

SPONSORSHIP

The Academy would warmly welcome sponsorship, as below, from Ministries and other agencies of the Government of India, professional scientific bodies/societies and, of course, industry. Sponsorship will be well acknowledged/ publicized at the Conference venue and in its publications

Rs. 3 Lac	-	Free registration for five delegates including copy of the Proceedings and delegate material.
Rs.2 Lac	-	Free registration for four delegates including copy of the Proceedings and delegate material.
Rs.1 Lac	-	Free registration for three delegates including copy of the Proceedings and delegate material.
Rs.50,000	-	Free registration for two delegates including copy of the Proceedings and delegate material.

ABOUT INAE

The Indian National Academy of Engineering (INAE), founded in 1987, comprises India's most distinguished engineers, engineer-scientists and technologists covering the entire spectrum of engineering disciplines.

INAE functions as an apex body and promotes the practice of engineering & technology and the related sciences for their application to solving problems of utmost national importance. The Academy provides a forum for futuristic planning for country's development requiring engineering and technological inputs and brings together specialists from such fields as may be necessary for comprehensive solutions to the needs of the country.

TENTATIVE PROGRAMME

OCTOBER 12, 2009, (Monday)	
SESSION	TOPIC
Inaugural	<ul style="list-style-type: none">Welcome/Scope and Objectives of the Conference.Presidential Address.Inaugural Address by the Chief Guest.
Plenary (Keynote) Session	<ul style="list-style-type: none">Global Energy Outlook.National Energy Scene & Policy.Energy, Environment, Economics; Sustainable Solutions.
Technical Session-I	Energy Technologies, Resource based Conventional Energy <ul style="list-style-type: none">Current Status, Emerging Scenario and Technology Gaps.Nuclear Power : Sustainability and Security.Thermal Power : Renovation and Modernisation , Emission issues and Clean Coal Technology, Hybridising Fossil Fuels with Renewables like Solar Thermal and Biomass.Hydro Power : Sustainability and Environmental Impact.
Technical Session-II	Energy Technologies, Resource based Alternate (Renewable) Energy <ul style="list-style-type: none">Grid fed systems.Distributed, decentralized generation (DDG)/Off grid Systems.Wind, Solar, Bio and Small Hydro Energy.Futuristic and upcoming technologies - Hydrogen, Geothermal, Ocean Energy.Business model to make the above systems sustainable.
Technical Session-III	Energy Technologies—User based (Energy Efficiency, Conservation, Storage) <ul style="list-style-type: none">Transport sector, Effort for sustainability; Oil Vs Electricity, Plug in Hybrid Vehicles, Integrated Transport systemsIndustrial Sectors to promote sustainability- Cement, Steel, Chemical, Process industriesDemand side Issues- Conservation, EfficiencyEnergy Efficient Buildings.Energy Storage Technologies and SustainabilityBusiness model to sustain the above technologies

OCTOBER 13, 2009 (Tuesday)

Technical Session-IV	Research Policies, Funding, IPR <ul style="list-style-type: none">International Scene, Experience of Developed Countries, Global Support Mechanism, Effectiveness.Review of current Status on Energy Research in India, Support Mechanism and Role of Stake holders, Missed Opportunities and Systemic Distortion.Technology Transfer and IPR Issues.Public- Private Partnership.National Energy Fund (NEF) suggested in Integrated Energy Policy.Auditing of Research.Stimulating corporate-Academia-User Consortia Energy RD&D.
Technical Session V	Competency Building in Energy Research <ul style="list-style-type: none">Manpower DevelopmentCentres of Excellence.Education, CurriculumTraining, Continuing Education.International linkages in Capacity buildingComplementing Research Infrastructure
Concluding Session	<ul style="list-style-type: none">Summing up, Panel Discussion.Recommendations and Follow up.

ADDRESS FOR CORRESPONDENCE

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(For periodic updates, please refer INAE website www.inae.org)

International Conference on

“Research Policy for Sustainable Energy”

October 12-13, 2009

Venue:
India Habitat Centre, New Delhi



Organized by:

Indian National Academy of Engineering

Climate Change and Global warming caused by excessive Greenhouse gases (GHG) are considered the biggest threat to our planet. Kyoto Protocol is a mandate for countries to reduce GHG emission globally although few are subscribing to it aggressively. Electricity generation resulting from burning of fossil fuels is considered one of the prime sources of GHG emission. Therefore alternate energy systems to reduce burning of fossil fuels have come to centre stage of development globally. Wind, Small Hydro, Solar and Bio Energy are considered as viable sources for power generation so as to reduce the need for additional coal and oil based plants. In addition, Ocean / Tidal, geothermal and Hydrogen Energy are also in development stage. About 20% generation from such renewables is anticipated in the next decade. Recent EU summit has proposed an attractive “20-20-20” plan implying 20% reduction in GHG by 2020 with 20% electricity generation from Renewable Energy.

Energy Conservation and Efficiency are the new *Mantra* in this endeavor wherein saving energy is assuming prime importance in all sectors. Converting Urban and Rural waste to energy called “Waste to Watts” is another promising area. Both Micro and Macro level solutions should be attempted. Unlike centralized power generation of yore, emphasis will be on distributed and decentralized generation (DDG) using locally available resources. ‘Roof top’, ‘back yard’ or ‘basement’ power plants may become the order of the day both to feed local loads and to the grid. Many technological, economic and social challenges lie ahead as ‘out of box’ solutions are attempted.

The Kyoto protocol thrust may indeed become the vehicle for industrialized countries to not only reduce their emissions but help developing countries to effect the same through development of appropriate technologies. An appropriate “Carbon Credit” scheme could also support developing countries to reduce emissions through technology intervention and implementation in the latter. Thus “global synergy” will become a requirement and global R&D a necessity in tackling this energy crisis and climate change. We need to identify suitable R&D projects to be undertaken by Industry, Universities, Utilities, Energy Agencies and Research organizations to augment the above efforts leading to viable “green technologies” centered on “Sustainable and Renewable Energy Systems”. Conventional Energy can not be wished away as it continues to be the mainstay for development for decades to come. The challenge is to make conventional energy sustainable. Clean coal technologies, emission reduction, improved efficiency, reduction of losses are some of the aspects.

The sequence of steps for any Technology to see the light of the day

is: a) Scientific inventions, b) Engineering & Technology, c) Lab. Models & conceptualization, d) Field Models, e) Field Demonstration, f) Replication and scalability of Field models for mass applications, g) Commercial Model h) Business model. Unless the R&D concept ultimately results in a Business Model acceptable to Society the effort is considered incomplete.

Identification of R&D Projects will remain a wish list unless a suitable mechanism is worked out to implement the same. Therefore a Two day conference is being organized on “RESEARCH POLICY FOR SUSTAINABLE ENERGY” to deliberate on all relevant issues to make “Sustainable Energy” (SE) realizable. The prime objectives of such a policy should be to spur technology development and help its adaptation for societal applications.

There are many international agencies supporting R&D in Sustainable Energy such as USAID, UN, GEF, UNDP, World Bank, EU, Asia Pacific consortium (AP6) etc. India has entered into S&T collaboration agreements with several countries with emphasis on SE, such as Canada, Australia, Israel etc. Ministries of Govt. of India dealing with Energy such as Coal, NRE, Power, S&T, Petroleum etc, are mandated to support developments in SE. Academic and Research Institutions established by Govt. and non- Govt agencies are prime actors in R&D. Similarly Industry, Energy Agencies, utilities are active stake holders. The conference will have presentations from above organizations on their role to support research for SE so as to brainstorm on networking them for expected outcome. A conducive research policy to achieve desired results is being aimed at.

CONFERENCE OBJECTIVES

- Brainstorm on viable / implementable technologies for local/global applications through Research Development & Deployment (RD&D) efforts on “Sustainable Energy”.
- Understanding of past energy policy/initiative and their effectiveness.
- Identify the role of stake holders- Universities, Industry, Govt./Funding Agencies (National and international) and Utilities/ User Agencies in this effort.
- Discuss workable institutional mechanism to carry out RD&D in a consortium mode to achieve the desired goals.
- Discuss mechanism of international cooperation in these efforts to effect ‘Global Synergy’

EXHIBITION

An exhibition is also planned at the Conference venue aimed at showcasing the systems, sub systems, models and photographs relevant to the theme of the Conference. This is an excellent business opportunity for

the exhibitors for formal/informal interactions with the selected high profile audience from Academia/R&D and industry.

CONFERENCE COMMITTEES

International Advisory Committee

Dr. PS Goel, Former Secy, MES and President, INAE
Mr. VS Sampath, Secy, MOP
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CONFERENCE PROCEEDINGS

Proceedings of the Conference containing technical papers will be brought out and issued as delegate material. Full photo-ready manuscript of the paper should be sent in MS Word in A4 size, single spacing. The right, left, upper and lower margins should be 2.5 cm each. Figures/graphs to be included in the paper itself alongwith the copy on CD in duplicate.

REGISTRATION CHARGES

Participants/delegates are requested to register in advance. The enclosed Registration Form may be filled and mailed alongwith following registration fee, so as to reach the Chairman, Organizing Committee before July 15, 2009.

Students	Rs.500
Participants from Academia/R&D/Govt Organisations	Rs.1500
Industrial/Corporate Sector	Rs.5000

All remittances should be made by a demand draft drawn in favour of “Indian National Academy of Engineering, New Delhi”

ABOUT DELHI

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. Standing along the West End of Gangetic Plain, the capital city, Delhi, unwinds a picture rich with culture, architecture and human diversity, deep in history, monuments, museums, galleries, gardens and exotic shows. Comprising of two contrasting yet harmonious parts, the Old Delhi and New Delhi, the city is a travel hub of Northern India. Delhi has some of the finest museums in the country and more than twenty five galleries. Conducted tours, seminars, film shows and study classes on art appreciation, history and conservation are frequently organized. Among the most popular monuments in Delhi are the Red Fort, Purana Quila, Qutab Minar, Iron Pillar, India Gate, Akshardham Temple, Jama Masjid, Humayun’s Tomb, Jantar Mantar and Lotus Temple.

