



GETS 2016 Session Themes

NTPC organized its first International technology Summit 'Global Energy Technology Summit' in 2014, which was a grand success. GETS 2015 also saw huge partaking by all national and international power professionals. GETS by NTPC Ltd has opened up an opportunity for knowledge sharing by the technology leaders in the field of Power Generation around the world to share their state of art technologies to power professionals worldwide.

Thanks to the authors and presenters, the event every year sees spontaneous participation and high quality contribution from domain experts of power and energy sector across the globe. Industry experts present emerging technologies under various sessions over two days at the NTPC 'Power Management Institute'. This year again the third GETS 2016 summit is being planned from 7th Nov and

With apologies to William Gibson, the American Science fiction writer, the future has already arrived for power utilities. The power generation landscape is going through an unprecedented change. The energy transitions are forcing utilities to rethink the power generation strategies. In these changing times GETS 2016 brings ***The 5 R concept of Reduce, Renew, Reuse, Renovate and Rebuild***. This year's theme sessions shall show the ***path for future power***.

GETS 2016 shall have keynote speeches and presentations by eminent industry leaders, debate sessions, plenary sessions, technical theme sessions, and Exhibition stalls. The summit has been designed with theme-based presentations on the 5R innovative technologies. Authors are invited to present technical papers in the following Technical Sessions.

Session: Reduce

The first concept of Reduce for resource management is very relevant today in power generation. When we define the concept of reduce for power generation we are aiming at reduction of fuel consumption by increasing the plant efficiency using ultra-super critical technologies, heat cycle improvements, co-generation with non-conventional heat cycles, coal blending technologies for optimization, or any other innovative technological option.

We are also targeting technologies for reducing emissions through various FGD technologies, De Nox and other technologies such as ZLD technologies to reduce water pollution and bag filter technology to reduce



dust. Technologies related to Particulate removal, Abatement of ground water contamination, Mercury Pollutions, NOX, and SOX emissions control technologies shall be a part of this session.

This session shall also cover technologies to help reduce land footprint of power generation plants like dry FGD technology, compact layouts, GIS substations etc. Air cooled condensers technologies for water reduction in power plants, automation technologies for optimization of manpower are the other concepts of **REDUCE** the session shall be looked for. Energy efficiency technologies like innovative solar Led lighting, variable frequency drives, dual speed motor technology can also be presented in this session.

Authors are welcome to present innovative technologies/Concepts/business models which shall help to optimize cost of power generation. Authors are advised to select the theme under this session if any of the technologies proposed are targeting the concept of **REDUCE** explained above

Session: Renewable

The second R concept is the concept of renewable power generation

Authors are advised to select the theme under this session if any of the technologies proposed are targeting the concept of **Renewable** as below:

- 🌱 Solar PV and Solar Thermal
- 🌱 Wind generation, Biomass & Fuel Cell
- 🌱 Hydro, Mini-Hydro Power , Geothermal and Tidal Power
- 🌱 Energy storage
- 🌱 Integration of Renewables to Grid

Session: Reuse

The concept of Reuse has been there for ages especially in ancient India. Applying the concept to power generation we are aiming at the following areas for reuse.

Water Reuse: It is often said that an economy runs on oil, but it could also be said it runs on water. Electricity is needed to power the economy, however in most cases power cannot be generated without water. Conversely, electricity is needed to treat water. It is therefore critical that we consider the nexus between water and power. In



a world where water is an increasingly scarce resource, policies supporting the conservation and recycling of water for power generation must become an urgent international priority.

Ash Utilization: Fly ash is used in Cement production, ash bricks and now new technologies are also being developed to produce aluminum from ash. Use of bottom ash for ash dyke, mine filling and other technologies for ash use shall be a part of this session on 3rd R.

Waste Heat Utilization: Waste heat utilization had been all time favored by technologist worldwide. Innovative technologies for using waste heat in process or other applications like air-conditioning shall be a part of this session.

Energy from waste: Every year, about 55 million tons of municipal solid waste (MSW) and 38 billion liters of sewage are generated in the urban areas of India. In addition, large quantities of solid and liquid wastes are generated by industries. Any organic waste from urban and rural areas and industries can be a resource, due to its ability to be degraded, resulting in energy generation. Innovation technologies for energy from waste shall be a part of this session.

Authors are advised to select the theme under this session if any of the technologies proposed are targeting the concepts of **REUSE** explained above.

Session: Renovate

The concept of Renovate is dedicated to R & M of conventional power plants and gas based plants. Technological renovation of thermal power plants can act as a long-term check factor of electricity price growth.

The role of R&M is increasingly becoming important in view of fuel scarcity, and the need to utilize it in the most possible efficient manner. However, R&M processes are prone to technical surprises, and these must be dealt in a systematic manner. It is expected that risks and surprises shall be identified by the authors in the session.

Further when new environment norms are in place now, it is all the more important to discuss various suggestions for mitigating/avoiding various risks and surprises and aid the utility in up scaling R&M activities. GETS 2016 invites authors to contribute in this new session with innovative suggestions and ideas for R & M in Power Industry.

Session: Rebuild

The fifth R relates to the concept of rebuilding with more innovative construction technologies which save on construction effort and time without sacrificing quality. Authors are requested to contribute to this session with unique construction technologies, new construction materials, special study cases of design of difficult structures, under sea or water applications and projects. The session shall be about technologies to build pipe networks,



bridges, roads and retaining walls that will stand up well, modern materials, and higher construction standards, best practice design principles with the latest technologies. New technology to repair of underground pipes with “trenchless technologies”

Further the session aims at technologies aiming at **Sustainable landscapes** responsive to the environment, re-generative, can actively contribute to the development of healthy communities. Sustainable landscapes sequester carbon, clean the air and water, increase energy efficiency, restore habitats, and create value through significant economic, social and, environmental benefits. Smart Township concepts can be presented in this session.

Special Session: Make in India

A special session dedicated to the efforts of Indian manufacturers who have established factories and production facilities in India by technology transfer from abroad. Case study of the technology transfer and the journey undertaken by the company shall be presented by the authors. It shall be preferable that the manufacturer display in the GETS 2016 EXPO Exhibition stalls. For more details on stall reservation contact our GETS TEAM.

Session: Student Section

In an endeavor to encourage and make students pursuing B Tech/M Tech or PHD in Engineering Institutes a part of the summit, it has decided to hold an App (multiplatform) Competition based on the 5 R concepts explained above. The App can be presented by a team (not more than 3 members).

The App shall inbuilt one of the 5R concept for use. For example App indicating the energy saved or waste recovered through a particular recycle technology etc. For more details please visit Student section page on the website.

Please visit our site ntpcgets.com

