



# **SDG 7 Localisation Snapshot**

## ZAMBOANGA CITY, Philippines



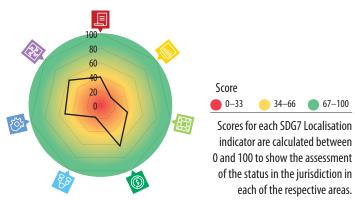
SDG7 Localisation Snapshot provides a brief overview of the key areas related to implementation of the Sustainable Goal 7 (SDG7) to 'Ensure access to affordable, reliable, sustainable and modern energy for all' at the local level based on the answers provided by the jurisdiction to the SDG7 Localisation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

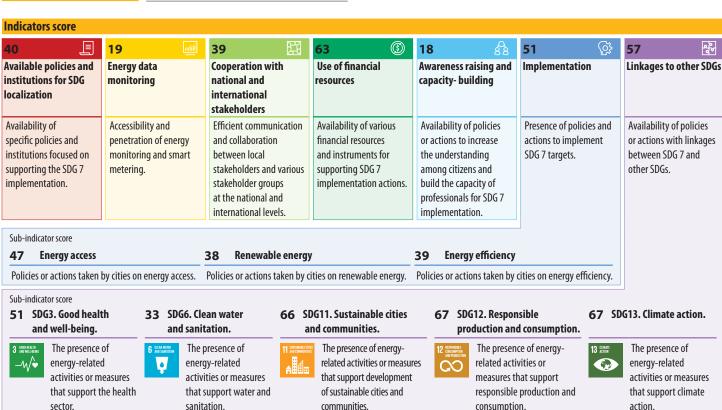
Questionnaire allowed to collect the assessments from the local officials regarding the situation on the implementation of SDG7 in their jurisdiction. SDG7 Localisation Snapshot is a part of the collaborative project of United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and 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 Country of the jurisdiction Population of the jurisdiction Area of the jurisdiction (in km²) Predominant climate ZAMBOANGA CITY Philippines 0.861 million people 1,453.27 MCC Type III (seasons not very pronounced)

### **SDG7 Localization score**



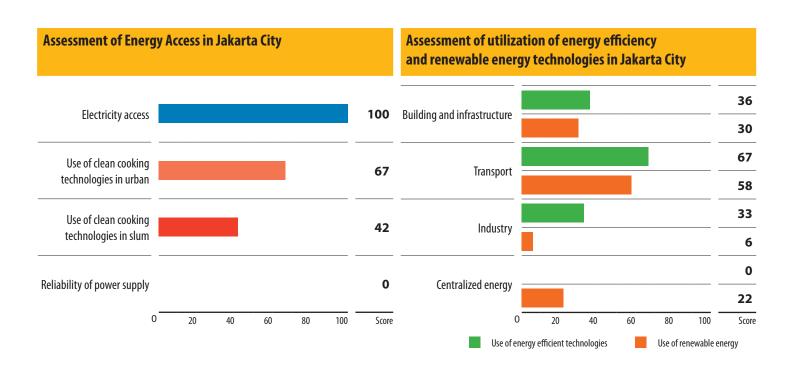


It is important to note that these indicators are qualitative and should not be used for assessing cities' achievement of quantitative targets under the SDG 7. The results for these qualitative indicators are based on cities' self-assessment of their current conditions, efforts, resources and capacity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







### Recommendations



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### Indicator. Available policies and institutions for SDG localization

There are national-level commitments on SDG 7. However, there is only limited implementation of related local-level polices and projects. It is recommended that human and technical resources be allocated for the analysis of existing national goals and commitments, and facilitation of engagement with national institutions to seek guidance on the role of local Government in delivering the policy targets at the local level. Development of local-level plans, targets and supporting policy instruments is important. Reviewing existing experience from other cities and SDG 7 projects as well as collaboration with international organizations and city networks can help to access international expertise in this area. It is recommended that the ways to apply a Multi-Level Governance (MLG) approach to implementation of SDG 7 are explored. The jurisdiction should consider integrating SDGs into its local development plans and other 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.

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 program to promote utilization of local materials in construction and retrofits, mandatory energy performance certification and labeling of buildings, woluntary energy performance certification and labeling of buildings, mandatory smart energy metering, voluntary smart energy metering, energy efficiency obligations schemes/ White certificates, carbon market project mechanisms/ Green certificates, net-metering regulations, voluntary use of ecological standards (ISO 14001 or similar), voluntary use of energy management standards (ISO 50001 or similar), energy efficiency action plan, and mandatory energy auditing. 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), regulations on hybrid engines use, regulations on electric engines use, regulations on LPG or similar gas type engines use, regulations on biogas engines use, regulations on hydrogen engines use, mandatory Eco-drive training, policies on integration of transport low emission zones and timing limits, and bus rapid transit. 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.



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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.

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: residential sector buildings, public sector buildings, commercial buildings, slums and informal settlements, food and beverages, chemical and synthetic products, glass, cement and non-metals, iron and steel, pulp and paper, textile, leather and leather products, machinery and transportation equipment, wood and other products, agriculture and farming, other processing industry, electricity generation, district cooling systems, district heating systems, passenger car, motorbike, taxi, auto rickshaw, bus, tram, tractor, mini bus, freight transport, landfills, waste recycling, street lights, architectural and buildings lights, centralized water supply, and centralized sanitation systems. 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.



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 has limited involvement in 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 more opportunities for participation in such forums be identified, and that there be more proactive assigning of relevant technical staff to participate and share knowledge.

There are some limited coordination mechanisms between the jurisdiction and other levels of governance (e.g., the national Government) regarding sustainable energy issues and/or SDG 7 implementation. In order to make the coordination between the different levels of governance more effective it is recommended that the institutional set-up and budgetary framework be strengthened in collaboration with the national Government. The jurisdiction could initiate a dialogue with the national Government to demonstrate the importance of such coordination mechanisms, and to provide suggestions on how such collaboration could encourage the progress of SDG 7 implementation.



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### Indicator. Use of financial resources

There is a wide range of financial programmes to support sustainable energy policies and projects implemented both at the national and the local level. It is recommended that evaluation of the effectiveness of these instruments and supported projects is conducted in terms of their impacts, and that necessary adjustments be made where needed. Continuous monitoring of the key performance indicators of the existing financial programmes should be performed, in order to ensure the efficiency of financial disbursement.

The jurisdiction has access to international financial support for limited energy efficiency and renewable energy technology implementation in the area of the water management system. Further development of cooperation is required, including conducting technical- and financial-oriented capacity-building training for local specialists as well as presentation of the results achieved by the first pilot facilities.



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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.

The local Government recognizes the importance of increasing citizens' understanding and ownership of the SDG 7 targets but has not yet implemented respective awareness-raising campaigns. It is recommended that a series of information campaigns and awareness-raising materials be designed and implemented to educate citizens on the importance of their actions in line with the different SDGs. It is recommended that the local Government also conduct outreach activities on its on-going and planned actions, and how they align with SDGs. Different SDG 7-related issues should be covered in the educational materials for various target groups, such as educational programmes for schools, colleges and universities, public awareness-raising events, the promotion of success stories for all citizens and training courses for professionals.



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### Indicator. Implementation

Sub-ind

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.

A number of clean cooking technologies are used in slums and informal settlements of the jurisdiction, such as: basic methods of burning fossil fuels (coal, oil products, wood, raw organic waste), improved wood cookstoves, electric cookers/pressure cookers, 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.

Power outages are very common and can last for prolonged periods. Evaluation is recommended of the potential benefits of distributed electricity supply systems and microgrids, with integration of renewable energy sources, in order to increase the reliability of energy supply and improve the system's sustainability. Implementation of energy efficiency measures in buildings and industry may help to mitigate the problem of peak demand and further reduce the risk of power outages. Additional consultations with relevant national and international experts are required in order to develop a sustainable energy supply strategy that is tailored to the local context as well as relevant investment plans.

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### 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 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.

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### 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.

Renewable and non-fossil fuel energy sources are available and widely used in the building sector and infrastructure, but, utilization of related energy efficient technologies is limited. Larger-scale deployment of energy efficient renewable energy solutions should start with specific pilot projects – for example, at the district level – with subsequent replication of the solutions throughout the jurisdiction, taking into account lessons learnt and the economy of scale. Capacity-building and vocational training are required for the relevant local level professionals to establish the necessary skills and understanding of the installation and operation of respective renewable energy technologies as well as the implementation steps and requirements for renewable energy projects. Seeking technical assistance from national and international experts is recommended in order to enable access to project finance and political support.

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.



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Indicator. Indicator 7. Linkages to other SDGs

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

Most of the existing health-related facilities have adequate space cooling and can, to a large extent, satisfy the health needs of the local population. Improvement and analysis of energy data monitoring is recommended for the health-care facilities in the jurisdiction. It is also recommended that dedicated energy performance indicators (focused on space cooling efficiency) be included in the energy management system or relevant existing energy monitoring protocol, if any. It is recommended that consideration be given to implementing passive cooling strategies (especially for new buildings) through building design, insultation, shading, white roofs, windows with low-e coating and natural ventilation, where applicable, to reduce the cooling load, and that energy efficiency improvement be made in active cooling systems (i.e., air-conditioning, refrigeration, ventilation, etc.), including integration of renewable energy solutions.

The jurisdiction has limited mobile vaccine/blood refrigeration facilities, which are insufficient to meet the needs of the local population. Such facilities are crucial for ensuring people's well-being and adequate responses to a health crisis (such as the one caused by the COVID-19 pandemic). It is recommended that a local sustainable health-care strategy be prepared (or the existing one updated) in consultation with the national level stakeholders as well as in cooperation with international organizations, in order to identify possibilities for financing the development and maintenance of related sustainable 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, it is recommended that existing energy-efficient solutions available be considered 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).

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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 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 not a common practice, but there are some related pilot projects being implemented in the jurisdiction. It is important to support further development and implementation of IWRM across different water end-users. Additional capacity-building training is required for the administrative and technical personnel concerned, in order to effectively identify and implement IWRM that is suitable for the local situation.

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.

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### 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 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 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.

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.

For inquiries, contact