Technical Whitepaper (Version 11.0)

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Risk Factors

Regulatory Risks

The regulation of tokens such as the ELEC tokens is still in a very nascent stage of development in Singapore. A high degree of uncertainty as to how tokens and token-related activities are to be treated exists. The applicable legal and regulatory framework may change subsequent to the date of issuance of this White Paper. Such change may be very rapid and it is not possible to anticipate with any degree of certainty the nature of such regulatory evolution. Electrify does not, in any way, represent that the regulatory status of the ELEC tokens will remain unaffected by any regulatory changes that arise at any point in time before, during, and after this offering.

No Regulatory Supervision

None of Electrify or its affiliates is currently regulated or subject to the supervision of any regulatory body in Singapore. In particular, Electrify and its affiliates are not registered with MAS in Singapore as any type of regulated financial institution or financial advisor and are not subject to the standards imposed upon such persons under the Securities and Futures Act, Financial Advisors Act, and other related regulatory instruments. Such persons are required to comply with a variety of requirements and standards concerning disclosures, reporting, compliance, and conduct of their operations for purposes of maximising investor protections. Since Electrify is not subject to such requirements or standards, it will make decisions on those issues at its own discretion. While Electrify will have regard to best practices on these issues, holders of ELEC tokens may not necessarily enjoy the same extent and degree of investor protections as would be the case should they invest with regulated entities instead.

No Fiduciary Duties Owed

As Electrify is not a regulated financial institution, it does not owe investors in ELEC tokens any fiduciary duties. This means that Electrify has no legal obligation to always act in good faith in the best interests of holders of ELEC tokens. While Electrify will have regard to the interests of holders of ELEC tokens, it is also permitted to consider the interests of other key stakeholders and to prefer these interests over the interests of ELEC token holders. This may mean that Electrify is permitted to make decisions that conflict with the interests of ELEC token holders. Not owing any fiduciary duties to holders of ELEC tokens also means that holders of ELEC tokens may have limited rights of recourse against Electrify and its affiliates in the event of disputes.

Tax Risks

The tax characterization of ELEC tokens is unclear. Accordingly, the tax treatment to which they will be subject is uncertain. All persons who wish to receive ELEC tokens should seek independent tax advice prior to deciding whether to receive any ELEC tokens. Electrify does not make any representation as to whether any tax consequences may arise from purchasing or holding ELEC tokens.

Risks From Third Parties

The tokenised nature of ELEC tokens means that they are a blockchain- based asset. The security, transferability, storage, and accessibility of blockchain assets depends on factors outside of Electrify's control, such as the security, stability, and suitability of the underlying blockchain (in this case, the Ethereum blockchain), mining attacks, and who has access to the smart contract where the ELEC tokens are stored. Electrify is unable to assure that it can prevent such external factors from having any direct or indirect adverse impact on any of the ELEC tokens. Persons intending to receive the ELEC tokens should note that adverse events caused by such external factors may results in the loss of some or all of the ELEC tokens. Such loss may be irreversible. Electrify is not responsible for taking steps to retrieve ELEC tokens lost in this manner.

Risks In Receiving The Elec Tokens

Electrify cannot and does not guarantee or otherwise assure that there are no risks in relation to the issuance of the ELEC tokens. The ELEC tokens may, depending on the manner in which the relevant issuance is effected, involve third parties or external platforms (e.g., wallets). The involvement of such parties or platforms may introduce risks that would not otherwise be present, such as misconduct or fraud by the third party, or your failure to receive the ELEC tokens upon duly making payment because of a third-party wallet's incompatibility with the ELEC tokens. Electrify is not responsible for any risks arising due to the involvement of third parties, including the risk of not receiving (or subsequently losing) any or all ELEC tokens issued to you.

ELECTRIFY's Manifesto

Worldwide, energy markets are subject to economic friction arising from centralised control and ownership. Power prices are often set artificially high in markets with high barriers to entry or are capped low to force out competition. Neither of these scenarios are beneficial to energy consumers in the long run. Blockchain technology—a decentralised, encrypted ledger that is maintained by a network of computers—with smart contract functionality strengthens the market role of individual consumers and producers by enabling them to buy and sell energy directly, with a high degree of autonomy.

ELECTRIFY's mission is to make energy transactions fully accessible through the development of a decentralised energy exchange and trading tools for individual consumers and producers. By ensuring transparency, assurance, and enforcement, blockchain technology enables the delivery of solutions that empower consumers to contract directly with the source of their power with full cost transparency, and even become producers themselves. The use of token mechanisms will help incentivise the community to take ownership and make decisions that promote public good. Finally, blockchain will also support the transition toward sustainable energy systems by enabling distributed renewable energy asset owners to plug into the grid and sell their surplus power directly to consumers.

In the short to medium term, it is unrealistic to completely eliminate centralised utilities and rely solely on decentralised energy sources. We believe that a balance can be struck between both extremes that offers an optimal position for a consumer's benefit and promotes transparent pricing from centralised utilities. In the future, we believe that the community can become more collaborative, self-sufficient and transparent. Decentralised ownership of the ELECTRIFY ecosystem and its open-source tools will result in the eventual disintermediation of rent-seeking utilities, resulting in a more even distribution of benefits and utility. We envision that the community will run and make decisions for the ELECTRIFY ecosystem that are inclusive, sustainable and beneficial to the community at large.

Introduction and Problem Statements

Existing Business and Next Phase of Development

ELECTRIFY.SG is Singapore's first retail electricity marketplace, addressing the need for price transparency in an energy market's maturity towards full liberalisation. Counting MNCs like Essilor, Katoen Natie and Sofitel Hotels among its clients, ELECTRIFY's gross merchandise volume is over S$5 million and has transacted more than 30 GWh of electricity for businesses. With the upcoming liberalisation of the electricity market, ELECTRIFY will empower consumers in Singapore to choose how and from whom they want to purchase electricity.

As countries across the region, such as Japan, the Philippines, China and Singapore move toward market deregulation, ELECTRIFY will support this transformation by empowering individuals and improving transparency across the electricity value chain. ELECTRIFY's price-discovery and intelligence platforms offer consumers more choices while providing energy providers (electricity retailers and small-scale producers) with data-driven analytics on customers' usage patterns.

The ELECTRIFY platform will be enhanced with ***Synergy***, a peer-to-peer (P2P) energy trading platform through the use of smart contract functionality. ***Synergy*** aims to democratise the process and allow energy consumers and prosumers[i] to trade power with one another directly. With greater accessibility to tools for trading, more prosumers will be incentivised to install small-scale solar PV or micro wind turbines with greater assurance of a fair return on investment (ROI). Given greater visibility over a better return on investment, project owners will also get better access to financing through traditional channels or P2P financing schemes, driving adoption for decentralised energy resources (DER).

Current problems in centralised energy markets

Lack of transparency in source and pricing from centralised energy producers

Energy markets are opaque on many levels and across geographies. This results in a lack of price transparency and information flow. These inefficiencies manifest themselves in the high cost of due-diligence, customer acquisition, and procurement processes, resulting in higher prices for consumers and other stakeholders in the value chain. Consumers themselves may also not always be aware about what prices they pay for, or are often subject to unscrupulous practices.

Barriers to clean energy adoption and trading

Due to the lack of a standardised framework and knowledge for small-scale energy producers and consumers to trade energy reliably and transparently, it is challenging for consumers to buy or sell surplus power generated from renewables (e.g. solar, wind) with direct off-takers. Without such a framework, small-scale producers are discouraged to sell power to the grid operator as they are exposed to volatile market prices and or unjustified financial returns.

There are also challenges in obtaining financing for renewable energy projects. When financiers assess loans for the development of renewable energy projects, they typically require a form of an off-take agreement to ensure that the energy produced will derive revenues as projected. However, there is often a mismatch between the energy production profile and on-site consumption, leading to surplus energy exported to the electricity grid. Ensuring more predictable energy revenues for distributed energy resource owners will increase bankability and allow renewable assets to be more easily financed.

Consumer credit risk facing energy providers

In the current centralised model, electricity costs are typically paid post-consumption. As a result, energy suppliers face a common problem of a small group of customers defaulting on their electricity bills. This leads to high costs of tracking and bad-debt recovery, resulting in increased energy prices for all consumers to account for losses from a small group of bad paymasters. Through the use of smart contracts,

ELECTRIFY's eWallet will allow both parties to transact in a trust-less and fair manner. At the same time, energy suppliers will also be able to identify and reward consumers that exhibit positive payment behaviour.

TABLE 1: SUMMARY OF PROBLEMS FACING STAKEHOLDERS

	Investors	Consumers	Producers	Retailers
Producers lack offtake contract from consumers	X		X	
Producer's excess energy revenues are volatile, difficult to finance	X		X	
No platform to allow P2P direct purchase of energy		X		
High middleman margins		X	X	
No way to hedge against long term fluctuations in energy prices		X		X
No marketplace to find P2P energy producers and private energy retailers		X		
No platform to enable P2P energy trades		X	X	X
No means to mitigate counter-party credit risk	X		X	X
No means to bulk-buy clean energy from multiple small-scale producers		X		X
No means to track and verify renewable energy transaction				
High carbon emissions from conventional energy producers		X		
High cost to serve				X
No paperless contract solution		X	X	X
Lack of innovation in energy grids	X	X	X	X

Solutions

ELECTRIFY will leverage blockchain technology to facilitate the transition from a marketplace into a decentralised energy exchange. We do this through creating open-source smart contracts for anyone to create a retail electricity smart contract or a peer-to-peer trading contract. All energy contracts will be hosted in ***Marketplace 2.0*** that will provide convenience to consumers to compare and contract with an energy provider, addressing the issue of transparency and accessibility. The main difference between a retailer electricity contract and a P2P contract is that the retail electricity contract allows anyone to provide an electricity contract to any consumer without owning physical assets while the P2P contract caters to distributed energy resource asset owners, allowing them to trade surplus power with any consumer.

The P2P contract platform, ***Synergy***, which will leverage smart contracts to enable trading and settlement between producer and consumer. ***Synergy*** will democratise utility-level trading tools, making it available to smaller producers, providing revenue certainty for producers and cost certainty for consumers, thereby substantiating increased bankability for distributed energy assets.

In addition, we will create an ***eWallet*** to facilitate settlements between energy providers (retailers and prosumers) and consumers. This enables a seamless integration and easy access for consumers (even for those not familiar with cryptocurrencies) looking to pay for their electricity consumption, opening up the potential for the development of more innovative electricity products from commercial and individual electricity suppliers.

In order to accurately track electricity production data, we will also develop ***PowerPod***, an IoT device that is able to read smart meters and log energy production data onto the blockchain. On the physical site of an energy producer, this device will accurately track and validate the

volume and time of energy production. In the case of a renewable energy project, this data will also form a basis for the Renewable Energy Certificates (RECs) generated. Each unit of REC will be audited and tracked on the blockchain to ensure that there is no double-counting.

The development of the ELECTRIFY ecosystem will be timely for Singapore's full liberalisation in the second half of 2018, where it will undergo a significant proof of concept and real-world trial with an estimated 1.5 million customers, both domestic and newly contestable small-business customers. This will allow us to gear up for the imminent liberalisation of other Asian markets, and provide a stable platform to enter existing liberalised markets such as the UK, Europe, Japan, the Philippines (selected consumption tiers) and China (selected provinces such as Guang Zhou and Chong Qing).

Modules

ELECTRIFY Marketplace 2.0

Marketplace 2.0 for energy smart contracts

Marketplace 2.0 will serve as the main consumer interface (web + mobile) allowing individuals to enter into energy smart contracts with their energy providers, whether it is a commercial retailer or a prosumer. Through the use of smart contracts, we provide a means of entering into an electricity contract that is secured on a blockchain. Distributed ledger technology allows every participant to have an identical copy of their contract details, monthly or periodic (for time-based contracts) energy usage, settlement details and energy fees that are payable to the supplier. This ensures that all stakeholders can transact in a trust-less manner, reducing time and cost of contract monitoring. Energy smart contracts will help energy providers reduce overheads in contract execution and enacting transaction, allowing savings to be passed on to the consumer.

AI auto-switching service

Energy consumers will also be able to subscribe to ELECTRIFY's intelligent switching service that will employ artificial intelligence to recommend the most suitable energy plan and provider. Based on the consumer's parameters and preferences (such as energy source, price, contract length, usage patterns), the AI engine will take inputs from available P2P contracts (via ***Synergy***) and retail electricity plans to provide an optimal recommendation to the user.

Over time, the user can opt to authorise ELECTRIFY to automatically select their choice of energy supplier according to their optimisation preferences. Alternatively, they can choose to directly act on the AI's recommendations. Optimisation options may include, but will not be limited to the following:

- Highest percentage of clean energy
- Best customer service and user rating
- Lowest price
- Shortest contract term
- Nearest P2P producer
- Source of energy

Smart contracts for retail electricity

Traditionally, electricity contracts between retailers and consumers are executed either manually or through pricey CRM/ERP software. This often results in high costs of operations and monitoring, for both big and small electricity retailers. Further to that, payment gateways and tracking of receivables also adds on to costs to the retailer. These factors add friction, the possibility of billing errors, and unnecessary costs to the consumer.

ELECTRIFY will develop an SDK layer for electricity retailers to develop and customise their own retail electricity plans that can be offered to consumers on Marketplace 2.0. The SDKs will act as a rating engine, taking in various inputs such as pricing parameters, external indices, consumption profile as well as payment terms to generate a bill for the consumer. All payments will be made through Electrify's eWallet from the consumer to the retailer.

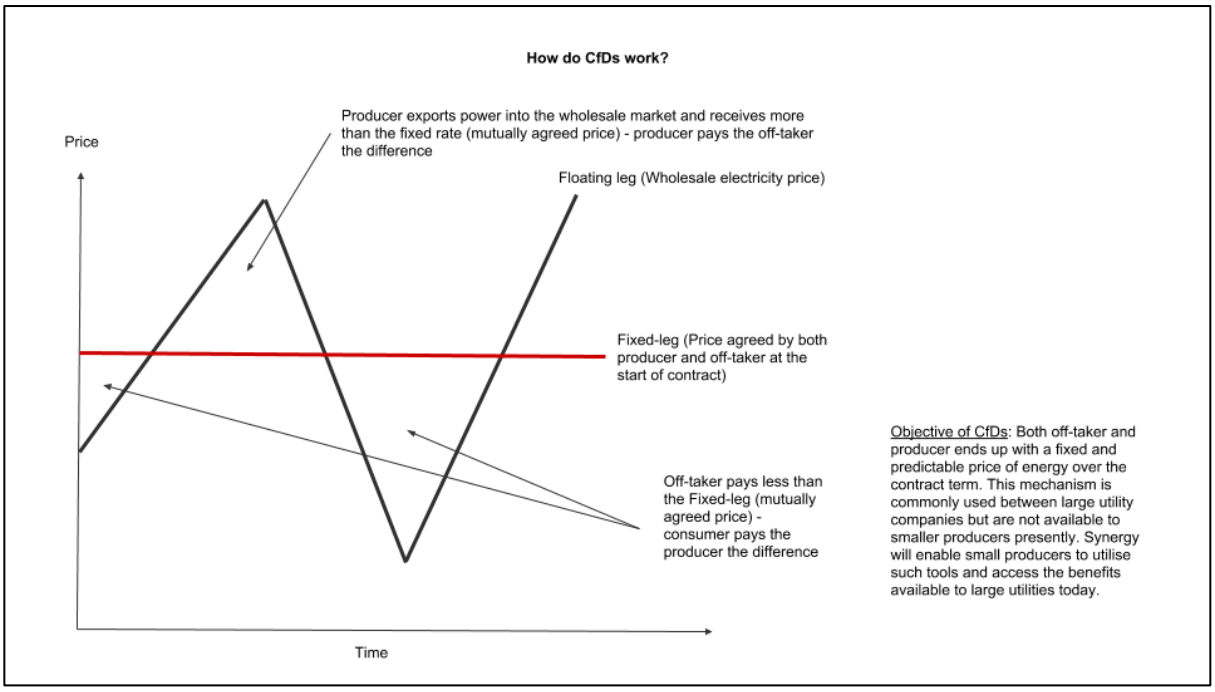
Virtual electricity retailers

Setting up a retailer business in deregulated markets requires a substantial amount of capital to get licenses, develop software and billing systems. A traditional retailer typically requires a sizeable team to manage operations, customer service and marketing, adding to operational costs which are passed on to consumers. With ELECTRIFY's retail electricity SDK, we allow any individual or organisation to set up a retailer business to provide power to any consumer, with minimal barriers to entry. This is sometimes referred to a white-labelled retailer. This will fully democratise the ability to retail electricity to consumers, increasing options for consumers and ensuring that the market remains competitive.

Synergy - Peer-to-peer energy trading tools

Existing trading methods

Wholesale market settlement between energy utilities and electricity retailers with the grid operator often exposes these utility players to price volatility, which is unfavourable to both generators and electricity retailers. A common method for large utilities to attain price certainty for their produced energy is by doing a Contract for Difference (CfD) with another major utility off-taker. This allows parties on both side of the buy-sell equation to achieve price certainty and improved cost visibility. CfD contracts allow price stability by having one entity pay the other depending on the fluctuation of an underlying 'floating-leg' price against a pre-determined 'fixed-leg' price.



In addition, various new energy blockchain platforms focus on P2P solutions that work on microgrids. However, there is no clear solution for P2P energy trading across a developed city or nation-wide electricity grid. Trading across a national power grid becomes more complex as compared to trading within a private microgrid, due to an additional 'price-time' parameter. Unlike energy traded in a microgrid setting, power traded across a national grid is settled with prices traded on a wholesale market (price varies across the day). Wholesale market prices are subject to demand and supply of energy in real time.

To trade energy across a national grid, a useful tool to use is a CfD. Unfortunately, these trading and settlement facilities are not available to small producers (with a lower volume of production) due to prohibitively high set-up costs. Consumers are also unable to purchase power produced from their neighbour's solar panels. As there is no existing platform, the barriers to entry (settlement, legal and finance costs) are extremely high for small players who intend to transact between one another.

Scalable solution for peer-to-peer exchange

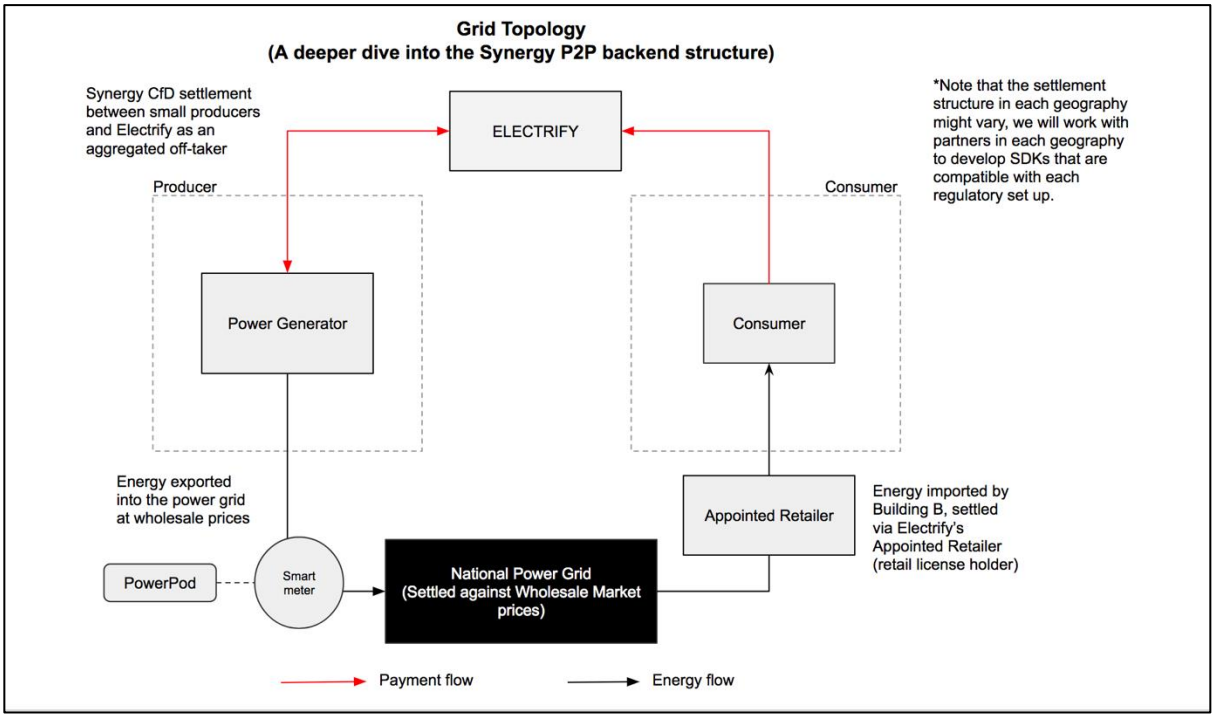
ELECTRIFY will bring these tools, currently available only to large corporations, to an accessible level for the masses. ***Synergy*** software development kits (SDK) are designed for deregulated electricity markets with an underlying wholesale electricity market mechanism, allowing peer-to-peer trading of energy lots. The platform allows distributed energy producers[iii] (such as solar, wind, biomass, and even spare diesel generators) to sell surplus power to consumers connected to the national electricity. Having a solution compatible with major cities is expected to be more scalable with greater adoption across the community.

Through ***Synergy***, individual energy producers will be able to register and list their surplus energy onto ***Marketplace 2.0*** platform, allowing them to trade with other small-scale energy producers. By dealing directly with the off-taker, producers get better financial returns. Our solutions are also built to accommodate major settlement structures in different jurisdictions. In some jurisdictions, it may be required for ELECTRIFY to register or partner with a retailer entity to execute P2P trades.

Adoption by multinational corporations

With an increasing shift in focus towards corporate sustainable energy practices, more multinational corporations (MNCs) are looking for ways in which they can consume responsibly by applying the concept of additionality[iv]. ***Synergy*** will enable these corporations to source for renewable energy projects and individual producers that require a long term off-taker. With the assurance of a long term off-take arrangement, renewable energy developers and individual asset owners will be able to secure financing lines to commence their projects. With ***Synergy***, MNCs can source for renewable energy[v] either locally or from another geography to provide developers with a more predictable revenue

stream on these renewable energy projects. This method of buying clean energy is gaining popularity (e.g. Google, Apple[vi]) as it can be done within the same electricity grid or across borders .

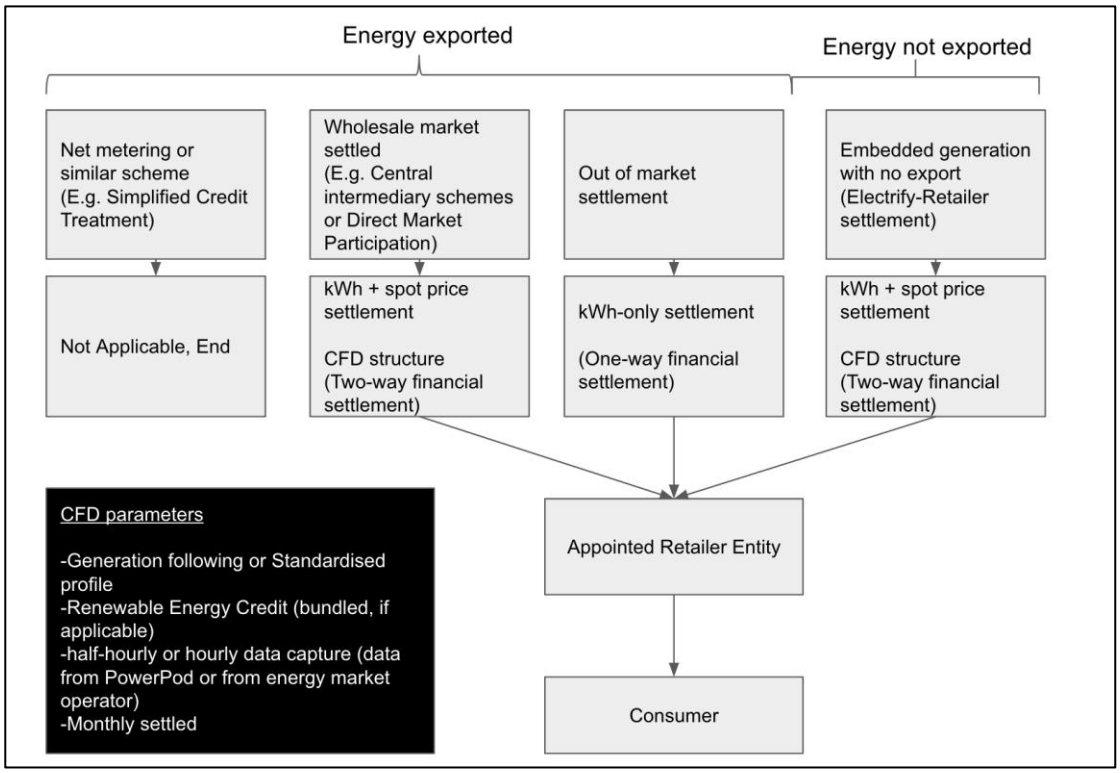


Synergy will offer open-source SDKs allowing any distributed energy producer to offer their surplus energy to any consumer. The community can access these options on ***Marketplace 2.0***. The diagram above shows an example of how the pieces can be assembled to enable an end-to-end P2P trading contract. Renewable energy assets can either be embedded within a building (e.g. household solar with partial self-consumption) or a standalone asset (micro wind turbine system that is directly connected to the grid, without a direct load). Both ways, the producer can use ELECTRIFY's ***PowerPod*** that logs power production, allowing the owner to trade it with a consumer on the blockchain. All producers will be required to place a deposit in ***ELEC*** tokens throughout the duration of the contract to incentivise honest activity on the network. The amount of ***ELEC*** tokens will be proportional to the size of the energy system, typically represented in units of Kilo-watt Peak (kWp).

Addressing different regulatory and power market mechanisms

While regulation and market mechanisms will vary across geographies, there will be a few high-level framework variations. The diagram below indicates the various possibilities which we will employ depending on each country's framework. If a country limits direct P2P energy trading, we will appoint or set up a retailer business entity (Appointed Retailer Entity) to execute supply transactions with consumers. This allows us to be fully compliant and compatible with each regulatory environment. This retailer entity can either be a partner retailer on our network or we can register for a license.[1]

[1] Disclaimer: ELECTRIFY does not intend to operate as a conventional for-profit energy retailer. ELECTRIFY's purpose for setting up a retailer entity will be for the sole purposes of enabling P2P trades in each geography, and we have no intentions to operate as a retailer beyond facilitating P2P trades.



While P2P trades cannot be directly executed in some jurisdictions, with an appropriate design of trading and settlement structure, software, and licensing, we can enable and create a seamless P2P trading experience. The common market settlement frameworks are listed below:

- **Net metering**. A pure net metering scheme may not be a sustainable structure in many liberalised power markets and may not be available in some of the countries which we aim to operate in. This is because it negates the price-time factor in wholesale electricity markets. This scheme, along with Feed-in-Tariffs or similar, was created to promote the growth of renewables in its early days. However, it is less relevant now that the price of renewables has dropped significantly. Net-metering structures and Feed-in-Tariffs also usually result in benefits to parties that can afford renewable energy systems, while passing on the cost to the rest of the grid's consumers. If the consumer is getting paid via net metering, he/she probably does not need to sell any surplus energy to anyone, hence he/she will not be eligible for Synergy.

- **Wholesale market settlement**. This is the most common method for exported energy settlement in deregulated power markets. There is typically a trading block of 30 or 60 mins where the energy regulator (or equivalent) determines an estimate of the system demand (usually a vertical demand curve). Power generators (above a determined MW generation capacity level) enter price-volume bids and are sorted by order of price. The supply-demand matching is carried out by the market operator and an eventual price for power for that period is determined. This is also known as merit-order dispatch[vii]. Since the price of power fluctuates across the day, energy producers receive a volatile rate for the power produced. At the same time, retailers pay for power at wholesale prices and supply energy to both business and residential consumers. Retailers also pay approximately the same per kWh price that generators receive, allowing them to hedge against one another. The ***Synergy*** platform will conduct a 2-way Contract for Difference (CfD) settlement with them and provide these energy units to consumers.

- **Out-of-market settlement**. This is common among entities that own both the generation facility and retail business, allowing the retail business to buy directly and settle with the generation. This will not be the main method of settlement and will be employed for long term contracts between both producer and consumer.

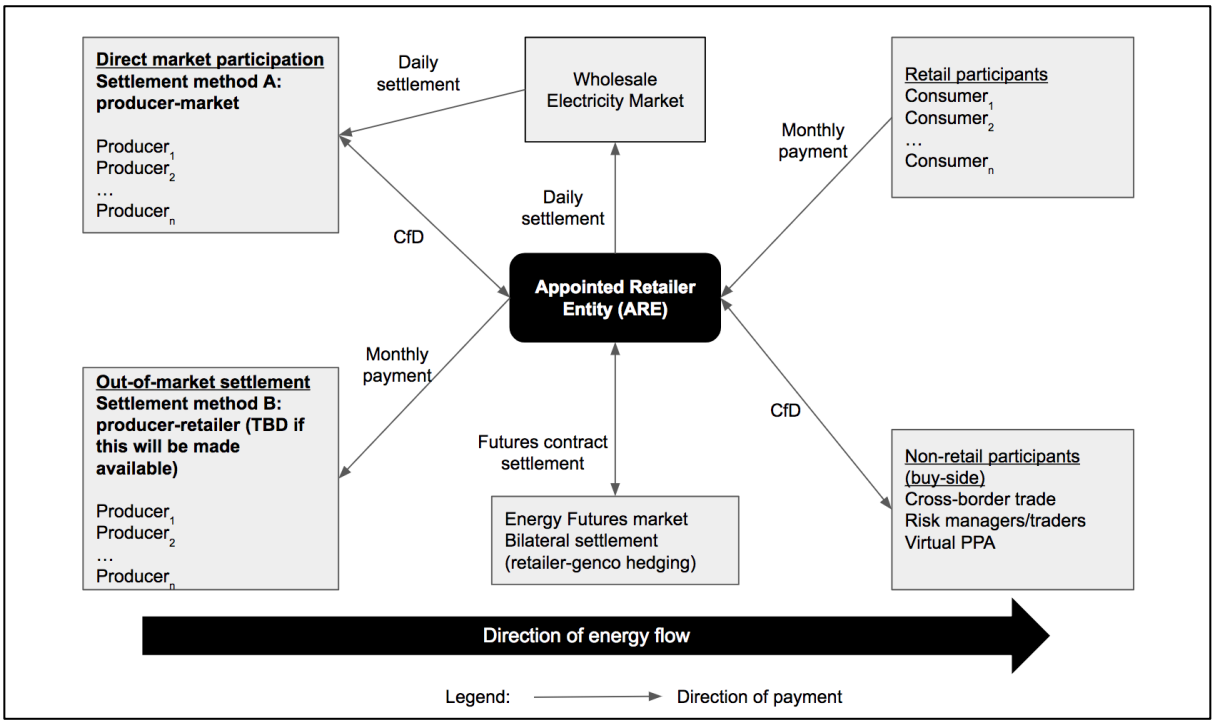
- **Embedded generation with no export**. This case describes a situation where a facility owner is willing to install and trade solar power and will fully consume all its energy. This scenario is less common and some jurisdictions will have an existing framework to allow this. For geographies without an existing framework, however, we will introduce a set-up to allow the producer to settle directly with the incumbent retailer. The settlement mechanism for this is between ELECTRIFY (representing the producer) and the retailer. This is more of a 'synthetic' mechanism but wholly legal within a commercial contracting framework. The main benefit of this arrangement is an increased flexibility in deployment, allowing any building owner to install a renewable energy system regardless of his consumption (regardless of whether the produced energy will be locally consumed, we will be able to trade it with P2P consumers). After a producer is registered on our platform, we enter a standardised CfD arrangement with the producer to ensure that the intended per kWh sale price will be fully paid to the producer.

In the user application interface, the consumer will declare his approximate monthly energy consumption (C) and his desired percentage offset (from P2P producers, p%). With this P2P demand parameter, D = C*p%, the ***Synergy*** user interface will list all available P2P suppliers, allowing the user to sort his options based on other parameters such as price (lowest to highest) or energy source (solar, wind, biodiesel, etc.). The consumer will then be able to select producers such that the aggregate supply of producers is greater than or equal to D. The balance of the energy requirement, mathematically expressed as C-D = C*(1-p%) will be supplied from the wholesale market. ELECTRIFY's Appointed Retailer Entity will supply and manage wholesale market risk for the balance of the power supply. ELECTRIFY's team has in-depth experience

in risk management and trading in power markets, in addition to a comprehensive risk management framework that will be set up to handle and hedge against any exposure. In this way market risks will be taken fully into account.

Example:

Customer uses 1,000 kWh/month and decides that he wants 60% of his power to come from P2P sources (example: his friends who own solar panels). Customer selects three of his friends' listings such that the aggregate offer volume is greater than 60% x 1,000 = 600 kWh/month. The balance of his power, 400 kWh/month will come from the wholesale market. He can then decide whether he wants a fixed price for this portion of power. ELECTRIFY, through its Appointed Retailer Entity, will hedge and supply this 400 kWh to the customer. Both portions of energy, the 60% P2P + 40% wholesale supply, will be supplied and billed to the customer in a consolidated bill, tracked on the blockchain. Payments will be done through his/her eWallet and executed by smart contracts.



The above diagram shows how energy from producers will be supplied to the consumer, while any balance required by the consumer will be drawn from the main grid at wholesale market to ensure that demand and supply are matched. There is also a possibility for non-retail participants to participate in ***Synergy***. These will likely be the more sophisticated participants such as MNCs that wish to purchase clean energy via a CfD, sometimes referred to as a Virtual Power Purchase Agreement (Virtual PPA). Other non-retail participants can also be risk managers from the energy industry or commodity traders that enter positions for direct or proxy hedging. While these trades can be done over-the-counter (OTC) with producers in our community, they may be made available in the second phase of development of ***Synergy***. At this point, we will prioritise the development of ***Synergy*** to households.

eWallet

Trust and transactional security are major issues in developing markets. ELECTRIFY's eWallet aims to provide a low-cost mode of enacting these transactions in a manner that is transparent and auditable on a distributed public ledger. With the liberalisation of power grids across Asia, all stakeholders will benefit from this decentralised mode of payment and settlement for an energy trading contracts, including retail electricity bill payments and auditing of renewable energy.

Tokens and payments

The ELECTRIFY ***eWallet*** will record transactions and store both ***ELEC*** tokens and fiat currency. We will develop a transparent abstract layer to allow for the easy purchase and exchange of a user's fiat to ***ELEC*** tokens. Consumers can use the ***eWallet*** to make payments for their energy in fiat. To incentivise ownership and loyalty, the consumer will also receive ***ELEC*** tokens upon payment for electricity. The amount of ***ELEC*** tokens will be based on a percentage of the transaction value, this percentage will be tiered according to the consumer's duration of usage as well as the amount of ***ELEC*** tokens held by the consumer.

Energy providers, retailer and P2P producers, will receive payments in fiat through the eWallet layer. They will pay a transaction fee in ***ELEC*** tokens for usage of the system. These ***ELEC*** received will be used to incentivise consumers for continued usage of the platform. The ***ELEC*** will also be used to pay for network fees on the Ethereum public chain.

Further integration of functions to allow payments and receivables in interoperable tokens will be released upon deeper discussion with our ***eWallet*** development partners.

Counterparty credit risk

A major obstacle to wider adoption of P2P energy trading lies in dealing with counterparty credit risk—that both parties have sufficient funds to fulfil an energy trading contract over the contract duration. Use of the ELECTRIFY ***eWallet*** for financial settlement will mitigate these counterparty risks involved, ensuring that both parties have sufficient funds to fulfil their energy contract before the energy is committed and delivered to the consumer. With a robust counter-party risk-management methodology, we will be able to reduce executional risk and attract both individuals and commercial energy providers into the community. With the payments data collected via the ***eWallet*** and smart contracts, we will form a database of consumer identities that assign a credit rating to each consumer. We are also working closely with a global payment processor to merge datasets and develop a metric to evaluate credit score, with the intention of providing feedback to energy providers to risk-weigh their offered energy prices. Consumers who pay promptly for the energy they consume will be rewarded, whereas those who default or pay their bills late consistently (thereby causing the industry as a whole to incur higher costs) should be incentivised to correct their behaviour. This is in line with our belief that making data as transparent as possible will result in greater utility and benefit to the majority in our community.

Renewable Energy Certificates (RECs)

For renewable energy producers, the ***eWallet*** will also allow for the accumulation, transaction and tracking of renewable energy certificates (RECs), which are generated at the source of renewable energy generation. This primarily solves the issue of double-counting and and ensures a legitimate trail to the origin of each energy unit. The subsequent retirement of these certificates will also be tracked on the blockchain.

PowerPod - IoT device connected to the blockchain

ELECTRIFY has developed a prototype of the ***PowerPod***,[2] an IoT communication device that will read smart meters to log the amount of electricity generated or consumed on the blockchain. This will be used by energy producers to track their energy generation. The distributed ledger will form an immutable record that will substantiate the record of RECs generated and consumed.

Permissioned access to write energy data onto the network

As security and authenticity is crucial in ELECTRIFY's ecosystem, we will create incentives for all energy producers in the community to uphold integrity and honesty. This also discourages fraud or tampering of hardware. There will be permissioned access, requiring each small energy producer and retailer to place a deposit in the ***ELEC*** token to register his/her system with the network. Depositing the required amount of ***ELEC*** tokens will allow the producer to write generation data onto the blockchain via the ***PowerPod***.

Real-time monitoring

PowerPod allows smart metering and monitoring of distributed generation. With a transparent and trust-less method of monitoring, energy asset owners are able to closely monitor their energy production and trade directly with consumers. For consumers, the ***PowerPod*** will be an optional device that they can purchase to monitor their energy usage in real time. With real time energy data, consumers will also be able to tell when they use the most amount of power and adjust their usage patterns accordingly.

Demand response (future development for commercial and industrial consumers)

In addition, the ***PowerPod*** might include functionality to allow consumers to participate in demand response (DR) programmes. DR allows consumers to reduce their power consumption when the grid is undersupplied in order to reduce overall system demand. This is most applicable in cities with lower power reliability. This allows participants to receive revenues from the energy market operator by reducing their loads. DR requires close monitoring and tracking of energy consumption and their adjustable energy amounts. Upon activation of a DR event, consumers require a means of reporting their participation details to the regulatory body and market operator that is auditable and immutable, with a strict requirement for data security and recording. This is where a distributed ledger can be used in ensuring that all DR activities are legitimate and transparent between the participant and the energy market operators.

Communication protocols

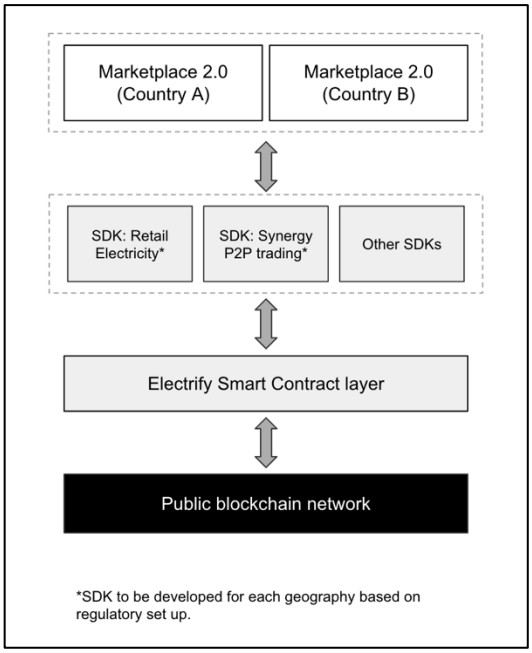
PowerPod will have both monitoring and control features built in that allows it to communicate with energy devices using common industrial protocols (MODBUS, CANBUS). It will also include common hardware analogue-to-digital converters (current/voltage sensors). This will give us flexibility in expanding its scope of functions for future upgrades over the internet. For example, if we deem viable, the ***PowerPod*** will be able to connect to a battery management systems or solar inverters to control it remotely. It will also be able to connect to weather sensors for future deployment and upgrades.

Technology

We will develop three primary classes of applications: Marketplace (front end), SDKs for energy providers and the Electrify smart contracts that executes transactions for energy. The marketplace layer will be developed and customised to each geography of operation, localising the

[2] The development of the *PowerPod* is underway, and we expect the final device to be ready for launch in 3Q 2018. The code has been developed by the team and field-tested in commercial deployment for solar panel systems in Singapore for more than 6 months. We are undergoing further stress and endurance testing and we expect a mass produced device to cost below US$150. It will be paid by the energy producers in the producer onboarding process.

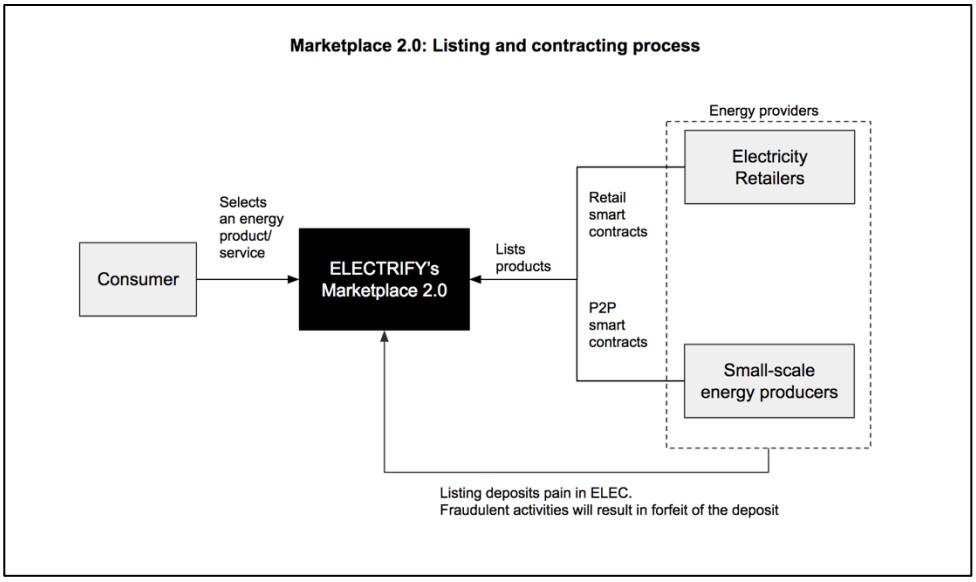
consumer interface. The marketplace will serve as a decentralised energy exchange allowing all consumers within that geography to compare and enter a contract with an energy provider.

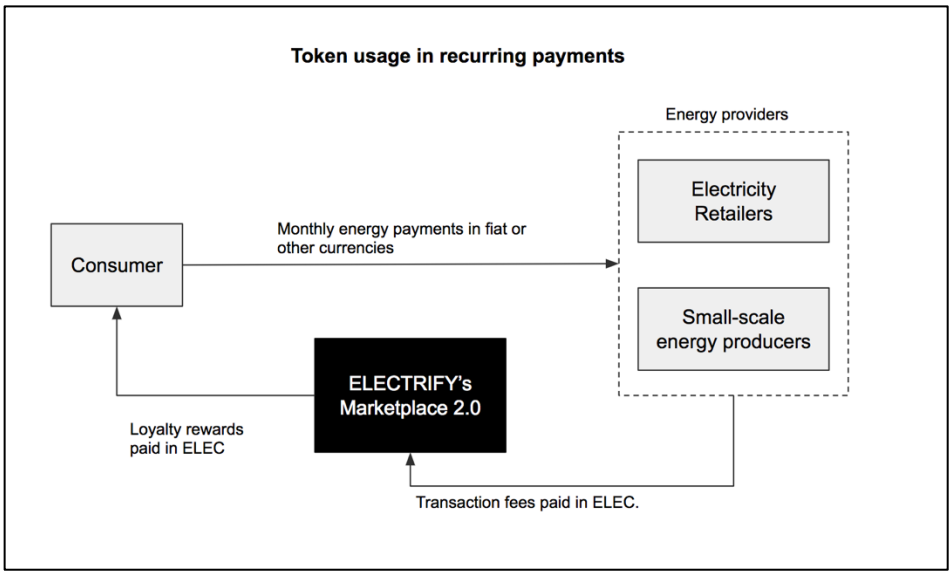


Open-source energy contract SDKs will be built for energy providers in each geography of operation, allowing them to create customised energy plans and offers to consumers. These SDKs will include both retail electricity plans and P2P offers from direct producers. The SDKs will serve the role of a rating engine, translating consumer usage information and provider's terms into billing information that is transferred to the main ELECTRIFY smart contract layer for execution. The ELECTRIFY smart contract layer will process output from the SDKs to execute transactions between consumers and energy providers.

Token

Token Usage





The ecosystem is built for the benefit of the public and should be owned by the community through usage and ownership of ***ELEC*** tokens. The rules set in the ELECTRIFY ecosystem below are designed to promote these objectives. The fees stated below are estimates and we may revise the actual amounts at point of roll-out.

Synergy listing deposits

Small energy producers participating in ***Synergy*** are required to own at least 200 ***ELEC*** per 1 kWp of rated generation capacity to write data onto the blockchain and offer energy to consumers on the ecosystem.

Retailer listing deposits

Commercial electricity retailers participating in ***Marketplace 2.0*** are required to own at least 10,000 ***ELEC*** to offer electricity plans to consumers on the ecosystem.

Transaction fees

All recurring electricity payments will be done via ELECTRIFY's ***eWallet*** from consumers to energy providers. ELECTRIFY will receive a transaction fee from energy providers. With the use of OmiseGO's wallet technology, the transaction fee charged to energy providers is expected to be significantly lower than the rate that producers pay the banks or card schemes today. We currently estimate that transaction fees will be less than 1% of transaction value. A portion of this fee will be returned to consumers to reward them for their loyalty, according to a tiered table that incentivises long-term usage and ownership of ***ELEC***.

Payment for features and services

Beyond the standard Marketplace 2.0 and Synergy features, certain services such as the auto-switching (to the best energy offers), group purchases will be paid by consumers in ***ELEC***. These will be paid to ELECTRIFY as a periodic subscription.

Payment for electricity

ELECTRIFY's underlying eWallet technology will comprise a decentralised value exchange feature that allows consumers to pay for their power in both fiat and tokens. Energy Providers will also be able to accept either currency as means of payment for electricity.

Tiered loyalty system

A tiered reward system will allow consumers to receive greater loyalty rewards based on length of usage (months) and amount of ***ELEC*** owned. The loyalty rewards will be calculated as a percentage of the transaction fees received by ELECTRIFY from the energy providers, up to a certain cap.

Usage of *ELEC* receivables

ELEC received as fees from Energy Providers will be used to reward consumers for their loyalty and usage of the ecosystem. The balance of ***ELEC*** receivables will be sold to Energy Providers and consumers for usage of the platform.

No middleman fees

As opposed to traditional marketplace or transactional platforms, ELECTRIFY does not plan to charge energy providers nor consumers a commission for energy contracts executed within the ecosystem. From the team's industry experience, middleman fees are estimated to be approximately 3-4% while transaction fees charged to merchants are estimated to be approximately 2%. By removing the middleman and implementing an efficient payments process, we aim to reduce fees charged to Energy Providers, lowering overall cost of energy to consumers.

Token Supply

Total ***ELEC*** in circulation (at token issuance) = 370,000,000 ***ELEC*** tokens

Total ***ELEC*** supply = Total ***ELEC*** in circulation x 2 = 750,000,000 ***ELEC*** tokens

The total supply of tokens was calculated using estimates of the number of consumers and Energy Providers in the countries in which we intend to operate in.

Corporate Governance

Governance Statement

ELECTRIFY is committed to achieving high standards of corporate governance and believes firmly in transparency and good corporate governance in order to enhance business performance and stakeholder value. The ELECTRIFY Management Team are collectively responsible in providing overall strategy and direction of the organisation, including oversight in ensuring processes and plans are adhered to.

Checks and Balances

All Suppliers to the company will be carefully screened to ensure the highest value delivered to the company. As a general guideline, the selection criteria shall be equally scored between (1) cost, (2) quality and (3) ability to deliver within time-frame. Contracts shall be awarded to the highest-scored option. If there are limited choices, i.e. single-source suppliers only, within the marketplace, the procurement team shall use all effort to reduce prices quoted.

All procurement activity will be tracked by: (1) procurement initiation from by Initiating Party submitted to the Management team for approval, (2) placement of Purchase Order with Supplier and payment, (3) matching of Delivery Notice with goods and issuance of Goods Received notice.

Procurement and Contracting Authorisation

All procurement decisions will be initiated by individual business/department heads (Initiating Party), and submitted to the Management Team for approval. All procurement activity shall be on the basis of (1) need, (2) efficiency between purchase vs internal development and (3) internal capacity and capability.

The initiating party will be responsible for ensuring the entire procurement process from start to finish is carried out in proper order, i.e. starting with initial assessment of purchase, specifications of product and to ensure products meet specification upon delivery. The Initiating Party will be required to certify the completion of purchase and satisfaction of goods received.

Reporting

An annual process will be implemented to assess the development of the ecosystem every year. This review will cover the developmental milestones achieved and any new business for the coming year.

Conclusion

The nature of energy businesses is one that has high barriers to entry and a high degree of entrenchment. The centralisation of power and profit-maximising opportunities often leads to exploitation of gaps in information and capabilities within the public.

To ensure a more equitable distribution of knowledge, skills and value, the ELECTRIFY platform will include tools for individuals and businesses to create retail electricity and create P2P contracts, publishing them on a decentralised energy exchange platform, ***Marketplace 2.0***, to trade with other consumers. A full suite of technologies, including the ***eWallet*** and ***PowerPod*** device will enable participants to conduct an end-to-end transaction of energy. Underlying that will be a token system that incentivises community ownership, using network effects to benefit all stakeholders of the community.

Through open-source SDKs, ELECTRIFY aims to encourage the public to own their own generation assets, where possible, and trade energy within the community, allowing a fully decentralised means of transacting and consuming energy. With our publicly-owned platform, we hope to remove ownership and control from single intermediaries, removing price distortion and encouraging complete market efficiency.

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[i] Prosumers are individuals who both consumes and produce energy. Daron Christopher. Office Of Energy Efficiency and Renewable Energy. Consumer vs Prosumer: What's the difference? https://energy.gov/eere/articles/consumer-vs-prosumer-whats-difference, May 2017.

[iii] Alex Foucault. Clean Energy Trust. http://cleanenergytrust.org/distributed-generation/, Jan 2016.

[iv] Michael Gillenwater. Greenhouse Gas Management Institute. How do you explain additionality? http://ghginstitute.org/2012/01/25/how-do-you-explain-additionality/, Jan 2012.

[v] Renewable Power Direct. A New Way for Companies to Go Green. http://renewablepowerdirect.com/a-new-way-for-companies-to-go-green/, Feb 2015.

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[vii] Kerstine Appunn. Clean Energy Wire. Setting the power price: the merit order effect. https://www.cleanenergywire.org/factsheets/setting-power-price-merit-order-effect, Jan 2015.