

1999-2004 ASEAN PLAN OF ACTION FOR ENERGY COOPERATION

Adopted in Bangkok, Thailand on 3 July 1999

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EXECUTIVE SUMMARY

This document serves as a blueprint for ASEAN cooperation in the field of energy for the period 1999 to 2004, the first phase of implementation of the ASEAN Vision 2020 as prescribed by the Hanoi Plan of Action of 1998.

This plan covers the energy component of the Hanoi Plan of Action which directs the ASEAN towards the following objectives for 1999-2004: (1) to ensure security and sustainability of energy supply, efficient utilisation of natural energy resource in the region and the rational management of energy demand, with due consideration of the environment; and (2) to institute the policy framework and implementation modalities by 2004 for the early realisation of the Trans-ASEAN energy networks covering the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline Projects as a more focused continuation of the medium- term programme of action (1995-1999).

Six programme areas have been identified as the focus for the plan of action, namely: (1) ASEAN Power Grid; (2) Trans-ASEAN Gas Pipeline; (3) Energy Efficiency and Conservation; (4) New and Renewable Sources of Energy; (5) Coal; and (6) Regional Energy Outlook, Energy Policy and Environmental Analysis. Each programme area is defined with specific objectives, strategies and actions summarised in a matrix for easy reference (Annex 1). Each of the six programme areas is matched with a corresponding subsector organisation of the ASEAN that is committed to principally implement the required actions/projects. The organisations are: (1) the ASEAN Council on Petroleum (ASCOPE), (2) the Heads of ASEAN Power Utilities/Authorities (HAPUA), (3) the Energy Efficiency and Conservation (EE&C-SSN) Subsector Network, (4) the New and Renewable Sources of Energy Subsector Network (NRSE-SSN) Subsector N, (5) the ASEAN Forum on Coal (AFOC), and (6) the ASEAN Centre for Energy (ACE). The detailed work programme, fund sourcing, budget and other implementing arrangements shall be prepared by these organisations based on the plan of action approved by the ASEAN Senior Officials Meeting on Energy (SOME) and the ASEAN Minister's of Energy Meeting (AMEM) (Annex 2).

ACE is also tasked to facilitate and technically coordinate the work of the other implementing organisations such as in the conduct of project preparation, feasibility studies, sourcing of funds and other services that the member countries, through SOME and the ASEAN Secretariat, may consider necessary. The SOME, jointly with the ASEAN Secretariat through ACE, shall coordinate, manage and monitor the implementation of this plan. The ASEAN Secretariat shall further provide the program coordination and other requirements with the other ASEAN coordinating bodies and the ASEAN dialogue partners.

LIST OF ABBREVIATIONS

AAECP	ASEAN-Australia Economic Cooperation Programme
ACE	ASEAN Centre for Energy
ADB	Asian Development Bank
AEBF	ASEAN Energy Business Forum
AEEMTRC	ASEAN-EC Energy Management Training and Research Centre
AFOC	ASEAN Forum on Coal
AMEM	ASEAN Ministers on Energy Meeting
APERC	Asia Pacific Energy Research Centre
APG	ASEAN Power Grid
APSA	ASEAN Petroleum Security Agreement
ASEAN-EC Cogen	ASEAN-European Commission Cogeneration
ASCOPE	ASEAN Council on Petroleum
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Agency for International Development
BCMY	Billion cubic metres per year
CASE	Centre for the Application of Solar Energy
CCOP	Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas
CCT	Clean Coal Technology
EE&C	Energy Efficiency and Conservation
EE&C SSN	Energy Efficiency and Conservation Subsector Network
FAO-RWEDP	Food and Agriculture Organisation – Regional Wood Energy Development Programme

GEF	Global Environmental Fund
GW	Gigawatts
GMS	Greater Mekong Subregion
HAPUA	Heads of ASEAN Power Utilities and Authorities
HSE	Health, Safety and Environment
IEA	International Energy Agency
IUEP	Integrated Urban Energy Planning
MARKAL	Market Allocation Mechanism Model
MRC	Mekong River Commission
NRETs	New and Renewable Energy Technologies
NRSE	New and Renewable Sources of Energy
NRSE SSN	New and Renewable Sources of Energy Subsector Network
PAECE	Programme of Action for Enhancement of Cooperation in Energy
PRESSEA	Promotion of Renewable Energy Systems in Southeast Asia
SOME	Senior Officials Meeting on Energy
TAGP	Trans-ASEAN Gas Pipeline
UN-ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations International Development Organisation
USAID	United States Agency for International Development
WB	World Bank
WEC	World Energy Council

INTRODUCTION

ASEAN Member Countries have engaged in cooperation programmes, in the field of energy, through a series of plans of action in the 1990s, arising from the Fourth and Fifth ASEAN Summits. The ASEAN Medium Term Programme of Action on Energy Cooperation (1995-1999) was developed following the review of the Programme of Action for Enhancement of Cooperation in Energy (PAECE) endorsed in 1991. This medium term programme, adopted in October 1995, took into consideration a focused approach to ASEAN cooperation in the following areas: Electricity, Oil and Gas, Coal, New and Renewable Sources of Energy, and Energy Efficiency and Conservation, among others, through the established ASEAN coordinating bodies in each of these five cooperation areas, and in further pursuance of the Agreement of ASEAN Energy Cooperation of 1986.

The importance of ASEAN energy cooperation was further underscored in the 1995 Bangkok Summit Declaration, which stated “ASEAN shall ensure greater security and sustainability of energy supply through diversification, development and conservation of resources, the efficient use of energy, and the wider application of environmentally sound technologies”. This was reinforced in the ASEAN Vision 2020, arising from the ASEAN Second Informal Summit in December 1997 in Kuala Lumpur, and calling for cooperation activities to “establish interconnecting arrangements for electricity, natural gas and water within ASEAN through the ASEAN Power Grid and a Trans-ASEAN Gas Pipeline, and promote cooperation in energy efficiency and conservation, as well as the development of new and renewable energy resources”. The Hanoi Plan of Action of 1998 provided the direction towards this vision during the period 1999-2004. This direction is regarded as the general objective of the more detailed plan of action in this document.

This document is a product of deliberation by practically all who are concerned with the formulation, financing, implementation and management of international cooperation in energy in the ASEAN. The first version entitled “Integrated Implementation Programme on ASEAN Energy Cooperation 1999-2004” was prepared by the ASEAN-EC Energy Management, Training and Research Centre (AEEMTRC) in cooperation with the ASEAN Secretariat in mid-1998. That version was circulated for about four months among the senior officials of energy of the ASEAN member countries until the Expert’s Group Meeting that reviewed the document was held on November 24-25, 1998 in Jakarta, Indonesia. A special Meeting of the Senior Officials Meeting on Energy held on November 26, 1998, affirmed the recommendations of the Expert’s Group, as follows:

1. Change the title of the document to “ASEAN Plan of Action for Energy Cooperation 1999-2004”,
2. Merge the two programme areas: energy and environment, and policy formulation;
3. Energy security and oil should not be treated as a separate programme area;
4. Urge the ASEAN specialised bodies like ASCOPE, HAPUA, AEEMTRC, AFOC and the ASEAN subsector networks under SOME to further study the plan of action and submit to ACE the revised formulation by April 1999; and
5. ACE to finalise the document in time for consideration and adoption during the SOME/17th AMEM in July 1999.

To ensure integration of all inputs from the specialised ASEAN bodies and to establish ownership of the various portions of the plan, ACE in collaboration with Singapore’s Public Utilities Board and the ASEAN Secretariat conducted a Planning Workshop on the plan of action on 19-20 April, 1999. Representatives of the member countries and the subsectoral ASEAN bodies were involved. After

further review by the specialized bodies the resulting draft goes to the Chairman and members of SOME one-month prior to the SOME/AMEM meetings.

In essence, this document is a product of several iterations consistent with the intent that the herein plan of action shall serve as a guide for the next six years in the identification, formulation and implementation of specific projects on energy cooperation of the ASEAN. It is understood that after approval of this document by SOME and AMEM, the specialised subsectoral ASEAN bodies shall take their respective responsibilities in the execution of this ASEAN Plan of Action for Energy Cooperation 1999-2004.

GENERAL OBJECTIVES

As provided for in the Hanoi Plan of Action of 1998, the energy sector of ASEAN shall have the following objectives for 1999-2004:

Ensure security and sustainability of energy supply, efficient utilisation of natural energy resource in the region and the rational management of energy demand, with due consideration of the environment.

Institute the policy framework and implementation modalities by 2004 for the early realisation of the Trans-ASEAN energy networks covering the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline Projects as a more focused continuation of the medium- term programme of action (1995-1999).

PROGRAMME AREAS

Following the above objectives and providing continuity with the 1995-1999 medium-term programme of action on energy, the ASEAN Plan of Action on Energy Cooperation 1999-2004 is focused on six (6) programme areas, as follows:

PROGRAMME AREA NO. 1: ASEAN POWER GRID

Blessed with vast energy resources like oil (22 billion barrels), gas (227 trillion cubic feet), hydro (234 GW), coal (46 billion tons), and geothermal (20 GW), ASEAN offers opportunities for its member countries to jointly develop a borderless electricity industry leading to the development of an ASEAN Power Grid. With current installed capacity of 76 GW, the electricity demand of ASEAN will continue to post a high rate of growth requiring the development of electricity infrastructures which is vital for industrial development and the enhancement of the quality of life.

Objective

To establish the policy framework and implementation modalities of the electricity networks comprising the ASEAN Power Grid.

Strategies and Actions

- 1.1 The Heads of ASEAN Power Utilities/Authorities (HAPUA) in its cooperation project No. 3 (Interconnection) shall continue to identify, monitor and pursue bilateral and cross-border interconnections that will later develop and form part of the regional grid.
 - 1.1.1 Develop the ASEAN Power Grid to consist of interconnection projects such as the following fourteen (14) projects:

Peninsular Malaysia – Singapore

Thailand – Peninsular Malaysia.
Sarawak – Peninsular Malaysia
Sumatra – Peninsular Malaysia
Batam – Bintan – Singapore – Johor
Sarawak – West Kalimantan
Philippines – Sabah
Sarawak – Sabah – Brunei
Thailand – Lao PDR
Lao PDR – Cambodia
Thailand – Myanmar
Vietnam – Cambodia
Lao PDR – Vietnam
Thailand – Cambodia

Electricity interconnection networks exhibiting strong potentials of economic and technical viability may be accorded priority attention and opened to private sector finance during the period 1999 – 2004. However, it must be recognized that the ASEAN Member Countries have different capabilities and priorities, and thus actual project implementation depend largely on technical merits and cost-effectiveness.

1.2 Establish Coordinated Planning Approach to Electricity Interconnections

An integrated policy planning approach has been developed for the Greater Mekong Sub-Region, including Laos, Myanmar, Thailand, and Vietnam. This approach would be expanded to cover the whole ASEAN region. The required actions are:

- 1.2.1 Expand the integrated policy planning approach developed for the Greater Mekong Subregion to include the whole ASEAN region.
- 1.2.2 Conduct a comprehensive Masterplan Study on the ASEAN Power Grid to address the inter-related issues of interconnection including regulatory and institutional issues, financing, commercial and technical issues

1.3 Enhance Interconnecting Arrangements within the ASEAN Subregional Growth areas

The establishment of interconnecting arrangements in electricity through the ASEAN Power Grid shall be pursued in stages with high priority given to the ASEAN sub-regional growth areas, thus requiring the following action:

- 1.3.1. Pursue bilateral and multilateral electricity interconnection projects within the ASEAN sub-regional growth areas such as SIJORI (Singapore-Johor – Riau);

Indonesia – Malaysia – Thailand and EAGA (East ASEAN Area including Brunei, Indonesia, Malaysia, Philippines).

PROGRAMME AREA NO. 2: TRANS-ASEAN GAS PIPELINE (TAGP)

There had been significant increase in the number of gas pipelines in the ASEAN with total built pipelines of about 5,565 km. while some 7,000 km of pipeline length are in the planning stages. ASEAN's domestic consumption of natural gas reached 42 million tons of oil equivalent, 71% of which was used for power generation. From the period 1986-1996, gas consumption grew on the average of about 15%.

The Masterplan Study on Natural Gas Development and Utilisation in ASEAN made by AEEMTRC in 1997, projected that the demand for natural gas will reach between 11.3 billion cubic meters per year (BCMY) to 12.8 BCMY in the year 2000. This will further increase to between 38 BCMY and 69 BCMY in the year 2020. Upon completion of the TAGP, the region's dependence on imported energy can be reduced substantially, and a shift from coal and petroleum will serve to avoid emission problems.

Objective

To formulate strategies and plan of action for the implementation and realization of the "Trans-ASEAN Gas Pipeline Infrastructure Project" with a view to ensuring greater security of gas supply.

Strategies and Actions

The following strategies and corresponding plan of action provide the platform for the implementation and realisation of the TAGP.

- 2.1. Establish the ASCOPE TAGP Task Force
 - 2.1.1. Operationalise the Task Force within the framework of ASCOPE.
- 2.2. Formulate a Masterplan for the "Trans-ASEAN Gas Pipeline Infrastructure Project"

Despite the "Masterplan for the Development and utilization of Natural Gas in the ASEAN Region" produced by AEEMTRC in 1997, there is a need to reformulate the masterplan based on updated economic data, energy supply and demand scenario and on the plans of the stakeholders such as the National Oil Companies, the energy authorities of the respective ASEAN countries and the owners of the natural gas reserves and facilities concerned. This strategy calls for the following action:

- 2.2.1. Review and update AEEMTRC's "Masterplan for the Development and Utilisation of Natural Gas in the ASEAN Region"
- 2.2.2. Formulate Masterplan for the most likely scenario for the short-term development of the "Trans-ASEAN Gas Pipeline Infrastructure Project"
- 2.3. Facilitate the Undertaking of Conceptual Project Feasibility Study. Conceptual project feasibility studies of gas pipeline interconnection projects across national borders are required as an initial step towards the implementation of proposed interconnections. The conceptual feasibility studies may be facilitated through mechanisms available to ASEAN as and when necessary. The corresponding action is as follows:
 - 2.3.1. Incorporate and align the existing and planned gas infrastructure as an integral part of the "Trans-ASEAN Gas Pipeline Infrastructure Project".

- 2.3.2. Consult gas owners/PSC contractors on the feasibility and implementation schedule of gas pipeline projects already identified or planned such as the following:

Malaysia-Thailand JDA to Malaysia and Thailand Gas Pipelines.

Indonesia (West Natuna and Sumatra)–Singapore Gas Pipeline

Myanmar (Yadana) – Thailand Gas Pipeline

Myanmar (Yetagun) – Thailand Gas Pipeline

Sabah, Malaysia – Palawan, Philippines Gas Pipeline

- 2.4. Identify and Address Issues Relating to Institutional, Legal, Financial / Commercial, Technical, HSE (health, safety and environment) and Management

This strategy is crucial to the acceptability of the interconnection projects by the governments concerned and the general public. The action required during the next six years are as follows:

- 2.4.1. Identify key issues relating to institutional, legal, financial / commercial, technical, HSE and management of the “Trans-ASEAN Gas Pipeline Infrastructure Project”.

- 2.4.2. Relevant authorities to address and act on recommended key issues

- 2.5. Facilitate the Implementation and Realisation of the “Trans-ASEAN Gas Pipeline Infrastructure Project”

This strategy presupposes the readiness for implementation of certain aspects or segments of the TAGP. Action is therefore required to:

- 2.5.1. Encourage and facilitate discussions between gas producers/suppliers and consumers with a view of concluding relevant agreements.

PROGRAMME AREA NO. 3: COAL

Coal is an energy resource crucial for the region’s economic development. While the oil reserves of ASEAN are being depleted, coal resources are waiting to be substantially explored and coal demand is rising sharply. Besides its abundance and wide distribution, coal applied in combined cycle plants is one of the cheapest fossil fuel. It is also relatively easy to transport and distribute. With this rapidly increasing share of coal in the ASEAN energy mix, it is imperative for this action plan to include coal among its programme areas.

Objective

To promote the development and utilisation of coal while addressing environmental issues.

Strategies and Actions

In pursuance of the above objective the Coal Subsector Network has been transformed last April 21, 1999 into the ASEAN Forum on Coal. It has identified five (5) strategies and eleven (11) plans of action, as follows:

3.1. Strengthen Institutional and Policy Framework

3.1.1. Transform the ASEAN Coal Sub-sector Network into the ASEAN Forum on Coal (AFOC) in 1999.

This action has been completed upon the transformation of the coal subsector Network into the AFOC. Upon approval by SOME/AMEM of the AFOC Charter, the interim Chairman of AFOC shall convene the AFOC Council which shall be composed of representatives of respective AFOC national committees of the ASEAN member countries. Meanwhile the focal points of the Coal Subsector Network are spearheading the formation of the AFOC National Committees in their respective countries.

3.1.2. Conduct an inventory of existing policies, institutional arrangements and regulations on coal and the key actors in each Member Country.

This action shall be a cooperative effort of ACE and AFOC. ACE shall make use of its homepage wherein the inventory shall be maintained up-to-date and disseminated through networking with AFOC secretariat and the AFOC National Committees in the member countries. Summaries of these inventories will appear in print in the ASEAN Energy Bulletin.

3.2. Promote Clean Coal Technology (CCT)

3.2.1. 3.2.1 Clean coal technology for rural electrification

While the promotion of clean coal technology is an important strategy involving both large-scale and small-scale coal-fired power plants, emphasis shall be made during the next six years on the application of clean coal technology at small-scale particularly for rural electrification at 5-50 MW range in coal-bearing remote areas in the Philippines, Indonesia or Vietnam.

3.3. Promote Private Sector Investments

3.3.1. Conduct investment promotion roadshows

3.3.2. Organise coal business forums

3.3.3. Undertake feasibility studies on coal infrastructure projects

Private sector investment is of course the key to a successful promotion of coal resource development. The range of investment needs is generally in the small and medium scale, hence affordable to many entrepreneurs both local and foreign. To effectively achieve this, investment promotion roadshows and business forums shall be conducted regularly in appropriate countries of the region. In preparation for these promotion schemes feasibility studies on coal projects shall be compiled and made available to prospective investors. When necessary, assistance in conducting feasibility studies shall be provided by the relevant ASEAN body to enhance investment opportunities.

3.4. Promote Intra-ASEAN Trade on Coal

3.4.1. Establish a directory of common guidelines for coal specifications, producers and consumers in ASEAN.

This activity shall be done principally by ACE in cooperation with AFOC and the AFOC National Committees. Continuously updated information will be networked through the ACE homepage and corresponding nodes in the member countries.

3.4.2. Organise a network of coal laboratories in ASEAN to harmonise standards of coal analysis

Important coal laboratories in the ASEAN countries will be encouraged to form a network under the AFOC umbrella. Analytical standards will be harmonised and raised to an adequate level of excellence through training and equipment modernisation. Capability complementation shall be encouraged.

3.4.3. Conduct studies on existing and future coal flow in the region

In coordination with other international energy organisations such as APERC, IEA, WEC and other studies will be conducted on coal trade flows in the region. This will expectedly show how a coal commodity market can be organised and established in the future.

3.4.4. Conduct feasibility studies on establishing an ASEAN coal commodity market

Towards the second half of this planning period, the idea of establishing an ASEAN coal commodity market would have matured with the relevant data. A feasibility study shall be conducted thereon.

3.5. Promote Environmental Impact Assessment of Coal Projects

3.5.1. Provide assistance in environmental impact assessment of coal projects

Particularly, in the case of small-scale coal projects the entrepreneurs need external assistance on environmental impact assessments. The ASEAN mechanisms should be made available to carry out this purpose. ACE and/or AFOC should be endowed with funds, or expert capabilities to provide this service.

PROGRAMME AREA NO. 4: ENERGY EFFICIENCY & CONSERVATION

Objective

To promote cooperation in energy efficiency and conservation by enhancing public awareness and creating markets for energy efficient products made in ASEAN.

Strategies and Actions

4.1. Enhance EE&C Information Network

4.1.1 Compendium of general and sectoral EE&C policies and strategies in ASEAN

4.1.2 Directory of EE&C products and technologies in ASEAN

4.1.3 Directory of EE&C resources in ASEAN

4.1.4 Document EE&C Best Practices in ASEAN

4.1.5 Document Seminar-Workshop and Training's on specific EE&C topics

The actions under this strategy shall be performed mainly by ACE in coordination with the Energy Efficiency and Conservation Subsector Network (EE&C-SSN). While some important information shall be printed for dissemination, basically all information will be collected, stored and disseminated through the ACE Homepage. Updating will be done regularly by an EE&C specialist in the ACE headquarters.

4.2. Formulate ASEAN EE&C Labelling System

4.2.1 Conduct feasibility study on ASEAN labeling system

4.2.2 Implement ASEAN EE&C labeling system (optional)

This strategy and the corresponding courses of action constitute the major energy efficiency and conservation programme of the ASEAN for the next six years. The target is for all electrical products manufactured and marketed in the ASEAN to be labeled adequately showing their efficiency ratings. This is designed for consumer protection and for quality upgrading of electrical products.

4.3. Enhance Private Sector Involvement in EE&C Activities

4.3.1. Seminar Workshop/Training Courses on a voluntary basis

4.3.2. Exhibitions/brokerage event on a voluntary basis

The above two activities shall be conducted by the member countries on voluntary basis to promote private sector awareness and involvement in EE&C. The host country shall endeavour to conduct the events in the English language and invite some participants from other member countries. Efforts should be made to hold such events back-to-back with meetings of the EE&C-SSN.

4.3.3. Design and apply innovative financing instruments in support of EE&C projects to be promoted in public forums such as the AEBF.

Commercialised EE&C financing schemes shall be designed and applied interactively. Such schemes shall be promoted in public forums such as the AEBF.

4.3.4. Competition on EE&C best practices

A competition on EE&C best practices in the ASEAN shall be arranged yearly or as frequently as possible. ACE, in coordination with the EE&C-SSN, shall study the experience of certain member countries on this type of activity. To implement the competition a criteria for judgement shall be developed and a committee to evaluate best performance shall be established. It is suggested that the awarding be held in conjunction with the annual EE&C-SSN Meetings.

4.4. Enhance EE&C Regional Institution

4.4.1. Establishment of EE&C society/forum/association

The 3rd Meeting of the EE&C-SSN on 6-7 April, 1999 noted the need to establish an EE&C focus group in the ASEAN. The term "Forum" was suggested instead of "society" but it was decided that the name of the new organisation be considered during the drafting of its charter.

PROGRAMME AREA NO. 5: NEW AND RENEWABLE SOURCES OF ENERGY

Objective

To promote the development of new and renewable sources of energy (NRSE) and new and renewable energy technologies (NRETs).

Strategies and Actions

To achieve these objectives, the following strategies and actions shall be pursued.

5.1. Develop ASEAN Manufacturing Capabilities in Renewable Energy

5.1.1 Conduct an inventory and establish an information network of NRSE technologies expertise, manufacturing capabilities and commercial availability of NRSE products

5.1.2 Conduct consultation programmes to promote exchange of expertise and technology exchange among ASEAN manufacturers

This strategy along with the three corresponding actions are perceived to be crucial in enhancing the competitiveness of NRE technologies with fossil-fuel fired systems. They also provide the answer to the problem of making locally available large numbers of small systems and parts for the generally small-scale NRE plants. The first course of action will be implemented by ACE in coordination with the NRSE-SSN utilising its Homepage and its linkage with member country focal points. The second and third courses of action shall be implemented through some projects that would be developed with dialogue partners.

5.2. Create a Policy and Institutional Framework for the Development of Renewable Energy

5.2.1. Assess the effectiveness of existing policies, plans and programmes on NRSE

5.2.2. Formalise the participation of appropriate institutions in NRSE

5.2.3. Conduct dialogues and consultation workshops between high level officials and key industry players

The benefits from NRSE and NRE technologies such as environmental soundness, energy security, longevity, remote/off-grid area adaptability, availability down to very small scales, and technological simplicity have to be compensated with supportive policies and institutional framework to balance their inherent handicaps in the commercial field. The above strategy addresses this need and shall be implemented through the national NRE networks coordinated by the ASEAN NRSE-SSN and ACE. The policy analysis and formulation aspect of this strategy will be addressed by the on-going project, AAECF phase 3: Energy Policy and Systems Analysis.

5.3. Promote Intra-ASEAN Cooperation on ASEAN Made Products.

5.3.1. Compile existing product specifications and standards in member countries and put them into the ACE Homepage

5.3.2. Develop best practice benchmarks for NRE products in the ASEAN

The strategy and corresponding actions recognize the fact that NRE systems and parts are produced in certain ASEAN countries. They are in fact used in actual installations but principally in the small-scale level.

With greater emphasis by the member countries on rural electrification, their demand is obviously bound to increase dramatically. This strategy and the identified courses of action are designed to prepare the ground for greater use of ASEAN made NRE products.

5.4. Promote the Application of Renewable Energy for Rural Energy

5.4.1. Compile information on existing renewable energy programmes/projects, including financial mechanisms already existing.

5.4.2. Design and apply innovative financing instruments in support of NRSE projects to be promoted in public forums such as the AEBF.

5.4.3. Along with the national renewable energy networks, implement NRSE projects such as the Joint ASEAN Mini-hydro programme, PRESSEA, biomass, solar, ocean, wind, and other projects.

This strategy and the corresponding actions are geared towards a big expansion of the NRSE/NRET market. The principal targets are the still unelectrified off-grid remote villages, which number about 16,000 in Indonesia, 11,000 in the Philippines and similar numbers in most ASEAN countries. Some of the proposed actions are already on-going in ACE and in many of the member countries. The NRSE-SSN is involved in the coordination of these on-going projects like PRESSEA, and the Joint ASEAN Mini-hydro Programme.

PROGRAMME AREA NO. 6: REGIONAL ENERGY OUTLOOK, ENERGY POLICY AND ENVIRONMENTAL ANALYSIS

Objective

To develop national and regional capacities in the analysis and/or formulation of energy outlook, policy and environmental concerns/measures

Strategies and Actions

6.1. Establish a Framework for the Analysis and Preparation of Regional Energy Outlook and Energy Policy

6.1.1. Update and compile current energy policies, energy plans, energy data of member countries in order to provide a basis for formulating and maintaining a comprehensive regional energy cooperation in ASEAN in ACE's information WebPages.

6.1.2. Conduct regional energy outlook and policy analysis through the use of established planning softwares such as MARKAL.

The strategy and underlying actions are being pursued under the AAECF Phase 3: Energy Policy and System Analysis Project. This project is funded by

the AUSAID and managed through the ASEAN-AUSTRALIA Economic Cooperation Programme by the ASEAN Standing Committee with the ASEAN National Secretariat of Indonesia as Focal Point. ACE is the regional host organisation and is a member of the Project Coordinating Committee, along with focal points of the member countries and the ASEAN Secretariat.

6.2. Develop Institutional and Organisational Capability

- 6.2.1. Conduct capacity building activities in member countries for energy outlook and policy analysis using similar methodologies of data reporting, demand forecasting and energy planning.

This action is undertaken by the AAECF Phase 3 through the respective national coordination committees of the member countries.

- 6.2.2. Undertake Integrated Urban Energy Planning (IUEP) programme for key cities in ASEAN Member Countries.

Integrated Urban Energy Planning had been actively promoted and implemented by AEEMTRC from 1990 to 1997. Models were made on Baguio City, Bandung and Chiang Mai. An Integrated Urban Planning Guidebook was published in November 1997. This action shall serve to continue the effort of AEEMTRC and the preparation of highly desirable IUEP for major cities in the ASEAN region.

6.3. Regional Cooperation and Networking

- 6.3.1. Conduct SSN Meetings at appropriate frequencies
- 6.3.2. Conduct joint studies to cover important issues such as energy pricing; fuel substitution; energy conservation and planning; energy trade; energy demand and supply; renewable energy prospects in the region; and impact of fuel tax on energy use in the ASEAN region and its implication to the environment.

This proposed action is pursued under the AAECF: Phase 3. Highly focused studies are however, planned to be undertaken in connection with specialised projects and by the subsector networks.

6.4. Reduce Environmental Impacts of Energy Use

- 6.4.1. Establish an information network and publication system on regional/global emissions of energy development
- 6.4.2. Conduct studies on environmental and trade policies for sustainable development.

The actions required above will be undertaken by ACE utilising its Homepage for information networking. An environmental specialist stationed at the ACE Headquarters shall be made available for this project and for providing assistance in EIA.

IMPLEMENTING ARRANGEMENTS

SOME jointly with the ASEAN Secretariat, through the ASEAN Centre for Energy (ACE) shall coordinate, manage and monitor the implementation of the Plan of Action. In particular, ACE shall provide technical coordination, as well as facilitate the task of the implementing organisations such as in the planning and fund sourcing, among others. The ASEAN Secretariat shall be responsible for programme coordination and other requirements with the other ASEAN coordinating bodies and the ASEAN dialogue partners. The implementing organizations or the energy subsector organisations are:

1. HAPUA – Heads of Power Utilities/Authorities;
2. ASCOPE – ASEAN Council on Petroleum;
3. AFOC – ASEAN Forum on Coal;
4. EE&C-SSN – Energy Efficiency and Conservation Subsector Network
5. NRSE-SSN – New and Renewable Sources of Energy Sub-Sector Network; and
6. ACE – ASEAN Centre for Energy
7. AEBF – ASEAN Energy Business Forum
8. The relationship of the various ASEAN organisations is depicted in Annex 2.

As regards the implementation of the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline, the Special Meeting of SOME on November 26, 1998 agreed to establish a mechanism for dialogue, consultation and exchange of information between ASCOPE and HAPUA for the development of integrated ASEAN Energy Grid. In this context, the Meeting tasked HAPUA and ASCOPE to submit the proposed modality for consideration in the SOME/17th AMEM. Subsequently, this issue was discussed during the Planning Workshop on the ASEAN Plan of Action for Energy Cooperation 1999-2004 on April 19-20, 1999. While a proposed modality of actions has been proposed by ASCOPE to HAPUA, the latter postponed further discussions on the issue since the member of HAPUA have not yet given their comments on the said modality. ASCOPE and HAPUA agreed to continue consultations to pursue the issue.

ASEAN INSTITUTIONS

Each programme area of the ASEAN Plan of Action for Energy Cooperation 1999-2004 will be handled respectively by the appropriate energy subsector organisation of ASEAN. ACE shall further facilitate the task of the other ASEAN energy subsector organisations, such as in planning, fund sourcing and technical coordination. The division of tasks and institutional arrangements under this plan of action are clearly defined in following sections:

ASEAN POWER GRID

This programme area will be handled by the Heads of ASEAN Power Utilities and Authorities (HAPUA). Towards the realisation of the electricity interconnection projects, several implementation modalities have already been established between and among project partners. The project partners are responsible for the management, coordination, evaluation and implementation of interconnection projects while HAPUA provides technical guidance. So far, the approach has primarily been on a

project by project basis. Later on, as the individual electricity networks are linked to form part of the APG, a comprehensive regional perspective on the institutional responsibilities will be worked out.

TRANS-ASEAN GAS PIPELINE

The implementation of this project is the direct responsibility of the ASEAN Council on Petroleum (ASCOPE) through the auspices of the ASEAN Energy Ministers. ASCOPE will operationalise in 1999 the Trans-ASEAN Gas Task Force which will eventually implement the TAGP plan of action in collaboration with national focal points and relevant institutions, particularly ACE and the ASEAN Secretariat to coordinate and closely monitor the approved activities of the action plan. The Task Force is responsible for the successful execution and conclusion of some of the actions entrusted to them by ASCOPE. Likewise, the Task Force will be responsible for advising ASCOPE and other relevant project partners including the private sector on collaborative activities and follow-up actions pertaining to specific strategy and action.

COAL

The newly established ASEAN Forum on Coal (AFOC), formerly the ASEAN Coal Subsector Network will implement the action plan on coal. ACE shall provide technical support and continue to participate in the planning and implementation of the plan of action. The participation of the private sector shall be encouraged to suggest projects where the public authorities could help in the facilitation of private investments. Initially, the Forum will be public sector-led until such time that its participants realise the need for it to become a full pledged organisation established through private sector initiatives.

ENERGY EFFICIENCY AND CONSERVATION

The Energy Efficiency and Conservation Subsector Network, in close coordination with ACE, and national focal points of all ASEAN Member Countries will spearhead the implementation of the action plan. The participation of the AEBF and the private sector shall be sustained in order to involve commercial and business entities in the deliberations of possible energy efficiency projects in the region.

NEW AND RENEWABLE SOURCES OF ENERGY

The New and Renewable Sources of Energy Subsector Network shall lead in the realisation of the action plan. To develop a regional perspective in the development, promotion and commercialisation of renewable energy technologies, close working relationship shall be forged with ACE and the private sector. Likewise, the Network shall tap the AEBF as a coordinative platform, at regional level, that should result to the promotion and participation of the private sector in renewable energy business. Initially, two renewable energy projects of ACE, namely; the Promotion of Renewable Energy Systems in Southeast Asia (PRESSEA) and the ASEAN Joint Minihydro Programme will be implemented with the active participation of the Network.

REGIONAL ENERGY OUTLOOK, ENERGY POLICY AND ENVIRONMENTAL ANALYSIS

ACE will spearhead the implementation of the action plan with the active involvement of ASEAN national focal points. Such involvement should result in the promotion of regional outlook researches and conduct of policy and environmental studies. One project that will address this concern is the ASEAN-Australia Energy Cooperation Programme (AAECP): Phase 3 on "Energy Policy and Systems Analysis Project" to be hosted by ACE. The project will establish regional and national project committees to coordinate project activities particularly in institutionalizing the use of MARKAL planning software.

COOPERATION WITH DIALOGUE PARTNERS

ASEAN welcomes cooperation with Dialogue Partners for the implementation of this energy action plan. This document shall be used as guide in identifying the areas of cooperation.

At present the most important dialogue partners of the ASEAN in the energy sector is the EU. This follows 10 years of EU's strong presence through the ASEAN-EC Energy Management Training and Research Centre (AEEMTRC). Most of the programmes pursued by this institution are being continued by ACE, AEEMTRC's successor organization. On-going projects are: 1. Joint ASEAN Minihydro Programme; 2. Promotion of Renewable Energy Systems in Southeast Asia; and 3. ASEAN-EU Advisory Panel on Energy.

In the pipeline are: 1. ASEAN Power Interconnection Programme/Masterplan Study; 2. Clean Coal Technology for Rural Electrification; 3. East Asian Growth Area Village Electrification Programme; and 4. 1999-2000 ACE Programme for Unspent AEEMTRC Fund.

With Switzerland, a non-EU country, a cooperation project is on-going in the form of technical assistance for the development and application of financing instruments for the Joint ASEAN Minihydro programme.

With Australia an ASEAN Dialogue Partner, the project entitled AAACP Phase 3: Energy Policy and Systems Analysis Project started in March 1999 under the ASEAN-Australia Cooperation Programme.

To fully implement the strategies and actions required in this plan, efforts are being made to encourage energy cooperation with more dialogue partners. Project proposals are now being prepared for submission to the USA, Norway and Japan after preliminary discussions with relevant authorities in those countries.

INTERNATIONAL DEVELOPMENT ORGANISATIONS

The specialized bodies of the ASEAN in the energy sector are encouraged to develop and promote collaborative activities with international development organisations for the implementation of their respective concerns.

Established linkages with international energy organisations such as APERC, IEA, WEC and CASE should be continued and enhanced, if necessary, particularly to ensure that the programme of the ASEAN energy sector is at pace with those of neighboring regions and the world. This goes for various UN organisations with activities in energy involving ASEAN such as ESCAP, MRC, CCOP, UNEP, UNIDO, and FAO. The development financing institutions, such as WB, ADB and the national development banks are indispensable since they are the principal sources of funding for most of the projects implementing the plan. Linkages should also be nurtured with agencies specialized in the promotion / implementation of international agreements affecting energy such as GEF, the IAEA, UNCLOS, and others.

PRIVATE SECTOR

Participation of the private sector within and outside ASEAN is crucial in the sourcing of the vast technological and financial requirement of the action plan. This is partly addressed by the structural arrangement of ASEAN energy subsector organisations where private entities are accommodated in their membership and management. The AFOC and AEBF are well ahead in this direction. The NRSE and EE&C Subsector Networks are likely to catch up soon.

On the part of the private sector from outside ASEAN, involvement in the implementation of this action plan can be achieved by participation in the events of the AEBF or the investment and business forums organised by the subsector organisations. For the private sector in the EU, involvement in the ASEAN-EU Advisory Panel on Energy is the most effective way in getting involved with activities generated by this action plan. For those in other dialogue partners or countries, the existing business councils, such as the ASEAN-Australia Forum and the ASEAN-Japan Forum, can be important venues in gaining access to the investment and technological needs of the plan. To facilitate access of the private sector to any activity in relation to the implementation of this plan, the ASEAN Secretariat and the recently established ASEAN Centre for Energy (ACE) is so situated that proper linkages with any of the specialised organisations implementing specific portions of the plan can be established with ease.