

Speakers' Bios India Bioenergy Workshop

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Virtual webinar

Partners:



GOVERNMENT OF INDIA
MINISTRY OF NEW
AND RENEWABLE ENERGY



International
Energy Agency

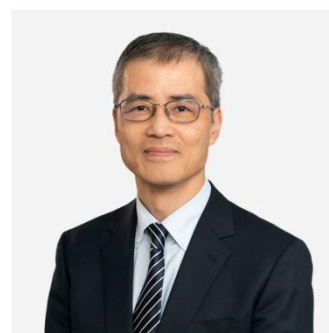
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Session: Opening and High-level Context

International Context and Introduction

Mr Keisuke Sadamori, Director (EMS), IEA

Keisuke Sadamori took up his duties as Director of the Office for Energy Markets and Security at the International Energy Agency in October 2012. Previously, he held the post of Deputy Director General for Policy Co-ordination at the Ministry of Economy, Trade and Industry (METI) in Japan. He had been involved with the IEA for a number of years as IEA Governing Board Representative for Japan and as Co-Chair of the Standing Group on Long Term Co-operation. Over the years, Mr Sadamori has served in the Cabinet of the Prime Minister of Japan and has co-ordinated numerous important projects, including work following the Fukushima-Daiichi accident in March 2011



Opportunities and challenges for biogas and MSW-to-energy in India

Dr Arunabha Ghosh, CEO, CEEW

DR ARUNABHA GHOSH is a public policy professional, adviser, author, columnist, and institution builder. He is the founder-CEO, since 2010, of the Council on Energy, Environment and Water (CEEW), consistently ranked (eight years running) as one of Asia's leading policy research institutions; and among the world's 20 best climate think-tanks in 2013 and 2016. With experience in 45 countries, he previously worked at Princeton, Oxford, UNDP (New York), and WTO (Geneva). In 2018, the UN Secretary-General nominated him to the UN's Committee for Development Policy. Dr Ghosh led CEEW into a leading think-tank soon after its founding in August 2010. He was actively involved in conceptualising and designing the International Solar Alliance. He conceptualised and is a founding board member of the Clean Energy Access Network (CLEAN), an industry body for hundreds of decentralised energy entrepreneurs. He serves on the Board of Directors of ClimateWorks Foundation.



Technology development imperatives for India

Professor S Dasappa, Indian Institute of Science, Bangalore, India

Professor Dasappa is currently the Chair of ICER and at Centre for Sustainable Technologies. His major area of research is in combustion of solid, liquid and gaseous fuels. With the emphasis on energy conversion processes, the R and D activities address both scientific and technological challenges. The research outputs have contributed towards engineering domain addressing – “Process to Product philosophy” including sustainability through the translational research. He has been involved in technology transfers across the globe.



With over 170 publications in various international and national journals, conferences and edited books, and 20 patents, he has been involved in technology transfers across the globe. Prof Dasappa has been involved in several national and international projects and Green hydrogen in the recent times. He has won several awards in Biomass energy – national and international and identified in the top 2 % of the Energy scientist in the world.

Policy vision for bioenergy in India

Sh. Indu Shekhar Chaturvedi, IAS, Secretary MNRE, Government of India

Session 1: Biogas and Bio-CNG - successful deployment policies and technologies

India:-

What is the current status of biogas and bio-CNG use and policies in India?

What are the current successes and challenges in biogas and bio-CNG across India?

What is the potential for biogas and bio-CNG over the next decade?

Shri. Subodh Kumar, Advisor, IOCL

Subodh Kumar is former Executive Director of Petrochemicals, Alternative Energy and Sustainable Development at Indian Oil Corporation. He has 37 years of experience in petroleum products, petrochemicals, alternative energy, Nuclear power, Storage batteries, biofuels and waste-to-energy plants. He conceived and launched the SATAT program with Ministry of Petroleum to promote Bio-Methane production and use in India. Significant experience and involvement in policy making for the biofuel sector. Led various projects in solar and wind energy and introduced solar plants at Indian Oil retail outlets stations across India. Recognized Expert in bio-fuels and green initiatives by the Ministry of Petroleum. Qualified as B-Tech (electrical engineering) from IIT-BHU and MBA from MDI Gurugram.



Industry:-

Global overview of biogas and biomethane, technologies, feedstocks and policies?

What are the key policy building blocks necessary to support biogas and biomethane?

Which biogas and biomethane technologies have been most successful globally?

Charlotte Morton, World Biogas Association Chief Executive

A practising lawyer for 10 years, Charlotte Morton studied for her MBA at London Business School before setting up a car club business. Asked to establish the business side of ADBA in 2009, she saw the potential of an industry that can deliver huge potential and value to the UK. Given the even bigger global potential, which must be achieved if the Paris Climate Change targets and UN Sustainable Development Goals are to be met, Charlotte played a pivotal role in establishing the World Biogas Association in 2016 to promote and increase the rate of uptake of biogas globally. Charlotte is also on the board of Green Gas Trading Ltd, which runs the Biomethane Certification Scheme.



Sweden:-

How did Sweden achieve 95% biogas in its gas vehicle fleet?

What policy implementation lessons did Sweden learn?

Professor Mats Eklund, Director, Biogas Research Centre, Linköping University

Mats Eklund is professor in environmental technology and management and scientific leader of Biogas Research Center at Linköping university, Sweden.

He holds a PhD from the multidisciplinary research school of Water & Environmental Studies at Linköping University and is a professor at the technical faculty there since 2007. He is a research leader for the group “Industrial and Urban symbiosis” and founder of the transdisciplinary, triple-helix center of excellence Biogas Research Center. He is also initiator/founder of the strategic collaboration between Tekniska Verken and Linköping university called Industrial Ecology research program which has been in operation for the last ten years. Other strategic collaboration partners include Stena Metall, E.ON and Lantmännen. He has supervised more than 50 Master theses, ten PhD-candidates to their degree and authored about fifty scientific papers on analysis, development and dissemination of sustainable solutions.



Italy –

What policies has Italy used to support biogas use for electricity, transport and heat?

What has been the result in Italy in terms of uptake, technologies used and feedstocks used?

What lessons has Italy learned?

Alessandro Pellini, Senior energy expert, Statistics and Sustainability, Gestore Servizi Energetici

Environmental economist and expert in renewable energy and energy efficiency.

During the university course in Environmental Economics and after the graduation, he worked for 7 years as a consultant in the special and hazardous wastes treatment field, supporting companies in fulfilling all the requirements to be compliant with the national and local environmental laws and regulations.

In 2010 he had an experience as trainee for 4 months at the Permanent Representation of Italy to the EU in Brussels, following the works of the Environment Council (ENV)

He works since 2011 at GSE S.P.A. in the studies area, implementing analyses concerning in particular the socio economic aspects of the renewable energy and energy efficiency sectors; he also collaborates with the Ministry of Economic development in carrying out Plans, Programs and Strategies. Among the other things, in 2018 and 2019 he collaborated to the drafting of the Italian Integrated National Energy and Climate Plan (NECP), with a special focus on the socio economic impacts of the Plan itself.



Thailand:–

How did Thailand use declining capital cost incentives to support biogas development for both livestock and the agri-food sector?

How did Thailand's biogas industry adapt European technology to work effectively in Thailand's climate?

What role do current environmental regulations play in driving biogas development?

Prof. Pruk Aggarangsri, Director of the Energy Research and Development Institute, Chiang Mai University

Dr. Pruk Aggarangsri is currently the director of Energy Research and Development Institute- Nakornping, Chiang Mai University and Assistance Professor in Mechanical Engineering Chiang Mai University, Thailand. He has a wide scope of expertise in renewable energy, wastewater treatment, numerical modeling, simulation and analysis and smart city environment management. For the past 14 years, he has overseen more than 200 biogas / biomethane projects supported by Thailand Ministry of Energy and private sectors. Dr. Pruk have had crucial roles in engineering of many biogas constructions projects and conducted more than 40 clean energy technical training workshops. Dr. Pruk is the co-author of the book Biomethane: Production and Applications and many renewable energy publications. He also plays an important role in driving Chiang Mai University's Smart City-Clean Energy Project aiming to initiate sustainable development for communities around the world.



Observations –

Sh. Shantanu Gupta (confirmed), Chief General Manager I/C (Alternate Energy & Sustainable Development), IOCL

Shri Santanu Gupta is working as Chief General Manager I/C (Alternate Energy & Sustainable Development) at IndianOil Corporation Limited. He has over 30 years experience in the field of Petroleum Marketing both in India and Africa, Logistics & Supply Chain management, Bio fuel Policy implementation, Alternate Energy and Sustainable Development. A Post-Graduate in Business Management from IIM, Calcutta, Shri Gupta had completed his graduation in engineering from Indian Institute of Engineering Science and Technology, Calcutta (erstwhile BE College).

In his present assignment, he is actively involved in increasing the portfolio of IndianOil in the areas of Solar, Wind, Nuclear, Bio-fuels, Bio-gas, waste to fuel etc along with planning and monitoring sustainable development and climate change mitigation & adaptation activities. He has been instrumental in IndianOil's foray in alternative fuels like production of ethanol from ligno-cellulosic bio-mass sources, production of Bio-CNG (CBG) under SATAT, 1G & 2G Ethanol from grains & various waste streams and exploring opportunities in electric mobility towards setting up charging stations and battery manufacturing facilities, Waste to Energy initiatives for converting MSW into CBG/Power/H2 etc.. He has also been a pioneer in implementation of E-10 and Bio-diesel blended HSD across the country in line with National Bio-fuel Policy. He is member of various committees with Government and Industrial conglomerates and regular speaker at seminars/conferences across the Globe. His paper on Used Cooking Oil based Bio - Diesel was published in US journal and attracted attention of large number of enthusiasts.



Moderator

Mr Jeremy Moorhouse, Bioenergy Analyst, International Energy Agency

Jeremy Moorhouse is a Bioenergy Analyst at the International Energy Agency (IEA). He joined the IEA in November, 2020. He is responsible for developing the IEA's mid-term biofuels and bioenergy forecasts and contributes to bioenergy related work across the Agency. He has 15 years of experience developing program strategies and objectives, analysing energy systems, managing teams and collaborating with industry and governments to develop climate and renewable energy policy. He holds a Masters of Resource and Environmental Management from Simon Fraser University.



Session 2: MSW-to-energy – successful deployment policies and technologies

India –

What is the current status of MSW-to-energy use and policies in India?

What are the current successes and challenges of MSW-to-energy across India?

What is the potential for MSW-to-energy over the next decade?

Dr. Shyamala Mani, Senior Advisor, Centre for Environmental Health, Public Health Foundation of India (PHFI)

Dr. Shyamala Mani, Sr. Advisor, WASH and Waste Management, Public Health Foundation of India (PHFI) since 2018 retired as Professor from the National Institute of Urban Affairs (NIUA), New Delhi. Some of the projects completed at PHFI include Pictorial Guide for Healthcare Waste Management including home healthcare waste during normal and COVID times with CPCB supported by HCWH; Climate Resilient Primary Health Centres supported by NCDC; book chapters on Controlling Dengue, sustainable WASH and Biomedical Waste Management besides municipal solid waste and electronic waste management. At NIUA, she completed projects such as Swachh Bharat Mission Capacity Building for ULBs as its Team Leader, Master Plan Delhi 2041 as its sector advisor for Solid Waste Management, Urban Climate Change Resilience as a Co-PI besides Solar Street Lighting Project. She was Editor of Urban India, NIUA's journal for two years and participated in international conferences and seminars. She is an executive committee member of the Climate Centre for Cities of Ministry of Housing and Urban Affairs. While at CEE from 1987-2012 (25 years), she set up the Waste and Resource Management group and was its Programme Director until she left CEE in 2012 to join NIUA. She set up a model Common Biomedical waste Appropriate Management Plant (CHAMP) at Kalburgi in Karnataka and several integrated waste management and zero waste centres in different parts of South Asia. She has been instrumental in research and policy in different aspects of Municipal Solid waste, Biomedical waste, Plastic waste, E-waste and Hazardous waste. Along with colleagues and experts in developing countries in South America, Africa and Asia, she wrote in and edited a book 'Municipal Solid Waste Management Energy Conversion in Developing Countries – Technologies, Best Practices, Challenges and Policy' published by Elsevier.



Industry perspective –

What are the global trends in new waste-to-energy technologies globally?

What are the potential technical solutions for thermal treatment of MSW in emerging economies?

Jussi Orhanen, Business Development Manager, Valmet

Mr Orhanen is presently working as a business development specialist in Valmet. He has over 30 years of experience in energy sector in general management, technology and innovation management, sales, engineering and R&D. After leading Valmet in Indonesia for several years, he has recently been working in developing new energy and WtE-related businesses and partnerships for Valmet in several Asian countries. Solutions for coal phase-out and high-efficient energy recovery from different waste streams are forming the majority of his present assignments.

Valmet is a leading supplier of process technologies, services and automation to pulp, paper and energy industries. Valmet solutions are well applicable for the biomass and waste-to-energy projects also in India.



Spain –

What policies have supported the development of waste-to-energy in Spain?

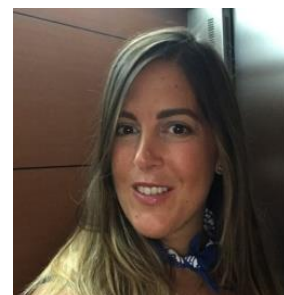
Why did the Gipuzkoa facility choose both organic and thermal treatment in one facility?

Nagore Peñalva Bengoa, Program Director, GHK

She has extensive experience in many different types of energy projects: energy recovery from MSW, combined cycles, biomass, solar thermal (both Parabolic through technology and central tower technology), etc.

Until 2016 she worked in the Spanish engineering company “SENER Ingeniería y Sistemas” in many different energy projects where cutting-edge technology was used.

Since then and until now she is currently leading the project management of GHK (company that manages the municipal solid waste of Gipuzkoa in the north of Spain) where they have recently built and started the operation of new and advanced plants for energy recovery from MSW and biomethanation from selectively collected organic MSW.



Chile –

How did the energy and environment ministries coordinate efforts to develop biogas facilities, specifically from landfills?

What value did international collaboration via the clean development mechanism and carbon credits bring to expanding biogas from landfills?

Dr. Gerardo Canales, Reciclo Organicos, Director at ImplementaSur

More than eighteen years of experience in climate change projects, green financing and sustainable development policies with a focus on waste management, circular economy and energy. He currently works on national and local level projects in Latin America and the Caribbean, Africa and Asia to identify, design and implement appropriate climate change mitigation and adaptation actions. Gerardo also teaches a post-graduate circular economy class at the Economy and Business Faculty of the Universidad de Chile to students in Chile and Peru. He has also participated in the development of GHG inventories, MRV systems, MRV protocols for specific technologies and analysis associated with transactions and governance.



In the past, Gerardo was Project Development Manager at the Renewable Energy Centre of the Government of Chile, Head of the Waste Management Unit in the Ministry of Environment and Technical Coordinator of the Second National Communication on Climate Change. He also worked at the Centre for Ecological Economics in New Zealand. Gerardo holds a Master's degree in Resource and Environmental Planning from the University of Massey, New Zealand, where he focused his work on input-output analysis, eco-efficiency and ecological economics. He is a Forestry Engineer from the Pontificia Universidad Católica de Chile and holds diplomas in environmental studies and public policies.

Observations

Dr DK Khare, former Advisor, MNRE

Dr Khare worked with Ministry of New and Renewable Energy, Government of India for more than three decades and actively associated with development of policies and programmes for promoting biomass and bioenergy-based sustainable energy solutions including production of gaseous fuel from organic waste.

Dr Khare was actively associated in promotion, development and deployment of biomass / bio-energy / Waste to Energy, especially Compressed Bio Gas (CBG) based energy programmes in the country. He was actively associated in handling complex waste to energy facilities while working in the Government of India and developed and successfully implemented Waste to Energy programme focusing on sustainable business models. He was instrument in promotion of small biomass-based energy access to provide unmet demand of energy in villages based on sustainable business model and how to overcome barriers associated in delivering solutions to the last mile users.



He was also actively involved in International Cooperation with developed and developing countries in Renewable Energy sector and served as “National Focal Point” of International Renewable Energy Agency (IRENA).

He is Ecologist by education and did doctorate and post doctorate from University of Delhi. He has published many scientific research papers besides author of many reports and other publications.

Moderator

Disha Agarwal, Programme Lead, Council on Energy, Environment and Water

Disha is currently involved with The Council’s research on India’s power sector legislation and institutional framework, evaluation of renewable energy policies/schemes, scaling up bioenergy applications, and economic recovery strategies post COVID-19. She has more than eight years of experience in policy and regulations to accelerate India’s renewable energy transition, providing technical assistance to stakeholders, facilitating policy dialogues and collaborations, grant-making, and raising philanthropic funds.

Prior to joining The Council, she was the Associate Director at Shakti Sustainable Energy Foundation leading national and state-level initiatives aimed at accelerating climate change mitigation and improving urban air quality. She has contributed to several initiatives and committees of the Government of India, including the State Rooftop Solar Attractiveness Index (SARAL) and wind potential re-assessment (Ministry of New and Renewable Energy), and India’s Renewable Electricity Roadmap 2030 and Financing 175 GW RE by 2022 (NITI Aayog). She has been an active contributor to strategically important efforts such as the India Energy Security Scenarios 2047 and the draft National Renewable Energy Bill.

Disha holds a Master of Technology degree in Renewable Energy Engineering and Management from TERI University in New Delhi, and Bachelor of Engineering in Computer Sciences from Apeejay College of Engineering, Gurgaon.



Session: Wrap up and Take aways

Links to India’s international collaboration efforts

Dr. Sangita Kasture, Department of Biotechnology, Bioenergy technologies and the Biofutures Platform

Dr. Sangita is associated with Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India since last 11 years. She has been promoting the innovations in bioenergy, environment biotechnology, and secondary agriculture through various R&D schemes of government of India. She is country focal point for multilateral programs like mission innovation and biofuture platform, related to clean energy innovation and for promoting Biofuel development towards low carbon bioeconomy. Dr. Sangita has played crucial role in setting up 5 Centres of Excellence for advance biofuel research, Public Private Partnership projects and Fellowship schemes for capacity building in bioenergy area. She is member of various scientific advisory committees and governing councils constituted by government of India.



Key take aways

Dr. Paolo Frankl, Head of Renewable Energy Division IEA

Paolo Frankl is Head of the Renewable Energy Division at the International Energy Agency (IEA), which he joined in 2007. Dr. Frankl leads the IEA's work on renewables, providing analysis and policy advice on technology, markets and system integration issues to 30 Member and eight Association countries.

A physicist by training, Dr. Frankl holds a Ph.D in energy and environmental technologies from the University of Rome and has been post-doc Marie Curie research fellow at INSEAD business school in Fontainebleau, France. Dr. Frankl has 30 years of experience working on renewable energy systems and markets, life cycle assessment and eco-labeling.



Key takeaways and next steps

Sh. Dinesh Jagdale, Joint Secretary MNRE