the Trust and as the Trustees may deem fit; and
- (xxvii) to take over the management of other institutions on such terms as Trustees think fit and proper and manage such institutions for furthering the aims and objectives of the Trust.

#### ARTICLE-4: FINANCIAL YEAR

The financial year of the Trust shall correspond to the financial year observed by the government, provided the Board of Trustees shall be at liberty to change the same from time to time if they so deem fit and proper. The first financial year of the Trust shall close on 30 June 2007.

#### ARTICLE-5: SOURCE OF FUNDING

1. The Trust may receive part of the required capital funds from GOB or other donors or international organizations. *The Trust may receive an initial 'corpus fund' of minimum Tk. 50<sup>+</sup> crores (preferably Tk. 100 crores). This corpus fund should not be used for any purpose other than to generate income to meet the operating costs of SEDEC (salaries, wages, transport, office and logistic expenses etc.);*
2. In addition, the Trust may accept donations or contributions in cash or in kind from Bangladesh and abroad from individuals, firms, companies, corporations, associations, foundations, institutions, organizations (including Government or non-Government bodies), or any other person or authority for furtherance of any or all of the objectives of the Trust upon such terms and conditions as they may in their absolute discretion think fit and which are not inconsistent with the objectives of the Trust.
3. The Trust may also receive fees from Bangladesh and abroad from individuals, firms, companies, corporations, donor agencies, associations, organizations (including Government and non-Government bodies) or any other person or authority for the services rendered by the Trust and the utilization of its facilities by, other organizations and individuals.
4. The Trust may also receive funds through 'levies' and other fees on Conventional Energy or as Green Tax.
5. The Trust may receive credit/soft loan from national and international banks and financial institutions to build and maintain its 'Sustainable Energy Fund' for sustainable energy projects. The Trust may gain the profit earned from investment in sustainable energy projects utilizing 'Sustainable Energy Fund'. The Terms of Reference (ToR) of the Sustainable Energy Fund shall be determined by the Board of Trustee.
6. The Trust may derive income from investments and assets owned, managed or controlled by the Trust.
7. The Trust may accept a certain portion of 'Certified Emission Reduction (CER)' credits through the CDM mechanism, in so far this is legally permissible as per COP rules;
8. The Trustees may give authority to any or more Trustees to deal with the matter as mentioned in Article 5 (2).

#### ARTICLE-6: FUNCTIONS OF THE TRUSTEES

Without affecting the generality of powers and functions of the Trustees to manage and administer the Trust, the Trustees together shall constitute the Board of Trustees, which Board shall have the following functions:

- (i) to borrow if need be against the security, by way of mortgage or otherwise, of the properties and assets of the Trust by way of bank overdrafts, loan or otherwise, as may be necessary, for the benefit of the Trust and for more effectively carrying out the objectives of the Trust, provided however the Trustees unanimously agree on such terms and conditions as decided or agreed upon by them;
- (ii) to arrange for and/or authorize the signing or execution of any agreement, contract, instrument, document or any other paper or writing required to signed or executed on behalf of the Trustees;
- (iii) to appoint or make provision for the appointment of a sub-committee of Trustees and/or others, including an Advisory Committee of independent national and international experts, to attend to or supervise or conduct specified jobs or functions or Trust matters in such manner and subject to any by-laws as the Trustees may prescribe;

<sup>+</sup>) In the initially suggested incorporation Tk. 20 crores was proposed, which has been corrected, based on the budget calculations

- (iv) to authorize any one or more Trustees to hold any property or any fund or any investment of the Trust subject however to the terms of these present in such manner and subject to terms and conditions as the Board of Trustees may from time to time think fit and proper;
- (v) to spend any portion of the corpus or income, *excluding the corpus fund*, of the Trust for purchasing or otherwise acquiring any land and/or constructing any building for and in the name of the Trust for the purpose of carrying out promoting and/or executing any or all of the objectives of the Trust;
- (vi) to acquire and hold immovable property and to invest the idle Trust money either in the purchase of immovable properties or in such other manner as allowed by the Trusts Act of 1882 and to convert, alter, vary, dispose of and transfer such investments from time to time;
- (vii) to be at liberty to sell such portion or portions of the movable or immovable properties forming part of the Trust either by public auction or by private contract at such price or prices and on such terms and conditions as they may in their absolute discretion, think fit and rescind or vary any contract for sale and if necessary resell the same without being answerable for any loss occasioned thereby and to execute all conveyances, or other assurances and to pass valid and effectual receipts and discharges for all moneys received by them;
- (viii) to pay all charges and outgoings payable in respect of Trust properties whether movable or immovable and to carry out all maintenance and repairs required to be done to any or all of the Trust properties and to insure, where appropriate, the Trust properties, against loss or damage by fire, and may incur all other costs, charges and expenses incidental to the administration and management of the Trust as they may in their discretion think fit;
- (ix) to manage or supervise the management of any land, hereditaments and premises comprised in the Trust or any part thereof with power to erect, pull down, rebuild, add to, alter and repair;
- (x) to employ such officers and employees as constituting management and non-management staff and to appoint such experts or consultants as it may consider necessary for the performance of the functions of SEDEA on such terms and conditions as it may deem fit;

Provided that the initial compliment of staff of SEDEC shall be drawn from the officers, consultants and other employees serving in Sustainable Energy Unit (SEU) immediately before the formation of the Trust. Such officers, consultants, and other employees shall serve in SEDEC in such terms and conditions as may initially be determined by the Board, or, until so determined, on the same terms and conditions as were applicable to them immediately before the formation of the Trust;

Provided further that once the Board has appointed an Director General as the Chief Executive Officer of SEDEC pursuant to Article 9 (1) here-under, all such appointments except management, shall be made by the Director General.

- (xi) to demise any immovable property or properties for the time being and from time to time belonging to the Trust either from year to year or for any fixed term or for any term of years or on monthly tenancies at such rent and subject to such covenants and conditions as they may think proper and also accept surrender of lease and tenancies and generally manage the same in such manner as they think proper;
- (xii) to institute, pursue, compromise or compound all actions suits, and other proceedings and settle differences and disputes touching the Trust estate and/or the Trust properties or Trust programs and projects and to refer any such difference or dispute to arbitration and to adjust and settle all accounts relating to the Trust and/or its properties and to do all acts and things fully and effectual without being liable or answerable for any bona fide loss occasioned thereby;
- (xiii) to frame schemes, devise projects, *SEDEC's own (institutional)* rules and regulations to carry out the objectives and for managing the affairs of the Trust and otherwise for giving effect to the objectives and purpose of the Trust and to *amend* the same from time to time as the Trustees in their discretion deem fit and proper

- (xiv) to form sub-committee of the Trustees and/or committee of the employees as and when necessary for administering projects under it;
- (xv) to delegate their power or powers to any individual Trustee or committee or employee of the Trust as they may deem fit and proper;
- (xvi) to do anything and everything fully and effectual to give effect to the Trust and for the attainment of its objectives;
- (xvii) to cause true and accurate accounts to be kept of all monies received and spent and of all matters in respect thereof in course of management of the Trust properties or Trust projects or in relation to the carrying out of the objectives and purpose of the Trust as well as of all the assets, credits and effects of the Trust properties.

#### **ARTICLE-7: BOARD**

1. The Trustees shall together in a body constitute the Board of Trustees (hereinafter referred to as the Board).
2. The Board of Trustees is drawn primarily from public organizations of most relevant sectors, represented by their heads. Representatives - one from Bangladesh University of Engineering & Technology (BUET), NGO and private sector representatives and UNDP as the donor initiator are proposed. The Board of Trustees shall comprise of the following persons:
  - (i) The Author (Government of the People's Republic of Bangladesh), represented by the Secretary, Power Division, Ministry of Power, Energy & Mineral Resources, GOB, as Chairperson, *ex-officio member*
  - (ii) Bangladesh Energy Regulatory Commission (BERC), represented by its Member (nominated by Chairman BERC), *ex-officio member*
  - (iii) Sustainable Energy Development SEDEC, represented by its Director General, *ex-officio member*
  - (iv) Bangladesh Power Development Board (BPDB), represented by its Chairman *ex-officio member*
  - (v) Rural Electrification Board (REB), represented by its Chairman *ex-officio member*
  - (vi) Bangladesh Oil, Gas & Minerals Corporation (BOGMC) or Petrobangla, represented by its Chairman *ex-officio member*
  - (vii) Local Government & Engineering Department (LGED), represented by its Chief Engineer *ex-officio member*
  - (viii) Ministry of Environment and Forest, represented by its Joint Secretary *ex-officio member*
  - (ix) Ministry of Finance, represented by its Joint Secretary (Banking Policy) *ex-officio member*
  - (x) National Board of Revenue (NBR), represented by Member (nominated by Chairman, NBR) *ex-officio member*
  - (xi) Bangladesh University of Engineering Technology (BUET), represented by an expert professor in the field of Energy technologies
  - (xii) Representative from relevant Non-Governmental Organization (NGO)
  - (xiii) Federation of Bangladesh Chamber of Commerce & Industry (FBCCI), represented by its President (or an senior official designated by FBCCI, representing the private sector)
  - (xiv) UNDP as donor-initiator plus *two reps. from major donors* of SEDEC
3. Of the above-mentioned persons, the Trustees listed in serial Nos. (i) to (ix) shall be deemed to represent the Author of the Trust. The *Director General* of the Sustainable Energy Development Centre will be the *Member Secretary* of the Board.
4. The position of expert of BUET on the Board shall be filled in by a professor nominated by the Vice Chancellor of BUET and accepted by the Board of Trustees, for an initial term of two years, which may be extended by the Board, for another term of the same duration. However, she/he cannot be beneficiaries of SEDA activities as Consultant.

5. The position of the NGO representative on the Board shall be filled in by an NGO nominated by the GOB, for an initial term of two years which may be extended by the Board, for further terms of two years each. However, the NGO cannot be the on-going implementation/sub-implementation agency of any SEDEC project.
6. As up to date list of all Trustees with full address shall be maintained and kept in the Registered Office of the SEDA.
7. The Trustees, except for UNDP, shall be entitled to receive a reasonable allowance for attendance at Board Meetings. The allowance shall be subject to the approval of the Ministry of Power, Energy and Mineral Resources.
8. A casual vacancy of the Board may be filled by the Author of the Trust by appointing a suitable person to fill the vacancy if such vacancy arises from among persons who are representatives of the Author. If a casual vacancy occurs for Trustees who are not representatives of the Author then the casual vacancy shall be filled by the relevant organization nominating a suitable person to substitute for the representative for the time being.
9. The Board of Trustees can co-opt observers from a) donors; b) financial institutions; and c) independent energy experts.

#### **ARTICLE-8: MEETING OF THE BOARD**

1. The Board shall meet at least two times in a calendar year with a maximum of eight months between each meeting, but optimally more frequently. The meetings shall normally take place at the registered office of SEDA. The date of a meeting shall be fixed with the approval of the Chairperson. The Secretary shall circulate a notice with an agenda, not less than one week before each meeting, provided however that an emergent Board meeting may be called with 24 hours notice by the Chairperson if deemed necessary by him to meet up any requirements relating to the objectives of the Trust on an emergency basis. It is further provided that in an emergent Board meeting no resolution for the removal of a Trustee can be taken; only emergency and very urgent business may be transacted.
2. At the first meeting of the Board, a Treasurer of the Trust shall be elected from amongst the Trustees for two years, after which the Treasurer shall be elected/re-elected biennially. The Director (Programme & Operation) of SEDA shall act as the Member Secretary of the Board.
3. In case of absence of the Chairperson of the Board the Trustees present shall elect a Trustee from amongst themselves to preside over that meeting as an acting Chairperson.
4. The quorum for all Board meetings shall be the simple majority. Each and every motion will be decided by a majority of votes. In case of equality of votes the Chairperson shall have a second or casting vote.
5. Minutes of the proceedings and resolutions of the Board meeting shall be signed by the Chairperson of the meeting. Minutes so signed and confirmed in the succeeding meeting shall be conclusive evidence of such proceedings and resolutions.
6. The individuals serving on the Board shall be entitled to receive an allowance for attending each meeting of the Board, which allowance shall be decided by the Board, subject to the approval of the Power Division, Ministry of Power, Energy and Mineral Resources at its first meeting. The amount of allowance may be adjusted from time to time as decided by the Board, subject to the approval of the Power Division, Ministry of Power, Energy and Mineral Resources, but not more often than once a year.
7. These individuals shall not receive any other monetary benefit or honorarium, nor should they be hired for any kind of paid work within the Trust or in its project. The Director General of SEDA will be hired for paid work and will serve at the pleasure of the Board. The organizations that are represented on the Board can benefit from the Trust and an objective of the Trust is to serve the interests of these organizations.

8. A member of the staff of SEDEC not being a member of the Management Coordination Team as provided under Article 9 (3) hereunder shall serve on the Board as an observer representative of the Agency's professional staff.
9. Any employee of SEDA can be called to attend the whole or part of the Board meeting, if deemed necessary by the Board.

#### **ARTICLE-8A: EXECUTIVE COMMITTEE (EC) OF THE BOARD**

1. To assist the Board for smooth functioning of the SEDEC, there shall be an Executive Committee (EC), which shall be composed of the Chairperson, the Director General of SEDEC, the Treasure, the Member-Secretary (Director Programme & Operation of the SEDEC), and a Member of the Board to be nominated by the Board. The Composition of the EC may be changed permanently or temporarily by decisions of the Board, The Committee shall be headed by the Chairperson of the Board.
2. The EC will meet as and when necessary to review progress of work and financial performance of the SEDA.
3. In order to facilitate consideration by the Board the EC will out generally detailed examination and scrutiny of issues related to the SEDA and place the same before the Board for final decision.
4. In special circumstance, the EC may give decisions on matters that cannot be kept pending until the next Board Meeting. However all such decisions taken by the EC shall have to be unanimous decisions of the full Executive Committee and such decisions shall be placed before next Board Meeting for information and endorsement.

#### **ARTICLE-9: MANAGEMENT OF THE TRUST**

1. The Board shall appoint a Director General who shall serve at the pleasure of the Board as the Chief Executive Officer of SEDA and in that capacity manage the day to day affairs of the Agency and to this end the Board, operating under article 6 (xv) of this Deed of Trust, shall delegate to the Director General such of the Board's responsibilities as are envisaged in this Deed of Trust to be exercised for the daily management of the Trust.
2. The Director General shall produce an annual work-plan and budget for approval by the Board.
3. The functional management levels of the Trust can be of same structure as envisaged, which means that the management includes, apart from the Director General, three (3) other functional Directors - Director (Planning & Development), Director (Finance) and a Director (Programme & Operations). The internal services of SEDA, i.e. Finance, Administration and Logistics can be managed by a functional manager with the rank of a Deputy Director. The three functional Directors shall be supported by three (3) Deputy Directors and three (3) Assistant Directors. A detail organizational structure will be developed in the first year of SEDA, which will be reviewed and approved by the Board.
4. To run the *affairs* of the Trust there shall be a Management Coordination Team (MCT) which shall be composed of the Director General, Directors, Assistant Directors, Technical Advisors and Cluster Coordinators of the Agency and such other persons as are co-opted by the Director General. The Management Coordination Team shall be headed by the Director General of SEDEC.
5. Donor representatives of related sustainable energy programmes/projects can also participate in the MCT.
6. The MCT shall meet at least once a month. Meetings of the MCT shall be convened by the Director General.

7. The MCT shall discuss the progress of the activities of the Agency and recommend to the Director General on the following matters subject to the annual work plan and budget approved by the Board or any other directives of the Board:
  - ◆ the strategic development and services of SEDEC;
  - ◆ review the progress of programme/projects activities including monitoring;
  - ◆ matters of personnel and organizational development;
  - ◆ the allocation of human and other resources to SEDEC activities;
  - ◆ management of programmes, projects, including
    - \* courses, seminars, conferences, workshop etc. to be organized by the training program;
    - \* research projects to be initiated in connection with the services by the Agency or involving its staff;
    - \* external projects for clients; and
  - ◆ any revision or modification of the work plan and budget as deemed necessary
8. All discussions held in these meetings shall be minuted. Minutes of the MCT shall be signed by the Director General and circulated to the Management Coordination Team members. The minutes shall also be sent to the Trustees within 15 days of each meeting.
9. Members of the MCT shall not receive any money or allowance for attending the meetings.

#### **ARTICLE-10: FINANCIAL ARRANGEMENTS**

1. The Trustees are empowered to raise funds for activities of the Trust through subscriptions, loans, grants, donations, fees and any other legally permissible way.
2. The funds of the Trust may be spent for any lawful purpose necessary for carrying out its objectives.
3. The management of the Trust fund will be carried out in such manner as decided and approved by the Board.
4. The Trust shall maintain correct, up-to-date and complete books of account at its registered office.
5. The books of account shall always be open to inspection by any Trustee or donor authorized by the Board at all times during regular office hours.
6. The Trust shall set up a 'Sustainable Energy Fund', which will not be used for any purpose other to support the projects on sustainable energy and related capacity development and/or to increase the Capital Fund of SEDEC from fees collected.

#### **ARTICLE-11: BANK ACCOUNT**

1. The funds of the Trust shall be kept at one or more scheduled banks in Dhaka, as approved by resolution of the Board.
2. Cheques for over a specified amount, to be decided by the Board, shall be signed by the Board Treasurer and the Director General of SEDA. All other cheques for lower denominations shall be signed by any two of the three signatories, including the Director General, authorized by the Board.
3. The Trustees shall have full access to all bank records at all times.

## **ARTICLE-12: AUDITORS**

1. The accounts of the Trust shall be audited by the Chartered Accountants to be appointed by the Board annually.
2. The auditors shall have right of access at all times to the books of accounts of the Trust without notice and shall be entitled to enquire from the Director General, the Trustees and any other staff member of the SEDA such information and explanations as may be necessary for the performance of their duties.
3. Foreign-Aided Project Audit Directorate of GOB shall have right to audit the foreign-aided projects and programmes executed/implemented by SEDA.
4. Donors supporting any project implementing by SEDA will likewise have the right to independently evaluate or audit such projects.

## **ARTICLE-13: INDEMNITY**

Each Trustee, office-holder or employee of the Trust shall be compensated by the Trust, to such extent as may be determined by the Trustees, from financial liabilities, charges, fines and penalties imposed or assessed upon him or her in any action, suit or proceeding, in which he or she is made a party by reason of being, or having been, a Trustee, office-holder, or employee of the Trust acting within the scope of his or her duties if such person

- (i) shall be determined to have acted in good faith and in a manner he or she reasonably believed to be in the best interests of the Trust, and
- (ii) shall not be determined to have acted with gross negligence or wilful misconduct in the performance of such duties

## **ARTICLE-14: POLICIES AND PROCEDURES**

*By-laws*, rules, regulations, operational guidelines, etc. may be framed by the Trustees in connection with any affairs of the Trust. The Management Coordination Team (MCT) will prepare a set of policies and procedures relating to staff management, business development and overall operation of SEDA, will be operative, subject to any contrary decision of the Board of Trustees.

## **ARTICLE-16: STAFF RULES AND REGULATIONS**

1. A set of Staff Rules and Regulations for all staff employed by the Trust for the SEDA shall be prepared by the Management Committee (MCT) and must be approved by the Board.
2. The Director General shall have the authority to terminate the services of *any personnel of the Trust, in accordance with the Staff Rules and Regulations and inform the Board of such actions*

## **ARTICLE-17: LANGUAGE**

1. The business of the Trust shall be conducted in Bangla and/or English.
2. Minutes of Board Meetings, Management Committee Meetings, other meetings, accounts and documents verifying decisions taken in administrative matters shall be written in either Bangla or English.

## **ARTICLE-18: AMENDMENTS**

The Author can amend this deed only. However, the Author may consider the unanimous proposal of amendment.

## **ARTICLE-19: RECONSTITUTION OF TRUST**

The Author may on the proposal adopted by the total number of Trustees, reconstitute the Trust as a company not for profit under the provisions of the Companies Act , 1994 (and any amendment thereof for the time being in force) for the purpose of carrying out the objectives of the Trust.

## **ARTICLE-20: EXTINCTION AND/OR REVOCATION OF THE TRUST**

1. The Trust may be extinguished in accordance with section 77 of the Trusts Act 1882.
2. This Trust can be revoked by the Author at any time.
3. In the event of extinction or revocation of the Trust, if there remain any surplus assets or properties including cash after satisfaction of all debts and liabilities, the remaining property or assets of the Trust may be donated or transferred to any governmental, non-governmental, non-political, and not for profit organization(s) whose declared objectives and performance records are in accord with the objectives and spirit of the Trust.

## **ARTICLE-21: AMBIGUITY AND RESIDUARY POWERS**

1. In case of ambiguity in the interpretation of any of these articles, the decision of the Board shall be final.
2. All powers and functions which are not covered by these articles but consistent with those covered by these Articles shall be exercised by the Board either directly or
3. through its representative or as the case may be, by the Executive Director acting under Article 9.
4. In case of special situations, periods stipulated in this document may be extended by the Board.

**SCHEDULE-I**

NAME AND/OR DESIGNATIONS OF THE TRUSTEES:

- (i) The Author (Government of the People’s Republic of Bangladesh), represented by the Secretary, Power Division, Ministry of Power, Energy & Mineral Resources, GOB, as Chairperson
- (ii) Bangladesh Energy Regulatory Commission (BERC), represented by its Member (nominated by Chairman BERC)
- (iii) Sustainable Energy Development Centre (SEDEC), represented by its Director General
- (iv) Bangladesh Power Development Board (BPDB), represented by its Chairman
- (v) Rural Electrification Board (REB), represented by its Chairman
- (vi) Bangladesh Oil, Gas & Minerals Corporation (BOGMC) or Petrobangla, represented by its Chairman
- (vii) Local Government & Engineering Department (LGED), represented by its Chief Engineer
- (viii) Ministry of Environment and Forest, represented by its Joint Secretary
- (ix) Ministry of Finance, represented by its Joint Secretary (Banking Policy)
- (x) National Board of Revenue (NBR), represented by Member (nominated by Chairman, NBR)
- (xi) Bangladesh University of Engineering Technology (BUET), represented by an expert professor in the field of Energy technologies
- (xii) Representative from relevant Non-Governmental Organization (NGO)
- (xiii) Federation of Bangladesh Chamber of Commerce & Industry (FBCCI), represented by its President (or an senior official designated by FBCCI, representing the private sector)
- (xiv) UNDP representative as the donor initiator of SEDEC *and two other observers of other major donors*

**SCHEDULE-II:**

The initial complement of the assets of the Sustainable Energy Development Centre (SEDEC) Trust is as described herein below:

- a) SEU equipments and furniture assessed at a current valuation of Tk. (Taka.....). A list of the assets is attached in Annex-A.

This Deed of Trust has been drawn up in three original copies, whereof one will be kept with the Chairperson of the Trust, one at the Head Office of SEDA and one at the Ministry of Power, Energy and Mineral Resources, Government of Bangladesh.

IN WITNESS WHEREOF I, the Author of the Trust as hereinabove mentioned have hereunto set and subscribed my hand and seal this the ----- day of Month 2006.

.....  
(A. N. H. Akthar Hossain)  
For and on behalf of the Government of the  
People’s Republic of Bangladesh  
Secretary, Power Division  
Ministry of Power, Energy and Mineral Resources

WITNESSES:

- 1. ....
- 2. ....
- 3. ....

# **POWER CELL**

**Government of the People's Republic of Bangladesh**

**POWER DIVISION**

**MINISTRY OF POWER, ENERGY & MINERAL RESOURCES**

**INSTITUTIONAL AND ORGANIZATIONAL FRAMEWORK FOR  
SUSTAINABLE ENERGY DEVELOPMENT CENTRE (SEDEC)**

**A NATIONAL 'NODAL INSTITUTION' FOR PROMOTION OF  
SUSTAINABLE ENERGY DEVELOPMENT & USE**

**DRAFT FINAL REPORT**



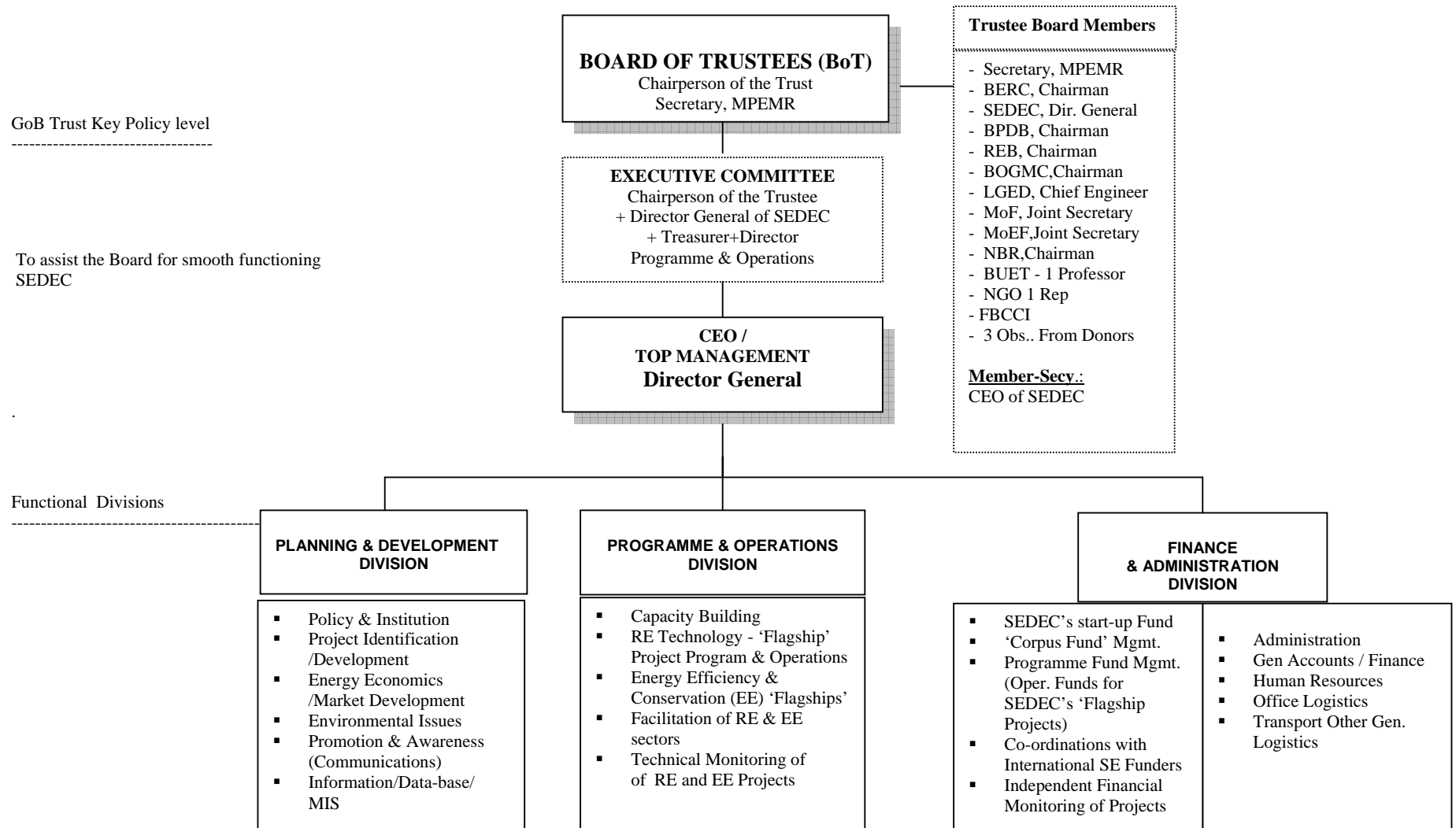
23 MAY 2006

**Dr-Ing. Khursheed-Ul-Islam,**  
Energy Project & Management Consultant  
In Association with  
**Dr. Anwar Hossain**  
Consultant  
Ex-Chairman, Bangladesh  
Atomic Energy Commission

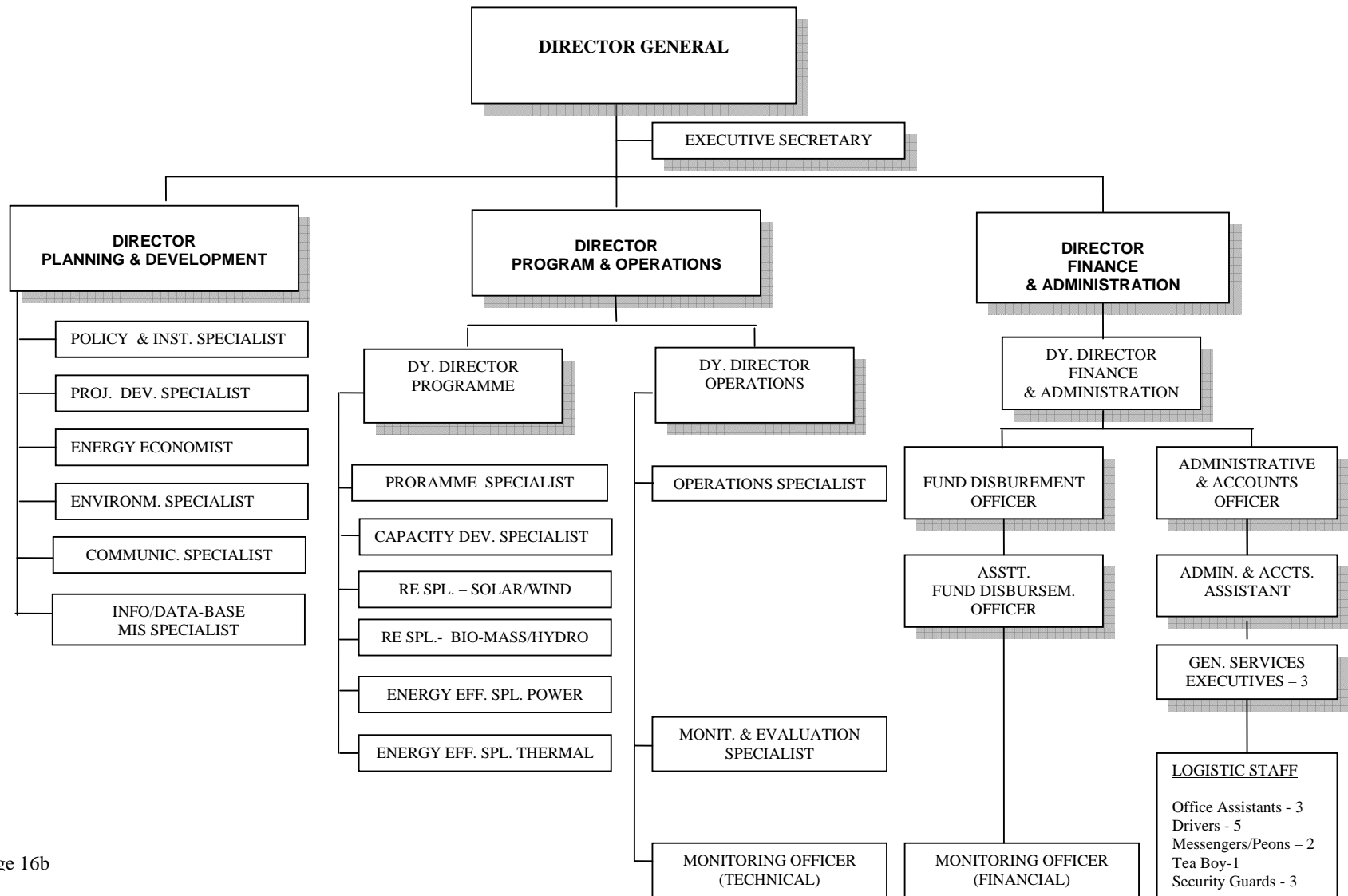
**Commissioned by :**

**German Technical Cooperation (GTZ)  
Promotion of the Uses of Renewable Energies (PURE)**

## TOP MANAGEMENT & FUNCTIONAL STRUCTURE OF THE TRUST SUSTAINABLE ENERGY DEVELOPMENT CENTRE (SEDEC)



## PROPOSED ORGANOGRAMME OF SUSTAINABLE ENERGY DEVELOPMENT CENTRE (SEDEC)



# SOURCING & MANAGEMENT OF FUNDS BY SEDEC (FOR SET UP, OPERATION & PROGRAMMES)

