

News » States » Tamil Nadu

Kalam asks scientists to tap immense bio-fuel potential

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The Hindu

EXHIBITS: A.P.J. Abdul Kalam, former President, inspecting stalls set up by scientists at CECRI in Karaikudi on Sunday. Photo: L. Balachandar

Former President A.P.J. Abdul Kalam on Sunday asked the Council of Scientific and Industrial Research (CSIR) laboratories and others to extensively research burning of bio-diesel in internal combustion engines with high efficiency.

Speaking at Central Electrochemical Research Institute (CECRI) in Karaikudi after inaugurating the Centre for Innovation in Energy Research on the CECRI campus, he said bio-fuel was an important alternative to the petroleum fuels. The country had immense potential to grow bio-fuel crop "Jatropha" on a large scale. Once it was grown, the crop could have a life span of 50 years. Moreover, it could grow on wasteland. Each acre would produce about 2 tonnes of bio-diesel at about half a dollar per litre.

Bio-diesel was carbon neutral and many valuable by-products could be produced from this agro-industry. Intense research was needed to burn bio-fuel in internal combustion engines with high efficiency, and this should be an urgent R&D programme.

Mr. Kalam said India had the potential to produce nearly 60 million tonnes of bio-fuel annually, thus making a significant and important contribution to the goal of energy independence. Indian Railways had already taken a significant step of running two passenger locomotives and six trains of diesel multiple units with 5 per cent blend of bio-fuel sourced from its in-house esterification plants. The full chain of economic process such as farming, harvesting, and extraction to esterification, blending and marketing was needed to be studied further.

He said the country must be determined to achieve energy independence within 2030. For achieving this mission a proper policy must be formulated, funds guaranteed, and the public-private partnerships explored. The country had an installed capacity of about 199,000 MW of electricity, which was 3% of world capacity. Forecasts of the country's energy requirements by 2030, when our population might touch 1.4 billion, indicated that demand from power sector would increase to about 400,000 MW. The energy growth rate would be 5 per cent per annum. Hence, all forms of power generation must be given equal priority to achieve the target.

Mr. Kalam said the Global Innovation report for 2011 placed India in the 62 position and gave 56 rank in competitive index. Switzerland, Sweden, Singapore and Hong Kong had secured top 4 positions in innovation report. If India had to graduate from the present position in

competitiveness and innovation index it should become equal to economically developed nations within the top 10. It was essential to building indigenous design capability through research and technological development.

Dr. Vijay Mohan Pillai, Director, CECRI and Dr. N. Palanisamy, Senior Scientist spoke.

Keywords: [Bio-fuel research](#), [Abdul Kalam](#)

You are here: [Home](#)>[Collections](#)>**Renewable Energy**

Focus should be on renewable energy, says APJ Abdul Kalam

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KARAIKUDI (TN): Advocating the need for energy security, former president APJ **Abdul Kalam** said India's power requirement would increase to four lakh MW by 2030 and focus should be on **renewable energy** generation to meet the situation.

With the growing population, by 2030 the country would have a population of 1.4 billion and the energy requirement would increase from 1,99,000 MW to 4,00,000 MW, he said inaugurating the Centre for Innovation in Energy Research at the **Central Electro Chemical Research Institute (CECRI)**.

In order to meet the same, one should look into possibility of energy security by minimizing energy utility and wastage, he said.

Focus should be on the production of renewable energy in the form of wind, bio-fuel and solar energy, he said, adding that hydro drive model may be considered seriously by Indian scientists.

Talking about Energy Mission 2030, he said affordability, minimisation of dependence on fossil fuel and energy Vs environment were to be considered seriously. **Solar energy** should be used for agricultural purpose.

Desalination of sea water need to be thought of to meet the shortage of drinking and irrigation water.

CECRI Director **Vijayamohan K Pillai** said in the last two decades, CECRI had significantly contributed to basic and fundamental aspects of Electrochemical Science and Technology, notably in areas of energy generation (batteries and fuel cells and ultra capacitors) and storage, corrosion and its mitigation, nano materials and bio-sensors.

Focus should be on renewable energy, says APJ Abdul Kalam - Economic Times

"We have a CSIR 800 programme primarily for the benefit of rural communities with respect to affordable health, clean water and environment," he said.

Focus should be on renewable energy: Kalam

Press Trust of India / Karaikudi (TN) May 06, 2012 22:35 IST

Advocating the need for energy security, former president A P J Abdul Kalam today said India's power requirement would increase to four lakh MW by 2030 and focus should be on renewable energy generation to meet the situation.

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