

Developing sustainable power

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The invention of a long-lasting incandescent light bulb in the 19th century spurred on the second wave of the industrial revolution, illuminating homes, extending leisure time and bringing us to the point today where many millions of people use a whole range of devices from mood lighting to audiovisual media centers, microwave ovens to fast-freeze ice makers, and allergy-reducing vacuum cleaners to high-speed broadband connected computers in their homes without a second thought.

However, the waves of the industrialization of the west have merely lapped at the shores of undeveloped regions and it is estimated that about a quarter of the world's population, particularly those in rural parts of the developing world do not have access to electricity in their homes. Indeed, four-fifths of those without domestic electricity live in rural or on the urban margins. In sub-Saharan Africa, the proportion is even more startling where just 8% of the rural population has access to electricity.

Those in the developing countries are thus keen to electrify and need stable sources of power to stimulate development and improve their standard of living. The developed world is gradually recognizing the environmental costs of widespread electricity use, yet has neither the right nor the authority to deprive the [developing nations](#) of power. There is a need, therefore, to provide 100% off-grid zero-energy solutions that require little or no [government involvement](#) and are low maintenance. This would allow the developing world to wade into the technology the developed world enjoys without making the same woefully polluting

mistakes regarding unsustainable power generation that are now a global problem.

Benedict Ilozor and Mohammed Kama of the Eastern Michigan University, in Ypsilanti, USA, suggest that [renewable energy](#) is a viable option for electrical power in developing and emerging nations. Writing in the inaugural issue of the African Journal of Economic and Sustainable Development, they point out that in most of these nations, the demand for energy far exceeds the generating capacity. They suggests that a rapid response to this huge demand that is informed by social, political, economic, climatic and environmental factors must be put in place so that renewable, sustainable energy supply can be identified.

The researchers have undertaken a case study of Nigeria in West Africa, which is perhaps representative of the situation prevalent in most developing and emerging nations. They suggest that cost is the limiting factor and that communities and governments would be unable to subsidize neither the one-time installation costs nor the ongoing maintenance however low, for most renewable [energy solutions](#). It is, they say up to the private sector and commercial banks, and perhaps charitable organizations, to fund the installation of wind turbines, solar panels and other renewable energy systems so that wealth-generating development can take place and standards of living raised quickly. They posit the idea of a renewable energy mortgage that would be paid back as the specific region developed and grew economically. There are many approaches to solar power, for instance, that could be implemented by individual households or small communities for domestic electricity as well as on a larger scale, while geothermal systems could be run to provide the power for cooling.

More information: "Renewable energy sources for generation of electrical power in developing and emerging nations" in *African Journal*

of Economic and Sustainable Development, 2012, 1, 67-79.

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