

DBT's Bioenergy Centres

The Department of Biotechnology, Government of India, is supporting four DBT-Bioenergy Centres with specific goals and targets in accordance with the National Biofuel Policy. In 2018, 5th Bioenergy Centre was set up at The Energy and Resources Institute (TERI) with 3 other partner institutions at Indian Institute of Technology (IIT), Guwahati, Indian Agricultural Research Institute (IARI), and Trans Tech Green Power Private Limited. The centre aims at integrated production of advanced biofuels and bio-commodities.



Bioenergy centres aimed at production of biofuels

A detailed account the four DBT Bioenergy centres is discussed as:

The DBT-ICT Centre for Energy Biosciences, Mumbai: The centre is first-of-its-kind robotic platform explorerTMG3 Workstation for high throughput microbial and enzymes screening and molecular biology routines installed at the centre. The R&D and technology translation in the area of biofuels and bio-refineries have successfully been established at centre. The facility has resulted in accelerated development process in enzyme and microbial innovations alongside of synthetic biology involving multiple microbial chassis for various target products. The centre also successfully scaled up macro algal cultivation in its newly designed cost effective photo bioreactors.

The DBT-IOC Centre for Advanced Bioenergy, Faridabad: The centre has laid thrust for development of viable 2nd generation biofuel technologies in new areas of second and third

generation biofuels, such as lignocellulosic ethanol and algal fuels. The centre has successfully scaled up its enzyme technology at 5 KL fermenter at third party premises good FPU/mL activity. The centre has also successfully installed world's first pilot plant based on DBT-IOC & Lanza Tech technology for conversion of CO₂ to high value omega 3 fatty acids. Besides the centre has installed and commissioned India's first continuous steam explosion pilot plant & extractor system.

The DBT-ICGEB Centre for Advanced Bioenergy Research, ICGEB: The centre is the third Bioenergy Centre of DBT set up at International Centre for Genetic Engineering and Biotechnology, New Delhi. The centre uses molecular tools to engineer microbes, cellulytic enzymes, DICzyme-1, thermo tolerant yeast, polyhydroxybutyrate (PHB) in Cyanobacterium etc.

The DBT Pan-IIT Centre for Bioenergy: The virtual Centre of Excellence spread across five different IITs (Bombay, Kharagpur, Guwahati, Roorkee and Jodhpur) is involved in development of novel catalysts and enzymes for conversion of algal oil to hydrocarbons and utilizing lignocellulosic biomass for production of biofuels.

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