

DIREC: SCALING UP RENEWABLE ENERGY THROUGH TECHNOLOGY AND INFRASTRUCTURE DEVELOPMENT

Technology and infrastructure developments are key to advancing the adoption of renewable energy in all sectors in all markets. DIREC will focus on key thematic areas that can catalyze technology and infrastructure development for mainstreaming renewable energy: Power Technology and Infrastructure, Heating and Cooling Technologies, Buildings and Transport. Topics addressed will include strategies for scaling up and international cooperation to replicate successes.

Power from renewable energy sources has been growing steadily over the years and is estimated at 4800 GW (in 2009), which represents about a quarter of global power generating capacity, supplying 18% of the global electricity production. Significant emissions reductions are possible through action in the power sector. For the developing countries the challenge lies in ensuring electricity access for economic and social development and at the same time in preventing a lock-in of high-carbon technologies. The session focusing on 'Power Technology and Infrastructure Development' will deal with the aspect of scaling up the development and transfer of renewable energy-based power technology, the role of private investment and the value of liberalization in the power sector and its effects along with policy prescriptions for different scale of operations. Since innovation and R & D are equally important for power technology and infrastructure development, the session will also focus on how cooperation could be promoted in R&D for current, new and innovative technologies.

Heating and cooling in the industrial, commercial, and domestic sectors account for around half of total global energy demand. Biomass, solar and geothermal energy currently supplies the heating and cooling requirements of millions of buildings worldwide, and renewable energy heating and cooling (REHC) has been described as the "sleeping giant" in terms of its potential from a global perspective. Appropriate strategies are needed to promote scale up of RE technologies for heating and cooling and to foster international cooperation to allow replication of effective policies. DIREC would have a specific session focusing on development of such technologies that would understand the state of the art of existing heating and cooling technologies and its combination for different scale of operations. The session proposes to discuss successful case studies that have catalyzed the uptake of heating and cooling technologies and proposes to come out with strategies for addressing the existing barriers for up scaling such technologies and in making them cost effective.

Buildings alone, are responsible for 38% of all human greenhouse gas emissions (20% residential, 18% commercial) and is the largest GHG source in many countries. The increasing number of buildings in developing countries requires the spread and scale up of renewable and energy efficiency technologies, as well as effective regulation to correct market failures. A specific session focusing on promoting renewable energy and energy efficiency in building is

also proposed to be organized at DIREC. The session will cover energy conservation building code, solar passive architecture, building envelope and green rating of buildings that can facilitate uptake of renewable energy technologies.

Increasing urbanization and industrialization have led to a phenomenal growth in transportation demand worldwide and a concentration of vehicles in metropolitan cities with subsequent impact on a) the environment due to emission of both greenhouse gases and local pollutants, and, b) the economy due to mounting fossil fuel import bill for many countries and depleting fossil fuel resources. The sector needs a transformation in terms of a revolution in technology, infrastructure, transport concepts and political framework. A track session in the main ministerial conference at DIREC will focus on this aspect and discuss the role that alternative forms of energy as well as alternate power packs can play in reducing our dependence on fossil fuels, achieving greater energy security, and reducing noxious emissions. The session will also discuss 2nd and 3rd-generation biofuels, and new feed stocks for bio-ethanol production. In addition, a parallel workshop will focus specifically on the status and development of biofuels in India, including the transport sector.

The parallel workshops and side events along the main ministerial conference at DIREC would focus on such technology development issues along with development of strategies that help overcome these barriers. The proposed parallel workshops will cover Solar Water Heating systems, Solar Photovoltaics, Smart Grid Technology, Waste-to-Energy, Biogas production and utilization and Wind Power technologies.

If you are interested in Infrastructure and technology development issues, then your suggested itinerary could be:

DAY 1: 27th October 2010 (Wednesday)

S No	Topic	Organisers	Date and Time	Room
Parallel Workshops				
1	Wind Energy: Leap Frogging to a New Era	MNRE, C-WET, GWEC and IWTMA	27.10.2010 (10.30 to 12.30) & (14.00 to 17.00)	Kosi
2	Strategy for Sustainable Habitats	ICLEI, MIRABALIS, TERI, BEE & MNRE	27.10.2010 (10.30 to 12.30) & (14.00 to 17.00)	Jhelum
3	Bio-methanation: Up-scaling challenges and opportunities	MNRE and Swedish Embassy, SIDA, Swedish Energy Agency	27.10.2010 (10.30 to 12.30) & (14.00 to 18.30)	Shipra

4	Smart Grid Technology Seminar	NEDO, MNRE, MoP, JSCA, METI	27.10.2010 (14.00 to 17.00)	Godavari
5	Solar Water Heating Systems: Global Perspectives	UNDP Project, MNRE and REEEP	27.10.2010 (14.00 to 18.30)	Sutlej
Official Side Events				
1	New Approaches to Hydropower Development	IHA, Govt. of Iceland & MNRE	27-10-2010 (12.30 to 14.00)	Kosi
2	Contributing to scale up sustainable bio-energy	Global Bioenergy Partnership (GBEP) and FAO	27-10-2010 (12.30 to 14.00)	Krishna
3	Solar Generation - A Global Photovoltaic Market Outlook until 2050	European Photovoltaic Industry Association (EPIA) & Greenpeace International	27-10-2010 (17.00 to 18.30)	Krishna

DAY 2: 28th October 2010 (Thursday)

S No	Topic	Organisers	Date and Time	Room
Main Ministerial Session				
TRACK 1 – TECHNOLOGY AND INFRASTRUCTURE				
1	Power Technology and Infrastructure		28-10-2010 (09h00-10h30)	Yamuna
2	Heating and Cooling Technologies		28-10-2010 (11h00-12h30)	Yamuna
3	Buildings		28-10-2010 (14h00-15h30)	Yamuna
4	Transport		28-10-2010 (16h00-17h30)	Yamuna
Parallel Workshops				
6	3rd International Biofuels India 2010	CII, MNRE, Indo-Brazil Chamber of Commerce	28.10.2010 (8.45 to 12.30) & (14:00 to 17.30)	Kosi
Official Side Events				
4	Wind Power Worldwide – Status, Prospects, Drivers	World Wind Energy Association (WWEA)	28-10-2010 (12.30 to 14.00)	Yamuna
5	Possibilities to increase the supply of sustainable Biomass for Energy	WBEA	28-10-2010 (12.30 to 14.00)	Jhelum

DAY 3: 29th October 2010 (Friday)

S No	Topic	Organisers	Date and Time	Room
Parallel Workshops				
7	Concentrated Solar Power: A potent option for Grid Power	MNRE, IIT Bombay, FAST, Spain, World Bank C-Step, GTZ and IFC	29.10.2010 (9.00 to 12.30) & (14.00 to 17.30)	Kosi
8	Solar Photo-voltaic	Ministry of New and Renewable Energy (MNRE) and Solar Energy Society of India (SESI)	29.10.2010 (9.00 to 12.30) & (14.00 to 17.30)	Jhelum