

ISO 37125:2024-10 (E)

Sustainable cities and communities - Environmental, social and governance (ESG) indicators for cities

Contents

Page

Foreword..... xii

Introduction..... xiii

1 Scope..... 1

2 Normative references..... 1

3 Terms and definitions..... 1

4 ESG reporting for cities — General..... 4

5 ESG indicators..... 5

5.1 General..... 5

5.2 E — Environmental..... 5

5.3 S — Social..... 5

5.4 G — Governance..... 5

6 Environmental indicators..... 6

6.1 Final energy consumption of public buildings per year (GJ/m²)..... 6

6.1.1 General..... 6

6.1.2 Indicator requirements..... 6

6.2 Total residential electrical energy use per capita (kWh/year)..... 6

6.2.1 General..... 6

6.2.2 Indicator requirements..... 6

6.2.3 Data sources..... 6

6.3 Percentage of total electricity consumption from renewable sources..... 7

6.3.1 General..... 7

6.3.2 Indicator requirements..... 7

6.4 Electricity consumption of public street lighting per kilometre of lighted street (kWh/year)..... 7

6.4.1 General..... 7

6.4.2 Indicator requirements..... 7

6.5 Square metres of city owned/operated green roof space as a percentage of all roof space of all city-owned/operated buildings..... 7

6.5.1 General..... 7

6.5.2 Indicator requirements..... 8

6.6 Number of electric vehicle (EV) charging station ports per registered electric vehicle (EV)..... 8

6.6.1 General..... 8

6.6.2 Indicator requirements..... 8

6.6.3 Data sources..... 9

6.7 Number of hydrogen fuel cell vehicle charging nozzles per personal hydrogen fuel cell vehicle..... 9

6.7.1 General..... 9

6.7.2 Indicator requirements..... 9

6.8 Fine particulate matter (PM_{2,5}) concentration..... 9

6.8.1 General..... 9

6.8.2 Indicator requirements..... 9

6.9 Percentage of designated natural protection areas..... 10

6.9.1 General..... 10

6.9.2 Indicator requirements..... 10

6.10 Greenhouse gas (GHG) emissions measured in tonnes per capita..... 10

6.10.1 General..... 10

6.10.2 Indicator requirements..... 10

6.11	Number of real-time remote air quality monitoring stations per square kilometre (km ²).....	11
	6.11.1 General.....	11
	6.11.2 Indicator requirements.....	11
	6.11.3 Data sources.....	12
6.12	Percentage of city land area covered by tree canopy.....	12
	6.12.1 General.....	12
	6.12.2 Indicator requirements.....	12
	6.12.3 Data sources.....	12
	6.12.4 Data interpretation.....	12
6.13	Annual expenditure allocated to ecosystem restoration in the city as a percentage of total city expenditures.....	12
	6.13.1 General.....	12
	6.13.2 Indicator requirements.....	12
	6.13.3 Data sources.....	13
	6.13.4 Data interpretation.....	13
6.14	Percentage of city area impacted by either wildfire or forest fire, or both.....	13
	6.14.1 General.....	13
	6.14.2 Indicator requirements.....	13
	6.14.3 Data interpretation.....	14
6.15	Percentage of households with smart energy meters.....	14
	6.15.1 General.....	14
	6.15.2 Indicator requirements.....	14
	6.15.3 Data sources.....	14
6.16	Percentage of households with smart water meters.....	14
	6.16.1 General.....	14
	6.16.2 Indicator requirements.....	15
	6.16.3 Data sources.....	15
6.17	Percentage recycled solid waste.....	15
	6.17.1 General.....	15
	6.17.2 Indicator requirements.....	15
	6.17.3 Data sources.....	16
6.18	Percentage of solid waste disposed of in a sanitary landfill.....	16
	6.18.1 General.....	16
	6.18.2 Indicator requirements.....	16
	6.18.3 Data sources.....	17
6.19	Percentage of solid waste treated in energy-from-waste plants.....	17
	6.19.1 General.....	17
	6.19.2 Indicator requirements.....	17
	6.19.3 Data sources.....	17
6.20	Percentage of solid waste biologically treated and used as compost or biogas.....	18
	6.20.1 General.....	18
	6.20.2 Indicator requirements.....	18
	6.20.3 Data sources.....	18
6.21	Percentage of solid waste disposed of in an open dump.....	18
	6.21.1 General.....	18
	6.21.2 Supporting indicator requirements.....	19
	6.21.3 Data sources.....	19
6.22	Percentage of solid waste disposed of by other means.....	19
	6.22.1 General.....	19
	6.22.2 Indicator requirements.....	19
	6.22.3 Data sources.....	20
6.23	Household hazardous waste generation per capita (tonnes).....	20
	6.23.1 General.....	20
	6.23.2 Indicator requirements.....	20
	6.23.3 Data sources.....	21
6.24	Percentage of recycled household hazardous waste.....	21
	6.24.1 General.....	21
	6.24.2 Supporting indicator requirement.....	21
	6.24.3 Data sources.....	21
6.25	Percentage of commuters using a travel mode to work other than a personal vehicle.....	21
	6.25.1 General.....	21
	6.25.2 Indicator requirements.....	22
	6.25.3 Data sources.....	22
6.26	Percentage of registered low-emission vehicles.....	22

6.26.1	General	22
6.26.2	Indicator requirements	22
6.26.3	Data sources	23
6.27	Percentage of the city's bus fleet that does not burn or otherwise consume fuel	23
6.27.1	General	23
6.27.2	Indicator requirements	23
6.27.3	Data sources	23
6.27.4	Data interpretation	23
6.28	Annual percentage of expenditures attributed to urban agriculture	23
6.28.1	General	23
6.28.2	Indicator requirements	23
6.28.3	Data sources	24
6.29	Green area owned or operated by the city (hectares) per 100 000 population	24
6.29.1	General	24
6.29.2	Indicator requirements	24
6.29.3	Data sources	25
6.30	Annual flood prevention expenditure as a percentage of total expenditures	25
6.30.1	General	25
6.30.2	Indicator requirements	25
6.31	Percentage of wastewater receiving centralized treatment	25
6.31.1	General	25
6.31.2	Indicator requirements	25
6.32	Percentage of separated storm and sanitary sewers	26
6.32.1	General	26
6.32.2	Indicator requirements	26
6.33	Total domestic water consumption per capita (litres/day)	27
6.33.1	General	27
6.33.2	Indicator requirements	27
6.33.3	Data sources	27
6.33.4	Data interpretation	27
6.34	Total water consumption per capita (litres/day)	27
6.34.1	General	27
6.34.2	Indicator requirements	28
6.34.3	Data sources	28
6.35	Percentage of water loss (unaccounted for water)	28
6.35.1	General	28
6.35.2	Indicator requirements	28
6.35.3	Data sources	28
6.36	Environmental profile indicators	29
6.36.1	Annual frequency of extreme rainfall events	29
6.36.2	Annual frequency of extreme snowfall events	29
6.36.3	Annual frequency of extreme heat events	30
6.36.4	Annual frequency of extreme cold events	30
6.36.5	Annual frequency of extreme wind events	31
6.36.6	Annual frequency of flood events	31
6.36.7	Heating degree days	32
6.36.8	Cooling degree days	32
6.36.9	Average annual snowfall	33
6.36.10	Average annual rainfall	33
6.36.11	Average annual temperature	33
6.36.12	Number of personal automobiles per capita	33
6.36.13	Number of two-wheeled motorized vehicles per capita	34
Social indicators		34
7.1	Unemployment rate	34
7.1.1	General	34
7.1.2	Indicator requirements	34
7.2	Percentage of persons in full-time employment	35
7.2.1	General	35

	7.2.2	Indicator requirements.....	35
7.3		Youth unemployment rate.....	35
	7.3.1	General.....	35
	7.3.2	Indicator requirements.....	36
7.4		Employment level.....	36
	7.4.1	General.....	36
	7.4.2	Indicator requirements.....	36
	7.4.3	Data sources.....	36
	7.4.4	Data interpretation.....	36
7.5		Average disposable household income.....	37
	7.5.1	General.....	37
	7.5.2	Indicator requirements.....	37
	7.5.3	Data sources.....	37
7.6		Average annual consumer price index.....	37
	7.6.1	General.....	37
	7.6.2	Indicator requirements.....	37
7.7		Annual percentage change in average annual total electrical bill for residential customers per 500 kWh.....	37
	7.7.1	General.....	37
	7.7.2	Indicator requirements.....	38
7.8		Annual percentage change in food costs.....	38
	7.8.1	General.....	38
	7.8.2	Indicator requirements.....	38
7.9		Percentage of students completing secondary education — Adjusted cohort rate.....	38
	7.9.1	General.....	38
	7.9.2	Indicator requirements.....	38
	7.9.3	Data sources.....	39
7.10		Primary education student–teacher ratio.....	39
	7.10.1	General.....	39
	7.10.2	Indicator requirements.....	39
	7.10.3	Data sources.....	40
	7.10.4	Data interpretation.....	40
7.11		Number of higher education degrees per 100 000 population.....	40
	7.11.1	General.....	40
	7.11.2	Indicator requirements.....	40
	7.11.3	Data sources.....	40
7.12		Number of in-patient hospital beds per 100 000 population.....	40
	7.12.1	General.....	40
	7.12.2	Indicator requirements.....	40
	7.12.3	Data sources.....	41
7.13		Number of physicians per 100 000 population.....	41
	7.13.1	General.....	41
	7.13.2	Data sources.....	41
7.14		Number of nursing personnel per 100 000 population.....	41
	7.14.1	General.....	41
	7.14.2	Indicator requirements.....	42
7.15		Average emergency department wait time for physician initial assessment (minutes).....	42
	7.15.1	General.....	42
	7.15.2	Indicator requirements.....	42
7.16		Number of infectious disease outbreaks per year.....	42
	7.16.1	General.....	42
	7.16.2	Indicator requirements.....	43
	7.16.3	Data sources.....	43
	7.16.4	Data interpretation.....	43
7.17		Percentage of population living in affordable housing.....	43
	7.17.1	General.....	43
	7.17.2	Indicator requirements.....	43
	7.17.3	Data sources.....	43
7.18		Residential rental dwelling units as a percentage of total dwelling units.....	44

7.18.1	General	44
7.18.2	Indicator requirements	44
7.19	Average wait time for either subsidised or social housing units, or both (months)	44
7.19.1	General	44
7.19.2	Indicator requirements	44
7.20	Number of either subsidised or social housing units, or both as a % of total dwelling units in the city	44
7.20.1	General	44
7.20.2	Indicator requirements	45
7.21	Number of homeless persons per 100 000 population	45
7.21.1	General	45
7.21.2	Indicator requirements	45
7.22	Average annual number of shelter beds per 100 000 population	46
7.22.1	General	46
7.22.2	Indicator requirements	46
7.23	Percentage of residential properties located in high-risk zones	46
7.23.1	General	46
7.23.2	Indicator requirements	46
7.23.3	Data sources	46
7.24	Percentage of schools in high-risk zones	47
7.24.1	General	47
7.24.2	Indicator requirements	47
7.25	Capacity of designated emergency shelters per 100 000 population	47
7.25.1	General	47
7.25.2	Indicator requirements	47
7.25.3	Data sources	47
7.26	Percentage of city population living below the national poverty line	47
7.26.1	General	47
7.26.2	Supporting indicator requirements	48
7.26.3	Data interpretation	48
7.27	Number of licensed early childhood education and care spaces per 1 000 pre-mandatory school-age population	48
7.27.1	General	48
7.27.2	Indicator requirements	48
7.27.3	Data interpretation	49
7.28	Percentage of public buildings that are accessible to persons with special needs	49
7.28.1	General	49
7.28.2	Indicator requirements	49
7.28.3	Data sources	49
7.29	Percentage of marked pedestrian crossings equipped with accessible pedestrian signals	50
7.29.1	General	50
7.29.2	Indicator requirements	50
7.29.3	Data sources	50
7.30	Percentage of population enrolled in social assistance programmes	50
7.30.1	General	50
7.30.2	Indicator requirements	50
7.30.3	Data sources	50
7.31	Public indoor recreation space owned or operated by the city per capita	51
7.31.1	General	51
7.31.2	Supporting indicator requirements	51
7.31.3	Data sources	51
7.32	Public outdoor recreation space owned or operated by the city per capita	51
7.32.1	General	51
7.32.2	Indicator requirements	51
7.32.3	Data sources	52
7.33	Number of homicides per 100 000 population	52
7.33.1	General	52
7.33.2	Indicator requirements	52
7.33.3	Data sources	52

7.34	Crimes against property per 100 000 population	52
	7.34.1 General.....	52
	7.34.2 Indicator requirements.....	52
7.35	Response time for emergency response services from initial call	53
	7.35.1 General.....	53
	7.35.2 Indicator requirements.....	53
7.36	Number of police-reported violent crimes against women per 100 000 population	53
	7.36.1 General.....	53
	7.36.2 Indicator requirements.....	54
	7.36.3 Data sources.....	54
7.37	Percentage of city population covered by multi-hazard early warning system.....	54
	7.37.1 General.....	54
	7.37.2 Indicator requirements.....	54
	7.37.3 Data sources.....	55
7.38	Percentage of city area under a white zone/dead spot/not covered by telecommunication connectivity	55
	7.38.1 General.....	55
	7.38.2 Indicator requirements.....	55
	7.38.3 Data sources.....	55
7.39	Kilometres of public transit per 100 000 population.....	56
	7.39.1 General.....	56
	7.39.2 Indicator requirements.....	56
	7.39.3 Data sources.....	56
7.40	Kilometres of bicycle paths and lanes per 100 000 population.....	56
	7.40.1 General.....	56
	7.40.2 Indicator requirements.....	57
7.41	Annual number of public transport trips per capita.....	57
	7.41.1 General.....	57
	7.41.2 Indicator requirements.....	57
	7.41.3 Data sources.....	58
7.42	Annual number of public transit trips on vehicles designated for accessible transit (paratransit) per capita.....	58
	7.42.1 General.....	58
	7.42.2 Indicator requirements.....	58
7.43	Percentage of population living within 0,5 km of public transit running at least every 20 min during peak periods	58
	7.43.1 General.....	58
	7.43.2 Indicator requirements.....	59
	7.43.3 Data sources.....	59
7.44	Number of bicycles available through municipally provided bicycle-sharing services per 100 000 population	59
	7.44.1 General.....	59
	7.44.2 Indicator requirements.....	59
	7.44.3 Data sources.....	60
7.45	Percentage of the city's population living within one km of a grocery store	60
	7.45.1 General.....	60
	7.45.2 Indicator requirements.....	60
	7.45.3 Data sources.....	60
7.46	Compliance rate of drinking water quality.....	60
	7.46.1 General.....	60
	7.46.2 Indicator requirements.....	60
7.47	Percentage of city population that can be supplied with drinking water by alternative methods for the first 72 h of an emergency.....	61
	7.47.1 General.....	61
	7.47.2 Indicator requirements.....	61
	7.47.3 Data sources.....	61
7.48	Social profile indicators.....	61
	7.48.1 Number of persons per dwelling unit.....	61
	7.48.2 Vacancy rate (residential).....	62

	7.48.3	Secondary residence rate	62
	7.48.4	Percentage of foreign born population.....	63
	7.48.5	Population demographics.....	63
	7.48.6	Percentage of new immigrant population.....	64
	7.48.7	Percentage of non-citizen population.....	64
	7.48.8	Number of university and college students per 100 000 population.....	65
	7.48.9	Annual number of deaths in the city resulting from legal intervention.....	65
8		Governance indicators.....	65
	8.1	Survival rate of new businesses.....	65
	8.1.1	General.....	65
	8.1.2	Indicator requirements.....	66
	8.1.3	Data sources.....	66
	8.2	Percentage of city owned/operated properties with insurance coverage for high-risk hazards.....	66
	8.2.1	General.....	66
	8.2.2	Indicator requirements.....	66
	8.2.3	Data sources.....	66
	8.2.4	Data interpretation.....	67
	8.3	Number of science, technology, engineering, and mathematics (STEM) higher education degrees per 100 000 population.....	67
	8.3.1	General.....	67
	8.3.2	Indicator requirements.....	67
	8.3.3	Data sources.....	67
	8.3.4	Data interpretation.....	67
	8.4	Debt service ratio (debt service expenditure as a percentage of a city's own-source revenue).....	68
	8.4.1	General.....	68
	8.4.2	Indicator requirements.....	68
	8.4.3	Data interpretation.....	68
	8.5	Capital spending as a percentage of total expenditures.....	68
	8.5.1	General.....	68
	8.5.2	Indicator requirements.....	68
	8.5.3	Data sources.....	69
	8.5.4	Data interpretation.....	69
	8.6	Annual direct or in-kind city expenditure on research and development funding and grants as a percentage of total city expenditures.....	69
	8.6.1	General.....	69
	8.6.2	Indicator requirements.....	69
	8.7	Annual expenditure on invasive or alien species monitoring and control as a percentage of total city expenditures.....	70
	8.7.1	General.....	70
	8.7.2	Indicator requirements.....	70
	8.8	Annual expenditure on upgrades and maintenance of city service assets as a percentage of total city expenditures.....	70
	8.8.1	General.....	70
	8.8.2	Indicator requirements.....	70
	8.9	Annual expenditure on upgrades and maintenance of storm water infrastructure as a percentage of total city expenditures.....	70
	8.9.1	General.....	70
	8.9.2	Indicator requirements.....	71
	8.9.3	Data sources.....	71
	8.10	Voter participation in last municipal election (as a percentage of registered voters).....	71
	8.10.1	General.....	71
	8.10.2	Indicator requirements.....	71
	8.10.3	Data sources.....	71
	8.10.4	Data interpretation.....	72
	8.11	Percentage of female elected city-level officers.....	72
	8.11.1	General.....	72

8.11.2	Core indicator requirements.....	72
8.12	Annual number of online engagements with the municipal open data portal per 100 000 population.....	72
8.12.1	General.....	72
8.12.2	Indicator requirements.....	72
8.12.3	Data sources.....	73
8.13	Average response time to inquiries made through the city’s non-emergency inquiry system (days).....	73
8.13.1	General.....	73
8.13.2	Indicator requirements.....	73
8.13.3	Data sources.....	73
8.14	Average downtime of IT infrastructure due to security incident.....	74
8.14.1	General.....	74
8.14.2	Indicator requirements.....	74
8.14.3	Data sources.....	74
8.15	Percentage of city electronic data with secure and remote back-up storage.....	74
8.15.1	General.....	74
8.15.2	Indicator requirements.....	74
8.15.3	Data sources.....	74
8.16	Frequency of disaster-management plan updates.....	75
8.16.1	General.....	75
8.16.2	Indicator requirements.....	75
8.16.3	Data sources.....	75
8.17	Percentage of emergency responders with disaster response training.....	75
8.17.1	General.....	75
8.17.2	Indicator requirements.....	75
8.17.3	Data sources.....	76
8.18	Percentage of city population that can be provided with city food reserves for the first 72 h in an emergency.....	76
8.18.1	General.....	76
8.18.2	Indicator requirements.....	76
8.18.3	Data sources.....	76
8.19	Average time for building permit approval (days).....	76
8.19.1	General.....	76
8.19.2	Indicator requirements.....	76
8.19.3	Data sources.....	77
8.19.4	Data interpretation.....	77
8.20	Percentage of city area covered by publicly available hazard maps.....	77
8.20.1	General.....	77
8.20.2	Indicator requirements.....	77
8.20.3	Data sources.....	77
8.21	Percentage of city land area in high-risk zones where risk-reduction measures have been implemented.....	77
8.21.1	General.....	77
8.21.2	Indicator requirements.....	77
8.21.3	Data sources.....	78
8.22	Percentage of city departments and utility services that conduct risk assessment in their planning and investment.....	78
8.22.1	General.....	78
8.22.2	Indicator requirements.....	78
8.22.3	Data sources.....	79
8.23	Annual expenditure on capacity building and leadership training of indigenous peoples as a percentage of total city expenditures.....	79
8.23.1	General.....	79
8.23.2	Indicator requirements.....	79
8.24	Number of environmental assessments that include evaluation of social, spiritual, and cultural impact on lands and territories as a percentage of total environmental assessments.....	79
8.24.1	General.....	79

8.24.2	Indicator requirements	79
8.25	Percentage of service contracts evaluated for green procurement principles	80
8.25.1	General	80
8.25.2	Indicator requirements	80
8.26	Governance profile indicators	80
8.26.1	Gross operating budget per capita	80
8.26.2	Gross capital budget per capita	81
8.26.3	Annual population change	81
8.26.4	Percentage of total city land area that is five or more metres below sea level (elevation)	81
Annex A (informative) Mapping of indicators to ISO 37120, ISO 37122 and ISO 37123		82
Bibliography		84