

Methodology for Categorising Singapore’s Progress in Our Sustainable Development Under United Nations (UN) Global Indicator Framework (GIF)

I. Introduction

Singapore has been reporting and monitoring the progress in the Sustainable Development Goal (SDG) implementation based on the UN GIF, comprising 17 SDGs with 169 targets and 248 indicators. This methodological note describes how each of the indicators and targets is colour-coded to represent the current progress made by Singapore to achieve the 2030 Agenda.

II. Overview

There are currently a few methods in measuring SDG progress. The method used by Singapore is mainly adapted from the UN Statistics Division’s (UNSD’s) *SDG Progress Chart Technical Note methodology*¹ used in its *SDG Progress Chart 2022*² (which presented a snapshot of global and regional progress of 36 selected SDG indicators), with some modifications to suit Singapore’s local context.

Singapore’s SDG progress is established based on the trend growth of all indicators. Each of the indicator is colour-coded to a 4-colour schema based on its trend assessment performance. When more than one series for an indicator are involved (for example, SDG 3.c.1 on health worker density which comprises separate data series for doctors, nurses and pharmacists), all the individual sub-indicators are used in the calculations. However for an indicator with disaggregation (for example, by sex or age), only the overall series (that is, total) is considered. The data used in the analysis are sourced from government agencies and internationally recognised sources, which are shown in the SDG Webpage³ on the SingStat website maintained by the Singapore Department of Statistics (DOS).

III. Methodology

1. Trend Assessment at Indicator Level

The trend assessment measures the progress of indicator from a baseline year of 2015 or the nearest reference year with data (if there is no data in 2015) to the latest available data. Trends are represented by four assessment colours as described in [Table 1](#).

Different formulae are used for the trend assessment involving: (a) indicators **without** explicit numerical target, and (b) indicators **with** explicit numerical target. The indicators with explicit numerical targets are as specified in the GIF SDG Target, global metadata and/or UNSD’s *SDG Progress Chart Technical Note 2022*. A total of 129 indicators with explicit targets or desired trends, and where data are available for Singapore, have been identified and included in the assessment as shown in the [Annex](#).

If the indicator’s current level has already met or almost met the numerical target, its trend assessment will be assigned as ‘**Good/Fair progress made**’ by default. Otherwise, its trend assessment is determined based on the method described below and summarised in Table 1.

¹ https://unstats.un.org/sdgs/report/2022/Progress_Chart_Technical_Note_2022.pdf

² <https://unstats.un.org/sdgs/report/2022/progress-chart>

³ <https://www.singstat.gov.sg/find-data/sdg>

Table 1

Colour	Indicator's Trend Assessment	<u>Without</u> an explicit numerical target		<u>With</u> an explicit numerical target
		For indicators which should increase over time (such as increasing coverage of health care and essential services)	For indicators which should decrease over time (such as reducing poverty, hunger or diseases)	
Green	Good or fair progress made	$CAGR_a \geq 0.005\%$	$CAGR_a \leq -0.005\%$	$CR \geq 0.5$
Orange	Further progress needed	$CAGR_a < 0.005\%$	$CAGR_a > -0.005\%$	$CR < 0.5$
White	Insufficient (i.e. only one data point available) or unavailable data	-	-	-
Grey	Indicator not applicable	-	-	-

Note: $CAGR_a$ refers to the actual compound annual growth rate while CR refers to the comparative ratio as described below.

1a) Measuring trend for indicators **without** an explicit numerical target

The Actual Compound Annual Growth Rate ($CAGR_a$) is used to assess the trends.

$$CAGR_a = \left(\frac{x_t}{x_{t_0}} \right)^{\frac{1}{t-t_0}} - 1$$

Where x_t is the numerical value of the SDG indicator in year t ;

t is the year when the latest data is available;

t_0 is the baseline year (the default baseline year is 2015 with a few exceptions); and

x_{t_0} is non-zero.

1b) Measuring trend for indicators **with** an explicit numerical target

The comparative ratio (CR) of the actual growth rate ($CAGR_a$) to the required growth rate ($CAGR_r$) to reach the target in 2030 is used to assess the trends.

Calculate required growth rate ($CAGR_r$) till 2030:

$$CAGR_r = \left(\frac{x^*}{x_{t_0}} \right)^{\frac{1}{2030-t_0}} - 1$$

Compare the actual versus the required growth by calculating the ratio of the two:

$$CR = \frac{CAGR_a}{CAGR_r}$$

Where x^* is the numerical target of the SDG indicator in 2030.

Example 1.1

SDG 6.1.1 Proportion of population using safely managed drinking water services

Year	2015	2021
Reported Data (%)	100	100

Explicit numerical target set by UNSD: > 99%
 Assessment: Target met
 Indicator's trend performance: **Good/Fair progress made**

Example 1.2

SDG 8.6.1 Proportion of youth (aged 15–24 years) not in education, employment or training

Year	2015	2021
Reported Data (%)	3.6	4.5

Explicit numerical target set by UNSD: No
 Desired direction of trend over time: Decrease
CAGR_a: 0.038%
 Indicator's trend performance: **Further progress needed**

Example 1.3

SDG 10.c.1 Remittance costs as a proportion of the amount remitted

Year	2017	2021
Reported Data (%)	4.6	3.7

Explicit numerical target set by UNSD: < 3%
CR: 1.64
 Indicator's trend performance: **Good/Fair progress made**

2. Progress Assessment at the Target Level

The progress assessment at the target level is based on its respective indicators' trend assessment performance from [Section 1](#). The progress in meeting each target by 2030 is depicted using a 4-colour schema shown in [Table 2](#). It is based on the criteria described below.

Table 2

Colour	Target's Progress Assessment
Green	Good or fair progress made
Orange	Further progress needed
White	Insufficient or unavailable data
Grey	Target not applicable

2a) Target with ‘Grey’ indicators

- (i) A target’s progress colour will be ‘Grey’ only if all its indicators’ trend colours are ‘Grey’. See Example 2.1.
- (ii) For targets where some of its remaining indicators’ trend colours also fall under the other three categories, trend colour ‘Grey’ is excluded when determining the overall target’s progress colour, before applying the criteria in 2(b) below. See Examples 2.2, 2.3 and 2.5.

2b) Target with ‘Green’, ‘Orange’ and ‘White’ indicators

- (i) The majority rule is used to determine the overall targets’ progress colour. See Examples 2.2 to 2.4.
- (ii) For targets with an equal number of indicators’ trend colours, the trend colour ‘Green’ takes precedence, followed by ‘Orange’ when determining the overall target’s progress colour. See Examples 2.5 and 2.6.

Example	Distribution of Indicators’ Trend Colour				Target’s Progress Colour
	Green	Orange	White	Grey	
2.1	0	0	0	2	Grey
2.2	1	0	0	2	Green
2.3	0	2	1	1	Orange
2.4	1	0	2	0	White
2.5	1	1	1	2	Green
2.6	0	2	2	0	Orange

IV. Concluding Remarks

The methodology will be periodically reviewed and refined to keep up with recent international developments. The Progress Tracker will be updated with the most recent data at the end of each year via DOS’s SDG Webpage.

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Singapore's Available SDG Indicators with Global Targets and Desired Trends

SDG	Indicator Title	Target/Trend
1.4.1	Proportion of population living in households with access to basic services	Increase
1.4.2	Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure	Increase
1.5.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	Decrease
1.5.3	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	Yes
2.2.2	Prevalence of malnutrition (weight for height $>+2$ or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	Decrease
2.2.3	Prevalence of anaemia in women aged 15 to 49 years, by pregnancy status (percentage)	Decrease
2.a.1	The agriculture orientation index for government expenditures	1.0 index
2.c.1	Indicator of food price anomalies	± 0.5 index
3.1.1	Maternal mortality ratio	< 70 per 100,000 live-births
3.1.2	Proportion of births attended by skilled health personnel	$\geq 95\%$
3.2.1	Under-5 mortality rate	≤ 25 per 1,000 resident live-births
3.2.2	Neonatal mortality rate	≤ 12 per 1,000 resident live-births
3.3.1	Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations	Decrease
3.3.2	Tuberculosis incidence per 100,000 population	Decrease
3.3.3	Malaria incidence per 1,000 population	< 0.1 per 100,000 total population
3.3.4	Hepatitis B incidence per 100,000 population	Decrease
3.3.5	Number of people requiring interventions against neglected tropical diseases	Decrease
3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease	Decrease
3.4.2	Suicide mortality rate	Decrease
3.5.1	Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Increase
3.5.2	Alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	Decrease
3.6.1	Death rate due to road traffic injuries	Decrease

SDG	Indicator Title	Target/Trend
3.7.2	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group	Decrease
3.8.1	Coverage of essential health services	Increase
3.9.3	Mortality rate attributed to unintentional poisoning	Decrease
3.a.1	Age-standardized prevalence of current tobacco use among persons aged 15 years and older	Decrease
3.b.1	Proportion of the target population covered by all vaccines included in their national programme	≥ 95%
3.c.1	Health worker density and distribution	Increase
3.d.1	International Health Regulations (IHR) capacity and health emergency preparedness	Increase
3.d.2	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms	Decrease
4.1.1	Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	Increase
4.2.2	Participation rate in organized learning (one year before the official primary entry age), by sex	Increase
4.4.1	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	Increase
4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	1.0 index
4.6.1	Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	Increase
4.a.1	Proportion of schools offering basic services, by type of service	Increase
4.c.1	Proportion of teachers with the minimum required qualifications, by education level	Increase
5.3.1	Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18	≤ 1%
5.5.1	Proportion of seats held by women in (a) national parliaments and (b) local governments	≥ 40%
5.5.2	Proportion of women in managerial positions	Increase
5.a.1	(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex	Increase
5.b.1	Proportion of individuals who own a mobile telephone, by sex	Increase
6.1.1	Proportion of population using safely managed drinking water services	> 99%
6.2.1	Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water	> 99%
6.3.1	Proportion of domestic and industrial wastewater flows safely treated	Increase
6.3.2	Proportion of bodies of water with good ambient water quality	Increase
6.5.1	Degree of integrated water resources management	Yes
7.1.1	Proportion of population with access to electricity	> 99%
7.1.2	Proportion of population with primary reliance on clean fuels and technology	Increase
7.2.1	Renewable energy share in the total final energy consumption	Increase
7.3.1	Energy intensity measured in terms of primary energy and GDP	Increase

SDG	Indicator Title	Target/Trend
7.b.1	Installed renewable energy-generating capacity in developing countries (in Watts per capita)	Increase
8.1.1	Annual growth rate of real GDP per capita	> 2%
8.2.1	Annual growth rate of real GDP per employed person	Increase
8.5.2	Unemployment rate, by sex, age and persons with disabilities	≤ 3%
8.6.1	Proportion of youth (aged 15–24 years) not in education, employment or training	Decrease
8.8.1	Fatal and non-fatal occupational injuries per 100,000 workers, by sex and migrant status	Decrease
8.8.2	Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	Increase
8.10.1	(a) Number of commercial bank branches per 100,000 adults and (b) number of automated teller machines (ATMs) per 100,000 adults	Increase
8.10.2	Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider	Increase
8.b.1	Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy	Yes
9.1.2	Passenger and freight volumes, by mode of transport	Increase
9.2.1	Manufacturing value added as a proportion of GDP and per capita	> 20%
9.2.2	Manufacturing employment as a proportion of total employment	Increase
9.3.1	Proportion of small-scale industries in total industry value added	Increase
9.5.1	Research and development expenditure as a proportion of GDP	≥ 3%
9.5.2	Researchers (in full-time equivalent) per million inhabitants	Increase
9.b.1	Proportion of medium and high-tech industry value added in total value added	Increase
9.c.1	Proportion of population covered by a mobile network, by technology	> 98%
10.1.1	Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population	Decrease
10.3.1	Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	Decrease
10.4.1	Labour share of GDP	Increase
10.5.1	Financial Soundness Indicators	Increase
10.6.1	Proportion of members and voting rights of developing countries in international organizations	Yes
10.a.1	Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff	Increase
10.c.1	Remittance costs as a proportion of the amount remitted	< 3%
11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities	Increase
11.5.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	Decrease
11.6.1	Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities	Increase

SDG	Indicator Title	Target/Trend
11.6.2	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	Decrease
11.b.1	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	Yes
12.1.1	Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production	Yes
12.3.1	(a) Food loss index and (b) food waste index	< 0.5 index
12.4.1	Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	Yes
12.4.2	(a) Hazardous waste generated per capita; and (b) Proportion of hazardous waste treated, by type of treatment	Decrease
12.5.1	National recycling rate, tons of material recycled	Increase
12.6.1	Number of companies publishing sustainability reports	Increase
12.7.1	Number of countries implementing sustainable public procurement policies and action plans	Yes
12.a.1	Installed renewable energy-generating capacity in developing countries (in Watts per capita)	Increase
12.b.1	Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability	Yes
12.c.1	Amount of fossil-fuel subsidies (production and consumption) per unit of GDP	≤ 0.1%
13.1.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	Decrease
13.1.2	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	Yes
13.2.1	Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change	Yes
13.2.2	Total greenhouse gas emissions per year	Decrease
13.b.1	Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change	Yes
14.2.1	Number of countries using ecosystem-based approaches to managing marine areas	Yes
14.5.1	Coverage of protected areas in relation to marine areas	> 83%
14.a.1	Proportion of total research budget allocated to research in the field of marine technology	Increase
14.c.1	Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources	Yes
15.1.1	Forest area as a proportion of total land area	Increase
15.6.1	Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits	Yes
15.7.1	Proportion of traded wildlife that was poached or illicitly trafficked	Decrease

SDG	Indicator Title	Target/Trend
15.8.1	Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species	Yes
15.9.1	(a) Number of countries that have established national targets in accordance with or similar to Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 in their National Biodiversity Strategy and Action Plans and the progress reported towards these targets; and (b) Integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting	Yes
15.c.1	Proportion of traded wildlife that was poached or illicitly trafficked	Decrease
16.1.1	Number of victims of intentional homicide per 100,000 population, by sex and age	≤ 1 per 100,000 total population
16.1.3	Proportion of population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months	Decrease
16.1.4	Proportion of population that feel safe walking alone around the area they live after dark	Increase
16.2.2	Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	Decrease
16.3.2	Unsentenced detainees as a proportion of overall prison population	< 15%
16.3.3	Proportion of the population who have experienced a dispute in the past two years and who accessed a formal or informal dispute resolution mechanism, by type of mechanism	Decrease
16.6.1	Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)	100%
16.6.2	Proportion of population satisfied with their last experience of public services	Increase
16.7.1	Proportions of positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups	1.0 index
16.8.1	Proportion of members and voting rights of developing countries in international organizations	Yes
16.9.1	Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	Increase
16.b.1	Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	Decrease
17.1.1	Total government revenue as a proportion of GDP, by source	Increase
17.1.2	Proportion of domestic budget funded by domestic taxes	Increase
17.6.1	Fixed Internet broadband subscriptions per 100 inhabitants, by speed	Increase
17.8.1	Proportion of individuals using the Internet	> 90%
17.10.1	Worldwide weighted tariff-average	Decrease
17.11.1	Developing countries' and least developed countries' share of global exports	Increase
17.12.1	Weighted average tariffs faced by developing countries, least developed countries and small island developing States	Decrease
17.13.1	Macroeconomic Dashboard	Yes
17.18.2	Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics	Yes

SDG	Indicator Title	Target/Trend
17.18.3	Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding	Yes
17.19.2	Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration	Yes