



GOVERNMENT OF KERALA

Abstract

Science, Technology and Environment Department – Renewable Energy Policy – Draft approved – Orders issued.

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**SCIENCE, TECHNOLOGY & ENVIRONMENT (A) DEPARTMENT**  
**G.O. (MS) No. 16/2002/STED Dated, Thiruvananthapuram: 03.04.2002**

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- Read:- 1. Letter No. MOS/MES/4690/1997 dt. 25.9.97 from the MNES, New Delhi.  
2. Letter No. 98/WE/REP/10315/ANERT dtd. 18.6.98 from the Director, ANERT.  
3. G.O (Rt) No. 291/2000/STED dated, 17.8.2000

**ORDER**

The Ministry of Non-Conventional Energy Sources (MNES) as per letter read as first paper above has requested to take necessary steps for formulating and announcing the State Renewable Energy Policy as per the Ministry of Non-Conventional Energy Sources (MNES) guidelines. Accordingly a committee for formulating the State Policy on Renewable Energy Sources has been constituted as per Government Order read as third paper above.

The committee held several meetings. Sri. G.M. Pillai, IAS, Director General, Maharashtra Energy Development Agency, Pune; Sri Ajith K. Chopra, Director, MNES and Dr. M.P. Parameswaran were called as experts for the meetings. After elaborate discussion and consultations the draft Renewable Energy Policy of the State was formulated and finally approved in the subcommittee meeting on 2.7.01.

The draft Renewable Energy Policy as approved by the Sub Committee has been circulated to District Panchayats, Corporations and Municipalities, District Collectors and also to non-Governmental organisations working in the field, inviting comments and their comments have been received.

Government have examined the matter in detail and are pleased to accept the draft Kerala Renewable Energy Policy appended with this orders subject to the condition that the existing state of affairs regarding the small hydro projects will be continued for one more year.

**By Order of the Governor,**

Sd/-

**V. KRISHNAMURTHI,**  
**Chief Secretary**

To

The Director, ANERT, Thiruvananthapuram

Secretary to Government of India,  
The Ministry of Non-Conventional Energy Sources, Block No.14,  
CGO Complex, Lodi Road, New Delhi-3.

Power Department,  
General Administration (SC) Department (Vide item No. 845 dated 25.3.02)  
Stock File/ Office copy.

**Forwarded/ By Order,**

**Section Officer**

## **1.0 PREAMBLE**

**1.1** The spread of various renewable energy technologies has been aided by a variety of policies and support measures by Government. Major policy initiatives have been taken to encourage private/foreign direct investment to tap energy from renewable sources including provision of fiscal and financial incentives. This policy is directed towards a greater thrust on overall development and promotion of renewable energy technologies and applications. This will facilitate excellent opportunities for increased investment in this sector, technology upgradation, induction of new technology market development and export promotion.

**1.2** The conventional sources of energy in Kerala are fuel wood, petroleum products and electricity. Till recently Kerala has been depending solely on hydro-power for electricity, availability of which is limited due to lack of technically favourable sites and unfavourable ecological impacts. Nuclear power and fossil fuel-fired thermal stations are the other conventional sources. Owing to widespread popular opposition, because of high population density and fragile ecology, nuclear stations could not be installed in Kerala. The only other alternative was fossil-fuelled thermal stations like Brahmapuram or Kayamkulam.

**1.3** It is widely accepted that fossil fuels are limited, that its price will go on increasing, that they do not offer a long term solution, that they contribute to global warming and that alternative sources are to be identified.

**1.4** To cater to ever-increasing demand of power, Government of Kerala has decided to give encouragement to power generation from Non-conventional Energy Sources. It is proposed to generate energy from municipal waste, agro waste, industrial waste, sewage and other biomass, small hydel units, solar photo voltaic, wind, tide, wave, geothermal etc. These technologies are environment friendly. The use of Municipal Solid Waste for power generation, besides generating power, will eliminate the problem of pollution and disposal of urban waste. Private investment will be attracted in all these sectors.

**1.5** Ministry of Non-Conventional Energy Sources (MNES), Government of India has formulated legal, financial and administrative frame work for promotion of investments in this sector and has advised the State governments to formulate policies. These guidelines and policy are issued, accordingly.

## **2.0 Definition**

"Renewable Energy" or "non-conventional energy" mentioned anywhere in this documents refers to energy from sun (thermal and photovoltaic), biomass (direct burning, gasification or methanation, including municipal solid waste) small hydel power plants upto 25 MW station capacity, wind, tide, wave, geo-thermal etc.

## **3.0 Objectives**

**3.1** Development, propagation and promotion of Non-conventional Energy sources.

**3.2** Exploitation of Natural resources to avail cheaper power.

**3.3** Acceleration of identification, development and implementation of new projects with the long-term objective of substituting all non-renewable sources.

**3.4** Development of Eco-friendly Projects.

**3.5** Provision of "single window" service for technical consultation, sources of finance and project clearance.

**3.6** Decentralised and microlevel power generation through renewable energy sources to reduce expenditure on transmission lines and transmission and distribution losses.

- 3.7 Self-sufficiency in Power in the near future.
- 3.8 Creation of suitable environment for private participation in Power Generation sectors.
- 3.9 Publicity of Renewable Energy through various media.

#### **4.0 Guidelines**

4.1 Water flowing in stream, wind blowing over the land and waves smashing on the shores, belong to the whole community and not to the "owner" of the land. The Local Self-Governments shall be equipped to develop these resources on behalf of the community.

4.2 There will be a Nodal Agency to facilitate all activities related to non-conventional (renewable) energy programs.

#### **4.3 Nodal Agency**

As per the mandate given to it by MNES, ANERT shall be the State Nodal Agency for co-ordinating all activities relating to Renewable Energy Development. ANERT should lay down procedures for project preparation, approvals, monitoring etc. and should act as the State Agency to:-

- a) Promote development of renewable energy sources.
- b) Function as a single window clearing agency for all renewable energy power projects including small hydel power plants up to and including 3 MW, for issuing necessary clearances and approvals on behalf of Government of Kerala, providing technology support, facilitating financing, etc. (KSEB will be the authority for SHP projects above 3 MW and upto 25 MW).
- c) Make recommendations to the Government on issues related to renewable energy development.
- d) Certify/arrange for certification of all devices related to renewable energy sources.

#### **4.4 Eligible Producers**

a) All power producers generating grid-grade electricity (quality of power produced should be equal or above the quality of power in the grid) including power producers from 'stand alone projects' using Non-conventional Energy Sources are 'eligible producers' under the policy.

b) In the case of small hydro projects, only power producers having installed station capacity of and below 25 MW will be treated as eligible producer.

c) These power producers shall sell power to Kerala State Electricity Board (KSEB) at rates described in article 4.6 of this policy or with the concurrence of KSEB and after getting license from Government, shall charge tariff from users in case of stand alone type power projects similar to what they would have received from KSEB for grid connected projects.

d) Power producers generating electricity for captive consumption shall also be treated as eligible producers. However, if the producer wishes to sell power in excess of own demand, KSEB shall buy the power at rates, described in article 4.6 of this policy.

e) There shall be no restriction on legal structure of entrepreneur in generation of power. Companies, co-operative, partnerships, Local Self Governments, registered societies, NGOs, individuals etc. would all be eligible producers provided they undertake to generate power from non-conventional energy sources, provided they fulfil the laid down conditions.

#### **4.5 Grid Interfacing**

a) Interfacing, including transformers, panels, kiosk protection, metering, HT lines from points of generation to the nearest HT line etc. as well as their maintenance will be

undertaken by the producer as per the specifications and requirements of KSEB, for which the eligible producer will bear the entire cost. Alternatively, these works and their maintenance could be undertaken by the Board at charges to be decided by the Board.

**b)** Kerala State Electricity Board will undertake to augment the sub station capacity at its cost to receive the power generated by the eligible producer. KSEB will also undertake the augmentation of transmission lines and laying of new lines if required.

**c)** The eligible producer at his cost will install meters to measure the outflow and inflow of energy based on KSEB instructions.

**d)** The producer should ensure the quality of power delivered in accordance with the prevailing regulations.

#### **4.6 Tariff**

Power generated through Renewable Energy Sources, if purchased by KSEB, will be at a ceiling rate of Rs.2.50 per unit for power from small hydel power plants. For power from all other renewable energy sources, price will be at a ceiling rate of Rs.2.80 per unit, with base year fixed as 2000-01 and with 5% escalation for every year upto 5 years of operation. There after the rate shall be mutually settled between KSEB and the eligible producer, in all cases of Renewable Energy sources including SHP.

In special cases, the committee referred in para 4.19 of this policy will study and recommend to Government for considering a higher tariff.

#### **4.7 Banking**

KSEB is to permit electricity generated by eligible producers to be banked. 100% banking is allowed for the period from June to February for every financial year. From March to June, the producers can bank power with KSEB. The producer can take this banked power back only during the period from June to February, the same financial year. Accounting will be done at the end of every financial year. If the banked energy is not utilised at the end of the year, it will be lapsed and if this is sold to KSEB, the same will be purchased by KSEB at the average selling rate of KSEB applicable during the corresponding year.

#### **4.8 Wheeling**

KSEB will undertake to transmit on its grid the power generated by eligible producer and make it available to him for captive use or for banking, at a uniform wheeling charge of 5 per cent of energy fed into the grid, which includes compensation for transmission loss also, irrespective of the distance from the generating station.

#### **4.9 Evacuation Arrangement**

KSEB shall initially bear the expenditure for erection of high-tension sub stations and transmission infrastructure. ANERT shall recover 50 per cent of this expenditure from the power project promoters and will give it to KSEB. Developers shall bear the cost of transmission lines from the sub station to the project and all other related equipment such as metering arrangement and protection system, capacitor banks etc.

#### **4.10 Settlements on Monthly Basis**

All transactions between KSEB and eligible producer involving wheeling, banking or sale of power will be settled on a monthly basis.

#### **4.11 Power Purchase Agreement**

KSEB and eligible producers under this policy, intending to sell power to KSEB/ to wheel/ to bank will enter into a Power Purchase Agreement (PPA) for a minimum period of five years.

#### **4.12 Security Package**

KSEB is to provide facilities of an irrevocable, divisible, revolving and confirmed stand by Letter of Credit by any Nationalised Bank. The amount of letter of credit is to be equal to the Expected Payment for one month by Board.

#### **4.13 Industry Status**

All new projects producing power from Renewable Energy Sources is to be given industry status. Eligible producers generating electricity from Renewable Energy Sources will be treated as eligible industry under the schemes administered by Industries Department and incentives will be made available to eligible producers for establishing and running such power generation plants.

#### **4.14 Entry Tax/ Octroi Refund**

Renewable Energy equipment and materials shall be exempted from Entry Tax/ Octroi.

#### **4.15 Use of Energy Conservation Devices is Made Mandatory**

Conserving energy is better than producing it. Cost of producing an additional unit of power is much higher than conserving the same quantity of power; i.e., Energy conservation is a cheaper way to produce power. Hence it is felt that the following measures are taken:

- a)** Fluorescent and Compact Fluorescent Lamps (CFL) are made mandatory in all new Hospitals, Hotels, Government Offices and offices of Public Sector Undertakings. In the case of existing Hospitals, Hotels, Government Offices and Offices of Public Sector Undertakings, where incandescent lamps are used at present, the same should be replaced by Fluorescent and Compact Fluorescent Lamps of prescribed quality within a period of 2 years from the date this policy comes into force. ANERT should ensure this with the help of Local Self Governments and other Governmental organisations.
- b)** Solar Water Heating Systems are made mandatory in all Lodges and Hotels having 10 or more rooms and in hospitals with 20 beds or more.
- c)** Energy efficient devices such as, Improved Community Chulhas, gasifiers, etc. are made mandatory in all Hotels, Hostels and Schools with noon meal scheme and in all industries where firewood is used as a fuel.

#### **4.16 Quality control of Renewable energy and Energy Saving Devices**

ANERT, which is having a well established laboratory to test the performance of various photovoltaic, solar thermal, energy saving devices etc., is authorised to test all devices/equipment related to renewable energy and energy saving devices for quality.

#### **4.17 Mandatory Captive Power Plants**

Large Industries having 2000 kVA and above as connected load, should produce at least 5 per cent of their requirement through captive power plants using Renewable Energy Sources.

#### **4.18 Green Pricing**

Choice of Green Pricing is given to interested customers, who choose to pay extra for the energy generated from Renewable Energy Sources (Green Energy).

#### **4.19 Central Clearing Agency**

An appraisal committee with representatives from ANERT, KSEB, Power Department (Government of Kerala) and two or more experts in the corresponding field (depending on the type of project) will be constituted to co-ordinate matters relating to different renewable energy projects.