

KEY ENVIRONMENTAL STATISTICS 2020



Ministry of Sustainability
and the Environment

SINGAPORE

Clean Air

**2020
Air Quality
Target for
Singapore¹**

Pollutant	Averaging time	2017	2018	2019	2020 Air Quality Target for Singapore ¹
Sulphur Dioxide (SO ₂) (µg/m ³)	24-hour ² Annual	59 12	65 9	57 8	50 15
Nitrogen Dioxide (NO ₂) (µg/m ³)	1-hour ² Annual	158 25	147 26	156 23	200 40
Ozone (O ₃) (µg/m ³)	8-hour ²	191	150	125	100
Particulate Matter (PM) 10 (µg/m ³)	24-hour ³ Annual	57 25	59 29	90 30	50 20
Particulate Matter (PM) 2.5 (µg/m ³)	24-hour ³ Annual	34 14	32 15	62 16	37.5 12
Carbon Monoxide (CO) (mg/m ³)	1-hour ² 8-hour ²	2.3 1.7	2.5 2.0	2.3 1.7	30 10

1 Singapore's 2020 air quality targets are benchmarked against the World Health Organisation's (WHO) Interim Targets and Air Quality Guidelines, except for the SO₂ and PM2.5 annual targets. There is no WHO SO₂ annual guideline value, and our PM2.5 annual target is more stringent than WHO's interim target.

2 Maximum 24-hour, 8-hour or 1-hour

3 99th percentile

Air Quality in terms of PSI



Note: PSI includes Sulphur Dioxide (SO₂), Particulate Matter (PM10), Particulate Matter (PM2.5), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO) and Ozone (O₃). Figures are rounded to the nearest 0.5. Air quality was affected by transboundary smoke haze from land and forest fires in 2013, 2014, 2015, 2016 and 2019.

Solid Waste Management



1 Total waste generated = Total waste recycled + Total waste incinerated + Total waste landfilled

2 Sustainable Singapore Blueprint target for 2030 is 70% for overall recycling rate, 30% for domestic recycling rate and 81% for non-domestic recycling rate.

3 Figures exclude metals recovered from Incineration Bottom Ash.

4 Total waste landfilled includes non-incinerable waste such as construction and demolition waste, used slag and treated sludge etc. and excludes incineration ash generated from waste disposed through incineration.

5 Measured from the start of the lifespan of Semakau landfill, i.e. 1999.

6 Figures were revised following a review of the waste and recycling statistics in 2019.

Solid Waste Management

Waste Stream	Amount of Waste Generated (Mil tonnes/yr)	Amount of Waste Recycled (Mil tonnes/yr)	Recycling Rate (%)
Construction & Demolition	1.44	1.43	99
Ferrous metal	1.28	1.27	99
Paper/Cardboard	1.01	0.45	44
Plastics	0.93	0.04	4
Food	0.74	0.14	18
Wood	0.44	0.29	66
Horticultural	0.40	0.29	73
Ash & sludge	0.25	0.03	10
Textile/Leather	0.17	0.01	4
Used slag	0.13	0.13	98
Non-ferrous metal	0.13	0.12	99
Glass	0.08	0.01	14
Scrap tyres	0.03	0.03	94
Others(stones, ceramics, rubber etc.)	0.21	0.02	7
Total	7.23	4.25	59

The figures may not add up to the total due to rounding off.

Wood and horticultural waste recycled include 458,000 tonnes sent to facilities (e.g. biomass power plants and Sembcorp's Energy from Waste plant) for use as fuel.

Environmental Health

Vector Control	2017	2018	2019
No. of local dengue (DF¹ and DHF²) cases per 100,000 population	45.1	54.4	275.2

1 Dengue Fever (DF) is caused by infection with a dengue virus [Source: Ministry of Health].

2 Dengue Haemorrhagic Fever (DHF) is a severe form of dengue fever that could result in death [Source: Ministry of Health].

Food Safety and Supply Resilience

Food Supply Resilience	2017	2018	2019
	3	3	3
No. of the 5 key food items (fish, eggs, chicken, pork and leafy vegetables) that has less than 50% of supply from a single country	(Achieved for key food items: pork, chicken and fish)		
Food Safety	2017	2018	2019
Foodborne illness cases related to foodborne outbreak per 100,000 population¹ (≥ 15 people affected per outbreak)	-	-	20.1²
No. of SFA-licensed local farms (land-based and sea-based)	222	223	222
No. of SFA-licensed food establishments³ (non-retail and retail)	35,169	36,175	38,373
No. of SFA-licensed hawkers (hawker stalls⁴ and street hawkers)	13,865	13,921	13,882

1 This food safety indicator harmonises former AVA and NEA's food safety indicators, to cover foodborne illnesses across the whole food supply chain from farm-to-fork, including retail.

2 As of 25 June 2020, there are four foodborne outbreak incidents pending conclusion of investigations. These cases have not yet been included in the current count.

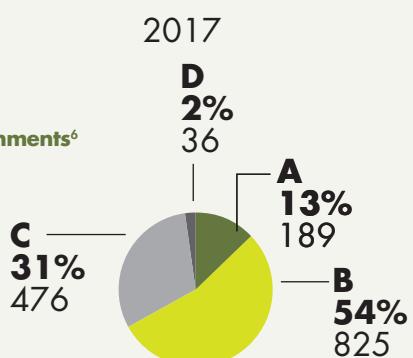
3 Comprises non-retail food establishments (e.g. food manufacturers, cold stores, slaughterhouses); and retail food establishments (e.g. coffee shops, restaurants, cafes, takeaway shops, supermarkets, and food caterers).

4 Hawker stalls refer to smaller compartmentalised units which are housed within markets/food centres owned by MSE and HDB (excludes private markets/food centres of other Statutory Boards, e.g. SLA's Lau Pa Sat and JTC's Jurong Port Road Food Centre).

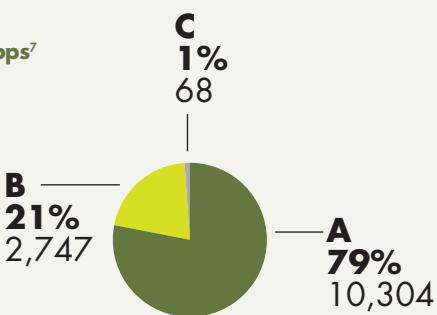
Grading issued to food establishments and hawkers⁵

Grading issued

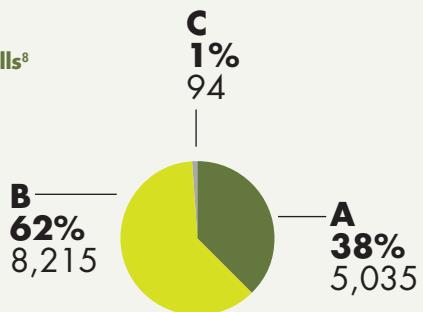
Non-retail food establishments⁶



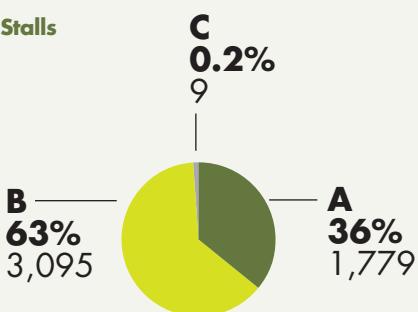
Food Shops⁷



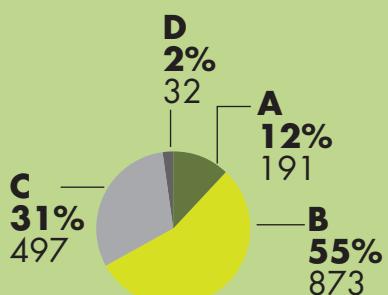
Food Stalls⁸



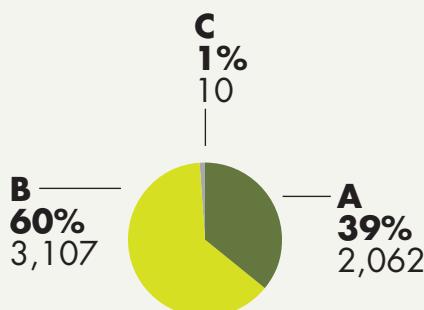
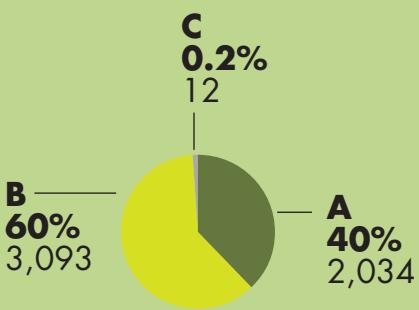
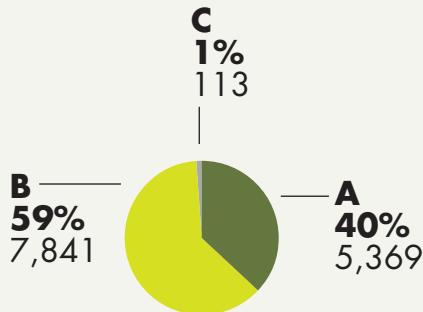
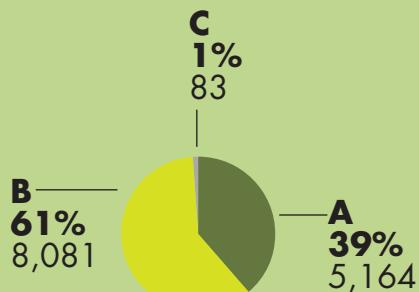
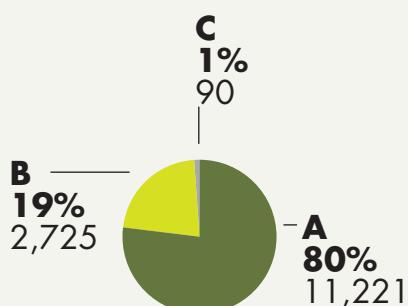
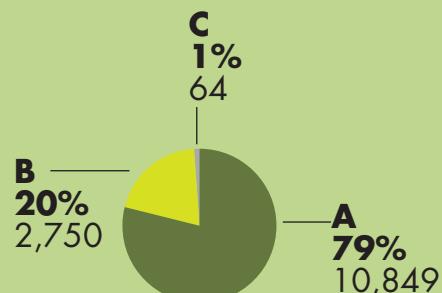
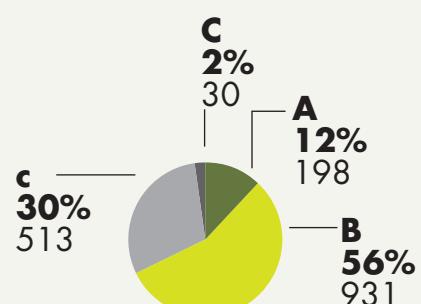
Hawker Stalls



2018



2019



⁵ There is no grading for private markets, supermarkets and street hawkers. Percentages for the figures may not add up to 100 percent due to rounding off.

⁶ Non-retail food establishments refer to food processing establishments where food is manufactured, processed, prepared or packed for the purpose of distribution to wholesalers and retailers.

⁷ Food shops refer to establishments which are licensed to retail food businesses (e.g. food court).

⁸ Food stalls refer to smaller compartmentalised units which are housed within a food shop.

Water Resource Management

(2017-2019)

Access to Improved Drinking Water Sources¹

Access to Improved Sanitation²

Tests meeting WHO drinking water quality guidelines

100%



System Efficiency	2017	2018	2019
Distribution Losses ³ (%)	8.1	8.3	8.2
No. of leaks per 100km of potable water pipelines	6.0	4.6	5.3
No. of disruptions per month per 1,000 km of sewers (average over a year)	10.2	10.3	10.4
Flood-prone areas (Hectares)	29.6	29.0	29.0

Supply (Mil m ³)	2017	2018	2019
Sale of potable water in Singapore			
– Domestic	294.8	294.2	297.6
– Non-domestic	204.5	201.3	202.6
Sale of NEWater	140.2	140.5	145.5
Sale of Industrial Water	19.9	20.6	17.9
Volume of used water treated	595.4	585.8	577.6

¹ As defined by the World Health Organisation (WHO), i.e. water sources that, by nature of construction or through active intervention, are protected from outside contamination. These include piped water into premises, protected dug well, etc.

² As defined by WHO, i.e. sanitation facilities that hygienically separate human excreta from human contact. These include flush/pour flush toilets or latrines connected to a sewer, septic tank, etc.

³ "Distribution Losses" has replaced the "Unaccounted for Water" indicator from 2019 onwards as "Distribution Losses" accounts for all possible leaks and is therefore, a more holistic indicator on water loss.

Water Resource Management

	2017	2018	2019
Water Demand and Management			
Per Capital Household Water Consumption ¹ (Litres/day)	143	141	141
Public Outreach			
No. of lifestyle events held at reservoirs and waterways	426	366	244
No. of ABC Waters projects completed by PUB (cumulative) ²	36	41	44

¹ A new target of 130 L/day by 2030 was set in 2018.

² Figures include projects carried out by public agencies and exclude test-bedding projects.

Climate Change and Energy Efficiency

Climate Change/Energy	2017	2018	2019
Total greenhouse gas emissions ^{1,2} (KtCO ₂ e)	52,015	52,167	NA³
Energy consumption per dollar GDP ² (% improvement from 2005 levels)	32.7	34.9	NA³
Grid emissions factor ^{2, 4} (kgCO ₂ /kWh)	0.4192	0.4188	NA³
Domestic electricity use per capita ^{4,5} (MWh)	1.30	1.28	NA⁶

1 Estimated using 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories and Global Warming Potential values from the IPCC 5th Assessment Report. International Bunker fuels are excluded in accordance with United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines.

2 Figures may be periodically updated as more accurate data (e.g. from the refrigeration and air-conditioning sector) are made available.

3 Data will be available in 2021.

4 Data obtained from Energy Market Authority.

5 Data obtained from Department of Statistics.

6 Data will be available in 2020.

Regional and International Collaboration

Environmental agreements that Singapore has ratified/acceded to



¹ This agreement is not yet in force

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40 Scotts Road, Environment Building, #24-00 Singapore 228231

Website: www.mse.gov.sg

Feedback: <https://www.mse.gov.sg/top/feedback>

MSE Quality Service: 1800-738-4622

Fax: (65) 6731 9456



40 Scotts Road, Environment Building, #13-00 Singapore 228231

Website: www.nea.gov.sg

Feedback: <http://www.nea.gov.sg/corporate-functions/feedback>

Contact Centre Hotline: 1800-CALL-NEA (1800-2255-632)

Fax: (65) 6235 2611



40 Scotts Road, Environment Building, #22-01 Singapore 228231

Website: www.pub.gov.sg

Email: PUB_One@pub.gov.sg

PUB-One (24-hour Contact Centre): 1800-CALL-PUB (1800-2255-782)

Fax: (65) 6725 8015



52 Jurong Gateway Road, JEM Office Tower, #14-01, Singapore 608550

Website: www.sfa.gov.sg

Feedback: <https://csp.sfa.gov.sg/feedback>

Contact Centre Hotline: 1800-CALL-SFA (1800 805 2575)

Fax: (65) 63341831

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