SDG 7 Localisation Snapshot

DA NANG City, Viet Nam

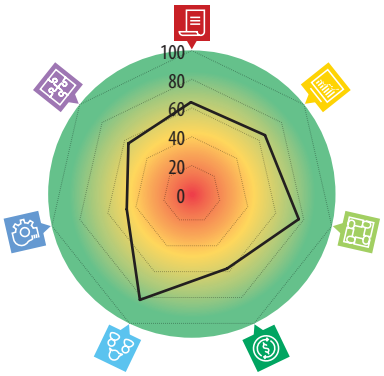
SDG7 Localisation Snapshot provides a brief overview of the key areas related to implementation of the Sustainable Goal 7 (SDG7) to 'Ensure access to affordable, reliable, sustainable and modern energy for all' at the local level based on the answers provided by the jurisdiction to the SDG7 Localisation questionnaire.

Questionnaire allowed to collect the assessments from the local officials regarding the situation on the implementation of SDG7 in their jurisdiction. SDG7 Localisation Snapshot is a part of the collaborative project of United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and United Nations Environment Programme (UNEP) to support city and sub-national governments in accelerating their efforts in the field of sustainable energy.

General information

Name of the jurisdiction	DA NANG City
Country of the jurisdiction	Viet Nam
Population of the jurisdiction	1 million people
Area of the jurisdiction (in km²)	1,283.42
Predominant climate	Typical tropical monsoon, temperate and equable climate

SDG7 Localization score



Score
0–33 34–66 67–100

Scores for each SDG7 Localisation indicator are calculated between 0 and 100 to show the assessment of the status in the jurisdiction in each of the respective areas.

Indicators score

65	66	77	57	82	46	57
Available policies and institutions for SDG localization	**Energy data monitoring**	**Cooperation with national and international stakeholders**	**Use of financial resources**	**Awareness raising and capacity- building**	**Implementation**	**Linkages to other SDGs**
Availability of specific policies and institutions focused on supporting the SDG 7 implementation.	Accessibility and penetration of energy monitoring and smart metering.	Efficient communication and collaboration between local stakeholders and various stakeholder groups at the national and international levels.	Availability of various financial resources and instruments for supporting SDG 7 implementation actions.	Availability of policies or actions to increase the understanding among citizens and build the capacity of professionals for SDG 7 implementation.	Presence of policies and actions to implement SDG 7 targets.	Availability of policies or actions with linkages between SDG 7 and other SDGs.

Sub-indicator score

66 Energy access	36 Renewable energy	36 Energy efficiency
Policies or actions taken by cities on energy access.	Policies or actions taken by cities on renewable energy.	Policies or actions taken by cities on energy efficiency.

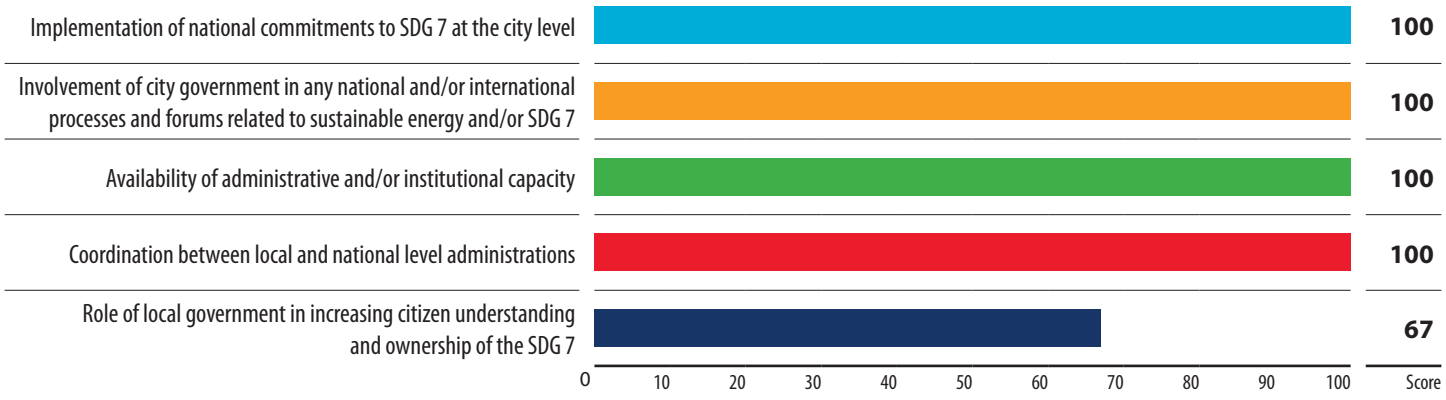
Sub-indicator score

48 SDG3. Good health and well-being.	59 SDG6. Clean water and sanitation.	44 SDG11. Sustainable cities and communities.	67 SDG12. Responsible production and consumption.	67 SDG13. Climate action.
The presence of energy-related activities or measures that support the health sector.	The presence of energy-related activities or measures that support water and sanitation.	The presence of energy-related activities or measures that support development of sustainable cities and communities.	The presence of energy-related activities or measures that support responsible production and consumption.	The presence of energy-related activities or measures that support climate action.

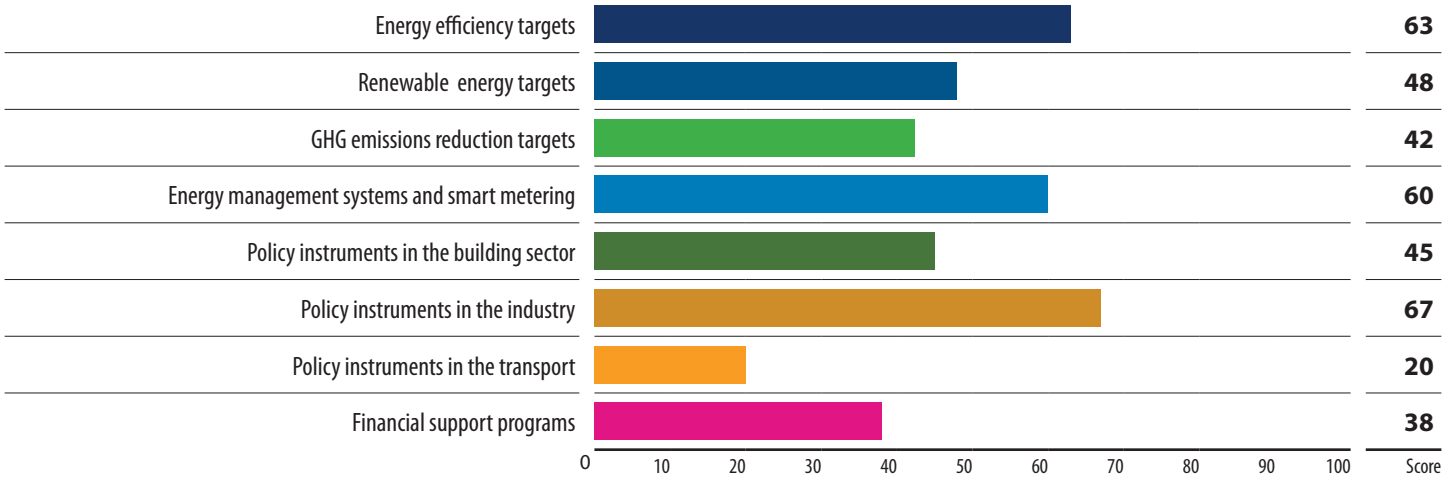
It is important to note that these indicators are qualitative and should not be used for assessing cities' achievement of quantitative targets under the SDG 7. The results for these qualitative indicators are based on cities' self-assessment of their current conditions, efforts, resources and capacity in relation to supporting SDG 7 localization process and can serve the role of the evidence base for constructing recommendations tailored to the local context, as well as the baseline results for tracking cities' progress of their SDG 7 localization efforts.

The results for each indicator are presented as a nominal score from 0 to 100 (where 100 is the maximum possible score, that can be achieved for each indicator or sub-indicator based on the aggregation of all answers of the questionnaire attributed to this particular indicator or sub-indicator).

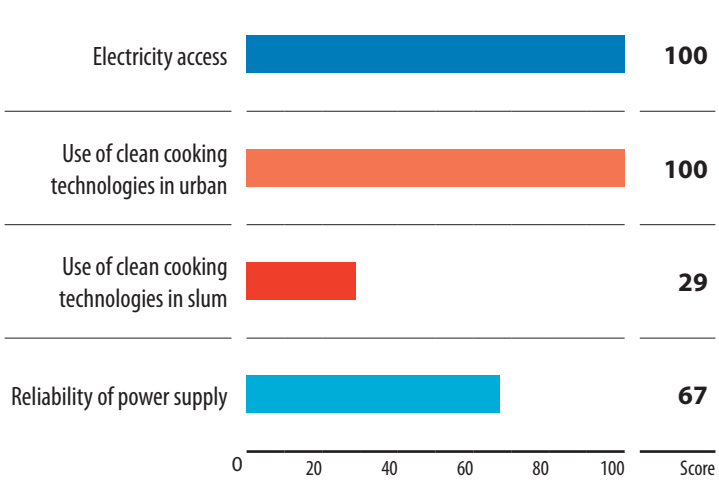
SDG 7 commitments and institutional capacity of Da Nang City



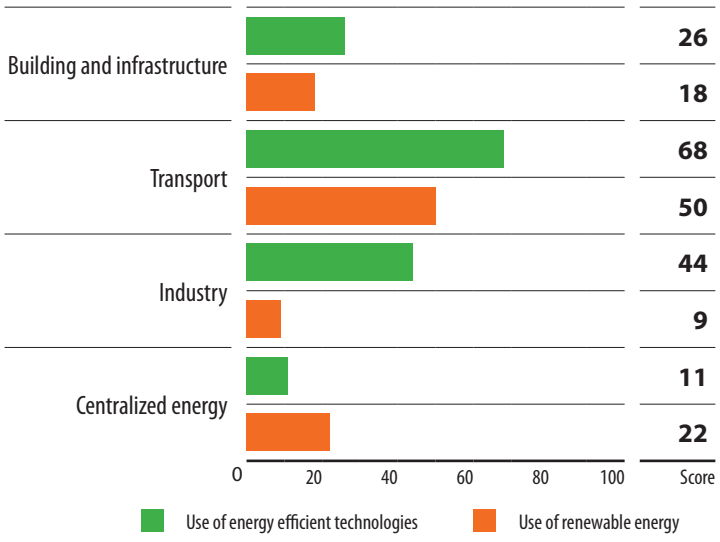
Implementation of SDG 7 support targets and regulations in Da Nang City



Assessment of Energy Access in Da Nang City



Assessment of utilization of energy efficiency and renewable energy technologies in Da Nang City



Recommendations

65 Indicator. Available policies and institutions for SDG localization

The local Government of the jurisdiction does have some specific legal and institutional development powers. However, the following functions can offer more possibilities for administrative and policy actions as well as project implementation: introduce legislation and apply taxes (fiscal powers to create and collect taxes). Analysis of the requirements for additional capacity-building should be made under the supervision of a group of local experts and local Government officials and in cooperation with relevant national institutions and stakeholders.

The jurisdiction is implementing policies and projects that take into account existing national SDG 7-related commitments. Ensuring that local efforts on SDG 7 implementation are aligned with the national commitments and plans. Exploring the ways to apply Multi-Level Governance (MLG) approach to implementing SDG 7 is recommended in order to enhance the efficiency of coordination between national and local levels of governance.

The jurisdiction has already established the necessary institutional set-up and appointed dedicated staff to support SDG 7 implementation. It is important to keep monitoring staff qualifications and capacity to ensure that they are sufficient to carry out the work on SDG 7 implementation. It is recommended that consideration be given to allocating budgetary resources for continuous professional training of appointed staff to ensure that they have sufficient knowledge of SDG 7-related issues and solutions.

Some sustainable energy policies for the building sector have been adopted at the national level. However, only a limited number of related initiatives have been implemented at the local level. It is recommended that work be undertaken on the implementation of nationally supported policy instruments at the local level, such as awareness raising, education and information campaigns on sustainable energy, mandatory use of renewable energy for hot water, mandatory use of renewable energy for cooling (heating) and mandatory on-site water treatment. This implementation may start with selected national policy instruments, and/or cover specific sector or energy end-users in the jurisdiction. Monitoring and verification of the results, achieved after this 'pilot' implementation of selected policy instruments, are needed for possible fine-tuning and adaptation of the policies to the local conditions and requirements. It is also recommended working towards expanding and refining the policy framework in order to arrive at an effective mix of regulatory measures, incentives and information instruments.

Some sustainable energy policies for the transport sector have been adopted at the national level. However, only a limited number have been implemented at the local level. It is recommended that work be done on the implementation of nationally supported policy instruments at the local level, such as regulations on high standard liquid fuel use (petrol and diesel EURO-5 or higher) and mandatory Eco-drive training. This implementation may start with selected priority policy instruments, and/or cover specific sector or energy end-users in the jurisdiction. Monitoring and verification of the results, achieved after implementation of selected policy instruments, should be performed for possible fine tuning and adaptation of the policies to the local conditions and requirements. Work is also recommended on expanding the scope and refining the policy framework in order to arrive at an effective mix of regulatory measures, incentives and information instruments.

66 Indicator. Energy data monitoring

The Jurisdiction has established data collection and monitoring systems in the following areas: energy access. Nevertheless, some of the sustainable energy development targets still do not have reliable verification mechanisms, such as energy efficiency, renewable energy, sustainable energy/SDG 7, energy supply and demand, and other SDGs. Establishment of a comprehensive data collection system for the local energy sector and areas related to other SDGs is a crucial foundation for the development and implementation of SDGs-related projects. Consulting existing guidelines on SDG indicators for further improvement of existing systems is recommended.

The jurisdiction has partially implemented an energy management system and smart metering, which covers some of the energy end-users: public sector buildings, commercial buildings, centralized water supply, and centralized sanitation systems. It is recommended that the scope of the energy management system be extended to other energy consumers and focus be placed on the continuous analysis of data received from the established manual or automated energy metering system, in order to set performance targets for energy end-users. Additional capacity-building training is recommended for local specialists on practical guidance for use of the analytical possibilities of the energy management system as well as the preparation of action plans and accessing potential financial sources for implementation of identified actions. It is advised that a mechanism be initiated for tracking progress on specific key energy performance indicators and revising them regularly (e.g., every five years).

77 Indicator. Cooperation with national and international stakeholders

Jurisdiction has been involved in a few multi-stakeholder city initiatives. Further development of national and international cooperation with city initiatives, networks and associations is recommended in order to benefit from the opportunities for capacity building, peer-to-peer learning, unlocking finance and disseminating knowledge on best-practices and solutions in the field of sustainable energy and SDG 7 localization.

The jurisdiction is actively involved in national and/or international processes and forums related to sustainable energy. Active sharing of achieved results and lessons learnt as well as continuous benchmarking of current SDG 7 implementation status should be considered, in order to disseminate success stories and good practices and to gain visibility at the regional and international levels. This can help to unlock opportunities for further project replication and financing.

Coordination mechanisms between the jurisdiction and other levels of governance (e.g., national Government) regarding sustainable energy issues and/or SDG 7 implementation are already in place. They are supported by respective institutional set-up and budgetary frameworks as well as by jointly implemented activities on sustainable energy. It is recommended ensuring that the results of these joint projects are well-monitored and documented in such a way that stimulates dissemination of good practices, peer-to-peer learning with other jurisdictions as well as benchmarking and gap analysis for future projects on sustainable energy.

57 Indicator. Use of financial resources

Some financial programmes to support sustainable energy policies and projects have been adopted at the national level, and a limited number have been implemented at the local level: renewable energy project implementation for buildings, transport sector, industry and infrastructure. Focus on further strengthening the local level implementation of these mechanisms is recommended, in order to enable access to available extrabudgetary options that could be used to support execution of local-level projects. Additional capacity-building training for responsible administrative personnel, and the development of guidelines on accessing finance, are important steps towards establishing the framework for local procurement and financing procedures.

The jurisdiction has access to international financial support for the implementation of energy efficiency and renewable energy technology projects in the area of the water management system. Detailed performance monitoring and result verification is required to enable further dissemination of successful results from the implemented projects.

82 Indicator. Awareness raising and capacity building

The jurisdiction has been actively involved in preparation of the reports to track the progress against SDG targets. In order to further improve tracking and reporting processes on progress for SDGs at the local level, it is recommended that some of the available guidelines and reports prepared by other jurisdictions be consulted to learn from their approaches.

The local Government is currently developing and implementing awareness-raising campaigns to increase citizens' understanding and ownership of the SDG 7 targets. It is important to prepare a sustainable long-term plan on awareness-raising activities to cover a wide range of audience interests and to ensure continuity of efforts. Different SDG 7-related issues should be covered for various target groups – e.g., educational programmes for schools, colleges and universities; public awareness-raising events, the promotion of success stories for all citizens and training courses for professionals.

46 Indicator. Implementation

66 Sub-indicator. Energy access

Local government should make efforts to maintain high level of reliable electrification in the jurisdiction, as well as reaching remaining areas that might lack quality electricity supply. Proper monitoring and evaluation of the current power grid operation should be taking place regularly to identify potential efficiency gaps and possible ways for further improvements. Learning from international expertise and best-practices on sustainable electricity will help the local government identify further areas for sustainable energy actions.

Various clean cooking technologies are widely available in the households in the jurisdiction. Further best practice dissemination as well as continuation of the dialogue with national and international stakeholders is required in order to be able to follow low-emission trends and best practices for clean cooking.

Efficient and low-emissions cooking methods are not used, or have very limited use, in slums and informal settlements. Promotion of clean cooking technologies such as: basic methods of burning fossil fuels (coal, oil products, wood, raw organic waste), kerosene, ethanol/alcohol, improved wood cookstoves, low emission stoves (using fossil fuels or pellets/charcoal briquettes), solar thermal cooking, solar concentrators, and landfill or biomass methane gas cooking stove and the analysis of cooking technology patterns for different end-users are recommended, in order to identify the most suitable technological solutions and adoption strategies. It is possible to adapt available national and international experience in clean cooking promotion. Large-scale awareness-raising campaigns on clean cooking and its benefits (including improved health and quality of life) should target relevant implementing local agencies and the public. Capacity-building training on assembly and maintenance of clean cooking equipment should be developed and made available to local professionals and low-income communities.

Energy supply is quite reliable and sufficient for end-users most of the time. However, power outages may still occur sometimes. Improvement of the local backup energy supply capacity is recommended by installing emergency generators, including those based on renewable energy. Implementation of energy efficiency measures in buildings and industry will help to mitigate the problem of peak demand and further reduce the risk of power outages.

36 Sub-indicator. Renewable energy

Renewable energy targets are being established at the local level. However, these targets lack support from the overarching renewable energy policy framework at the national level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders to inform them about the local targets and the progress the jurisdiction is making towards reaching them as well as the importance for establishing such targets at the country level. It is recommended that a study be conducted of the jurisdiction's renewable energy potential to ensure that such targets are tailored to the local context and different energy consumers. The results of this study and the identified targets should be used as a basis for developing a renewable energy action plan for the jurisdiction. Establishment of a mechanism is advised for tracking progress according to specific key performance indicators and revising them regularly (e.g., every five years).

Targets for reducing GHG emissions/air pollution have been introduced at the national level but have not been implemented at the local level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders to discuss how the jurisdiction can achieve these targets at the local level and receive necessary support for this process. The jurisdiction can also lead by example and establish its own targets. It is recommended that a regular GHG inventory be conducted and that air pollution monitoring systems are established in the jurisdiction, which will provide the data necessary for determining local targets. It is advised that a mechanism be initiated for tracking progress on achieving these targets and revising them regularly (e.g., every five years).

Renewable and non-fossil fuel energy technologies are not used in the building sector and infrastructure, or their utilization is very limited. Deployment of renewable energy solutions should start with establishing ambitious, yet realistic targets based on estimation of the renewable energy potential for various sources available at the local level. In case of data unavailability geospatial data can be collected and analysed by GIS experts Implementation strategy for identified renewable energy sources could be developed in cooperation with experienced local or international professionals. The analysis of relevant financing schemes for renewable energy deployment can help to identify potential sources of investment and project implementation.

The transport sector has a moderate level of renewable energy (RE) utilization. A strategy for upscaling renewable energy utilization should be developed; involvement of experienced local or international consultants with the support from the local government will be beneficial for this process. The strategy should include the analysis of potential sources for renewable project finance and investments, as well as outline policy measures that can support renewable energy utilization in transport (e.g. subsidies, tax deductions for renewable energy technologies, etc.). Capacity building and trainings should be conducted for relevant administrative and technical personnel to improve their understanding of renewable energy in the transport sector.

36 Sub-indicator. **Energy efficiency**

Targets for improved energy efficiency or the reduction of energy intensity are being applied at the local level, although they may only cover a limited number of energy-consuming sectors. However, these targets lack support from the overarching energy efficiency policy framework at the national level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders in order to inform them about the local targets and the progress that the jurisdiction is making towards achieving them as well as the importance for establishing such targets at the country level. It is recommended that a study be conducted of the jurisdiction's energy sector and the opportunities for energy efficiency improvement, with objective of ensuring that such targets are tailored to the local context and different energy consumers. The results of the study and the identified targets should be used as a basis for developing the energy efficiency action plan for the jurisdiction. It is advised that a mechanism be established for tracking progress on reaching these targets according to specific key performance indicators and for revising them regularly (e.g., every five years).

Fossil fuels are used in the building sector and infrastructure of the jurisdiction. However, in most cases the respective equipment and technologies are quite energy-intensive and/or outdated, thus resulting in low levels of energy efficiency. Developing minimum energy performance standards and targets for this equipment is recommended, in combination with the mandatory requirements for regular maintenance and upgrades of energy-consuming technologies. Conducting capacity-building training is recommended for local professionals as well as relevant technical and administrative staff of the jurisdiction on effective deployment, maintenance and financing of renewable energy technologies. Incentive programmes should be provided for further promotion and utilization of renewable energy technologies, where feasible. These measures, among others, should be integrated into the local energy management and clean energy strategy.

Use of energy-efficient technologies for electricity consumption in the building sector and infrastructure is currently at the moderated level. Enhancing dissemination of energy-efficient technologies is recommended, preferably supported by relevant financial incentives to encourage consumers' choices in favour of more energy-efficient appliances and equipment. Engagement of the private sector and international financial institutions is highly recommended through documentation and dissemination of the impacts and lessons learnt, continuous capacity-building as well as collaboration with international organizations and think tanks.

Fossil fuels are widely used in the transport sector of the jurisdiction, and in most cases it works with moderate levels of efficiency and emissions. It is recommended that a low-emissions transportation strategy be developed, with the focus on strengthening relevant administrative and financial frameworks. To support this process, it is recommended that research be conducted on the implementation of relevant projects and best-practices at the national and international levels as well as improvement of the dialogue with responsible national agencies and international organizations. Public awareness-raising campaigns and promotion of "green" transport may further encourage citizens' behavioral change towards the choices in favour of more sustainable transportation practices.

57 Indicator. **Indicator 7. Linkages to other SDGs**

48 Sub-indicator. **SDG3. Good health and well-being**

Existing facilities cannot satisfy the health needs of the local population. A large portion of the population cannot access the jurisdiction's existing health facilities, and most do not have sufficient space cooling. Implementation of passive cooling strategies is recommended. This can be achieved through building design, insulation, shading, white roofs, windows with low-e coating, natural ventilation where applicable, to reduce the cooling load, as well as stimulate energy efficiency improvement of active cooling systems (i.e., air-conditioning, refrigeration, ventilation etc.), including the integration of renewable energy solutions.

The jurisdiction has sufficient mobile vaccine/blood refrigeration facilities to satisfy the current needs of the local population. Such facilities are crucial to people's well-being and to ensuring adequate responses to a health crisis (such as the one caused by COVID-19 pandemic). It is recommended that a local sustainable health-care strategy be introduced (or the existing one updated) in consultation with the national level stakeholders and in cooperation with international organizations. This will enable an analysis to be made of present and future local health-care needs for related sustainable supply chains and their readiness for an emergency response. Further expansion of such facilities and equipment will increase energy use and the need for a reliable electricity supply. Therefore, it is recommended that the existing energy-efficient solutions available for health cold chain and 'green' vaccines supply be reviewed (e.g., energy-efficient cooling and refrigeration technologies with better insulation, off-grid direct current-based refrigerators, solar cooling or solar direct drive vaccine refrigerators).

59 Sub-indicator. SDG6. Clean water and sanitation

Sustainable practices are applied for treating most of the wastewater generated in the jurisdiction. Further expansion of wastewater facilities, sufficient maintenance and upgrade of existing wastewater treatment facilities, including integration of energy-efficient and renewable energy technologies, are required in order to achieve sustainable water access for all of the citizens. Additional capacity-building training is required for the involved personnel to build their skillset for operating any new equipment. In order to ensure the development of an adequate wastewater treatment system, consultation should be undertaken with relevant national level stakeholders as well as international development organizations working in this area and the private sector.

Water management and sanitation equipment in wastewater facilities is relatively energy-efficient and is functioning without significant energy losses. It is recommended that proper maintenance of the wastewater equipment be prioritized and, where necessary, upgraded, starting with identification of existing best practices and integration of energy-efficient and renewable energy solutions. Funding options for these activities can be explored through consultations with relevant national stakeholders, international organizations and the private sector. Additional capacity-building training for the operational personnel as well as technical support are required to ensure the availability of adequate skillsets for operating the advanced equipment and systems.

Integrated Water Resource Management (IWRM) is recognized as an important practice in the jurisdiction and there are multiple cases of its implementation. It is recommended that detailed monitoring and evaluation of results achieved be carried out after IWRM introduction. The findings should be presented to the relevant administrative and technical personnel for evaluation and identification of areas needing further improvement, supported by an analysis of existing IWRM best practices at the national and international levels.

Exploring the opportunities for further integration of energy-efficient and renewable energy technologies into the existing IWRM is recommended (e.g., smart process control systems, automated demand-side water supply regulation, solar energy for water supply and treatment etc.). This should be supported by building relevant technical capacity.

44 Sub-indicator. SDG11. Sustainable cities and communities

A relatively small portion of the local population (less than 5%) lives in informal settlements or inadequate housing. People who live in these areas typically do not have access to sustainable energy services. Deployment of energy-efficient and renewable energy technologies is challenging, due to the lack of basic infrastructure. Integration of upgrading strategies for such informal settlements into local housing policies is recommended. Also recommended is the development of policies on energy access (electrification and clean cooking) and last-mile electrification of these areas in combination with support programmes for slum dwellers to use more energy-efficient and renewable energy technologies, such as solar LED lighting, solar mini-grids and efficient cooking stoves. Awareness-raising about benefits of sustainable energy technologies and their proper maintenance are important to ensuring effective adoption and long-term use.

A large portion of the local population has access to the existing public transport system. Monitoring of the transport system's performance and related GHG emissions is needed, in order to conduct benchmarking of the existing system compared to available national or international successful analogs. It is advisable to review the network of public and shared transportation applicable for the local conditions, and to develop a strategy to improve access to low-emissions transport. Supporting infrastructure (e.g., charging stations for e-vehicles) should be planned and developed together with the implementation of the transport network.

Pedestrian lanes are not very common in the city or most of them require substantial improvement. This discourages people from choosing low- and zero-emission modes of mobility, such as walking and cycling; this, in turn, increases the demand for utilization of private cars and other modes of energy-consuming transportation. It is recommended that the situation be improved by introducing various territorial planning solutions (e.g., dedicated lanes for pedestrians and cyclists, restricted pedestrian areas etc.) aimed at developing effective walkable neighbourhoods as well as ensuring proper maintenance of existing pedestrian areas. Such measures can significantly reduce transportation energy use as well as improve air quality and people's well-being.

The problem of air pollution in the jurisdiction is significant and is characterized by high levels of hazardous particle concentration. Primary focus should be on the establishment of a proper air quality monitoring system, which will monitor levels of pollution and its sources as well as dust distribution patterns. Further planning of the air quality improvement measures should be based on: setting a long-term air quality goal; a package of clean air policies for the energy sector; effective monitoring, enforcement; and evaluation and communication. Implementation of these measures requires the collection of reliable data, a continuous focus on compliance and policy improvement as well as timely and transparent public information.

67 Sub-indicator. **SDG12. Responsible production and consumption**

The jurisdiction is taking steps towards sustainable waste management process implementation with some of the landfills already implementing pilot waste treatment and recycling practices. Conducting a detailed benchmarking analysis of the operational efficiency on the implemented waste recycling facilities is recommended, together with the preparation of a strategy for replication of successful sustainable solutions in other facilities in the jurisdictions. A feasibility study to explore the potential for waste-to-energy projects in the jurisdiction, its cost-effectiveness and ways to gain financing can help to enhance waste treatment as well as offer a local source of sustainable energy. Conducting capacity-building training for local professionals, focused on existing best practices for sustainable solid waste treatment systems, and consideration of possible financing mechanisms is also recommended. Cooperation with relevant national level and international stakeholders is required at this stage in preparing guidelines for large-scale development and implementation of green urban solid waste treatment projects.

67 Sub-indicator. **SDG13. Climate action**

Disaster reduction strategies are being developed and/or are under implementation at the local level in line with relevant national strategies. A review of these strategies is recommended to see whether the synergies between disaster reduction and sustainable energy solutions are being considered. Examples of such synergies may include, but are not limited to materials and technologies that enhance a building's energy efficiency and the building more durable and resilient to threats posed by natural disasters. A sustainable energy supply, co-generation systems, distributed generation and micro-grids can support the recovery process from natural disasters etc. Where such synergies are not considered in the existing disaster reduction strategies it is recommended that relevant adjustments be made based on existing international good practices. Implementing a public awareness programme on these synergies is recommended in order to influence the adoption and implementation of energy-efficient and resilient designs.

UNITED NATIONS ESCAP
Economic and Social Commision for Asia and the Pacific

About the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

ESCAP serves as the United Nations' regional hub promoting cooperation among countries to achieve inclusive and sustainable development. The largest regional intergovernmental platform with 53 Member States and 9 Associate Members, ESCAP has emerged as a strong regional think-tank offering countries sound analytical products that shed insight into the evolving economic, social and environmental dynamics of the region. The Commission's strategic focus is to deliver on the 2030 Agenda for Sustainable Development, which it does by reinforcing and deepening regional cooperation and integration to advance connectivity, financial cooperation and market integration. ESCAP's research and analysis coupled with its policy advisory services, capacity building and technical assistance to governments aims to support countries' sustainable and inclusive development ambitions.

UN environment programme

About the UN Environment Programme (UNEP)

UNEP is the leading global voice on the environment. It provides leadership and encourages partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations. This work is supported by the UNEP-led Integrated Urban Systems Partnership – a public-private initiative launched by UNEP and partners in 2019 that supports an integrated approach to infrastructure development in cities to achieve more sustainable and liveable cities that are more energy and resource efficient.

For inquiries, contact

Ksenia Petrichenko at Ksenia.petrichenko@un.org
ESCAP Energy Division

Lily Riahi at lily.riahi@un.org
UN Environment Programme