

UNECE

Smart Sustainable Cities Profile

NUR-SULTAN, KAZAKHSTAN



UNITED NATIONS

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PREFACE

The Sustainable Smart City Profile of Nur-Sultan (Nur-Sultan City Profile) was developed as part of the “Strengthening capacities of selected CIS countries to implement urban-related SDGs through the Country Profiles on Urban Development, Housing and Land Management and innovative financing mechanisms” project. The objective of the project is to enhance the capacity of national, regional and local governments in two countries of the Commonwealth of Independent States (CIS) for the development and implementation of sustainable, inclusive and evidence-based urban policies and programmes. The project will support the implementation of recommendations of the UNECE Country Profiles on Housing and Land Management in Kazakhstan and Belarus, which were completed in 2017 and 2018, respectively. The implementation period for this project spans from April 2019 to 31 December 2020. In addition to Nur-Sultan, Grodno (Belarus) is also a beneficiary city.

The Nur-Sultan City Profile presents the outcomes of the city evaluation against the Key Performance Indicators (KPIs) for Smart Sustainable Cities (SSC), and proposes actions for the city to make progress towards achieving the SDGs. It provides guidance for the latter, including the development, review and implementation of urban policies, programmes, and projects, and for building partnerships with a view to reinforcing the implementation of the 2030 Agenda for Sustainable Development and SDG11 in Kazakhstan and in the UNECE region.

The KPIs for SSC are a public and freely available standard developed by the United Nations Economic Commission for Europe (UNECE) and the International Telecommunications Union (ITU) in the context of the United for Smart Sustainable Cities (U4SSC) initiative. U4SSC is coordinated by UNECE, ITU and the United Nations Human Settlements Programme (UN-Habitat), and is supported by 14 other United Nations agencies.

This City Profile was developed taking into account documentary data sources, including the U4SSC Verification Report – Nur-Sultan, Kazakhstan, the Country Profile on the Housing Sector: Republic of Kazakhstan (2018), and a survey¹ sent to the city administration enquiring about development priorities and the policies of the city, programmes and projects relevant to the areas covered by the KPIs for SSC. UNECE and the city of Nur-Sultan engaged in multiple bilateral meetings to discuss actions for improving the smartness and sustainability of the city.

This profile consists of five parts: Part I focuses on the geographical situation, the administrative and political framework, the population and demographic situation, and the socioeconomic conditions of the city; Part II outlines the legal and institutional framework for urban development at the local level, and the city administrative structure; Part III provides information about the outcomes of the evaluation of the city against the KPIs for SSC, and highlights the relevant actions and initiatives (e.g. policies, projects, and programmes) that the city is taking; and Part IV outlines the financial framework for urban development. The profile concludes with recommendations.

¹ The survey was designed by UNECE, and was disseminated to the city to request information on the policies, projects and programmes that the city is currently implementing, as well as those it plans to implement, in relation to the economy, environment, society and culture.

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EXECUTIVE SUMMARY

Nur-Sultan (previously called Astana) is a dynamic city that has made considerable progress towards smart and sustainable development and the implementation of the 2030 Agenda for Sustainable Development (2030 Agenda) over recent decades. Built on a steppe, it has experienced rapid population and economic growth, driven by the oil and gas industries and a construction boom. It has become a testing ground for developing and implementing innovative solutions and technologies in Kazakhstan.

Nur-Sultan, and Kazakhstan as a whole, have set ambitious goals to deliver smart and sustainable urban development. This led to the development of new institutions, and forward-looking policies and legislation, such as the Kazakhstan 2050 Strategy for Development² and a smart city programme in Nur-Sultan. Projects being implemented under these programmes include setting up “smart street lighting” to promote energy efficiency and climate neutrality, and the implementation of “smart health clinics” which resulted in improved quality of medical services, such as the provision of diagnostic tests. Furthermore, improvements have been made to the accessibility of public services, with the Smart Astana Mobile App and, more generally, with the transfer of public services to digital format. The development of infrastructure projects and housing programmes constitute other important steps towards making Nur-Sultan a smart and sustainable capital city.

To support the commitment of the city to the implementation of the 2030 Agenda and to accelerate progress towards achieving SDGs, the evaluation of the city against the KPIs for SSC was carried out in 2019 and 2020. It revealed that a high level of employment (only 4.7 per cent of the workforce is unemployed) and access to information and communication technology (ICT), electricity, water and sanitation infrastructure, and education are at the basis of the economic development³ of the city. There is good access to public spaces and nature, and ample public recreational space. The evaluation also notes the low poverty rate (only 0.87 per cent of residents live in poverty), low levels of wealth inequality (measured by the Gini coefficient), and good access to healthcare services.

The KPI evaluation of Nur-Sultan suggests a range of development priorities, including improving the solid waste management system, public building sustainability (by employing certification measures and ICTs such as smart water meters, smart electricity meters and smart air conditioning systems), urban and spatial planning, access to decent-quality, affordable housing for all, and access to and availability of good-quality urban data.

An improved solid waste management system could lead to a reduction in resource and energy consumption, and in the emissions of harmful substances. Both reductions are essential to ensure climate-neutral urban growth. Buildings in Nur-Sultan account for a large portion of greenhouse gas (GHG) emissions and resource usage of the city. As buildings assessed and certified against sustainability criteria usually perform better in relation to the use of energy, water, production of solid waste and many other areas, the city is encouraged to use ICTs to improve public building sustainability, and employ relevant certification measures.

Urban planning is an important element of the political agenda in Nur-Sultan; therefore the city is encouraged to further develop and implement integrated approaches to urban planning that support economic prosperity, socio-cultural progress, and environmental sustainability. It is also encouraged to allow for the reconciliation of competing interests, limit car dependency, focus on climate robustness to ensure resilience against climate change, and upscale already-existing good practices. There is also a need to take a “nuanced view” on housing (which entails understanding that housing is a primarily a “local” issue), assess the level of housing affordability in the city, improve legislation on housing management to make owners and agencies responsible for proper maintenance, create plans to develop a non-commercial rental housing sector, and develop and implement measures to stimulate the long-term financing of affordable housing for all.

The sustainable and smart development of Nur-Sultan requires coherent mechanisms for urban governance that are able to respond to the demand for urban infrastructure investments. Partnerships with the business community and the use of innovative financing mechanisms are also encouraged, as they can serve as accelerators of progress towards sustainable development.

² *Kazakhstan 2050 Strategy*. Available at: <https://kazakhstan2050.com/>.

³ For more information please see the U4SSC Verification Report: Nur-Sultan, Kazakhstan (June 2020).

There is also a need to produce better urban data in support of evidence-based policy- and decision-making in areas such as air quality, waste management, housing, electricity supply, transport, innovation, water and sanitation, and environmental quality. The ability to collect and analyse data plays a key role in designing efficient and effective urban interventions and in improving quality of life, and ensures the equal redistribution of economic benefits of urbanization. Last but not least, as the 2030 Agenda, with its SDG11 and other urban related goals, paves the way for cities to become the drivers of change, Nur-Sultan is encouraged to review progress towards achieving the SDGs and to further develop innovative policies, projects and programmes.



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