

# Our Singapore, Our Future





## The Singapore Story on Sustainability and Liveability

Thanks to our pioneers, we were green even before it was fashionable to be green.

Our journey towards sustainability started in the 1960s before environmental issues became a global concern. We were a fledgling nation facing high unemployment, urban slums, poor infrastructure, lack of sanitation and an unskilled labour force.

Our leaders then asked bold questions about the long-term vision for Singapore and they made a conscious decision to green our country. Then Prime Minister Mr Lee Kuan Yew believed that “*a blighted urban jungle of concrete destroys the human spirit*” and that “*we need the greenery of nature to lift our spirits*”. In 1963, he planted the first tree that sowed the seeds to make Singapore a Garden City.

Thereafter, we saw the launch of the Keep Singapore Clean Campaign in 1968, the regulation of air pollution through the 1971 Clean Air Act and the decision to locate pollutive industries away from residential areas in the 1970s. These were bold steps for a newly industrialising country. In the 1980s, we transformed the Singapore River from a heavily polluted passageway for boats to the beautiful urban water catchment area and vibrant destination that it is today.

Today, Singapore is recognised as a liveable and sustainable city. In 2011, a Siemens-Economist Intelligence Unit study ranked Singapore as Asia’s greenest city. Our urban solutions have also attracted international interest and we see growing participation in our biennial World Cities Summit, Singapore International Water Week and CleanEnviro Summit Singapore. These platforms allow us to share our experiences with and learn from other cities about sustainable development, enhancing our capability and inspiring us to do better.

The Singapore we have today did not come about by chance. It is the result of visionary leadership, careful, long-term planning and the hard work of our forefathers who created this place we call home.



The 3 Pillars of Sustainable Development:  
Promoting Social and Economic Well-Being while  
Protecting the Environment



## The Sustainable Singapore Blueprint

We built on this strong foundation and published the first edition of the Sustainable Singapore Blueprint in 2009. The 2009 Blueprint outlined plans for a *Lively and Liveable Singapore, one that Singaporeans love and are proud to call home.*

Singapore has made good progress in our sustainability journey and is on track to achieve our 2020 and 2030 targets laid out in the 2009 Blueprint. We have even exceeded some of our targets, such as the amount of recreational waterways and skyrise greenery.

The new initiatives we have launched since 2009 include:

- Smart city pilots with sustainable features at Marina Bay, Jurong Lake District and Punggol
- Ambitious plans to ramp up public transport infrastructure
- Renewed greening efforts to make Singapore a City in a Garden
- Minimum energy and water efficiency standards for more household appliances
- More Active, Beautiful, Clean Waters (ABC Waters) projects
- A new Maritime Singapore Green Initiative
- The 3R fund to encourage waste reduction and recycling
- The Department of Public Cleanliness to integrate cleaning functions across the Government
- The Centre for Liveable Cities to promote knowledge-sharing on urban development with other countries.

These efforts have borne fruit. In the Sustainable Singapore Blueprint survey<sup>1</sup> that we conducted with 2,000 residents earlier this year, almost 80% of respondents viewed Singapore as a liveable and sustainable place.

Singapore has come a long way over the past 50 years. The future presents challenges that our generation, and those to come, must rise to meet. As cities around the world develop and as the global population grows, there will be increasing competition for a finite supply of resources. Coupled with the pressures brought about by climate change, these challenges mean that the road ahead may not be smooth sailing.

To provide a high quality living environment for Singaporeans, we have to carefully prioritise the use of limited land between competing national needs such as housing, transport and commercial uses. We also need to work harder to achieve an even cleaner and healthier environment with excellent air and water quality. Given our limited space for landfill, we must do our best to reuse, reduce and recycle our materials. If everyone plays a part, we can continue to be a model liveable and sustainable city – one that provides a good quality of life for Singaporeans today and in the future.



Sengkang Floating Wetland

<sup>1</sup> The Ministry of National Development and the Ministry of the Environment and Water Resources commissioned a survey to understand public attitudes and perceptions on sustainability, liveability and environmental issues.

## Sustainable Land Planning Principles

- **Develop an efficient city** and adopt innovative ideas to improve our living environment and optimise land use
- **Promote the use of public transport** by providing an extensive rail network and intensifying land use around rail stations
- **Decentralise commercial centres** to provide more jobs near homes, as well as to reduce the need to travel and peak hour traffic congestion
- **Provide a quality living environment** by offering a wide variety of housing choices and comprehensive amenities within each new town
- **Conserve our natural and built heritage** by safeguarding Nature Reserves and Nature Areas and carefully conserving buildings with outstanding architecture and historical significance
- **Foster community spirit** through the provision of public spaces and by facilitating active civic participation in sustainable development

There are also many global challenges that Singapore has to grapple with.

Like many other countries, Singapore is vulnerable to risks arising from climate change, such as rising sea levels. Globalisation and the increased connectivity we have today also make it easier for any problem to be transmitted from one part of the world to another, such as supply chain disruptions and public health risks. We need to deepen our understanding of our vulnerability to climate change and plan early for climate change adaptation as a long-term insurance policy for Singapore.

In addition, global population and economic growth will place greater pressures on water, energy, food and raw materials, most of which Singapore imports. We must make better use of our limited water and energy resources at home and at work. While Singapore contributes less than 0.2% of global emissions, we are committed to mitigate our carbon footprint as much as we can.

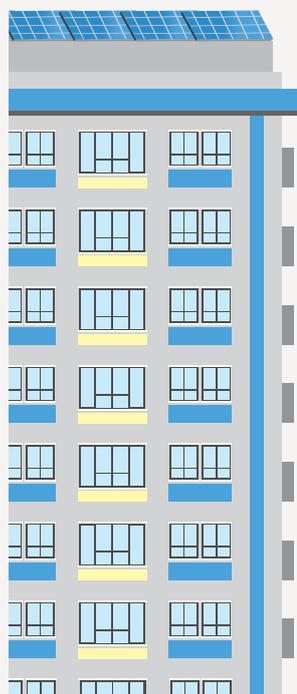
The Sustainable Singapore Blueprint 2015 is a response to these challenges. It outlines our national vision and plans for a more liveable and sustainable Singapore. Everyone has an important part to play if we are to succeed and realise our vision for

### **A Liveable and Endearing Home A Vibrant and Sustainable City An Active and Gracious Community**

With a committed Government, forward-looking industry partners and active civic participation, Singapore can be a nation where every Singaporean is happy to live in and proud to call home.

# Sustainable Singapore Blueprint – Where We Are Today

## Eco-Friendly Buildings



**Sustainability features** implemented in some of our HDB flats



LED lighting in common areas

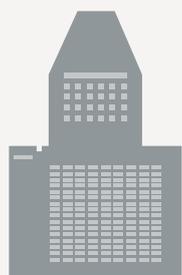


energy regenerative lift



centralised chutes for recyclables

**>170** HDB blocks with solar panels



**130** buildings have benefited from the **Green Mark Incentive Scheme for Existing Buildings**

**2,100** with **BCA Green Mark** certification

**>2,600** with **Water Efficient Building** certification

## Green and Blue Spaces



More than **80%** of households within 10-min walk of a park

**24 Active, Beautiful, Clean Waters** projects completed with **26** more underway

The **Singapore Index on Cities' Biodiversity** allows cities to benchmark their biodiversity conservation efforts over time.



**1/2** of new residential and **1/3** of new commercial buildings greened under **Landscaping of Urban Spaces and High Rises scheme** since 2009

**110** existing buildings greened through **Skyrise Greenery Incentive Scheme**

	2009	2013
Amount of skyrise greenery (ha)	10	61
Amount of green space (ha)	3,602	4,040
Length of park connectors (km)	113	216
Amount of waterbodies open for recreational activity (ha)	650	959
Length of waterways open for recreational activity (km)	72	93

## Sustainable Transport



Rail network extended to about **180 km** today

At least **4 in 5 buses** run every **10 minutes** or less during peak hours on weekdays

**>100 km** of cycling paths built since 2009

**Carbon Emissions-Based Vehicle Scheme** for more environmentally friendly vehicles implemented

## Public Cleanliness



**Department of Public Cleanliness** has integrated public cleaning since 2012

**>100 Enhanced Clean Mark** accredited companies since 2012; licensing regime introduced in 2014

**>300 litter-free Bright Spots** created since 2012

## Energy Use



**>200 companies** are part of the **Energy Efficiency National Partnership**



**\$125m** of annual energy savings identified under **Energy Efficiency Improvement Assistance Scheme** and **\$712m** of projected lifetime energy savings from **Grant for Energy Efficient Technologies**

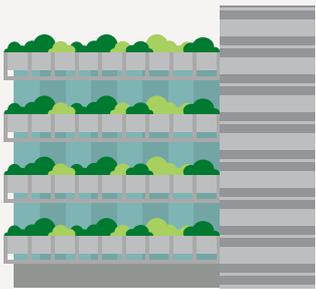


**Mandatory Energy Labelling Scheme and Minimum Energy Performance Standards** for household appliances

Energy consumption per \$ GDP, improvement from 2005 (%)



## Water Use



**>370 companies** have submitted voluntary **Water Efficiency Management Plans** since 2010



**Mandatory Water Efficiency Labelling Scheme and Minimum Water Efficiency Standards** for household appliances and water fittings



**>70** projects funded under **Water Efficiency Fund**

Domestic water consumption (litres per capita per day)



## Waste & Recycling



**>140 signatories** saved **>20,000 tonnes** of packaging waste under the **Singapore Packaging Agreement**



**20,000 tonnes** of waste to be reduced, reused or recycled with **3R Fund** projects



**1 recycling bin for every HDB block** rolled out since 2011

National recycling rate (%)



## Air Quality



Power stations and refineries are implementing process improvements



Tighter emissions standards for new vehicles implemented



Annual ambient mean ( $\mu\text{g}/\text{m}^3$ )	From 2008 to 2013
PM 2.5	16 to 20
SO <sub>2</sub>	11 to 14



## New Efforts in Sustainability and Liveability

The Sustainable Singapore Blueprint 2015 is an extension of the efforts outlined in the 2009 edition. This review takes into consideration feedback obtained from more than 130,000 people through recent initiatives, including the Land Transport Master Plan 2013 and the Urban Redevelopment Authority’s Master Plan 2014.

Over the past year, 6,000 people have been engaged through our dialogues, surveys and internet portal for the Sustainable Singapore Blueprint. We are grateful to those who have taken the time to share their experiences and thoughts on how Singapore can be more liveable and sustainable.

### ENVision Exercise

The Singapore Environment Council (SEC) conducted an exercise to understand Singaporeans’ values and redefine a vision for our environment. It held a total of 19 dialogue sessions from February to April 2014 where about 440 participants shared their views on Singapore’s environmental future. There was recognition that Singapore’s clean, green and safe environment should not be taken for granted. The collective values and environmental vision developed through the exercise, along the lines of Home, City and Community, influenced the development of the Sustainable Singapore Blueprint 2015.

We are heartened to hear from Singaporeans that the Singapore we have today is a clean and green one that many of us appreciate and love. Singaporeans have also expressed hopes for a cleaner and greener future. More can be done to make our living environment even better and more inclusive to support the diverse needs and aspirations of Singaporeans.

Working together, we can realise the bold plans and ambitious targets outlined in this Blueprint to create a better future for ourselves.



Thanking those who contributed to ENVision

## A Liveable and Endearing Home

### “Eco-Smart” Endearing Towns



As smart technology and eco-friendly features are embedded into our towns and homes, Singaporeans will enjoy greater convenience and a better quality of life. Enjoying time with family and friends will be easier with parks, ABC Waters projects, sports facilities, and other community amenities nearby. A green lifestyle will be second nature for many, with more ways for people to save energy and water at home and with dual chutes to enable residents to segregate their recyclables easily while keeping our environment clean.

- Introduce a new generation of highly liveable housing districts with innovative design and technology, such as Punggol Northshore, Jurong Lake District, Kampong Bugis and Marina South
- Rejuvenate estates and introduce sustainability features through programmes such as Remaking Our Heartland and HDB Greenprint
- Promote environmental sustainability beyond buildings to a wider range of facilities and spaces through the BCA Green Mark schemes
- Provide and maintain lush greenery in our urban environment and conserve our natural heritage to realise a City in a Garden
- Implement more ABC Waters projects to create more recreational blue spaces
- Provide opportunities for the community to enhance public spaces in their neighbourhoods
- Make it easier for residents to save water and energy and reduce, reuse and recycle waste

### A “Car-Lite” Singapore



With a denser rail network and extensive bus services, we will be able to travel seamlessly and efficiently around our city. Cycling and walking will become popular forms of getting around in our neighbourhoods and regions. Electric car-sharing and driverless car trials will be conducted in parts of Singapore. We can work together to achieve a peak hour mode share of 75% for public transport by 2030, up from 64% in 2013. With a “car-lite” Singapore, we can reduce our carbon footprint, as well as enjoy fresher air, a cleaner environment and a healthier lifestyle.

- Introduce innovative features and creative designs to towns to provide a better cycling and walking environment, starting with Ang Mo Kio
- Develop a comprehensive cycling network spanning more than 700 km by 2030, with supporting infrastructure and a code of conduct to promote safe cycling within and across towns
- Create more car-free spaces in housing estates and the city, such as the Civic District, where roads are temporarily or permanently closed for public activities
- Introduce driverless vehicles on a larger scale in Singapore
- Pilot an electric car-sharing scheme to allow residents convenient access to electric cars without having to own one

## A Vibrant and Sustainable City

### Towards a Zero Waste Nation



We will work towards becoming a Zero Waste Nation by reducing our consumption of, as well as reusing and recycling all materials to give them a second lease of life. The Government, the community and businesses will come together to put in place infrastructure and programmes that make this our way of life. We will keep Singapore clean and healthy, conserve precious resources, and free up land that would otherwise have been used for landfills, for our future generations to enjoy.

- Introduce centralised chutes for recyclables in all new HDB flats and facilitate recycling in private housing through better infrastructure support
- Introduce Pneumatic Waste Conveyance Systems in more HDB towns to support convenient and hygienic waste disposal
- Build an Integrated Waste Management Facility which will have the capacity to segregate recyclables from waste
- Introduce more initiatives to reduce food waste in Food & Beverage businesses and to improve recycling of electrical and electronic waste

### A Leading Green Economy



Our businesses will adopt greener practices, our city will be a hub for the cutting-edge business of sustainable development, and Singaporeans can enjoy jobs in this exciting and meaningful sector. We will create Living Labs to test-bed ideas that improve lives and are good for the environment.

We aim to raise solar penetration rates and have 80% of our buildings achieve the BCA Green Mark standard by 2030, up from 25% today. Businesses in Singapore will be internationally renowned for doing well by doing good.

- Introduce new innovation districts such as the integration of CleanTech Park, Nanyang Technological University, future industrial estates like Bulim and Jalan Bahar, and Tengah, as a living laboratory that fosters creativity and innovation
- Plan to raise the adoption of solar power in our energy system to 350 MWp by 2020. To this end, create lead demand for solar deployment through the SolarNova programme
- Test more green innovations, including a Renewable Energy Integration Demonstrator – Singapore test-bed on Semakau Landfill
- Develop a \$52 million Green Buildings Innovation Cluster to grow our capability in developing green buildings
- Create more green, quality jobs, from an estimated 60,000 in 2011
- Launch initiatives to encourage Singapore-based companies to adopt best-in-class sustainability practices

## An Active and Gracious Community



Singaporeans are at the heart of this Blueprint. We, and our children, are the beneficiaries of its desired outcomes. At the same time, our collective efforts and commitment today are needed to realise these outcomes in this Blueprint.

Singaporeans must become exemplary stewards of our environment. We must participate in shaping our neighbourhoods and building a more gracious society together. It should be second nature for people, businesses and the Government to come together to care for our common spaces and environment, take a long-term perspective in conserving precious resources, and champion a sustainable way of life.

- Provide more public spaces for communities to contribute in terms of design and programmes, such as enlivening new HDB town plazas in places like Punggol and Bedok
- Engage the public on The Ubin Project to collectively enhance our natural environment in a sensitive and sensible manner, create experiences, and experiment with new, sustainable technologies
- Work with stakeholders to realise and enhance the Rail Corridor as a contiguous green space for recreational use
- Create more litter-free “Bright Spots” as part of the Keep Singapore Clean Movement
- Encourage more businesses to be sensitive to their environmental impact and to participate in voluntary programmes
- Take the lead in environmental sustainability through the ‘Public Sector Taking the Lead in Environmental Sustainability’ 2.0 initiative

These ideas summarise how the Sustainable Singapore Blueprint 2015 aims for Singapore to become

### **A Liveable and Endearing Home A Vibrant and Sustainable City An Active and Gracious Community**

The Singapore story has always been about individuals putting society above self, turning constraints into opportunities and coming together to build an endearing home for all.

The ingenuity and strong “can-do” spirit of Singaporeans will continue to be instrumental in our journey ahead. A clean and green Singapore created and sustained through shared effort, commitment and shared values will make Singapore the exceptional Home for many generations of citizens to come. This Blueprint is a plan for action and provides all of us with a precious opportunity to work together to create a better home, environment and future.