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100% RENEWABLES SOLUTIONS PACKAGE

Capacity building for renewable energy project development



This solution is part of a package of solutions meant to guide local and regional governments in implementing a local renewable energy transition by providing guidance on mechanisms, applications or technologies that can help accelerate their climate and energy action.

It was produced as part of the 100% Renewables Cities and Regions Roadmap project, which supports nine cities and regions across Argentina, Indonesia and Kenya to develop bankable renewable energy projects and in-depth local strategy and action plans to achieve one hundred percent renewable energy. The 100% Renewables Cities and Regions Roadmap project is implemented by ICLEI – Local Governments for Sustainability and funded through the International Climate Initiative (IKI), which is implemented by the Federal Ministry for Economic Affairs and Climate Action (BMWK) in close cooperation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) and the Federal Foreign Office (AA).

DISCLAIMER

All cities are unique. The Solutions Gateway has been developed as an advanced knowledge catalogue to provide an overview of possible Low Emissions Development Solutions. The Solutions and Packages it contains provide guidance on general conditions, which may not correspond to the existing conditions in your city or jurisdiction. The consultation and use of the Solutions Gateway does not waive the need for the Local Government to assess the feasibility of a Solution or Package in the local context in its city or jurisdiction, prior to implementation. Please note that the impacts, benefits and co-benefits indicated are generally valid but may not materialize in particular circumstances.

ABOUT SOLUTIONS GATEWAY

[Solutions Gateway](#) is an online resource platform for Local Governments where they will be able to find possible Low Emissions Development (LED) Solutions for their cities.

In the context of the Solutions Gateway, Solutions are processes, or groups of actions, which Local Governments can implement to deliver climate change mitigation results and enhance local sustainable development. Taking an integrated approach, and focusing on Local Governments usual responsibilities and roles, Solutions include core actions as well as enabling and multiplying actions essential to maximize their effectiveness and efficiency. These include policy, regulatory, governance, capacity building, awareness raising, stakeholder engagement, etc.

ABOUT ICLEI – LOCAL GOVERNMENTS FOR SUSTAINABILITY

ICLEI – Local Governments for Sustainability is a global network working with more than 2,500 local and regional governments committed to sustainable urban development. Active in 125+ countries, ICLEI influences sustainability policy and drives local action for low emission, nature-based, equitable, resilient and circular development. ICLEI's Members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for urban sustainability.

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1. INTRODUCTION

Reducing the amount of greenhouse gasses (GHG) emitted by cities is critical to tackle the current climate crisis. At the local level, cities might plan and execute policies related to renewable energy (RE), but they often face the challenge of obtaining funding for implementing RE projects, as the access to financial resources is usually locked behind the formulation of bankable projects. Unfortunately, local governments may not always have the technical capacity to create sound and structured RE projects, as expected by financial institutions.

One solution could be the incorporation of regular capacity-building sessions into cities' standard operating procedures (SOPs), such as onboarding processes, and transferring the necessary knowledge to create RE bankable projects. The program should involve city planners and administrators, enhancing their abilities to obtain financing for RE projects, going through the pre-investment, and investment phases, while addressing topics related to project development, such as governance, technical and financial aspects of the projects. An 11-step guide is available for interested local governments.

1.1 RELEVANCE

Cities are responsible for 75% of emissions related to energy production. Currently 55% of the world population lives in urban centers and, by 2050, this proportion is expected to increase to 66% (UN-Habitat, 2018). Therefore, the energy transition to renewable sources is fundamental for cities. By promoting this transition, local governments could considerably reduce their environmental impact, as well as mitigate the risk of possibly suffering power shortages (since it no longer depends on a single energy source) and, additionally, save resources.

However, promoting this transformation is not as straightforward as it seems: there is still a considerable gap in small and medium-sized financing for projects related to climate change mitigation, mainly when the main project owners are subnational governments, generally caused by factors such as lack of information on how to access funds, absence of knowledge on how to create bankable projects, institutional barriers, a lack of interactions with funders, among other factors. With this purpose in mind, this solution has as its main motivation the improvement of cities' capacity, aiming at developing bankable projects that would cooperate with climate mitigation.



1.2 MAIN IMPACTS

- Build capacity of local staff and key stakeholders to prepare and obtain financing, accelerating energy transition in multiple sectors
- Increase implementation of projects and programmes related to renewable energy and energy efficiency
- Long-term capacity building of urban planners and administrators for elaborating bankable projects in all climate-related areas
- Adoption of climate mitigation projects based on realistic knowledge
- Contribution to implementing projects to reach local and national climate targets e.g. NDCs
- Reduced GHG emissions through implemented projects

1.3 BENEFITS

- Replicability to other projects beyond RE
- Standardized methodology that does not need too much customization
- Reduced impact of technical expertise turnover among different mayors' administrations
- Through the projects' implementation, the local RE market and ecosystem are fomented, promoting several economic spillovers, including the generation of green jobs

1.4 SUGGESTED INDICATORS FOR MONITORING RESULTS

- Increase in renewable energy installed capacity (due to projects financed as a consequence of the guide application or capacity building sessions) (MW/year)
- Number of related RE infra-structure improvements works executed (in distribution, transmission and generation), due to projects financed as a consequence of the guide application or capacity building sessions (projects/year)
- Increase in RE-related projects and investments (USD/year)
- Number of projects developed using the methodology (projects/year)
- Number of successful financed projects using the methodology (projects/year)
- Number of city representatives trained (people/year)

1.5 TYPICAL LOCAL GOVERNMENT ROLES

- | | |
|-----------------------|-----------------------------------|
| • Policy maker | • Fund raising |
| • Policy planner | • Education and awareness raising |
| • Project implementer | • Professional trainer |
| • Project developer | |

2. INTEGRATED SOLUTION OVERVIEW

	Enabler Actions	Required Actions	Multiplier Actions
Policy	<ul style="list-style-type: none"> Assure that the staff that will take part of the capacity-building sessions (based on an 11-step guide) have a basic understanding of the project cycle and the local regulations regarding energy Generate a summary document of the local support scheme for renewable energy, and disseminate it to the staff that will attend the sessions to brief them in advance Develop a law or internal regulation specifying that newly-hired staff (specially from the financial, infrastructure, mobility and environmental sectors) must be enrolled and obtain access to the training 	<ul style="list-style-type: none"> Guarantee that the technical staff taking part of the capacity-building sessions are somehow related to policy making and planning, otherwise the training content might not be duly applied Make sure that the local government technical staff is available to participate in the training sessions on a regular basis Map RE projects and ideas that are aligned to local climate action plans, energy and mobility sectoral plans, if existent 	<ul style="list-style-type: none"> Enrollment of technical staff that have job stability, as this would assure that the content would be regularly in use regardless of the elected officials and can be passed on Local government's formal commitment to incorporate the project elaboration process into their local standard operating procedures (SOPs) Usage of feedback and barriers identified during the project development in the capacity building sessions to rethink and formulate new policies, laws and regulation regarding RE Establish local-level policy instruments to catalyze local investments in renewable energy that positively impacts the ROI, payback and project's financial indexes (such as tax reduction or exemptions, incentives, etc).
Stakeholders and Awareness	<ul style="list-style-type: none"> Advertise and communicate the existence of the capacity-building process, indicating that it is going to happen and describing dates, minimum qualifications etc. Get in contact with IT professionals to verify if the local government has the necessary tools to attend the training sessions Map other local or sub-national governments that could be interested in participating in the capacity building program to strengthen peer learning 	<ul style="list-style-type: none"> Guarantee that the technical staff taking part of the capacity-building sessions are somehow related to policy making and planning, otherwise the training content might not be duly applied Make sure that the local government technical staff is available to participate in the training sessions on a regular basis Map RE projects and ideas that are aligned to local climate action plans, energy and mobility sectoral plans, if existent 	<ul style="list-style-type: none"> Verify the enrollment of technical staff with job stability, with the registration in the training platform (and/or registration form) Assign a person that will be responsible for taking notes and to transform parts of the training session into internal SOPs of the Local Government Involve and invite actors from other sectors that could benefit from the knowledge (for instance, industries, private hospitals, schools, etc.)

	Enabler Actions	Required Actions	Multiplier Actions
Stakeholders and Awareness	<ul style="list-style-type: none"> Involve relevant officials in the development of the program to create buy-in 	<ul style="list-style-type: none"> Select the technical staff whose presence in the training sessions are mandatory. It is recommended that staff with engineering, architecture and financial background are invited Create a work schedule in which the availability of the technical staff is guaranteed (for the majority of the sessions) Map energy providers, companies and actors that can be impacted with RE project implementation and keep them informed/invited to the sessions and movements of implementing the projects that will be developed under this solution. Consider opening a quorum to other energy sector key stakeholders 	
Governance	<ul style="list-style-type: none"> Have a specific procedure with information on how to interact with external partners, such as city networks Include different levels of government in key stages of the training, to get more support for the future projects Involve existing sustainability/energy related associations and networks that the city is part of in the content and process 	<ul style="list-style-type: none"> Assign an internal project leader or group, contemplating different secretariats, that will study the guide methodology, take the necessary decisions and be responsible for the capacity building organization. Create the capacity to involve civil society stakeholders in the RE project election and elaboration, including social energy minorities (energy poor and vulnerable population) Disseminate the capacity building and project submission to key stakeholders. Provide transparency to society about its possible impacts and results 	<ul style="list-style-type: none"> Guarantee that the training sessions will be documented and incorporated in the local government's future practices Create opportunities for sharing main topics and learnings from the capacity building in spaces (committees, commissions) for local climate governance Form a team capable of leading the processes in the elaboration of the project to guarantee the training applications, commonly called the 'working group'. It is recommended it includes different secretariats and internal divisions. Also include external key actors, such as energy concessionaires and financial institutions

	Enabler Actions	Required Actions	Multiplier Actions
Capacity Building	<ul style="list-style-type: none"> • Provide a basic training on project cycles to the local government's staff, in order to standardize what people attending the training sessions know about it • Engage local compliance institutions to explain technical requirements and approval flow necessary for RE system's design and engineering part • Invite stakeholders with local key energy information to specific sessions (such as of grid capacity, energy matrix, energy consumption, availability of renewable sources and future demand) to support technical sessions and RE project development 	<ul style="list-style-type: none"> • Make sure that the local government technical staff is attending the training sessions on a regular basis • Ensure that the local government technical staff attending the meeting are those who will work with project development in the future. • Assess the technical team's knowledge on renewable energy content for designing and building a technical project. If necessary, hire a specific professional to build the technical capacity of the staff, so they can build their own technical projects. • Provide the staff with computer equipment to visualize the online training sessions (including internet connection and virtual meeting software). • Provide access to the necessary software and browsers that are necessary for the capacitated and continuation of work (wind and solar potential database, for instance, GIS, etc) • Make sure the staff have a suitable environment (e.g. meeting rooms, or a quiet room in cases of home office) to attend the training sessions 	<ul style="list-style-type: none"> • Develop the capacity to replicate what was learned in future occasions, with the ability to be independent from external partners • Include field visits to renewable energy plants and technology centers for practical sessions • Map platforms and encourage staff to keep seeking technical updating and improvement. Many online free or paid courses are available on RE and green finance themes • Create a self-learning tool that would allow future representatives to have access to the capacitation sessions without the expense of more resources
Technical	<ul style="list-style-type: none"> • In the case of remote work, provide high quality internet connection so that the training sessions can be conducted without interruption • Bring content of specific indicator and current national numbers for financing renewable energy projects 	<ul style="list-style-type: none"> • For developing bankable projects, choose renewable energy actions that were previously identified or prioritized by the city in the initial mapping (see policy section) 	<ul style="list-style-type: none"> • Make sure that notes are taken, that the training sessions are recorded, and/or that the training material is made available for future training sessions conducted by the local government

	Enabler Actions	Required Actions	Multiplier Actions
Technical	<ul style="list-style-type: none"> • Build partnerships with local renewable energy companies who already understand the local market, available equipment, technology and local restrictions to support and coach the technical staff's learning process or lecturing a master class • If possible, already map and include in the sessions elements that are required from the technical RE projects by key financial institutions • Staff should bring and integrate available energy data owned by the local government, such as indicators and baselines to the project development sessions. Make sure that the proposed impact is measurable and that has the potential to feed back the existing goals and plans. In case the data is sensitive, take appropriate precautions to safeguard it 	<ul style="list-style-type: none"> • During the project development, generate a document predicting and assessing impacts that the proposed project will have on the local grid, energy matrix, market prices, energy consumption pattern and demand, and which actors will be impacted (for instance energy utilities, distributors, cooperatives, industries and private sector). In case the project is approved, disseminate it and align the necessary technical adjustments and infra-structure expansion with the necessary parts, if needed • Make sure to consider social impacts, benefits and externalities of the project 	<ul style="list-style-type: none"> • Name an internal focal point as the RE project specialist, that can support new and existing staff with technical themes learnt in the sessions • Encourage external organizations to predict the project approval impacts and submission of bankable projects that are in line with the local governments RE plans • Consider energy inclusion and energy justice as a criteria to project development
Finance	<ul style="list-style-type: none"> • For the sessions itself, no additional financial measures must be taken, besides the ongoing utilities expenses that are usually incurred • Invite financial institutions for specific moments, thinking about the final project's approval • Establish partnerships with the mapped interested local governments to have joint capacity building sessions and make the sessions funding feasible 	<ul style="list-style-type: none"> • Decide who is going to finance the training sessions: either the local government, though a public contract; or the financial institutions, who are one of the most interested stakeholders in having robust bankable projects formalized, or other development institutions and donors • Make sure to follow the guide's steps regarding mapping financial institutions, engagement and approaching for the developed RE project 	<ul style="list-style-type: none"> • Create standardized templates that could be used the process of submitting the cities' RE project to different institutions • Allocate technical staff to develop training sessions and SOPs to be taught in the future, without the need to hire external partners • Otherwise, allocate resources so that an external partner can develop an SOP that will be incorporated and adopted internally by the Local Government



3. WORKFLOW /PROCESS PHASES

3.1 PREPARATION

- Foster the proposition of new project ideas among the cities' technical staff, in a way that new projects are always being proposed and considered
- Nominate an internal project leader of the group, contemplating different secretariats and multidisciplinary staff, that will study the guide methodology, take the necessary decisions and be responsible for the capacity building organization.
- Assure that the staff taking part of the training sessions have a basic understanding of the project cycle and renewable energy basic concepts
- Assess technical knowledge and the need to include a deep technical session on renewable energy and design of such energy systems and projects
- Make sure that the Local Government technical staff is available to participate of the training sessions on a regular basis

3.2 PRE-IMPLEMENTATION (TECHNICAL)

- Get in contact with IT professionals to verify if the Local Government has the necessary tools to attend the training sessions
- Ensure that the contract conditions and scope of work that will rule the relationship between the local government and external consultants (that will support the capacity building process)
- Provide the staff with computer equipment to visualize the online training sessions (including internet connection and virtual meeting software) - in case the sessions are conducted remotely
- Make sure the staff have a suitable environment (e.g. meeting rooms, or a quiet room in cases of home office) to attend the training sessions
- Map and bring renewable energy projects, ideas and actions previously thought and predicted by the local government in its local sustainability, energy transition, mitigation and climate action plans, as other type of urban planning or director plans

3.3 PRE-IMPLEMENTATION (FINANCIAL)

- Decide who is going to finance the capacity-building sessions: either the local government, through a public tendering process; or the financial institutions, who are one of the most interested stakeholders in having bankable projects formalized, or other donors
- Also map the main financial institutions that might be willing to finance the projects that will be developed by the cities based on the capacity-building sessions

3.4 IMPLEMENTATION

- Assign a person that will be responsible for taking notes and to transform parts of the training session into internal SOPs of the local government
- Conduct the training keeping in mind the above factors, on a regular basis and involving relevant officials

3.5 MONITORING

- Guarantee that the training sessions will be documented and incorporated in the local government's future practices
- Make materials available for reference e.g. videos and presentations as available
- The responsible leader group should follow up with financial institutions to guarantee project approval and implementation, if possible
- Establish feedback mechanisms for trainees to ensure the trainings can be improved with each iteration

4. REALITY-CHECK

This solution is applicable for:

- Public managers and decision-makers who aim to develop renewable energy projects aligned to local mitigation and adaptation plans and goals.
- Local governments that have pre-developed RE projects, but still need to improve it to obtain funding
- It is also well-suited to local governments that have several ideas that could be further developed and funded, but that lack the necessary capacity to develop projects.
- It could also involve local governments' strategic partners of the energy sector

4.1 REQUIRED PRE-CONDITIONS

- Assure that the staff taking part of the training sessions have a basic understanding of the project cycle and basic RE concepts
- Make sure that the local government technical staff is available to participate of the training sessions on a regular basis
- Make sure the space and technical resources to conduct the training are available



4.2 SUCCESS FACTORS

- Assure that the staff taking part of the training sessions have a basic understanding of the project cycle and, if not, assure that they get introduced to the topic
- Local Government's commitment to incorporate the project elaboration process (the eleven steps of the guide in the development of the project) into their local SOPs
- Guarantee that the training sessions will be documented and incorporated in the local government's future practices
- Develop trainings to replicate what was learned in future occasions, with the ability to be independent from external partners

4.3 FOLLOW-UP NEEDED AND/OR RECOMMENDED

- Verify if local governments are conducting the training sessions as initially planned
- Verify if it is necessary to update the training materials that were initially created to be internally replicated, based on robust feedback mechanisms

4.4 BARRIERS

- Local government staff turnover, which is unavoidable but by training more permanent staff for example this can ensure that institutional knowledge is retained
- Undocumented training processes and material can hinder feedback processes and institutional knowledge management
- Lack of compromise in conducting the training sessions in the future
- Potential lack of interest from staff, which can be addressed by proper procedures to allow time for training and associated work

5. CLIMATE CHANGE MITIGATION POTENTIAL

This solution enables local governments to address one of the main issues related to climate mitigation: the lack of financial resources and knowledge to access them appropriately. According to some estimates [1], around US\$ 3 trillion dollars would be necessary annually in order to limit global warming to 1.5° (3 times what is currently available worldwide). Local governments are often at the forefront of tackling this challenge and implementing solutions, however may also lack the capacity to create bankable projects according to funder requirements. This solution aims to address this gap in resources by making the local government's projects more attractive and, therefore, more bankable and helping implementation.

6. NATIONAL - SUBNATIONAL INTEGRATION IN THE CONTEXT OF THIS SOLUTION

This section shows how the national-subnational integration can facilitate the implementation of this solution, focusing on the benefits that such integration can bring to the different levels of government.

6.1 BENEFITS TO LOCAL GOVERNMENT

- Continuity, as it may allow for a structured training provided by national authorities
- Benchmark with international financial institutions, that are sometimes only accessible through the national level and that might be interested in a nationwide capacitation process
- Better understanding of climate finance flows inside the country and funding options available at the local level, which would also contribute to a better coordination between the different levels and a more independent action at the local level

6.2 BENEFITS TO OTHER LEVELS OF GOVERNMENT

- Additional number of projects related to climate mitigation and adaptation financed, which might lead to the achievement of the country's NDCs
- The local funding of mitigation projects may redirect the national government's focus to other priorities besides project funding

7. RESOURCES/SUPPORT

7.1 CASE STUDIES

LEDS LAB, ICLEI, 2020

The Urban-LEDS II initiative "Accelerating Climate Action through the Promotion of Low Emission Urban Development Strategies" sought to accelerate climate action in Latin American cities through the promotion of low-emission urban development strategies. This initiative, funded by the European Commission and jointly implemented by ICLEI and UN-Habitat, is still being implemented in seven local governments in Colombia and eight cities in Brazil. As part of this initiative, the LEDS Lab was launched in 2019 as a climate finance laboratory with the main objective of improving the installed capacity of municipal governments in the elaboration of bankable projects which considers clear aspects of mitigation and adaptation to climate changes.

- Recife (Brazil) case: <https://americadosul.iclei.org/wp-content/uploads/sites/78/2020/12/30-ly-leds-recife-1.pdf>
- Tópaga (Colombia) case: <https://americadosul.iclei.org/documentos/leds-lab-topaga/>
- Envigado (Colombia) case: <https://americadosul.iclei.org/documentos/leds-lab-envigado-2/>

TAP CASE STUDY

- Palmas: <https://tap-potential.org/wp-content/uploads/2021/06/palmas-solar-program.pdf>

7.2 OTHER RESOURCES

The "Guide for the Elaboration of Bankable Climate Action Projects" with the aforementioned 11 steps. Available at: <https://americadosul.iclei.org/documentos/guide-for-the-elaboration-of-bankable-climate-action-projects/>

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