

# TOWARDS A NET-ZERO, CLIMATE-RESILIENT SINGAPORE

## SINGAPORE'S CLIMATE ADAPTATION EFFORTS

As a low-lying tropical island state, Singapore takes the impact of climate change very seriously. We have taken steps to safeguard our future. Through building a strong resilient community, we can better adapt to a changing climate and be prepared for extreme weather events.

### CLIMATE SCIENCE RESEARCH

- The Centre for Climate Research Singapore downscales IPCC findings to project how Singapore's and Southeast Asia's climate will change by 2100 - The latest findings will be released in January 2024

### FLOOD & COASTAL RESILIENCE

- Strengthening flood resilience through catchment-wide solutions i.e., at the **Source** (e.g. detention tanks), **Pathway** (e.g. widening and deepening drains & canals) and **Receptor** (e.g. platform levels and crest protection)
- Studying Singapore's coastlines through progressive site-specific studies to develop solutions for sea-level rise, e.g., Long Island at East Coast
- Developing capabilities to address flood risks holistically through the development of Coastal-Inland Flood Model and Coastal Protection and Flood Resilience Institute (CFI)

### WATER SUSTAINABILITY

- Planning ahead to ensure adequate water infrastructure to safeguard water security, particularly weather-resilient sources of water such as NEWater and desalinated water
- Driving awareness and behavioural change for greater water efficiency and conservation

### HEAT RESILIENCE

- Strengthening community heat resilience with the Heat Stress Advisory
- Cooling our urban spaces by intensifying greenery and deploying cool paint to reduce heat absorption
- Using modelling to inform district and estate planning, e.g., by preserving wind corridors

### FOOD RESILIENCE

- Diversifying import sources to reduce risk of reliance on any single food supply source
- Building the Agri-food industry's capability and capacity to sustainably produce 30 percent of the country's nutritional needs by 2030
- Stockpiling essential food items

### BIODIVERSITY AND GREENERY

- Transforming Singapore into a City in Nature by conserving and extending Singapore's natural capital island-wide, such as planting one million more trees across Singapore from 2020 to 2030
- Implementing habitat restoration and species recovery plans to strengthen the conservation of native plant and animal species
- Leveraging technology for tree inspection and monitoring to mitigate risk of tree failure during severe weather

### PUBLIC HEALTH

- Controlling dengue through innovative solutions such as *Wolbachia* technology and stronger community action
- Enhancing biosurveillance programmes to study the risks and potential management strategies for the control of diseases transmitted between animals and humans

### INFRASTRUCTURE RESILIENCE

- Reviewing building codes to ensure structural integrity of infrastructure and climate-proofing our network infrastructure (e.g., transport, telecommunications and energy) to withstand projected changes such as increased wind speeds



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## SINGAPORE'S CLIMATE MITIGATION EFFORTS

Singapore is committed to achieving net zero emissions by 2050. Notwithstanding Singapore's small geographical size and lack of renewable energy resources, we will work closely with the international community and our society towards a low carbon future.

# CLIMATE MITIGATION EFFORTS

### CARBON TAX

- Raising our carbon tax level to around US\$19 per tonne of emissions in 2024, and progressively to US\$37-60 dollars by 2030, making it one of the highest in Asia

### RENEWABLE ENERGY IMPORTS

- Singapore is working with our regional partners to develop regional power grids and import up to 4 gigawatts (GW) of low-carbon electricity by 2035. We have since awarded 4GW of Conditional Approvals to import low-carbon electricity from Cambodia, Indonesia, and Vietnam. These projects will allow Singapore to meet our 4GW imports target by 2035 and are building blocks towards our vision of the ASEAN Power Grid

### SOLAR DEPLOYMENT

- Singapore have sought to maximise solar deployment, including on reservoirs and on temporarily vacant land. These efforts have made Singapore one of the world's most solar dense cities

### HYDROGEN

- Singapore is working closely with industry to study the deployment of hydrogen in different sectors. EMA and MPA launched an ammonia Expression of Interest (EOI) to develop an end-to-end solutions for the use of low-carbon ammonia in power generation and marine bunkering. Six shortlisted consortiums from the EOI will be invited to participate in the Request For Proposal (RFP). After further technical studies, the Government will identify a lead developer to jointly develop the project

### LOW-CARBON ENERGY

- Singapore is also studying domestic potential for geothermal, harnessing deep underground heat to generate electricity

### ARTICLE 6 CARBON MARKET COLLABORATION

- Agreements with more than 10 countries such as Ghana, Vietnam, Cambodia, Chile, and Papua New Guinea. Carbon market collaboration can accelerate climate action internationally, and bring co-benefits such as sustainable development to local communities
- Singapore, as a carbon services and trading hub in Asia, and our Article 6 aligned carbon credits collaborations with partner countries, help to enable a more vibrant carbon market which unlocks mitigation action

### SUSTAINABLE TOURISM

- Singapore as a sustainable tourism destination - First country to achieve Global Sustainable Tourism Council Destination certification and ongoing efforts to obtain internationally-recognised certification for hotel room stock

### SUSTAINABLE ENTERPRISES

- Growing local enterprises, in particular SMEs, to capture sustainability opportunities

### CLEANER ENERGY VEHICLES

- Extension of EV Common Charger Grant to Dec 2025
- Extension of EV Early Adoption Incentive to December 2025

### GREENING OUR PUBLIC BUS FLEET

- Awarded tender for procurement of 360 electric public buses in 2023 Construction of new bus depots to support electric public bus operations by 2030
  - Awarded contracts for deployment of EV charging systems at 3 bus depots in 2023

### SUSTAINABLE AVIATION

- Set-up a \$50 million Aviation Sustainability Programme to support feasibility trials, research studies and proof-of-concepts with aviation stakeholders
- Target for 100% of airside vehicles at Changi to run on cleaner energy by 2040
  - To drive this transition, all new light vehicles, forklifts and tractors will be electric from 2025
- Singapore is now home to the world's largest production facility for jet fuels made from waste materials like used cooking oil and animal fats and this helps to reduce carbon emissions for global air travel

### SUSTAINABLE MARITIME

- Harbour craft sectors to achieve net zero emissions by 2050
  - To achieve this target, all new harbour craft must be fully-electric, be capable of using B100 biofuels, or be compatible with net zero fuels from 2030

