Grid+ Whitepaper

Abstract

In the past ten years, the cost of distributed energy resources (DERs), such as solar panels and
wind turbines has decreased significantly. This has led to expeditious and widespread adoption.
Additionally, battery prices are rapidly decreasing, making them economically viable to
supplement variable-generation renewable-resources by storing energy for the electrical grid.
The confluence of these developments has created an emergent electrical grid, where the
means of production are less centralized, and the control systems are less likely to be strictly
top-down. The concept of independently owned and controlled DERs is known as the
transactive energy grid.

The transactive grid promises to increase durability of the electrical grid, while simultaneously
increasing efficiency, and enabling the adoption of more renewable energy. However, the
distributed nature of the transactive grid, poses two major challenges, primarily related to
technical control and grid administration. Both challenges can potentially be addressed using a
blockchain. The ConsenSys energy team has several years of experience building and
demonstrating proof-of-concept blockchain-based distributed energy resource management
solutions. Through this experience, ConsenSys identified the opportunity to form Grid+, which
will build natively Ethereum-based utilities in deregulated markets. Grid+ will demonstrate
production ready blockchain-based energy solutions at scale in competitive commercial
environments in order to enable the transactive grid of the future and prove the

Archived copy · cryp2nova.com

advantages of
Ethereum over incumbent technologies.

Grid+ is developing a hardware and software stack to create a secure Ethereum-enabled
gateway and connect Internet-of-Things (IoT) devices. The hardware gateway, or “smart energy
agent”, is an Internet-enabled, always-on appliance which will securely store cryptocurrencies
and process payments for electricity in real-time, which we refer to in this Whitepaper as “The
Smart Agent”. The Smart Agent will also be able to programmatically buy and sell electricity on
behalf of the user and intelligently manage smart loads (e.g. Tesla Powerwall or Nest
thermostat). The software stack will work in conjunction with the Smart Agent to make
payments, using a combination of Grid+ designed payment-channels and a Raiden network hub
(when available). Grid+ is developing a system architecture that allows a typical user to
leverage the advantages of cryptocurrencies while remaining unaware of their use. Interestingly,
the implementation of a secure, always-on system, with low friction payment rails, provides a
missing piece of critical infrastructure in the broader cryptocurrency ecosystem.
The Grid+ infrastructure has many uses beyond electricity and will be key to enabling the widespread
adoption of cryptocurrencies.

IMPORTANT INFORMATION
Except where specifically indicated, the statements and information set forth in this Whitepaper
are not intended to recite current or historical facts, and constitute forward-looking statements.
Forward-looking statements may include the words “may,” “will,” “could,” “should,” “would,”
“believe,” “expect,” “anticipate,” “estimate,” “intend,” “plan” or other words or expressions of
similar meaning. These forward-looking statements are based on the current beliefs, plans,
objectives, goals, expectations, anticipations and/or intentions of Grid+ with respect to future
events. Although Grid+ believes that the expectations reflected in the forward-looking

Archived copy · cryp2nova.com

statements are reasonable, Grid+ cannot guarantee the successful establishment or operation
of its systems and business or any future results, level of activity, performance or achievements.
Many factors discussed in this Whitepaper or otherwise affecting the matters discussed herein,
some or all of which may be currently unknown to Grid+ or beyond Grid+'s control, will be
important in determining the ability of Grid+ to establish and operate its systems and business.
Consequently, actual results may differ materially from those that might be anticipated from the
statements and information set forth herein. In light of these and other uncertainties, the
statements and information set forth in this Whitepaper are for informational purposes only,
should not be relied upon in making any purchase or other decision, are subject to change, and
are not intended to establish or indicate any representation, warranty, commitment, undertaking,
promise or contract made on the part of Grid+ to any person. Grid+ does not undertake any
obligation to publicly update any forward-looking statements, whether as a result of new
information, future events or otherwise, except as required by law.

Grid+ Website
Grid+ Whitepaper

Social

CRYP2NOVA

Archived copy · cryp2nova.com