

India sets a robust roadmap towards methanol economy

A two day high level international seminar mapped a vibrant trajectory for driving India towards methanol economy and attain a viable solution to the growing energy demands.

The seminar at the Manekshaw Center in Delhi on September 6-7 was attended by a galaxy of international and national experts, besides union ministers and secretaries to the government of India. The seminar was organised by NITI Aayog in association with DST, TIFAC, MNRE, Methanol Institute, US and the Catalytic Think Tank Forum, Bangalore.

After several brainstorming sessions and robust interactions, the platform of experts concluded that methanol economy will not only help India in reducing its petroleum import cost but at the same time will help in counter the problem of global warming due to carbon dioxide emissions. India can use its abundant coal reserves to produce methanol by gasification. The country also has abundant non-edible biomass which can be gasified to produce methanol.

Union minister for Petroleum and Natural Gas Dharmendra Pradhan reiterated that the demand for petroleum was growing and there was a need to bring a new economic model. "The new model should be market centric and the raw materials should come from the Indian society. If we can monetise the biomass and develop a suitable mechanism to convert urban waste to energy it will reduce expenditure on health besides boosting the economy."

Giving his inaugural address Nitin Gadkari, minister of shipping, road transport and highways acknowledged that alternate fuel economy was going to change the socio-economic landscape. "Conversion of waste into wealth is the future. We have to boost the rural economy, generate more employment. There is a need to implement policies for making socio-economic changes in rural India. Methanol economy is a way in this direction."

Earlier while delivering his welcome address, Amitabh Kant, CEO, Niti Ayog said that securing India's energy need was one of the priorities of the government. "Storing energy in the form of methanol can counter problems like global warming. Technological innovation is the key."

Echoing the same V K Saraswat, member NITI Ayog and chairman Methanol Committee said that the methanol economy promises to help India mitigate its petroleum import costs and at the same time counter problems associated with global warming. "India is in the cusp of a gigantic transformation towards a developed nation. The country can use its abundant coal reserves to produce methanol through gasification. Abundant non-edible biomass can also be gasified to produce methanol."

Greg Dolan, CEO, Methanol Institute, US maintained that the roadmap towards a methanol economy for India is filled with opportunity for cleaner air, economic expansion and jobs. "This seminar is a critical step along this journey." Expressing serious concern on bootleg alcohol poisoning he said this was a global issue and could be an intentional criminal blending of methanol in reused spirit bottles.

Speaking on the occasion, Arvind Panagariya, Vice Chairman, NITI Ayog spelt out the use of methanol as a clean domestic fuel. "It is our moral imperative for cleaning the environment. The technology feasibility has to be established."

While giving his vote of thanks DST Secretary Ashutosh Sharma said that DST had the privilege to organise the first brainstorming session on this topic. "Since then many experts have met and the discussions have led to some strong conclusions. With the strong base of stakeholders we will read them closely and this will result in important recommendations."

Later giving his keynote address G K Surya Prakash, George A Olah & Judith A Olah Noble Laureate Chair, University of Southern California, US said that methanol, is preferable to hydrogen for energy storage and transportation . “It is also an excellent fuel substitute for internal combustion engines and diesel engines. The Methanol economy concept is expected to solve the energy and material problems in the long run and address the issue of global warming.”

Others who gave their key note address on the first day included eminent scientist and former director general CSIR, Raghunath Mashelkar, Mark Berggren, Methanol Market Services Asia.

The main sessions on the first day touched on a host of topics including methanol production—world scenario, methanol production for India, DME production—world scenati and production for India, methanol and its applications.

The concluding day was also well attended by several dignitaries including Union minister of Railways Suresh Prabhu. The various sessions dwelt on emerging issues related to methanol economy and emerging business opportunities in this economy in India.

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The Journey:

DST had organized the first brainstorming session on possible road map for Methanol Economy for long term Energy Security of India in September, 2015 at New Delhi. Based upon the discussion in September 2015, it was decided to have three committees to have focused discussions on issues related to production, utilization and research & development. DST invited proposals on production and utilization of methanol & di-methyl ether as sustainable fuel. 87 project proposals were received. These projects were considered in the meeting of the R&D Expert Group in April 2016. The Committee recommended 3 proposals and suggested modifications in another 5 proposals. NITI Aagyog has constituted an expert group to evolve a road map document for India to adopt Methanol and DME as a transportation fuel in road transportation, shipping and for our railway network, chemical feedstock and power generation.

Methanol Snapshot

- Methanol is a clear and colourless liquid produced from natural gas, coal and wide range of renewable feedstocks. Also known as ‘wood alcohol’, methanol is naturally occurring and biodegradable.
- To some methanol is a fuel for cars, trucks, buses and ships... to others a chemical feedstock for plastics, paints and car parts.
- Emerging applications for methanol includes use as a hydrogen carrier for fuel cell technology applications, a cookstove fuel, a denitrification agent for waste water treatment and a turbine fuel for electric power generation.

Advantage Methanol

- Readily available and can be cent percent renewable
- Compliant with increasing stringent emissions reduction regulations
- Infrastructure costs are relatively less