

Power2Peer

Blockchain Innovation for Energy Independence

Executive Summary



For renewable energy to flourish, the clean energy industry needs a marketplace equipped for high volume clean energy transactions. The cost of clean kilowatts is falling, and the time is ripe to create such a marketplace—one that enables the convenient transaction of clean kilowatts around the world. Combining an easy-to-use blockchain-secured mobile application and cutting-edge solar technology, with the launch of the **P2PConnect** platform Power2Peer is doing just that.

Solar is in a unique position to capture the clean energy market: a staggeringly large portion of the earth’s surface lies near the equator and is perfectly suited to convert the abundant energy of the sun into electricity. World electricity needs are now approaching 1.7 terawatts per day; an amount that could be generated by a solar farm of 324 square miles in sub-Saharan Africa!

So, what is keeping us from going completely carbon-free and saving the planet from global warming? Besides the resistance of the traditional energy industry (which has been built upon gas-fired, coal-fired and nuclear power plants), producers and would-be consumers of clean energy face the need for a secure, efficient, and scalable trading platform to better utilize the abundant energy of the sun. So Power2Peer developed a user-friendly, blockchain-secured mobile application to meet that need: **P2PConnect**.

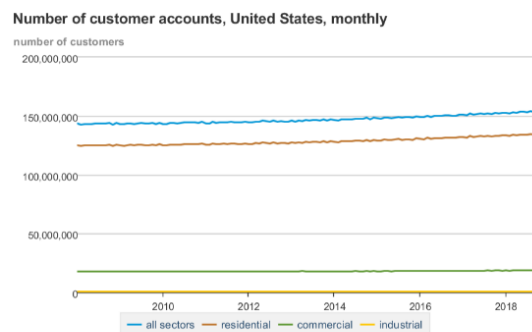
Market Size and Pricing of Kilowatts

Right now, in the U.S. alone, there are over 130 million residential customers, 18 million commercial customers and over 838,000 million industrial customers connected to the grid (source: US Energy Information Administration). (See Figure 2) The total price of electricity for residential sector varies from \$0.20/kWh to \$0.30/kWh. This cost has two components: supply and distribution. The residential and commercial sectors have an electricity supply cost of 46% with a distribution cost of 54%.

Moreover, the supply cost per kWh has been increasing in recent decades, from \$0.08 in 1998 to \$0.14 in 2017 (see Figure 3). The distribution cost is growing at the same rate; this is a fee collected by

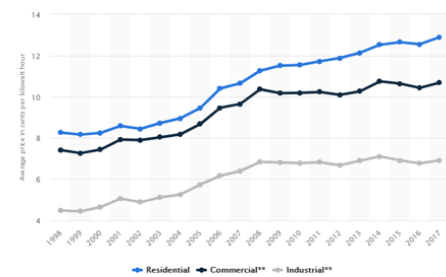


Figure 1: P2PConnect™ The Clean Energy Market Place Platform



Source: U.S. Energy Information Administration

Figure 2 The Market Size for Electricity in USA



Data visualized by +ableur

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Figure 3 The growth of electricity supply price 1998-2017

the big utility companies (e.g. Eversource and National Grid) who own and operate the physical wires that run power to your home or company. With distributed microgrids and nanogrids, the distribution charge is minimal, since the kilowatts are generated by renewable energy systems locally. Hence cost is reduced for both the supply and distribution of clean energy kilowatts. Many federal and state subsidies further reduce those costs. All of the financial indicators reflect what a massive opportunity lies before us.

Addressable Market

Price fluctuations are common in the residential sector and vary by state. The addressable market for the P2PConnect platform will be both residential and commercial, which is currently reaching \$0.23/kWh. The residential sector is now deregulated in most U.S. states for the supply side. Because of this, solar in particular can play a big role in the clean energy marketplace as shown in Figure 2. The cost to supply solar kilowatts has fallen to \$0.03/kWh (LCOE). With the P2PConnect platform, solar producers can offer solar kWh at a lower rate than the grid (say \$0.15/kWh), offering a savings of 30-40% to end-users and a 30% profit margin for the producer. Local producers can also trade excess kilowatts that are generated by rooftop nanogrids, community microgrids, wind farms, and other clean energy sources.

The P2PConnect clean energy marketplace will facilitate millions of transactions over its blockchain-secured platform. With transaction fees ranging from 1.5-2.5% this will be a significant source of revenue for Power2Peer. Granting even a minor market penetration of a trillion-dollar residential and commercial electricity market segment, the revenue potential for P2PConnect is considerable.

P2PConnect Clean Energy Marketplace Vision

Power2Peer’s vision is to create a scalable blockchain-secured distributed energy platform that will enable the purchase and sale of millions of clean energy kilowatts between producers and consumers. Power2Peer is dedicated to creating the first resilient and adaptive peer-to-peer energy trading platform for consumers anywhere in the world to receive clean energy from producers using a mobile app (See Figure 1). A minimum viable product (MVP) of P2PConnect platform is near completion which will demonstrate the viability of the commercial product.

The **P2PConnect** platform MVP uses a mobile app to register producers and consumers. All energy transactions are logged in the blockchain ledger. The software defined network controller (SDNC) creates optimal connections between clean energy sources and end-users to facilitate transmission.

P2PConnect is a free downloadable app that is designed to bring consumers clean energy at the best price by reducing the transmission and management costs of the kilowatts delivered. Customers will have access through the app to a ledger of all transactions on the blockchain as well as their billing and usage statistics (see Figure 4).

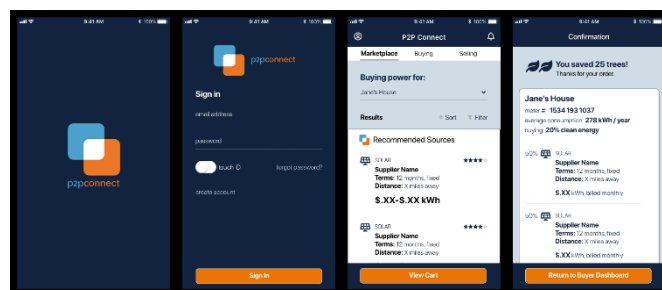


Figure 4: P2PConnect™ Platform Mobile UI/UX

It’s time to modernize our grid. Learn more about the Power2Peer vision today by reading our white paper!

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