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/m^2) 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 (PM2,5) 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**