

Arun Sam Amirtham
India & Switzerland



The Significance of Solar Photovoltaics and other Forms of Renewable Energies in the Transformation to a Sustainable Society

Energy, in the form of coal, oil and electricity, has been one of the implicit enablers and drivers of the industrial revolutions and the technological and social progress that humanity has witnessed over the last century. The widespread use of electricity through the deployment of the electric grid has brought modern energy services to much of mankind. It has however also failed over 1.5 billion people world-wide. The bulk of them reside in sub-Saharan Africa and in South Asia.

In parallel, the raising awareness of the impact of climate change, ecological footprint and peak-oil to our common future, and the imperatives of social equity and ecological tolerance alongside economic viability are furthering our understanding, embracing and deployment of sustainable development. According to the Brundtland Commission report of 1987, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Renewable energies differ from non-renewable energies in that their source is continuous and inexhaustible - hydro-power, wind energy and solar energy belong to this class of renewable energies. Luckily, sub-Saharan Africa and South Asia, regions which have low penetration of the electric grid, are blessed with abundant sunshine, which makes the use of solar electricity extremely viable. A paradigm shift to renewable energies, particularly solar, is possible and necessary.

The technology is mature and is being deployed commercially. The issues to be addressed are those of access, affordability and scalability. Several models exist in terms of products, delivery mechanism and business proposition. Entrepreneurship, capacity building and financing models are required alongside existing technology and evolving products and solutions. Individual lives and communities can be empowered and transformed.

The remotest regions can be reached since everyone is connected to the sun! Solar energy makes technological leap-frogging a distinct possibility. The solar revolution is on!

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