



*International Conference on*  
**Challenges in Sustainable Development from  
Energy & Environment Perspective**



(CSDEEP-2017)

March 24<sup>th</sup> – 25<sup>th</sup>, 2017 (Friday – Saturday)

*Organized by*

**Madan Mohan Malaviya University of Technology Gorakhpur (U.P.), India**

*(Formerly Madan Mohan Malaviya Engineering College, Gorakhpur)*

*In Association with*

**Italian National Agency for New Technologies, Energy & Sustainable Economic Development, Trisaia, Italy**

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Details of the International Conference on Challenges in Sustainable Development from Energy & Environment Perspective (CSDEEP-2017) held at Gorakhpur (U.P.), INDIA , March 24-25, 2017

#### **BACKGROUND**

It was on September 28, 2016 when an official agreement (Memorandum Of Understanding - MOU) for scientific cooperation between **ENEA** (Italian National Agency for New Technologies, Energy & Sustainable Economic Development) and Madan Mohan Malaviya University of Technology (**MMMUT**) Gorakhpur (India), was signed enabling two actors to collaborate on issues of common interest on renewable energy. Following this agreement, it was on 23 November 2016 when President of ENEA, Prof. Federico Testa received Indian Ambassador to Italy, H. E. Mr. Anil Wadhwa, along with an Indian delegation from Madan Mohan Malaviya University of Technology (MMMUT) under the able guidance of the Hon'ble Vice- Chancellor of the University, Prof. Onkar Singh, at headquarters of ENEA, in Rome.

The meeting was followed by a visit of the representatives of the MMM University of Technology at ENEA Research Center Trisaia. The propose was to gain insight into the research activities conducted by the Centre in relation to renewable energy, green chemistry and the environment activities and to sign a technical document between MMMUT and ENEA individuating the areas of collaboration on bioenergy and green chemistry, the activities to be undertaken and procedures to be followed for the achievement of the same. With the aim of promoting the development and use of technologies for the exploitation of renewable energies, it was on that date when it was decided to organize a joint international conference to be held at the Madan Mohan Malaviya University of Technology (MMMUT) at Gorakhpur, in India.

#### **BRIEF REPORT ON THE CONFERENCE**

In the above context, it was during the period March 24-25, 2017 that a two days international conference "Challenges in sustainable development from energy & environment perspective" was organized jointly by the MMMUT Gorakhpur and ENEA. The event was an important opportunity for researchers, professionals, and industrial representatives to interact on social, technical, economic, and environmental aspects related to the development of renewable energy.

The conference, fully financed by MMMUT, was attended by about 120 delegates including researchers, academicians and professionals representing public/ private institutions and industrial companies, involved in the renewable sector.



**Opening Ceremony of the Inaugural International Conference on “Challenges in Sustainable Development from Energy & Environment Perspective” (CSDEEP-2017)**

The event was inaugurated by Mr. Kalraj Mishra, Hon’ble Union Minister of Micro, Small and Medium Enterprises, Government of India, who stressed the importance of using renewable energy sources and their role in sustainable development of the country and the world on the whole. The opening ceremony of the conference featured speeches from the Vice-Chancellor of MMMUT, Prof. Onkar Singh, Vice Chancellor of VBS Purvanchal University, Jaunpur , Prof. Peeyush Ranjan Agarwal, Ing. Giacobbe Braccio (Director, Division Bioenergy, Biorefinery and Green Chemistry c/o ENEA Research Centre Trisaia) and Dr. Vinod Kumar Sharma (Senior Scientist from ENEA and, moreover, responsible for the creation of MoU between MMMUT and ENEA and co-organizer of the conference).

Also, the conference was also attended by Ing. Giacinto Cornacchia (Senior researcher from ENEA and head of laboratory on waste to energy from biomass and waste) and Dr. Donatella Barisano (Senior researcher from ENEA) who presented details on scientific results based upon the research and development activities at Trisaia.

Prof. Naveen Kumar (Senior professor from Delhi Technological University), Dr. Sunil Dhingra (Senior researcher from TERI) and Dr. Taras Antoschuck (Senior researcher from Ukraine), were other prominent invited speakers at the conference.

At the conference, in addition to specific topics on bioenergy, further arguments on renewable sources, including solar thermal, photovoltaic, hydropower, management of energy resources, etc. were treated in depth.

Needless to say that the Indian power sector is among the most diverse in the world and demand for electricity in the country has been growing at a very rapid pace. It was the main reason for the Indian Government to identify area of renewable energy as a key sector to promote sustainable industrial growth.

In this context, many presentations at the conference highlighted the inadequacy of the energy infrastructure in Gorakhpur on both aspects of production and distribution. It was fully agreed that there was a huge potential to make use of solar energy at low / medium temperature applications, in particular for air- conditioning of buildings and production of hot water. Photovoltaic applications in the field of water pumping, lighting, refrigeration, communication etc., especially in rural areas, are other important applications. There is a huge scope for use of solar energy at medium temperature in the industrial sector. The production of energy from biomass could be an important resource: small biogas units using gasifiers (20-30 kWe) and organic waste available locally, appears to be worth consideration as possible solutions to resolve power problems, in the short to medium terms.

It is worth to mention that apart from giving special attention to the production of bio-fuels through large-scale cultivation (especially in marginal areas) of biomass matrices such as jatropha and other emerging species. other topics such as mini hydro, wind power and energy efficiency were also discussed.



**Group photo taken in the office of Prof. Onkar Singh, VC, MMMUT Gorakhpur (UP) India**

Making use of its previous contact with institutions of prestige like **TERI** and the University of Technology Delhi (**DTU**), ENEA used the platform to have series of meeting together with representatives MMMUT and the above-cited institutions, aimed at strengthening the ongoing collaboration as well as to explore possibilities of preparing joint research proposal in the near future.

### **FUTURE DEVELOPMENTS**

In general terms, it is noteworthy that India has strong plan on renewable technologies with investment of over \$ 250 billion by 2022. There is absolutely no doubt that strong renewable technologies policy is one of the fundamental pillars of India's economic growth, with an emphasis on the growth of energy production from renewable, focused predominantly on new transmission systems and distribution of energy (smart grid and smart city). It is worth to mention that within the next five years India aims to install 225 GW in the form of new clean power.

During the conference, the Minister, in fact stated that "Much of the work will be funded through a mix of debt and equity held by commercial banks .... but we are also convinced that the developed world has obligations to fulfill, as well". The reference was clearly to the Green Climate Fund with which the rich economies have pledged to support developing countries in their fight on climate.

It is to be noted that the Indian government has already initiated this policy of renewal and investment in renewables and in the last two years or so, foreign investments in the electricity sector, in India, have already exceeded one billion dollars.

In parallel to industrial initiatives, strong interest was shown for improvement of technology and strengthening of the scientific collaboration network. It is in this context that the strengthening of the scientific collaboration between ENEA and Indian Universities and research bodies, were the important aspect emphasized by the Indian Government's Union Minister Mr. Kalraj Mishra, in his speech.

In conclusion, it is to be underlined that many joint research activities which could also see the involvement of industry players from both the countries. have been identified. Some of these self-financed tasks can be started soon whereas others can be developed in the framework of international cooperation between Italy and India through joint projects to be funded by the European Union or the World(Asian) Bank.