

HDB Rolls Out Solar-Ready Roofs for Easier and Faster Installation of Solar Panels

From May 2017, all future public housing blocks will be designed with solar-ready roofs. The initiative, which will apply to public housing blocks with at least 400 sqm of open roof space (after setting aside space needed for essential services such as water tanks, water pumps and lift rooms), will enable more productive and efficient installation of solar panels on HDB rooftops. The blocks will be inbuilt with features to enable solar panels to be easily mounted and maintained. This move is aimed at further harnessing solar energy to power common estate services in HDB developments.

Pilot Solar-Ready Roof Completed at Punggol Edge

2 Solar-ready roofs were first piloted on the rooftops of Punggol Edge, a Build-to-Order development, in May 2012. Construction of the solar-ready roofs for the six residential blocks in this project was completed in June 2016.



The solar-ready roofs piloted at Punggol Edge BTO project were inbuilt with infrastructure to enable seamless installation of solar panels to harness renewable energy for block services

3 From the onset during the design of the project, the location of essential block services on the rooftops was strategically planned to optimise the available roof space for future solar panel installation and maintenance. The support structures for the placement of the solar panels on the roof were also designed to integrate seamlessly with the design of the roof, blending in with the aesthetics of the block.

4 Electrical infrastructure for the solar panels was catered for, such as the construction of dedicated trunking for wiring throughout the block and into the switch room. By connecting the trunking directly to the roof, the need for hacking works downstream was minimised. Service access routes throughout the roof were also inbuilt to facilitate future installation of solar panels and maintenance of essential block services.



Essential block services such as water tanks and lift motor rooms were strategically located to optimise available space for installation of solar panels on the roofs, with access routes planned for easy maintenance

Faster and Easier Installation of Solar Panels

5 In older blocks where residents have already settled in, installation of solar panels on rooftops would require retrofitting and construction works, including re-wiring the building to link the solar panels to the switch room. The space available for installation of solar panel installation is also limited by the placement of the essential block services and the overall design of the roof space. As a result, more time would be needed to assess the optimum placement of the solar panels that will maximise the amount of sunlight received and avoid obstructing maintenance access to the essential block services.

6 In comparison, the new “plug-and-play” approach to solar panel installation reduces the time and labour required for solar panel installation, making the process more efficient. On a solar-ready roof, about 25 days are required for the installation of solar panels. Compared with the 40 days required to retrofit existing blocks, the time needed for installation from start

to end is reduced by about 38%. Consequently, the manpower cost for installation is also expected to reduce by more than 40%.

Wide-scale Implementation of Solar Ready Roofs in New Projects

7 Following the successful implementation of solar-ready roofs at Punggol Edge, the pilot was extended to 27 blocks at Punggol Northshore (Northshore Residences I and II and Waterfront I and II) in April 2016.

8 Going forward, all new public housing blocks will be designed with solar-ready roofs where feasible. In addition, HDB will review developments currently under construction to assess if solar-ready roofs can be incorporated into their design. As at August 2017, a total of 18 HDB projects have been designed with solar-ready roofs (see list at Annex).

Planning for Sustainable Cities – Focus of International Housing Forum

9 With more than one million flats in 10,000 HDB blocks island wide, HDB plays a key role in driving sustainable development in Singapore. Increasingly, with rapid urbanisation, the need for innovative solutions to address complex urban challenges has also become more pressing for cities around the world.

10 Come next week, more than 400 professionals and policy-makers will gather at the International Housing Forum in Singapore, to exchange ideas on how cities can be better planned, built, and managed to promote sustainable development.

11 Organised by HDB in partnership with four other international and local partners, the two-day Forum on 7 and 8 September 2017 will see more than a dozen prominent leaders and experts across various disciplines share their expertise in four domains:

- Housing Policies, Governance & Finance
- Planning & Design of Liveable Cities
- Resilient & Inclusive Communities
- Sustainable Development & Smart Technology

12 More details about the International Housing Forum 2017 are available on the IHF website - www.ihf2017.sg.

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HDB PROJECTS DESIGNED WITH SOLAR-READY ROOFS

As at August 2017, a total of 18 HDB projects have been designed with solar-ready roofs:

S/N	Project Name	Location	Construction Status
1.	Punggol Edge	Punggol	Completed
2.	West Plains @ Bukit Batok	Bukit Batok	Ongoing
3.	Anchorvale Plains	Sengkang	Ongoing
4.	Hougang RiverCourt	Hougang	Ongoing
5.	Tampines GreenView	Tampines	Ongoing
6.	Tampines GreenVerge	Tampines	Ongoing
7.	East Elta @ Canberra	Sembawang	Ongoing
8.	Bedok North Vale	Bedok	Ongoing
9.	Kallang Residences	Kallang	Ongoing
10.	Matilda Sundeck	Punggol	Ongoing
11.	Woodleigh Glen	Bidadari	Ongoing
12.	Bedok Beacon	Bedok	Ongoing
13.	Waterway Sunrise I	Punggol	Ongoing
14.	Northshore Residences I	Punggol	Ongoing
15.	Northshore Residences II	Punggol	Ongoing
16.	Waterfront I	Punggol	Ongoing
17.	Waterfront II	Punggol	Ongoing
18.	Rivervale Shores	Sengkang	Commencing soon