

Scaling Lessons from UNCTAD Pilot Projects and Alignment with IRENA's Work

The UNCTAD pilot projects on biogas in Zambia and agrivoltaics in Seychelles offer valuable lessons that can be scaled to other developing countries beyond Africa. These projects highlight the importance of a systematic approach to technology assessment, which aligns with IRENA's focus on systemic innovation and supporting a just and inclusive energy transition in emerging markets and developing economies.

IRENA emphasize on the **importance of mitigating investment risks** to create a more favorable investment climate in developing countries. (mention IRENA report:

<https://www.irena.org/Publications/2024/Apr/The-energy-transition-in-Africa-Opportunities-for-international-collaboration-with-a-focus-on-the-G7>) : collaboration opportunities:

- Enabling access to finance, expanding energy access and supporting the productive uses, effectively managing critical materials for the energy transition, strengthening institutional frameworks and capacity

IRENA is currently finalizing the next innovation flagship report, called “Innovation landscape for sustainable growth powered by renewables”. The report applies a systemic innovation approach – meaning that real, implementable solutions require not only technological innovation, but also innovation in business models, regulation and market design, and system planning and operation.

The [2019 Innovation Landscape](#) for a renewable-powered future, which explored solutions for integrating high shares of variable renewable energy in the power system, and the [2023 Innovation Landscape for Smart Electrification](#), which maps 100 key innovations for smart electrifying mobility, heating and cooling sectors, and for the smart production of green hydrogen.

This report provides a toolbox of 40 key innovations for a sustainable development powered by renewables, focusing on building solutions for (i) improving energy access and inclusive rural development through decentralised productive uses and (ii) increasing reliability of supply in areas with weak grids, by creating cooperative and resilient power system.

The combination of declining costs for renewables and the decentralised nature of many innovative renewable solutions will put universal access to electricity within reach, complementing the centralised grid connections with distributed energy solutions. However, it is important to go beyond providing electricity access for private households by generating the additional electricity needed to power productive uses in areas such as in agriculture, commerce, and industry that are vital for sustainable development and job creation.

Innovation also can help ensure a fair, just, efficient, and equitable transition for all. For best results, it is necessary to design policies and solutions that consider and reflect the unique needs of different regions and communities, and that ensure the responsible and sustainable sourcing of minerals and other resources, and localized supply chains. In addition to their crucial contribution as a climate solution, renewable energy projects can be a vehicle to empower local communities. By increasing the adoption of decentralised solutions, renewables can enable access to affordable and reliable energy, including in remote locations, create local jobs, and promote self-sufficiency

where projects are collectively owned and managed. In the face of increasing climate events, renewables can contribute to increase power system's resilience and security of supply.

However, narrative change is crucial for driving a successful energy transition in the Global South, as it shapes public perception, policy priorities, and investment flows. While GHG mitigation remains important, for the energy transition in the EMDEs to be successful it needs to contribute to their own priorities, needs, and local growth. The narrative of energy transition needs to shift towards a story that emphasizes local empowerment, economic opportunity, climate resilience, and a source of value creation locally.

Preliminary findings from the upcoming flagship report: IRENA identifies a number of strategic priorities for policymakers to create an enabling environment for renewable energy that fosters economic growth, energy security, and driving a just energy transition.

- I. **Clear vision:** Developing a roadmap with long-term renewable energy targets and pathways, as well as establishing a clear regulatory framework are key to provide predictability for investors and ensure consistent policy direction.
Addressing regulatory gaps is crucial for enabling the integration of renewable energy technologies. The agrivoltaics project in Seychelles reveals the absence of regulatory frameworks that support the integration of solar power generation with agriculture. This barrier emphasizes the need for policy interventions that address specific challenges and create a supportive legal and regulatory environment for new technologies.
- II. **Involve everyone: design participatory decision-making process:** involving policymakers, utilities, regulators, civil society, private sector players, and local communities is key to ensure diverse perspectives to shape energy policies. In particular, engaging local communities in planning and decision-making processes for renewable energy projects, particularly those directly affected by new developments, is key to ensure transparency and fairness, and to ensure social acceptance and address concerns related to land use and displacement. Both Zambia and Seychelles face challenges related to weak linkages between actors and stakeholders in their respective innovation systems. This finding underscores the importance of building capacity, fostering collaboration between research institutions, industry, and government agencies, and creating an enabling environment for innovation.
- III. **Value creation locally: develop local industries and value supply chains** The energy transition brings a great opportunity to create value locally, and reduce import dependencies, both in fuels but also in technologies. Achieving that depends on putting in place structures and institutions to strengthen supply chains, shore up the skills base, and allow greater local value creation to benefit the local population.
- IV. **South-South Cooperation and Regional Collaboration** This form of cooperation aims to foster mutual benefits and support self-reliance among these countries, reducing dependency on traditional aid models from developed nations.
- V. **Affordable access to finance** Stronger international co-operation will be required to expand the availability of funds and transform lending to developing nations.

Access to funding is a critical factor for successful technology implementation. Both pilot projects identify the high initial investment costs of biogas and agrivoltaics as significant barriers. This challenge underscores the need for innovative financing mechanisms, including public-private partnerships, grant schemes, and capacity building for financial institutions to assess the viability of renewable energy projects.

IRENA is not only a knowledge hub for the energy transition, but it also has the role to gather member countries and stakeholder to exchange practices and lessons learned. There are various platforms – one initiative is the Accelerated Partnership for Renewables in Africa, which intends to expand all forms of renewable energy to support resilient and inclusive green growth.

I would like to mention here the Innovation Week: <https://innovationweek.irena.org/>