

# Mike Reuter

I am speaking here as an individual and not as the Mayor of Kalama.

We cannot depend on this ULE technology to be the cutting edge way of reduction of GHG emissions for the next 30-40 years. In 10 years, this refinery might be the most polluting in the world.

Any kind of assumption that this will displace future better-designed methanol refineries is not reasonable.

The next step in "green" methanol is already happening in other parts of the world. Super Low ULE might be a technology that might be only a few years away.

Accelerating Shifts in Power Generation & Transmission  
18 September 2020 @ 03:30 AM

It said China has been gasifying coal to produce methanol and then petrochemicals at very low prices but India must use green methanol instead of methanol.

"India imports a majority of its methanol demand, as the domestic production units primarily rely on imported natural gas. Natural gas is reformed to syngas which is further converted to crude methanol in a reactor," CEEW Programme Lead, Tirtha Biswas told ETEnergyWorld.

The green methanol process, on the other hand, combines green hydrogen and CO2 gas stream either from industry emissions, biomass, or direct air capture to produce methanol.

According to CEEW, the use of hydrogen, derived from electrolysis using solar or wind (hybrid) power, is likely to become as competitive as conventional fuels.

The technology would involve an electrolyser producing hydrogen using renewable electricity and CO2 captured from the air to produce syngas, a feedstock for green methanol production.

"An alternative green methanol-based production process, provides opportunities to replace natural gas with water, and utilise CO2 emissions from other industrial processes to produce methanol with zero carbon emissions," the policy brief said.

The green methanol process for manufacturing petrochemicals is likely have lower cost when compared to both natural gas and coal-based production processes by 2030.

With the petrochemicals sector seeing an increase in demand for more products, it is imperative for domestic policies to address the levers that can catalyse a transition towards sustainable manufacturing, according to CEEW.

Solar methanol islands – opportunity or threat?  
Emilia Obłuska

18 July 2019

Researchers have come up with what they called 'solar methanol islands'

Such islands drifting in ocean waters would, using solar energy, bind carbon dioxide from water with hydrogen obtained at the station and produce methanol – a slightly more environmentally friendly alternative to commercial fuels, eg gasoline.

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Green Fuel On The Horizon - Achíni Green Crude

James Conca

The products of combustion – CO<sub>2</sub> and water – can be recombined using clean non-fossil energy, like wind, to re-cycle CO<sub>2</sub> and make the same chemical fuels, like kerosene, gasoline and natural gas. That's a closed carbon cycle, because the waste of the burned fuel becomes a feedstock for the future fuels.

Among the many products that are possible from the combination of carbon dioxide and hydrogen, Achíni's Green Crude using the Fischer Tropsch process can provide heavy paraffins for waxes and lubricants, olefins for making plastics and textiles and all of the other synthetic materials we use, making them green as well and removing them from the carbon cycle, so also carbon-negative

The technology for pollution reductions is already being retrofitted on pre-existing coal-fired power plants in China and Saudi Arabia.

Satellite verification of ultra-low emission reduction effect of coal-fired power plants

Atmospheric Pollution Research

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Verification of ultra-low emission (ULE) reduction effect in isolated power plants by satellite.

The reduction of satellite data is consistent with the emission reduction of power plants before and after the ULE. Satellite observations have confirmed the emission reduction effect of ULE technology.

. The SO<sub>2</sub> and NO<sub>2</sub> satellite images exhibit that there is an obvious concentration gradient between the high-emission zone where the isolated power plant is located and the surrounding area, all of which show the characteristics of approximate large-point source emissions.

Ultra-low NO<sub>x</sub> burners in methanol plants

Recently, the Kingdom of Saudi Arabia's (KSA) strict environmental regulations have required operators to replace older, previous generations of burners with the latest in ultra-low NO<sub>x</sub> technology.

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