Chintan Research Foundation

CENTRE FOR A People-centric Energy Transition
ASHOKA UNIVERSITY

EVENT REPORT

COAL GASIFICATION IN INDIA

Role, Demand Outlook, and Policy Pathways

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ABOUT CHINTAN RESEARCH FOUNDATION

Chintan Research Foundation (CRF) is an emerging independent think tank dedicated to shaping policy through rigorous research and thought leadership. With a strong focus on fostering collaboration between policymakers and industry, CRF integrates practical insights into its research and advocacy efforts. It conducts comprehensive research to support informed decision-making and engages with stakeholders through discussions, events, and publications. CRF's research is focused on three core areas – Climate Change & Energy Transition, Economy & Trade, and Geopolitics & Strategic Studies. The Centre for Climate Change & Energy Transition aims to be a research and expertise hub, focusing on sustainable and clean energy, environmental stewardship, and climate actions.

For further information about CRF, please visit: crfindia.org

ABOUT THE ASHOKA CENTRE FOR A PEOPLE-CENTRIC ENERGY TRANSITION

The Ashoka Centre for a People-centric Energy Transition (ACPET) is a research-focused, transdisciplinary center within Ashoka University, India, established to drive a sustainable, equitable, and "people-centric" shift towards net-zero emissions. It bridges the knowledge gap in energy transition by collaborating with industry and government to create scalable solutions, covering areas like renewable energy, policy, and technology.

For further information about ACPET, please visit: acpet.ashoka.edu.in

A High-Level Policy Roundtable on Coal Gasification was organised by Chintan Research Foundation (CRF) in collaboration with the Ashoka Centre for People-centric Energy Transition (ACPET) on February 20, 2026 at The Ashok, New Delhi. The Roundtable began with a warm welcome from **Mr Vaibhav Chowdhary,** Director, ACPET who expressed gratitude to CRF for the partnership and introduced ACPET's work across four domains, with a particular focus on coal transitions in India. He referenced recent NITI Aayog reports, noting that coal will remain a cornerstone of India's energy mix for the next two-three decades to support economic growth aspirations while pursuing net-zero by 2070. Mr. Chowdhary emphasized the role of technologies such as coal-to-chemicals, Carbon Capture, Utilization and Storage (CCUS), and gasification, aligning with the National Mission targeting 100 million tons of coal gasification by 2030. He called for expert deliberations on opportunities, challenges, technological advancements, and collaborative interventions to sustain momentum.

Opening Remarks

Mr Shishir Priyadarshi, President of CRF, followed with the opening address, situating the discussion within CRF's mandate on climate change and energy transition from a Global South perspective. He highlighted inequities in global energy narratives where developed nations transitioned from coal only after securing alternatives, unlike India's vast coal reserves and urgent developmental needs. Mr Priyadarshi outlined three givens: India needs five times more energy by 2047 to achieve developed nation status; the country remains committed to net-zero emissions; and coal's large reserves position gasification as a critical bridge. He stressed private sector involvement is essential, questioning barriers such as capital, regulation, high upfront costs, and risks. The roundtable aimed to candidly address challenges to inform a white paper, drawing inspiration from CRF's prior success in influencing nuclear energy privatization policy, with over a dozen recommendations adopted.

Key Speakers: Keynote and Special Addresses

Dr Anil Jain, Chairman of the Petroleum and Natural Gas Regulatory Board, delivered the keynote address, tracing coal gasification's evolution over the last 20-24 years, including early partnerships like Tata-Sasol in Angul, Odisha, that faltered after Supreme Court coal block cancellations in 2014 amid clean energy

headwinds. He praised the 100 million tons mission, noting China's achievement of a similar scale by 2020-21 as a benchmark, and highlighted Prime Minister Narendra Modi's consistent support alongside international investor interest. Dr Jain advocated focusing on products such as synthetic natural gas to counter falling domestic production and rising LNG imports, dimethyl ether (DME) for LPG blending (60% imported), and DRI processes replacing blast furnaces for steel expansion to 300 million tons. He urged demand-side policies such as 10% DME-LPG blending with price support, off-take assurances from user ministries, CCUS integration given high emissions at production points, and a composite gas policy to prevent LNG infrastructure from crowding out domestic SNG.

Dr AK Balyan, Secretary-General of the Coal Gasifiers Association of India, delivered a special address emphasizing coal's long-term role, given India's reserves, and the need for cleaner utilization technologies. He viewed the 100 million tons target with scepticism, suggesting 10 million tons would be ambitious as projects require four-five years to stabilize, citing successes like Reliance and Jindal operations. Dr Balyan identified hurdles, including undefined project contours (washeries for high-ash coal, utilities), unresolved coal norms, and absent off-take assurances for products like hydrogen, sustainable aviation fuel (SAF), and ammonia – contrasting with China's 90% gasification-sourced ammonia. He recommended cluster development near mines/coasts, PLI extensions, customs waivers, underground coal gasification (UCG) with CCUS, and restructured Viability Gap Funding (VGF) for upfront support during peak Capital Expenditure (CapEx) phases. **Shri Shashwattam**, Executive Director (R&D) at NTPC Limited, presented NTPC's strategic pivot toward coal gasification amid electricity peak gaps, integrating it with sustainable technologies such as CCUS, CO_2 energy storage, thermal-solar hybrids, and hydrogen. Subsequent contributions from Dr Peeyush Kumar, Managing Director, BCCL, and Shri Balasaheb Darade, Founder and Managing Director, New Era Cleantech, reinforced concerns about commercial viability. Dr Kumar detailed project economics and Shri Darade emphasized private sector realities in operationalizing gasification amid financial and infrastructural gaps.

Dr Peeyush Kumar contributed critical insights on project viability, detailing economic models in which high initial investments require clear financial incentives. He stressed resolving coal accounting norms and washery inclusions in CapEx, noting gasification's synergy potential with electrolysis for doubled methanol yields and reduced costs. Dr Kumar advocated infrastructure classification to unlock concessional bank lending, positioning gasification within a broader clean energy portfolio, balancing imports with domestic production.

Shri Balasaheb Darade addressed commercial realities, highlighting private sector hesitations due to regulatory ambiguities and missing demand commitments. He emphasized operational learnings from existing plants, where technology risks are manageable but financial closure remains elusive without off-

take guarantees and policy clarity on coal linkages at premium rates. Shri Darade called for ministry-level buy-in to translate top leadership support into actionable frameworks, preventing projects from stalling like the past Talcher fertilizer efforts.

Moderated Discussion

Following the keynote and special addresses, a moderated roundtable discussion was convened. This session was moderated by **Mr Rakesh Kacker**, Senior Consultant at ACPET and **Dr Debajit Palit,** Centre Head, Centre for Climate Change and Energy Transition at CRF. The discussants included participants representing industries such as Adani, JSPL, Grant Thornton LLP, Finovista and PreCOG Innovations. Industry leaders from Chinese companies such as Chindustry (Shanghai) Technology Co. Limited, which is working extensively on coal gasification technologies in China, also joined the discussion. Discussants from academia and think tanks also joined the conversation, highlighting the need for an overall cost-benefit analysis of a coal gasification project. All the stakeholders provided valuable insights, highlighting the gaps being faced in successfully sustaining the coal gasification industry.

Recommendations

The Roundtable concluded with a set of actionable recommendations aimed at accelerating responsible, indigenous and commercially viable deployment of coal gasification in India. The participants underscored the importance of incentives for state-level policies, drawing from successful models in Odisha and Maharashtra, such as subsidies on power tariffs, land allocation, and round-the-clock water access for industrial projects.

At the national level, they called for granting infrastructure status for projects, long-term offtake assurances for downstream products such as methanol and ammonia, production-linked incentive (PLI) support for coal-to-chemical value chains, custom duty waivers for early adopters, and a composite gas policy mandating blending targets, such as 10% of LPG to be blended as DME, a synthetically produced alternative fuel which is produced during coal gassification.

Policy-level recommendations urged inter-ministerial coordination for coal linkages, technology partnerships combining 'Make in India' with imports, and comprehensive cost-benefit analyses incorporating environmental externalities to reflect long-term economic and environmental considerations. Demand-side measures were

highlighted, including incentives to shift industries such as steel toward DRI processes, positioning gasification to meet the 100 MT target by 2030 while aligning with India's Viksit Bharat 2047 and Net Zero 2070 goals. Industry leaders recommended prioritizing fluidized bed systems suited to India's high-ash coal, integrating CCUS to reduce emissions, and developing industrial clusters focused on coal-to-chemicals, methanol, ammonia, and green hydrogen production to enable economies of scale and value-chain optimization. There was a strong push to develop indigenous capability, create clearer frameworks, and offer greater incentives for private-sector participation. Recognizing high capital intensity and technological access constraints as key bottlenecks, participants called for enhanced VGF, streamlined disbursement processes, innovative risk-sharing mechanisms between governments and private players, and risk-mitigated financing models inspired by past thermal power reforms.

The conversation comes at a critical juncture as India seeks to balance energy security, industrial growth, employment generation, and climate responsibility under its long-term development vision, while charting a pragmatic and sustainable way forward.

Key Takeaways

The key takeaways from this Roundtable among others are:

- Composite gas policy – India needs one clear gas plan that balances imported LNG with home-made gas from coal. This prevents wasting money on too many LNG ports when we can make our own gas supply.
- Strategic continuity – Coal will power India for decades while we work towards clean energy goals. Leaders must keep supporting coal gasification projects without making policy changes that stop progress.
- Off-take assurance – Companies won't invest without firm promises to buy their gas and chemical products. Government guarantees for 5-10 years give investors the confidence to start building plants.
- Infrastructure status – Treating coal gasification like roads or railways helps banks lend money easily. This special status means lower interest rates and faster project approvals.
- Full cost-benefit analysis – complete studies showing all costs and profits of gasification projects are needed. This includes washeries, oxygen plants and utilities, not just the gasifier itself.
- Clustering coal gasification projects – Building gasification plants together near coal mines or ports in special zones is necessary. This shares infrastructure, creates jobs locally, and makes products easy to sell or export.