Challenge Theme	Low Carbon Solutions
Statement Number	01
Launch Date	9 January 2026

<table>
<tr><td>Title</td><td>Maximizing renewable energy potential for industrial buildings</td></tr>
<tr><td>Background</td><td>JTC has been deploying solar PV systems across its developments through established solar programmes (e.g. JTC Solar Roof and JTC Solar Land), making solar deployment an integral part of its sustainability efforts. JTC is now seeking alternative renewable energy solutions to deploy at its buildings, beyond the current solar deployment for rooftops.</td></tr>
<tr><td>Challenge</td><td>As JTC continues to expand its solar footprint, it faces challenges. For instance, there might be technical limitations to deploying solar on rooftops, lack of sufficient and viable spaces at rooftops. As such, JTC is now exploring whether there are other cost-efficient technologies to unlock the next tranche of renewable energy opportunities beyond conventional rooftop solar PV.</td></tr>
<tr><td>Desired Outcomes</td><td>The envisioned solution shall allow JTC to unlock more renewable energy opportunities by increasing the renewable energy generation by 10-20% through various ways, such as:
Deploying alternative onsite-renewable energy solutions (e.g. wind; or hybrid), or energy storage solutions
Deploying higher yield (as compared to current 20-24%)/ more durable solar PV solutions at rooftops
Maximising the deployment of solar PV at non-conventional building surfaces (e.g. solar film or BAPV solutions and can be seamlessly connected to grid)</td></tr>
<tr><td>Requirements</td><td>Technologies and/or solutions must be innovative and have not been deployed in large scale projects.
Technology readiness level of >=7
Be scalable and cost effective
Ensure safety and continuity of operations.</td></tr>
<tr><td>Possible Solutions</td><td>Potential approaches should include maximizing renewable energy generation for rooftops, including but not limited to high-efficiency panels, adjustable or bifacial modules, and lightweight structural systems; integrating vertical or facade-mounted PV where feasible; and exploring complementary renewable sources such as small-scale wind turbines or hybrid solar-wind systems.</td></tr>
<tr><td>Development Timeframe</td><td>
<table>
<tr><th>Step</th><th>Task</th><th>Start</th><th>End</th></tr>
<tr><td>1</td><td>Proof of Concept</td><td>T_o</td><td>T_o + 6 months</td></tr>
<tr><td>2</td><td>Performance and cost verification</td><td>T_o + 6 months</td><td>T_o + 12 months</td></tr>
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<tr><td>Testbed/ Trial site (envisioned deployment site)</td><td>The solution will be tested at JTC Defu Industrial Estate. Interested participants are encouraged to visit the sites which will be arranged.</td></tr>
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Additional Info	