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## NextGen Summit 2023: Bottlenecks hampering petrochemical industry expansion

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The session highlighted the land acquisition, infrastructure and enabling environment as among key challenges

By Rahul Koul

The petrochemicals sector is a major segment of the manufacturing industry and plays a pivotal role in various downstream industries. Yet at the same time, the sector still lacks a climate that is conducive to new investment that is needed to meet future projected demand.

In this context, the leading industry experts highlighted the major pain points that still await attention from policymakers as well as how sustainability could be at the core of petrochemical plant design at the fourth session, 'Petrochemicals @2047: Towards A Self Reliant India' of NextGen Chemical and Petrochemical Summit 2023 organized in Mumbai by the Indian Chemical News on July 13-14, 2023.

The session was moderated by Sudeep Maheshwari, Partner, Kearney.

"In India, the land acquisition and environmental clearances are very challenging if we wish to set up petrochemical plants anywhere. Also, the enabling environment is a big challenge. The reason why MNCs are not setting up units here is because it takes a huge time for regulatory clearances due to disputes. We have seen that during setting up of the railway line, network, and infrastructure, there are a lot of issues and we should try to mitigate them. We must try to circumvent all those situations and boost the confidence of the global players. We are sitting on a very bright spot as of now as the people are trying to shift their focus from China to India. We must really grab this opportunity but it needs the infrastructure support from government and environmental clearances should be done very expeditiously," said Sandeep Khanna, GM (PCM), Indian Oil Corporation Limited.

Explaining the need to revisit the PCPIR strategy, Khanna added: "We have been seeing PCPIRs since 2007 but it hasn't gained much momentum. In the last two decades we have found that it's not really getting into the groove. It is because the state government and central government haven't given much hand holding. So it needs an impetus and since 2022 government came out with PCPIR policy where they have started giving some kind of an additional budgeting for developing petrochemical part. They are trying to bridge the gaps including linking PCPIR in with the national infrastructure pipeline. There is a kind of fear that it's a very high Capex project and I think the government is trying to come into this to overcome it."

"Four areas that need to be taken care of while designing the petrochemical units. Direct carbon capture, utilizing low carbon technologies, optimizing operations by reduction in shutdowns, sourcing the energy from green sources and circularity," said Sanjay Kargaonkar, GM-Business Development, Bharat Petroleum Corporation Limited.

Kargaonkar shared a clear perspective on the topic: "There are four areas in petrochemical industry where we can really work on when we talk about net zero. One is we can work on capturing the emitted CO2 and use it in our

other petrochemical production processes. For example, when we commissioned our finished petrochemical plant in Kochi, we used the syngas from that unit as a feedstock for the Oxo Alcohol unit. This is one live example which we have got. Going forward when we talk about its use in ethylene and polypropylene derivatives. We also have a plan of having a CO<sub>2</sub> recovery unit over there which will take care of emission there and use in production of ethylene oxide.”

“Secondly, the technology selection itself is a very important aspect which we as a petrochemical manufacturer need to be mindful of. When we are having a target of having a net zero, we need to also select a technology which will be low carbon emission technology. We can optimize the operation itself by using some sort of advanced analytics which will help us in reducing the shutdown and improve operational inefficiencies. Thirdly and most importantly how do we reduce use of the energy itself. While designing the plant, if we can take care of energy aspect by keeping options for green energy, whether it is in terms of the use of green hydrogen, solar energy or sort of biomass as these three avenues are available to us. Fourth part is circularity. We can design a product in a way that it gets recycled and reused so that we really don't add it to the problem again. While designing the petrochemical plant itself, we need to be mindful of these four areas,” Kargaonkar explained.

Summing up the discussion, Sudeep Maheshwari, Partner, Kearney said: “Overall, the growth will continue in petrochemicals. Specialty will start witnessing pivot going forward. Scale in specialty remains a challenge that needs to be addressed through either building blocks, sharing or some kind of change. The regulations have improved but a lot needs to be done. The central policies are getting implemented at the state levels and coordination is required for bettering things. Sustainability and circularity is gaining traction at the organizational level. Building sustainability at design level, especially for greenfield projects is a growing trend.”

NextGen Chemical and Petrochemical Summit 2023 themed ‘Innovation, Self-reliance and Sustainability’ witnessed attendance by a huge number of stakeholders from the chemical and petrochemical industry across India.

The Summit was supported by the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers and co-partnered by DCM Shriram. The Gold Partners of the event were Premier Tech, Ingenero, Rieco, ABB, PIP, Deepak Group, Dassault Systemes, Moglix and Siemens. Associate Partners were Tata Chemicals, Anupam Rasayan India, Sealmatic, Godavari Biorefineries, Huntsman, Tranter, Source.One, IPCO, and Aeroflex. The Lanyard Partner was Jakson Green.

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