

COST OF UNDERGROUND DEVELOPMENTS ALSO TO BE REDUCED

Govt seeks ideas to lower noise, temperature in housing estates

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SINGAPORE – The challenge: Lower the ambient temperature and noise levels in housing estates — but in innovative and energy-efficient ways.

For the second time, the Government is calling for proposals to tackle such challenges, with the aim of improving the living environment in a sustainable manner.

Launched under the Land and Liveability National Innovation Challenge (L2 NIC) programme, the call

for proposals will focus on three areas: Reduce noise, lower temperatures and reduce the cost of underground construction.

Introduced in 2013, the L2 NIC programme has S\$135 million for its funding initiatives until 2018. It has already funded 13 research projects in areas such as underground spaces, floating structures and noise mitigation in residential towns.

Announcing the call for proposals yesterday at the two-day Urban Sustainability R&D Congress, organised by the Ministry of National Develop-

ment (MND) and which continues today, Minister of State for National Development Desmond Lee said research and development (R&D) has helped Singapore overcome key challenges in the past, such as water and housing, by providing creative and pragmatic solutions.

“Like many other cities around the world, Singapore constantly grapples with fresh challenges, such as climate change, growing density and space constraints, the need to provide for an ageing population, the need to develop mobility solutions, energy-efficiency,

waste-management, and so on,” he said. “Therefore, the search continues for innovative, yet practical, solutions to overcome our urban sustainability challenges.”

MND Deputy Secretary (Services) Tay Kim Poh said that the Government is looking to reduce the ambient temperature by 4°C for residential estates, which could include ideas such as novel building materials to convert excess heat for storage, ways to reduce heat emissions caused by human activity, or improvements to energy efficiency. As for ambient noise levels, the goal is to reduce it by 10dBA in residential estates, while achieving energy efficiency. Research areas can include new or improved integrated design guidelines, or planning tools and noise-absorbing materials, said Mr Tay.

The Government also wants to reduce the cost of underground developments by 50 per cent. This can be done through innovations in excavation and temporary supports, and mechanical and electrical works, for example.

The solutions, which could include new or improved ground-improvement techniques and site-investigation techniques, would need to ensure recurrent and maintenance costs during the operations of the underground space are maintained, without compromising on safety and structural integrity. While this is a “major challenge” to undertake, the development of underground space is key to future space development here, said Mr Tay, adding that he hoped researchers can “push the envelope”.

Separately, the Building and Construction Authority (BCA) will be awarding S\$6 million under its second grant call to four projects on air-conditioning and ventilation systems under the Energy Innovation Research Programme for Building Energy Efficiency, which will look at new ways to reduce humidity in a building, among others. BCA will also be launching a new Green Building Innovation Cluster Grant Call to look at making green buildings smarter and healthier.

Apart from the calls for research proposals, the L2 NIC also funds projects under its Directed Funding Programme. One such project to be awarded funding is research on multi-purpose floating structures — a collaboration between JTC Corporation and research partners such as the NUS Centre for Offshore Research and Engineering, and Norway research company SINTEF.

JTC said the study will look into a cost-effective and safe multi-purpose floating structure to optimise the use of sea-space and possibly free up existing land for other uses. It could also be used for fuel storage facilities, LNG re-gasification facilities, bridges, desalination plants and container port terminals. L2 NIC has also commissioned the Singapore University of Technology and Design to conduct a multi-disciplinary “foresight study” to provide insights on future trajectories in Singapore, such as on transport and infrastructure demands.



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