



BUILDING INDUSTRIES



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# JTC Decarbonisation Living Lab Innovation Call 2026 (DECAL 2.0)

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DECAL 2.0 Briefing  
26 January 2026



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# Challenge 1: Low Carbon Solutions – Maximizing renewable energy potential for industrial buildings

## Background

JTC is expanding its solar footprint but faces technical constraints and limited rooftop space. We are seeking cost-efficient technologies that unlock more renewable energy opportunities beyond conventional rooftop solar.

## Desired Outcomes

Increase renewable energy generation by 10-20% through various ways such as

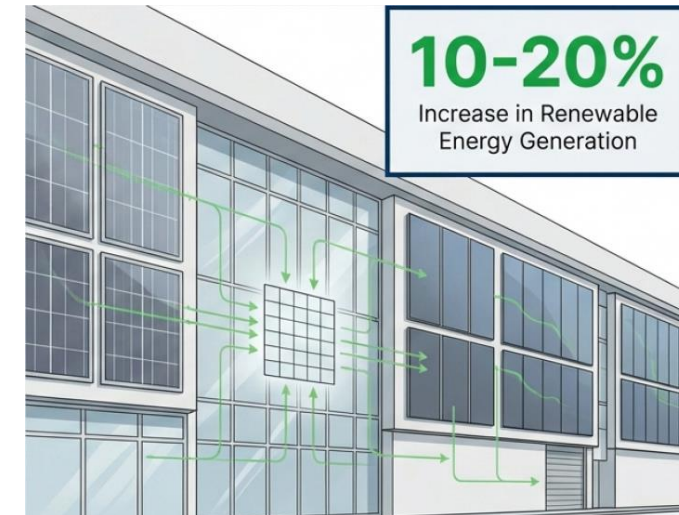
- Alternative solutions (e.g. wind, hybrid systems)
- Higher energy yield or more durable solar PV solutions.
- Maximising deployment on non-conventional surfaces (e.g solar films, BAPV).

## Key Requirements

- Technology Readiness Level (TRL of 7 or above)
- Scalable, cost-effective, and safe for continuous operations.
- Innovative and not yet deployed at a large scale

## Test Site

JTC Defu Industrial Estate. – [29 Jan 2026 \(Thurs,10am\)](#)



Please scan for Challenge Statement 1 detail



# Defu Industrial Estate (Lane 10)

Defu Lane 10 comprises 17 blocks of single storey terrace workshops and 7 blocks of four-storey industrial workshops





# Defu Industrial Estate (Lane 10)

## Industrial Workshops

### Slab Block - 1, 2, 37 & 38

- flat roof without water tank at rooftop with secondary roof system
- waterproofing at rooftop with 10-year warranty till 2031
- catladder at 4<sup>th</sup> storey lift lobby is the only access point to the rooftop
- *What types of solar PV and the mounting systems can be adopted without affecting the roof warranty?*



# Defu Industrial Estate (Lane 10)

## Industrial Workshops

### Deployment of Mobile Crane for Heavy Lifting Works

- Mobile crane is necessary for lifting heavy materials onto the rooftop for Industrial Workshops.
- The ground team is required to coordinate with the tenants to shift their cars away from the reserved lots before mobile crane can be deployed.





# Defu Industrial Estate (Lane 10)

## Industrial Workshops

### H Block – 30, 31 & 32

- metal pitch roof with warranty till Apr 2031
- no catladder access to the metal rooftop
- *what types of solar PV and the mounting systems can be adopted without affecting the roof warranty?*
- *can vertical solar PV be installed on the façade wall?*



# Defu Industrial Estate (Lane 10)

## Terrace Workshops (17 Blks)

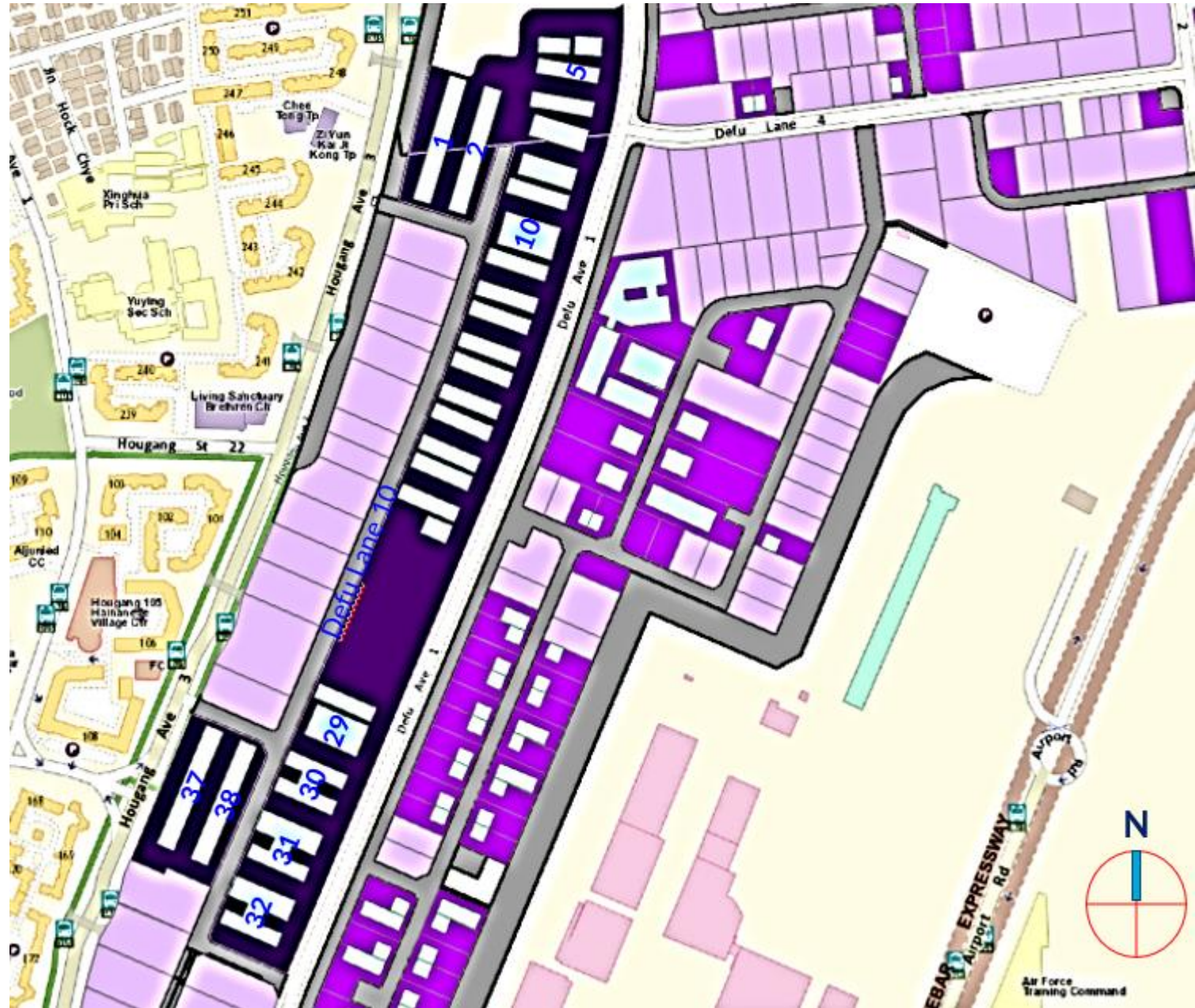
- metal pitch roof with warranty till Apr 2031
- conventional solar PV installations typically require roof penetrations for mounting rails, which can complicate repairs to the roof surface, and potentially affect the roof warranty.
- *What other types of solar panels can be installed for Terrace Workshops without complicating roof repair work and affecting the roof warranty?*





# Defu Industrial Estate (Lane 10)

## Layout Plan







Sungei Kadut Eco-District

# Thank you.

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# 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