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JTC Decarbonisation Living Lab Innovation Call 2026 (DECAL 2.0)



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Challenge 5: Energy Efficient Buildings - Transforming existing building operations for a low-carbon future

Background

Operational energy use is hindered by fragmented systems, limited visibility, and the gap between technology and data-driven decisions. Occupant and operator behavior plays a critical role, but they lack actionable feedback.

Desired Outcomes

Achieve a 15-20% reduction in energy consumption from the existing baseline by:

- Using intelligent energy management and automation that adapts dynamically
- Engaging tenants and operators with intuitive tools and feedback
- Transparently measuring and verifying all energy and carbon reductions

Key Requirements

- TRL 7 or above.
- Improve user behavior rather than be dependent on it
- Demonstrate applicability to existing buildings

Test Sites

Revenue House. (Site visit: **10 Feb 26, 130pm**).



Please scan for Challenge Statement 5 detail

Point to note

- Any retrofitting or installation works (e.g. sensors), preferably to be carried out after working hours
- The proposal shall articulate how building occupants, including tenants and operators would be involved in the decarbonisation journey



Thank you.



Technology Readiness Level (TRL)

TRL	Description	Definition
0	Idea	Unproven concept, no testing has been performed
1	Basic Research	Basic principles postulated and observed but no experimental proof available
2	Applied Research	Concept and application have been formulated
3	Critical Function	First Laboratory test completed; proof of concept
4	Concept Validation	Small Scale Prototype built in a laboratory environment; technology validated in laboratory
5	Validation of Integrated System	Component and/or validation in a relevant environment
6	Verification of Integrated System	System model or prototype tested in intended environment close to expected performance
7	Demonstration System	Operating in operational environment at pre-commercial scale
8	System Completed and Qualified	Manufacturing issues solved
9	Full commercial application	Technology available for consumers