REPORT OF BRAIN STORMING SESSION ON
RENEWABLE RESOURCES OF ENERGY
ROAD MAP FOR UTTARAKHAND

AT
UTTARAKHAND STATE COUNCIL FOR SCIENCE & TECHNOLOGY (UCOST)
10.11.2010
Experts of the session

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Introduction

India is one of the world's emerging economic giants and is second most populated country of the world which is expected to surpass China to become world's most populous country by 2060. And it would need abundant energy sources to continue its feat.

With its economy & population growing at exponential rate, the efficient use of energy and water has become the main focal point. These two issues would play crucial role in the well being and growth of the society and country at large. And India faces formidable challenges in meeting its energy needs.
The Initiative

In order to initiate the efforts for renewable energy, Uttarakhand State has set up Uttarakhand Renewable Energy Development Agency (UREDA) under the administrative control of the Department of Additional Sources of Energy, Govt. of Uttarakhand in July, 2001 under Society Registration Act 1860.

It is a State nodal agency for implementation of Renewable Energy Programmes, Energy Conservation and Decentralized Distribution Generation (DDG) under RGGVY Scheme of REC. there are several programmes being implemented by the UREDA for adding up the gap of energy by means of more environment friendly ways.
Mini/Micro Hydro Power
Mini/Micro Hydel Projects, for village electrification & Grid Feeding
- Up-gradation of existing Water Mills (Gharat)
- For Electrical/Electromechanical/Mechanical Output

Solar Energy
- Solar Photovoltaic Solar Domestic Street Lights & Solar Lanterns
- Solar Power Plants & Solar Power Pencing
- Solar Thermal like Solar Water Heaters, Community Solar Cookers, Solar Dryer

Bio Energy Programme
- Biomass gasification & Biogas generation
- Production of Briquettes from biomass & biomass stove

Power generation from Industrial/Agricultural Waste.

Wind Energy Programme.
- Wind Solar Hybrid Systems
- Wind Mapping

Improved Rural Technology Programme
- Solar Charkha (spinning mill)
- Vinoying Fan

Energy Conservation Programme.
Investment Grade Energy Auditing of Govt. Building
Energy efficient LED Lighting

Also for economic up-liftment, electrification of remote villages is an important issue and here the renewable resources of energy can play important role.
The Brain Storming Session

During the deliberations it was discussed that the State can utilize the various programmes initiated by central Government like Solar City Programme. Ministry of New & Renewable Energy (MNRE) has initiated the programme on "Development of Solar Cities" for promoting Solar Water Heaters (SWHs), deployment of Solar Photo Voltaic (SPV) systems/devices in urban areas for demonstration and awareness creation; establishment of 'Akshya Urja Shops'; design of Solar Buildings, energy recovery from urban and industrial waste/ biomass to energy projects.

MNRE has selected Dehradun, Haridwar & Rishikesh for Solar City programme and has provided a grant of Rs. 50.00 Lakhs for development of Solar City Master Plan. Draft Master Plan for Dehradun City has been prepared and for Haridwar & Rishikesh, EOI is being invited for selection of consultant.

This Brain Storming Session on "Renewable energy resources Road Map for Uttarakhand", emphasized on feasible ways of utilization of renewable energy in Uttarakhand State. During the session ideas were discussed, judged and analyzed by means of open discussions. Further the brain storming session provided platform for discussions related to some low cost technologies for getting hassle free energy from renewable sources.

The experts for the session included academicians, researchers, industrialists and the officials of the executive body of the government of Uttarakhand state.

It was decided to share the research findings amongst scientists, research groups and communities related to simple, cost-effective and easy to operate gadgets for renewable energy generation. The session provided a platform for discussion & an opportunity on the technological front for better utilization of renewable energy.

It was also indeed suggested that researchers within Uttarakhand should get opportunity to contribute in the research and development in the field of renewable energy sector and connect with recognized experts, policy makers and academic leaders.
Recommendations

As 60% of the area of Uttarakhand State is covered by forest and rivers, this makes a healthy ecosystem and environment of the State. Therefore, renewable sources of energy should be based on such a eco-friendly sustainable system which could be possible through available resources.

Road map of renewable energy for the State should consider the two areas - (i) area under rural habitat and (ii) urban area and accordingly separate planning should be made for generation of energy and depending on their demand for utilization of energy.

As the maximum population of the State resides in the far-flung areas, small energy generation units based on locally available material should be established around the habitat. Among the non-conventional sources of energy - solar, biogas, bio-fuel based plants can be established.

As at high altitude, pine trees are found profoundly. Therefore, their foliage wastage can be utilized as a major source of energy.

As 30% population resides in urban areas of the State, their energy demand is maximum. Also maximum part of energy is utilized under industries in this area. Therefore to fulfill their demand hydroelectric based energy generation can be utilized apart from other conventional and non-conventional sources.

Under non-conventional sources of energy e-wastage as well as urban wastage can also be utilize as a source of energy. In this connection new devices should be evolved for utilization of aforesaid wastages and research in this direction also needs to be encouraged, this will have multiple benefit.

The renewable energy resources are the resources of energy for the future and thus proper attention is required from the early stage in order to steer the development in the right direction.
कई अहम शोधपत्र प्रस्तुत किए गए। पांच उनसंधि सम्मेलन वाले प्रशिक्षित कार्यक्रम का दूसरा दिन

अमर उजाला
पृष्ठ 12 | दिनांक: 10 जून 2010

राज्य विकास एवं शौकितकी कक्ष का शुभारम्भ
प्रमुखों के उपस्थिति में पांच उनसंधि कार्यक्रम शुरू किया गया।

विज्ञान के लिए नजरिया

अमर उजाला
पृष्ठ 11 | दिनांक: 11 जून 2010

सूचना पत्र

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Fifth Science and Technology Congress at Doon University

The Fifth Science and Technology Congress at Doon University will be held from November 29 to December 1. The congress, attended by academicians and researchers from various fields, discussed recent advancements in science and technology. The event was inaugurated by the Chief Minister of the state, who emphasized the importance of technological innovation in addressing the challenges faced by society. Several sessions were held on topics ranging from renewable energy to bioinformatics. The congress aimed to bridge the gap between academia and industry, fostering collaboration and innovation.