

SDG 7 Localisation Snapshot

BAGO CITY, Negros Occidental. Philippines



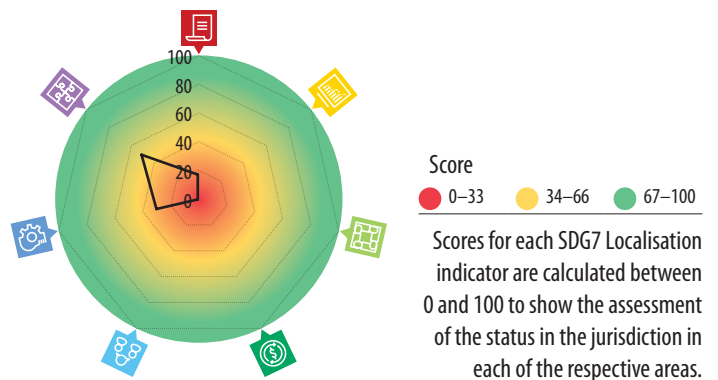
SDG7 Localisation Snapshot provides a brief overview of the key areas related to implementation of the Sustainable Goal 7 (SDG7) to 'Ensure access to affordable, reliable, sustainable and modern energy for all' at the local level based on the answers provided by the jurisdiction to the SDG7 Localisation 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	BAGO CITY, Negros Occidental
Country of the jurisdiction	Philippines
Population of the jurisdiction	170, 981 people
Area of the jurisdiction (in km²)	401.2
Predominant climate	Tropical

SDG7 Localization score



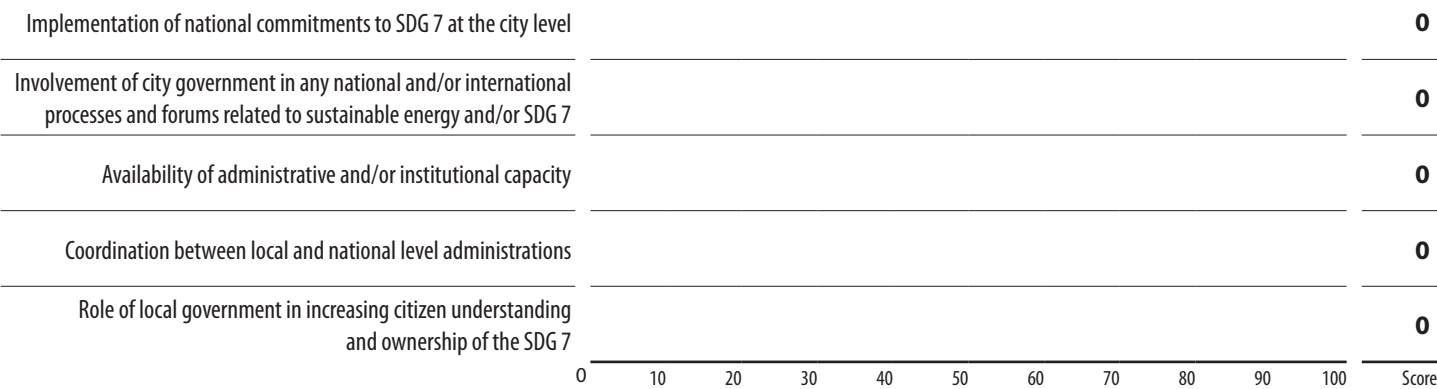
Indicators score

17 Available policies and institutions for SDG localization Availability of specific policies and institutions focused on supporting the SDG 7 implementation.	0 Energy data monitoring Accessibility and penetration of energy monitoring and smart metering.	0 Cooperation with national and international stakeholders Efficient communication and collaboration between local stakeholders and various stakeholder groups at the national and international levels.	0 Use of financial resources Availability of various financial resources and instruments for supporting SDG 7 implementation actions.	0 Awareness raising and capacity-building Availability of policies or actions to increase the understanding among citizens and build the capacity of professionals for SDG 7 implementation.	30 Implementation Presence of policies and actions to implement SDG 7 targets.	50 Linkages to other SDGs Availability of policies or actions with linkages between SDG 7 and other SDGs.
Sub-indicator score 56 Energy access Policies or actions taken by cities on energy access.			Sub-indicator score 32 Renewable energy Policies or actions taken by cities on renewable energy.		Sub-indicator score 0 Energy efficiency Policies or actions taken by cities on energy efficiency.	
52 SDG3. Good health and well-being. The presence of energy-related activities or measures that support the health sector.	0 SDG6. Clean water and sanitation. The presence of energy-related activities or measures that support water and sanitation.	65 SDG11. Sustainable cities and communities. The presence of energy-related activities or measures that support development of sustainable cities and communities.	67 SDG12. Responsible production and consumption. The presence of energy-related activities or measures that support responsible production and consumption.	67 SDG13. Climate action. The presence of energy-related activities or measures that support climate action.		

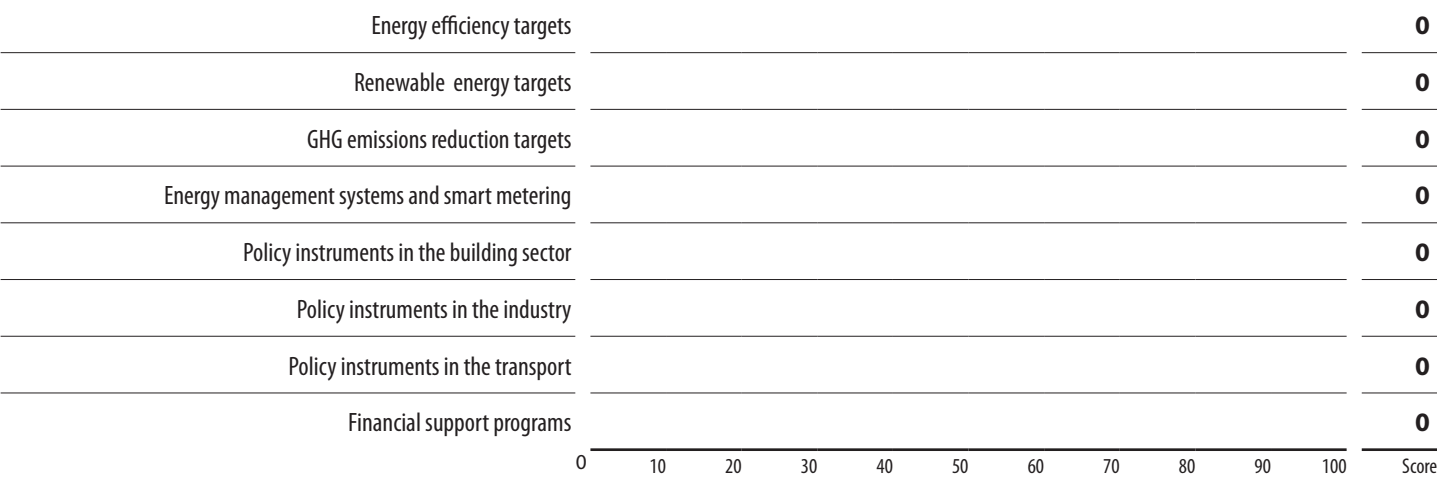
It is important to note that these indicators are qualitative and should not be used for assessing cities' achievement of quantitative targets under the SDG 7. The results for these qualitative indicators are based on cities' self-assessment of their current conditions, efforts, resources and capacity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

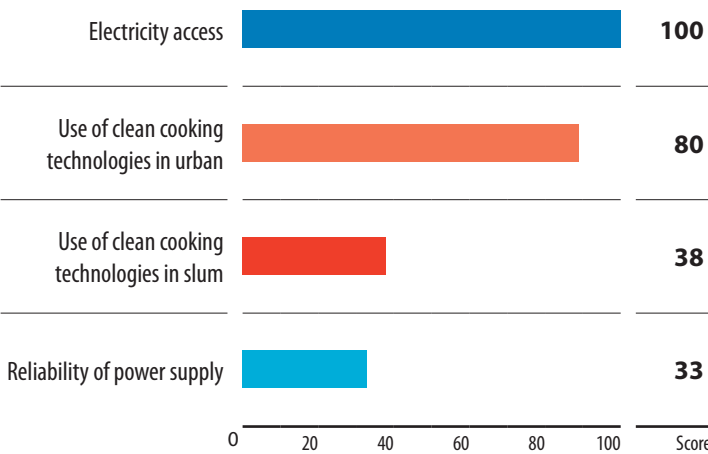
SDG 7 commitments and institutional capacity of Bago City



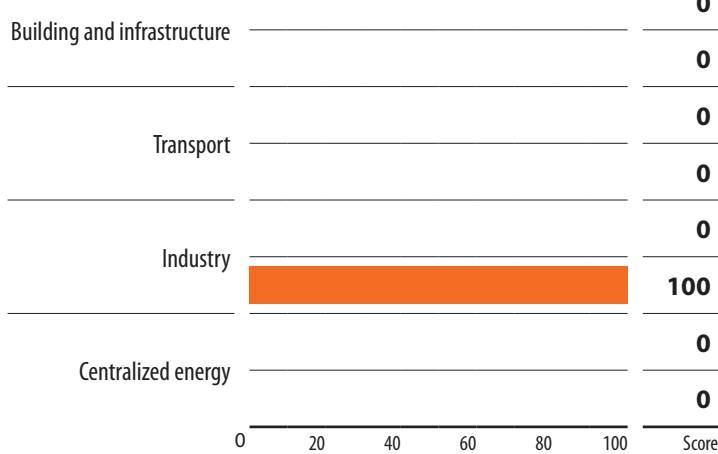
Implementation of SDG 7 support targets and regulations in Bago City



Assessment of Energy Access in Bago City



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



■ Use of energy efficient technologies ■ Use of renewable energy

Note: Energy consumer is not present, or energy source is not available in the jurisdiction related to the use of renewable energy in building and infrastructure and transport sector and centralized energy.

Recommendations



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Indicator. Available policies and institutions for SDG localization

There are no national commitments to achieve SDG 7 and no SDG 7-related implementation activities taking place in the jurisdiction. It is recommended that the jurisdiction carry out development and implementation of local targets and commitments, and lead by example, even in the absence of a well-established national SDG 7 agenda. Learning from the existing experience of other cities and sustainable energy projects as well as collaboration with international organizations and city networks can help to access international expertise in this area. Exploring the ways to apply a Multi-Level Governance (MLG) approach to implementation of SDG 7 is recommended. The jurisdiction should consider integrating SDGs into its local development plans and other relevant policies.

The jurisdiction does not have sufficient institutional capacity or special appointed specialists responsible for supporting SDG 7 implementation. It is critically important to have a dedicated technical unit and/or staff in charge of development, implementation and support of activities on sustainable energy. It is recommended more attention be given to raising awareness about sustainable energy and building respective capacity among local Government officials.

Sustainable energy policy instruments in the building sector are not implemented at the national and local levels. It is critically important to introduce a relevant policy framework, in order to provide the foundation for SDG 7 implementation and to stimulate sustainable energy behaviour of the building sector's energy end-users. Such a framework should include a mix of regulatory measures, financial incentives for energy efficiency improvements and renewable energy utilization, and information instruments. Capacity-building training and educational courses on sustainable energy consumption and generation for the building sector should be organized for administrative and technical personnel in the jurisdiction. It is also recommended that the jurisdiction seek technical assistance from national and international experts to help local experts design the policy framework and capacity-building activities, based on existing international best-practices and tailored to the local context.

Sustainable energy policy instruments in the transport sector are not implemented at the national and local levels. It is critically important to introduce a relevant policy framework, in order to provide the foundation for SDG 7 implementation and to stimulate sustainable energy behaviour in the transport sector. Such a framework should include a mix of regulatory measures, financial incentives for energy efficiency improvements and renewable energy utilization, and information instruments. Capacity-building training and educational courses on sustainable energy consumption, and generation for the transport sector should be organized for administrative and technical personnel in the jurisdiction. It is also recommended that the jurisdiction seek technical assistance from national and international experts to help local experts design the policy framework and capacity-building activities based on existing international best-practices and tailored to the local context.



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Indicator. Energy data monitoring

The jurisdiction has made no or very limited efforts on data collection and monitoring of SDG 7-related impacts. 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. Relevant administrative, policymaking, and implementation activities should be put in place in order to support rapid roll-out of data collection and monitoring systems.

An energy management and smart metering systems have not been established at the national level and have not been implemented at the local level. Transparent energy data collection and analysis is required to support implementation of sustainable energy projects and attract extrabudgetary financing as well as to ensure the possibility of energy performance tracking. Introduction of the energy management system should start with the creation of appropriate institutions, initiated by the head of the of the local Government. After appointment of the energy manager, the appropriate working plan should be elaborated, including technical inspections of existing energy consumers and the development of a specific action plan, supported by appropriate financing for energy metering infrastructure and the development of a relevant set of supporting documents for energy management system implementation.



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Indicator. Cooperation with national and international stakeholders

The jurisdiction is not a member of any multi-stakeholder city initiatives, networks and associations. The jurisdiction could benefit from participation in such initiatives and organizations, as they often provide opportunities for capacity building, peer-to-peer learning, unlocking finance and disseminating knowledge on best-practices and solutions. It is recommended for the jurisdiction to initiate a dialogue with such initiatives and organizations and consider becoming a member of the ones most relevant to the jurisdiction's priorities.

The jurisdiction is not involved in any national and/or international processes and forums related to sustainable energy. Improved communication and cooperation with national and international stakeholders are required in order to promote knowledge sharing and peer-to-peer learning with other jurisdictions across the region. It is recommended that the opportunities for technical staff to participate in such forums be identified, and that collaboration with relevant national and international stakeholders be established.

There are no coordination mechanisms between the jurisdiction and other levels of governance (e.g., nation Government) regarding sustainable energy issues and/or SDG 7 implementation. The local Government is encouraged to initiate the establishment of relevant coordination mechanisms, such as steering committees/councils/other institutions. This should include participation by representatives from the national, provincial and local levels of governance in order to align efforts and explore opportunities for extra-budgetary financing for SDG 7- related projects more efficiently.



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Indicator. **Use of financial resources**

Financial programmes to support sustainable energy policies and projects have not been implemented at the national and local levels. It is critically important that a relevant policy framework for financial incentives is introduced, in order to stimulate the efforts on SDG 7 implementation. It is recommended establishing a working group comprised of national and local (and if needed, international) experts to analyse local policy context, and to identify appropriate financial support mechanisms as well as their integration into the local sustainable development strategies.

The jurisdiction does not have access to international support for energy efficiency and renewable energy water treatment project implementation. It is recommended that the level of cooperation between local administrative representatives and international development organizations be increased. Discussion and development of clear financing guidelines could streamline the process of project identification, preparation and implementation.



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Indicator. **Awareness raising and capacity building**

The jurisdiction has not been involved in the reporting activities for tracking the progress on SDG targets. In order to evaluate progress on, and contribution to the achievement of the Sustainable Development Goals, including SDG 7, identify areas of life that require improvement, evaluate project opportunities, access sustainable energy financing and coordinate efforts with the national stakeholders, it is recommended that a visible SDG tracking and reporting process be established in the jurisdiction, and that cooperation is improved with relevant national level stakeholders. Preparation of Voluntary Local Reviews (VLRs) is one of the ways to analyse available data, and track and report on progress for SDGs at the local level.

Currently, efforts to increase citizens' understanding and ownership of the SDG 7 targets through awareness-raising campaigns are not included in the local Government's policy agenda. It is crucial to design and implement a series of information campaigns as well as awareness- raising materials to educate citizens on the importance of their actions in line with different SDGs. It is recommended that the local Government conduct outreach activities concerning its on-going and planned activities and how they align with SDGs as well as potential (or achieved) benefits from their successful implementation. This will help to gain additional support citizens and improve their self-motivation.



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Indicator. **Implementation**

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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: basic methods of burning fossil fuels (coal, oil products, wood, raw organic waste), kerosene, improved wood cookstoves, electric cookers/pressure cookers, induction electric stoves, high efficient natural gas or LPG stoves, and low emission stoves (using fossil fuels or pellets/charcoal briquettes). 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: induction electric stoves, 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.

Power outages happen from time to time, which undermines the reliability of the local energy supply. It is recommended that a detailed analysis be made of the local energy generation and transmission system in order to identify key issues and strategies for improvement. Based on the results of the analysis, distributed energy systems and microgrids, with integration of renewable energy sources and energy storage, could be a way to improve sustainability of the energy supply. 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.

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Sub-indicator. **Renewable energy**

Renewable energy targets have not been introduced at the national level and have not been implemented at the local level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders to discuss the importance of such targets and any plans for introducing them at the country level. The jurisdiction can also lead by example and establish its own targets to encourage utilization of locally available renewable energy resources. It is recommended that a study be conducted on renewable energy potential in the jurisdiction in order to establish such targets tailored to the local context and different energy consumers. The results of the study and identified targets should be used as a basis for developing the renewable energy action plan for the jurisdiction. Establishment of a mechanism is advised for tracking progress on reaching these targets and revising them regularly (e.g., every five years).

Targets for reducing GHG emissions/air pollution have not been introduced at the national level and have not been implemented at the local level. It is recommended that a dialogue be initiated with the relevant national-level stakeholders to discuss the importance of such targets and any plans to introduce them in the country. 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).

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Sub-indicator. **Energy efficiency**

Targets to improve energy efficiency or to reduce energy intensity have not been introduced at the national level and have not been implemented at the local level. It is recommended initiating a dialogue with the relevant national-level stakeholders to discuss the importance of such targets and any plans to introduce them in the country. The jurisdiction can also lead by example and establish its own targets to encourage more energy-efficient behaviour of end-users. It is recommended that a study be conducted of the energy sector opportunities for energy efficiency improvement, in order to establish such targets that are tailored to the local context and aimed at different energy consumers. The results of this study and identified targets should be used as a basis for the development of an energy efficiency action plan for the jurisdiction. The establishment of a mechanism is advised for tracking progress on these targets and 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 low level. Supporting further promotion of energy-efficient domestic and commercial appliances is recommended. Financial incentives and changes in the public procurement process can be used to encourage consumers' choices in favour of more energy-efficient appliances and equipment. Capacity-building training and awareness raising campaigns, targeting dedicated administrative and technical staff in the jurisdiction, should be focused on the development of relevant skills for the cooperation with the manufacturers and suppliers of energy-efficient equipment.

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.

Efficient fossil fuels technologies have limited use in the transport sector of the Jurisdiction. Further promotion of sustainable energy, low-emission solutions in the transport sector is recommended (for example, high- efficiency hybrid and electric vehicles in combination with renewable supply, heavy freight haulage, last mile freight and private transport). Initiating the establishment of a relevant administrative and financial framework is also recommended. Awareness-raising campaigns on “green transport” could also increase understanding of the importance of a low emissions transport system in the modern city infrastructure. Additional capacity-building training is recommended for dedicated administrative and technical staff, with the focus on best practices and lessons learnt from low-carbon transport solutions by other countries and cities. Such programmes could be conducted with the support of relevant national institutions or international organizations.



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

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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, insulation, 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 does not have any available mobile vaccine/blood refrigeration facilities. Such facilities are crucial for people’s well-being and for adequate responses to health crises (such as the one caused by the COVID-19 pandemic). It is recommended that a local sustainable healthcare strategy be prepared in consultation with the national level stakeholders and in cooperation with international organizations, in order to find possibilities for financing the purchase and maintenance of related supply chains and their readiness for emergency response. Large-scale deployment of such facilities and equipment will increase energy use and the need for a reliable electricity supply. Therefore, consideration should be given to existing energy-efficient solutions available for the 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).

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Sub-indicator. **SDG6. Clean water and sanitation**

There are no adequate wastewater treatment facilities in the jurisdiction. The situation requires immediate action by the local administration. It is recommended that consultations be conducted with relevant national level stakeholders, and financial assistance be sought from international development organizations that are active in the country of the jurisdiction.

Water management and sanitation equipment in wastewater facilities is outdated and inefficient, and requires major repairs or replacement. Implement of an upgrade of the wastewater system equipment is recommended, starting with carrying out audits and feasibility studies to identify strategies and technologies for improving energy efficiency of wastewater treatment in the jurisdiction. Subsequent implementation of the prioritized activities is also recommended. Funding options for these activities can be explored through consultation with relevant national stakeholders, international development organizations and the private sector.

There is no implementation of an Integrated Water Resource Management (IWRM) plan in the jurisdiction. IWRM is a process that promotes the coordinated development and management of water, land and related resources, in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. It is recommended that additional efforts be made towards the development and implementation of the IWRM in the jurisdiction. Activities should start with the establishment of a working group that includes representatives from different local thematic departments.

Exploring the opportunities for the 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.

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Sub-indicator. **SDG11. Sustainable cities and communities**

A notable part of the population live in informal settlements or inadequate housing. This further disrupts the SDG 7 implementation process, as people who live in these areas typically do not have access to sustainable energy services and deployment of energy-efficient and renewable energy technologies. This is challenging due to the lack of the necessary basic infrastructure and adequate living conditions. Integrating such informal settlements in upgrading strategies in local housing policies is recommended. In addition, developing policies on energy access (electrification and clean cooking) in these areas is recommended 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 the benefits of sustainable energy technologies as well as their proper maintenance is important to achieving 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 low. Continuing to maintain high air quality in the jurisdiction is recommended together with the use of green and pollution-free energy use and generation technologies, with the focus on improving energy efficiency and increased utilization of renewable energy sources.

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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.

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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.



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.



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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