

## Reducing ambient temperature around HDB estates

<b>Challenge Owner</b>	<b>Housing &amp; Development Board (HDB)</b>
<b>Opening date for proposal submission</b>	<b>12 November 2019</b>
<b>Closing date for proposal submission</b>	<b>14 February 2020, 12 pm (UTC+8)</b>  Proposals and all accompanying attachments must be submitted through the Sustainability Open Innovation Challenge portal.

### **BACKGROUND**

With temperatures rising due to climate change, Singapore will experience hotter weather in the future. Much of Singapore's land is covered with buildings and infrastructure, which retain and produce additional heat and adds to the urban heat island effect. The resulting increased use of air-conditioning further contributes to domestic carbon emissions.

HDB is seeking solutions to mitigate the urban heat island effect, particularly for HDB estates, while keeping energy consumption to a minimum or at net zero increment from today (e.g. using solar-powered sources).

### **DESIRED OUTCOMES**

The desired outcome is a novel, implementable solution that can reduce ambient temperature by at least 1°C using resource-efficient methods (e.g. less energy, water).

### **TECHNICAL SPECIFICATIONS AND REQUIREMENTS**

- Ambient temperature should be reduced by at least 1°C (measurement to be taken before and after implementing solution, using appropriate sensor).
- Comply with existing building standards and regulations, as well as fire safety standards.
- Applicable to brown field and green field development.
- Solution should be easy to deploy and maintain, and implementable in HDB estates.
- Solution should require minimum energy to operate.
- Proposals should include information on any proof-of-concept (POC)/minimum viable product (MVP) that is non-sensitive.
- Applicant should indicate estimated commercial price of solution, cost of operation/maintenance and cost-benefit analysis of the solution in the proposal.

Besides addressing the above requirements, the proposed solution should also fulfil the following criteria:

- Not be readily or commercially available in the market.
- Result in the creation of new IP.
- Wherever applicable, aim to:
  - Achieve cost-effectiveness; and/or
  - Improve efficiency/productivity.

**BUSINESS OPPORTUNITY**

HDB can be the first customer for pilot deployment if solution is successfully developed.

**DEVELOPMENT TIMELINE**

The solution should ideally be deployable immediately as a pilot or with minimal additional development within a timeframe of no more than 2 years.

**THE RULES AND REGULATIONS ON THE CHALLENGE WEBSITE APPLIES, WITH ADDITIONAL INFORMATION BELOW.****FUNDING SUPPORT**

Enterprise Singapore may support shortlisted local SMEs/startups with funding of up to 70% of the qualifying project cost, capped at \$250,000.

Foreign solution providers are encouraged to work with local SMEs/startups for solution development.

**ADDITIONAL RESOURCES**

HDB will provide mentorship and test-bedding opportunities at the HDB Centre of Building Research.

**EVALUATION CRITERIA**

Proposals will be evaluated against the following criteria:

- Technical feasibility of solution [30%]:
  - Effectiveness in addressing the challenge statement
  - Operational feasibility
  - Minimal/no nuisance and disruption to residents
  - Minimal alterations to existing infrastructure
- Economic feasibility of solution [30%]:
  - Commercialisation strategy
  - Estimated commercial price
  - Estimated operating, life cycle costs and return on investment upon deployment
- Capacity and expertise to execute project [25%]:
  - Requisite capabilities and committed resources to undertake solution development
- Clarity of proposal and accompanying information on POC/MVP [15%]

## TECHNICAL BRIEFING

A technical briefing will be held to provide interested applicants with more information. The details for the briefing are as follows:

<b>Date :</b>	18 Nov 2019 ( <i>Monday</i> )
<b>Time:</b>	9am to 12 pm
<b>Location:</b>	230 Victoria Street, Bugis Junction Office Tower, Level 10, Singapore 188024 - Room: Little Red Dot

Please register your interest [here](#) by 14 Nov 2019, 12pm.

## PROPOSAL SUBMISSION

Submit your proposal using the Application Form, together with all supporting documents, in the Sustainability Innovation Call portal.

## CONTACT

For further enquiries, please email:

- [ng\\_wan\\_en@hdb.gov.sg](mailto:ng_wan_en@hdb.gov.sg) – for matters pertaining to the challenge statement
- [Sustainability\\_Challenge@enterprisesg.gov.sg](mailto:Sustainability_Challenge@enterprisesg.gov.sg) – for assistance on:
  - *Using the Sustainability Open Innovation portal for registration, submission of proposal, etc.*
  - *Funding enquiry*