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Designing a Low Carbon Future

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Synopsis

Smart cities are also green cities. Carbon rich waste gases, currently seen as a global liability, are an abundant resource that should be seen as an opportunity that will also enable the green city vision.

We currently recycle metals, plastics and paper-so why not recycle carbon?

A carbon recycling world is not so far in the distant future. Today, energy can be carbon free (think wind, solar and hydro) allowing us to focus on recycling carbon into liquid fuels and petrochemicals. Carbon rich offgases, are abundantly available today as an inevitable by-product of the chemistry of certain manufacturing processes (e.g. steel, fuels and chemicals production) and via on-purpose gasification of municipal, agro and forest wastes. By capturing these gases as a resource and recycling them into sustainable products, fuels and chemicals, that have become indispensable to our daily lives, local air quality can be significantly improved while also creating a greener city.

Carbon recycling is the future of creating a sustainable cyclical economy. Why bury carbon when you can reuse it? This presentation will address the various waste gas resources available from an Indian context, the potential volumes of fuels and chemicals that can be produced from such gases and touch upon the gas fermentation pathway as a technology enabler with particular focus on the value add and environmental benefits