

Residents to be rewarded for cutting energy use at peak periods

Pilot will start in second half of 2024 and will involve 1,000 homes with smart meters

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In a first-of-its-kind initiative to get households to help manage the load on the electricity grid, residents in homes equipped with smart meters will be called upon to adjust their electricity usage during peak demand periods.

The initiative, called Residential Demand Response (R-DR), is targeted to start by the second half of 2024 and will tentatively involve about 1,000 households that have smart electricity meters provided by utilities firm SP Group, said the Energy Market Authority (EMA) on Tuesday.

These households will receive alerts from the SP app to temporarily cut down or defer their electricity usage during demand peaks in the power system.

Once alerted, residents can postpone usage of high energy-consuming appliances such as washing machines or dishwashers, or adjust the temperature of their air-conditioner, or turn it off.

Demand peaks in the power system refer to peaks in electricity consumption by consumers, which

tend to occur in the hotter months of the year and in the afternoons, when commercial and industrial activities are running at full speed.

For example, there was an 8 per cent increase in peak electricity demand from 7.3 gigawatts (GW) in February 2023 to 7.9GW in May 2023, when it was hotter. On May 13, the temperature in Ang Mo Kio hit 37 deg C, a level not seen in Singapore since 1983.

Households contribute to about 15 per cent of Singapore's total electricity consumption.

Electricity demand and supply must be managed because if many consumers are using electricity at the same time, there is less supply and prices typically go up. Peak periods can also strain the systems that deliver power.

Households that reduce their energy usage when alerted will receive financial incentives.

While the initiative is planned to run for six months, other details such as the type of incentive will be revealed later as SP and EMA are finalising the programme.

Announcing the R-DR pilot at the Asia Clean Energy Summit on Tuesday, Manpower Minister and



Second Minister for Trade and Industry Tan See Leng said consumers have a role to play in ensuring the grid remains resilient.

He added that the importance of demand management is often overlooked when it comes to energy security.

EMA chief executive Ngiam Shih

Chun said: "Consumers can play an important role in saving energy by reducing their usage, which can help reduce carbon emissions from the power system."

EMA noted that the power system's peak demand is forecast to rise every year over the next five years.

The initiative helps to keep the power system running smoothly and more efficiently by working on both the demand and supply sides of the system, the agency added.

This programme for residents follows a similar initiative for commercial firms and industries. Under the two-year Demand Side Man-

agement regulatory sandbox launched in late 2022, commercial consumers in the programme receive payment as an incentive for reducing their electricity usage at certain times of the day, or using their own generators to meet their electricity needs.

The efforts of the commercial and industrial consumers led to a reduction in wholesale electricity prices in the first half of 2023. This meant electricity retailers and consumers who bought power directly from the wholesale electricity market paid \$300 million less in total.

As at September, SP has installed more than 834,000 smart electricity meters across residential and non-residential areas. Households with such meters can use the SP app to monitor their electricity consumption.

Speaking at the summit at the Sands Expo and Convention Centre on Tuesday, Dr Tan addressed the need for a resilient electricity grid amid the energy transition.

"Today, the flow in the grid is primarily one-way. It brings electricity from our natural gas power plants to the rest of Singapore," he noted.

In the future, there will be a wider mix of energy sources – from power plants, solar panels, electricity imports and battery storage systems, for example – and Singapore's grid will need to cope with multi-directional flows across the island, he explained.

Dr Tan added: "Some countries experience grid congestion and are unable to cope with the introduction of new renewable energy sources. Their grids cannot bring clean energy to cities and industries where it is needed most."

The summit is held alongside Singapore International Energy Week, which ends on Friday.

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Demand peaks refer to peaks in electricity consumption by consumers, which tend to occur in the hotter months of the year and in the afternoons, when industrial activities are going at full speed. ST PHOTO: LIM YAOHUI