JOINT MEDIA RELEASE

BCA, JTC AND NCCS JOINTLY LAUNCH SINGAPORE'S FIRST CLIMATE-FOCUSED HACKATHON FOR GREEN SOLUTIONS

- *Funding and test-bed opportunities are available for teams with promising solutions to further develop their ideas*

1. **Singapore, 12 August 2016** – The Building and Construction Authority (BCA), JTC and National Climate Change Secretariat (NCCS), Strategy Group, Prime Minister's Office are crowd-sourcing innovative and cost-effective green building solutions to mitigate climate change at Singapore's first climate-focused hackathon, the Climate Innovation Challenge 2016 (CIC). Held at JTC LaunchPad @ one-north over a period of three days from 12 to 14 August 2016, some 140 entrepreneurs, designers, makers and hackers will brainstorm and propose new ideas that will help enhance innovation and sustainability in non-residential buildings and outdoor spaces. The winning teams stand to win over $20,000 in cash prizes.

2. This hackathon is in line with the national agenda to actively promote and drive the green building movement, and to achieve the nation-wide target of greening 80% of all buildings in Singapore by 2030. The greening of Singapore's buildings is a key component of the nation's Climate Action Plan, which amongst others, seeks to reduce its emissions intensity[1] by 36% from 2005 levels by 2030.

3. Dr John Keung, Chief Executive Officer, BCA said: "This hackathon is a useful platform for us to crowd-source sustainability ideas from people like you and me, who are concerned enough about climate change and have decided to take action. We want to reach out to as many people as possible to gather innovative green building solutions. BCA will facilitate the test-bedding of promising solutions where applicable and introduce new innovative green solutions to the industry on a larger scale. I strongly urge the

[1] Emissions Intensity is defined as greenhouse gas emissions per $GDP

winners of this hackathon to tap on BCA's R&D grants and other available funding to bring these solutions to mass implementation."

4. JTC, co-organiser of CIC 2016, is looking for innovative building and estate management solutions that can be implemented to improve energy efficiency and raise productivity. Apart from this, JTC recognises that the incorporation of work, live, play and learn elements in its next generation mixed used estates will require innovative solutions to enable these diverse elements to co-exist sustainably.

5. "JTC has been making available our buildings and estates to test new innovations in sustainable urban solutions. Innovations that are proven to be effective and useful will be deployed in more buildings and estates, thus helping creators of these solutions reduce the time required to commercialise their products, while improving the way we design, build and manage our facilities at the same time. This collaboration with BCA and NCCS will generate more solutions that enhance innovation, sustainability and productivity for industrial infrastructure projects," said Mr Png Cheong Boon, Chief Executive Officer, JTC.

6. The hackathon is also part of the Government's efforts to spur low carbon innovation and encourage collective climate action, both of which are key pillars of Singapore's Climate Action Plan. "Our 2030 mitigation target will challenge us to better manage energy demand and raise energy efficiency. At the same time, it is also an opportunity, for individuals and enterprises to innovate and develop green solutions using smart technologies. This hackathon brings the challenge and the opportunity to our designers, makers and entrepreneurs, and we look forward to great ideas from them", said Mr Tan Kok Yam, Deputy Secretary (Strategy Group), Prime Minister's Office.

7. During the Singapore Green Building Week (SGBW) 2016, the winners of CIC will receive their prizes from Mr Desmond Lee, Senior Minister of State for Home Affairs and National Development at the International Green Building Conference (IGBC) Welcome Reception at the Marina Bay Sands Expo and Convention Centre on 7 September 2016. The winning ideas will also be on exhibit at Marina Bay Sands Level 3 from 7 to 9 September 2016 and at the Green Living Expo from 9 to 11 September 2016.

8. Funding and test-bed opportunities are available for teams with promising solutions to further develop their ideas:

Funding and test-bedding opportunities	Summary
a. BCA 2-stage Innovation Grant (i-Grant)	The grant aims to help the entire value chain of the building and construction industry to conduct smaller scale R&D projects with near-term commercialisation potential. iGrant has been extended to 31 October 2020 with a total available grant of $3 million.
b. JTC's Innovation Opportunities	JTC makes its buildings and estates available island-wide as a living lab for companies to test-bed their ideas and technologies, helping them reduce time required to commercialise their products.

Enclosed:

Annex A – Fact sheet on Challenge Statements

Jointly Issued by the BCA, JTC and NCCS on 12 August 2016

About Building and Construction Authority

The Building and Construction Authority (BCA) of Singapore champions the development of an excellent built environment for Singapore. BCA's mission is to shape a safe, high quality, sustainable and friendly built environment, as these are four key elements where BCA has a significant influence. In doing so, it aims to differentiate Singapore's built environment from those of other cities and contribute to a better quality of life for everyone in Singapore. Hence, its vision is to have "a future-ready built environment for Singapore". Together with its education arm, the BCA Academy, BCA works closely with its industry partners to develop skills and expertise that help shape a future-ready built environment for Singapore. For more information, visit www.bca.gov.sg.

About JTC

Set up in 1968, JTC is the lead government agency responsible for the development of industrial infrastructure to support and catalyse the growth of industries and enterprises in Singapore. Landmark projects by JTC include the Jurong Industrial Estate; the Jurong Island for energy and chemical industries; business and specialised parks such as Airport Logistics Park of Singapore, International Business Park, Changi Business Park, Seletar Aerospace Park, CleanTech Park and Tuas Biomedical Park; a new work-live-play-&-learn development called one-north; and the Jurong Rock Caverns, Southeast Asia's first commercial underground storage facility for liquid hydrocarbons. JTC also develops innovative space such as JTC Surface Engineering Hub, JTC MedTech Hub @ MedTech Park and JTC Food

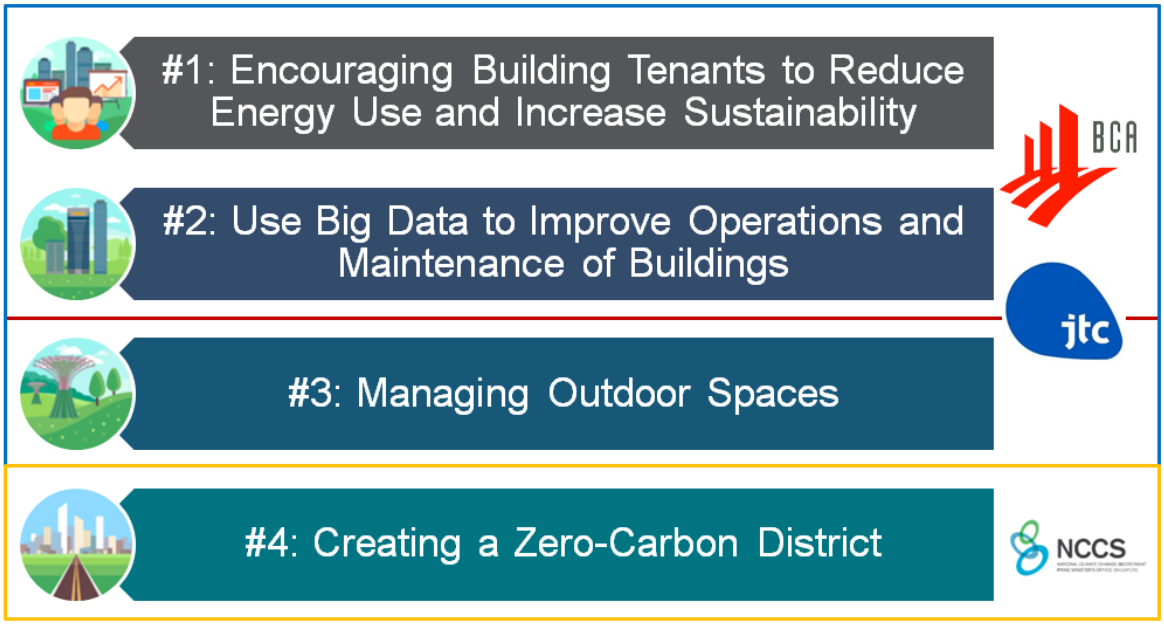
Hub @ Senoko, which incorporate innovative features and shared infrastructure to enable industrialists to start their operations quickly and enhance productivity.

About National Climate Change Secretariat

The National Climate Change Secretariat (NCCS) is part of the Strategy Group which supports the Prime Minister and his Cabinet to establish priorities and strengthen strategic alignment across Government. NCCS leads the development and implementation of Singapore's domestic and international policies and strategies to tackle climate change.

Annex A – Fact sheet on Challenge Statements

CHALLENGE STATEMENTS



Challenge statements	Background	Criteria for proposed solution
1. Encouraging Building Tenants to Reduce Energy Use and Increase Sustainability	• Participants are to design a technology-based solution or application to incite behavioral changes towards reducing energy consumption and cultivation of good sustainable habits. Some examples of effective solutions can be through gamification and easy access to energy usage data.	• Address how the solution/application motivates and encourages green behaviour • Increase awareness on the impact of occupant behaviour on environmental sustainability • Empower tenants with the ability to make greener decisions • Must not compromise the building's overall efficiency and operations • Must not compromise building information system's security
2. Transforming Operations and Maintenance of Green Buildings with Big Data	• Participants are to design a system (or dashboard) to make it easy for building managers to identify the key areas in optimisation of building resource efficiency, while taking into account the day-to-day challenges of managing a building.	• Be easy and convenient for building managers to use in monitoring and maintaining the building • Be energy efficient • Facilitate resource optimization and management (i.e: energy, water, waste) within the building.
3. Managing Outdoor Spaces	• Participants are to provide a technology-based solution to help enhance the experience	• Be easy and convenient for estate managers to use in estate management and for

	of people using these site, making it more pleasant and comfortable, as well as to facilitate the maintenance, monitoring and overall management of these outdoor sites.	them to monitor and maintain the site • Enhance the experience of people using the site • Be energy efficient • Solution has to be suitable for local tropical climate catering to the high temperature and humidity.
4. Creating a Zero-Carbon District	• Participants are to provide a technology-based solution to improve resource (e.g. electricity) efficiency at a district-level,to support the reduction of Singapore's carbon emissions and creation of zero-carbon districts.	• Develop low carbon technologies and/or managing energy supply and demand across different building types within a cluster. • Optimise energy across different sectors (buildings, transport, industry, households, power) within a district.

More information on the Climate Innovation Challenge can be found here: http://climateinnovation.sg/