

**For discussion  
on 27 May 2019**

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**Promotion of Energy Efficiency and Conservation as well as  
Renewable Energy through Innovation and Technology**

**PURPOSE**

This paper briefs Members on the Government's efforts to promote energy efficiency and conservation ("EE&C") as well as renewable energy ("RE") through innovation and technology ("I&T").

**POLICY BACKGROUND**

2. In 2015, the Government unveiled the Energy Saving Plan for Hong Kong's Built Environment 2015~2025+, which set a target of reducing energy intensity by 40% by 2025. Thereafter, the Paris Agreement, which was signed by countries around the world and applicable to Hong Kong, came into effect. The Government also published the Hong Kong's Climate Action Plan 2030+, with the target that by 2030, the territory's carbon intensity, compared with the 2005 level, would be reduced by 65% to 70%. This had reaffirmed our strategy of energy conservation and emission reduction. At present, Hong Kong consumes over 280 000 terajoules of energy per year. The overall energy intensity has decreased by more than 28% compared with 2005. However, the Government will continue to work towards the above targets by implementing a number of measures, including:

- (i) taking the lead in saving energy and developing green buildings;
- (ii) raising statutory standards;
- (iii) providing tax incentives;
- (iv) promoting retro-commissioning in existing buildings;
- (v) constructing district cooling systems;
- (vi) expanding the Mandatory Energy Efficiency Labelling Scheme; and
- (vii) strengthening public engagement and education.

3. In view that promotion of I&T can help combat climate change, the Electrical and Mechanical Services Department (“EMSD”) has all along been collaborating with the academia and the trade to promote I&T related to electrical and mechanical services (including EE&C and RE). Based on these experiences, the EMSD hopes to strengthen its role as facilitator and promoter, in particular to raise stakeholders’ awareness of the latest I&T solutions and encourage them to adopt these solutions. The specific work of the EMSD in this regard is detailed in the ensuing paragraphs.

## **STRENGTHENING PROMOTION OF I&T**

### E&M InnoPortal

4. The EMSD launched the E&M InnoPortal in June 2018. This platform lists the service needs of various government departments, public organisations and the E&M trade. Through an automatic notification function of the platform, universities and start-ups will be informed of the potential engagement or procurement opportunities, and can then propose related I&T solutions for matching.

5. The EMSD will carry out field trials for the matched cases to assess whether the solutions can indeed address the service needs. The trials, in the form of prototype testing, pilot projects, etc., will take place in the EMSD Headquarters or other suitable government premises. Upon completion of these tests, the EMSD will upload validated performance reports onto the E&M InnoPortal for reference of the public.

6. After a year’s active promotion (including through media briefings, seminars and outreaching), the E&M InnoPortal has garnered considerable attention and support from stakeholders, and has collected more than 140 service needs and 95 solutions, covering a wide range of innovative technologies. Trials on over 50 of these solutions are being conducted, 11 of which are on EE&C and RE. Through the E&M InnoPortal, the Government and related organisations have the opportunity to meet their specific needs and enhance their services with new technologies, while the universities or start-ups can make use of the actual operation data and experience gained to improve their solutions. This is mutually beneficial. Upon completion of the trial runs, the universities or start-ups will receive objective performance reports from the EMSD; other stakeholders may also make reference to the reports and

decide whether to try or adopt these solutions, which helps promote their wider application.

### Establishing Strategic Partnership

7. To effectively match the I&T needs with potential solutions, the EMSD is actively exploring opportunities to establish a strategic partnership with major I&T solution providers in Hong Kong through a Memorandum of Co-operation (“MoC”).

8. Currently, five local universities<sup>1</sup> and seven research organisations<sup>2</sup> have expressed interest in signing the MoC with the EMSD. They will become I&T strategic partners of the EMSD, and will explore and develop solutions to address the I&T needs on the E&M InnoPortal. Moreover, they will be invited to upload I&T solutions onto the E&M InnoPortal, co-organise I&T seminars to introduce their I&T solutions to Bureaux and Departments (“B&Ds”), and showcase the I&T projects they jointly carried out with the EMSD in the dedicated exhibition zone, the E&M InnoZone, in the EMSD Headquarters. The MoC will be signed in June 2019.

### Green I&T Day

9. The EMSD has also been fostering collaboration with the E&M trade (such as organising technology seminars and I&T sharing sessions<sup>3</sup>) to develop I&T solutions which can enhance the operational efficiency in delivering services and the energy performance of government premises.

10. This year, the Environment Bureau (“ENB”) and the EMSD will

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1 The Chinese University of Hong Kong, City University of Hong Kong, The Hong Kong Polytechnic University, The University of Hong Kong and The Hong Kong University of Science and Technology.

2 Hong Kong Science and Technology Parks Corporation (“HKSTP”), Hong Kong Cyberport Management Company Limited, Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited), Logistics and Supply Chain MultiTech R&D Centre, Automotive Parts and Accessory Systems R&D Centre, and Nano and Advanced Materials Institute Limited.

3 In 2016, the EMSD organised a series of seven industry technology seminars and three I&T sharing sessions. In collaboration with the HKSTP, the EMSD organised two I&T days in December 2017 and June 2018, in which start-ups from the HKSTP’s Incu-Tech Programme were invited to introduce their I&T solutions to the EMSD as well as other government departments and public bodies, with a view to exploring collaboration and trial application of the I&T solutions.

organise a thematic Green I&T Day to showcase the I&T achievements in relation to EE&C and RE in Hong Kong, and to encourage the wider and faster adoption of such solutions. The Green I&T Day is tentatively scheduled to be held on 6 August 2019 in the Hong Kong Science Park, with a target participation of 600 guests, including those from B&Ds and public bodies, as well as local universities, the I&T sector and the E&M trade.

#### Pro-innovation Procurement Policy

11. In support of the pro-innovation government procurement policy which came into effect on 1 April 2019, the EMSD will provide one-stop technical support to B&Ds, including identification of potential solutions for E&M services, undertaking trial projects and carrying out the associated measurement and verification work. In this connection, the EMSD will make use of the E&M InnoPortal to help identify potential solutions in the market to meet I&T needs of B&Ds.

#### **CONCLUSION AND WAY FORWARD**

12. The ENB and the EMSD will continue identifying suitable I&T solutions to help further reduce the energy consumption of government premises. Members are invited to note the efforts of the Government in this regard.

**Environment Bureau  
Electrical and Mechanical Services Department  
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