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ECONOMIC COMMISSION FOR AFRICA  
Regional Preparatory Meeting on New  
and Renewable Sources of Energy  
Addis Ababa, 12-16 January 1981

STATUS OF PREPARATIONS AT THE AFRICAN LEVEL  
FOR THE UNITED NATIONS CONFERENCE  
ON NEW AND RENEWABLE SOURCES OF ENERGY  
(Nairobi, August 1981)

## CONTENTS

	<u>Page</u>	<u>Paragraph</u>
I. BACKGROUND	1	1
II. ECA ACTIVITIES FOR THE PREPARATION OF, OR RELATED TO THE UNITED NATIONS CONFERENCE ON NEW AND RENEWABLE SOURCES OF ENERGY	5	7
III. PREPARATORY ACTIVITIES FOR THE NAIROBI CONFERENCE AT THE NATIONAL LEVEL	9	22
IV. ASSISTANCE REQUESTED BY AFRICAN COUNTRIES FOR THE PREPARATION OF THE NAIROBI CONFERENCE	11	27
V. CONCLUSIONS	12	30

## I. BACKGROUND

1. On 20 December 1978, the General Assembly adopted resolution 33/148, by which it decided, inter alia, to convene an international conference on new and renewable sources of energy in 1981 under the auspices of the United Nations. The Assembly defined the scope of the Conference as confined to the area of such sources of energy as solar, geothermal and wind power, tidal power, wave power and thermal gradient of the sea, biomass conversion, fuel-wood charcoal, peat energy from draught animals, oil shale, tar sands and hydro power. It also determined the main technical means by which the potentials of these sources of energy could be assessed (technical panels of experts) and invited the organs, organizations and agencies of the United Nations system concerned, including the regional commissions, to co-operate fully in the preparations for the Conference.

2. On 18 December 1979, the General Assembly adopted resolution 34/190, by which it decided that the United Nations Conference on New and Renewable Sources of Energy should be held at Nairobi in August 1981. The Assembly designated the Preparatory Committee for the Conference, scheduled two sessions of the Preparatory Committee in 1980, decided that the technical panels of experts appointed in accordance with resolution 33/148 should prepare their interim reports in time for consideration by the Preparatory Committee at its second session of 1980, recommended that member States should designate national focal points which would co-ordinate preparations for the Conference at the national level, requested the United Nations system to identify ways in which it could more effectively assist member States in the area of new and renewable sources of energy and provide such assistance.

3. As a follow-up to those resolutions, the first session of the Preparatory Committee for the United Nations Conference was held at the Headquarters, New York, from 4 to 8 February 1980. The Committee adopted a series of decisions requesting the Secretary-General of the Conference to submit to the second session of the Preparatory Committee a report on the implementation of specific paragraphs of resolution 34/190 related to the provision of technical assistance to interested developing countries and to the programme of public information activities and of resolution 33/148 related to over-all guidance, orientation and co-ordination of the contributions from the relevant secretariats of the United Nations system to the preparation for the Conference. Further, the Committee requested the Secretary-General to consult Governments on the preparation of national documents on new and renewable sources of energy, and to provide a list of intergovernmental bodies, regional and non-governmental organizations which might be interested in the work of the Conference. The Committee reiterated

the recommendation that Governments should designate focal points and requested the Secretary-General of the Conference to prepare an over-all report for the second session of the Committee, incorporating the results of the technical panels of experts' activities.

4. The Preparatory Committee held its second session from 21 July to 1 August 1980 in Geneva. On that occasion, the Committee reviewed the preparations for the Conference and provided guidance and indications on future work to be undertaken by the Conference secretariat and by organs, organizations and specialized agencies of the United Nations system. In the debates, general concern was expressed regarding the slow progress of the preparatory process for the Conference and delegations stressed the necessity of speeding up the preparatory work, so that the Conference could be held as scheduled at Nairobi in August 1981. The Committee analysed in detail the interim reports of the first round of technical panels of experts and, although it felt that the standards of the reports were acceptable, it found that still a great deal more was required to be done by the panels during their second round.

After the closure of general debate and after a number of informal meetings, the Committee adopted a number of resolutions on the following topics:

(a) Ad hoc groups of experts. These groups, to be established by the Secretary-General of the Conference, should deal with issues such as financing, information flows, research and development and transfer of technology, education and training, rural energy, including its utilization in agriculture and industrial issues including energy utilization in transport and allied sectors.

(b) Synthesis Group. In order to prepare a concise synthesis of the technical panels (first and second rounds) and of the ad hoc groups output, a synthesis group should be established. The group should consist of the chairman of the technical panels and the ad hoc groups and of eminent experts and should reflect the principle of equitable geographical representation. It should consider the reports of the Technical Panels, the reports of the ad hoc groups of experts and the other relevant information, and prepare its report. The Conference secretariat should submit the report of the Synthesis Group to Governments not later than two weeks before the third session of the Preparatory Committee.

(c) National papers. The Committee recommended that concise papers together with summaries should be prepared by interested Governments and submitted to the Secretary-General of the Conference

before 31 December 1980. Governments should also be free to submit any other type of information they may consider appropriate for the Conference.

(d) Reports of the Technical Panels of Experts. The Technical panels were urged to complete their work speedily, paying special attention to the following points: what technologies can be put to significant use immediately or in the near future; what are the major obstacles to the utilization of these technologies; what are the means to overcome these obstacles; costs of production per unit for each of the new and renewable sources of energy; technical feasibility and economic viability of a given energy technology; socio-economic factors affecting the potential use of each of the new and renewable sources of energy; and energy storage.

(e) Programme of public information. The programme should provide information to the general public and policy makers on the possibilities and the potential of new and renewable sources of energy and on the role of the United Nations can play through the Conference. The programme should accord highest priority to activities at the national and regional levels with particular attention to organizing exhibitions-cum-demonstrations prior to and during the Conference.

(f) Augmenting Technical Expertize for Conference preparations. This resolution expressed concern at the slow pace in the preparations for the Conference and called upon the United Nations system to intensify its efforts. It also requested the Secretary-General to make available additional personnel and technical expertize from the system as required.

(g) Preparation work for the United Nations Conference on New and Renewable Sources of Energy. This resolution requested the Secretary-General to submit a report to the thirty-fifth session of the General Assembly on the provision of technical assistance to interested developing countries in the preparation of the Conference. It recommended that all bodies of the United Nations system should submit reports on their activities in the field of new and renewable sources of energy. It also recommended that the regional commissions should strengthen their participation and, inter alia, assist and encourage in organizing national, regional and interregional seminars for detailed discussions and submit regional papers and a comprehensive document on their preparation for the Conference.

(h) Work programme for the preparation of the United Nations Conference on New and Renewable Sources of Energy.

This resolution, recommended the following schedule:

(i) The Technical Panels of Experts should finalize their reports by the end of November 1980;

- (ii) The meetings of the ad hoc expert groups should take place in December 1980 - January 1981;
- (iii) The Synthesis group should meet from 17 to 27 February 1981;
- (iv) The regional economic commissions should finalize their contributions for the Conference not later than January/February 1981 and submit them well in advance of the third session of the Preparatory Committee;
- (v) The third session of the Preparatory Committee should be held from 30 March to 10 April 1981 in New York and the final session should be held from 8 to 26 June 1981;
- (vi) The United Nations Conference on New and Renewable Sources of Energy (Nairobi, Kenya) should be held from 10 to 21 August 1981; preceded by one week of pre-Conference consultations.

5. In line with General Assembly resolutions 33/148 and 34/190 and with the recommendations of the two sessions of the Preparatory Committee, the secretariat of the Conference, inter alia, established and co-ordinated technical panels of experts and ad hoc groups of experts, contacted the designated national focal points, secured all technical and administrative support for the preparation of the Conference and involved all organs, organizations and specialized agencies of the United Nations system in the preparatory process of the Conference both directly and through interagency meetings.

6. The objective of the United Nations Conference on New and Renewable Sources of Energy is to elaborate measures for concerted action designed to promote the development and utilization of new and renewable sources of energy, with a view to contributing to meeting future over-all energy requirements, especially those of the developing countries, in particular in the context of efforts aimed at accelerating the development of the developing countries.

The Conference will concentrate on the following aspects:

- (a) Analysis of the state of technology related to new and renewable sources of energy;
- (b) Identification of the potential, particularly in the developing countries, for utilizing new and renewable sources of energy;
- (c) Assessment of the economic viability of the use of new and renewable sources of energy in the light of the technologies now available and those being developed;

(d) Identification of measures for promoting, particularly in the developing countries, the development of the technology required for the exploration, development, exploitation and utilization of new and renewable sources of energy, taking into account the relevant results of the United Nations Conference on Science and Technology for Development;

(e) Identification of the measures necessary for the transfer to developing countries of the relevant technologies available, taking into account the results of negotiations relating to the transfer of technology in the United Nations Conference on Trade and Development, the United Nations Conference on Science and Technology for Development and elsewhere;

(f) Promotion of adequate information flows regarding all aspects of new and renewable sources of energy, especially to the developing countries, taking duly into account their special conditions and requirements;

(g) Question of financing the activities necessary for promoting the identification, development, exploitation and utilization of new and renewable sources of energy.

## II. ECA ACTIVITIES FOR THE PREPARATION OF, OR RELATED TO THE UNITED NATIONS CONFERENCE ON NEW AND RENEWABLE SOURCES OF ENERGY

7. Prior to General Assembly resolution 33/148, ECA carried out limited activities in the field of new and renewable sources of energy, concentrating in particular solar energy. Thanks to bilateral technical assistance obtained from France, a regional adviser visited 11 African countries and assessed their potential in new and renewable sources of energy, evaluated the economic advantages to be derived from their exploitation, suggested short-and-long-term measures and proposed concrete recommendations for their selective development. Each mission resulted in a comprehensive report which has been distributed to the relevant authorities in the countries concerned.

8. Immediately after General Resolution 34/190, the Economic Commission for Africa organized a Regional Seminar on Solar energy (Niamey, 8-13 January 1979). The goals of the Seminar were:

(a) to define the role of solar and related energies, in particular, in the economic and social development of African countries with reference to integrated rural development programmes and energy conservation policy;

(b) to evaluate the results obtained, difficulties encountered and obstacles to be overcome in the area of research and development, the manufacture and distribution of material and equipment utilizing solar and related energy;

(c) to define new approaches that might promote speedy utilization of solar energy in Africa;

(d) to elaborate a programme of priorities and strategy for the implementation of such a programme and, within that framework, to recommend specific measures for immediate implementation;

(e) to create a permanent co-ordination and co-operation structure at the subregional and regional levels;

9. The Seminar was attended by representatives of 16 African countries and 13 intergovernmental and international organizations. The participants recommended that African leaders should firmly support research in their countries on solar energy and its application by creating research centres; embark immediately upon an effort to disseminate information on the possibilities offered by the utilization of renewable energies; promote at all levels of scientific and technological training, education based on the study and use of solar energy.

10. The Seminar endorsed the following priority actions to attain the above-mentioned objectives:

(a) Establishment of a Regional Centre for Solar Energy;

(b) Creation of the Solar Energy Society of Africa;

(c) Initiation of a training programme for African technicians and other professionals in the field of solar energy;

(d) Encouragement of research and development through a clear-cut policy of strengthening existing solar research centres and establishing new ones.

11. Following the Niamey Seminar, the Commission organized an exhibition of solar equipment in March 1979 in Rabat, Morocco, on the occasion of the fifth meeting of the Conference of Ministers and the celebration of ECA's twenty-first anniversary. As a follow up, ECA initiated a permanent exhibition of such equipment within its headquarters in Addis Ababa.

12. Parallely, the ECA secretariat initiated a training programme for African technicians, engineers and researchers in the field of solar energy on a regional basis. The programme is being carried out with a French Government grant of a dozen fellowships per year. Although only a limited number of Africans have followed the programme, the results are meeting expectations.

13. Concerning establishment of a Regional Centre for Solar Energy in Africa, the secretariat prepared its constitution and after having it endorsed by the Conference of Ministers at its fifth meeting, opened it for signature at ECA headquarters. Since seven signatures are needed for it to come into effect, ECA is planning to convene an inaugural meeting to establish the Centre.

14. For a period of one year, i.e. from March 1979 to March 1980, the ECA activities related to new and renewable sources of energy were limited to:

(a) preparation and distribution of technical and economic documents such as lists of institutions providing training in solar, wind and biomass energy including details in their programmes;

(b) notes on the production of biogas in Africa;

(c) preparation of a list of manufacturers of solar, wind and biomass conversion equipment;

(d) establishment of a specialized library; and

(e) sporadic technical assistance to ECA's host country, etc.

15. It was in fact only during the first quarter of 1980, that ECA actively started preparations for the Nairobi Conference. In January and February, it participated in two technical panels of experts, namely the solar and biomass panels, and attended the first session of the Preparatory Committee in March 1980. ECA, jointly with OAU, organized a meeting on energy in Africa, which represented a starting point for the current ECA work programme in the field of new and renewable sources of energy.

16. In May 1980, the secretariat started to recruit additional staff for the preparatory process for the Nairobi Conference and participated in the second session of the Preparatory Committee.

17. In line with General Assembly resolutions 33/148 and 34/190 and following the recommendations of the second session of the Preparatory Committee, the ECA secretariat organized three technical panels of experts, namely on hydropower, geothermal and biomass (including fuelwood and charcoal). The panels were held between 20 and 25 October 1980 and succeeded in reviewing the status of these sources of energy in Africa and submitting concrete recommendations for their further development and utilization.

18. At the same time, two newly recruited regional advisers organized a series of missions in African countries with a view to briefing key officials on the scope and objectives of the Nairobi Conference, persuading Governments to establish focal points, assessing the status of the preparedness of the Governments for the Conference, providing technical assistance for the preparation of national documents and identifying areas where more in-depth assistance is needed.

As a result, a present 20 focal points have been established, at least five countries have been identified being in need of greater assistance and the majority of the countries visited are engaged in the preparation of national documents.

19. As of 1 November 1980, the secretariat started preparations for the Intergovernmental Preparatory Meeting on New and Renewable Sources of Energy (12-16 January 1981). For this Meeting, the secretariat has prepared a number of basic documents, covering the most important new and renewable sources of energy such as hydropower, geothermal, biomass and solar and has also prepared a synthesis document, covering all new and renewable sources of energy of interest to African countries. Moreover, a document on policies and programmes of action for the development of these sources of energy in Africa has been prepared. For a better understanding of the subject, the secretariat will submit to the Meeting a number of information documents, analysing some of the sources of energy enumerated in the synthesis document.

20. The objectives of the Preparatory Meeting are:

(a) To adopt a common policy for African countries at the United Nations Conference on New and Renewable Sources of Energy;

(b) To elaborate specific measures for concrete action to promote the development and research, exploitation and utilization of new and renewable sources of energy in Africa, and,

(c) Taking into account the relevant results of the previous meetings of ECA or other African intergovernmental organizations, to elaborate programme of priorities and strategy for the implementation of that programme in order to promote the development and utilization of hydropower, geothermal, biomass, solar as well as other new and renewable sources of energy in which African countries might be interested.

21. In conjunction with this Preparatory Meeting, the ECA secretariat has organized a Seminar for African journalists, which will be held on 15 and 16 January 1981, i.e. during the last two days of the Intergovernmental Meeting, with a view to informing those African countries which may not be able to participate, about the scope, objectives and importance of the Nairobi Conference and on the activities African countries are carrying out in preparation for the Conference.

### III. PREPARATORY ACTIVITIES FOR THE NAIROBI CONFERENCE AT THE NATIONAL LEVEL

22. At the outset, it should be noted that few African countries are engaged in concrete preparation for the Nairobi Conference. Reasons, relating to financial constraints, lack of adequate communications between Governments and the United Nations Conference secretariat delays in the establishment of focal points, late start of ECA activities in this field and lack of interest manifested by authorities, explain why African countries are somewhat behind other countries in the preparatory process for the Conference. Another essential reason is that a number of African countries do not have an energy policy at all or have just started to consider preliminary programmes for energy development and utilization.

23. In spite of this situation, as a result of the systematic missions organized by ECA, growing interest on the part of African countries is evident. Twenty-nine African countries have already established focal points, usually located within Ministries of Planning, Energy, Mineral Resources, Science and Technology, etc. (see annex I). They coordinate the preparatory activities for the Nairobi Conference such as the preparation of national papers, identification of technical assistance needs for the implementation of projects related to the development and utilization of new and renewable sources of energy and maintain permanent contact with the Conference secretariat and ECA.

24. The preparation of national papers has only just begun because the decision to prepare such documents was taken very late (1 August 1980) and reached the Governments even later; the deadline (31 December 1980) adopted by the Preparatory Committee at its second session is somewhat arbitrary and reached the Governments at a time when no organizational infrastructure had yet been established. This situation is reflected

in the fact that ECA received only one national paper, from the Sudan, in time to incorporate its data in the documents to be submitted to Preparatory Meeting. The ECA secretariat is however aware that a number of African countries are preparing national papers.

25. In terms of preparations for the Conference at the global level, Africa's input is significant. Sixteen African countries have provided experts for the technical panels of experts and ad hoc groups of experts: Algeria - one expert for the Biomass Technical Panel, one expert for the Wind Power Technical Panel and one expert for the Ad Hoc Group on Financing - Benin: one expert for the Biomass Technical Panel, - Burundi: one expert for the Ad Hoc Group on Rural Energy - Egypt: one expert for the Oil Shales Technical Panel, one expert for the Ad Hoc Group on Information Flows, and one expert for the Ad Hoc Group on Industrial Issues - Ghana: one expert for the Hydropower Technical Panel - Kenya: one expert each for the Fuelwood and Charcoal and Geothermal Technical Panels - the Libyan Arab Jamahriya: one expert for the Solar Technical Panel - Madagascar: one expert for the Solar Technical Panel - Mali: one expert for the Solar Technical Panel - Morocco: one expert for the Oil Shales Technical Panel - Nigeria: one expert for the Solar Technical Panel and one expert for the Ad Hoc Group on Information Flows - Senegal: one expert for the Ad Hoc Group on Education and Training - Sierra Leone: one expert for the Ad Hoc Group on Education and Training - the United Republic of Tanzania: one expert for the Fuelwood and Charcoal Technical Panel, and one expert for the Ad Hoc Group on Rural Energy - Togo: one expert for the Ad Hoc Group on Financing - Tunisia: one expert for the Biomass Technical Panel, one expert for the Wind Technical Panel and one expert for the Ad Hoc on Financing - Upper Volta: one expert for the Fuelwood and Charcoal Technical Panel - Zaire: one expert for the Ad Hoc Group on Industrial Issues; (see annex II).

26. During the missions organized by ECA for the preparatory process for the Nairobi Conference, it was realized that a number of African countries, apart from those already involved in new and renewable sources of energy activities, started establishing adequate infrastructure with a view to developing indigenous sources of energy, particularly new and renewable sources of energy. The examples given below are based on the ECA's regional advisers' missions and do not exclude the existence of similar activities in other African countries.

Benin initiated a study on new and renewable sources of energy in the country and a study was prepared for this purpose in April 1980 with UNDP aid. The country has a project for the establishment of an applied research centre for renewable sources of energy.

The United Republic of Cameroon has a number of projects for biomass conversion in rural areas, sponsored by the Ministry of Energy. Although these projects are not new, their implementation at this very moment is an indication of the policy makers' awareness of the new and renewable sources of energy input to the national energy balance;

Egypt is a country with great experience in the field of new and renewable sources of energy development and utilization. Moreover Egypt now has a new programme for rural development with particular emphasis on the utilization of solar and biomass energy;

The Ivory Coast recently initiated a programme for the utilization of fuelwood in industry;

Liberia recently established a Bureau of Hydrocarbons which launched a nation-wide energy sources assessment programme and elaborated a programme for new and renewable sources of energy development and utilization in collaboration with the University of Liberia;

Morocco established in October 1980 a Centre for the Development of Renewable Sources of Energy;

Nigeria recently established the National Institute for Energy Research which will start operating in 1981 in the responsibilities such as research and development including demonstration programmes in the field of new and renewable sources of energy;

The Sudan established in May 1980 the National Energy Administration which will deal in particular with new and renewable sources of energy;

Tunisia established a special Committee for New and Renewable Sources of Energy in 1980;

Upper Volta, although having long experience in the field of new and renewable sources of energy, established in January 1979 a "Direction Generale de la Recherche, Science et technologie" with a Division for New energies.

#### IV. ASSISTANCE REQUESTED BY AFRICAN COUNTRIES FOR THE PREPARATION OF THE NAIROBI CONFERENCE

27. In general, the majority of assistance requests relate to financial support for participation in meetings, particularly for the Preparatory Meeting.

28. A significant number of African countries have requested assistance in the preparation of national papers and the United Nations Conference secretariat and ECA are trying to respond to such requests. The only problem which can not be solved is that, whereas national papers are supposed to be ready by 31 December 1980, the personnel supposed to provide assistance is available only after 16 January 1981. Accordingly, in some cases, national papers will be ready not earlier than mid-February 1981.

29. A selected number of African countries have requested assistance which goes beyond the preparation of national papers. Some examples are:

The Central African Republic, which needs assistance to establish a programme for the development and utilization of new and renewable sources of energy;

Egypt which needs assistance for its assessment of the application of new and renewable sources of energy technologies to rural areas;

Liberia which has requested assistance in training of personnel for new and renewable sources of energy assessment, development and utilization;

Nigeria which needs assistance for the elaboration of a research and development programme in the field of new and renewable sources of energy;

The Sudan which requested assistance in the elaboration of a programme for the development and utilization of new and renewable sources of energy; for training and for the elaboration of a work programme for the Energy Unit of the National Energy Administration;

Tunisia which needs assistance (financial and technical) for the ongoing biogas project and for the establishment of a centre for the implementation of practical projects in the field of new and renewable sources of energy.

## V. CONCLUSIONS

30. The United Nations Conference on New and Renewable Sources of Energy offers a great opportunity for elaborating concrete measures for concerted African action with a view to promoting the development and utilization of new and renewable sources of energy on the continent.

31. Given the fact that very little is known in African countries about the Nairobi Conference, the information flow should be strengthened. This has been the role of the ECA secretariat in organizing seminars, technical panels of experts, the present Preparatory Meeting and the Seminar for mass media on 15 and 16 January 1981 in Addis Ababa and in increasing the number of technical assistance missions to member States.
32. Significant activities are being carried out by ECA and at the national level in Africa for the preparation of the United Nations Conference. Still, there is a lot to be done to make Governments aware of the importance of the Nairobi Conference and of the importance of new and renewable sources of energy within the over-all national economy.
33. The establishment of focal points is a positive fact, but unless they are fully engaged in the preparation of the Conference, their contribution may well remain theoretical.
34. The preparation of national documents should be accelerated and regardless of the 31 December 1980 deadline, they should be finished and submitted to the Conference secretariat and ECA as documents to be used before, during and after the Nairobi Conference.
35. There is a remarkably growing interest among African countries for the assessment, development and utilization of new and renewable sources of energy, expressed in terms of infrastructure building and requests for assistance.
36. Technical assistance is insufficient and starting in mid-January 1981, the ECA secretariat will allocate three regional advisers to improve the situation. It has been noted that short missions to countries are of little value and consequently long-term missions to every single country are planned for the first half of 1981.
37. There is no doubt that, based on the existing technical documentation, on the national papers and on the proceedings of the present Preparatory Meeting, African countries will be able to elaborate a common policy and a common programme of action for the development and utilization of new and renewable sources of energy to be submitted to the Nairobi Conference as a regional paper.
38. The ECA secretariat will continue its efforts in offering technical assistance to member States, co-ordinating the preparation of the Nairobi Conference at the regional level and undertaking the immense task of implementing the Nairobi Conference's recommendations

through follow-up activities. With this in mind, the ECA secretariat already reshaped its work programme related to new and renewable sources of energy and amended it in line with the Lagos Plan of Action as approved by the first economic summit of the Assembly of Heads of State and Government of OAU held at Lagos, Nigeria, on 28 and 29 April 1980.

## DESIGNATED NATIONAL FOCAL POINTS IN AFRICA

(as of 20 December 1980)

## 1. ALGERIA

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Bureau Central des Projets, M. Bernard C. Adikpeto, Directeur  
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## 3. BOTSWANA

The Permanent Secretary, Ministry of Mineral Resources and Water  
Affairs, Private Bag 0010, Gaborone, Botswana

## 4. BURUNDI

Ministère de l'Energie et des Mines, Département de l'Energie.  
Bujumbura, République du Burundi.

## 5. UNITED REPUBLIC OF CAMEROON

Mr. Myondo Owoundi GASTER  
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## 8. EGYPT

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Minister of Electricity  
Secretary General of Supreme Council of Energy  
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9. ETHIOPIA

Ethiopian National Energy Committee (Dr. Gebru Woldeghiorgis),  
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10. GABON

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11. GHANA

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23. SUDAN

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25. TOGO

Ministère des Travaux Publics, de l'Energie  
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29. ZAIRE

Mr. Seka Bouhoro Bahnyanzi  
Secrétaire d'Etat à l'Energie  
Avenue du Commerce,  
Galerie du 24 Novembre  
B.P. 5137  
Kinshasa, Zaire

AFRICAN PARTICIPATION IN GLOBAL  
ACTIVITIES FOR THE PREPARATION OF THE  
NAIROBI CONFERENCE

A. TECHNICAL PANELS OF EXPERTS:

1. SOLAR PANEL

Mr. S.M. ABUGHRES, TRIPOLI, LIBYAN ARAB JAMAHRIYA  
Mr. P. RAKOTOBARISON, ANTANANARIVO, MADAGASCAR  
Mr. CHEICKNE TRAORE, BAMAKO, MALI  
Mr. V.A. AKINSETE, LAGOS, NIGERIA

2. WIND PANEL

Mr. HASSEN BOUSSOFFARA, TUNIS, TUNISIA  
Mr. Mohamed AKLI LARBI, ALGIERS, ALGERIA

3. BIOMASS PANEL

Mr. J. GNIDEHOU, COTONOU, BENIN  
Mr. KAROU, TUNIS, TUNISIA

4. FUELWOOD AND CHARCOAL PANEL

Mr. H. NACRO, OUAGADOUGOU, UPPER VOLTA  
Mr. KANEPT, NAIROBI, KENYA  
Mr. MNZANA, DAR-ES-SALAAM, UNITED REPUBLIC OF TANZANIA

5. HYDROPOWER PANEL

Mr. CASELY-MAYFORD, ACCRA, GHANA

6. GEOTHERMAL PANEL

Mr. B. KHELIF, ALGIER, ALGERIA  
Mr. W.J. WAIREGI, NAIROBI, KENYA

7. OILSHALES AND TAR SANDS PANEL

Mr. A. CHBIHI, RABAT, MOROCCO  
Mr. F.M. EBEID, CAIRO, EGYPT

B. AD HOC GROUPS OF EXPERTS:

1. FINANCING GROUP

Mr. A. DAMILA, LOME, TOGO  
Mr. T. TORJEMAN, TUNIS, TUNISIA

2. INFORMATION FLOWS GROUP

Mr. O. EL KHOLY, CAIRO, EGYPT  
Mr. S. LAWANI, IBADAN, NIGERIA

3. EDUCATION AND TRAINING GROUP

Mr. H.N. BASSEY, FREETOWN, SIERRA LEONE  
Mr. D. FALL, DAKAR, SENEGAL

4. RURAL ENERGY GROUP

Mr. P. NIYIMBANA, BUJUMBURA, BURUNDI  
Mr. S.R. NIKONOKI, DAR-ES-SALAAM, UNITED REPUBLIC OF TANZANIZ

5. INDUSTRIAL ISSUES GROUP

Mr. A.H. ABDEL RAHMAN, CAIRO, BEYPT  
Mr. MALU WA KALENGA, KINSHASA, ZAIRE

6. RESEARCH & DEVELOPMENT AND SCIENCE & TECHNOLOGY TRANSFER GROUP