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**REVIEW OF ACTION TAKEN IN THE FIELD OF ENERGY SINCE
THE FIFTH SESSION OF THE COMMITTEE ON ENERGY****PROGRESS MADE IN IMPLEMENTING ACTIVITIES RELATED TO ENERGY
IN THE ESCWA PROGRAMME OF WORK SINCE THE FIFTH SESSION
OF THE COMMITTEE ON ENERGY****Summary**

The general orientation of the revised medium-term plan for the period 2002-2005, programme 18: economic and social development in Western Asia is to nurture comprehensive, integrated, equitable and sustainable economic and social development, at both the national and regional levels.* Similarly, that of the plan for 2006-2007 is to support and integrate sustainable development programmes and economic and social cooperation in the Economic and Social Commission for Western Asia (ESCWA) region, while maintaining and building upon the economic relationships between member countries and every other country in the world.**

Against that background, the aim of subprogramme 1 for 2004-2005, which concerns integrated policies for the management of regional resources for sustainable development, is to have a positive impact on regional cooperation and integration between ESCWA member countries, on the basis of a coordinated approach to the sustainable and integrated management of water, energy and production sectors, by means of four planned accomplishments, two of which are linked to activities that were carried out during the period from October 2004 to December 2005, namely, (a) to build the capacities of member countries to formulate integrated policies for the effective and sustainable management of water and energy resources; and (b) to increase member country interest in regional cooperation over the management of shared surface and groundwater resources and energy networks.

* ESCWA, Revised medium-term plan for the period 2002-2005, Programme 18. Economic and social development in Western Asia, 19 March 2002 (E/ESCWA/S-4/3), paras. 7-17.

** United Nations General Assembly, Proposed programme budget for the biennium 2006-2007, Part V, Regional cooperation for development, Section 21, Economic and social development in Western Asia (Programme 18 of the biennial programme plan and priorities for the period 2006-2007), 2 May 2005 (A/60/6(Sect.21)).

The aim of subprogramme 1 for the biennium 2006-2007 is to improve the sustainable management and use of natural resources in the ESCWA region, with particular emphasis on water, energy, environmental protection and the production sectors, by means of four accomplishments that relate to the building of member country capacities to formulate and adopt integrated and environmentally sound policies and measures and use mechanisms in order to improve the sustainable management of natural resources, with particular emphasis on water, energy, environmental protection and the production sectors.

This document reviews the progress that has been made in implementing the energy-related activities that have been undertaken by ESCWA since the fifth session of the Committee on Energy, which was held in Beirut on 11 and 12 October 2004.

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I. BUILDING THE CAPACITIES OF MEMBER COUNTRIES TO FORMULATE INTEGRATED POLICIES FOR THE EFFECTIVE AND SUSTAINABLE MANAGEMENT OF WATER AND ENERGY RESOURCES

1. If success is to be achieved in respect of energy, levels must be increased of stakeholder awareness and knowledge of the basic issues in the field of energy for sustainable development and, in particular, those concerning the alleviation of poverty, the alteration of unsustainable practices in production and consumption practices, the conservation of resources and management thereof for development, the identification of the policies and measures necessary to increase energy efficiency, and the promotion of renewable energy and clean fuel use in the various sectors. To that end, and further to the activities that were undertaken in 2004, ESCWA in 2005 issued a number of documents and technical studies, arranged specialized workshops and began a capacity-building programme linked to a project aimed at promoting the use of solar power in rural areas for the alleviation of poverty. For the same purpose, ESCWA provided energy-related consultancy services to member countries. The documents and activities that have been carried out are intended to provide technical information on the specific issues related to those activities and make it available to those working in the energy sector and to put forward recommendations on the measures required for the formulation and adoption of integrated policies for management of the energy sector that will contribute to the realization of sustainable development in the countries of the region. Set forth below are the most significant activities that ESCWA has undertaken in that regard.

A. REPORT ON REGIONAL PROGRESS IN THE FIELD OF ENERGY FOR SUSTAINABLE DEVELOPMENT IN ESCWA MEMBER COUNTRIES¹

2. When the United Nations Commission on Sustainable Development chose the issue of energy for sustainable development as one of the thematic clusters for implementation cycle 2006-2007 and decided to review the progress made in that field at its fourteenth session, ESCWA prepared a report on the regional progress made in the field of energy for sustainable development, which was intended to provide decision makers, planners and researchers with information on the progress made in implementing the approaches set out in the Johannesburg Plan towards the five main issues related to energy for sustainable development that were identified at the ninth session of the Commission on Sustainable Development, namely, (a) improving the provision of energy services; (b) improving energy efficiency; (c) developing renewable energy applications; (d) developing cleaner fossil fuel technologies; and (e) energy and transport.

3. The report reviewed the current situation of the energy sector; the progress made in using energy for sustainable development in ESCWA member countries and the related support infrastructure and, in particular, the institutional structure of the sector and test centres; capacity-building programmes; bilateral and international cooperation programmes in various fields relating to energy for sustainable development; and the chances for member countries to benefit from accumulated expertise to increase the contribution made by the energy sector to achieving sustainable development. The report made a number of recommendations, of which the most important are set forth below:

(a) ESCWA member countries are called upon to take action to integrate energy-related strategies and policies with national development policies, and to use a balanced mixture of the traditional and renewable resources available to them. The importance is underlined of establishing a capable and developed national institutional structure that is responsible for activities involving the use of energy for sustainable development;

(b) ESCWA member countries are called upon to adopt energy audit programmes in industrial and commercial facilities, to apply energy efficiency measures and codes, build national capacities, raise energy awareness and include energy issues in scholastic and academic programmes;

¹ E/ESCWA/SDPD/2005/11.

(c) Regional organizations are called upon to assist member countries in building national capacities in the field of energy for sustainable development by means of training courses, assistance in formulating educational and public awareness programmes and coordination with regional and international funding bodies in support of such programmes;

(d) Countries and organizations are called upon to hold regional meetings in order to present the progress achieved in using energy for sustainable development, and to support cooperation and the exchange of expertise between member countries in that field, by activating the role of the existing regional cooperation mechanisms and, in particular, the Regional Mechanism for the Development of Energy for Sustainable Development, in ESCWA member countries.

B. STUDY ON THE IMPROVEMENT OF ENERGY EFFICIENCY AND USE OF CLEANER FOSSIL FUELS IN SELECTED SECTORS IN CERTAIN ESCWA MEMBER COUNTRIES

4. Notwithstanding the variety of global energy resources, all the indications are that fossil fuels and, in particular, oil and gas, will for many decades remain the first choice for the supply of energy, because of their major contribution to such supplies throughout the world. However, if those resources are to contribute to sustainable development, many measures must be taken, of which the most important are the improvement of energy efficiency and the curbing of their negative impact on the environment. Against that background, the Committee on Energy, at its fourth session, which was held in Beirut on 17 and 18 October 2002, recommended that ESCWA programmes of work in the field of energy should include studies and activities aimed at making traditional energy resource use more environmentally-friendly and improving the energy efficiency of energy-intensive sectors. ESCWA therefore prepared the report referred to above, which comprises the following two parts:

(a) *Part I: Improving the energy efficiency of energy-intensive sectors*²

5. This part reviews the role played by the industrial sector in the national economies of the countries of the region. The contribution made by that sector to gross domestic product (GDP) in ESCWA member countries in 2003 was 41 per cent, of which 30.2 per cent was contributed by extraction industries and 10.8 per cent by conversion industries. This part also reviews the industrial sector's share of final energy consumption, the energy used in industry in ESCWA member countries, and the factors and indicators that were used as the basis for selecting the energy intensive industries in those countries. Those industries are cement, iron and steel, fertilizers and glass, which account for some 25 per cent of all final energy consumption in ESCWA member countries. This part also analyses energy consumption in the four aforementioned energy intensive industries and evaluates their respective productivity, current energy consumption and ways of improving manufacturing efficiency and energy consumption in each of them, as well as the environmental impact of using fossil fuels in manufacturing processes, by reviewing several case studies of certain manufacturing companies in the countries of the region and the related environmental impacts. This part of the report made a number of recommendations, of which the most important are set forth below:

(a) There is a need to devote attention to evaluating the negative environmental and economic impacts of current energy use patterns, in the industrial sector in particular, and to adopt more sustainable patterns, using appropriate policies and legislation and taking the necessary technical measures;

(b) Action should be taken to reduce qualitative consumption in the industries covered by the study, by increasing the use of modern, high-efficiency techniques and applications that have been proven successful in the field. Action must be taken to ensure that regular energy audits are conducted and the national and foreign private sectors must be encouraged to invest in energy intensive industries and improve

² E/ESCWA/SDPD/2005/1(Part I) (Arabic only).

their energy efficiency. Tariffs for energy consumed in the industrial sector should be regularly reviewed, particularly in those countries where energy is heavily subsidized;

(c) With respect to the cement industry, action should be taken to use the petroleum coke that is produced by many oil refineries in certain member countries, and to use solid and liquid waste as a source of energy. The feasibility should be studied of using the oil-shale found in Jordan and the Syrian Arab Republic as a source of raw material and fuel in the cement industry;

(d) As for the manufacture of iron and steel, those industries should be expanded by using natural gas as a source of energy, and care should be taken to recycle the iron and steel products used;

(e) With regard to the fertilizer industry, there should be greater local and Arab investment in the natural materials that are used, including natural gas, which is available in many member countries, phosphate, which is found in Egypt, Jordan and the Syrian Arab Republic, and potash, which is extracted from Dead Sea minerals, and guidance should be given to the final users of fertilizers and the use of organic fertilizers increased, in order to decrease demand for energy;

(f) The glass industry should be encouraged to recycle glass fragments as part of the raw material mix.

(b) *Part II: cleaner fossil fuel applications*³

6. This part of the report considers the components and characteristics of fossil fuels and the international standard specifications of gasoline and diesel and their current status in ESCWA member countries, particularly with respect to the removal of lead and reduction of sulphur concentrations, and the most important legislation promulgated in that regard. It also considers ways of improving fossil fuel specifications and curbing their environmental impact, with the focus on conversion and treatment processes in oil refineries, and the use of fuel additives; the use of natural gas, which is one of the cleaner fossil fuels; and the control and maintenance of engines in order to increase the environmental benefits of improving fuel specifications. This part of the report also considers the current status of oil refineries in ESCWA member countries and their capacity for producing high quality fuel, and the most important global developments that may be expected in that field. The focus is on an evaluation of the possible economic, environmental and health returns from using fuel with improved specifications in the transport, industry and electricity generation sectors, and the expected reductions in emissions following a changeover to natural gas in the transport sector. This part of the report made a number of recommendations, of which the most important are set forth below:

(a) Action should be taken to review and update the standard specifications and legislation on improving fuel specifications and reducing emissions in ESCWA member countries; greater endeavours should be exerted to develop oil industry techniques, fuel treatment and additive use, following up international technical developments in that field; bilateral and regional cooperation between ESCWA member countries should be encouraged;

(b) Public awareness programmes should be supported in order to encourage the use of cleaner fuels, and the contribution of civil society groups and institutions in that regard should be promoted;

(c) Attention should be paid to the implementation of vehicle engine control and inspection programmes, and efforts should be made to improve fuel specifications; training programmes and workshops on that issue should be organized.

³ E/ESCWA/SDPD/2005/1(Part II) (Arabic only).

C. NATIONAL AND REGIONAL CHARACTERISTICS OF SUSTAINABLE DEVELOPMENT
INDICATORS IN SELECTED SECTORS

7. The ESCWA Sustainable Development and Productivity Division has prepared under this heading a set of booklets on sustainable development indicators in the ESCWA region in general, and in each of the 13 ESCWA member countries in selected sectors, namely, energy, water, environment, agriculture, industry and technology. The first booklet contains an overview of sustainable development indicators in the energy sector, covering oil and natural gas reserves, energy production and consumption and energy-related environmental indicators.

8. The indicators for 2000 and 2003 were presented in the form of tables and figures. Features are not restricted to figures: light is also thrown on the most important issues and priority policies relating to the indicators mentioned in a specific country. The data and indicators were derived from such official sources as statistical bureau publications, the ministries relevant to the various sectors, United Nations, regional and international databases, and ESCWA publications.

D. THE ROLE OF RURAL WOMEN IN MANAGING WATER RESOURCES, OPTIMIZING ENERGY USE AND
PROTECTING THE ENVIRONMENT IN THE ESCWA REGION⁴

9. In the framework of the current trend in the countries of the region and of the world towards improving the status of women and supporting their participation in development, ESCWA member countries have achieved a number of results, albeit varying from one country to another, in respect of women's rights, education and economic and political participation. However, the social and economic pressures faced by women have not permitted them to make a meaningful contribution to the management of natural resources or protection of the environment, particularly in rural areas. The aim of this study was therefore to analyse and describe the status of rural women in general and that status as it impacts on women's opportunities to contribute to the management of natural resources for rural development in particular. The study includes an evaluation of the challenges to supporting women's role in managing water and energy resources and their relationship to environmental considerations in rural communities.

10. In the light of the foregoing, the study included a detailed analysis of the role of women in ESCWA member countries in optimizing the use of various sources of energy, managing water resources and conserving the environment. The study made a number of recommendations, of which the overall aim is to create an environment in which men and women may work together to build communities. Those recommendations included the following:

(a) The needs and role of rural women must be taken into consideration when formulating policies on the management of natural resources in rural areas and, in particular, water and energy, and the environmental programmes related thereto; and the participation of women in rural women's organizations and institutions should be encouraged;

(b) Awareness should be increased of the importance of mainstreaming gender issues and supporting the participation of both women and men in the management and optimal consumption of natural resources, through training and raising the awareness of workers in institutions involved in rural development and for managers, decision makers and technical teams. Action should be taken to overcome customs and traditions that limit women's involvement in resource management and environmental conservation.

E. THE REGIONAL TRAINING WORKSHOP ON PHOTOVOLTAIC SYSTEMS FOR RURAL
ELECTRIFICATION: SYSTEMS DESIGN, INSTALLATION, OPERATION
AND MAINTENANCE

11. As part of its implementation of the project on the promotion of renewable energy sources for the alleviation of poverty, in order to activate Regional Mechanism on the Development of Energy Uses for

⁴ The study was being printed when this report was prepared.

Sustainable Development activities in ESCWA member countries, and in response to requests from certain of those countries for assistance in training national staff and acquiring expertise and skills in the field of solar power, ESCWA, in cooperation with the Ministry of Electricity of Yemen and in coordination with the German Agency for Technical Cooperation (GTZ) organized the Regional Training Workshop on Photovoltaic Systems for Rural Electrification, with support from the OPEC Fund for International Development.

12. The Workshop was held in Aden, Yemen, from 26 to 30 November 2005, with the aim of improving competencies and developing capacities in the use of photovoltaic systems to provide lighting in homes, schools and health centres and run water pumps. The Workshop comprised 10 technical sessions and a field visit to the village of Shaikh Salem, where such systems have been installed, in order to see how they operate and meet beneficiaries, with a view to understanding any problems that arise from their use, operation and maintenance and putting forward appropriate solutions. A total of 35 engineers took part in the Workshop, of whom 28 were from local bodies working in the field of rural electrification, and the remaining seven from other ESCWA member countries. Participants were advised to encourage bodies in the electricity sector to promote the use of photovoltaic systems and create employment opportunities in that field, particularly in rural areas.

13. As part of the preparations for the pioneering field project, ESCWA experts, in coordination with officials from the Yemeni Public Electricity Corporation, undertook a field visit in order to select a village in which to implement the project. The village of Qa'wah, which lies 90 km to the west of Aden, was chosen. The team carried out a field social survey of the village, in order to complete an initial estimate of its basic needs in respect of photovoltaic systems, in preparation for the drawing up of the designs necessary for the project.

F. CONSULTANCY SERVICES PROVIDED BY ESCWA TO MEMBER COUNTRIES IN 2005

14. Set forth below is a review of the consultancy services provided by ESCWA to member countries with a view to increasing their capacities to formulate integrated policies for the efficient and sustainable management of energy resources:

(a) Jordan: as part of the ongoing cooperation between ESCWA and the National Energy Research Centre, designed to optimize and increase energy efficiency in the Jordanian industrial and commercial sectors, and at the request of the Centre, the ESCWA regional adviser on energy undertook two missions in 2005. The first, from 2 to 14 April, was in order to evaluate the outcome of the work that had been previously undertaken in order to conduct energy audits of the Alpha Beta Food Industries company and to prepare energy audits in several hotels and commercial locations, as well as to participate in the regional training course on energy audits that was organized by the Centre in April 2005.

The second mission, from 17 June to 1 July 2005, was intended for the preparation of plans for the inauguration of practical application of energy efficiency in the Alpha Beta company and to review reports on energy audits in the Grand Hyatt hotel and the Jordan Kuwait Bank, as well as to visit electricity distribution companies in Jordan in order to prepare for a workshop on the impact of a study on photovoltaic system loads to be held in cooperation with the Ministry of Energy and Mineral Resources. In the course of that mission, the advisor took part in the activities of the regional training course on energy efficiency in electricity systems that was held from 19 to 21 June 2005. ESCWA submitted reports on those two missions, including outcomes and recommendation, to the relevant parties in Jordan;

(b) Qatar: at the request of the General Secretariat of the Planning Council, the ESCWA regional adviser on energy undertook two missions from 9 to 16 July 2005. The first was in order to review and evaluate the draft final report on the electricity and water strategy and put forward recommendations and proposals in that regard, as well as to participate in the workshop held in order to consider that strategy. The purpose of the second mission was to take part in the aforementioned workshop, which was attended by all

Government and non-governmental bodies and parties involved with the strategy, in order to discuss the recommendations and proposals put forward in that respect. A second purpose was to contribute to the formulation and preparation of recommendations and proposals relating to the formulation of a vision and comprehensive strategy for reform in the sector and the related institutional aspects, supply, policies and standards, the balancing of national energy, and the development of appropriate techniques for application in Qatar. The adviser completed both missions and prepared reports that were sent to the relevant parties in Qatar.

G. REVIEW OF SUSTAINABLE DEVELOPMENT AND PRODUCTION ACTIVITIES⁵

15. At the end of 2005, the ESCWA Sustainable Development and Productivity Division published the fourth issue of the *Review*, which is designed to highlight the most significant achievements of the Division in that year, by providing a large reading public within and beyond the ESCWA region with concise and useful information. The *Review* contains brief summaries of (a) selected technical papers; (b) the most important studies, technical reports and publications issued by the Division; (c) the outcomes of intergovernmental meetings, expert group meetings and workshops organized by the Division; (d) technical cooperation activities carried out by the Division; and (e) regional and international cooperation activities that have been carried out in coordination with United Nations and other regional and international organizations.

II. INCREASING MEMBER COUNTRY INTEREST IN REGIONAL COOPERATION OVER THE MANAGEMENT OF SHARED SURFACE AND GROUNDWATER RESOURCES AND ENERGY NETWORKS

16. The regional cooperation and integration activities that were undertaken by ESCWA in 2005 included heightened cooperation with Arab countries and specialized organizations, through effective participation in the implementation of the programmes and activities of the Joint Committee on Environment and Development in the Arab Region (JCEDAR) and the Council of Arab Ministers Responsible for the Environment (CAMRE). The focus of participation is implementation of the sustainable development initiative, Arab preparations for the fourteenth session of the United Nations Commission on Sustainable Development and stimulating regional cooperation through the activities of the Regional Mechanism on the Development of Energy Uses for Sustainable Development.

A. COOPERATION WITH THE LEAGUE OF ARAB STATES IN RESPECT OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

17. ESCWA contributed to JCEDAR and CAMRE activities, as follows:

(a) The preparation and consideration of CAMRE plans for implementation of the sustainable development initiative in the Arab region; the implementation of several related activities and, in particular, in the fields of energy and water and sustainable development indicators;

(b) The sixth and seventh sessions of JCEDAR, which were held from 5 to 7 April and 13 to 15 November 2005 respectively; and the CAMRE meeting that was held on 16 and 17 November 2005. It should be noted that the Council has, in successive resolutions, expressed its appreciation of ESCWA efforts in support and implementation of the aforementioned activities.

⁵ E/ESCWA/SDPD/2005/14.

B. ARAB PREPARATIONS FOR THE FOURTEENTH SESSION OF THE UNITED NATIONS
COMMISSION ON SUSTAINABLE DEVELOPMENT

18. In 2005, ESCWA was involved in the Arab preparations for the fourteenth session of the Commission on Sustainable Development (CSD-14), which was held at United Nations headquarters in New York from 1 to 12 May 2006. ESCWA participation was in coordination with the League of Arab States and UNEP/ROWA, and included the following:

(a) The preparation of four studies on the progress made in the thematic clusters of CSD-14, namely, energy for sustainable development, air pollution, climate change and industrial development. ESCWA has undertaken to prepare the first study of energy for sustainable development in the Arab region;

(b) The organization of the Arab Regional Conference on Energy for Sustainable Development: Progress Achieved and Environmental Issues, which considered three of the four issues covered in part C of this chapter;

(c) The organization of a regional implementation meeting for the Arab region, which was held at League of Arab States headquarters, from 13 to 15 November 2005. The four basic documents were reviewed and discussed with representatives of member countries, and the draft Arab regional report was prepared. ESCWA completed the preparation of the final version of that report, and sent it to the Commission on Sustainable Development. Coordination with the Commission secretariat was continued with respect to Arab participation in CSD-14. Those activities helped to crystallize a common Arab vision on the four CSD thematic clusters;

(d) The organization of a regional seminar from 1 to 5 May 2006, during the meetings of CSD-14, in order to discuss the aforementioned report. The seminar attracted a large number of participants; ESCWA representatives took part in presenting and commenting on the report, as well as experts from Egypt and Saudi Arabia, the Union of Arab Banks and the Arab Centre for Youth and the Environment. The most important elements of the Arab regional report and the outcomes of the seminar were incorporated into paragraphs 194-197 of the report of the Commission on its fourteenth session (E/CN.17/2006/15).

C. THE ARAB REGIONAL CONFERENCE ON ENERGY FOR SUSTAINABLE DEVELOPMENT:
PROGRESS ACHIEVED AND ENVIRONMENTAL ISSUES⁶

19. In 2003, Arab ministers of energy and environment adopted the Abu Dhabi Declaration on the Environment and Energy, which set out a general framework for measures that are aimed at increasing the contribution made by the energy sector to achieving sustainable development in the Arab region. At its fifth session, which was held in Beirut on 11 and 12 October 2004, the Committee on Energy recommended that a regional conference should be convened in order to review and discuss the progress made in the field of energy for sustainable development and formulate a common Arab vision on the relevant issues.

20. In the light of the foregoing, and as part of the preparations for CSD-14 ESCWA, in cooperation with the League of Arab States, UNEP/ROWA and the Ministry of Electricity and Energy of Egypt, organized the Arab Regional Conference on Energy for Sustainable Development: Progress Achieved and Environmental Issues. The aim of the Conference was to give experts working in the fields of energy and the environment at the national, regional and international levels, the opportunity to exchange experiences and views on three of the four CSD-14 thematic clusters, namely, energy for sustainable development, air pollution and climate change, to discuss the progress that has been made by Arab countries in that regard and review the obstacles that impede such progress. The Conference was held at League of Arab States headquarters in Cairo from 10 to 12 September 2005, and attended by representatives of Arab countries, research centres, universities, the

⁶ E/ESCWA/SDPD/2005/WG.4/22.

private sector, civil society institutions and the relevant regional and international organizations, as well as a number of experts in the pertinent fields.

21. At the Conference, 24 papers were presented, of which three background papers, prepared by the organizers, focused on energy for sustainable development, air quality and pollution, and climate change in the Arab region. The remaining 21 papers were technical, dealing with relevant issues and the challenges faced and opportunities afforded by the use of energy for sustainable development in the Arab region. Two papers were presented on the progress made in the field of energy for sustainable development in the countries of the northern ESCWA region and the countries of the Gulf Cooperation Council, while 14 national papers deal with the main Conference issues in the 14 Arab countries.

22. At the end of the Conference, participants put forward a number of recommendations, including the identification of priorities for action, suggested policies and recommended activities at the national, regional and international levels in each of the three Conference themes. Those recommendations were contained in the regional report on the Conference that was prepared by ESCWA. The most significant are set forth below:

(a) Action should be taken to include energy for sustainable development strategies and policies with strategies and policies for integrated national and sectoral development, particularly with respect to the five basic issues that were identified by the Johannesburg Plan;

(b) The importance should be underlined of action to improve provision of centralized and decentralized modern energy supplies and services to all citizens and, in particular, those living in rural and poor areas; and the establishment should be encouraged of companies that would develop the requisite equipment and services for energy for sustainable development systems;

(c) Global technical developments in the field of oil refining techniques, fuel treatment and the use of additives to produce cleaner fuels at the lowest possible price should be followed up;

(d) The importance should be stressed of projects to link and expand electricity and natural gas networks, and the Arab countries should be invited to exert endeavours to strengthen regional and inter-regional cooperation in support of existing Arab cooperation mechanisms and networks, and cooperation between specialized centres that could assist with national capacity-building efforts in that field should be intensified;

(e) Regional, inter-regional and international cooperation in the field of energy should be improved, particularly with respect to the transfer and adaptation as appropriate for the Arab countries of energy for sustainable development techniques. The international assistance that is available in that context, including the Clean Development Mechanism and the Global Environment Facility, should be exploited.

D. THE FIFTH PERIODIC FOLLOW-UP MEETING OF REGIONAL MECHANISM ON THE
DEVELOPMENT OF ENERGY USES FOR SUSTAINABLE DEVELOPMENT
NATIONAL FOCAL POINTS⁷

23. Pursuant to the recommendation made by the fifth session of the Committee on Energy to the effect that regular annual follow-up meetings of Regional Mechanism national focal points should continue to be held, and that members of the Committee on Energy should be invited to those meetings in the interest of continuity and coordination, the meeting was convened on 13 September 2005 at the Za'farana wind farm in Egypt. Representatives of the nine Regional Mechanism national focal points attended, as did a number of ESCWA and ESCWA member country experts. The meeting covered a number of issues, of which the most

⁷ E/ESCWA/SDPD/2005/12.

important were follow-up to implementation of the recommendations of the fourth Mechanism periodic meeting; the progress made at the national level in respect of energy for sustainable development; and discussion and determination of the Mechanism programme of work for the biennium 2006-2007. The most significant proposals put forward by participants were the following:

(a) Member countries should exchange expertise on energy efficiency labelling on domestic appliances and the relevant technical standards; a survey should be carried out on the use of solar energy to improve water in ESCWA member countries;

(b) National focal points, in coordination with the relevant parties in their countries, should supply the data needed to prepare national energy balances in accordance with a specific model supplied by ESCWA. Those balances should then be communicated to ESCWA for use as basic information in energy-related ESCWA publications.

E. REGIONAL INTEGRATION PROJECTS IN THE FIELDS OF NATURAL GAS AND ELECTRICITY

24. As a continuation of its efforts to monitor and evaluate regional cooperation activities and projects carried out by member countries in the fields of electricity and natural gas, ESCWA every year prepares a report updating the information on those two important issues, which is published as part of the *Annual review of developments in globalization and regional integration in the countries of the ESCWA region*.⁸ In 2006, ESCWA took part in the activities of the experts of the executive office of the Council of Arab Ministers Responsible for Electricity and submitted technical papers to regional conferences on private sector involvement in electrical power generation.

III. BUILDING MEMBER COUNTRY CAPACITIES TO FORMULATE AND ADOPT INTEGRATED AND ENVIRONMENTALLY SOUND POLICIES AND MEASURES AND USE MECHANISMS IN ORDER TO IMPROVE THE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES, WITH PARTICULAR EMPHASIS ON WATER, ENERGY, ENVIRONMENTAL PROTECTION AND THE PRODUCTION SECTORS

A. THE THIRD MIDDLE EAST-NORTH AFRICA RENEWABLE ENERGY CONFERENCE

25. In cooperation with the Ministry of Electricity and Energy of Egypt and UNEP/ROWA, and with the support of the German Ministry of Environment, Natural Conservation and Nuclear Safety, ESCWA was involved in the organization of the third Middle East-North Africa Renewable Energy Conference, which was held in Cairo from 12 to 14 June 2006. The aim of the Conference was to support cooperation between the countries of the region and the European Union in evaluating the current situation with respect to renewable energy applications in the region and identifying the issues that must be dealt with if such applications are to become more common. As one of the Conference activities, ESCWA organized a round table on the role of the energy sector in achieving the Millennium Development Goals in the countries of the region and, in particular, Goal 1, concerning the alleviation of poverty, Goal 3, concerning the empowerment of women, and Goal 7, concerning the achievement of environmental sustainability. A number of experts took part in the round table, at which important discussions took place.

26. At the conclusion of the Conference, the ministers, heads of delegations and representatives of the 20 countries present, adopted the Cairo Declaration concerning the trends and policies of Arab countries in the field of developing renewable energy applications. The Declaration recognized the rapidly rising demands on energy and fresh water supplies for satisfying the development needs in the MENA region and

⁸ E/ESCWA/GRID/2005/13.

ensuring its sustainability, and noted the importance of achieving sustainable development and alleviating poverty in the region through increasing access to environmentally sound energy services using the available conventional and renewable resources. The Declaration also acknowledged the recent technological advances in several renewable energy technologies and the abundantly available renewable resources in the countries of the region. Set forth below are the most important recommendations contained in the Declaration:

(a) Countries should be encouraged to develop and implement strategies and policies to enhance the contribution of the energy sector to the achievement of sustainable development, with due consideration given to renewable energy as an integral part of such strategies and policies; plans to promote renewal energies should be developed as appropriate to each country's needs;

(b) There is a need to encourage increased levels of cooperation between the countries of the region and the European Union in support of renewable energy technologies, and a need for extended financial assistance from the public and private sectors to MENA countries in support of energy for sustainable development programmes;

(c) The Arab countries and regional and international organizations should be called upon to place greater emphasis on developing and implementing programmes to build capacities in and public awareness of renewable energy technologies and applications and to provide technical and financial assistance for the transfer and adaptation of appropriate technologies;

(d) Large-scale renewable energy projects in the region should be encouraged by a vision of exporting energy to European countries. Emphasis should be placed on the importance of combining energy efficiency measures with renewable energy use, in order to improve the economics of using such energy and meet energy diversification and reliability goals.

27. Participants agreed that the Fourth Renewable Energy Conference should be held in Damascus, in cooperation with the Ministry of Electricity of the Syrian Arab Republic and the partners who had organized the Third Conference.

B. ARAB PREPARATIONS FOR PARTICIPATION IN THE FIFTEENTH SESSION OF THE UNITED NATIONS COMMISSION ON SUSTAINABLE DEVELOPMENT

28. The fifteenth session of the United Nations Commission on Sustainable Development (CSD-15) will be held at United Nations headquarters, New York, from 30 April to 11 May 2007, and will be chaired by Qatar. An intergovernmental preparatory meeting for CSD-15 will take place from 26 February to 2 March 2007. CSD-15 will consider policies linked to the four thematic clusters of CSD-14, with the focus on the review and discussion of policies pursued by countries or proposed in order to overcome obstacles faced in achieving greater progress towards the Johannesburg Plan goals. It is planned that the session should issue guidelines on policies to achieve that end. As part of the Arab preparations for CSD-15, ESCWA has undertaken the following:

(a) On the basis of the regional reports that were prepared in 2006 and certain updated information, ESCWA prepared a proposal concerning regional particularities for inclusion in the report of the United Nations Secretary-General that will be presented to CSD-15 and submitted to the intergovernmental preparatory meeting for discussion by country representatives and finalization of the form over which negotiations will take place at CSD-15. The proposal includes the policies that are being pursued or that have been identified by member countries in the four thematic clusters, and the achievements and practical measures that are being successfully applied in the countries of the region or proposed policies that are yet to be applied;

(b) The report was submitted to the eighth session of JCEDAR, which was held in Cairo from 21 to 23 November 2006, where it was discussed and amended by member country experts in the light of CSD directives issued at the preparatory meeting that was held in Doha on 1 October 2006.

C. THE ARAB REGIONAL FORUM ON ENERGY FOR SUSTAINABLE DEVELOPMENT: STRATEGIES, POLICIES AND PLANS

29. ESCWA organized the Forum with the aim of providing an opportunity for greater consultation on energy for sustainable development issues and for updating information on Arab country policies and activities in that field before the convening of the intergovernmental preparatory meeting for CSD-15. The Forum will be held in Abu Dhabi on 1 February 2007, in cooperation with the League of Arab States, UNEP/ROWA and the Abu Dhabi Environmental Agency. The Forum will consider the policies and plans adopted by ESCWA member countries on the three main themes, namely, energy for sustainable development, air pollution and climate change. The Forum will be held consecutively with the International Conference on Integration Sustainable Energy Resources in Arid Regions, which will be held in Abu Dhabi from 28 to 31 January 2007 and in the organization of which ESCWA was involved. It also prepared technical papers for that conference. Because both the Forum and the Conference will be held before the session of the Committee on Energy, ESCWA will prepare a report on the outcomes of each, to be submitted to the session when it convenes.

D. FIELD PROJECTS IN THE FIELD OF ENERGY FOR SUSTAINABLE DEVELOPMENT

Cooperation between ESCWA and Qatar in respect of energy efficiency in the Qatari electricity sector

30. As part of the endeavours exerted by the Qatar General Electricity and Water Corporation (KAHRAMAA) to achieve the sustainable management of the electricity sector and energy efficiency, the Corporation requested ESCWA to provide the technical support necessary to formulate and implement a programme for the optimization of consumption in the Qatari electricity sector. To that end, an agreement was signed by ESCWA and KAHRAMAA with the aim of carrying out a field study incorporating an analysis of the current situation, including consumption in the main sectors and an evaluation of the possibilities for improving energy efficiency. Shortly before the study is concluded, a seminar will be held on the techniques and measures necessary in order to improve energy efficiency in sectors that consume electricity, for discussion, and in order to adopt a programme of action for implementation of the study outcomes.

31. The aforementioned agreements is the first stage in an integrated programme of cooperation between the Government of Qatar and ESCWA. Under agenda item 7(c), there will be a discussion of the details of the agreement and what has been achieved in the first stages thereof.

2. Project for the electrification of a rural village in Yemen using photovoltaic systems

32. The aim of the second stage of the ESCWA project to extend renewable energy services to rural areas in order to alleviate poverty is to implement a model project whereby the Yemeni village of Qa'wah will be provided with electricity from photovoltaic systems, and to carry out a study of the impact on the availability of electricity services and improvement of economic and social conditions amongst the inhabitants of the village.

33. As part of the preparations for bringing in the necessary equipment and implementing the project, ESCWA expert undertook the following: (a) a technical study of the photovoltaic systems needed; the identification of the technical and financial requirements for project implementation; (b) the preparation of plans and preconditions and the technical guidelines and standards for the supply and installation, testing and operation of the photovoltaic systems to be used in the project. As a result, it became clear that the sum of

money required for to fit such systems in village dwellings and service facilities was some \$200,000, with a further \$14,000 needed for project evaluation, whereas the sum available to ESCWA for that purpose, including the amount provided by the OPEC Fund for International Development, was no more than \$80,000. The necessary documents must therefore be prepared for submission to donor bodies, including the ESCWA Development Fund, in search of additional funding. In mid-December 2006, that Fund agreed to allocate \$120,000 to the project, thereby making it possible to commence immediate implementation of this important model project.

E. SEMINARS AND WORKSHOPS

34. As part of the ESCWA project to build capacities for the implementation of regional priorities in the field of sustainable development, which is being carried out by the Sustainable Development and Productivity Division with funding from the technical cooperation programme, the sustainable energy issues team, in cooperation with the National Energy Research Centre in Amman, conducted two workshops and a seminar from 18 to 21 December 2006.

1. *Regional workshop on energy efficiency labels*

35. The abovementioned workshop was held on 18 and 19 December 2006, with the aim of providing an opportunity for dialogue and an exchange of views between member country representatives involved in improving energy efficiency and, in particular, those responsible for following up the energy efficiency labelling of domestic appliances. At the workshop, five background papers prepared by experts from ESCWA, Egypt, Jordan, Lebanon and the Syrian Arab Republic were presented, as were several papers on the national experiences of certain ESCWA member and Arab region countries in implementing energy efficiency labelling projects. At the conclusion of the workshop, participants made the following recommendations:

(a) ESCWA should be requested to coordinate with the relevant parties in member countries in working towards the standardization of standards and terminology relating to the energy efficiency labelling of domestic appliances, to be circulated to all Arab countries;

(b) National parties with expertise should provide ESCWA with proper data on current experiments and tests that have been carried out in respect of energy efficiency labels, with the aim of publishing them on the Regional Mechanism Website, thereby making them available to the countries of the region;

(c) The importance should be stressed of raising awareness of means of optimizing energy consumption and, in particular, energy efficiency labels, and awareness-raising programmes should be implemented through the media and school curriculums. Member countries should be called upon to consider reducing customs dues and taxes on high-efficiency electrical equipment and components.

2. *Seminar on follow-up to Regional Mechanism on the Development of Energy Uses for Sustainable Development activities*

36. The seminar was held on 18 and 19 December 2006 and incorporated the sixth annual meeting of Regional Mechanism on the Development of Energy Uses for Sustainable Development national focal points. The aim was to consider (a) the work carried out by the Mechanism; (b) progress made by member countries in respect of energy for sustainable development applications; and (c) to discuss the forthcoming programme of work and activities proposed for the Mechanism for 2008. The seminar issued the following recommendations:

(a) Focal point representatives should be called upon to complete the identification of national parties, capabilities and experts working in various energy-related fields and sectors in their countries, and to provide ESCWA with information on the activities of those parties, with a view to preparing references on

current activities and the expertise available at the national and regional levels, to be included in the Mechanism database;

(b) ESCWA should be requested, as part of its programme of work for the biennium 2008-2009, to study the possibility of undertaking a comprehensive survey of the current feasibility of improving water in ESCWA member countries by using solar power, and prospects for and obstacles to extension;

(c) Kuwait called for a workshop to be organized on ways of optimizing consumption and improving air conditioning appliance energy efficiency, given the importance of such appliances, particularly in GCC States, and noted that they would consider the possibility of hosting the next meeting of Mechanism focal points and holding such a workshop as a side event.

3. Regional workshop on methods of financing projects through the Clean Development Mechanism and the opportunities for ESCWA member countries to make use thereof

37. The above workshop was held in Amman on 20 and 21 December 2006 in order to provide the parties in ESCWA member country ministries of environment and energy responsible for preparing CDM projects with an opportunity to meet experts on and specialists in the preparation of documents and forms relating to such projects that would be presented for review and adoption to the national parties concerned. The training at the workshop was undertaken by regional experts from Egypt, Jordan and Saudi Arabia. The national experiences of several ESCWA member countries in attempting to activate CDM activities in their countries were reviewed. Participants made the following recommendations:

(a) Member countries should be called upon to cooperate with regional and international organizations, including ESCWA, to activate a CDM capacity-building project, by holding local and regional workshops aimed at using the Mechanism to increase opportunities for obtaining funding for CDM-related development projects;

(b) It should be stressed that it is important for member countries to participate in the annual meetings of the Parties of the United Nations Framework Convention on Climate Change, at which legislation is passed in implementation of the Kyoto Protocol. Member countries should also coordinate with a view to supporting agreed strategies and their activities in respect of developing energy for sustainable development applications.

F. CONSULTANCY SERVICES PROVIDED BY ESCWA TO MEMBER COUNTRIES IN 2006

38. In 2006, ESCWA carried out three energy-related consultancy missions, to Bahrain, the United Arab Emirates and Yemen, as set forth below:

(a) United Arab Emirates: at the request of the Ministry of Energy, Electricity and Water, the Division carried out a mission during which a discussion was held of requirements for developing the legislative and institutional infrastructure of the sector and, in particular: (a) the preparation of a draft energy law; (b) the establishment in the country of a supreme council for electricity and water; and (c) the carrying out of a feasibility study on the establishment of a national renewable energy research centre. The mission took place in February 2006; on the basis of its outcome, ESCWA delegated a consultant to prepare drafts of the legislation required. However, completion of the mission is pending, because of ministerial changes and the establishment of a ministry of the environment and water, until such time as the mandates of the two ministries are clarified, along with the related institutional procedures;

(b) Bahrain: The National Oil and Natural Gas Authority of Bahrain requested ESCWA to study the feasibility of formulating an operational framework for the optimization and improvement of energy efficiency in the oil and natural gas sector and to evaluate increased demand for natural gas in the country and propose alternatives to gas supplies in the future. The Chief of the ESCWA energy issues team,

accompanied by an oil and gas consultant, visited Bahrain from 19 to 23 November 2006, in order to consult officials on the energy situation and visit several ministries, corporations and institutions involved with energy issues and the optimization of energy consumption. Potential alternatives to natural gas were formulated and a number of recommendations were put forward with respect to energy efficiency optimization in sectors which are high producers of oil and gas. The report will be completed and sent to Bahrain in February 2006;

(c) Yemen: the Ministry of Electricity/Public Electricity Corporation requested ESCWA for assistance in formulating a general framework for the programme for energy consumption optimization in the Yemeni residential, industrial and commercial sectors and a national capacity-building plan for implementation of the proposed optimization and energy efficiency programme. A regional expert in the field of electrical energy carried out the mission from 24 to 30 November 2006, working on a study of the current status of the electricity sector. His recommendations focused on the optimization of energy use and increased energy efficiency at both the supply and demand levels, and the restructuring of the Yemeni electricity organization.

