

ENERGY INSTITUTE HONG KONG (EIHK)

Chairman's Talk Series 2: Towards Carbon Neutrality

Date:

6 April 2022 (Wed)

Time:

7:00 to 8:30 p.m. (HKT)

Mode:

Zoom Webinar

Language:

English

Fee:

Free of Charge

CPD:

1.5 Hours

(An attendance certificate
will be issued.)

Registration

[Click here](#) or scan the QR code
on or before 1 April 2022



Successful applications will be
notified by email with the
webinar link.



Talk Series 2 – Renewable Energy

The Intergovernmental Panel on Climate Change (IPCC) recently published the second part of its Sixth Assessment Report, entitled "Climate Change 2022: Impacts, Adaptation and Vulnerability". The report warns that extreme climate events from unsustainable practices are already having a significant impact on people, ecosystems and infrastructure. To mitigate the effects of climate change, it is important to continue our efforts to reduce greenhouse gas emissions and aim towards reaching carbon neutrality as soon as possible, and the introduction of more renewable energy can be one of the ways to achieve it.

As part of the EIHK Chairman's Talk Series: Towards Carbon Neutrality, this webinar will gather engineers from both academia and industry to share their professional expertise in renewable energy, including a new biodiesel and the technical due diligence review of renewable energy power plants.

Organizer



Co-organizers



Physical and emission characteristics of the second generation biodiesel: Hydrotreated Vegetable Oils (HVO)

About the Presentation:

Biofuels have been used for decades as an alternative for motor fuels. Since biofuels are derived from bio-resources, they are considered as a renewable resource and can contribute to carbon mitigation. Bioethanol and biodiesel are two widely used biofuels in the world. Biodiesel is one of the best alternative fuels and additive for the diesel engine. Since its introduction, biodiesel production has undergone two generations of development. The first generation was produced when feedstock undergoes esterification to generate methyl esters (FAME). Though it can reduce some air pollutants, NO_x emissions may increase depending on the type of feedstock used. The compatibility and storage stability of FAME also causes some concerns. The second generation biodiesel—hydrotreated oils, which use vegetable oil (HVO) or animal fats for production, do not have the same detrimental effects of ester-type biodiesel fuels, like NO_x emissions, deposit formation, storage stability problems, more rapid aging of engine oil or poor cold properties. Literature results indicated that the environmental benefits of HVO exceed that of the ester-type biodiesel. Currently, EU and USA have adopted HVO which can be blended with diesel in amounts up to 100%. In early-2021, the emission characteristics of using HVO in Euro V vehicles in Hong Kong has been studied under chassis dynamometer. In this talk, the results of the tests will be discussed.

About the Speaker:

Prof. Dennis Y.C. Leung received his BEng (1982) and PhD (1988) from the Department of Mechanical Engineering at the University of Hong Kong. Professor Leung joined HKU Mechanical Engineering Department in 1993 as a lecturer and became a full professor in 2007 specializing in environmental pollution control and renewable & clean energy. He is the head of the department since February 2020. He has published more than 460 articles including 320+ peer reviewed top SCI journal papers. His current h-index is 78 and total citations are 36,000+. He is one of the top 1% highly cited scientists in the world in energy field since 2010 (Essential Science Indicators) and named as a Highly Cited Researcher by Clarivate Analytics from 2017 to 2021. Prof. Leung is a fellow member of HKIE, IMechE and Energy Institute.



Professor Dennis Y.C. Leung

Professor and Head of
Department of Mechanical
Engineering
The University of Hong Kong



Ir Jak Lau

Energy Specialist

**Ove Arup & Partners Hong Kong
Ltd**

Technical Due Diligence for Renewable Energy Investment

About the Presentation:

Climate change is becoming increasingly apparent, and so the introduction of renewable energy is now a key focus for many countries around the world. In light of this, investments into these types of assets in South-East Asia are rapidly growing in Asia like Vietnam, Taiwan, Japan and the Philippines.

This talk will provide an overview of technical due diligence process, which is an important step for any investor before buying or selling an asset that can be worth millions. This helps investors better understand the technical risks involved, and will assist them in making key decisions along the way. The technologies include solar PV, offshore wind and hydroturbine power plants, and due diligence will cover areas such as energy production assessments, equipment, offtaker agreements and financial model input parameters.

About the Speaker:

Jak is an Energy Specialist from the Energy Team at Ove Arup and Partners Hong Kong. He is a chartered mechanical engineer with a MEng in Aero-Mechanical Engineering from the University of Strathclyde in Scotland. With more 10+ years' of industry experience, he works primarily on transaction advisory projects for offshore wind farms and utility-scale solar PV power plant assets in Taiwan, Vietnam and Japan. He is also involved in emerging technologies such as hydrogen and battery storage.

Jak has 4 years of on-site construction experience as a site supervisor for multi-billion dollar mega-infrastructure projects in Hong Kong, including the Hong Kong-Zhuhai-Macau Bridge (HZMB) Link Road and the Harbour Area Treatment Scheme Stage 2A (HATS2A).