GOVERNMENT OF KERALA

Abstract

Power Department – Annual Plan 2025-26 – Plan scheme of ANERT - 'Renewable Energy Public Engagement, Outreach, Studies & Development' , 'ANERT – a Knowledge Hub for Renewable Energy' and 'Green Energy Hub' –Administrative Sanction accorded – Orders issued.

POWER (PS) DEPARTMENT

G.O.(Rt)No.141/2025/POWER Dated,Thiruvananthapuram, 18-07-2025

Read 1. Letter No. ANERT- RD/16/2025-T7 dated 16/05/2025 from the Chief Executive Officer, ANERT

2. Minutes of the Departmental Working Group Meeting for plan schemes held on 31/05/2025.
3. e-anumathy no.AS/PRD/25/43820
4. e-anumathy no.AS/PRD/25/43821
5. e-anumathy no.AS/PRD/25/43822

ORDER

As per the letter read as 1st paper above, the Chief Executive Officer, ANERT has furnished the following Plan scheme proposals for Administrative Sanction after placing it in the Departmental Working Group.

Sl No.	Programme / Scheme	Head of Account	Budget provision (Rs in lakh)
I.	Renewable Energy Public Engagement, Outreach, Studies & Development	2810-00-800-90-07	505

II.	ANERT – a Knowledge Hub for Renewable Energy	2810-00-800-90-08	805
III.	Green Energy Hub	2810-00-800-78	650

2. As per the minutes read as 2nd paper above of the Departmental Working Group met on 31/5/2025 approved and recommended to accord Administrative Sanction for the above three plan schemes of ANERT as detailed below.

I. Renewable Energy Public Engagement, Outreach, Studies & Development: Approved, subject to the condition that regarding the component "Infrastructure upgradation" which includes replacement/ purchase of desktops/laptops etc, prior concurrence of Electronics and Information Technology Department / IT Mission should be obtained, as per the standing instructions issued in this regard by E & IT Department vide G.O. (Ms) No. 21/2021/ITD dated 26/07/2021 and G.O (Ms) No.30/2021/ITD dated 01/10/2021. Further clubbing with the programmes / schemes of Government of India shall also be explored.

II. ANERT – a Knowledge Hub for Renewable Energy: Approved, subject to the condition that, regarding the component 'Supporting R & D and Innovation', physical achievements should be captured and objectives for startups should also be included.

III. Green Energy Hub: Approved.

3. Government have considered the recommendation of the Departmental Working Group and examined the above plan proposals submitted by CEO, ANERT in detail and are pleased to accord Administrative Sanction for the Plan Schemes 'Renewable Energy Public Engagement, Outreach, Studies & Development' at a total estimated cost of Rs.505,000,00 (Rupees Five Hundred and Five Lakhs only), 'ANERT – a Knowledge Hub for Renewable Energy' at a total estimated cost of Rs. 805,000,00 (Rupees Eight Hundred and Five Lakhs only) and 'Green Energy Hub' at a total estimated cost of Rs.650,000,00 (Rupees Six Hundred and Fifty Lakhs only), debiting the expenditure under the Heads of Account 2810-00-800-90-07, 2810-00-800-90-08 and 2810-00-800-78 respectively as detailed in the table below, subject to the availability of funds.

Sl No	Programme/ Scheme	Head of Account	Amount in Rs.	AS Number
I	Renewable Energy Public Engagement, Outreach, Studies & Development	2810-00-800-90-07	505,000,00	AS/PRD/25/43820
II	ANERT – a Knowledge Hub for Renewable Energy	2810-00-800-90-08	805,000,00	AS/PRD/25/43821
III	Green Energy Hub	2810-00-800-78	650,000,00	AS/PRD/25/43822

4. The following general conditions should be followed wherever applicable.

1. The expenditure would be met from the provision available under the appropriate head of account.

2. The fund release will be based on actual requirement and the fund released should not be parked in banks.

3. Store Purchase Rules shall be strictly adhered to.

4. For hiring of project staff / man power as part of project implementation, instructions issued in G.O (P) No.76/2019/Fin dated 02/07/2019 and G.O (P) No. 81/2019/Fin dated 09/07/2019 shall be followed.

5. Where available, the possibility of availing Government of India funds and pooling of funds should be explored by the Department. Proposals in this regard should be sent to Government of India, on time, to avail assistance.

The work and other details of the above schemes are also appended to this order.

Annexure

Work & Details

1. RE Public Engagement, Outreach, Studies and Development

ANERT aims to create a conducive environment/ eco-system for renewable energy development in the State through various facilitation and support measures. The specific components under this scheme are:

i) Promotion and Outreach Programmes, and

ii) Accreditation, electronic marketplace, insurance.

Brief details of the components are given below:

1.i) Promotional and Outreach Programmes

This includes three main sub-components/ activities:

a. Promotion and outreach including renewable energy awards

b. Publicity/ Exhibitions

c. Supporting system for implementing renewable energy programmes in district level

The State share of the component is ₹340 lakh plus project overhead expenses (maximum of 15% including manpower) to the tune of ₹50 lakh. The total requirement of funds is ₹390 lakh. Brief details of the activities under each of the 3 sub-components are given below:

a) Promotion and outreach including renewable energy awards

The cost of power from Renewable sources has come down and is almost equal or in certain special cases less than the cost of conventional power. The share of Renewable Energy in the State is around 15%. And most of this has been installed by private citizens and institutions with and without Government subsidy, with substantial investment from the consumers. So by making the people aware of the importance and relevance of Renewable Energy Sources, a significant change in the energy use pattern and vetting their interest to become prosumers was possible. The public needs to be made aware of the benefits of using Renewable Energy devices if the goal of sustainable development and carbon neutrality is to be achieved. To create awareness on Renewable Energy, many promotional and outreach programmes are carried out by ANERT. The programmes include awareness classes, advertisements, partnering with media, schools, etc. Renewable Energy Awards are also granted in various categories based on their performance in the previous year, as decided by a committee constituted by Government. Newsletters are also published and distributed periodically.

b) Publicity/ exhibitions

ANERT participates in various exhibitions and seminars, and also conducts exhibitions and seminars to extend the importance and possibilities of renewable energy to the public. ANERT also involves as faculty for many training programmes of other academic institutions and research institutions.

c) Supporting system for implementing RE Projects in all districts

This includes helpdesk facility and technical manpower support to District offices for preparation of feasibility reports, supervision and Inspection of RE projects including the use of services of Urjamithra Centres

1.ii) Accreditation, electronic marketplace, insurance

This includes two main sub-components/ activities:

a. eGovernance

a. Infrastructure upgradation

The State share of the component is ₹100 lakh plus project overhead expenses (maximum 15% including manpower) to the tune of ₹15 lakh. The total requirement of funds is ₹115 lakh. Brief details of activities under each sub-components are given below:

a) eGovernance

ANERT has most of its activities online and adheres mostly to paperless workflow with eOffice, eTender and other software applications. ANERT had established the e-Marketplace portal for anyone in Kerala to get the details and order a renewable energy system online. The portal with extensive integration with other portals like Aadhaar, MNRE, KSEBL, NGO Darpan, payment gateway, NPCI (for DBT through SBI), etc. and mobile apps has greatly streamlined the installation of renewable energy devices, including those with subsidy. Updating the e-Marketplace as per upcoming requirements is essential. Activities for the year include meeting the expenses related to update and maintenance of eMarketplace platform, mobile apps, PMS updates, updating dashboards etc. Accreditation of agencies to be listed on the portal will also be carried out.

b) Infrastructure upgrade

Some of the infrastructure of ANERT such as IT and smart building needs to be upgraded to meet the changing technology and the new requirements of project implementation. The activities planned during the year include upgradation/replacement of server/ desktop/ laptop computers and peripherals, maintaining data centre, IT expense for smart building, etc.

For the scheme "Renewable Energy Public Engagement, Outreach, Studies and Development" the state share of ₹440 lakh plus project overhead expenses (maximum 15% including manpower) to the tune of ₹65 lakh. The total requirement of funds is ₹505 lakh.

2. ANERT – a Knowledge Hub for Renewable Energy

Development and evaluation of new and upcoming technologies in renewable energy is an important activity of ANERT. As part of its action research development and improvement of renewable energy technologies are carried out on its own and in partnership with various institutions. Pilots and demonstration of new technologies and it evaluation studies are also carried out. Capacity building is also part of the scheme. The specific components under this scheme are:

i) Laboratory and other facilities; and

ii) Capacity building

iii) New technology development, demonstration, pilots, studies

Brief details of the components are given below:

2.i) Laboratory and other facilities

The main activity under this component is the development of Renewable Energy Technology Hub at Kuzhalmannam. The continued support and expansion of the Solar Test Facility set up by ANERT at STIC-CUSAT is also part of this component.

The State share of this component in the current year be ₹245 lakh with project over-head expenses including manpower to the tune of ₹35 lakh. The total requirement of funds is thus ₹280 lakh.

Brief details of projects/activities under this component is given below:

a) Kuzhalmannam Technology Hub including lab and training facilities

It is proposed to develop an Integrated Renewable Energy Knowledge Hub in the ANERT's land at Kuzhalmannam, Palakkad. The knowledge hub will include an industrial facilitation centre with lab facilities to promote startups in the renewable energy sector, facilities for testing and certification of renewable energy equipment and facilities for product development and training, including in green hydrogen related areas. A building of about one lakh and fifty thousand square feet will be set up for this purpose. The design for the facility has been finalised by M/s. MayaPraxis, Bangalore, who was selected through a tender process. Discussions have also been held with IIT Palakkad to associate in the programme. Now the work has to be entrusted to an agency for construction in phases, preferably an accredited civil construction agency like ULCCS or Nirmithi Kendra.

2.ii) Capacity building

With the increased use of renewable energy, requirement for skilled manpower for its design, installation and maintenance activities is increasing. Capacity building of ANERT personnel is also required. The main activities under this component are as follows:

a. ANERT Research Fellowship Programme & Internship Programme
b. Training programmes on renewable energy

The State share of the component is ₹115 lakh plus project over-head expenses including manpower to the tune of ₹15 lakh during the current year. The total requirement of funds is ₹130 lakh.

Brief details of each activity/project under this component is given below:

a) ANERT Research Fellowship Programme & Internship Programme

Currently there is a dearth of trained manpower in the field of Renewabf ₹84 lakle Energy especially, in Research. To overcome this issue, ANERT offers Research Internship and Research fellowship for eligible fresh post graduates. This is expected to give the students an exposure to the research in the field of RE.

This year three Research Fellowship/Research Internship have been proposed. It is proposed to invite applications by ANERT from fresh post graduates Science/Engineering through news paper advertisement. To encourage the students to take up the internship, a small stipend of ₹15,000/- per month may be offered. In the case of Research fellowship, the amount offered will be in line with the similar scheme of KSCSTE.

b) Training Programmes

Training is necessary to all stakeholders and ANERT's officers in Renewable Energy sector, to have exposure on new developments in the renewable energy field. Also advanced trainings needed for ANERT's officers in the Renewable Energy sector to have exposure on new developments happening in the renewable energy field.

The trainings topics include Solar Photovoltaic Systems, Wind Energy, Hydrogen Energy, Circular Economy, Sustainability, AI &ML in Renewable Energy, Data analytics and Block Chain in Renewable Energy, etc. ANERT is planning to impart training to various stakeholders connected with renewable energy projects along with capacity building programme for ANERT employees.

There is also increased demand for skill manpower for design, installation and maintenance of RE systems. Seminars, business meet and training programmes would be organised for various target groups like students, local body institutions, educational and other non-governmental institutions, residence associations, builders and architects, electrical and electronics technicians, Urja Mithra Entrepreneurs and Technicians. To ensure quality products and good installation practices, support of technical experts and skilled persons are required.

Since the availability of certified installers and inspectors is limited, ANERT will initiate training/capacity building programmes through technical institutes approved by the "Skill Council for Green Jobs" to generate more technical hands in the field. ANERT is planning to organise high end short-term training programmes for academics, senior officials of

renewable agencies and other institutions. Training for engineering students with stress on hands-on experience is also planned to be initiated. Upgrade of necessary infrastructure for the trainings is also proposed.

ANERT is planning to organise Faculty Development Programmes on Renewable Energy for the teachers of Engineering Colleges.

Also, special short term training courses will be arranged for Government officials in the industry and other related institutions. The training is targeted towards the stakeholder institutions like KSEBL, Electrical Inspectorate, EMC and various Government Departments.

Collaborations and Associations:

ANERT is planning collaborations with International Consultancy organisations like GIZ Germany, Swedish International Development Corporation Agency (SIDA) etc. for the above trainings planned by ANERT. ANERT is seeking expertise from these International Institutions on curriculum, training manual, trainer's training courses, practical trainings on photovoltaic systems, wind energy, hydrogen, circular economy, sustainability, E-mobility, Artificial Intelligence (AI) and Machine Learning (ML) skill upgradation connected with renewable energy.

ANERT is also planning to associate with IEEE and Institution of Engineers for conducting these trainings for mobilising the student manpower.

2.iii) New technology development, demonstration, pilots, studies

Development, customisation and enhancement of renewable energy technologies is an important part of the action research carried out by ANERT. The main activities under this component are as follows:

a. Pilot project on vehicle to grid
b. Renewable Energy Park, Ramakkalmedu (Phase II)
c. Evaluation of new technologies in Renewable Energy and in-house Research & Development projects
d. Remote monitoring of PV power plants
e. Supporting R&D and Innovation

The State share of the component is ₹345 lakh with overhead expenses including manpower to the tune of ₹50 lakh during the current year. The total requirement of funds is ₹395 lakh. This would include consultancy for certain emerging areas like green hydrogen. Brief details of each activity/project under the component are given below:

a) Pilot project on vehicle to grid

A pilot project on vehicle to grid has been initiated with one of the electric vehicles of ANERT converted to have this capability with the help of collaborating agencies like the

vehicle OEM and India Smart Grid Forum. More studies on this has to be done during the current year.

b) Renewable Energy park, Ramakkalmedu – phase 2

As part of the Renewable Energy Park at Ramakkalmedu, a Solar-Wind hybrid power plant with storage was proposed, to experiment the effectiveness of integration of different sources of power with massive utility-scale storage to despatch quality power to the grid. The development of indigenous power conditioning unit for large solar power plants was successfully undertaken. The work of establishing one megawatt solar plant with indigenously developed PCU as first phase of the park was completed. During the next phase of the RE Park addition of storage facility and integration of wind generators are to be taken up.

c) Evaluation of new technologies in RE and in-house R&D projects

Pilot/demonstration plants of new/ upcoming renewable energy technology and storage systems in the areas of solar, floating solar, small wind, bio energy, wave energy, building and vehicle integrated PV will be set up for study, evaluation and performance analysis. Pilot micro-grid projects including DC microgrid with integration of medium capacity wind turbines would also be taken up. With the proliferation of electric vehicles new modes of charging including wireless charging would be explored. The production of hydrogen from renewable sources, storage, generation of electricity using green hydrogen are also considered. Battery energy storage systems and their benefits and impact on grid would be studied. These projects would facilitate technology adaptation and developing commercial models. Policy inputs could also be provided through these projects. Resource assessment of renewable energy sources would also be taken up based on requirement.

d) Remote Monitoring of PV Power Plants

It is proposed to establish a Centralised facility for remote monitoring of the SPV power plants installed in various Government buildings. A project initiated with KDISC on a pilot basis was completed successfully. ANERT plans to establish such facilities in more locations gradually.

e) Supporting R&D and Innovation

ANERT has been implementing this programme to promote R&D and innovative ideas and to pilot new models in RE sector since 2018-19. Financial assistance is provided for conducting technical studies/technology appraisal, prototype development etc. In the field of Renewable Energy. Many of the projects sanctioned in previous years have been completed successfully. Apart from the ongoing projects, new projects will be supported based on recommendations by a Technical Committee. The current year proposals include funding the projects selected in 2024-25; payment of further instalments of previous years' programmes and overhead expenses.

For the scheme "ANERT as Knowledge Hub for Renewable Energy" the state share of

₹705 lakh plus project overhead expenses (max 15% including manpower) to the tune of ₹100 lakh. The total requirement of funds is ₹805 lakh.

3. Green Energy Hub

Brief details of the activities proposed based on allocated funds are as follows;

i. Pilot projects on Green Hydrogen

Establishing pilot projects in green hydrogen production, compression, storage, refuelling facilities for hydrogen vehicles, etc. are planned in this programme.

This would include collaborative pilot projects with other reputed institutions in various areas of the hydrogen ecosystem such as multiple modes of production including that from biomass, innovative use cases, etc.

ii. Centre of Excellence in Green Hydrogen

With the increased importance in Green Hydrogen and national and state intentions to build expertise, capability and technology for green hydrogen, a centre of excellence is proposed to be set up in ANERT. This will be done in collaboration with other reputed institutes such as IITs, CSIR labs and other agencies.

iii. VGF for green hydrogen pilot projects

Viability gap funding would be given for green hydrogen generation projects. Green hydrogen generation requires electricity generated from renewable energy, which could be procured from anywhere. Any viability gap in procurement of round the clock renewable energy would be met from this fund to ensure green hydrogen at economical rates.

iv. Studies and Outreach including Workshops and consultancy

Studies and outreach on green hydrogen and the opportunities in Kerala needs to be taken for consultation with stakeholders, awareness creation among the public, investors, industry and academic institutions. Availing of consultancy services in green hydrogen would be required in the initial stages (and considering the manpower situation in ANERT) for project vetting, DPR preparation, studies on viability, potential and other aspects, etc. The PMU set up for projects in this scheme would continue to function.

The State share of ₹566 lakh plus project overhead expenses including man power to the tune of ₹84 lakh. Total requirement of funds for the current year is ₹650 lakh only.

(By order of the Governor)
PREETHY C S
JOINT SECRETARY

To:

The Chief Executive Officer, ANERT

The Chief I&I Division, State Planning Board, Pattom,Thiruvananthapuram

The Principal Accountant General (Audit), Kerala, Thiruvananthapuram

The Principal Accountant General (A&E), Kerala, Thiruvananthapuram

The Finance Department

The I & PR (web & new media) Department

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Signed by Rajeev. P

Date: 21-07-2025 11:07:00

Section Officer