

THE WHITE PAPER

Blockchain4Prosumers

A doable technology for peer-2-peer energy trading

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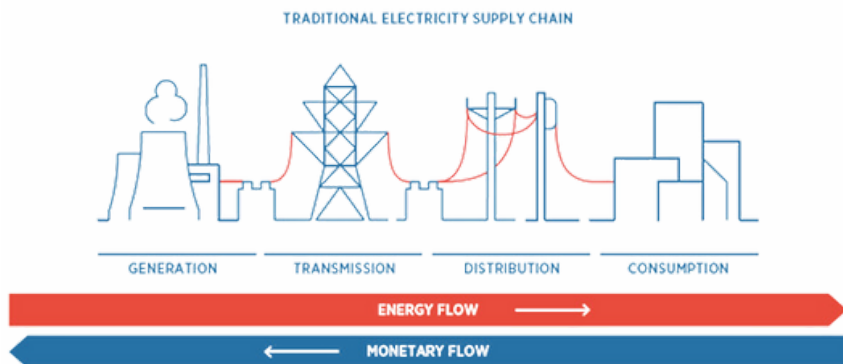
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1. Introduction: why should it start with you?

If you took this book into your hands, it means you are ready to look into the future of energy. This might feel uncomfortable at first, because you have grown up in a system in which supplying your home, or your firm, of energy was as easy as turning on the light but the time is now: time to change our way of supplying energy!

Now, the energetic landscape is indeed evolving fast, and changes are needed in order to survive the energy crisis and the pressing environmental challenges. Be reassured, at the end of this book, you will be ready to make the jump into energy sharing!

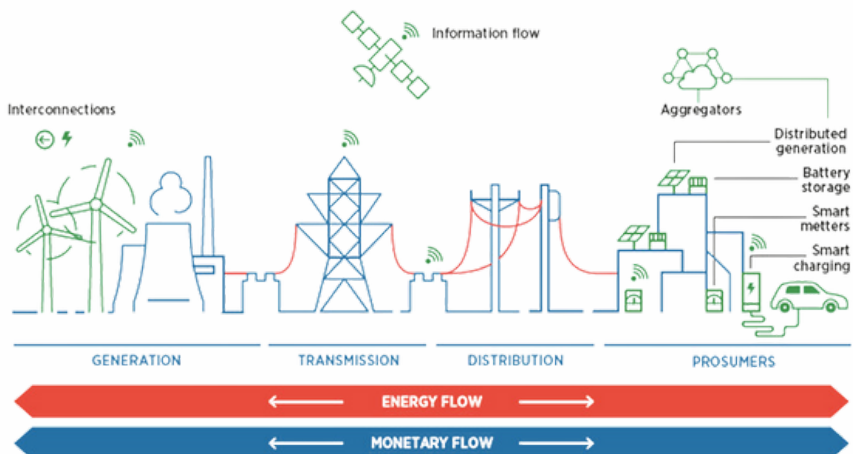
In the “good old days,” electricity was generated in large power plants through the combustion of coal or gas. It is then transmitted through power lines to reach consumers’ regions, where it is distributed to individual customers via a network. The chart below illustrates the flow of energy and monetary transactions in this traditional model.



Source: IRENA - Innovation landscape for a renewable-powered future, February 2019

That was the easy way. Now, the energy supply landscape is rapidly evolving. The traditional model of centralized supply from a few power plants is being replaced by numerous small-scale and decentralized power sources, such as wind and solar power plants ranging from a few kilowatts to several megawatts in capacity.

In the future, electricity will gain increasing appeal as a prosumer product, particularly if it plays a pivotal role in other sectors like transportation and heating.



Source: IRENA - Innovation landscape for a renewable-powered future, February 2019

As the shift from centralized to decentralized supply occurs, the role of consumers is also transforming. An increasing number of consumers are transitioning into "prosumers" who both generate and consume their own electricity. For instance, individuals install photovoltaic systems on their rooftops, often accompanied by battery storage.

The transition from consumer to prosumer status is driven by several important economic and regulatory factors. These factors include incentives related to the energy transition and advancements in technology that lead to significant cost reductions.

Currently, around 50% of renewable energy resources are owned by cooperatives comprised of small-scale producers. Households with photovoltaic systems particularly contribute as small electricity producers. Similarly, small batteries in households and electric cars can function as intermediate energy storage for the overall energy supply.

For example, private customers with a photovoltaic system and electricity storage have the potential to produce up to 70 percent of their energy consumption. The remaining portion can be sourced from a virtual storage system shared among members of a community. Establishing such a community necessitates the real-time exchange of substantial amounts of data.

Blockchain technology emerges as a suitable solution for representing and facilitating such cooperative structures.

One of these prosumers, could be you!

