

REPORT

of

Seminar on “Trends in Renewable Energy Technologies

30 April 2011

As per an Intergovernmental Panel of Climate Change (IPCC) report published a few days back from Abu Dhabi, renewable energy could meet 77% of the global primary energy supply by 2050. Most recent figures are indeed very promising. “Of the approximate 300,000 MW of new electricity generating capacity added globally over the two year period 2008 and 2009, 140,000 (47%) came from renewable energy additions.” It is thus important that GTU also develops its renewable energy portfolio. As a first step towards this new field, a one day Seminar was held at AMA with more than 80 participants. Some of the important aspects of the proceedings are highlighted in this report.

GTU, Registrar, Dr. G.P.Vadodaria inaugurated the function and gave the brief outline about the workshop. He gave the details of the activities and the structure of the Green Technology Board as well as the others board active at GTU eg. Nano Technology Board, Mobile computing and Wireless Technology Board.

The, Honorable VC of GTU Dr A Aggarwal, who initiated the programme, introduced the subject and explained the need for developing such new areas of technology. With so many technical institutions in Gujarat and many more qualified engineers available here, there was a dire need to take up many academic programmes in Environment , Energy and Green Technology areas. This being the first seminar of its type, Dr Aggarwal hoped that many students in graduate and post-graduate areas will take up new challenges in these areas from now onwards.

Mr V H Buch, Director of Gujarat Energy Development Agency, Gandhinagar, was the Chief guest at this inaugural function. He gave the details of new Solar Energy projects in Gujarat and explained the importance of new investments in renewable energy sector in the state. In view of the growth of renewable areas in the country in general and the state in particular, there will be many new projects coming up shortly, he told and also mentioned that he would be happy to help GTU in these areas as and when needed. He was very happy that a seminar on this subject was organized by GTU and wished the organization many more successes in future.

[Wing Commander C G Pandya \(Retd \)](#), Hon Director of the newly constituted Board for Environment and Green Technology then presented an Overview on the Renewable Energy Technologies and gave introductory information to different areas of renewable energy on global, national, regional and global basis. Showing the trends in Renewable Energy (R E) technologies, new developments were briefly mentioned by him. A future scenario was then predicted specifically showing the need for R E education.

As laid down in the seminar programme, the following speakers then took floor one by one and gave presentation on the different topics. Following are the names and places of the speakers and subjects they presented in brief.

[Dr Indrajit Mukhopadhyay](#) from School of Solar Energy, PD Petroleum University, Gandhinagar gave a detailed presentation on Solar PV, its socioeconomic aspects and alternatives available there. Viability of Silicon based Solar PV, Costs at the Module level and recent scenario in Solar PV were explained. Applications , advantages and disadvantages were discussed.

[Mr Sachin Shah, VP Electrotherm Immodo Renewables Ltd](#) , Ahmedabad gave information on Photovoltaics giving many details on system components and technology options. Value chain and industry trends were discussed and services available by the company were mentioned. Mr B N Bhardwaj, AGM Business Development, had actually given this presentation.

[Mr Kushal Jain](#), a building technology graduate from Centre for Environment Planning and Technologies gave a vivid presentation on PV s in commercial, industrial and residential buildings. Three case studies were discussed showing the economics of the three cases.

[Dr Bharat Ramani](#), Asst Professoer at A D Patel Institute of Technology, VV Nagar, presented a paper on Splar Thermal Echnology. Different technologies like Parabolic Trough System, Cental Tower System, Paraboic Dish System etc wre very well explained and issues and opportunities against each were discussed.

[Ravi Kanoria](#), Manager – Projects, Electrotherm (India) Ltd, Renewables Division, Ahmedabad, gave a comprehensive scenario of the solar thermal technology. “Innovations in Solar Thermal and its Applications” was the topic of the presentation. Giving very good diagrams to show the technology involved in different areas, Mr Ravi explained the situations quite vividly.

[Mr Abhinna Ashra](#) of Vestas India Ltd, located in Ahmedabad gave an excellent presentation on wind energy scenario in the world and then in Gujarat. Technology of wind energy generation and were its commercial aspects well explained. Several questions by participants were also fully explained on the spot.

[Dr Nilesh M Bhatt](#) , Director, Gandhinagar Institute of Technology, Gandhinagar, very systematically presented the “Solar Thermal Markets in India”. After covering the energy and environmental issues, Dr Bhatt gave information about the applications and areas of solar thermal technologies. Finally he showed the economic viability of these technologies.

[Ms Amita Pandya](#), Project Executive, GEDA, Gandhinagar vividly explained the Small Wind Energy Programme of the Government of Gujarat. She mentioned the applications and the potential of the sector and showed different models of water pumping wind mills with many photographs for each. Performance data was shown and the information for costs and subsidies by the Government was also given.

[Dr K M Srivastava](#) of the Indus Institute of Technology, Ahmedabad presented his study on the topic of “Biomass energy – its potential and community issues”. Local availability of power from villages was a very important aspect in this paper. Problems and issues, especially in village oriented operations were mentioned and solutions were suggested. Bio-energy alternatives and potential sources of technology availability were mentioned.

[Dr Himalli Mehta](#) , Principal Scientist of Sardar Patel Renewable Energy Institute, V V Nagar, presented a comprehensive study on “Bio-conversion of different wastes for ENERGY options”. From energy scenario in the country to biomass, biogas and a score of waste-to-energy systems were very lucidly covered by her in this presentation. A note of future energy systems like Hydrogen Power and Energy from Algae were also mentioned in the lecture.

There being no time left for any further lectures, an article on Ocean Energy was handed over to the participants.

A very short question and answer session and a vote of thanks by Priyanka Trivedi concluded the workshop.