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**United Nations Conference
on New and Renewable Sources
of Energy**

**Nairobi, Kenya
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SUBSTANTIVE PREPARATIONS FOR THE CONFERENCE

Activities of the relevant organs, organizations
and bodies of the United Nations system in the
field of new and renewable sources of energy

Addendum

Report of the United Nations Environment Programme**

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** This report will also be submitted to the Governing Council of the United Nations Environment Programme at its ninth session, in May 1981.

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UNEP AND THE UNITED NATIONS CONFERENCE
ON NEW AND RENEWABLE SOURCES OF ENERGY

Report of the Executive Director

1. By resolution 1980/49 of 23 July 1980, the Economic and Social Council called upon UNEP, in pursuance of General Assembly resolution 34/188 of 18 December 1979, "to elaborate concrete and specific proposals on energy and the environment aimed at making an effective and meaningful contribution to the United Nations Conference on New and Renewable Sources of Energy, and to report thereon, through its Governing Council, to the Economic and Social Council at its second regular session of 1981".
2. This call was echoed by the General Assembly at its thirty-tifth session when, in paragraph 6 of resolution 35/74 of 5 December 1980, it stressed the importance of the United Nations Conference on New and Renewable Sources of Energy, and called upon UNEP to contribute actively to and participate in the preparatory work for The Conference.
3. The present report summarizes the measures taken by UNEP to highlight the environmental impacts of production and use of different energy sources, and the contributions it has made and will make to the Conference on New and Renewable Sources of Energy, to be held at Nairobi from 10 to 21 August 1981.
4. In direct response to the recommendations of the United Nations Conference on the Human Environment (Stockholm, June 1972) 1/ UNEP has been involved

1/ Recommendations 22, 57-59, 70-95 and 106, among others (United Nations publication Sales No. E.73.11.A.14).

in different activities in the area of energy since its establishment in 1972. The Governing Council of UNEP has from its first session onwards, taken a number of decisions formulating the objectives and strategies of the UNEP energy programme. 2/

5. The objectives of the UNEP energy programme have been: (a) to promote the understanding of the environmental impacts of energy production and use and, in particular, the relationship between the levels of different emissions and their effect on weather, human health, plant and animal life and amenity values; (b) to promote effective development of alternative environmentally sound sources of energy.

6. With regard to the first objective, UNEP has been keeping under review the environmental impacts of production and use of different sources of energy, and has published a series of comprehensive studies on fossil fuels, nuclear energy and renewable sources of energy. 3/ These studies deal with the main energy sources (oil shales, tar sands, geothermal energy, solar energy, wind power, energy from the sea, biomass and hydro-power) to be considered at the Conference on New and Renewable Sources of Energy, and have been transmitted to the secretariat of the Conference so that they can be taken into account by the various panels and expert groups drafting the documentation for the Conference. UNEP also participated in the review of the "synthesis" document to be presented at the Conference and called attention to the necessity of including the consideration of environmental issues. UNEP is now in the process of developing a comparative assessment of the impacts of the various sources of energy which is expected to assist planners in making decisions on the most appropriate mixes of energy sources, including renewable sources, they should recommend for use in their respective countries.

7. In addition to the studies mentioned above, UNEP supported an African Solar Workshop convened at Atlanta, Georgia, in 1979, and an East African Workshop on Energy and Environment convened at Nairobi, Kenya in the same year. Both provided useful fora for exchange of information about the possibilities and constraints of harnessing renewable sources of energy in the developing countries. UNEP, WHO and IAEA are organizing an International Symposium on the Health Aspects of Different Sources of Energy to be held at Nashville, Tennessee in June 1981; special attention is being paid by UNEP to the health aspects of new and renewable sources of energy. Furthermore, UNEP, FAO and ESCAP are organizing a regional meeting at Bangkok (5-9 May 1981) to study the different problems pertaining to the exploitation and use of fuelwood and charcoal.

2/ Decisions I (1) of 22 June 1973, para. 12 (g); 8 (11) of 22 March 1974, sect. A.1.6; 29 (111) of 2 May 1975, para. 9 (f); 34 (111) of 2 May 1975; 47 (IV) of 14 April 1976; 60 (IV) of 13 April 1976; 82 (V) of 25 May 1977; 7/3 of 3 May 1979, para. 4; 7/5 of 3 May 1979.

3/ The Environmental Impacts of Production and Use of Energy, Part I-III (on fossil, nuclear and renewable energy sources respectively) UNEP Energy Report Series 1979, 1980; to be published in consolidated form as "The Environmental Impacts of Production and Use of Energy", Tycooly Press, 1981.

8. Since its third session in 1975, the Governing Council has been requesting the Executive Director to accord high priority to the establishment, in some of the typical rural areas of the developing countries, of a few experimental demonstration centres to harness individual or combined locally available renewable sources of energy, and to promote activities related to the development of such sources of energy 4/. In response to these requests, experiments are under way in Sri Lanka, the Philippines and Senegal. The experiment in Sri Lanka involves harnessing solar energy, wind energy and bio-gas in an integrated way to produce electricity to meet the basic needs of the village of Pattiapola. The solar system consists of photo-voltaic panels which transform the solar radiation into electricity to be stored in a battery bank. The windmills established at the site transform the wind energy into electricity which is stored as well. The bio-gas plant uses the animal waste from the village to produce methane which is used to run a generator for the production of electricity. The Sri Lanka experiment is the first of its kind that combines the electricity produced from different sources into a battery bank for storage. The Senegal experiment will also use wind and solar power and, in addition, will use peanut shells as fuel to provide energy to a small village. In the Philippines, individual renewable sources of energy (wind, bio-gas and small-scale hydro) are used in separate remote islands to provide the basic energy needs for small communities. Furthermore, studies on the feasibility of harnessing different renewable sources of energy are being carried out in Indonesia, Somalia and the Arab region. Special attention is being paid to the development of environmentally sound technologies and the acceptability of such technologies.

9. The UNEP energy programme is giving due consideration to the relevant recommendations of the various United Nations Conferences convened in the 1970s, and in particular to those contained in the Plan of Action to Combat Desertification on the issues of fuelwood and alternative energy sources.

10. Training and research are also important components of UNEP's efforts to promote the development of environmentally sound alternative sources of energy. The different panel meetings, workshops, etc. convened by UNEP provide forums for the exchange of scientific information and national experience, and have been important in promoting better understanding of the problems pertaining to the development of different renewable sources of energy. UNEP also organized a study tour on small hydro-power schemes in China in 1976 and a training seminar on bio-gas in 1980 in the same country, and has published technical reports on both. Research on the beneficial use of water hyacinth (partly for production of bio-gas) is being carried out by a number of scientific institutions in several developing countries, with UNEP's support.

4/ Decisions 34 (III); 60 (IV); 82 (V) sect. VI; 7/9.

11. Having taken stock of the results of the main activities mentioned above, UNEP's contribution to the Conference on New and Renewable Sources of Energy has taken the following approach:

(a) Making available results of its studies on the environmental impacts of different sources of energy to the Conference secretariat, to be taken into consideration in the draft "synthesis" document and plan of action of the Conference;

(b) Emphasizing the importance of the environmental impacts of different renewable sources of energy in the regional preparations for the Conference (for example, the ESCAP regional meetings on geothermal energy and fuelwood, the ECA regional preparatory meeting, etc.).

12. At the Conference, UNEP is planning to distribute a number of publications - which are being prepared specially for the Conference - on the environmental impacts of production and use of different sources of energy and on the result of the field experiments to harness renewable sources of energy in Sri Lanka and the Philippines.

13. UNEP is co-sponsoring (with UNITAR and other agencies) an International Conference on Small Energy Resources, to be held at Los Angeles in September 1981, and is organizing an International Workshop on Energy for Rural Development, to be held at Bangkok in November 1981. Both meetings will take account of the outcome of the Conference on New and Renewable Sources of Energy and will provide opportunities for the exchange of views to evaluate priorities for action, research and development in the areas of new and renewable sources of energy.
