

CLIMATE RESILIENCE

# Safeguarding Singapore's Future

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As a low-lying tropical island, Singapore is particularly vulnerable to the threat of rising sea levels. Building upon past strategies, the city-state has adopted a comprehensive plan to defend against the effects of climate change, and to support the global effort towards a low-carbon future.

### Building A City In Nature

Greenery and water will be woven into the cityscape to reduce urban heat and create thermal comfort for residents, while restoring nature into the urban fabric.

### More Energy-Efficient Buildings

To green 80% of buildings by 2030, the Green Mark Scheme fosters energy-efficient design such as super-low energy and net-zero energy buildings.

### Reducing Vehicular Emissions

Private vehicle growth has been capped at zero since 2018. By 2040, public and shared transport and walk-cycle-ride will become the preferred travel modes.

### Managing Waste Sustainably

To reduce the waste sent to landfills by 30% by 2030, the 2019 Zero Waste Masterplan and Resource Sustainability Act promote a circular approach to managing waste.

- 1 Novel photovoltaic (PV) applications—rooftop and building-integrated PV
- 2 Water saving features such as rainwater harvesting and water recycling
- 3 Smart lighting and cooling system
- 4 Centralised district-wide cooling system
- 5 5.5 km<sup>2</sup> of nature parks and 300 km of nature ways by 2030
- 6 Nature-centric neighbourhoods based on HDB's Biophilic Town Framework
- 7 Active, Beautiful and Clean Waters Programme
- 8 Promoting greater stewardship in the management of green spaces
- 9 Park Connector Network to extend to 500 km by 2030
- 10 9 in 10 peak period journeys to use walk-cycle-ride modes by 2040
- 11 Rail network to expand to 360 km by 2030
- 12 100% cleaner vehicles by 2040
- 13 70% recycling rate by 2030
- 14 Food waste segregation in commercial and industrial premises

**Strengthening Food Supply**

To produce 30% of nutritional needs locally by 2030, the agri-food industry will be transformed to be highly productive and climate-resilient.

**Reducing Emissions From Industry**

In 2019, Singapore became the first Southeast Asian nation to introduce a carbon tax. To drive decarbonisation, industries are supported to move towards environmentally sustainable production.

**Diversifying Energy Sources**

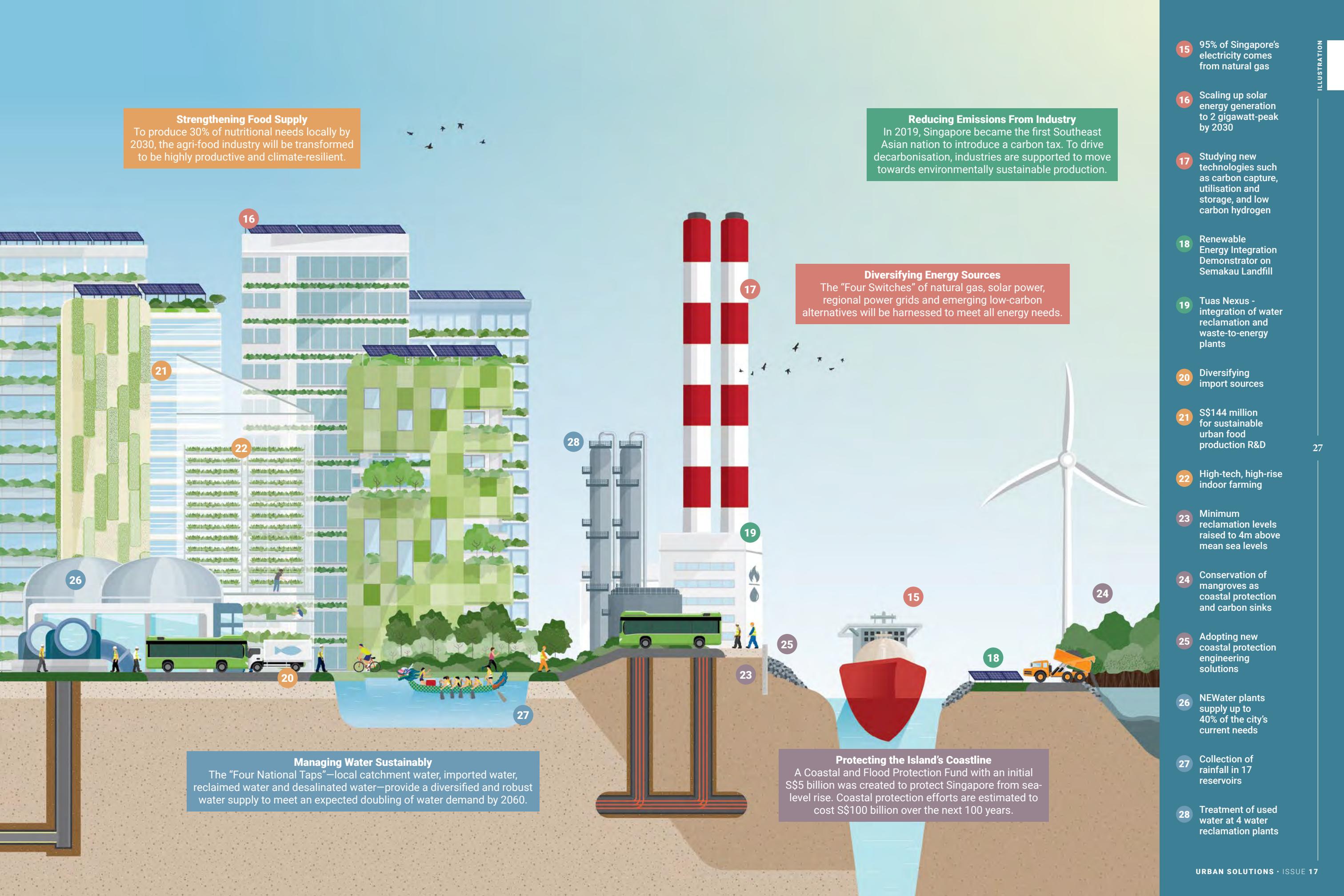
The “Four Switches” of natural gas, solar power, regional power grids and emerging low-carbon alternatives will be harnessed to meet all energy needs.

**Managing Water Sustainably**

The “Four National Taps”—local catchment water, imported water, reclaimed water and desalinated water—provide a diversified and robust water supply to meet an expected doubling of water demand by 2060.

**Protecting the Island’s Coastline**

A Coastal and Flood Protection Fund with an initial S\$5 billion was created to protect Singapore from sea-level rise. Coastal protection efforts are estimated to cost S\$100 billion over the next 100 years.



- 15 95% of Singapore's electricity comes from natural gas
- 16 Scaling up solar energy generation to 2 gigawatt-peak by 2030
- 17 Studying new technologies such as carbon capture, utilisation and storage, and low carbon hydrogen
- 18 Renewable Energy Integration Demonstrator on Semakau Landfill
- 19 Tuas Nexus - integration of water reclamation and waste-to-energy plants
- 20 Diversifying import sources
- 21 S\$144 million for sustainable urban food production R&D
- 22 High-tech, high-rise indoor farming
- 23 Minimum reclamation levels raised to 4m above mean sea levels
- 24 Conservation of mangroves as coastal protection and carbon sinks
- 25 Adopting new coastal protection engineering solutions
- 26 NEWater plants supply up to 40% of the city's current needs
- 27 Collection of rainfall in 17 reservoirs
- 28 Treatment of used water at 4 water reclamation plants