NET ZERO ROADMAP

For the Singapore Public Sector

GREEN GOV SG

OUR COMMITMENT

Singapore has committed to achieve net zero emissions by 2050. The public sector recognises that this transition demands ambitious and collective action. This is why we have taken the lead by committing to **achieve net zero emissions earlier around 2045**, after peaking emissions around 2025.[1] In setting these targets, it is necessary to factor in the scale of public sector operations to meet the needs of Singapore's population and economy. We have also aligned the targets with key national plans.[2]

OUR STRATEGY

The 3R Framework, **Reduce, Replace and Remove** underpins our decarbonisation strategy.

REDUCE

Reduce emissions from our operations

REPLACE

Replace our current energy source with lower-carbon alternatives

REMOVE

Remove carbon by exploring new technologies

[1] This applies to our Scope 1 and 2 emissions.

[2] Such as the decarbonisation of the national grid, as well as measures to divert waste from our waste-to-energy plants and landfill.

REDUCE
Minimising Emissions From Operational Activities

Buildings account for over three quarters of public sector premises. We have made **designing energy-efficient infrastructure** a key priority. Since 2021, all new and existing public sector buildings that undergo major retrofitting are required to achieve Green Mark Platinum Super Low Energy ("SLE") standard.[3] Buildings that meet this standard will achieve at least 60% energy savings when compared to 2005 levels. As of 31 March 2023, 39 buildings have met or exceeded Green Mark Platinum SLE standard. We expect more buildings to meet Green Mark Platinum SLE standard in time to come.

In addition, we are adopting various measures. These include:

- Installing smart energy management solutions.
- Procuring energy efficient appliances, such as lighting and refrigerators.
- Leasing office spaces in buildings that meet high energy efficiency standards.
- Adopting the Guaranteed Energy Savings Performance contracting model for chilled water plant retrofits.[4]
- Raising officers' awareness of resource conservation measures and building a culture of sustainability.

We are also seeking ways to **harness synergies across operations.** One such example is Tuas Nexus, where the co-location and integrated design of water reclamation and waste management systems enable higher energy efficiencies in material handling, energy production and water treatment. When operational in 2026, the facility is expected to result in an annual reduction of more than 200,000 tonnes of carbon dioxide.

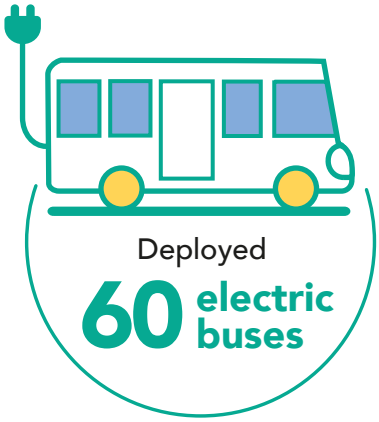
REPLACE
Transforming Energy Sources With Low-Carbon Alternatives

We are exploring ways to power our operations **using alternative low-carbon energy sources**.

We aim to have **100% of our cars run on cleaner energy by 2035.** Since 1 April 2023, we have switched from internal combustion engine to clean energy vehicles with zero tailpipe emissions for all new cars that are procured and registered.

[3] The BCA Green Mark 2021 is an internationally recognised green building certification scheme tailored for the tropical climate. It aims to raise sustainability standards of the built environment, and is geared towards sustainability outcomes such as energy efficiency, design for maintainability, and reduction in embodied carbon.

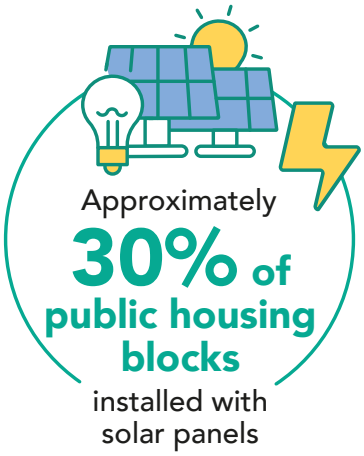
[4] A Guaranteed Energy Savings Performance contract is a framework in which an accredited Energy Services Company will conduct energy audits, implement energy conservation measures, maintain the equipment and guarantee energy savings throughout the contract.



Our entire public bus fleet will also run on cleaner energy by 2040. As of 31 March 2023, 60 electric buses have been deployed. By 2030, electric buses are expected to make up half of our public bus fleet.

We are greening the rest of our vehicle fleet to the best of our abilities, subject to the availability of clean energy models for medium and heavy-duty vehicles. We will continue to monitor developments in this space and explore ways to spur the market.

Solar energy is Singapore's most viable source of renewable energy. Our national target is to deploy at least 2 GWp by 2030. The public sector will support the national target, by **deploying at least 1.5 GWp of solar energy** by 2030. As of 31 March 2023, we have deployed more than 300 MWp of solar energy.



To achieve this goal, we are deploying solar panels on the rooftops of public housing blocks under the SolarNova programme.[5] As of 31 March 2023, approximately 30% of public housing blocks have been installed with solar panels. Energy generated from the solar panels on public housing blocks is used to power common services such as lifts, lights and water pumps during the day, with excess energy channelled to the grid.

In addition, we have rolled out SolarRoof and SolarLand programmes to encourage solar deployment on Singapore's industrial buildings rooftops and temporary vacant industrial land respectively. Companies can participate in SolarRoof with zero capital outlay. In return, they enjoy discounted electricity rates from the power generated from their roof space, or reap a monetary benefit by leasing out their roof space for solar deployment.

Electricity consumption is one of the major sources of our greenhouse gas emissions today. To reduce the emissions from our grid, we are **exploring low carbon electricity imports and studying emerging low-carbon technologies**, including hydrogen and advanced geothermal systems, as alternative energy sources.

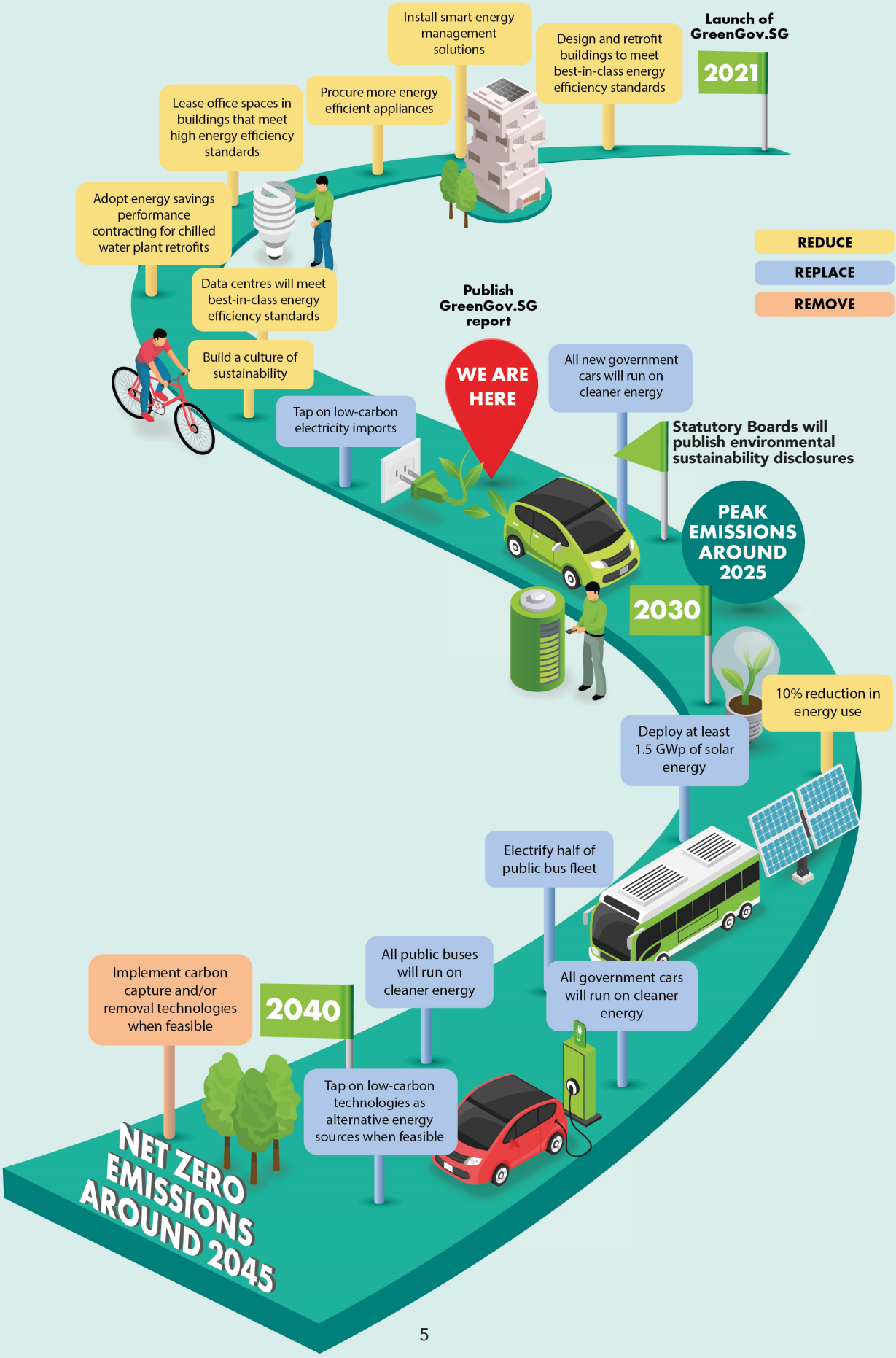
REMOVE
Advancing Carbon Removal Through Innovative Solutions

We are **developing innovative solutions** such as carbon capture, utilisation, and storage ("CCUS") technology. This will address residual emissions from essential public services, such as waste incineration and used water treatment, which cannot be avoided immediately.

[5] The SolarNova programme has been developed to aggregate government demand for solar panels to achieve cost efficiencies.

OUR NET ZERO ROADMAP

As we advance along our decarbonisation journey, we will continue to learn from others, and incorporate suitable green solutions and technologies as they emerge.



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