

*Kyaw Aye*

## **ENERGY COOPERATION AMONG THE BIMST-EC COUNTRIES**

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### **Abstract**

The paper presents a brief outline of the BIMST-EC regional cooperation Programme with focus on the Energy Sector Cooperation Programme. It explains the status of Myanmar as the lead country and the Chair of the Programme. The paper further elaborates the steps taken by the lead country in setting up the committee of Experts/Officials, the drafting of an action plan and the establishment of task forces for the two identified projects. The paper also discusses in a fair amount of detail on the terms of reference for the Sectoral Committee and the task forces. The latter part of the paper discusses the potential of the member countries for cooperation, the common barriers and constraints faced by member countries, the further development of the energy sector cooperation programme and the role of Japan in future activities and programmes.

### **1. Introduction**

The BIMST-EC sub-regional cooperation was initiated in July 1997 at a meeting of Deputy/State Ministers for Foreign Affairs of

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the member countries in Bangkok. Following the developments of the meeting, the Bangladesh, India, Sri Lanka, Thailand, a Regional Economic Co-operation group was established under the acronym BIST-EC with the prime goal of fostering social and economic development in the region. Myanmar became a member of the group later in December the same year and since then the regional group was known as BIMST-EC. Another potential member to the group Nepal, gained observer status in 1998, however Nepal has since been in the observer status till today.

The regional group initially selected nine major areas, e.g., trade, investment and industry, technology, transport and communication, energy, tourism, agriculture, fisheries and human resources development for sub regional cooperation. However at the Second Ministerial Meeting of BIMST-EC in Dhaka in 1998, six priority areas were identified. The Energy sector was among the six areas, and as a result of the developments that took place, Myanmar was designated the Lead Country and the Chair Country for the energy sector. Two projects are identified for cooperation. The projects are:-

1. The Energy Infrastructure Development (natural gas) project, and
2. The Development of New and Renewable Sources of Energy Project

Following this identification, Thailand and India was designated coordinating countries respectively for the two projects.

## **2. Overview of the Energy Situation in the Sub-Region**

The BIMST-EC region has a very large population, about 21 percent of the total world population live in this region. The region has a very low per capita energy consumption with the main energy source provided for by traditional sources such as wood fuel and agriculture wastes. The sub-region has good prospects for economic growth and industrial expansion. However, it is currently

experiencing high population growth and urbanization, increasing substitution of traditional fuels by commercial fuels and is under heavy stress from high commercial energy demand growth.

Although some of the member countries of the sub-regional group are endowed with primary energy resources such as coal, oil and natural gas and sharing of resources has already been in progress, the region as a whole is currently a net importer of commercial energy. Supply of electric power in most member countries still lags behind demand and with the exception of Thailand and India, access to electricity by the majority of the population in most member countries still leaves much to be desired. Moreover, a large part of the population in the member countries live in remote areas where the availability of commercial energy is quite limited even for social purpose, leave alone income generation.

Against this energy scenario, there is a dire need for the region to increase its efforts to develop the energy sector to the extent possible. The BIMST-EC Energy Sector Cooperation Programme is one such arrangement to achieve this objective and would concentrate its effort on developing untapped energy resources and cross border sharing. It would also support the development of the power sector to enhance productivity and raise the social and economic standards in the region. The programme will most importantly develop the renewable sources of energy in the region to promote energy services in supporting the livelihood of the population through promotion of income generation activities.

The identified projects for implementation under the BIMST-EC energy sector cooperation programme is designed to cover the full aspect of this strategy and implementation would involve :-

1. The establishment of a resource inventory to provide a guideline to formulate further development strategies;
2. Develop and strengthen energy infrastructure;

3. Develop and promote Rural Energy Programs and
4. Promote private sector participation in energy development programs.

### **3. Guidelines for Implementation**

There are three main guidelines for implementing the energy sector cooperation programme. They are:-

- The Role and Functions of Lead Countries in Identified Sectors of Cooperation (Annex-A);
- The role and Functions of Chair Countries in Sub-Sectors, (Annex-B) and
- The modalities of Implementing Projects and Functions of Project Coordinating Countries (Annex-C).

The Role and Functions of Lead Countries in Identified Sectors of Cooperation is a guideline prepared to assist the lead country. It is essentially a framework for the initiation of the cooperation programme, in which duties and functions and the mechanism for coordinating and reporting is clearly stated.

"The Role and Functions of Chair Countries in Sub-Sectors" is a guideline for the establishment of an expert group or committee comprising representatives from member countries. Such committee will essentially identify specific projects, perform secretarial functions, monitor and review progress of project implementation and will communicate with public/private and regional/international organizations for gaining support.

"The Modalities of Implementing Projects and Functions of Project Coordinating Countries" is a guideline for implementing the projects under the guidance and supervision of the project panel or task force comprising representatives from member countries. The guidelines specify the drafting of a work plan by the project coordinating country and to seek ways and means of

mobilizing funding sources from the public/private sector and regional/international organizations.

#### **4. Status of Implementation**

Myanmar since its designation as the lead country has as its first agenda established the Committee of Experts/Officials as per guidelines mentioned in the role and functions of the lead country. The committee comprised of five members, one from each member country. The lead country organized the first meeting of Experts/Officials in June 2000 in Yangon. An action plan for the implementation of the two identified projects, Development of Energy Infrastructure (Natural Gas) and Development of New and Renewable Sources of Energy was finalized as per guidelines at the meeting. The meeting also agreed to establish an Energy Information Center in the lead country Myanmar and to establish two task forces for implementing the two identified projects.

The lead country established the task forces with representatives nominated by the member countries soon after the meeting. In January 2001, the lead country organized the Second Meeting of Committee of Experts/Officials and the meeting of task forces for the two projects. The task force meeting finalized the terms of reference for the respective task forces. A general discussion with regard to further implementation of the action plan took place. Tentative dates were fixed for organizing the first task force meetings in the respective coordinating countries and the inputs and information required for the task force meetings were agreed upon at the meeting.

At the second meeting of the Committee of Experts/Officials which continued after the task force meeting, presentations were made by the respective coordinating countries and the lead country on:-

1. the Status of Development of New and Renewable sources of Energy in the BIMST-EC region,

2. the Status of Development of Energy Infrastructure (Natural Gas) in the ASEAN and the BIMST-EC region and
3. the Status of Establishment of the Energy Information Center in the lead country.

A general discussion followed the presentations in which the following points were agreed upon:-

1. To cooperate in the development of NRSE in accordance with the details firmed up in the TOR for the task force for NRSE;
2. To focus on cooperation in the areas of applications which could lead to grounding of specific NRSE development projects;
3. With regard to the Energy Infrastructure Project, the member countries agreed to provide updated information for Thailand to undertake an assessment study on the status and potential of natural gas in the region;
4. The assessment will also pursue the possibility of linking the proposed Trans-ASEAN and the contemplated Trans-BIMST-EC Natural Gas pipelines for sharing the resources between the two regions;
5. Regarding the establishment of the Energy Information Center, Myanmar will pursue the proposal of deputing experts from TERI for assistance in establishing the Information Center.

One highlight of the second committee of experts/officials meeting was to finalize the draft terms of reference for the Energy Sector Sectoral Committee. However, the finalization of this document was deferred to the next committee of experts/officials meeting with an understanding that member countries would communicate and prepare an agreed final version of the document

and to seek prior approval from the respective governments before submitting for finalization at the forthcoming sectoral committee meeting.

As a follow up to the deliberations at the second meeting of experts/officials, a Task Force Meeting for Energy Infrastructure Development Project (Natural Gas) was held in Bangkok in March 2001. The meeting discussed in detail the plan to conduct the feasibility study for Trans-BIMST-EC Gas Pipeline from the briefings made by representatives on the status of the natural gas industries in the member countries.

Two alternatives were discussed out of which the second alternative which designates the coordinating country, Thailand, to conduct the study with the information provided by the member countries was agreed. A work plan and a time schedule, setting April 2001 as the date for commencement and October 2002 as the date for completion was prepared.

The Task Force Meeting for Development of New and Renewable Sources of Energy was held in New Delhi in September 2001. The Tata Energy Research Institute (TERI) organized the meeting on behalf of the coordinating country, India. The following 8 projects/topics were discussed for implementation:

1. Training programme for Renewable Energy Technologies and their Applications to be organized by India;
2. Demonstration project for small and medium scale industries using Biomass gasifier systems, to be implemented in the lead country Myanmar;
3. Provision of minimum electricity to rural areas through Solar Home Systems;
4. Technical Assistance and Capacity Building programme among member countries;

5. Set up of a BIMST-EC Energy Business Forum;
6. Strengthening Educational Infrastructure through the use of Renewable Energy Technologies;
7. Opportunity for Women in Renewable Energy Sector; and
8. Establishment of a Research Institutions Network.

The meeting agreed that the proposed projects meet the requirements of the member countries. However, it noted that country specific data and provision for incorporating local conditions in the project design is required. Since the level of development and the capacity to implement varies from country to country, the meeting suggested to let member countries provide feedback on the proposed projects/topics.

To speed up the pace of implementation of the two projects, the lead country organized the Third Meeting of the BIMST-EC Energy Sector Experts/Officials convened in Yangon early 2002.

The meeting first discussed the terms of reference for the energy sector committee which has already been circulated to member countries and approved by respective governments. The meeting then finalized the TOR and agreed to send the final version of the TOR to the working group in Bangkok for further submission to the Ministerial Meeting. The coordinating countries Thailand and India made presentations on:-

1. The status of implementation of the Development of Energy Infrastructure (Natural Gas) project in the BIMST-EC region.
2. The suggested format for collecting, compilation and consolidation of energy information and data for BIMST-EC member countries, followed by,



3. The status of implementation of the Development of New and Renewable Sources of Energy Project in the BIMST-EC region.

The Lead country Myanmar also made a presentation on the status of the Establishment of the Energy Information Center. From the discussions after the presentations, the following transpired:

- Member countries agreed to furnish information necessary for the coordinating country Thailand to conduct a feasibility study for the Energy Infrastructure Development Project. Member countries also agreed on the revised schedule which would commence 1 April 2002 and end in August 2003;
- With regard to the presentation on the suggested format for collecting, compilation and consolidation of energy information and data for BIMST-EC member countries, the representatives agreed to furnish the data according to the format in the data templates on or before the 1st May 2002 deadline;
- With regard to the status of implementation of the Development of New and Renewable Sources of Energy project in the BIMST-EC region:-
  - (a) Member countries agreed to hold a training programme on new and renewable energy technologies in New Delhi on 21-27 March 2002. The programme would focus on application and barriers to penetration, policy and other required interventions;
  - (b) On the subject of a demonstration project using biomass gasifier to be implemented in Myanmar, the meeting recorded that Myanmar would submit an amended proposal for utilizing the gasifier for tobacco drying industry;

- (c) The meeting welcomed the collaboration of Sri Lanka and Thailand for the implementation of the Solar home System Project;
- (d) Regarding the Research Institutions network, the meeting accepted the proposal of the Forest Department of the Ministry of Forestry as the nodal point for Myanmar and the department of Energy Development and Promotion and Tata Energy Research Institute (TERI) as nodal Points for Thailand and India respectively. Sri Lanka and Bangladesh is to confirm the nodal points later; and
- (e) For the Strengthening of Education Infrastructure by using renewables, the meeting agreed that this project be collectively implemented by all member countries with India taking responsibility to prepare a pre-proposal document complete with a format for provision of information.

## **5. Discussion on the terms of reference and action plans**

Myanmar during its tenure of three years as lead country achieved in laying the ground work for cooperation in the energy sector among the BIMST-EC member countries. With the participation of the representatives of the member countries, the Committee of Experts/Officials has drafted five documents:-

1. The Action Plan for the Development of Energy Infrastructure(Natural Gas);
2. The Action Plan for the Development of New and Renewable Energy Resources;
3. The Terms of Reference for the Energy Sector Sectoral Committee;
4. The Terms of Reference for the Energy Infrastructure Development (Natural Gas) Task Force; and

## 5. The Terms of Reference for the Development of New and Renewable Sources of Energy Task Force.

### *5.1 Plan of Action for Energy Infrastructure Development (Natural Gas)*

The plan of action discusses the overview of the energy situation in the BIMST-EC region in which the prospects for production and utilization of natural gas in the region was stressed. The growing importance of natural gas as a source of energy in power generation together with its current widespread use in most of the member countries was highlighted.

The action plan explains that the cooperation in the development of energy infrastructure for natural gas among member countries is essential to improve the overall energy situation, to enhance technical know-how, to foster market based policies, and to strengthen member countries economies and their competitiveness in the world market. It was mentioned that, in order to obtain mutual benefits, from the outset, the member countries need to cooperate in exchanging natural gas related information and transferring technical know-how which are key factors for successful implementation.

The plan identifies the barriers to cooperation in natural gas infrastructure development among member countries as:-

- Lack of updated information about gas reserves and the development of gas fields.
- Lack of updated information about demand and supply of natural gas in each country.
- Inequality of natural gas knowledge and experiences among member countries.

The Plan suggested the following:

- The establishment of a formal task force consisting of representatives from member countries to develop a common basic framework of BIMST-EC Energy Infrastructure Development (Natural Gas).
- A terms of reference for the task force which could include, but not limited to:
  1. collecting information and exchanging each country's experience,
  2. Government's gas policies,
  3. promoting technology transfer and exchanging know-how in order to estimate the proved recoverable reserves,
  4. monitoring supply and changes in resources, utilization plan, pricing structures,
  5. facilitating and integrating efforts to eliminate barriers, and initiating a joint concrete natural gas infrastructure development plan.
- Establishment of a natural gas information center networking with all member countries;
- Creation of a homepage that contains all updated energy related information particularly on natural gas.
- Conduct of regular forums involving all member countries aiming at updating natural gas related information.

### *5.2 Plan of Action for New and Renewable Sources of Energy Project*

The plan outlines the energy scenario in the BIMST-EC region with emphasis on the social and economic conditions. The characteristics of the region in terms of energy consumption, economic growth and population were discussed. The plan also highlights the government and the society's growing commitments to the cause of poverty removal and on providing the advantages of modern technology to the large masses of the poor people in the region. It also addresses the growing realization of a need to investigate the environmental impacts brought about by some conventional forms of energy production and use.

The plan recommended the utilization of renewable sources of energy as the best practice to solve immediate energy problems especially for the population residing in marginal areas of the member countries. It cited advantages in terms of costs, convenience, and social and economic benefits of utilizing renewable systems. The plan also stress that, along with the plans for greater use of renewable energy, there is also a need for overall improvement in the efficiency of energy use in various sectors of the economy of each country. It stressed the need for the exchange of knowledge and experience in the area of new and renewable sources of energy among members of the BIMST-EC countries to the mutual benefits of the member countries.

The plan emphasized that the cooperation in the new and renewable energy field could take place in:-

- Research and Development
- Demonstration
- Information dissemination, and
- market penetration

The barriers to implementation of the plan of action was identified as:-

- (i) Lack of information on energy related issues and developments especially on renewable energy;
- (ii) Lack of adequate interaction and cooperation among member countries in the renewable energy section; and
- (iii) Lack of appropriate pricing systems, institutional arrangements, regulatory reforms and adequate financing for renewable energy as well as energy efficiency measures.

The suggested plan includes:-

- (i) Establishment of an information center networking with all member countries and relating to data on new and renewable sources, and
- (ii) Establishment of a task force on new and renewable energy and energy efficiency.

### *5.3 The Terms of Reference for the Energy Sector Sectoral Committee*

The Terms of Reference for the Energy Sector Sectoral Committee is an essential document for reference by the committee of experts/officials. It provides a framework for initiating and implementing projects, and also the execution of the Energy Sector Cooperation programme. The document comprise of eight sections.

The document has a very broad base objective for enhancing interregional cooperation in the conventional and non-conventional energy sector. It also has a very large scope involving consultations, undertaking studies, search for funding sources including the initiation of action plans and the organization of conferences, seminars and workshops.

The document also specifies the level of the focal point for representing in the committee, the procedure for conducting meetings, frequencies of meetings, the chairmanship, extension of areas for cooperation and a provision for amendment.

#### *5.4 Terms of Reference for Energy Infrastructure Development Project (Natural Gas) Task Force*

The terms of reference is drafted in line with the following objectives:

- To improve the region's overall energy situation
- To enhance technical know-how
- To foster market based policies
- To strengthen member countries' economies and their competitiveness in the world market.

The TOR focus on utilization of natural gas in the region which is the main driving force for the natural gas infrastructure development. The TOR also provides the basis for preparing the Master Plan for the "Trans BIMST-EC Gas Pipeline".

For the realization of the master plan which spans across borders of member countries, the scope of the TOR includes:-

- (i) Study of the government's energy policy
- (ii) Study of the market aspect of natural gas utilization
- (iii) Study of the natural gas supply in the region
- (iv) Study of the technical aspects of physical implementation
- (v) Perform economic analysis
- (vi) Creation of a home page of updated information of natural gas

The TOR for the task force suggest that a set of recommendations should be submitted on the connection of the Trans-BIMST-EC gas pipeline with roles and responsibilities of each party clearly defined for implementation.

#### *5.5 Terms of Reference for Development of New and Renewable Sources of Energy Task Force*

The objective of the TOR is to devise a strategic framework that would facilitate implementation of collaborative projects among the BIMST-EC countries.

The activities of the task force focus on:-

- Partnership in research
- Partnership in product development and their market development
- Developing a framework for the regulatory reforms in the power sector.

The scope of work includes:-

- (1) To set up a data bank and information centre for exchange of information related to research, product development and other detailed information related to NRSE,
- (2) To undertake preparation of detail country reports
- (3) To organize conferences to bring together stakeholders in the field of NRSE,
- (4) To undertake in-depth studies in each country with the following objectives:-

Status of technology, research and development and manufacturing base,



- Assessment of current markets and future growth prospects,
  - Recommendations on policy and regulatory framework for grid and off-grid solutions,
  - Outline of implementable projects with their cost-benefit analysis.
- (5) To develop the outline of collaborative projects based on the in-depth studies in each country and recommend the implementation strategy.

## **6. Potential for Cooperation**

The five member countries of BIMST-EC vary widely in their levels of development, this variance being most likely due, among others, to large population, the level of industrialization and economic growth. Energy, on the other hand, is an important ingredient for the development of the economy and the supply of adequate and reliable energy is a critical input to the development process. As such BIMST-EC member countries need to increase the input of this critical commodity through the development and management including resource sharing and development of new and renewable energy resources. One way of achieving this is through regional cooperation which can bring about economic and social prosperity to the individual member countries and to the region itself.

Based on the country reports and discussions at the meetings of Experts/Officials, it may be argued that potential for cooperation exists among member countries of this sub-regional group especially in the field of developing and managing both commercial and non-commercial energy resources. In the field of commercial energy, member countries have the opportunity of trade and sharing of electricity and natural gas. Some of the countries, for example Myanmar and Thailand, are already in practice of cross border power trade in some sectors of the border.

The sharing of the large natural gas resource on the Myanmar side with users across the border on the Thai side is a significant achievement in this direction. It is expected that the BIMST-EC energy sector cooperation programme will enhance wide spread sharing of resources in a similar fashion in the sub regional context throughout the region.

The population in most BIMST-EC member countries is scattered over a wide area with the majority residing in the rural area. Thus, the issue of rural energy is another issue that needs to be addressed in the BIMST-EC region. In the past, traditional energy sources such as fuel wood has played an important role in the supply of energy to the rural areas of the member countries. However, adequate supply of this commodity or the improvement of other basic energy needs has never been ensured due to lack of a rural energy system. In recent years, world organizations such as the United Nations have encouraged the development of rural energy systems, as one of the measures to combat environmental degradation. These projects have proved their performance, not only in fulfilling the basic energy needs of the rural community but also in alleviating their economic status through opportunities for income generating activities from the energy services received. Member countries such as India and Thailand has substantial experience and expertise in the area of rural energy systems and are at a fairly advanced stage in the set up of these systems in their respective countries. Thus member countries should take steps under the BIMST-EC energy cooperation programme to build up such systems according to the needs of the region through sharing of experience, expertise and collaboration in the regional context.

## **7. Barriers and Constraints**

Since the inception of the BIMST-EC regional grouping, the energy sector programme has made considerable achievements. It has formulated a complete framework for implementing the cooperation programme and the projects. The implementation of

the projects is now in the initiation phase and the relevant agencies of the member countries have been requested to provide information and other inputs for the planned activities and studies. Due to the differences in the administration system, and the organizational set up of institutions, coordinating countries are currently encountering difficulties due to certain barriers and in some cases constraints in proceeding with the planned studies resulting undue delays. The main barriers are those resulting from situations caused by the vastness of the sub-region, the member countries not having the same energy resource base, the same level of economic and industrial development, the same judicial and administrative systems, the same energy sector institutional setup and the same physical infrastructure.

Apart from the barriers mentioned above, the following constraints of a general nature is encountered by some of the member countries:-

- (1) Lack of technology base and technical expertise – Technological constraints.
- (2) Lack of funds to finance or cover costs – Financial constraints.
- (3) Lack of specialized institutions and trained manpower - Institutional constraints.

For the BIMST-EC energy sector cooperation to proceed with momentum these barriers and constraints will have to be properly addressed. To maintain this pace of development member countries should take steps to harmonize the system to the extent possible, arrange academic exchanges and search for active partners willing to support regional cooperation in the developing areas.

## **8. Further Development of the Energy Sector Cooperation Programme**

The BIMST-EC Energy Sector Cooperation Programme has so far identified two significant and major projects – The Development of Energy Infrastructure (natural Gas) and The Development of New and Renewable Sources of Energy in the BIMST-EC Region. During the course of discussions for implementing the two projects a third project the Establishment of an Energy Information Center was agreed for implementation to support the implementation of the two projects as well as the ongoing cooperation programme.

BIMST-EC is a fairly young regional organization. Its direction is charted by the BIMST-EC Ministerial Meeting convened once a year. The meeting is supported by a working group comprising heads of diplomatic missions of member countries in Bangkok. The working group meets once every month to take up issues arising from the sectors of cooperation while the lead countries play their respective roles in bringing about a successful regional cooperation programme. As the regional group grows with the expansion of areas of cooperation and activities, involvement of outside agencies and stakeholders to support programmes and projects would become essential. This is an important issue and would require consideration in the near future. The present system of the lead country taking the lead role has some limitations in establishing such contacts, however, to accomplish such a task, an official BIMST-EC Organization such as a Secretariat is suggested.

As stated specifically in the terms of reference for the BIMST-EC Energy Sector Sectoral Committee, the cooperation programme stresses on the development of all fossil based energy resources and energy infrastructure and the promotion of development and utilization of all possible kinds of renewable energy. Thus the cooperation programme still has a lot of scope to extend the area of

cooperation both in the conventional and non-conventional areas and depending on the dynamism of the forthcoming development partners should be able to extend into other energy subject areas.

On the whole, the energy sector cooperation programme has made substantial achievements in initiating the implementation of the identified projects and is expected to make continued progress in the field.

### **9. The Role of Japan in Future Activities of the Cooperation Programme**

The BIMST-EC Energy Sector Cooperation Programme is in its initial stage. Myanmar as the first country to take the position of the lead country in this sector has devoted much time and resources for the success of the programme. Much thought was given by the lead country to solicit concurrence from member countries for engaging with potential dialogue partners for the sustained development of the energy sector in the sub-region. However, the thought was deferred until the initiative comes from higher levels for engaging dialogue partners. No outside agency or donor country is also known to have expressed their interest on the activities of the regional group so far. Although member countries have kept to the self-reliant path and is proceeding towards the aims and objectives of cooperation programme with full trust, it is realized that BIMST-EC should eventually embark on a campaign to create awareness of its existence, its programmes and activities in the international community.

At the present status of implementation and the circumstances encountered, collaboration of Japan could definitely play an important role in supporting the activities of the energy sector as well as other cooperation programmes. Japan, a developed economy is the largest donor to most BIMST-EC countries on bilateral basis. It also has historical and political ties with some of the member countries of the regional group. The importance of the South Asian Association for Regional Cooperation (SAARC),

another regional group is recognized by Japan with the creation of a special SAARC Fund and the hosting of annual SAARC Forums.

Against this backdrop, Japan could become a development partner in BIMST-EC. At the Lead Country and the Chair Country level, Japan could play the role of expediting and facilitating the process of cooperation. It could also assist the project coordinating countries implement projects according to the specified modalities. At the member country level, assistance could be provided to energy related institutions to strengthen the capacity of the technical staff and improve the performance of the equipment and the institution as a whole. Again at the cooperation level, Japan could facilitate in organizing meetings, seminars and workshops relevant to the areas of cooperation and also assist governments of member countries to participate in those events which is crucial and important for the success of the cooperation effort.

In order to develop and expand the BIMST-EC Energy Sector Cooperation Programme into other sub-sectors and energy subjects, initial studies and consultation missions are required. Japan could also play an important role in this process whereby it could contribute substantially towards expanding the cooperation program.

With a view to harmonizing and depicting a picture of the energy situation of both the ASEAN and the BIMST-EC region, Japan could select similar programmes and activities it has given support in the ASEAN to be implemented in the BIMST-EC region with the support of Japan.

Myanmar in playing the role of the Lead Country, welcomes the support of development partners. Myanmar has made full commitments towards the realization of the objectives set behind the projects and will seek ways to further expand, intensify and accelerate the process of cooperation. Myanmar is also very honoured by the endorsement of the Fourth Ministerial Meeting to continue as the lead country. We pledge to take this opportunity to

add momentum to our present activities and to further contribute towards achieving our perceived objectives.

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**ANNEX-A****The Role and Functions of Lead Countries in Identified Sectors of Co-operation**

1. The Lead Country will monitor/coordinate initiatives for cooperation in identified sectors.
2. The Lead Country will chair a Committee of designated experts/ officials from member countries.
3. The Lead Country will chair and coordinate the work of the Committee and will perform secretariat functions in such a way as to ensure the satisfactory and successful implementation of the projects and to monitor the progress of the work.
4. The Committee will draw up a comprehensive action plan including listing of projects, in cooperation with the private sector, to be implemented, and forwarded to the Senior Officials Meeting for consideration and approval.
5. The Lead Country position in different sectors will rotate between members every three years.
6. The members of the Committee will be in regular contact through correspondence, fax, e-mail etc. The Lead Country will convene a meeting of the Committee at least once a year.
7. The Committee may invite such representatives from the public/private sector and regional/international organizations to its meetings whenever deemed appropriate.
8. The Sectoral Committee will liaise actively with project Coordinating Country(s)/project participants in facilitating



studies for projects to be implemented and for identifying sources of financing such projects. The recommendations of the Sectoral Committee will be forwarded to Senior Officials Meeting members for consideration and approval. In urgent situation, however, such approval could be obtained through consultation/ circulation within the Senior Officials Meeting members.

9. Recommendations on establishing new projects/ sub-sectors received by the Sectoral Committee from Sub-Sector Group(s) or Project Co-ordinating Countries will be forwarded by the Sectoral Committee to the Senior Officials Meeting for consideration and approval. In urgent situations, however, such approval could be obtained by circulation and consultation through diplomatic channels.
10. The Lead Country will submit regular progress reports to the Senior Officials and present its annual report to the Senior Officials Meeting.

**ANNEX-B****Role and Functions of Chair Countries in Sub-Sectors**

1. Where sub-sectors have been identified, the designated Chair Countries will seek to identify specific projects for facilitating cooperation.
2. The Chair Country will function in consultation with an Expert Group drawn from member countries.
3. The Chair Country will chair and coordinate the work of the Expert Group, and perform secretarial functions of the Expert Group in such a way as to ensure the satisfactory and successful implementation of the projects and to monitor the progress of the work.
4. The members of the Expert Group will be in regular contact through correspondence, fax, e-mail etc. and will meet whenever deemed necessary.
5. The Expert Group will coordinate, monitor and review progress in projects being implemented and will report on the same to the Sectoral Committee.
6. The Expert Group may invite such representatives from the public/private sector and regional / international organizations to its meetings whenever deemed appropriate.
7. The Sub-sector Chair Country position will rotate between members every three years.

**ANNEX-C****Modalities of Implementing Projects and Functions of Project Coordinating Countries**

1. Project Coordinating country will implement project through the mechanism of the Project Panel comprising of representative from member countries in the project.
2. The members of the Panel will be in regular contact through correspondence, fax, e-mail, etc. The Project Coordinating Country will convene a meeting whenever deemed necessary.
3. The Project Panel may invite participation from representatives from the private sector in the implementation of projects as deemed appropriate.
4. The Project Coordinating country in consultation with other participants, shall draw up a work plan to be approved by the Senior Officials Meeting.
5. The Project Coordinating Panel will suggest source of financing the projects to the Sectoral Committee which could include participation by regional / international organizations, public and private participation from member countries.
6. Each project will require participation by at least two countries which could contribute through expertise, capital or equipment.
7. In case of long-term projects, if deemed appropriate, the project could be implemented in its successive phases by other member countries on a rotational basis.
8. The Project Coordinating country shall inform on the progress of the project to the Sub- Sector Expert Group or Sectoral Committee as applicable.

**ANNEX-D****TERMS OF REFERENCE  
FOR  
THE BIMST-EC ENERGY SECTOR COMMITTEE****1. Objective**

The primary objective of this sectoral committee is : -

To enhance intra-regional cooperation among the energy sectors of the member countries through an action plan or plans for the development of conventional and non-conventional sources of energy in the region.

In the area of conventional energy, the objective is to identify and to clarify possibilities for the joint development of fossil based energy resources and energy infrastructure in member countries of BIMST-EC. In the area of non-conventional energy, the promotion of development and utilization of all possible kinds of renewable energy sources, such as, but not limited to, biomass, solar, wind and tidal is stressed.

**2. Scope**

- The Committee shall discuss among the members, and consult with appropriate agencies for the establishment of energy data base and energy information exchange system within the member countries;
- The Committee shall undertake to prepare reports on the demand and supply of energy in the region, identify potential areas for cooperation and trade, and barriers and constraints in enhancing cooperation;

- Perform in-depth studies in potential areas of cooperation and collaboration, including the policy and regulatory issues of each member country;
- Search for sources for funding specific programs and projects;
- Initiate action plans, organize expert groups and mobilize task forces for the implementation of specific programs and projects;
- Organize conferences, seminars and workshops on subjects relevant to the areas of cooperation.

### 3. Composition

The focal point of each country should be either an expert or an official at the decision making level from the government sector or semi-government agency overseeing energy related business.

It is imperative that the designated focal point or country representative participate at all committee meetings.

### 4. Procedure

The meeting shall be conducted by the Chairman of the Sector Committee.

Normally, the Sector Committee meetings shall be convened at least four months ahead of the BIMST-EC Senior Officials Meeting and back to back with the Expert Group meeting(s).

The Sector Committee meeting will prepare a report incorporating the agreements reached in the Expert Group meeting(s), which shall be submitted to the BIMST-EC Senior Officials Meeting through the BIMST-EC Working Group.

### 5. Chairmanship

The lead country shall retain the Chairmanship of the Sector Committee meeting throughout the three years of its tenure.

### 6. Frequency of Meetings

The meeting of the Sector Committee shall be convened at least once a year and as and when required.

### 7. Areas of Cooperation

The Sector Committee members, to facilitate the drawing up of a work plan should, at every meeting, discuss and consider the expansion of programs and projects into other energy sub-sectors.

### 8. Amendment

Sector Committee shall review its Terms of Reference and the proposed amendments, if any, shall be submitted for approval to the next Ministerial meeting.