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

UN environment programme

SDG 7 Localisation Snapshot

DKI JAKARTA, Indonesia

7 AFFORDABLE AND CLEAN ENERGY

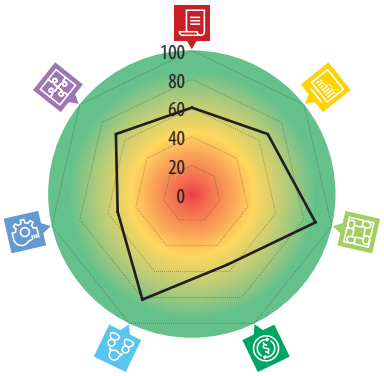
SDG7 Localisation Snapshot provides a brief overview of the key areas related to implementation of the Sustainable Goal 7 (SDG7) to 'Ensure access to affordable, reliable, sustainable and modern energy for all' at the local level based on the answers provided by the jurisdiction to the SDG7 Localisation 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	DKI JAKARTA
Country of the jurisdiction	Indonesia
Population of the jurisdiction	10.5 million (2019) people
Area of the jurisdiction (in km²)	661.5
Predominant climate	Tropical

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

61	68	89	55	82	54	68
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

62 Energy access	56 Renewable energy	44 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.

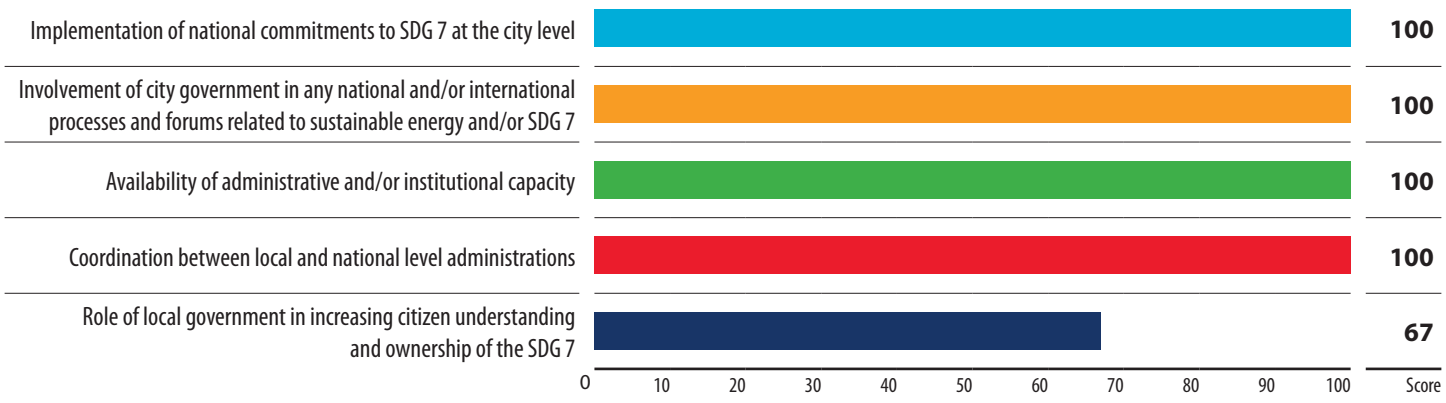
Sub-indicator score

84 SDG3. Good health and well-being.	46 SDG6. Clean water and sanitation.	78 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.

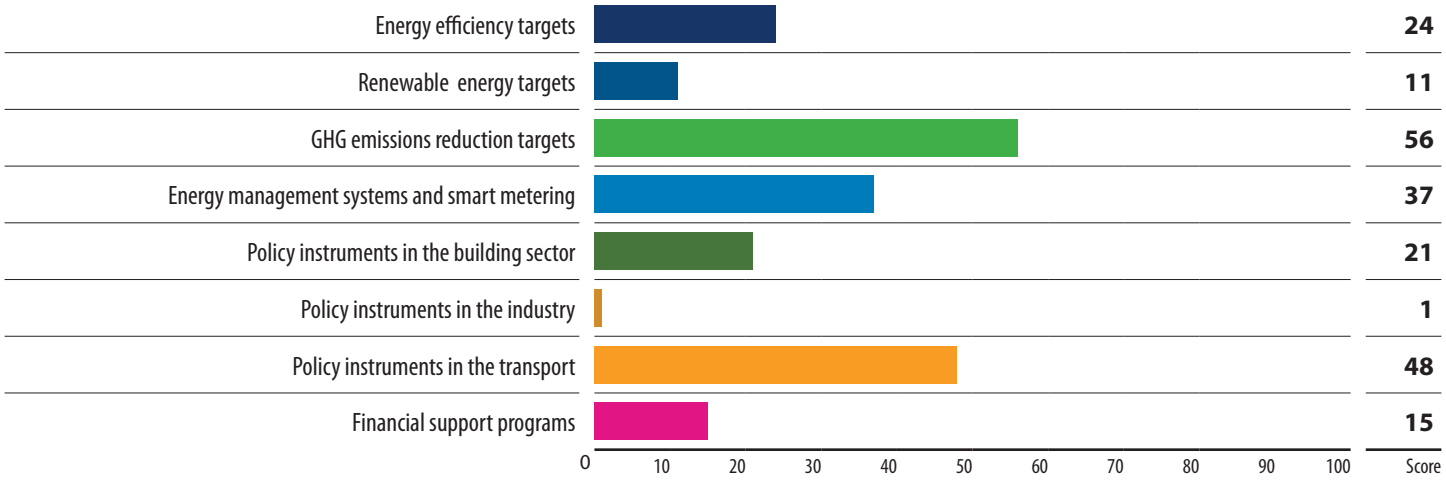
It is important to note that these indicators are qualitative and should not be used for assessing cities' achievement of quantitative targets under the SDG 7. The results for these qualitative indicators are based on cities' self-assessment of their current conditions, efforts, resources and capacity 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).

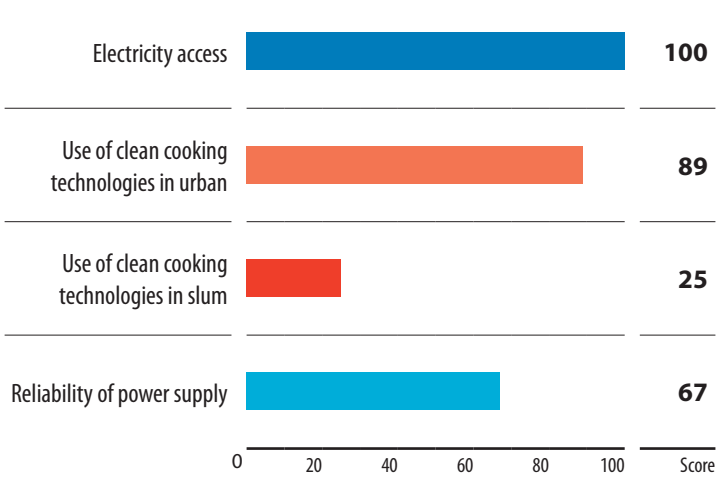
SDG 7 commitments and institutional capacity of Jakarta City



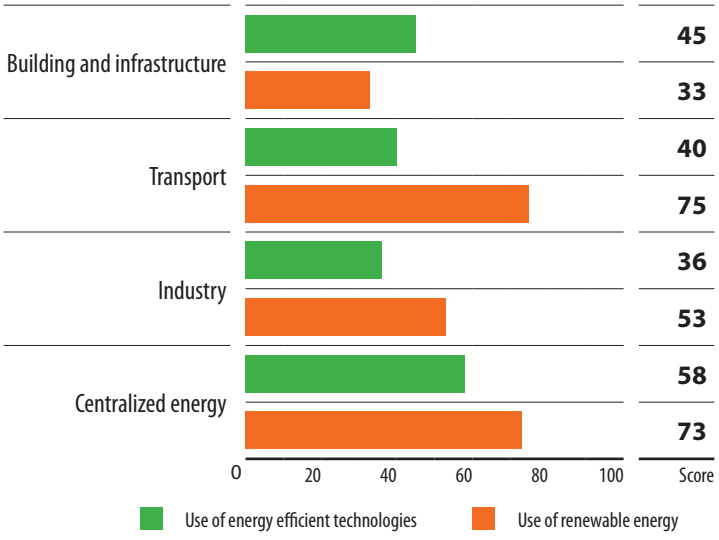
Implementation of SDG 7 support targets and regulations in Jakarta City



Assessment of Energy Access in Jakarta City



Assessment of utilization of energy efficiency and renewable energy technologies in Jakarta City



Recommendations

61 Indicator. Available policies and institutions for SDG localization

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 energy efficiency policy for new construction, energy efficiency policy for retrofit, sustainable procurement regulations, voluntary energy performance certification and labeling of buildings, and voluntary use of energy management standards (ISO 50001 or similar). 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.

Various sustainable energy policies for the transport sector have been implemented or are currently under implementation in the jurisdiction. It is recommended that further work be undertaken towards expanding and refining the following policy instruments Regulations on high standard liquid fuel use (petrol and diesel EURO-5 or higher), regulations on hybrid, electric biogas hydrogen engines use and mandatory Eco-drive training. Additional capacity-building training could be conducted for the relevant administrative personnel and transport sector experts, with the focus on the development of action plans and unlocking access to financial support, and disseminating lessons learnt. The jurisdiction should aim at arriving at an effective mix of regulatory measures, incentives and information channels. A further increase of local level implementation is needed for following up the policy framework, with support from the national level: regulations on electric engine use.

68 Indicator. Energy data monitoring

The Jurisdiction has established data collection and monitoring systems in the following areas: energy efficiency, renewable energy, energy access, sustainable energy/SDG 7, different SDGs, and energy supply and demand. 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.

Energy management system and smart metering are currently under development. This covers a limited number of energy end-users in the jurisdiction, and its implementation at the local level is lacking supporting policy instruments for the industry sector energy consumets. It is recommended that the necessary administrative and regulatory support is provided, starting with the appointment of responsible energy manager (or department), development of the Energy Action Plan and the implementation strategy. Transparent energy data collection and analysis is required for enabling access to extrabudgetary financing of SDG 7 oriented projects. For sectors which are still not covered by both national and local level programmes, the same steps for establishment of energy management system could be taken, with additional development of primary documents.

89 Indicator. Cooperation with national and international stakeholders

Jurisdiction is a member of limited amount of multi-stakeholder city initiatives. It is recommended to increase and the level of 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.

55 Indicator. Use of financial resources

Some financial programmes to support sustainable energy policies and projects have been adopted at the national level for the following project types: electrification and clean cooking for the residential sector buildings, energy efficiency for commercial buildings, industry and transport sectors. 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 is receiving international financial support in all areas of EE and RE project implementation in the water treatment sector. It is recommended that benchmarking of energy and financial performance of implemented projects be conducted, for elaboration of any necessary corrective actions.

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.

54 Indicator. Implementation

62 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.

A number of clean cooking technologies are used by households in the jurisdiction, such as: electric cookers/pressure cookers, induction electric stoves, and high efficient natural gas or LPG stoves. Further promotion and support for clean cooking technology dissemination (e.g., capacity-building training on assembly and maintenance of clean cooking equipment for local professionals and low-income communities) are required, in order to achieve replication of efforts and large-scale adoption.

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: ethanol/alcohol, improved wood cookstoves, induction electric stoves , 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.

56 Sub-indicator. Renewable energy

Renewable energy targets exist at the national level. However, these targets are currently not being 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 implement these targets at the local level as well as receive necessary support for this process. It is recommended that a study be conducted of the jurisdiction's renewable energy potential in order to establish such targets tailored to the local context and different energy consumers. The results of this study and 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 are being implemented at the local level. However, these targets lack support from the national policy framework at the national level for informing them about the local targets and the progress the jurisdiction is making towards achieving them as well as the importance of establishing such targets at the country level It is recommended that a regular GHG inventory be conducted and that air pollution monitoring in the jurisdiction to collect the data necessary for updating 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.

Renewable energy (RE) sources are widely utilized in the transport sector. Local government should support further efficient operation of the existing RE transport with the focus on securing relevant financing for the equipment maintenance and training of the relevant technical personnel. Local government should develop local targets and key performance indicators for RE use in transport, as well as monitoring and verification mechanisms to make sure that the targets are met and regularly updated.

44 Sub-indicator. Energy efficiency

Targets to improve energy efficiency or to reduce energy intensity exist at the national level, although with a limited coverage of energy-consuming sectors. These targets are currently not being applied at the local level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders to discuss how the jurisdiction can adapt these targets to the local context and receive necessary support for this process. It is recommended that a study be conducted of the jurisdiction's energy sector and the opportunities for energy efficiency improvement, in order to determine relevant targets based on the data analysis of different energy consumers. The results of this study and the identified targets should be used as a basis for developing an energy efficiency action plan for the jurisdiction. It is advised that a mechanism be established for tracking progress 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.

The jurisdiction has limited or pilot level electrical vehicle deployment. A further increase in the number of electrical vehicles should be accompanied by the development of supporting infrastructure. This includes charging stations and batteries as well as the overall decarbonization of the electricity supply in the jurisdiction through wider utilization of local renewable energy sources. Financial incentives – such as lower vehicle taxes, lower electricity tariffs for charging, free parking etc., for private electric vehicles – will stimulate consumers' choices in favour of this type of transport, especially once the supporting infrastructure becomes widely available.

Electricity is not used in the transport sector, or its utilization is insignificant. It is important to analyse existing limitations for utilization of electric transport as well as the potential for the overall decarbonization of the electricity supply in the jurisdiction through wider utilization of local renewable energy sources. If there are no natural restrictions (climatic conditions, isolated location or other), it is recommended that relevant research be undertaken on the potential of electric transport and its benefits. Development of relevant charging and battery utilization infrastructure is required in parallel with the process of developing solutions for electric transport deployment.

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

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

All of the Jurisdiction's existing health-related facilities have sufficient space cooling and are able to satisfy most of the health needs of the local population. It is recommended that consideration be given to further implementation of passive cooling strategies (especially for new buildings) through building design, insultation, shading, white roofs, windows with low-e coating, natural ventilation, where applicable, to reduce the cooling load. Energy efficiency improvement of active cooling systems (i.e., air-conditioning, refrigeration and ventilation), including integration of renewable energy solutions, is also recommended.

The jurisdiction has a sufficient number of mobile vaccine/blood refrigeration facilities to satisfy most of the current needs of the local population. Such facilities are crucial to ensuring people's well-being and adequate responses to a health crisis (such as the one caused by the COVID-19 pandemic). Therefore it is recommended that a local sustainable health-care strategy be prepared, or the existing one updated, in consultation with the national level stakeholders and in cooperation with international organizations, in order to analyse present and future local health-care needs for related sustainable supply chains and their readiness for emergency response. As further expansion of such facilities and equipment will increase energy use and the need for a reliable electricity supply, it is recommended that consideration be given to the existing energy-efficient solutions available for health cold chain and 'green' vaccines supply (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).

46 Sub-indicator. SDG6. Clean water and sanitation

Less than half of the wastewater generated in the jurisdiction undergoes adequate treatment. Adequate expansion, sufficient maintenance and upgrading of existing wastewater treatment facilities is needed, including the integration of energy-efficient and renewable energy technologies. Additional capacity-building training is required for personnel to build their skillset to operate new equipment. In order to ensure development of an adequate wastewater treatment system, consultation should be undertaken with relevant national level stakeholders, international development organizations working in the 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.

78 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.

The jurisdiction is operating a wide public transport system, and most of the local population has access to public or shared transportation. It is recommended that further improvement of the system be carried out, with the introduction of energy-efficient transport solutions, increased utilization of renewable energy as well as expansion of the supporting infrastructure (e.g., charging stations for e-vehicles).

Pedestrian lanes are common in multiple places in the jurisdiction and most of them are convenient for walking, although some lanes require improvement. Improvement of the situation is recommended by expanding existing territorial planning solutions or by introducing additional ones (e.g., dedicated lanes for pedestrians and cyclists, restricted pedestrian area, 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 level of air pollution in the jurisdiction is considered unhealthy for sensitive groups of people. It is recommended that support be given to the development of the low-emission development strategy, with priority focus on the analysis of potential solutions aimed at air pollution reduction It should cover different energy consumers in the jurisdiction, and should include the improvement of energy efficiency and increased utilization of renewable energy sources in the main air-polluting sectors.

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.

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