

Japan-India Partnership on Air Pollution Control Measures for Industrial Sector in India

December 9, 2021| Webinar

The Institute for Global Environmental Strategies (IGES), Japan and The Energy and Resources Institute (TERI), New Delhi organised a webinar on Japan-India Partnership on Air Pollution Control Measures for Industrial Sector in India on 9th December 2021. Japan Environmental Technology Association (JETA) and Embassy of Japan in India gave IGES and TERI their cooperation for organising the webinar as cooperation organizations. The event was organised with support from Ministry of Environment, Government of Japan (MoEJ). The objective of the webinar was to facilitate the dissemination of Japanese environmental technologies among Indian stakeholders. About 100 participants representing government departments, industries and other bodies from India and Japan attended the program.

Session 1: Opening Session



Mr. Girish Sethi, Senior Director, Energy Program, TERI, welcomed participants and thanked the expert speakers for joining the discussion. He explained that the webinar is being organised under the framework of the India-Japan cooperation agreement signed in October 2018 between Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India and MoEJ. He highlighted that the scope of the Japan-India Technology Matchmaking Platform (JITMAP) was initially on dissemination of Japanese low carbon technologies (LCTs) in India. In order to further enhance the functions of JITMAP and contribute to environmental cooperation between Japan and India, IGES and TERI have expanded the target technologies to environmental technologies since FY2020. TERI and IGES have a strong collaboration in spreading awareness on emerging technologies and moving forward, TERI would like to continue this association.

In his opening remarks, Mr. S K Paliwal, Scientist E, Central Pollution Control Board (CPCB), MoEFCC mentioned that he was happy to know about the collaboration between India and Japan on controlling air pollution. India is facing the problem of air pollution and has passed several Acts and Standards to curb air pollution in recent times starting with the Environment Protection Act of 1986. He emphasised the need for further action to control emissions from 18 large



industrial sectors like thermal power plants, steel, cement, petrochemicals and so on. An environmental impact assessment study has to be conducted by these industries before setting-up the plant. Adoption of continuous emission monitoring system (CEMS) is compulsory for these industries. He mentioned that the high ash content of Indian coal is a challenge and that power plants are exploring adoption of new flue gas cleaning technologies like selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) to control nitrogen oxides (NOx) emissions. Mr. Paliwal conveyed his hopes that the webinar would lead the way to better pollution control and adoption of cleaner technologies.



Mr. Ryuzo Sugimoto, Director, International Cooperation and Sustainable Infrastructure Office, MoEJ, highlighted the strong bond between Japan and India on environmental co-operation. In October 2018, the cooperation between MoEJ and MoEFCC was further strengthened with the signing of an agreement. The first India-Japan high level policy dialogue on environment was held in September 2021. The two countries discussed areas for future collaboration. Japan is committed to become carbon neutral by 2050 and welcomes India's plans to become carbon neutral by 2070. At recent United Nations Climate Change Conference, more commonly referred to as COP26, held in Glasgow, Scotland, Article 6 has been agreed. Japan already has more than 200 joint crediting mechanism (JCM) projects in 17 countries and is looking forward to upscale this to address climate change in the future and to realize the conclusion of the JCM between India and Japan as the JCM will enable the project development that meet India's needs.

Session 2: Technical Session - Air Pollution Control Measures: Results and Issues in India, Japan and Other Countries



In his presentation, Dr. Satoshi Kojima, Program Director, IGES Kansai Research Centre, provided a background of JITMAP. Under JITMAP, seminars, webinars and feasibility studies are undertaken to promote technology transfer. Under a Memorandum of Cooperation (MOC) signed in 2018 between the MoEF&CC and MoEJ in the field of Environmental Cooperation, eight key areas of cooperation between India and Japan have been identified. They include pollution control (air, water, and soil), chemical and waste management, coastal and marine ecosystems, climate change etc. The first India-Japan high level policy dialogue on environment held in September 2021, focused on several subjects such as Climate Change, Fluorocarbons, Marine litter, Air pollution and Sustainable Technologies and Transports. Japanese and Indian stakeholders have collaborated on several projects aimed at reducing emissions and tackling air pollution. This webinar focuses on deepening the dialogue on cooperation and exploring pathways for India-Japan collaboration to work together and tackle India's air pollution issues.

Mr. Takeshi Kobayashi, Chairman, Overseas Committee, Japan Environmental Technology Association (JETA), shared experiences on curbing environmental pollution in Japan and China. He compared the differences in approach between Japan and China. In Japan, strict self-control by industry helped curb rising pollution, while in China measures by the Government had a significant impact. To tackle India's air pollution challenge, an India-specific solution, would need to be explored. He emphasised the importance of accurate measuring devices. India could consider introducing regulatory mechanisms to reduce NO_x and SO_x emissions. He also highlighted that understanding of the importance of measurement and strict control of fixed source emission gas, as well as measurement devices for the purposes are required for the promotion of environmental improvement.



Mr. Takeyoshi Yamazaki, Deputy Director, Overseas Sales Division, DKK-TOA CORPORATION, outlined activities undertaken by the organisation in India in ambient air and water quality analysers. He shared some of the challenges of working in India, such as the requirement of United States Environmental Protection Agency (USEPA) certificates for billing, and field tests in 4 US mainland locations for technologies, restrictions on company selection for sewage treatment technologies. He emphasised the important role that cooperation and tie-ups with local manufacturers will play in the dissemination of technologies in India.

Mr. Kunal Soni, Process & Environment Segment, Horiba India Private Limited, shared Horiba's activities for monitoring air pollution and provided details on projects taken under CEMS and Water Quality Monitoring System. The company has conducted real-time analysis across varying conditions in India. In Uttar Pradesh, Air quality Monitoring Systems were installed in 35 stations. He stressed the need for data validation and increased monitoring at the particulate level. He concluded by emphasizing that it is a time to contribute to improving air pollution by providing accurate data to the Indian government.



Mr. Taishi Kawai, General Manager, Mitsui & Co. India Private Limited, discussed the impact of stubble burning on air pollution. Mitsui & Co., has invested in Punjab Renewable Energy Systems Private Limited (PRESPL) – a company that collects agricultural waste for supply as a bio-fuel. Briquette production is also done to make biomass into steam. Through this circular economy model, income of 100 million INR was generated. Mitsui is looking at the application for carbon solutions, mobility etc. He concluded his

presentation with highlighting that PRESPL's bio-fuel supply and energy provision from agricultural wastes contributes to not only improving air pollution but also providing additional income to farmers by purchasing wastes and opportunities for many local women to work.

Mr. T C Patel, Nodal officer ETS, Gujarat Pollution Control Board (GPCB), provided details on India's first Emissions Trading System (ETS), the first cap and trade market for particulate matter in the world. The project was inaugurated in July 2019 by the Chief Minister of Gujarat. The ETS was implemented from September 2019 onwards. He then presented key differences between the command and control and the market-based approach. Under ETS, a permit is given to the industry for a month. Through this system, continuous monitoring is possible. The monitoring process makes 1,440 data points available on a daily basis. The ETS provides incentives to companies to go beyond required regulations. A total of 342 units were selected for the pilot ETS. Mr. Patel shared some of the criteria used for this selection, such as: i) units should be within a 30 km range of city of Surat, ii) units should be under the red category, and iii) they should have an average boiler capacity of 5 TPH and use solid fuels. A cap of 170 tons per month has been kept for industry. A trading platform has been set-up along with a market oversight committee. Through this system, emissions have fallen by approximately 24%. Introduction of the system has led to greater data availability, improved ease of access, promoted abatement, reduced particulate matter emissions and increased the profit of compliant units.



Mr. Sushil Kharkwal, Head EHS, Alembic Pharmaceuticals Limited, Gujarat, gave insights on tackling air pollution in the pharmaceutical industry. Various technologies are being used by the sector to tackle different types of emissions. Technologies such as acid scrubbers, alkaline scrubbers and venturi scrubbers are being used to tackle volatile organic compounds (VOC) emissions. However, the measurement of VOC emissions is a significant challenge. Stack emissions are reduced with the use of wet scrubbers, bag filters etc. He highlighted that the government has made the installation of CEMS mandatory, and data collected by the system is sent directly to CPCB.

Session 3: Moderated Discussion - How Japan and India should work together to overcome air pollution issues in India.

Dr. Sumit Sharma, UNEP, stressed on the significant issues caused by air pollution. Monitored cities are not meeting required standards. The industrial sector contributes almost 15-20% of PM 2.5. This varies by City and by State. The levels of pollution observed 50 years ago in Japan can now be seen in India. He expressed his hopes to discuss with the panellists how Japan and India can work together to overcome air



pollution issues. Specially he emphasised that he would like the Japanese panellists to share their experiences and lessons learned to improve air pollution control measures in India since Japan had several pollution problems in the past like India and overcome them.



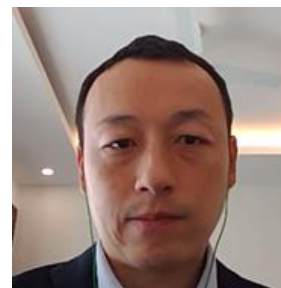
Dr. V M Motghare, Joint Director Air, Maharashtra Pollution Control Board (MPCB), mentioned that in 2020, MPCB signed a MoU with the environment bureau of Osaka city. The main aim of the MoU was the rationalisation of energy conservation, capacity building and knowledge and skills sharing. There are large number of industries in the State of Maharashtra. Under the National Clean Air Program, 19 cities from the State have been identified as not meeting the required standards. Dr.

Motghare also shared that, a comprehensive action plan was being developed to reduce emissions by 30%, and will include provisions to reduce vehicular emissions in Mumbai and semi-metros. The Board also aims to make 43 major cities in the state carbon neutral. Industrial improvements power hubs have a significant footprint. These hubs are being asked for a report and are promoting flue-gas desulphurisation. Japan is a pioneer in technologies for reducing air pollution. Interactions and benchmarking to reduce air pollution and developing a roadmap for the steel and transport sector is taking place. We encourage Japan and Japanese companies to sign a MoU with the Government to take this further.

Mr. T C Patel, GPCB, said that is committed to the implementation of innovative ideas. The GPCB has collaborated with global universities and research institutes for the Emissions Trading Scheme. He stated that the GPCB is also undertaking other initiatives one of which is the humidity boiler, wherein they have set-up 6 community boilers in the State. Mr. Patel highlighted that the State is strengthening its monitoring network by adapting better tools including conducting environmental audits. In policy, the use of wet scrubbers has been made mandatory for boilers with capacities greater than 40 TPH. The Clean Air Action Plan aims to tackle the challenge of pollution from various sources. He said that the GPCB was open to new ideas.

Mr. Yuki Yoshida, Second Secretary, Embassy of Japan in India, emphasised on the significant potential for collaboration between Japan and India in tackling air pollution especially in agriculture, industry and manufacturing of India.

In each of the above areas, improving the technology and knowledge, and raising the awareness of citizens regarding air pollution control is needed. In the case of stubble burning, greater support needs to be given to farmers so that they can understand benefits of air pollution measures. Mr. Yoshida also emphasized that India and Japan collaboration in the field of environment should have broader scopes of cooperation, and starting good business collaboration in India is required.



Mr. Takeshi Kobayashi, JETA, also stressed on the significant potential for cooperation between the two countries on environmental protection and to reach carbon neutrality. Japan can share its experiences with India, such as the operation of the Carbon Capture, Usage and Storage (CCUS) plant in Japan to provide insights on carbon neutrality in India. Greater communication is needed to take discussions forward. Seminars and webinars can take these talks forward.

Session 4: Closing Session

Mr. Ryuzo Sugimoto, MOEJ, lauded the rich discussions on both sides. Sharing across three tiers i) Technology transfer (importance of sharing knowledge and know-how) – JITMAP is an effective tool for sharing technology and know-how by holding seminars; ii) Policy implementation (e.g. In cooperation with Clean Air Asia, supporting local govt. in enhancing capacities on air pollution measures in India ; several workshops with MoEFCC for sharing knowledge for policy implementation; iii) Co-benefit approach importance in addressing the global agenda such as carbon neutrality, waste power generation, and Regional Circular and Ecological Sphere – and needs private sector to identify the benefits.

Tackling climate change is important for the global agenda and all stakeholders need to take actions. Combating the issue of air pollution will also bring co-benefits in other areas.

Closing remarks:



Dr. Kazuhiko Takeuchi, President, IGES thanked all the attendees for participating in the webinar. He extended his thanks to the MoEJ, Embassy of Japan in India, TERI, JETA, government officials for their support in organising the webinar. Air pollution management and counter measures are the need of the hour. IGES and TERI with support of MOEJ started the JITMAP program ten years ago to promote the transfer of low-carbon technologies from Japan. Indian companies have adopted low-carbon technologies to reduce GHG emissions. At the high-level dialogue the scope of JITMAP was extended to include environmental technologies and to promote environmental co-operation in air pollution control and climate mitigation. He expressed hope that the webinar could be the beginning of interactions that would deepen the co-operation between India and Japan, the understanding of Japanese technologies in India and improve the diffusion of these technologies.