

Opportunities with Biofuel: Co-Benefits of Air Quality Improvement

Increasing level of ambient air pollution is causing irreparable damage to the population vis-à-vis economy growth of India in present days. Fine particulate matter is the most concerned air pollutant of the day based on its known toxicity to human health. Dynamic changes in the energy utilization, rapid urbanization and improvement of socio-economic well beings are key drivers for deterioration of ambient air quality. The country has doubled its annual energy consumption since 2000 and likely to accelerate further with its ambitious economic growth.

The number of registered vehicles in the country has increased from 54 million in 2001 to 230 million in 2016. Diesel alone meets an estimated 72% of transport fuel demand (MoSPI, 2018)¹ in India. Globally, the exhaust emissions from transport sector in India are among the top ten countries. The government of India has identified biofuel as one of the potential thrusts to safeguard energy security and reduce dependency on imported crude oil. Studies around the world have reported reduction in tailpipe emissions from diesel vehicles with 20% biodiesel blended petroleum diesel compared to the conventional diesel.

Emissions from diesel powered vehicles have been identified as one of the important environmental risk factors and responsible for 2/3rd of death due to air pollution in India (GBD, 2018)². The transport sector is also dominant source of nanoparticles in the urban atmosphere. Nanoparticles are more harmful to human body compared to fine particulates as it can cross the blood-air barrier in lungs, and can penetrate deep into human systems through the skin pores. However, at present, studies related to nanoparticle emissions in India are scarce and there is no regulation on nanoparticles as well.

This conference aims to bring together leading academic scientists, researchers and industrialists from India and Finland to exchange their experiences and research results based on the measurement of ambient nanoparticles and their emissions from the transport sector especially from the diesel powered vehicles. Additionally, the conference intends to suggest possible modifications in the Biofuel Policy of India to address the tailpipe emissions of nanoparticles based on the case studies both in India and Finland.

¹ MoSPI [Ministry of Statics and Program Implementation] Motor Vehicle – Statistical Year Book.

² The impact of air pollution on deaths, disease burden, and life expectancy across the states of India: the Global Burden of Disease Study 2017. The Lancet Planetary Health. 5 Dec 2018.