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Cambodia is a country on the move, intent on rapid development. Amid soaring economic growth, electric power supplies haven not been able to keep up with the pace. Millions of households and small businesses cannot yet connect to the national grid. Short supplies are compounded by high costs and an ongoing heavy reliance on polluting fossil fuels.

A change is in order, but Cambodia remains one of the world"s poorest countries. Introducing new energy systems would require skills and resources that it does not yet have. For a solution, it turned to the Scaling-Up Renewable Energy Program in Low Income Counties (SREP), a Climate Investment Funds (CIF) initiative.

The program helped develop the Cambodian National Solar Park, reducing the cost of electricity by two thirds to expand sources of clean energy, becoming a model for the Southeast Asian nation"s transition to green growth.

Just three years ago, almost all of Cambodia"s power came from coal and hydroelectric energy, both of which are increasingly unreliable. Coal is vulnerable to shifting global prices and spews greenhouse gas emissions. Climate volatility has undercut the reliability of water sources and with it hydro generation. By contrast, solar power has offered a bright light. Located not far north of the equator, Cambodia enjoys copious sunlight all year round.

If solar was an obvious way forward, in principle, numerous stumbling blocks initially impeded its" expansion. The government was committed to delivering more energy to its" people quickly. Introducing solar raised questions about how fast and well a new source of power generation could be integrated into the national grid. Other issues arose around how consistent supplies could be maintained, since sunlight depends on weather and the time of day.

The question of how to pay for new infrastructure also posed challenges; a large-scale project would require significant upfront investment, much of which would have to come from private sources. To attract such investments and keep prices down, however, depended on selecting an investor via a competitive bid. Such an exercise is complex and time-consuming, and investor appetite was hard to gauge in Cambodia"s nascent energy market. Further complicating matters was the lack of transparent tendering processes.

Making all the elements come together required extensive and dedicated efforts CIF provided those, offering concessional loans and grants that drew in additional funding from the Asian Development Bank (ADB). This encouraged government commitments of domestic resources - plus a firm agreement to move forward.

The process took time to resolve questions and lay a solid foundation, including by developing best-practice methods to procure solar technology. Multiple legal and regulatory instruments to balance risks and

responsibilities were adopted, spelling out clear details on tariffs, payments and dispute resolution that would reassure potential investors. Other assurances came from detailed feasibility studies and government commitments to provide land and transmission infrastructure.

CIF financing also helped address technical concerns around fluctuations in solar energy supplies. It backed the design of a novel phased solar park, in lieu of a single large plant. Piecemeal increases in generation capacity can take place over time, keeping up with consumer demand and national capacity to manage new technology.

In early 2019, after three years of preparatory work, the project went to bid. An international auction drew in 150 firms, and led to the first competitively auctioned 60 megawatt (MW) solar plant. Its" generation cost is less than four cents a kilowatt hour, the lowest rate in Southeast Asia.

Today, Cambodia is auctioning off contracts for additional plants in the park, and considering replications of the solar park model, even without concessional finance from CIF. A new national power plan calls for 1.8 gigawatts (GW) in solar capacity by 2030. Once cautious about solar energy, the government is now exploring other frontier technologies, such as energy storage options. A pilot battery energy storage system is already coming online at the National Solar Park, with CIF financing.

The success of the project has not gone unnoticed. Viet Nam is now developing an auction for 200 MW of solar power. Discussions about similar exercises are underway in Indonesia, Myanmar and Timor-Leste. The experience has also inspired the ADB to launch a new regional program dedicated to developing large-scale projects for renewables and energy storage.