

## Build4Asia Conference 2016

### Closing Remarks by Ir Frank CHAN JP

#### The Trillion Tonne

The population of the world today has exceeded 7.4 billion and we have about 200,000 more people than yesterday. The world population is projected to reach 9.7 billion by 2050 according to the United Nations. In pace with the growing population and human activities, the International Energy Agency expects a 50% rise in global energy consumption by 2050. This is indeed a huge challenge against the backdrop to reduce global carbon emissions by 70% by 2050, not to mention the goal to further reduce to near zero by the end of the century. The challenge is even greater for Asia given its pace of urbanization and its 54% global population share by 2050.

Article 2 of the Paris Agreement highlights the objective to holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change. While many nations have now adopted the limits as their goal, the Oxford University pointed out that the atmosphere could only take a trillion tonnes of carbon emissions before reaching the 2°C limit. The task is daunting because human activity has already exhausted more than 60% of that quota since the Industrial Revolution. If carbon emissions continue at a trend resembling the past 20 years, the 1 trillionth metric ton of carbon emissions will be done in 2038, just 22 years from now! Isn't that alarming!

## Global Effort

196 nations across the globe have pledged to reach global peaking of greenhouse gas emissions as soon as possible, and to undertake rapid reductions thereafter. These countries will meet every 5 years to set more ambitious targets and review the progress of carbon emission reduction. Recognizing that carbon emission reduction would be more challenging for the developing countries, 100 billion USD will be contributed by developed countries every year until 2025 to support carbon emission reduction in developing countries.

As of today, over 175 countries have signed the Paris Agreement and 162 countries have submitted their quantitative commitments on carbon emission reduction in the next two decades. To name a few, the United States has committed to reduce carbon emissions by one-fourth its 2005 level by 2025. Japan has pledged to reduce 1 billion tonne of CO<sub>2</sub> by 2030. China has pledged to reach national peaking on or before 2030 and to undertake reductions thereafter. Back at home in Hong Kong, the Government has set out in the "Energy Saving Plan 2025+" the time line and target, as well as key actions to be taken in the ensuing years until 2025. It is a road map for Hong Kong and an action plan for Hong Kong people to reduce energy intensity by 40%. The HKSAR Government has taken climate change very seriously. Having the Chief Secretary for Administration to lead the Steering Committee on Climate Change is a clear demonstration of the Government's commitment and determination.

## Carbon Capture

While we are talking about reduction of carbon emissions, researchers around the world are looking for technologies and methodologies to reduce the carbon dioxide level in the atmosphere. Last year, the George Washington University had successfully converted carbon dioxide into nano-carbon fibers which could be used as building materials. Professor Licht said that if the electrochemical process was powered by renewable energy, the result would be a net removal of carbon dioxide from the atmosphere. The research team calculated that given an area less than 10 percent of the size of the Sahara Desert, the method could remove enough carbon dioxide to make global atmospheric levels back to pre-industrial levels within 10 years.

At the University of Texas at Arlington, a team of chemists and engineers have proven that concentrated light, heat and high pressures could convert carbon dioxide and water directly into useable liquid hydrocarbon fuels. Professor Dennis remarked that the “Solar photo-thermo-chemical alkane reverse combustion” process could potentially help limit global warming by removing carbon dioxide from the atmosphere to make renewal fuel.

## Conclusion

However, before all these technologies and methodologies for carbon capture or carbon conversion become viable in all respects, we must carry on with the mission to reduce carbon emissions by all means. With the continuous advancement in technology and the commitment of every one on this planet Earth, I am hopeful that the global community could overcome the one trillion tonne challenge.

In the past two days, the Build4Asia Conference has successfully gathered experts and practitioners from the trade and the industry to address this global issue. Distinguished speakers have shared with us engineering best practices and technologies to achieve carbon emission reduction. Together we have learnt a lot in respect of waste management, lift energy performance, EV charging network, green building labelling, energy management certification, intelligent lighting, internet-of-things, energy and information correlation as well as many innovative ideas. Ladies and gentlemen, thank you once again for your participation and sharing. For those from overseas, thank you for coming all the way and for your contribution to the local economy. We look forward to seeing you again soon. Thank you.

5 May 2016