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Willmott Dixon’s trials flexible off-grid, net zero learning pod

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Willmott Dixon has developed a fully flexible, off-grid pod that can be a temporary or permanent net-zero learning space at schools and on ‘meanwhile’ sites that are waiting for future development.

Called the Now or Never pod after Willmott Dixon’s sustainability strategy, it uses 100% renewable energy thanks to eight 450w solar roof panels and is designed to meet Passivhaus Retrofit standards in terms of the fabric, airtightness and thermal efficiency.

The pod is constructed from an existing timber frame and incorporates composite cladding manufactured from 90% recycled material, insulation made from over 95% recycled plastic and reclaimed fibres, which are re-manufactured as new carpet tiles. The pod’s low carbon credentials are further enhanced with a rainwater harvesting roofing system and furniture made from reclaimed ocean waste and plastic, while the foundations use recycled waste material from a nearby construction site.

The first Now or Never pod was built off-site in Norfolk to provide additional classroom space for Pixbrook Academy in Central Bedfordshire. Future versions can be adapted for a variety of communal purposes, including as Willmott Dixon Building Lives Academies, which have been created to upskill people with qualifications that lead to full-time work in construction.

The Now or Never pod was the brainchild of James Vosper, assistant supply chain coordinator, as part of the 2021 Willmott Dixon Foundation Trainee Challenge.

James explains, “It is a fast, sustainable and convenient way to provide versatile space that can be both short-term and more permanent, and we can also re-use it again afterwards. It’s ideal for ‘pop-up’ accommodation, including learning, and with more councils looking at community-related options for

‘meanwhile’ space, it’s a fantastic net-zero solution that doesn’t require connection to services.”

Embodied carbon was also a focus during the pod’s development, with the structural elements achieving 84kgCO_2e/m^2, meeting the performance targets required by SCORS, RIBA and LETI for 2030.

At Pixbrook Academy, continuing a relationship created through the delivery of the £25m 1,160 place school in 2020, James engaged with students through educational workshops on renewable energy, digital 3D scanning and sustainable materials. He also set up a design competition with the students’ results incorporated into the final design, leaving a legacy for the Academy.

Stephen Adams, Principal at Pixbrook Academy said, “The pod gives our Academy invaluable alternative learning space designed to enhance the environmental credentials of the school and cater for pupils who need access to a space outside the usual parameters of the main school. It will be dual purpose, meeting the needs of our ecological and SEN education programme.”

James added: “The Now or Never Pod shows what’s possible by pushing the boundaries of renewable technology and recycled material. We are already in talks with other parties about introducing the pods as a solution to their accommodation needs.”