Non-invasive solution to evaluate the energy efficiency potential of commercial buildings

Challenge Owner	**ENGIE Factory Asia-Pacific**
Opening date for proposal submission	**12 November 2019**
Closing date for proposal submission	**14 February 2020, 12 pm (UTC+8)** Proposals and all accompanying attachments must be submitted through the Sustainability Open Innovation Challenge portal.

BACKGROUND

ENGIE is seeking smarter solutions to assess potential energy efficiency gains through building energy renovations. Buildings generate approximately 40% of global GHG emissions and constitute up to 36% of global energy use. The refurbishment and retrofitting of existing buildings provide a great potential for energy savings and reduction of carbon emissions.

Current energy modelling or assessment solutions of a building are limited in effectiveness due to the high cost and resources required, complexity in data acquisition and reliance on historical data (not all buildings have quality data). As a result, building owners have high investment barriers (both in cost and effort) to drive the necessary changes.

A solution that can quickly scan and profile and audit a building's energy performance and potential in a non-invasive manner will likely promote wider reception and adoption of such assessment tools, hence leading to better understanding of measures that can promote energy efficiency.

DESIRED OUTCOMES

The desired outcome is a solution that can quickly scan and profile a commercial building in a non-invasive manner to provide an estimate of its current energy performance and energy efficiency potential.

TECHNICAL SPECIFICATIONS AND REQUIREMENTS

- Solution should be:
  - Simple to deploy (perhaps mainly digital) with minimum manual execution required on-site – for e.g., being able to perform assessment/scan of the commercial building energy profile without needing to tap into the control systems of the building or require manual/laborious resources to execute.
  - Comprehensive in assessing the energy performance of the whole building and identifying estimate energy savings potential and reducible emissions of the building (not just one or some sub-systems).
  - Compliant with industry standards for measurement accuracy and benchmarking.

- Able to provide building owners a snapshot of where their priority areas are to address for energy renovation.
- Minimally at prototype/minimum viable product (MVP) stage, and able to be deployed at pilot test sites.

- Applicant should indicate estimated commercial price of solution 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.
- Wherever applicable, aim to:
  - Enhance safety of operations; and/or
  - Reduce reliance of manpower; and/or
  - Improve quality, consistency and service delivery; and/or
  - Achieve cost-effectiveness; and/or
  - Improve efficiency/productivity.

BUSINESS OPPORTUNITY

ENGIE Factory is prepared to support the development of the solution to a commercial business. ENGIE Factory can also provide access to a global market across 70 countries.

DEVELOPMENT TIMELINE

3-6 months to pilot and validate the technical feasibility of the solution, and another 3 months to plan the commercialisation roadmap.

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

ELIGIBILITY CRITERIA

Startups or aspiring founders looking to build their own startup may apply to this challenge statement.

FUNDING SUPPORT

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

Foreign solution providers or Institutes of Higher Learning (IHLs)/Research Institutes (RI) are encouraged to work with local startups for solution development.

ADDITIONAL RESOURCES

Startups or aspiring founders looking to build their own startup may apply to this challenge statement. During the initial months, startups iterate solutions and test commercial solutions while ENGIE Factory provide mentorship and domain knowhow. After that, ENGIE Factory may provide the starting capital, and leverage networks to achieve product-market fit. Selected startups are invited to ENGIE's coworking space to work and collaborate with the relevant ENGIE teams.

ENGIE Factory will inculcate design thinking, value proposition canvas and customer empathy; as well as provide the network and mentorship to help startups validate problem through customer meetings, solution prototyping, and co-creation of a preliminary business model. The startup may be given sufficient funding to achieve initial sales, and continue to access ENGIE's networks, and a path to product-market fit.

EVALUATION CRITERIA

Proposals will be evaluated against the following criteria:

- Technical feasibility of solution [30%]:
  - Effectiveness in addressing the challenge statement
  - Operational feasibility in the building premise
  - Non-invasive with minimum/no impact on building operations
- Economic feasibility of solution [30%]:
  - Commercialisation strategy
  - Estimated commercial price
  - Estimated operating/maintenance costs and potential cost-savings
- 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%]

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:

- Michelle.woo@engie.com – for matters pertaining to the challenge statement

- Sustainability_Challenge@enterprisesg.gov.sg – for assistance on:
  - *Using the Sustainability Open Innovation portal for registration, submission of proposal, etc.*
  - *Funding enquiry*