

# e-Conference Booklet

## THE SECOND CONFERENCE ON HYDROGEN ECONOMY 《第二屆氫能經濟會議》

28<sup>th</sup> October 2021 (Thursday) / 2:00pm ~ 5:30pm / Virtual Event via Zoom ®

### Co-Organizers:



**Hong Kong Green Strategy Alliance**

香港綠色策略聯盟

[www.hkgsa.org](http://www.hkgsa.org)



Hong Kong Environmental  
Industry Association  
香港環保產業協會

**Hong Kong Environmental Industry Association**

香港環保產業協會

[www.hkenvia.org](http://www.hkenvia.org)



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[www.starsf.org](http://www.starsf.org)

### Organizing Committee

Chairman: **Mr. Dominic YIN** (HKGSA)  
Members: **Ir Louis CHAN** (HKGSA)  
**Mr. Victor Li** (HKEnvIA)  
**Mr. Joshua CHAK** (STARS)  
**Dr. Ivan Li** (HAESCO)  
**Mr. Peter Ho** (HAESCO)  
**Mr. Ricky LAU** (HAESCO)

### Event Partner



An Official Event of  
**Eco Expo Asia 2021**



Language of Conference: **English** Fee: **Free of Charge**

Number of Participants: **450+**

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For any enquiry related to this Conference, please email to [events.hkgsa@gmail.com](mailto:events.hkgsa@gmail.com).

The Co-Organizers would respectfully acknowledge the invaluable assistance of the following organizations for their generous support and promotion efforts: **Thank you!**

## Supporting Organizations



**Asia America MultiTechnology Association**  
(Pearl River Delt Chapter)



**Asia Pacific Customer Service Consortium**



**HONG KONG WASTE MANAGEMENT ASSOCIATION**  
香港廢物管理學會



**Hong Kong Qualified Environmental Professionals**



**IEEE PES/PELS/IES/IAS Joint Chapter**



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Chairman

**Hong Kong Green Strategy Alliance (HKGSA)**

**Ir Prof Daniel M. CHENG** (鄭文聰 教授 工程師) *BBS, MH, JP*  
President

**Hong Kong Environmental Industry Association (HKEnvIA)**

**Mr. Colin TAM** (譚兆棟 先生)

Chairman

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Chairman

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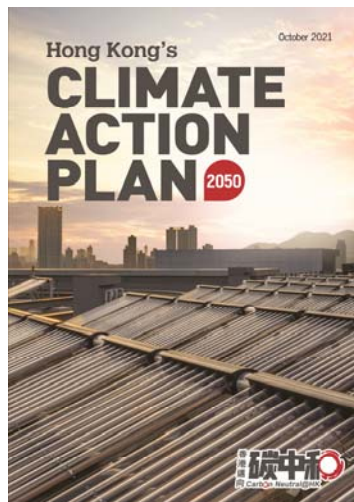
## Synopsis

Building on the success of the first “Hydrogen Economy Conference” in 2020, the Co-Organizers take great pleasure in organizing this “**Second Conference on Hydrogen Economy**” (HEC2021) this year, in good time with the recent announcement of “**Hong Kong's Climate Action Plan 2050**” just three weeks ago.

Apart from being a clean energy by itself, **Hydrogen (H<sub>2</sub>)** also contributes significantly towards achieving **Carbon Neutrality (碳中和)**. We are very pleased to have the **Hong Kong Trade Development Council (香港貿易發展局)** as our **Event Partner**, and we are delighted that our Conference this year is an **Official Event** of the **Eco Expo Asia 2021**.

We are also very honored to have **Mr. Wong Kam-sing (黃錦星先生) BBS, JP, Secretary for the Environment** of The Government of the HKSAR to be our **Guest of Honor**, delivering his **Keynote Speech** at our Conference. Furthermore, we are pleased to have four (4) world-renowned experts delivering their speeches, sharing their know-hows and insights, as well as the latest updates and policy directions at this event.

To learn more, you are encouraged to visit [www.climateready.gov.hk](http://www.climateready.gov.hk) for all the particulars of “**Hong Kong's Climate Action Plan 2050**”.



## Conference Rundown

Time	Activity
2:00 - 2:05	Conference Opening
2:05 - 2:25	<p>Welcome Speeches by Co-Organizers:</p> <p><b>Ir Dr the Hon LO Wai Kwok (盧偉國議員 博士 工程師)</b> GBS, MH, JP</p> <p><b>Ir Prof Daniel M. CHENG (鄭文聰 教授 工程師)</b> MH, JP</p> <p><b>Mr. Colin TAM (譚兆棟 先生)</b></p> <p><b>Mr. Johnny CHONG (莊寧 先生)</b></p>
2:25 - 2:30	<p>Conference Opening and Speaker Introduction by the Conference Moderator:</p> <p><b>Mr. Dominic YIN (尹德川 先生)</b></p>
2:30 - 2:45	<p>Keynote Speech by the Guest of Honor:</p> <p><b>"Hong Kong's Roadmap for Carbon Neutrality"</b></p> <p><b>Mr. Wong Kam-sing (黃錦星 先生)</b> GBS, JP</p> <p>Secretary for the Environment, Environment Bureau, HKSAR Government</p>
2:45 - 3:15	<p><b>"Status and Prospect of Hydrogen Industry in China"</b></p> <p><b>Ms. Hazel SHAO (邵詩洋 女士)</b>, Managing Director, Goolun Capital (古蓮資本) and Expert Director, Investment Association of China (中國投資協會)</p>
3:15 - 4:00	<p><b>"Catalysing Hydrogen Investment"</b></p> <p><b>Mr. Thomas BRIAULT</b>, Southeast Asia Energy Leader, Arup (奧雅納)</p>
4:00 - 4:40	<p><b>"Green Hydrogen for Combating Climate Change and UNDP China's Experience"</b></p> <p><b>Dr. ZHANG Wei Dong (張衛東 博士)</b>, Programme Director United Nations Development Program (UNDP) in China (聯合國開發計劃署)</p>
4:40 - 5:25	<p><b>"The Importance of Municipal Solid Waste in Hydrogen Economy"</b></p> <p><b>Mr. Samuel TAM (譚兆錚 先生)</b></p> <p>Chief Technology Officer, EnerWaste Asia Pacific Limited (城智循環有限公司)</p> <p>Former Chief China Representative, Fossil Energy Office, US Department of Energy</p>
5:25 - 5:30	Conference Closing by Moderator and MC



## Hong Kong Green Strategy Alliance 香港綠色策略聯盟

**Ir Dr the Hon LO Wai Kwok (盧偉國議員 博士 工程師) GBS, MH, JP**  
Chairman, Hong Kong Green Strategy Alliance

**Ir Dr the Hon Lo Wai Kwok** is Chairman of HKGSA and was also the President of the Hong Kong Institution of Engineers in 2007/08. WK is currently Member of the Legislative Council of the Hong Kong Special Administrative Region, representing the Engineering Functional Constituency. He also serves as Chairman of the Business and Professionals Alliance of Hong Kong, Honorary Chairman of the Hong Kong Quality Assurance Agency, member of the West Kowloon Cultural District Authority, member of the Board of Directors of the Airport Authority Hong Kong and Past President of the Hong Kong Professionals and Senior Executives Association, etc. He was Sha Tin District Councilor for many years. His expertise and areas of services cover infrastructure, town planning, environment, housing, technology, industry, education and community service, etc.



### **About Hong Kong Green Strategy Alliance**

Formed by a group of dedicated and enthusiastic environmental professionals in 2012, the **Hong Kong Green Strategy Alliance** (HKGSA) is a not-for-profit organization and a Society registered under the Societies Ordinance under Cap. 151 of the Laws of Hong Kong. The Theme of HKGSA is "綠色策略，共創未來".

HKGSA has been highly active in expressing its views and opinions via LegCo, public media and other channels, as well as joining hands with local and international professional counterparts in organizing seminars and conferences, with an aim to establish a strong platform for networking and knowledge-sharing.

Please visit us at [www.hkgsa.org](http://www.hkgsa.org) for more details of our numerous exciting events and functions, and our "**Membership**" section on how to join us, free-of-charge.



# Hong Kong Environmental Industry Association 香港環保產業協會

**Ir Prof Daniel M. CHENG (鄭文聰 教授 工程師) BBS, MH, JP**  
**President, Hong Kong Environmental Industry Association**



**Ir Professor Daniel M. Cheng BBS, MH, JP** is the Managing Director of Dunwell Technology (Holdings) Ltd., he is the Honorary President of Federation of Hong Kong Industries and the President of Hong Kong Environmental Industries Association, Board member of Business Environment Council and Deputy Chairman of Hong Kong Green Strategy Alliance, Member of HKX Advisory Committee. For HKSAR Government, he is also serving as Member of The Chief Executive's Council of Advisers on Innovation and Strategic Development, Member of the Committee on Innovation, Technology and Re-industrialisation, Member of Advisory Committee on Recycling Fund. Member of the Steering Committee on the Promotion of Electric Vehicles.

Prof Cheng was the member of Advisory Committee on Water Supplies (Yr 2016 -2020), the Council Member of Hong Kong Trade Development Council (Yr 2013 - 2017), the member of Hong Kong Productivity Council (Yr 2009–2015) and Vocational Training Council (Yr 2011–2015), he was also the Chairman of Federation of Hong Kong Industries (Yr 2015– 2017) and Past Chairman of Hong Kong Waste Management Association (Yr 2000–2001).

Since July 2015, Hong Kong Polytechnic University appointed Prof Cheng as Professor of Practice (Management). The University of Hong Kong (HKU) appointed Prof Cheng JP as Honorary Professor from Yr. 2016 - 2019 and currently Adjunct Professor in the Department of Industrial and Manufacturing Systems Engineering to recognize his continue academic and industrial contribution. Prof Cheng is a Fellow of Hong Kong Institute of Engineers and also Registered Professional Engineer. Prof Cheng graduated from California State Polytechnic University, Pomona, U.S.A. Department of Industrial Engineering in 1981. In February 2014, Prof Cheng was inducted into the "Hall of Fame" by the California Polytechnic University-Pomona, as the first Asian Inductee in the 75<sup>th</sup> Anniversary.

## **About Hong Kong Environmental Industry Association**

Since its establishment, Hong Kong Environmental Industry Association is dedicated to facilitate the interests and competitiveness of Hong Kong environmental industry, as well as build and maintain a better coordination and communication between environmental companies, government agencies, environmental-related business and organizations in Hong Kong, Mainland China and Overseas. The objectives of HKEnvIA are:

1. To formulate short and long term strategies and action plans to expand Hong Kong's business into environment-related industry;
2. To promote business and technical co-operation with potential partners in Hong Kong, Mainland China and overseas; To develop close network and relationship with the environment-related industries in Hong Kong, Mainland China and overseas;
3. To conduct market research and to establish databases related to environment-related industry;
4. To foster the communication, interaction and co-operation among members and to establish liaison with and convey the collective opinions to government bodies, industrial or trade organizations;
5. To serve the interest, build up the reputation, develop industry specific practices and standards, and promote the image and capabilities of Hong Kong's environment-related industry; and
6. To assist in upgrading the technology, engineering, and management skills of the industry so as to improve its performance and enhance its competitiveness in the international market.



## **Hong Kong Association of Energy Services Companies** **香港能源服務協會**

### **Mr. Colin TAM (譚兆棟 先生)**

**Chairman, Hong Kong Association of Energy Services Companies**

Colin Tam has over 44 years of experience in USA, Asia, and Middle East as an entrepreneur and C-Suite executive of international companies. He is the current chairman of two NGOs, HAESCO and IPPF. Colin was the founder and CEO of two successful regional energy companies which are now listed on the HK Stock Exchange by their new owners. Now, he is an active developer, strategic advisor, and investor in the following industries: renewable energy, waste to energy, and clean/low carbon technologies. He maintains an extensive network of contacts in the related business, government, and financial sectors. He was a member of the AMCHAM (HK) board and the Expert Committee of the China Investment Association (AIC).



### **About Hong Kong Association of Energy Services Companies**

The Hong Kong Association of Energy Service Companies (HAESCO) was founded in January 2008, and is a professional non-profit trade organisation with its headquarters in Hong Kong.

HAESCO places a high priority on making the association a home for the broadest spectrum of market participants, our membership includes a wide range of specialists from the energy and low carbon sector, including ESCO's, legal advisers, facilitators, consultants, financiers, and insurers. We aim to bring about a more liveable Asia by facilitating organisations to leverage the advantages of increased energy efficiency and the application of clean technologies. We will increase the resources and opportunities for Hong Kong-based businesses to carry out clean production and energy efficiency projects throughout Asia.

# S.T.A.R.S. Foundation 香港可持續科技研策基金會

**Mr. Johnny CHONG (莊寧 先生)**  
Chairman, S.T.A.R.S. Foundation (STARS)



Trained as engineer from The University of Warwick to organize resources to solve problems logically, effectively and being involved in technology transfer, business model development, M&A and IPO consultancy from year 2010, to discover innovative technology fusion with global partners and deliver commercially viable solutions.

Engaging in the research and development of semiconductor materials for 15 years, his specialty is photochemical semiconductor manufacturing, involving new materials, quantum dot applications, biodiesel and other fields such as new energy power plants in Japan.

Mr. Chong is currently the founding chairman of **S.T.A.R.S. Foundation (可持續科技研策基金會)** since 2010, an international non-government organization which focuses in developing technological transfer and innovative technology integration and providing commercially viable business model.

He has been giving speeches in Beijing, Hong Kong, UK and Israel, such as 2010 Shanghai World Expo London Pavilion (上海世博會倫敦館), 2010 Low-Carbon Economy Forum in Diaoyutai State Guesthouse (釣魚台國賓館).

## **About S.T.A.R.S. Foundation**

**S.T.A.R.S. Foundation** stands for

**S**ustainable-development

**T**echnology-fusion

**A**pplication-cultivation

**R**esearch-integration

**S**trategic-advancement

With the principles of sustainable development, **S.T.A.R.S. Foundation** supports and guides cutting-edge technology companies from all over the world to accelerate their growth on STARS' innovative platform.

STARS Foundation was formed to assist science researchers and innovators to bring about the widespread adoption of sustainable development via commercially viable processes and products for social impact and United Nations Sustainable Development Goals.



# GUEST OF HONOR

**Mr. Wong Kam-sing (黃錦星 先生) GBS, JP**

**Secretary for the Environment, The Government of the HKSAR**

**Mr. K.S. Wong** was born in 1963 and graduated from the Department of Architecture of the University of Hong Kong. He received further education on sustainable built environment in the postgraduate program from the University of British Columbia in Canada. He assumed the post of the Secretary for the Environment of the HKSAR Government on 1 July 2012.

As an architect by profession, Mr. Wong has been promoting sustainable built environment since 1990s. His designs and researches on sustainable built environment have won him various local, regional and international awards. He served as the founder Chairman of the Environment and Sustainable Development Committee of the Hong Kong Institute of Architects, the Chairman of the Professional Green Building Council and the Vice Chairman of the Hong Kong Green Building Council, and has contributed to the promotion and research of the standards and guidelines for sustainable built environment applicable to the high-density urban environment of Hong Kong.



## **Keynote Speech: “Hong Kong’s Roadmap for Carbon Neutrality”**

**Synopsis:** Hong Kong’s carbon emissions have been substantially reduced because of long efforts in combating climate change. In October 2021, the Environment Bureau further announced the "**Climate Action Plan 2050**". The major tasks are to achieve net-zero carbon emissions for electricity supply and transport, reduce energy consumption, and cease landfilling of municipal waste. An interdepartmental Carbon Neutrality Task Force has been set up to prepare the government transiting to green economy. As an energy carrier, hydrogen is a key element in transitioning our energy economy away from fossil fuel dependence towards one based on renewable and alternative forms of energy. Hong Kong possesses advantages in developing hydrogen economy, namely the abundance of talents, being part of the Greater Bay Area, and being a premier financing platform for green enterprises and projects.

*“Climate change is the defining challenge of our time. We have seen record-breaking summer heat, more extreme rainfall, super typhoons and rising sea levels in Hong Kong.*

*In late 2020, the Chief Executive of Hong Kong SAR made a pledge to achieve carbon neutrality before 2050. The “Hong Kong’s Climate Action Plan 2050” launched on 8th October 2021 set out proactive strategies and measures on deep decarbonization. To achieve carbon neutrality, our four major tasks are to go for net-zero carbon emissions for electricity supply and transport, to reduce our energy consumption, and to cease landfilling of municipal waste. The Government also allocates HK\$240 billion in the next 15 to 20 years to take forward various measures on climate change mitigation and adaptation. Electricity generation and transport are the two largest local carbon emission sources, recently accounting to more than 80% of Hong Kong’s carbon footprint.*

*Firstly, let us review the fuel mix of Hong Kong’s electricity generation. In 1997, Hong Kong stopped the construction of new coal-fired power plants. Since then, we have been gradually replacing coal with natural gas and zero-carbon sources for power generation. Largely due to this energy transition, our carbon emissions peaked in 2014. In 2020, our carbon emissions were about one-fifth below the baseline of 2005, with a per capita emission of about 4.5 tonnes per year, which had dropped by almost 30% from the peak level of 6.2 tonnes per capita in 2014.*

*Looking ahead, for the intermediate milestone up to 2035, we will cease using coal for daily electricity generation, which will be replaced by low to zero-carbon energy. We will have trial of new energy like hydrogen and closer collaboration with neighbouring areas to increase the share of zero-carbon electricity to 60-70% by 2035. Meanwhile, we target at increasing the share of renewable energy like solar, wind and waste-to-energy in the fuel mix for electricity generation to 7.5–10% by 2035.*

*Secondly, we launched Hong Kong’s first roadmap on popularization of electric vehicles (EV) in March 2021. It set the target to ban the new registration of fuel-propelled private cars including hybrid vehicles in 2035 or earlier, and to achieve zero vehicular emissions before 2050. The roadmap not only helps further enhance the air quality in Hong Kong, but also supports our pledge towards carbon neutrality.*

*While battery EVs are currently the most popular in Hong Kong, the Hong Kong SAR Government also prepares for other new energy vehicles such as hydrogen fuel cell vehicles. As indicated in the “Hong Kong Roadmap on Popularization of Electric Vehicles”, we have already set up the Carbon Neutrality Task Force made up of 40 civil servants from 6 different departments to study various new decarbonisation technologies and prepare the Government transiting to zero-carbon economy. The latest climate action plan further announced that Hong Kong will test out hydrogen fuel cell electric buses and heavy vehicles within 3 years.*

*Overall, moving towards carbon neutrality can bring ample and diverse development opportunities, enhance Hong Kong’s competitiveness and support sustainable development, while there are various challenges. For instance, the transformation process demands for interdisciplinary/interdepartmental collaboration, innovation and technology, and investment and talent.*

*With respect to these three “I”s, I share my latest thinking. Firstly, the “Hong Kong’s Climate Action Plan 2050” manifests the joint efforts of various government bureaux and departments. The recently established Carbon Neutrality Task Force involving colleagues from various departments is an example. According to our plan, we are also going to set up an advisory committee dedicated to climate actions, which will involve stakeholders from various sectors, potentially including those in the new energy sector.*

*Secondly, net-zero carbon emissions require a fundamental change in the way we produce and use energy. Transitioning our energy economy away from fossil fuel dependence towards one based on renewable and alternative forms of energy requires innovative solutions for energy storage, in which the role of hydrogen has promising potential. The intermittency and seasonal variation of solar and wind power leads to a mismatch between energy supply and demand, which will intensify as we decrease our dependence on traditional gas and coal-powered generators. Hydrogen is identified as one of the potential energy carriers for future energy supply which can help resolve the limitation for renewable energy production.*

*In addition, the development of the Greater Bay Area is accorded the status of key strategic planning in China's development blueprint, having great significance in the country's implementation of innovation-driven development and commitment to reforming and opening-up. The GBA cities like Foshan have proposed hydrogen economy development plans. Hong Kong will seize the GBA opportunity on this kind of innovation and technology.*

*Thirdly, I would say that never before in Hong Kong have we seen such a level of interest about hydrogen as we have today. In fact, new hydrogen economy blueprints have been released recently by various countries, including China and the European Union. The hydrogen economy marks a revolutionary change in the industrial framework – one that will replace coal and oil with hydrogen as a source of energy. Across all sectors – from hydrogen’s production, storage and transport to its utilization – new investment and jobs will be created. As an international financial centre, Hong Kong draws in world-leading financial and professional institutions, green assessment and certification organisations, as well as international investors. With these capabilities and advantages, we are well placed to develop our city into a regional green finance hub. By serving as a premier financing platform for green enterprises and projects, we have a significant role to play in addressing climate change, including the investment in hydrogen economy.*

*Last but not least, demand for talent is another challenge. Hong Kong has several world-class universities, well equipped and staffed with talented academics and professionals. Our universities have the capability to contribute in the development of decarbonisation technologies and green economy. To provide better and more focused funding support for the R&D and application of decarbonisation and green technologies, the Hong Kong SAR Government allocated HK\$200 million in last year’s Budget for setting up a new Green Tech Fund to serve this purpose. We received over 190 applications. The first batch of a total of eight projects have just been approved in the first round of applications, involving a total grant of around HK\$39 million. Two approved projects are related to green hydrogen production.*

*To achieve carbon neutrality, the whole community must work hand-in-hand. The Government, the private sector and the general public must take proactive actions together. I look forward to working with all parties, including the commercial and industrial sectors, professionals and the youth, as we embark on the deep decarbonisation journey.”*



## Conference Moderator and Chairman of the HEC2021 Organizing Committee

### Mr. Dominic YIN (尹德川 先生)

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協會網址：大中華持續發展協會 (中文) <https://gcsdc.net/> (中文)

教育：香港慈幼中學第一屆中學畢業 (1959)

Graduated in Salesian Secondary School (1959)

美國俄亥俄州州立大學企業管理及工業工程 (1959-1963)

Education: Industrial Management & Industrial Engineering (1959-1963)



### 現任 (Current) :

1. 香港環保節能有限公司：**董事長兼總裁** (環保及能源的投資，諮詢及資源整合)  
EESCO P2E2 Hong Kong Ltd.: Chairman & CEO  
(Investor, Consultant and Facilitator of Environmental & Energy Projects)
2. 三務企業有限公司：**董事長** (國際貿易及生產非標零部件)  
Trigo Enterprises Ltd.: Chairman  
(International Trading & Manufacturing of Non-Standard Parts & Components)
3. 天津市南開大學蓖麻工程科技有限公司：**副董事長**  
(全球唯一的蓖麻綠色潤滑油及飛機可降解航油生產者)  
Vice Chairman of Tianjin Nankai University Castor Engineering Science and Technology Co., Ltd. (Global Unique Castor Lubricant and airplane degradable jet fuel Producer)
4. 中華海外聯誼會兩屆**理事**及現任**名譽理事**  
Former Director of China Overseas Friendship Association till 2011 and Current Honorary Director
5. 香港友好協進會董事 (**創會及現任董事**)  
Board Member of Hong Kong Friendship Association since establishment
6. 香港環保產業協會有限公司**副主席**  
Vice-Chairman of Hong Kong Environmental Industry Association Limited (HKEnvIA)
7. 中國能源投資網**資深能源專家及高級顧問**  
Senior Energy Specialist and Senior Advisor of Energy R & D Center Under China Energy Investment Association
8. 可持續科技研策基金會國際總會**董事**  
International Board Director of S.T.A.R.S. Foundation
9. 香港綠色策略聯盟**副主席**  
Vice Chairman of Hong Kong Green Strategy Alliance (HKGSA)

10. 大中華持續發展協會**會長**  
President of Greater China Sustainable Development Council Ltd.
11. 香港能源服務協會**創會主席** (2008 年)及**榮譽主席**  
Founding Chairman (2008) and Honorary Chairman of Hong Kong Association of Energy Service Companies
12. 盈保先進科技有限公司**特邀顧問** (固體粉狀氫發明及生產者)  
Special Advisor of EPRO Advance Technology Ltd.  
(Solid State Powder Form Hydrogen Inventor and Producer)
13. 中國科技部中國生產力促進中心協會國際智慧城市研究院獨立香港院:**院長**  
President of Hong Kong Institute under CAPPCC International Smart City Research Institute of Ministry of Science & Technology of People's Republic of China
14. 廣州市智慧城市發展促進會**終身名譽主席**  
Life Honorable Chairman of Guangzhou Smart City Development Association
15. 青島福創環境科技有限公司**顧問**(垃圾處理專業公司)  
Advisor of Qingdao Fu Chuang Environment Co., Ltd (MSW treatment)
16. 聯合國發展計劃署**碳中和顧問**  
Advisor of UNDP (Hydrogen & Circular Economy)

#### **前任 (Previous) :**

1. 中國人民政協成都委員會前任**委員**  
Former Director of Chengdu Committee of Chinese People's Political Consultative Conference
2. 中國海外聯誼會**首屆理事**  
Founding Director of China Overseas Friendship Association
3. 重慶市海外聯誼會前任**常務理事**  
Founder Executive Director of Chongqing Overseas Friendship Association since 1991
4. 深圳市節能協會兩屆前**理事長**及現任**名譽理事長**  
Ex-Chairman and current Honorary Chairman of Shenzhen Energy Saving Association
5. 中國全國工商聯合會環境服務業商會**發起人**  
Founder member & Director of Environment Service Association of China Commerce & Industry Association
6. 美國商會能源委員會前**主席** (2012-2013)  
Former Chairman of Energy Committee of American Chamber of Commerce in Hong Kong (2012-2013)
7. 能效與環保上海聯合體前任**名譽理事長兼首席顧問**  
Founder Honorary Chairman and The Chief Advisor of Shanghai Energy & Environment Coalition Council

8. 前任國資委/中國資源綜合利用協會能源資源綜合利用專業委員會**高級顧問**  
Former Advisor of China Association of Resource Comprehensive Utilization Energy Saving Cooperation Alliance
9. 前任中國能源研究會能效與投資評估專業委員會**榮譽顧問**  
Former Professional Honorary Consultant of China Energy Efficiency and Investment Research Organization
10. 前任中德環保集團**顧問** (至 2013)  
Former Advisor of Zhongde Environment Group (till 2013)
11. 香港港島青年商會**創會會長** (1967)  
Founding President of Island Junior Chamber of Commerce (1967)
12. 世界青年商會**參議員** No.8118  
JCI Senator No.8118
13. 中華民國全國工業總會**理事** (至 1984)  
Director of Industrial Federation of Republic of China (till 1984)
14. 台灣區螺絲同業公司**理事長** (1979-1984)  
Chairman of Taiwan Fasteners Industries Association (1979-1984)
15. 台灣區手工界同業公司**常務理事** (1979-1984)  
Executive of Taiwan Hand Tools Industries Association (1979-1984)
16. 香港工業總會**理事** (1965)  
General Committee member of Federation of Hong Kong Industries (1965)
17. 東華三院百週年**總理** (1970)  
Director of Tung Wah Group of Hospital (1970)
18. 香港中華廠商會**董事** (1968-1970)  
Director of Chinese Manufacturers Association of Hong Kong (1968-1970)
19. 中國治理荒漠化基金會創會**常務理事**  
Founding Executive Director of China Foundation for Desertification Control
20. 台灣新北市綠色能源產業聯盟**諮詢及技術顧問** (2013 年至 2016 年)  
Consulting and technical Advisor of "Green Industry Association of New Taipei City, Taiwan". (2013 to 2016)
21. 香港歐盟學術計劃城市創新系列講座**榮譽顧問** (2014 年 11 月開始)  
Honorary Advisor of EUAP Urban Innovations Programme Under European Union Academic Program, Hong Kong (Starting in September, 2014)
22. CINEV 在 2015 年 11 月於香港舉辦的“智慧城市中的智慧機動”論壇及展覽的**顧問**  
Advisor of "Smart Mobility in Smart City" Forum & Exhibition Under CINEV in November 2015 in Hong Kong.



# “Status and Prospect of Hydrogen Industry in China”

## Ms. Hazel SHAO Shiyang (邵詩洋 女士)

Managing Director (執行董事), **Goolun Capital** (古蓮股權投資基金管理(上海)有限公司)  
Expert Director (專家理事), **Investment Association of China** (中國投資協會能源投資委員會)  
Co-Founder, **Carbon X**  
Angel Investor, **Energy Blockchain Lab**  
Co-Chair of Renewable Committee / China Outreach Committee (可再生能源委員會聯席主席),  
**Independent Power Producers Forum (IPPF)** (獨立電力生產商協會)  
Executive Director (常務理事), **Beijing Green Finance Association** (北京綠色金融協會)  
董事/執行合夥人, 上海寶碳新能源環保科技有限公司  
首席執行官, 河南環境能源服務中心

**Hazel** (Shiyang) has held various positions related to climate change, green finance and investment at China Beijing Environmental Exchange (CBEEEX), Crystal Vision Energy Limited (CVE) and Goolun Capital. She has led the investment in both tech start-ups such as Energy Blockchain Lab, the first blockchain enabled energy fin-tech company in China, and alternative emissions trading market – she founded the first private placement carbon fund in China and exited with remarkable performance. She has also taken advisory roles for both government and private sectors, including participating in policy research of China’s pilot carbon trade program in selected regions and sectors, carbon finance scheme design and China market entry strategic consulting for SunCoke Energy (NYSE: SXC), Synthesis Energy Systems (NASDAQ: SES) and Solena Biofuels.



Apart from being a seasoned entrepreneur and investor, she is a co-author of "China's Pathway towards Emissions Trading Scheme: International Experience & China's Practices" (2010), "Study on International Carbon Fund" (2013), "Eco Capital" (2020), and has published several research papers or articles about energy and carbon market in well-known journals and newspapers. She is also a frequent speaker at various academic and business events all over the world.

She graduated from Wuhan University in Environmental Sciences in 2003, and then Peking University in Master of Environmental Management in 2007, and University of International Business & Economics in Master of Applied Finance in 2017. She is also an alumna of Galilee International Management Institute (2007 summer school on International Agriculture Business Management in Israel) and International Carbon Action Partnership (2011 summer school on Emissions Trading for Emerging Economies and Developing Countries in Madrid).

邵詩洋女士是資深能源環保專家，在碳交易、碳中和、清潔能源及綠色金融領域有多年從業經歷與投資實踐。她曾供職於香港環保節能投資公司、北京綠色交易所、Crystal Vision Energy Limited 等不同性質機構，參與創辦了古蓮資本、上海寶碳等知名企業。

邵女士曾參與了 Suncoke Energy (NYSE:SXC) 中國市場進入、SES (Nasdaq:SYMx) 定向增發、SunEdison (Nasdaq:GLBL) 資產並購等專案，並依託其在中國碳市場從業十多年的經驗和資源，主導發起了中國第一支私募結構化人民幣碳基金。

邵女士是武漢大學理學學士、北京大學環境管理碩士、對外經濟貿易大學應用金融碩士，曾在知名期刊、報紙發表文章 20 餘篇，參與了中國碳交易市場政策研究和頂層設計，著有《碳排放交易的中國道路：國際經驗與中國實踐》、《國際碳基金研究》等書。

### **About the Speech**

In her speech, Hazel will share her insights in the following key aspects and elements associated with Hydrogen as renewable and clean energy:

- Hydrogen used as fuel / chemical vs. Hydrogen used as energy
- Fuel Cell Vehicle (FCV) vs. Electrical Vehicle (EV)
- Renewable energy using Hydrogen and adaption in the Industry
- Challenges and Opportunities associated with Hydrogen energy

# “Catalysing Hydrogen Investment”

## Thomas Briault

Southeast Asia Energy Leader, Arup



Thomas Briault is an experienced and highly skilled advisor and chartered engineer with 20 years' experience in low carbon and sustainability solutions. He is currently working on modelling the Singapore electricity grid to develop plausible low carbon scenarios for the future. He is also leading studies into hydrogen import into Singapore and an energy storage

study for Singapore has worked on an extensive range energy policy and decarbonisation projects, from concept through to construction. He has extensive experience of leading and directing major, complex and business-critical projects, bringing strategic insight through his understanding of the policy and regulatory environment. He works with both private and public-sector clients all around the globe, designing integrated solutions to deliver against carbon, climate and environmental requirements.

Please visit <https://www.linkedin.com/in/thomas-briault-4b63204/> for more details about Mr. Briault.

### **About the Speech**

Thomas will present the findings of Arup's recent research with the **Global Infrastructure Investor Association** (GIIA) and his work on a large-scale hydrogen project which Arup are investing in. He will present the next steps to catalyse a hydrogen economy.

Further details on the subject research report can be found at

<https://www.arup.com/perspectives/publications/research/section/catalysing-hydrogen-investment>.



# “Green Hydrogen for Combating Climate Change and UNDP China’s Experience”

**Dr. ZHANG Wei Dong (張衛東 博士)**

Programme Director

**United Nations Development Program (UNDP, 聯合國開發計劃署) in China**

Currently serving as **Programme Manager** with UNDP China, Zhang Weidong is in charge of developing and implementing projects related to water resources management, sustainable livelihood, hydrogen economy, carbon emission reduction, and Climate Change adaptation / mitigation in partnership with both governments and private sectors.



In developing capacities for climate change in China, he has been involved in implementing projects in partnership with **National Development and Reform Commission (NDRC)** in developing the provincial climate change programmes and institutional arrangement; developing the provincial capacities in creating Greenhouse Gases inventories and registry system for emission trading system in China.

In promoting hydrogen economy in China, he has been involved in designing and implementing two phase of promoting the commercialization of Fuel-Cell Bus with funding from GEF and involving in the design and implementation of the 3<sup>rd</sup> phase of the FCV project; the UNDP first hydrogen economy pilot project, in which he leads the development of carbon trading methodologies; He is now advocating a shift to a Hydrogen Economy with hydrogen from renewable sources and eventually a Hydrogen Society in China.

In actively promoting UNDP Public-Private Partnership, he is leading a flagship programme in partnership with Ministry of Water Resources, Ministry of Commerce, and Coca-Cola Greater China in addressing water related issues in China, including climate change adaptation, ecosystem management, drinking water safety in rural regions; use of recycled water from urban sewage; sustainable agriculture through improving irrigation efficiency; reduction of non-point source pollution from agriculture.

Before officially joining UNDP in 2010, he served as Project Manager with State Forestry Administration in managing a 4-year project, i.e. *ADB/GEF Combating Land Degradation in China*; as the National Project Director of an FAO funded 13-year forestry project for combating land degradation. He also has one year working experience with WWF China Office as Forest coordinator for biodiversity conservation.

## 主要專長

在氣候變化適應與減緩、可再生能源替代、氫能經濟、碳交易、碳迴圈經濟、綠色礦山、土地退化、民生與康養、扶貧、南南合作各領域的 UNDP 專案設計、執行與評估；UNDP 專案立項前的社會、環境影響評價；需求評估；能力建設培訓；構建 PPP 公共私營夥伴關係等。

## 簡歷

張衛東現任聯合國開發計畫署能源環境處項目主任，主要負責的專案涉及水資源管理、可持續生計、生態康養、氫能經濟、碳迴圈經濟、綠色礦山及氣候變化適應與減緩相關的項目。

在提高中國氣候變化的能力方面，他參與實施了與國家發改委合作的省級應對氣候變化方案和機構建設專案；執行了編制省級溫室氣體排放清單和排放權交易登記系統的能力建設專案；

在氫能經濟方面，他參與設計並執行了與科技部合作的推動燃料電池汽車商業化的全球環境基金專案；設計執行了 UNDP 全球第一個氫能經濟示範城市專案，領導開發了氫能經濟中涉及的碳交易方法學。目前，正在積極宣導中國向氫能經濟乃至氫能社會的轉型。

他積極致力於推進聯合國開發計畫署公共—私營夥伴關係。他領導的由水利部、商務部和可口可樂大中華區參與的旗艦專案，一直在推動中國解決與水資源管理有關的問題，包括氣候變化適應、生態系統管理、農村飲水安全、城市中水利用、通過提高灌溉效率來實現的可持續農業及減少農業非點源污染等。

他也同時設計執行了推進中國生物質能可持續發展的有關項目。

在 2009 年加入聯合國開發計畫署之前，他曾先後擔任國家林業局專案經理，管理亞洲開發銀行/全球環境基金土地退化防治在中國和防治土地退化專案；曾任國家林業局三北局執行的、聯合國糧農組織援助的林業專案的國家項目主任。他也曾在世界自然基金會中國辦事處擔任過森林協調員，涉足生物多樣性保護工作。

## About the Speech

In addressing climate change, decarbonization and construction back to “better and green” nature, green Hydrogen as renewable energy is the best choice. Thanks to technological advancements, economically viable hydrogen generation systems and fuel cell technologies are becoming more available to the world, especially for development countries. UNDP China stands ready to help the development countries in its energy shift and shaping its Hydrogen economy by:

- (1) Knowledge sharing;
- (2) Capacity building and development; and
- (3) Forging its carbon market, which is an important and indispensable market incentive / driver.

# “The Importance of Municipal Solid Waste in Hydrogen Economy”

## Mr. Samuel TAM (譚兆錚 先生)

Chief Technology Officer, **EnerWaste Asia Pacific Limited** (城智循環有限公司)

Former Chief China Representative, Fossil Energy Office, **US Department of Energy** (US DoE)



**Mr. Samuel Tam** has over forty years of experience in R&D, pilot plant design and operation, engineering, business development, project management, and commercialization of technologies and projects related to climate change and the conversion of biomass, oil, natural gas, and coal to hydrogen, power, oil, liquid transportation fuels, and chemicals. Prior to joining EnerWaste Asia Pacific Limited, an Urban-Gateway Company in July 2021 as their Chief Technology Officer, Mr. Tam served as the China Chief Representative for the Office of Fossil Energy in U.S. Department of Energy from 2013 to 2018, assisting six groups of Chinese organizations in developing Carbon Capture, Utilization, and Storage (CCUS) demonstration projects jointly with various U.S. private

enterprises. Mr. Tam was also the Division Director of the DOE Advanced Energy Systems Division with an annual budget over US\$ 120MM. Over the years, Mr. Tam also held several senior management positions in private industry: Vice President of the Clean Fuels Practice in Nexant, a Bechtel-affiliated company; Technology Director in Headwaters for the development of commercial coal-to-liquid plant; lead process engineer in BP America and senior production engineer in Dow Chemical Company.

## **About the Speech**

Hydrogen has emerged as an important part of the clean energy mix needed to ensure a sustainable future because it addresses sectors that are difficult to decarbonize via electrification (e.g., aviation, shipping, long-distance trucking, fleet vehicles and concrete and steel manufacturing). However, most hydrogen is produced from fossil feedstocks, such as natural gas, oil and coal, which fundamentally are antithetical to a sustainable future without Carbon Capture, Storage and Utilization (CCUS) technology. Hydrogen produced via water electrolysis using renewable energy is a promising source of renewable hydrogen but is currently constrained by uninterrupted green power supply, cost, and water consumption could limit large-scale hydrogen production, especially in arid regions.

**EnerWaste Asia Pacific Limited** is an Urban-Gateway venture company that focuses on transforming waste to sustainable high value-add products, e.g., hydrogen and biofuels. Our approach is to leverage de-risked and disruptive technologies from global small and medium enterprises (SMEs) and commercialize them in Greater China and selected Asia Pacific countries. We have partnered with Omni Conversion Technologies Inc. to convert municipal solid waste (MSW) into an environmentally friendly, ultra-clean synthetic gas for further conversion to green hydrogen. This paper demonstrates benefit of utilizing waste as a key driver of the hydrogen economy.



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**seeing you again**  
**at our future events!**