



Small-scale solar systems would be better for developing countries

Developing countries in Asia can leapfrog old fossil-fuel energy systems and promote the use of environment-friendly solar-power systems as their growing economies need more and more energy.

By 2050, 85% of the world's estimated 9.7 billion people will live in emerging countries, and about 70% will live in cities, according to a United Nations report. Growing populations will lead to soaring energy demands in the mega-cities that will continue to sprawl.

Efforts to promote the use of solar energy will succeed if the conditions under which they are made are carefully managed. Governments need to look at both the practicality of such systems and the best way to finance them, so that consumers and power providers feel they are getting a good deal.

Small-scale solar systems would be better for developing countries than big solar farms since they have less of an environmental impact and are more suited to the dense urban environments where the power is needed. Large-scale solar-power systems need large plots of land and might even erode the soil and damage water resources.

An alternative could be providing solar power as a service to residential power users, rather than the users owning and operating solar-power panels, for example, which are expensive.

Instead, third-party companies would own the solar systems and either sell the power to consumers or lease the systems to them under long-term contracts. Those contracts would ensure revenues for the companies while providing affordable solar power to households.

In places such as the United States, where similar systems have been introduced, entrepreneurs have led the way in developing residential solar systems. But the operations can only succeed when governments put in place the necessary structures for them.

Legal systems need to allow third-party ownership setups. Regulations need to be favorable and consistent over time so that investors are confident that operations will continue to be profitable.

As the cost of solar energy approaches that of fossil-fuel systems, profits will rise. But until that point is reached, governments need to support the growth of solar-power systems through tax breaks or regulations or a combination of both.

Those concessions need to remain in place until solar-power systems become as cheap as fossil-fuel energy. Otherwise companies will abandon solar-power projects when their contracts run out.

This episode was based on [research](#) done for the Asian Development Bank Institute by Ranaporn Tantiwechwuttikul, a PhD candidate at the Graduate School of Frontier Sciences, University of Tokyo; and Masaru Yarime, associate professor at the School of Energy and Environment of the City University of Hong Kong.

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