Air Rights

Zero (fossil) Energy Development units on parking lots, London, United Kingdom

Main author
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Project data
Project group: Architecture, building and civil engineering
Client: ZEDpods Ltd
Project background: Private investment
Planned start: August 2017

Summary and appraisal of the project by the jury

To partially reduce London’s housing shortage, the project proposes a straightforward and resourceful solution, namely, to construct living units on elevated platforms over public parking spaces all over the city. Intended for young people and municipal workers (firefighters, nurses, police personnel, etc.), the units are economically affordable, insofar as land costs are replaced by the leasing of air rights. The building units are entirely based on prefabricated elements that can easily be assembled on site, thus further reducing construction costs. Adhering to the principle of minimizing emissions in the building sector in general, the project avoids the use of fossil energy for both the manufacturing process as well as for operations and maintenance – contributing, in effect, to a low-carbon architecture.

Praising the idea of building above existing parking spaces, the jury fully endorsed the author’s vision of an architecture that is socially responsible, ecologically sound, and economically affordable. Considering in addition that the project is both innovative and transferable, proof is undoubtedly offered that the design indeed meets the “target issues” set forth by the LafargeHolcim Foundation – at least for the most part, as noted by the jury during the deliberation process. The scheme’s qualities and benefits notwithstanding, some jury members nonetheless raised the question as to whether aesthetic considerations were consciously addressed or whether architectural expressiveness was simply considered a result of technical and material exigencies. Criticism aside, the design intelligently manages to translate a vision into reality, one that could undoubtedly benefit from the project’s foresight.

Statements on the sustainability of the project by the author

One of the solutions to the affordable homes crisis ZEDpods provide first homes for young people and key municipal workers – erected above existing parking lots close to amenities and jobs. The sites use the benefits of car parks such as good transport links, workplace locations, in situ local amenities, as low carbon homes that reduce strain on the existing infrastructure. Built on land outside of the development plan, there are public parking spaces in the UK with suitability for up to 200,000 ZEDpods. Fully-funded model allows Local Authorities to build affordable homes without the need to find land or capital expenditure.

An innovative prefabricated highly energy efficient microhome

The ZEDpods are built to higher standards than conventional homes with super-insulation, vapor-permeable draught-proofed construction, heat recovery ventilation, aluminum-clad triple glazing, hot dip galvanized structural frame with timber infill panels and external insulation. The external envelope is designed to be around 20 years until first maintenance, and is constructed from fireproof, durable and robust materials. One unit of solar electricity will normally produce around 3 units of heat, enabling each home to be substantially powered by solar electricity generated by the photovoltaic roof panels. The solar electricity produced during the day is stored in a large lithium-ion phosphate battery store with integrated inverter, which can power the homes at night.

Off-site construction and reusable structure

The ZEDpod is a unique kit of parts concept that does not rely on one centralized factory. Pop up assembly sheds can be set up locally to meet housing demand and create local employment. We can build high volumes with parallel production facilities throughout the UK. The pods are constructed off site in the UK, and can be erected in a matter of days with a forklift. They have a patented raft foundation that exerts no more pressure on the existing tarmac than a conventional vehicle. They are more cost effective than purchasing land and building conventional construction with conventional foundations.

Further author
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