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PREPARATIONS AT THE REGIONAL LEVEL

Comprehensive reports on the activities of the
regional commissions

Addendum

Report submitted by the Economic Commission
for Latin America*

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English

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COMPREHENSIVE REPORT ON THE ACTIVITIES OF THE LATIN AMERICAN
ECONOMIC COMMISSION IN THE FIELD OF NEW AND RENEWABLE SOURCES OF ENERGY

CEPAL activities relating to energy

The main thrust of CEPAL activities in the energy field is aimed at fostering greater efficiency in the use of energy resources in Latin America. This objective is in keeping with CEPAL's principal goal of promoting social and economic growth in a context of an efficient allocation of labour, capital and natural resources.

CEPAL's work in the energy field is mainly focused on the following specific topics: energy planning and policies; renewable energy sources; energy conservation; and the collection and publication of energy statistics. These activities are carried out through its offices in Santiago, Mexico and Port of Spain.

At present, the group working in this field in CEPAL-Santiago is preparing the following studies:

- (1) Evaluation of the principal economic effects of the increases in international oil prices on the economies of oil-deficit countries of Latin America. The study also analyses the measures taken by these countries in the face of those effects.
- (2) Analysis of energy trends and prospects in Latin America. The region's traditional dependence on oil is highlighted, as are the prospects for the next two decades.
- (3) Determination of the present and medium-term economic and financial feasibility of solar energy as a substitute for oil in Latin America.

In addition, CEPAL is currently holding discussions with OLADE on the establishment of a joint energy programme. The basic idea of this programme is that the two institutions should undertake a series of joint activities in the energy field to provide the Latin American governments with studies and policy recommendations in that field.

Special mention should be made of CEPAL activities in support of the United Nations Conference on New and Renewable Sources of Energy to be held in Nairobi in August 1981. CEPAL's work in connexion with the Conference is being undertaken in close collaboration with OLADE. A more detailed description of these activities is given below.

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The group's programme of work for the next three years includes studies of aspects of the energy sector not hitherto treated and more detailed study of areas already analysed. These will include:

- (1) Analysis of the main problems of energy planning in Latin America.
- (2) Research on the electrical industry, traditionally one of the main consumers of oil, with a view to determining the possibilities of replacing oil in the industry in the light of the latest official electricity development programmes for the next two decades.
- (3) Global study of the economic prospects of solar energy in Latin America, generalizing the results of an earlier study and taking up the pertinent recommendations from the United Nations Conference on New and Renewable Sources of Energy to be held in Nairobi in 1981.
- (4) Three concrete studies of the Latin American oil industry: those will examine the changes which have taken place or which are expected to occur in connexion with supply of crude oil and petroleum products for Latin American countries; the second will evaluate oil prospecting and producing activities since 1960; and the third will focus on the oil sectors of the main oil-exporting countries of the region, with a study of their oil policies and of the effect of the higher oil prices on their economic growth.

With regard to the activities of other CEPAL divisions in Santiago in this area, mention may be made, among others, of the following: (1) the Joint CEPAL/UNEP Environment Unit has included consideration of the energy problem in four studies to be carried out until 1982 under the project on "Horizontal co-operation among Latin American countries in the field of styles of development and the environment", as one of the factors which characterize a style of development; (2) the Joint CEPAL/UNIDO Industrial Development Division has begun a study on the present situation and prospects of the production and supply of capital goods in Latin America, including the energy sector, as a major source of demand for equipment; (3) the Joint CEPAL/FAO Agricultural Division has studied the topic of energy

in agriculture, and is including it in some of its documents, such as "Investment in agriculture" and "Agriculture in the year 2000"; (4) the Division of Statistics and Quantitative Analysis collects, processes and publishes various statistics on the sector.

The Mexico Office's activities relating to energy have basically focused for some time on the study of the economic advantages for the countries of Central America which would stem from the interconnexion of their electricity systems, and more recently a study has begun on the timetable of annual investment by countries during the period 1984-1994 and the technical and financial support required for these activities. The Office's work on energy includes studies of the impact of higher oil prices on the Central American economies and the continuous publication of statistics on the industry.

The CEPAL Office for the Caribbean has also stepped up its research in the energy field, paying special attention to the resources available in the region, the way in which the economies of those countries have been affected by the higher cost of their oil imports, and the level of energy demand in the region in coming years.

Finally, the Latin American Institute of Economic and Social Planning bearing in mind the need to achieve a more rational use of energy in order to promote the countries' economic development, is considering placing greater emphasis on energy planning in the training services for specialists in general planning which it currently provides to governments of the region.

CEPAL ACTIVITIES IN CONNEXION WITH THE UNITED NATIONS CONFERENCE ON NEW AND RENEWABLE SOURCES OF ENERGY

CEPAL has participated in the preparations for the United Nations Conference on New and Renewable Sources of Energy at the global, regional and national levels.

A. Global Level

- Participation in various panels of experts by source.
- Participation in the two meetings of the Preparatory Committee in New York from 4 to 8 February, 1980 and in Geneva from 21 July to 1 August 1980.

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- Participation in the interagency meetings in New York from 11 to 13 February, 1980 and in Geneva from 8 to 10 October, 1980.
- Participation in the meetings of experts on information and financing held in December, 1980.
- Assistance provided to the Conference Secretariat in the preparation of documents for the 35th session of the General Assembly.

B. Regional Level

In co-ordination with OLADE (Latin American Energy Organization) a number of regional preparatory activities have been undertaken:

- Interagency Meeting, Santiago, 18-19 February, 1980.
- Interagency Meeting on Joint Area Programming in Non-conventional Energy Sources, Quito, 28 July - 4 August, 1980 (UNEP/ROLA; OLADE/CEPAL).

CEPAL has participated in the following regional meetings:

- Fifth Session of the Caribbean Development and Co-ordination Committee Kingston, 4-10 June, 1980.
- Seminar on Energy and Development, Quito, 17-18 July, 1980.
- Rationalization of Energy in the Sugar Cane Industry, Havana, 4-14 September, 1980.
- Seminar on Energy and Development, Brasilia, 6-8 October, 1980.
- Tenth Meeting of Experts of OLADE, Bogotá, 24-26 November, 1980.
- Eleventh Meeting of Ministers of OLADE, Bogotá, 28-29 November, 1980.

The following regional activities and documents are being prepared:

Preparation of regional documents

A concern shared by many countries of the region is that of learning the regional position regarding the sources considered by the Conference and the technology available for using them. Thus, in the course of its work in recent months CEPAL found that many countries were interested in learning the region's prospects in relation to those sources for the year 2000. Consequently, the decision was taken to produce a series of small regional documents by source for this purpose. Experts and institutions were designated on an ad-hoc basis for these studies, as indicated below.

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It should be pointed out that OLADE offered to prepare the documents in its specialized fields.

- Biogas - OLADE
- Geothermal power - OLADE
- Hydroelectricity - OLADE
- Small hydroelectric power stations - OLADE
- Wind energy - OLADE
- * - Solar Energy - Universidad Nacional Autónoma de México
- Bituminous shale - Brazilian expert
- Peat - Brazilian expert
- * - Firewood and charcoal - Instituto Nicaragüense de Energía
- * - Sugar cane energy potential - Instituto Cubano de Investigaciones sobre Derivados de la Caña de Azúcar

The Government of the Dominican Republic, through the Commission on Energy Policy, has offered to prepare a document on "Hydroelectric potential: Use and Problems - The Dominican Case".

The document on "Wood and Charcoal" will be used for the regional technical meeting described below.

The documents of OLADE and the Dominican Republic on hydroelectricity will be used for the regional technical meeting described below.

With regard to other kinds of documents, it should be pointed out that the National Council on Science and Technology of Mexico (CONACYT) has offered to prepare a document on education and training for submission at the meeting of experts to be held in New York from 19 to 23 January as part of the preparations at the global level.

CEPAL has prepared a working document entitled "Methodological Guide to the Preparatory Process in Latin America", which has been distributed to all countries of the region, and which describes the steps proposed by CEPAL to optimize the preparatory process at the national and regional levels, as well as regional activities in the global context. This document is annexed.

(*) Missions by the contracted consultants were carried out to several countries of the region during the preparation of these documents.

CEPAL has prepared the basic documents for the Regional Intergovernmental Meeting (described below) which contains a proposal for regional action to be discussed by the countries of the region.

Regional technical meetings

Following consultations with many governments, and with the agreement of OLADE, three high-priority topics have been chosen for small technical meetings in the context of the Conference. Their reports will be submitted to the inter-governmental meeting. Those topics are:

- Fuelwood and charcoal: their incorporation into energy planning and policy making (Managua, Nicaragua, 2 to 6 February, 1981).
- Criteria for evaluation of financing for investment and research into new and renewable sources of energy (Bridgetown, Barbados 16 to 20 February 1981).
- Hydropower potential: energy alternative and industrial and financial challenge for Latin America (Quito, Ecuador, 2 to 6 February, 1981).

Intergovernmental regional meeting

This meeting will be the main activity in the regional preparations. It will be held from the 16 to 20 March, 1981 in Mexico City. This meeting will be at government expert level from the 16 to the 18 and at ministerial level the 19 and 20 of March. The purpose of the meeting will be to seek convergence in the positions of governments of the region for the Conference, with a view to a possible common position for Latin America.

Pursuant to the mandate of the legislative bodies of the United Nations, the meeting will be organized by CEPAL. CEPAL has invited OLADE to co-sponsor the intergovernmental meeting. All interested international bodies may attend the meeting as observers.

The Meeting will also analyze the regional contribution to the Global Programme of Action.

By the time of the meeting, the main global technical documents prepared under the co-ordination of the Conference Secretariat will have been completed. In addition, all the regional documents prepared by CEPAL with the co-operation of OLADE and the assistance of the abovementioned institutions will be available.

C. National level

CEPAL support activities for the preparatory process of the United Nations Conference on New and Renewable Sources of Energy have been directed primarily towards national activities, particularly during the first months of work. In this context CEPAL has carried out the following major activities:

Information to countries

By means of preliminary missions to countries and continuous communication with government representatives responsible for energy matters, information has been given on the global preparatory activities organized by the Conference Secretariat and also on the regional activities for which CEPAL is responsible. Thus, the countries have been informed inter alia of the desirability of designating national focal points and establishing interagency working groups.

Designation of focal points

Almost all the governments of the region have appointed national co-ordination centres (focal points) for the preparation of the Conference. CEPAL is in regular communication with those centres, as is the representative of the United Nations Development Programme, who also represents CEPAL and the Conference secretariat, in each country. The focal points are responsible for the co-ordination of the entire national preparatory process, and it is mainly through them that CEPAL, OLADE and the Conference secretariat are co-ordinating regional activities and helping to promote the national preparatory process.

Technical assistance

In close collaboration with OLADE, various activities have been undertaken to strengthen the position of countries for the Conference, including the offer of technical assistance in connexion with:

- energy policies
- planning
- technologies relating to new and renewable sources of energy
- preparation of national documents

Almost all the countries of the region have received direct technical assistance from CEPAL through a large number of working meetings between CEPAL staff and regional consultants and regional groups or institutions.

Some countries (Nicaragua, Peru, Dominican Republic, Cuba, Dominica, Grenada, Barbados, St. Vincent, Ecuador, Colombia) have requested technical assistance in specific areas. Most of these requests are being met, while others

on account of their project-oriented nature will be channelled through the existing mechanisms and specific agreements between the Conference secretariat and UNDP.

FUTURE CEPAL ACTIVITIES RELATING TO THE CONFERENCE ON NEW AND RENEWABLE SOURCES
OF ENERGY

CEPAL will devote the remaining months until the Conference to the analysis of the national positions set forth in the national documents received and the technical and planning information resulting from the series of technical meetings. A Latin American proposal of action will be formulated and submitted to the intergovernmental regional meeting in March.

In January and February, 1981 the above-mentioned regional technical meetings will be held and the source documents currently under preparation will be completed.

CEPAL staff will participate in the meeting of the Synthesis Group in New York from 17 to 27 February, at which it will present the above-mentioned studies and documents.

It should be pointed out that in February and March, 1981 there are to be an Extraordinary Meeting of Experts and Extraordinary Meeting of Ministers of OLADE. These two events will be of major importance from the standpoint of the regional proposal of action for the Conference.

The staff of CEPAL and OLADE will continue their technical assistance activities in the region and participate in the third and fourth meetings of the Preparatory Committee. They will also promote the interregional activities required for the implementation of the regional plan of action resulting from the discussions during the Latin American Intergovernmental Meeting.

ANNEX

UNITED NATIONS
ECONOMIC COMMISSION FOR LATIN AMERICA



NATIONS UNIES
COMMISSION ECONOMIQUE POUR L'AMERIQUE LATINE

NACIONES UNIDAS
COMISION ECONOMICA PARA AMERICA LATINA

UNITED NATIONS CONFERENCE ON NEW AND
RENEWABLE SOURCES OF ENERGY

METHODOLOGICAL GUIDE
TO THE PREPARATORY PROCESS IN LATIN AMERICA

Santiago, Chile

I. INTRODUCTION.

The United Nations Conference on New and Renewable Sources of Energy is an endeavour by the international community to propose action of a political, economic and social nature which is giving impetus to the development and large-scale application of energy alternatives will assist in easing the period of transition through out the world, from the era of the almost exclusive use of fossil resources to one of a more broadly based pluralism in energy.

Only by analysing the benefits which may be derived from the Conference and using the different channels open for negotiation will the countries be able to make a success of this event. Hence the importance of the remaining months until the Conference takes place and the activities being organized at the international, regional and national levels.

The methodological guide presented here has the objective of facilitating the preparatory process for the Conference on which nearly all the governments of Latin America have already made a start. The objectives and the overall work of organization are specified in the relevant documents of the General Assembly, the Preparatory Committee and the Conference Secretariat. The present document limits itself to activities of a national and regional nature.

At the national level, a methodology of flexible preparation is suggested here which any government can adapt to the country's conditions and to its priorities. This is, of course, only a suggestion which can be accepted, rejected or adopted with modifications.

At the regional level a description is given of the process which CEPAL will follow out with support from OLADE for preparing and submitting proposed regional action programme for the Conference to the governments for discussion. This will fundamentally be based on a summary of the positions gathered from the governments.

The development of the sources of energy considered at this Conference is at different stages of progress both in terms of appraisal and of the technological, economical, financial and social problems surrounding them. There can be no generalized solutions for obtaining a larger participation in society of the sources considered, since they must be considered individually and geographically in the context of a national approach. The methodology for this integrated analysis of their potential, their limitations and the requirements for their promotion is partly the object of this document. If it helps in any way to strengthen national positions vis-a-vis the Conference and to cause the materialization of expectations of the countries it will have achieved its objective.

II. NATIONAL PREPARATION FOR THE CONFERENCE

1. Focal Point.

Nearly all the governments of the region have already designated their national co-ordination centres (focal points) for the preparation of the Conference. CEPAL is in regular communication with these, and so is the representative of the United Nations Development Programme in each country who also represents CEPAL and the Conference Secretariat. The focal points are responsible for the co-ordination of all the national processes of preparation and it is mainly through them that CEPAL, OLADE and the Conference Secretariat are conducting the co-ordination of regional activities and assisting in giving impetus to the national preparatory process.

2. Interinstitutional working group.

In many countries these working groups have already been introduced under the co-ordination of the focal point. The experience of other world conferences has shown that the establishment of such groups is highly

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beneficial for the results which the country expects from the actual conference and for their future projection. It is considered important to include in these groups the following bodies or their equivalents (one of them will normally be the focal point):

- Ministry of Foreign Affairs
- Ministry of Planning
- Ministry of Energy
- Office for Science and Technology
- Office for Natural Resources
- Preinvestment and Financing Fund
- Main electrical energy enterprise
- Rural electrification body

3. National position at the Conference.

The central aim of the national process of preparation will be to formulate the position which the government will take to the Conference. The benefits which a government can expect from the Conference will be in direct proportion to the effort it makes in its preparation. For the majority of the countries of the region, their position at the Conference will probably have two basic components:

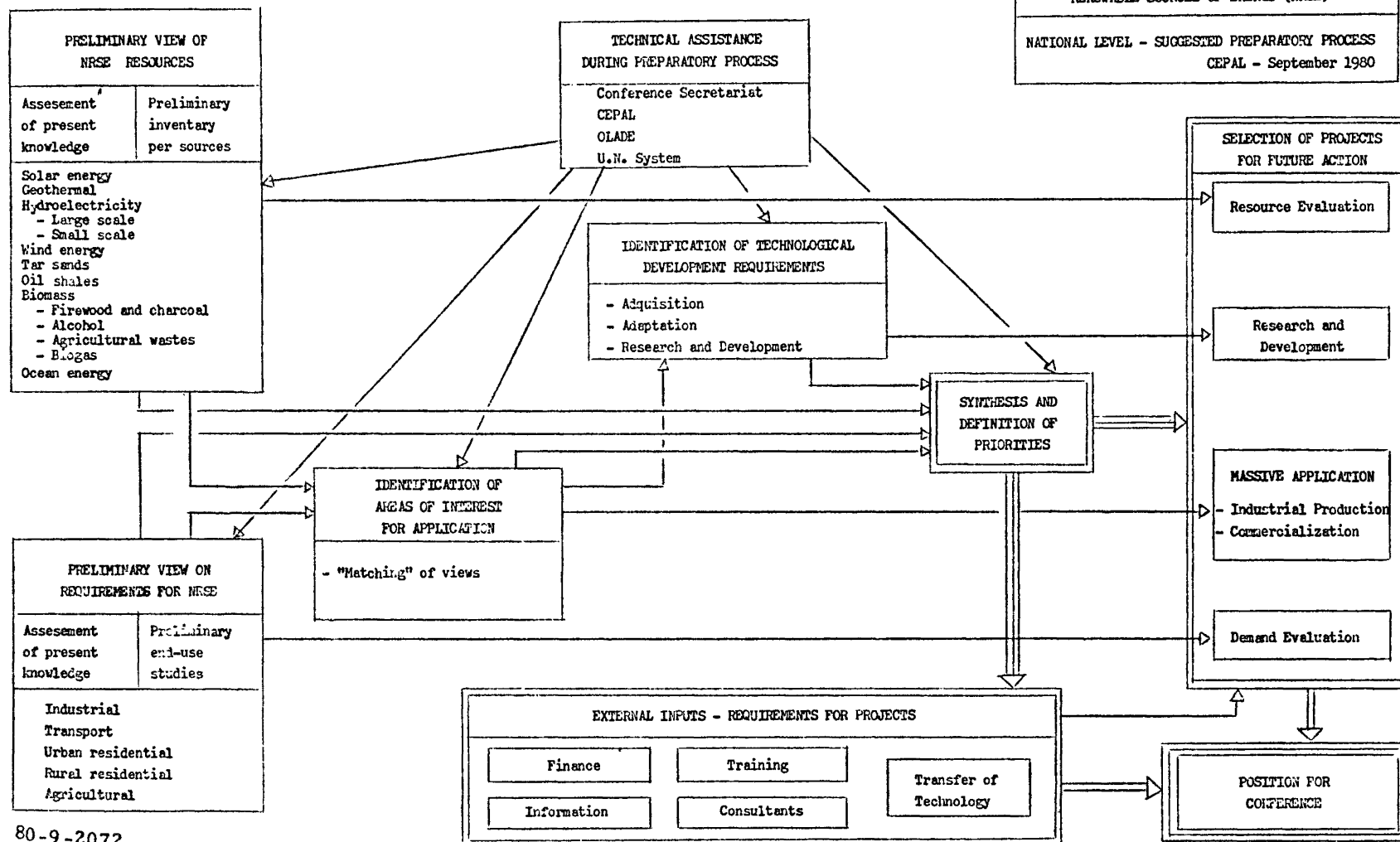
- a) A selection of priority future action projects for the development of new and renewable sources of energy (NRSE), which the government wishes to promote; and
- b) A specification of the external inputs (not available in the country) required to implement these projects.

These channels for presenting the national position are of several types, including national documents, regional documents and participation

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UNITED NATIONS CONFERENCE ON NEW AND
RENEWABLE SOURCES OF ENERGY (NRSE)

NATIONAL LEVEL - SUGGESTED PREPARATORY PROCESS
CEPAL - September 1980



demand may come from industrial, transport, domestic or agricultural energy needs. If they are present needs for which there is purchasing power, this is known as real demand. Otherwise they are unsatisfied needs. The term "requirement" covers both types.

As in the case of the resources, there should also be a preliminary "requirements map", by using sector, which summarizes present knowledge of the problem: existence of the requirement, geographical location, location in time (present or future), physical characteristics (e.g. low grade heat, illumination, etc.) and orders of magnitude. This stage also makes it possible to identify tentatively the uses and geographical areas for which demand assessment projects should be implemented.

7. Areas of interest for application.

Possibilities for the application of the new and renewable sources of energy will exist when the presence of a resource coincides with the presence of a requirement. Then it is possible to identify areas of interest by "superposing the maps" prepared in the two previous stages. An area of interest may be, for example, low temperature water-heating for industrial use (the requirement) by means of direct solar radiation (the resource). The areas of interest should be identified in the space and also in time if it is a question of requirements anticipated for the future.

This stage will also make it possible to identify tentatively future projects which the country should implement for the application of the source. These projects will generally include both the industrial production of some equipment and implements and the development of incentives and supporting machinery for mass marketing and distribution.

8. Technological development needs.

The identification of an area of interest implicitly carries with it the supposition that there exists some technology to implement this application on that it can be adapted or developed. With technological change, possible areas of interest are expected to expand.

One should, however, begin by defining the areas of interest and go on to identify technological development needs in each area. Technological research should respond to the needs of application and not to purely academic criteria. In many countries the process described may contribute substantially to directing research activity towards their real needs. It is at this stage, therefore, that the research and the development projects which are going to be implemented in this field will be tentatively identified.

9. Summary and priorities.

The four stages described here will give rise to a large number of initiatives which should be systematized and given an order of priority. In some countries, these two aspects may be the beginning of a national NRSE policy. The result of this activity, during the preparation of the Conference, should be a definition of the two main components of the country position at the Conference, described below.

10. Future action projects.

As has been indicated, the previous stages lead to the identification of four types of future action projects:

- Assessment of resources
- Assessment of demand
- Mass application
- Research and development

The more precise the selection of priority projects within each type, the greater the advantage the government will obtain in the negotiations and agreements of the Conference. It is desirable that for each project selected the government should, for its own use, define objectives, results to be expected, activities required, national inputs and contributions, inputs and contributions required from external sources, and detailed costs.

11. External inputs required.

For the purpose of the discussions at the Conference, in order to optimize its conclusions and prepare joint positions among several countries, it seems convenient to organize external input requirements according to types of input. The five following types are proposed here:

- Financing
- Information
- Training
- Advisory services
- Transfer of technology

Naturally, the more accurate the specification of each input, the better will be the possibilities of obtaining it in the context of the Conference.

12. Technical assistance for the preparatory process.

It is possible that in any of the stages mentioned the government may require external technical support for its preparatory work. It is also possible that it may require it for other preparatory activities if it has followed a methodology other than that suggested here. For these

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purposes there exists technical assistance machinery established by the Conference Secretariat. In order to request this assistance the government focal point should address itself to CEPAL or the representatives of the United Nations Development Programme in its country.

III. REGIONAL PREPARATION FOR THE CONFERENCE.

1. Preparatory inter-governmental meeting.

This meeting will be the main activity of the regional preparations. It will be held at the end of March 1981, with a place and date to be announced in due course. The object of the meeting will be to seek a conveyance of the positions of the governments of the region for the Conference towards a possible common Latin American position.

Pursuant to the mandate of the legislative bodies of the United Nations this meeting will be organized by CEPAL. CEPAL has invited OLADE, the Latin American Energy Organization, to co-sponsor this inter-governmental meeting. All interested international bodies may attend the meeting as observers.

By the date of the meeting the main technical documents of a global nature prepared under the co-ordination of the Conference Secretariat will have been completed. In addition to these, there will be a group of documents of a regional nature prepared by CEPAL with co-operation from OLADE. These contributions and the methodologies for preparing them are described in the next few sections.

2. Contribution to the global preparations.

a) Technical panels by source.

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For each of the main new and renewable sources of energy documents are being prepared by international panels of experts reviewing the state of affairs in their technologies, areas of application and potential, present expected costs, and their economic, social and environmental impacts. The technical panels, which have been working since 1979, are the following:

- Hydroelectricity
- Geothermal energy
- Ocean Energy
- Wind power
- Oil shale and tar sands
- Biomass
- Solar energy
- Firewood and charcoal

In addition to these panels special documents are being prepared on another two sources:

- Peat
- Draught animal power

b) Groups of experts by "horizontal" topics.

For some topics of interest for all the sources six groups of experts will meet between November 1980 and January 1981 to prepare special reports. CEPAL will make technical contributions to each of these meetings. The topics are:

- Flow of information
- Financing
- Research and development and transfer of technology
- Industrial problems and utilization in transport and other sectors
- Education and training
- Rural energy and utilization in agriculture

c) Summary group.

In February 1981 a high-level group will meet to prepare a summary of the results of these panels and group of experts.

3. Regional Technical Meetings

After consultations with numerous governments, and with the agreement of OLADE, three topics considered to be of high priority have been selected, on which small technical meetings will be organized. Their reports will be submitted to the intergovernmental meeting. The topics of these meetings will be:

- Fuelwood and charcoal: their incorporation into energy planning and policy making.
- Criteria for evaluation of financing for research and investment in NRSE.
- Hydropower potential: energy alternative and industrial and financial challenge for Latin America.

4. Regional Reports by Source.

At the request of some governments and with the aim of obtaining an overall picture of the present state of development of NRSE in the region, a series of brief reports will be prepared for the intergovernmental meeting on knowledge of resources, research and development work, and progress in the application of each of the sources. These reports will be prepared with the support of OLADE, consultants, and the above-mentioned technical meetings.

5. Regional Programme on Public Information

At the end of 1980 a programme on public information will be implemented in which active participation is expected from professionals

from some of the main mass media in the region. The preparation and holding of the Conference should provide valuable opportunities for creating public awareness of NRSE.

6. Regional Action Proposal for the Conference.

This proposal will be prepared in January and February 1981 by CEPAL, with the support of OLADE, on the basis of the preliminary results of the national preparatory processes obtained by the governments of the region by that time. The proposal will be submitted for discussion during the Intergovernmental Regional Meeting.

The proposal will consist basically of a group of multinational projects. The methodology of preparation is summarized in the diagram on the next page. Its starting point is in the two main components of the country positions at the Conference. These will lead to the proposal of regional action projects of five types, described below. In order for the priorities proposed at the intergovernmental meeting to really reflect the priorities of the governments, it is essential that the preliminary national positions should be communicated to CEPAL at the latest by the end of December 1980.

(i) Regional Action Projects.

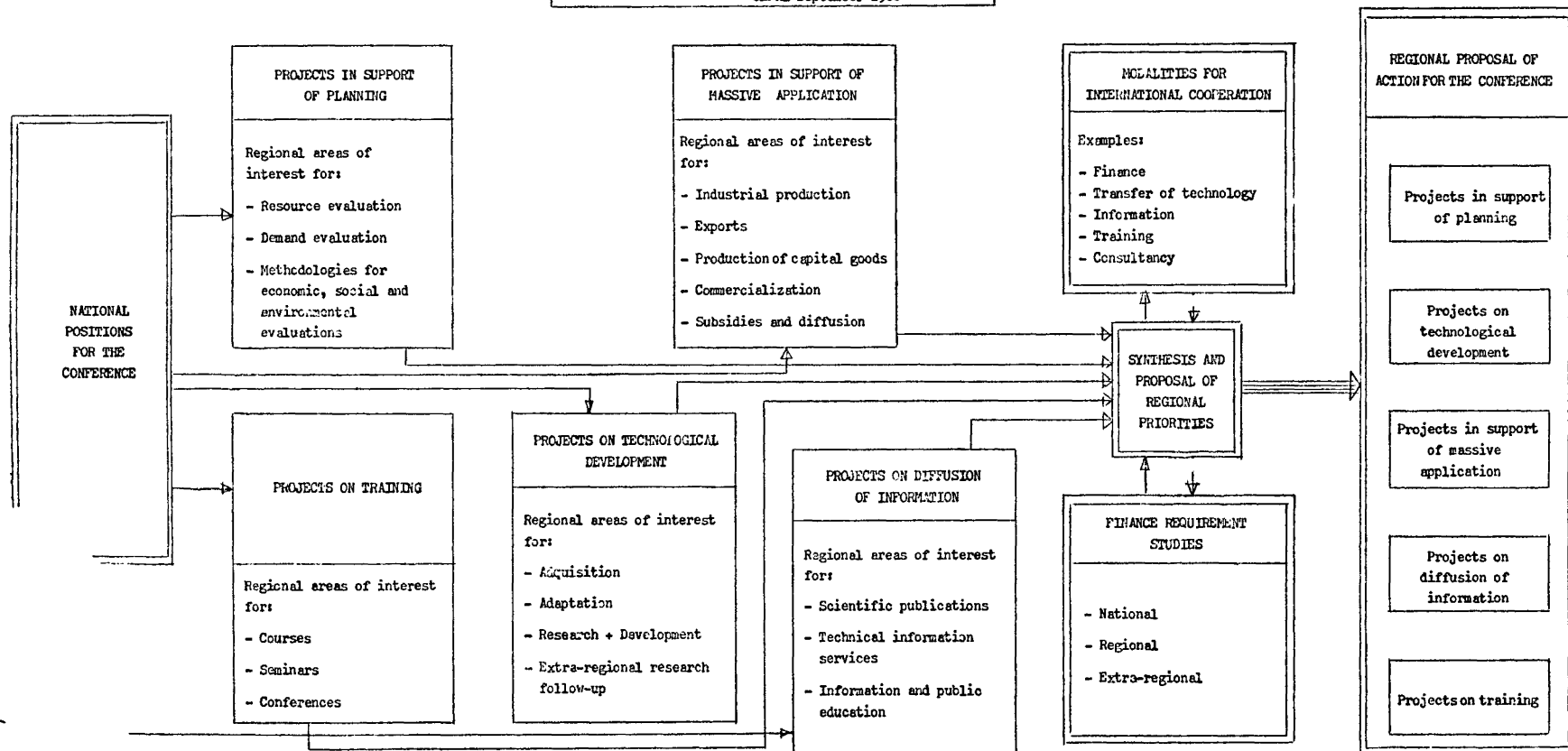
a) Planning Support Projects

These will be projects aimed at assisting the interested governments in their future activities in assessing resources, assessing demand and studying the economic, social and environmental impact of the development of NRSE and the design of policies and programmes.

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UNITED NATIONS CONFERENCE ON NEW AND RENEWABLE
SOURCES OF ENERGY

REGIONAL LEVEL: PREPARATION
FOR THE REGIONAL ACTION PROPOSAL
CEPAL September 1980



b) Technological Development Projects

These will be multinational projects aimed at acquiring, disseminating, adapting, developing, and following up extra-regional research in technologies for the use of NRSE.

c) Mass Application Support Projects.

These will be projects for assisting governments which desire to implement in a practical form and on a large scale some NRSE for some important requirement.

These projects will include both aspects of industrial production and of dissemination and marketing.

d) Information Dissemination Projects

These will be projects aimed at facilitating different types of information on NRSE to different types of users. According to the priorities indicated by the governments, these could be regional scientific publications, technical information services, information and education for the public in general, or other similar activities.

e) Training Projects.

These will be projects aimed at preparing the cadres needed to implement programmes on NRSE in technical fields and administrative and social areas.

ii) Forms of International Co-operation.

The proposal will include anticipated co-operation activities at the sub-regional, regional or international levels for the implementation of the projects mentioned.

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The forms of co-operation could be:

- Financing
- Transfer of Technology
- Information
- Training
- Advisory services

iii) Financing Needs.

The proposal will include a preliminary estimate of the financing needs which may be anticipated for its implementation. This financing will include national, regional and extra-regional components.
