swytch

**ACCELERATING A SUSTAINABLE
AND EQUITABLE ENERGY FUTURE**

White Paper

Swytch uses blockchain
to bring together data,
networks, and incentives for
the world to finally adopt
renewable energy at scale.

NOTICES

Swytch Energy Token (the "Swytch Token") is a crypto-token developed by the Token Commons Foundation ("TCF"), a Swiss non-profit foundation. Swytch Token is not intended to constitute a security in any jurisdiction. This White Paper is not a solicitation for investment in securities and does not pertain in any way to an offering of securities in any jurisdiction. Ownership of the Swytch Token does not entitle the owner to any rights with respect to TCF or any other entity or business, including participation in any distributions of profits or other consideration, or any voting rights in TCF or any other entity. Purchase of the Swytch Token is final and non-refundable.

Individuals, businesses, and other organizations should carefully weigh the risks, costs and benefits of acquiring Swytch Token before participating in the Token Sale. If you are not in the position to accept or understand the risks associated with the purchase of Swytch Token (including the risks related to the non-development of the Swytch platform or any other risks as indicated in this White Paper), you should not acquire Swytch Token.

You are not eligible and you shall not purchase the Token through the Token Sale if you are a citizen or resident (tax or otherwise) of:

1. The United States of America or its territories; or
2. Any country, state, or territory where the purchase of Swytch Token or similar crypto-tokens may be prohibited.

By purchasing Swytch Token, you represent and warrant that you are legally permitted to do so, and assume the responsibility for complying with applicable laws and regulations.

Before considering purchasing Swytch Token, all prospective purchasers are strongly encouraged to review the risk disclosures and disclaimers set forth on pages 29 & 30 below.

LETTER FROM THE FOUNDERS

The energy revolution is here. Once thought to be a near impossibility, recent innovations in renewable energy technology have significantly lowered costs and made renewables an economically viable option. Continued advances in battery storage, solar panels, and energy optimization are giving many around the world access to inexpensive and renewable energy resources. This will fundamentally change the way we produce and consume energy assuming sustainable approaches are widely adopted.

However, while the technology has seen vast improvement, the transition to sustainable energy production has failed to take hold. Billions have been spent by governments to incentivize renewables, yet the lack of a standard approach has limited overall success. As a result, carbon emissions continue to hit record highs and the threat of climate change looms larger every day. Something more must be done and something new must be tried.

Our solution is Swytch, a blockchain based platform that seeks to verify and reward the production of sustainable and renewable energy through the issuance of an ERC20-compliant utility token. By capturing data directly from IOT and smart devices and through market aggregators, Swytch can create immutable proof of production and dynamically allocate tokens via an open-source "oracle". In doing so, Swytch will serve as a standardized incentive for producers and allow consumers to validate their own sustainable actions. This revolutionary program will address many of the systemic issues in global renewable markets today, including:

- The lack of a global and easily tradable incentive mechanism;

- The inability to efficiently verify and secure production data at the source; and

- The dearth of quality public data on where and how renewable energy is produced

Tackling these problems using the Swytch platform will bring benefits to many of the key players in the sustainability movement. Already, we are seeing cities, corporations, and environmentally conscious consumers interested in using Swytch to reduce pollution and energy costs. Leveraging our extensive list of core partners, Swytch will bring together both producers and consumers of renewable energy through our network to maximize the utility of the Swytch Token and create a unified, passionate community to address one of the most pressing issues facing our planet.

Our mission is clear, the need is obvious, and the solution is sound. Please join us as we work to accelerate the Swytch to a sustainable and equitable energy future.

Sincerely,
Evan Caron
John Clippinger
John Redpath

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SWYTCH ENERGY TOKEN (SET)

Token Name	Swytch
Abbreviation	SET
Token Issuer	Token Commons Foundation
Token Type	ERC20
Token Sale Total	365M total distribution with 102M available for sale
Max Supply	3.65B through 2040
Token Price	$0.50 USD for public sale
Token Distribution	TBD (after token security & financial audit)
TGE Hard Cap	$30M

EXECUTIVE SUMMARY

One of the largest contributors to climate change is the burning of fossil fuels as a primary source of energy, heat, and transportation. The burning of hydrocarbons released nearly 30 gigatons of carbon dioxide in 2016, as well as toxic and harmful compounds such as mercury, nitrogen oxide, and sulfur dioxide. While investment in renewables has been scaling, the current state of renewable energy production is far from where it should be to mitigate environmental damage caused by traditional greenhouse gas emissions (GHGs). As of 2015, only 10% of global energy consumed came from hydro, solar, and wind sources. The incentives for scaling renewables that are in place today largely reflect legacy ideas, technologies and mechanisms that are inherently flawed. Participants in these programs are frustrated by the fragmentation, fraud, administrative cost, and lack of focus on true environmental impact. More must be done to mitigate the impacts of climate change and empower people to take a more active role in addressing one of the most pressing issues of our time.

Swytch was born from a collaboration between utility-scale system builders, large energy customers, the energy finance and trading community, as well as cities to address this need with incentive and governance mechanisms that actually work. At its most basic level, Swytch Token will provide an incentive for clean energy producers and fills a gap in today's market for verified renewable energy data and consumption. Swytch will use open-source applications, protocols, and algorithms to verify and reward investments in renewable resources worldwide. The reward will be in the form of an ERC20 compliant token that aims to incentivize investments in a wide range of renewable and sustainable assets and infrastructure (rooftop solar, distributed utility solar, grid scale solar projects, wind projects, storage systems, etc.).

From large-scale industrial power infrastructure to small residential assets, Swytch Tokens can be generated anywhere electricity is produced. Swytch will provide geo-stamped credentials for production of renewable and sustainable technologies which will serve to create invaluable data sets capturing production information and driving adoption of renewables where future production will have the most impact. Furthermore, the generation

and transfer of Swytch Tokens will accelerate investments in and adoption of renewable and sustainable technologies by rewarding production and creating a network in which those rewards can be exchanged.

THE PRIMARY BENEFITS THAT SWYTCH OFFERS OVER EXISTING INCENTIVE PROGRAMS INCLUDE:

- Standardization and liquidity where today there is fragmentation and market inefficiency;

- Token based incentives for accelerating innovation in sustainable technologies and deploying them at a global scale; and

- Decentralized, public, and secure verification of renewable energy production and transaction data and lowering administrative costs.

As a result, Swytch will serve as a compelling solution to layer onto existing markets for verified renewable energy production & consumption. Improving upon existing programs will further drive adoption in key segments, including:

- Corporate sustainability programs; programs who wish to hold Swytch Token as proof of offset or as a means of investment in future renewable asset development;

- Environmentally conscious consumers who wish to use tokens to fund sustainable services and/or engage in the community; and

- Governmental entities, including "smart cities" who wish to hold tokens as a reserve for local sustainability tokens or to stake into the "oracle" for modelling and data consumption purposes

To meet these aims, a robust set of solutions has already been developed and tested. Currently, a pilot is being run in Germany with hundreds of assets representing over 1.5Gw of energy capacity. The suite of technologies in place to support the pilot and rollout of the system on Day 1 includes:

1. An ERC20 compliant token issued to incentivize energy production and required to access the network and engage in the consumption of data and platform functionality

2. An "oracle" designed to leverage 3rd party data, Swytch network data, and advanced modelling to estimate the relative environmental impact of each unit of energy and allocate tokens accordingly

3. A Proof-of-Production (POP) protocol that creates evidential proof of energy production leveraging data from existing utility grade smart meters; and

4. A platform for token holders to access network data, leverage the functionality of tools within the platform (e.g., production estimators), and monitor their asset production and that of the network overall

The Swytch team is partnering with organizations and vendors to bring both producers and consumers together within the Swytch network. To date, the lineup of partnerships includes well known players in the energy and infrastructure space as well as well-respected technology firms. This list includes:

- Atonomi – Edge level IOT device security and identity protocols

- Bancor – Smart contract design and Network Token Protocol

- Berkshire Cloud Evident Proof Platform – POP blockchain design and implementation

- Black & Veatch – Technology and "oracle" allocation model developer

- BTC Labs – CoinCart token sale platform and blockchain smart contracts

- E2M – European renewable energy aggregator and pilot partner

- Energy Web Foundation – Technology and network building

- HST Solar – Estimator design and data inputs

- NDimensional – Machine learning/"oracle" allocation evolution

- Winjit – Mobile app and smart contract support

PROBLEMS ADDRESSED

One of the largest contributors to climate change is the burning of fossil fuels as a primary source of energy, heat, and transportation. The rapid expansion of human economic activity and increase in population over the last century has created an unsustainable global appetite for fossil fuel-based energy. The burning of hydrocarbons released nearly 30 gigatons of carbon dioxide in 2016, as well as toxic and harmful compounds such as mercury, nitrogen oxide, and sulfur dioxide.[1] While the harmful effects of these emissions are known, the total output is yet to decline in any meaningful way.

The current state of renewable energy production is far from where it should be to mitigate environmental damage caused by traditional greenhouse gas emissions (GHGs). As of 2015, only 10% of global energy consumed came from hydro, solar, and wind sources.[2] An additional 9% of energy came from biomass sources.[3] However, the most significant environmental benefits can be derived from modern renewables, which is also where we see the greatest innovation and efficiency gains that will shift the underlying economics in favor of renewables over fossil fuels.

It is true that renewables now represent the majority of new energy production with 62% of net additions to global power generating capacity in 2016 coming from renewables as a whole.[4] However, the pace of change has not been fast enough. The OECD estimates that the impact of climate change on global GDP will likely be between (1)-(3)% by 2060 assuming no change in current projections of CO2 output.[5] While this may not feel like a large impact at first blush, the OECD also estimates that global GDP will be roughly $220T by 2060. Therefore, the absolute dollar impact of climate change could be anywhere from $2-7T annually by 2060. Reducing the impacts of climate change, even on the margins, would represent a massive amount of economic value added to the global economy.
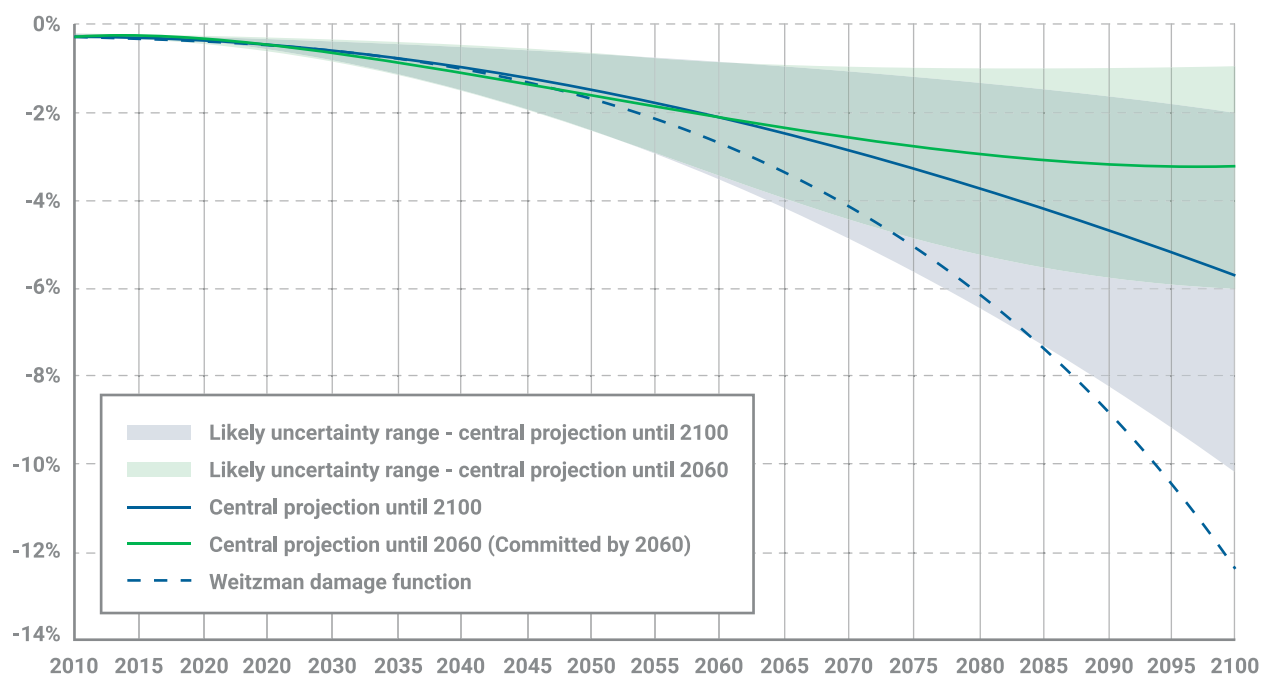

Gigatonnes

GLOBAL CARBON DIOXIDE EMISSIONS, 1980-2016
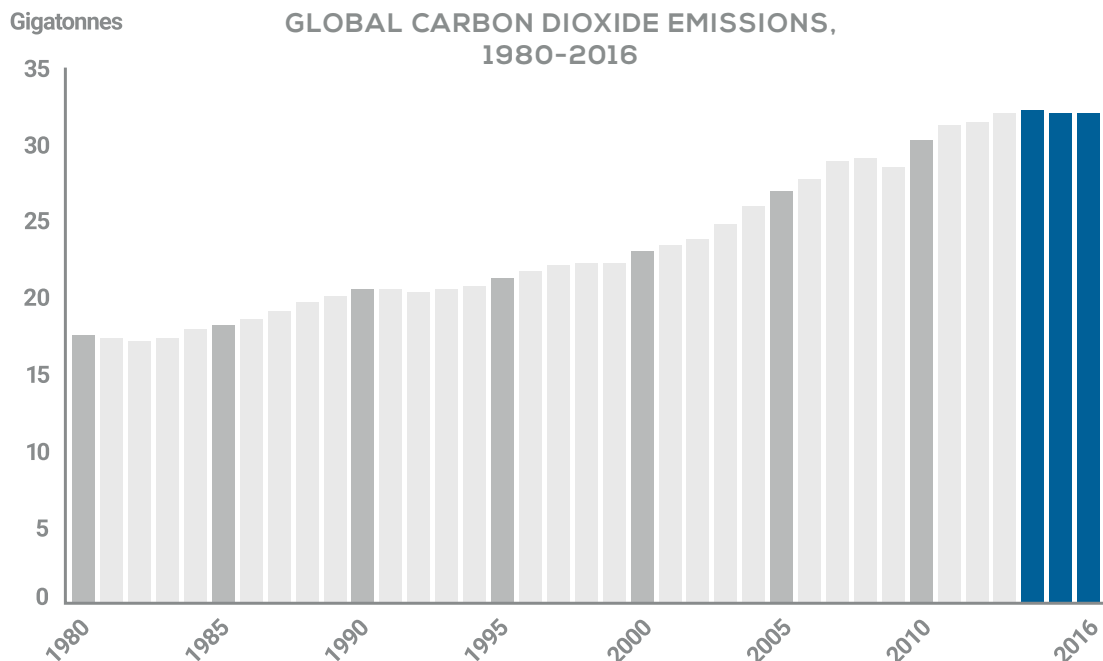
[1] Scott Waldman, "Global Carbon Emissions Level off Even as Economy Grows," www.scientifcamerican.com. March 20, 2017, https://www.scientificamerican.com/article/global-carbon-emissions-level-off-even-as-economy-grows/
[2] REN21. 2017. Renewables 2017 Global Status Report
[3] REN21. 2017. Renewables 2017 Global Status Report
[4] REN21. 2017. Renewables 2017 Global Status Report
[5] OECD (2015), The Economic Consequences of Climate Change, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264235410-en

Legend:
- Likely uncertainty range - central projection until 2100
- Likely uncertainty range - central projection until 2060
- Central projection until 2100
- Central projection until 2060 (Committed by 2060)
- Weitzman damage function

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This is especially worrisome for the developing world which is likely to face far more negative consequences from climate change and has more to gain from access to energy. Furthermore, investment is heavily skewed towards developed economies amplifying existing disparities in access to clean energy. For example, in 2016 the level of renewable energy investment in the U.S. ($46B) was nearly three times greater than investments made in Africa, the Middle East, and India combined ($17B).[7] This mirrors the lack of access to any electricity for large numbers of people in emerging economies. Of the 1.3B people in the world who lack access to electricity, the clear majority reside in Africa and Asia. Evidence suggests that providing access to energy can improve household per capita GDP by ~40%, which would translate into massive absolute economic gains given ~20% of the global Population could be impacted.[8]

In traditional markets, access to power for economic development, security, and health is largely limited to centralized grids and national priorities. The inability to standardize, store and trade electricity creates countless difficulties for investing in the power markets that need it most, both in terms of carbon reduction and economic growth. This exacerbates existing inequality and represents a clear opportunity for renewable energy to further improve the lives of millions.

In addition, the fragmentation of governmental renewable energy incentive schemes creates significant friction in the market. While vast amounts of money are being spent on incentive programs worldwide, these programs include competing objectives and rarely does international coordination and standardization exist. And in some cases, such as the REC incentive programs in the U.S., there is significant discord within national boundaries as well.

[6] OECD (2015), The Economic Consequences of Climate Change, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264235410-en
[7] REN21. 2017. Renewables 2017 Global Status Report
[8] Mamadou Biteye, "Access to Electricity is Critical to Africa's Growth", rockefellerfoundation.org, July 31, 2015, https://www.rockefellerfoundation.org/blog/access-to-electricity-is-critical-to-africas-growth/

RENEWABLE ENERGY CERTIFICATE TRACKING SYSTEMS IN NORTH AMERICA

KEY

- **ERCOT**: Electric Reliability Council of Texas
- **MIRECS**: Michigan Renewable Energy Certification System
- **M-RETS**: Midwest Renewable Energy Tracking System
- **NAR**: North American Renewables Registry
- **NC-RETS**:North Carolina Renewable Energy Tracking System
- **NEPOOL-GIS**: New England Power Pool Generation Information System
- **NVTREC**: Nevada Tracks Renewable Energy Credits
- **NYGATS**: New York Generation Attribute Tracking System
- **PJM-GATS**: PJM EIS's Generation Attribute Tracking System
- **WREGIS**: Western Renewable Energy Generation Information System
- **No tracking system formally adopted.** NAR allows registration from generators located anywhere in the U.S. and Canada. Other tracking systems may allow registrations from outside their geographic territory.

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Revised March 27, 2017

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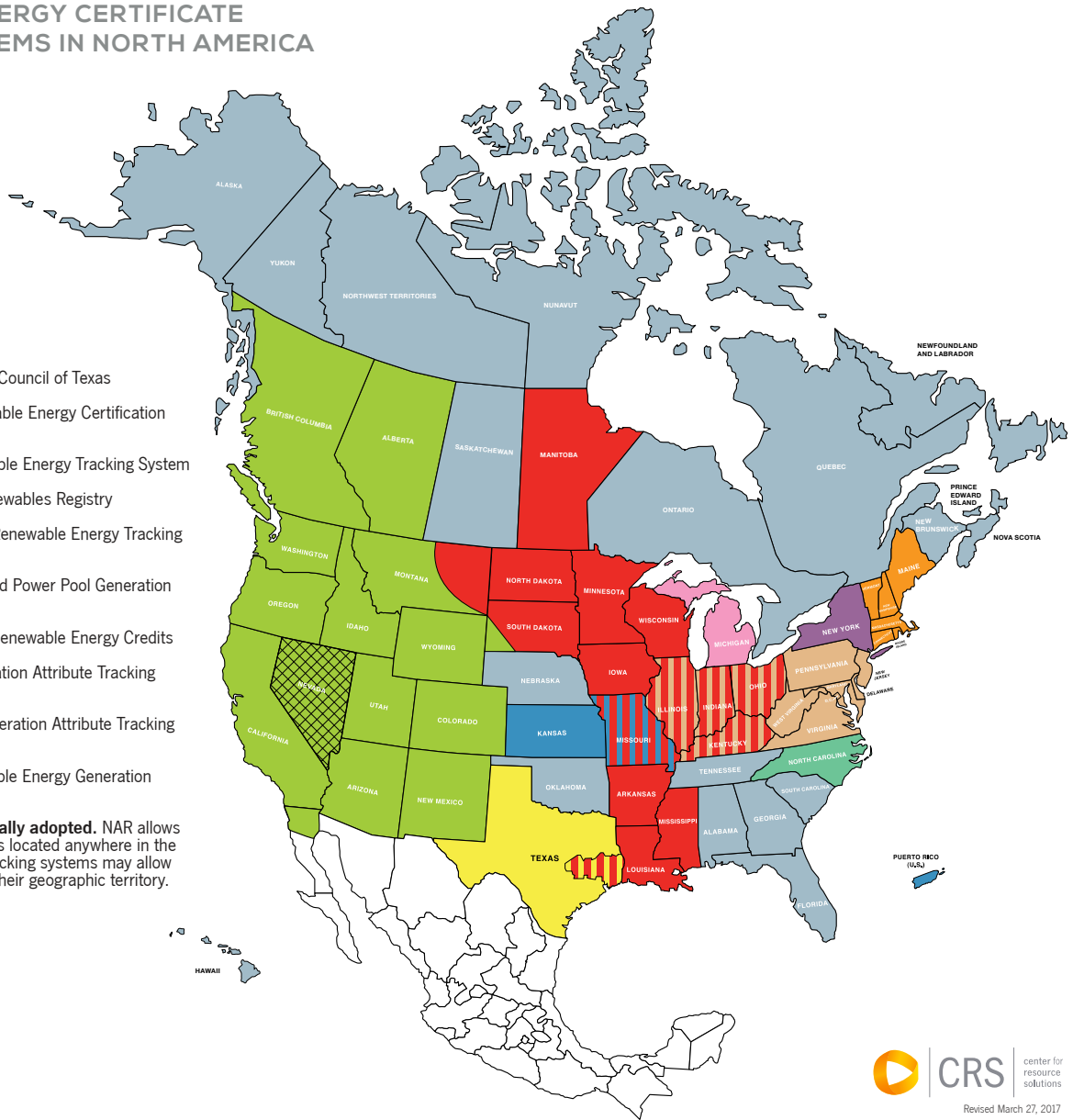
This global hodgepodge of incentive programs reduces the impact of any single program by fragmenting resources, investments, and limiting the free flow of capital across borders. This last point is particularly troubling when it comes to renewable energy as pollution and climate change are truly borderless issues.

It is also evident when one considers the illiquidity of RECs even within a single country, such as the U.S.[10] While some gains have been made in terms of creating interchangeability of RECs between some markets, it is still difficult for a REC created in one part of the grid to be transferred or sold as an offset in another grid. This limits the fungibility of the REC which in turn hampers the ability to maximize financial gains thus reducing the overall efficacy of the program.

9   https://resource-solutions.org/wp-content/uploads/2017/03/Tracking-System-Map.pdf

10 Joel H. Mack, Natasha Gianvecchio, et al, "All RECs Are Local: How In-State Generation Requirements Adversely Affect Development of a Robust REC Market", Electricity Journal, 2011, https://www.lw.com/thoughtLeadership/in-state-generation-requirements-hurt-rec-market

THE SWYTCH SOLUTION

WHY BLOCKCHAIN?
The fundamental benefits of blockchain directly apply to many of the issues that plague current incentive systems. Namely, the blockchain allows for process and data integrity and frictionless exchange. A value-based token, when combined with the POP protocol and the "oracle" allocation process and algorithms, enables the following:

1. **Enhanced Liquidity:** An energy credit instrument that has inherent value and can be exchanged on a blockchain can erase artificial global market barriers. By leveraging blockchain technology to verify and clear transactions it will be easier to trade tokens. This will allow the Swytch Token to capture the value created by reducing market inefficiencies and by mitigating the impact of climate change on a global scale.

2. **Accelerated Investment:** Part of the problem with current incentive programs is a lack of scarcity. For example, under existing REC programs, any time an agreed-upon unit of renewable energy is produced, a REC is granted. This does little to provide an incentive to invest in projects early where these types of programs are in place. Swytch takes a different approach by rewarding the marginal "impact" a unit of energy has as defined later in this white paper, such that accelerated deployments with greater immediate marginal impact are rewarded with greater token allocation. This should accelerate the rate of production which has the dual benefits of hastening the reversal of global warming and creating a network of token users that will further enhance liquidity. Lastly, certain elements of the blockchain, such as simplified tracking of ownership throughout the tokens lifetime, may incentivize financial innovations that provide additional economic incentives to create and trade tokens.

3. **Reduced Costs for Verifying and Trading Renewable Energy Credentials:** One of the key barriers in today's market is the incredible administrative burden of legacy incentive programs. Third-party verification of production is a significant driver of cost and frustration to current renewable incentive program participants. Due to the transparent, decentralized, and trustless nature of the blockchain and IOT technology, there will be no need for third-party verification of production and ownership. This in turn will limit the need to build large regulatory bodies to in some way validate the validators. The speed and integrity of data exchange within a blockchain will also reduce costs driven by long transaction processes and fraud.

Blockchain technologies have been rapidly evolving over the last four years. Ethereum offers enhanced features relative to Bitcoin, and newer technologies have dealt with many of the issues around both Ethereum and Bitcoin with respect to performance, security, privacy, know-your-customer issues, block size, permissions, scalability, and computational power consumption. This trend will likely continue for the next few years. Swytch intends to capitalize on the blockchain's evolution and improvement without being locked into any one protocol or platform.

WHY SWYTCH TOKENS?
The Swytch ecosystem creates a global vehicle to deploy resources directly into markets where renewables can yield the highest economic and fossil fuel replacement impact. Swytch's platform design aims to encourage rational investments specifically in areas where carbon emissions are high or power generation is low. Swytch can accomplish this task by leveraging the "oracle", an open-source dynamic adaptive control module ("DACM"), which allocates the number of tokens to reward participating nodes.

Swytch will leverage open-source blockchain and a Proof of Production consensus to verify investments in renewable resources worldwide. The Swytch platform rewards investments with tokens that are issued through an independently verifiable algorithm that will rely on consortium development and governance, as well as machine learning to build the most optimal allocation methodology.

From large-scale industrial power generation to small residential investments, Swytch Tokens will be minted anywhere renewable electricity is produced and consumed. Swytch will be providing geo and time-stamped credentials for production and consumption of renewable and sustainable technologies. Each Swytch Token used and accepted for commerce will directly support investments in, and accelerate the adoption of, renewable and sustainable technologies.

Adopting Swytch Token has added benefits:

- Providing individuals that are currently excluded from existing incentive programs with access and incentives to join the global effort to reduce emissions from the bottom up;
- Giving municipalities the tools and data they need to create smart cities centered on local renewable and sustainable initiatives;

- Creating a global standard for sustainability incentive schemes: to reduce errors, fraud, costs and inconsistent and complicated programs; and

- Supporting the decentralization of global power infrastructures for a more secure and resilient energy future.

Swytch is building the blockchain infrastructure to augment current processes for retail and deregulated energy markets by supporting applications for the future of the energy markets. This will likely include real-time purchasing of energy that paves the way for peer to peer energy trading, pay as you go, and more efficient and optimal decentralized architecture. The Swytch platform will support third-party developer applications across all facets of energy, commerce, optimization and sustainability programs. From inception, Swytch Token holders will be able to access network dashboards and data, and monitor Swytch minting globally as well as view energy production via a decentralized application on the Ethereum public blockchain.

As part of the long-term Swytch vision, the Swytch ecosystem also will aim to identify where utilizing renewables yields the highest impact, based on economic and environmental criteria. This means that Swytch may provide significant incentives to increase investment in developing countries, where access to financing and energy sources are structurally limited. Distributed energy and the Swytch platform could disrupt current energy markets by reducing the need for expensive and inefficient infrastructure, thereby reducing barriers in emerging markets.

WHY NOW?

We are at a tipping point. The technology to facilitate the transition from legacy energy sources to renewable sources is available yet many continue to rely on non-clean sources. The Swytch platform and Swytch Tokens aim to incentivize widespread adoption of new clean generation technologies.
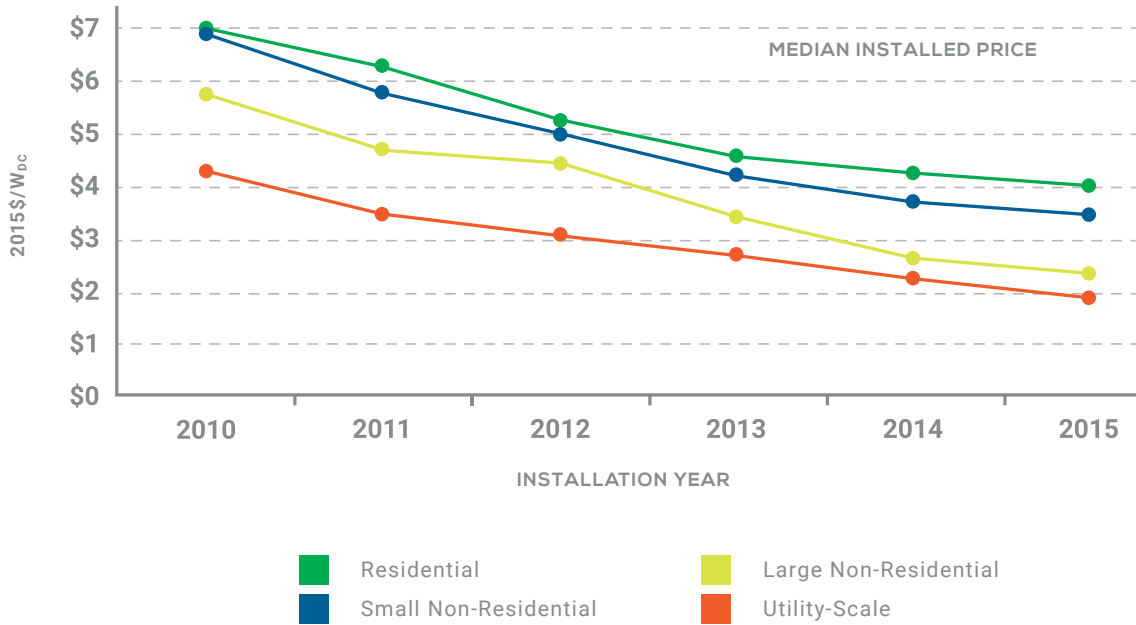
The following graphs illustrate the exponential improvements in solar, battery, and digital technologies. These are of such magnitude that they make the transition to a solar-based global energy infrastructure compelling for both economic and environmental reasons. Moreover, this "flip" from fossil to solar may be more imminent and pervasive than many commentators, analysts, and policy makers foresee.

Governments around the world have recognized the need for significant investment to create clean, renewable energy. The United Nations Framework Convention on Climate Change, or UNFCCC/Paris Climate Accord, has over 195 Signatories and 172 Parties. Several regional power markets have created RPS regulations mandating 100% clean energy targets within the next 15 years.
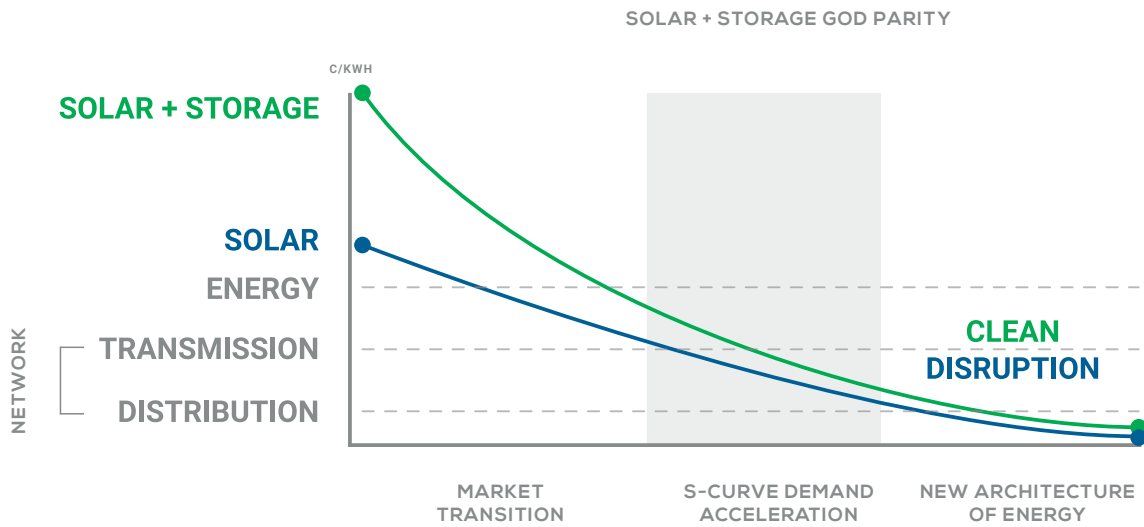
Technology costs for solar panels have dropped significantly over the last 18 months.[11] This decrease in generation costs has created an environment where solar energy is accessible at a price point that can compete with most any form of energy production. A similar story is playing out in the automobile market where drastic improvements in battery technology have allowed Tesla and other manufacturers to produce electric vehicles that can compete with gas and diesel vehicles in terms of price and performance.[12] Much like with electric vehicles, the energy disruption is already underway and will reshape the structure and economics of electricity markets.

[11] Eric Wesoff and Steven Lacey "How low can you go? Mind-blowingly low 65-cents-per-watt solar system pricing emerges in India", greentechmedia.com, June 27, 2017, https://www.greentechmedia.com/articles/read/solar-costs-are-hitting-jaw-dropping-lows-in-every-region-of-the-world.

[12] Richard Milne "Reality of subsidies drives Norway's electric car dream", Financial Times, June 14, 2017 https://www.ft.com/content/84e54440-3bc4-11e7-821a-6027b8a20f23

MEDIAN INSTALLED PRICE

Legend:
- Residential (green)
- Small Non-Residential (blue)
- Large Non-Residential (yellow)
- Utility-Scale (orange)

SOLAR + STORAGE GOD PARITY

SOLAR AND STORAGE COSTS DECREASING EXPONENTIALLY

[13] Jon Weiner, "Median Installed Price of Solar in the United States Fell by 5-12% in 2015", newscenter.lbl.gov, August 24, 2016, http://newscenter.lbl.gov/2016/08/24/median-installed-price-solar-united-states-fell-5-12-2015/

[14] Graphic courtesy of Tony Seba

SWYTCH PLATFORM AND BLOCKCHAIN ARCHITECTURE

TECHNOLOGY WALKTHROUGH

The Swytch platform provides its users the means to generate Swytch Tokens through renewable energy production, storage and sustainable actions and the ability to use Swytch Tokens and enter transactions using the Swytch Tokens through a wallet application.

The Swytch platform consists of the following elements:

Mobile clients – an app which acts as a token wallet, displays the user's Swytch Token balance and allows the user to spend and receive Swytch Tokens, and shows sustainable action for the nodes linked to the user's "asset." Additionally, Swytch Tokens will be able to be stored in ERC20 compatible wallets and other compatible wallet applications. Swytch Tokens are required to access the app. To access the portal that holds network information, account holders must possess a minimum number Swytch Tokens in their digital wallet. In doing so, basic access to dashboards, heat maps, tracking of asset production, and other functionality will be granted. Beta versions are available for iOS, Android and Web 3.

Nodes – via a proprietary blockchain created in conjunction with Berkshire Cloud Evident Proof Platform, the Swytch platform will integrate with IOT devices and data aggregators to capture energy production data from generation equipment; includes a storage device which holds a copy of the whole blockchain; includes a computing device which calculates Swytch Token reward amounts through an "oracle"; The Swytch platform will leverage current standard IOT hardware and software infrastructure and create our blockchain proof utilizing existing IOT and edge technologies.
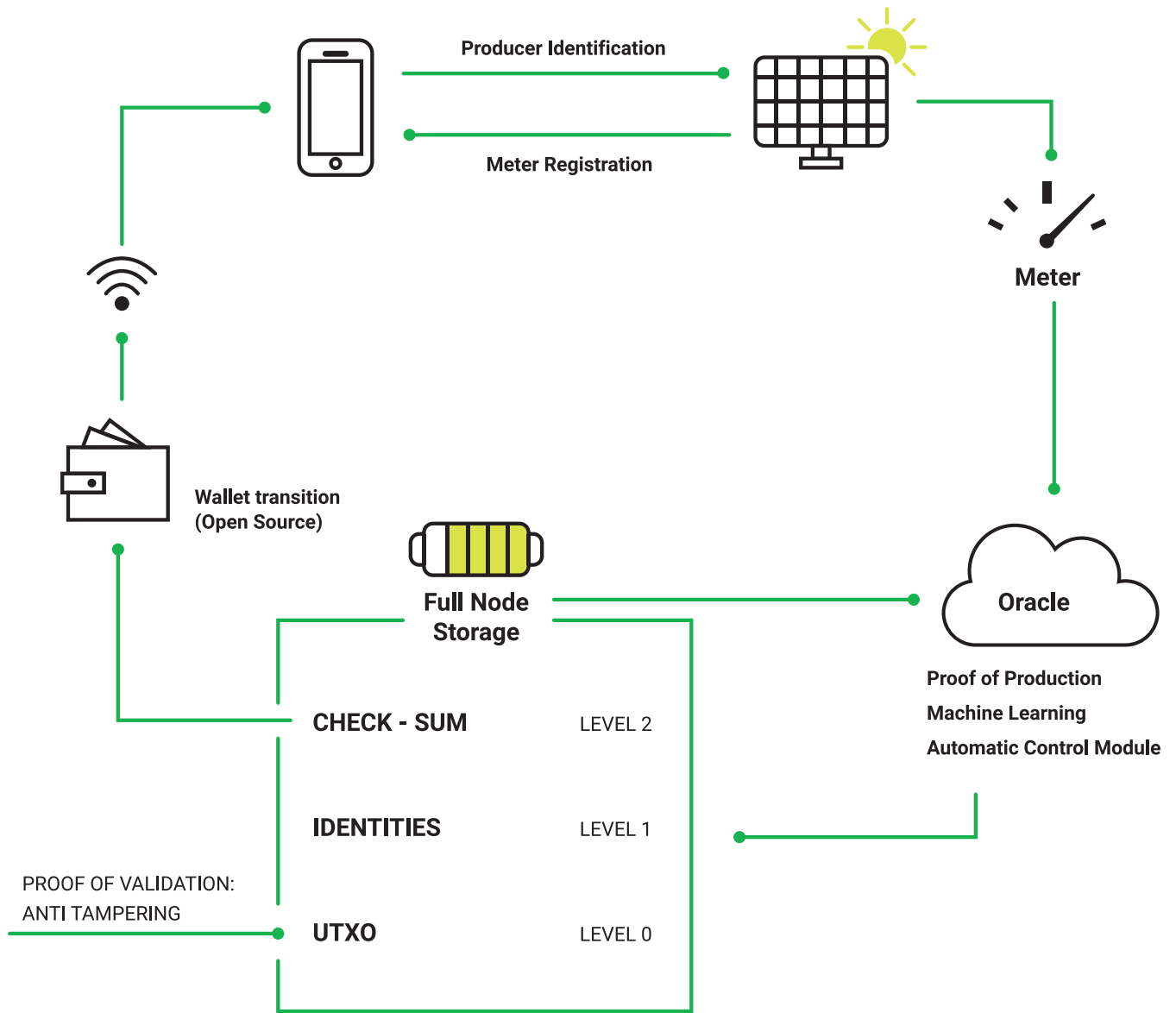
Oracle - An open-source algorithm that calculates Swytch Token allocations based on the impact a given unit of energy has on offsetting carbon and pollution. The "oracle" will also include an estimator that provides forecasts of energy production and validates smart meter data streams. Additionally, varying levels of functionality and data granularity will be determined by the amount of tokens staked by the account holder. For instance, only those who have staked into the "oracle" development will have access to the complete set of data held in the system. A portion of the tokens staked for that access will be added to the pool of rewards provided to participants in the development of the "oracle". Initial staking will be dynamically set based on the total rewards and number of participants in the network.
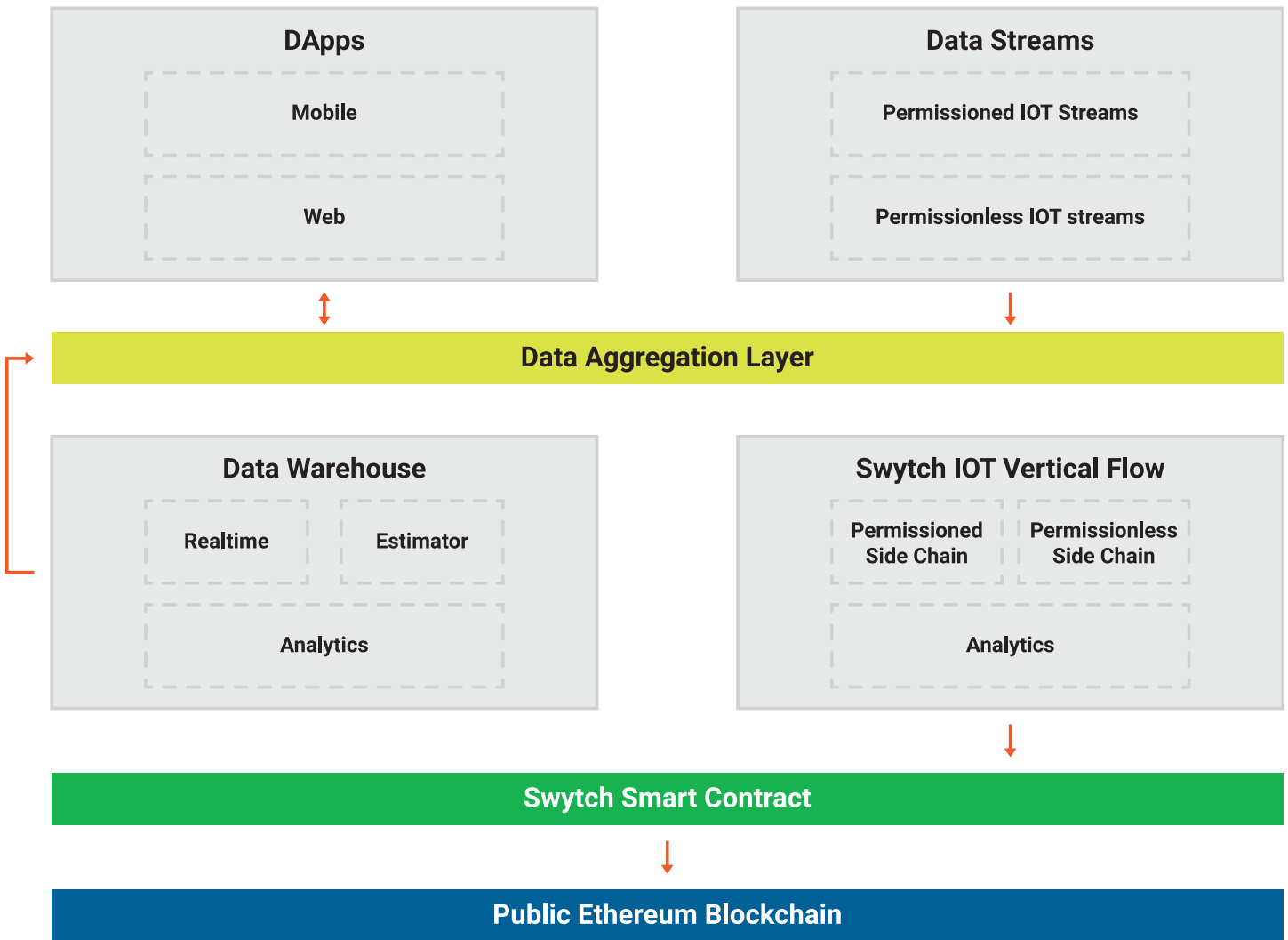
Verified Installers - will act as a validation layer to confirm system design and receive rewards for accuracy. Validators on the network will be required to have reasonable registration requirements and perform master node functions.

THE SWYTCH PROCESS

Producer Identification

Meter Registration

Meter

Wallet transition
(Open Source)

Full Node
Storage

Oracle

Proof of Production

Machine Learning

Automatic Control Module

CHECK - SUM   LEVEL 2

IDENTITIES   LEVEL 1

PROOF OF VALIDATION:
ANTI TAMPERING

UTXO   LEVEL 0

The underlying architecture of the technology stack will include an Ethereum-based blockchain layer that utilizes a POP protocol developed in conjunction with UK-based technology partner, Berkshire Cloud Evident Proof Platform. Data entered into the blockchain will then enter the "oracle" to calculate allocations of tokens and convert data inputs into smart contract tokens that form the basis of each Swytch Token. The final layer is an application layer that provides users access to important interfaces, such as the estimator, dashboards, and Smart Meter and IOT integration tools.

DApps

Mobile

Web

Data Streams

Permissioned IOT Streams

Permissionless IOT streams

Data Aggregation Layer

Data Warehouse

Realtime   Estimator

Analytics

Swytch IOT Vertical Flow

Permissioned   Permissionless
Side Chain   Side Chain

Analytics

## Swytch Smart Contract

Public Ethereum Blockchain

In its current state, Swytch can leverage existing, widespread smart meter technology to register nodes and collect data. In the future, we will look to integrate the ability for Nodes to continuously check for blockchain integrity and software consistency through checksum verification; transactions coming from corrupted Nodes or Mobile Clients are rejected and those Nodes or Mobile Clients are either restored to working versions of the software, quarantined or banned.

The core underlying technologies that set Swytch apart from other tokens both in the energy space and more broadly, are the POP protocol and the "oracle" allocation process and algorithms. While both technologies will continue to evolve with the network, from the start, Swytch will approach the validation of data and the allocation of tokens in a unique way.

While Swytch Tokens will be passed to producers in the form of an ERC20 token, the actual consensus algorithm to create the token will be embedded within the network and will not rely on outside validations commonly found in the proof of work and proof of stake protocols. Instead, the Swytch network leverages a POP protocol for validating streaming data directly from the source. The schematic below outlines the initial approach to this protocol, which will evolve with each implementation.

In the diagram, Swytch will be able to capture data from registered devices, or through market aggregators, to create an auditable chain of evidence. In doing so, Swytch will not only leverage estimators built into the "oracle" to flag incongruous production data, but also flag and penalize devices that are found to be feeding faulty or misleading information into the network.

POP CURRENT STATE
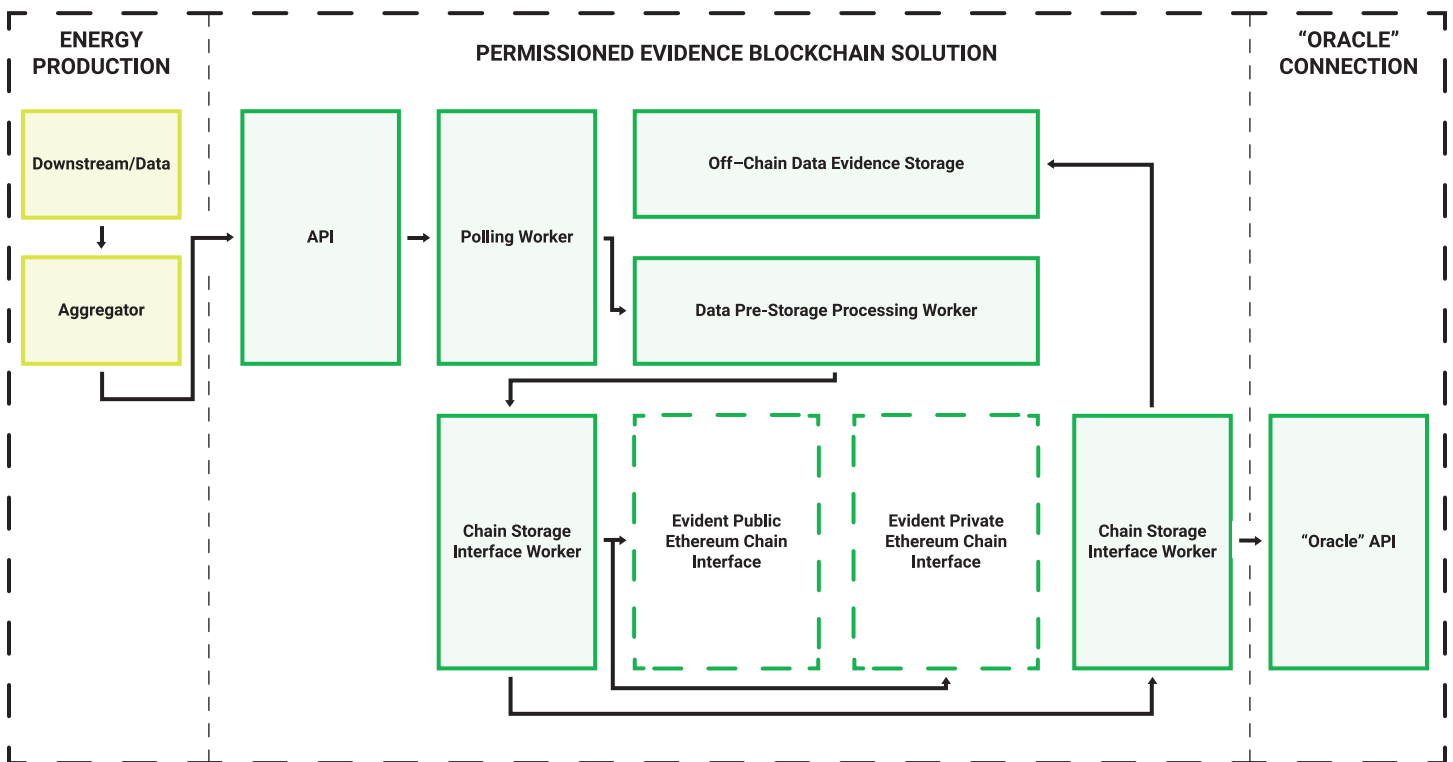
Combating fraud, malicious actors and bad data will be key in improving upon existing solutions chronically plagued by these issues. Completely eliminating fraudulent activity will be nearly impossible, but there are steps we have taken to make it more difficult to cheat and more painful to get caught. Leveraging existing smart meter technology and commercial grade reporting, we can capture production data directly from the source and stamp it into the blockchain to create an evidence chain. We then can compare that energy production to estimated production via the "oracle" to flag outliers. This process will catch many of the simplest forms of cheating without requiring new investments by participants.

The process described above is the first phase of the POP protocol. The next phase will be to build reputational staking into the smart meters themselves. By embedding a low-cost chip into new and existing devices, we could leverage the proof-of-standing protocols under development to create a network of trusted devices. In doing so, you can allow IOT enabled smart meters to check production of other assets on the network and penalize cheaters by tying token awards to their reputational standing. Our partnership with Atonomi, a blockchain group founded by CENTRI Technology, is the first step to designing future iterations of the POP protocol.

In summary, the following actions will be used to deter, detect, and penalize fraudulent activity on the network:

- Registration and reputation scores of nodes on the network

- Trusted validators and "oracle" based validation and estimators

- Trusted hardware device integration(OEM) leveraging advances in security and device level reputation via Atonomi or other device level protocols

- "Oracle" staking and random validator selection

As for the "oracle", the allocation of tokens will be based on the Best Available Estimate (BAE) for the relative impact of an individual node within the network and the relative impact of the Swytch network on the broader energy market. Developed in conjunction with technology partners Black & Veatch (B&V) and nDimensional, the BAE will eventually be formed by an ensemble model whose members may include academic institutions, industry leaders, and other groups of experts or individuals. Swytch will also leverage a Delegated Proof-of-Stake ("DPOS") consensus for third party model contributors and data providers.

An Engineering-Principles Model ("EPM"), initially to be developed by B&V, will be a base member of the BAE ensemble, and used to validate the selections of subsequent committee members. Initially, the EPM will be the only member of the ensemble. The "oracle" will leverage all the POP data verified

by the blockchain along with regional third-party data (e.g. market, weather, census data, etc.) to add Machine Learning ("ML") models that will improve the accuracy of the BAE ensemble. The ensemble selection criteria will be developed to ensure that the bias of the BAE ensemble remains pinned to the EPM while the ML members are selected based on their ability to reduce the variance of the BAE estimates.

All the data used, the EPM model and all the ML models will be maintained in the "oracle" and open to public inspection and scrutiny. In addition, Swytch Tokens will also be used to incentivize the development of additional models submitted for consideration as additional BAE ensemble models. These community models can be either engineering-principles or ML based, allowing the BAE to take on additional local and regional knowledge that will result in improved estimates.

Prior to completion of the Token Sale, a live pilot will be running to validate the token minting data flow. The technologies involved in the pilot will continue to evolve to provide more accuracy, scalability, transparency, and security following the Token Sale.

Future iterations of the "oracle" will rely on open-source data and modeling development by the Swytch community. To encourage development, Swytch both allocates a portion of all tokens minted to "oracle" developers and creates a staking program to augment those rewards. The staking program will require a large number of tokens to be put into a reserve pool in order to submit models (forecasting energy production, carbon offsets, and producer token allocations) to compete within the "oracle". Those tokens, in addition to the share of minted tokens, will then be allocated to developers based on their level of accuracy and the amount of tokens staked. Additional functionality will also be considered to open this system up to non-developers to encourage "gamification" of data aggregation and analytics within the platform and "oracle".

Furthermore, the Swytch "oracle" can be leveraged by third party developers to be adapted to support additional applications that require token based, multi-party data commons. Possession of Swytch Tokens will be required to leverage the "oracle" architecture and algorithmic based token allocation models.

COMPUTING ISSUANCE AND CAP LEVELS FOR SWYTCH TOKENS

An "oracle" (or "DACM") will function as the oversight engine of the platform to make the algorithmic smart contracts binding at given intervals. The DACM dynamically computes the appropriate weights, scores, and value allocation for each member in the peer-to-peer network to have a robust POP to control the proper supply of Swytch Tokens. In other words, only those nodes or peers with the appropriate POP scores can participate in any particular process.

Members, users, businesses, and partners will be able to visualize and analyze their holdings in Swytch Token, and audit all transactions on the blockchain network through application programming interfaces ("APIs") to provide transparency and independent auditing.

As the number of members, partners and real-time data grows and corresponding carbon reductions actualize, Swytch's DACM will anticipate what specific areas of the world will most benefit from the emergence of renewable and sustainable investments. For example, replacing diesel burning facilities in the Caribbean may offset more carbon and reduce prices more than replacing a natural gas burning facility in California. As the platform develops, Swytch Token's use-cases begin to multiply to include financial risk calculation and opportunities for additional sustainable investments. The objective functions of the "oracle" will include and feature carbon displacement, level of energization, and incorporate energy storage incentives to accomplish a renewable and sustainable energy infrastructure.

INCENTIVIZING DISTRIBUTED SYSTEMS GLOBALLY

Following the Token Sale, through rooftop systems, distribution level solar farms, large utility solar farms, storage systems, wind farms, and other technologies, members of the Swytch network will use hardware validation/software to mint Swytch Tokens based on energy actually produced and metered at the source, as well as energy subsequently consumed either on-site or renewable energy transmitted to a utility grid for neighboring consumption.

Producers can become nodes on the Swytch network by registering their devices to create Swytch wallets and consent to sharing metering data in exchange for Swytch Token. The power production is then validated as a node on the Swytch network. Each distributed rooftop system, integrated high-rise project, utility-scale solar farm, storage system, wind farms, etc., registered with Swytch will be its own separate node. The end state is a global network with potentially millions of nodes all sharing real time production and other data, and being rewarded with Swytch Tokens.

Swytch Tokens are minted using a smart contract that utilizes a dynamic allocation algorithm that independently weights the parameters and allocated tokens based on socio-economic and physical energy parameters. The goal is to capture the following variables, among others:

1. Total global demand for energy;
2. Total installed capacity of fossil fuel-burning technology;
3. Total production in megawatt hours ("MWH") of all renewables currently in service;
4. Value of lost load per region, localized by utility or region, county, etc. to be calculated as the economic loss of reducing 1MW of load on the system for 1 hour;
5. Real time marginal price of energy, locational marginal price ("LMP") or region;
6. Regional/geographical ratios of the above;
7. Regulatory offsets in the form of renewable energy credits by state (domestic) or country control area internationally;
8. Time of Day, Season; and
9. Greenhouse gas ("GHG") offset as calculated by NASA, ENEL, RetScreen, or similar API.

SWYTCH VALUE PROPOSITION

The goal from the outset is to rapidly establish Swytch Token as the universal renewable/sustainable energy token. To achieve this, we are undertaking a two-pronged strategy.

PHASE 1 2018: TOP-DOWN STRATEGY
The objective of the first prong is to work with our partners to secure major Swytch Token generation and purchase agreements from major purchasers of green power for server farms. These programs can provide immediate compliance and verification savings for these partners. We also expect to partner with large renewable energy asset developers to create large-scale minting operations at their facilities. A staged pilot rollout is planned to occur over the months immediately following the Token Sale to continue to corroborate the technology at scale.

TCF will continue to roll out pilot programs on a staged basis. These pilots will be targeted at specific infrastructure development projects and innovative global "smart cities" and "maker cities" and the next generation of "crypto cities" to test the platform and APIs to support and reward the generation of sustainable energy within cities.

Candidate cities with whom we have initiated negotiations and are seeking to agree memoranda of understanding ("MOU") include: Amsterdam, Barcelona, Seoul, Ansan, and selected others. Additional cities that have signed MOU and/or have pending pilots can be found in the partner section on page 25 of this document. The goal is to establish a process that creates strong incentives for cities to onboard citizens, agencies, and businesses - not only to generate Swytch Tokens, but also to be part of a "circular" economy based upon sustainable, abundant clean energy. Cities may also build up large reserves of Swytch Tokens to fund or stake local initiatives or take part in local "oracle" development to inform allocations. We are also developing additional opportunities with multiple U.S. based energy facilities.

This process will then be replicated and tailored in the U.S. and other markets for local/state/federal/national governments, as well as retail energy suppliers, and corporations. The focus of this rollout and partnering strategy is to provide more effective and efficient methods for verifying, aggregating, and exchanging carbon and renewable energy credits for compliance and reduction purposes.

PHASE 2 2019: VIRAL BOTTOM UP STRATEGY
The second prong of the scale-up is a bottom-up approach targeted at "prosumers" throughout the world. A prosumer in this case is a consumer and a producer of sustainable energy who is also a potential consumer and minter of Swytch Tokens. A Swytch mobile app will be available at no charge to any person or organization interested in joining the network. Swytch Tokens also can promote more equitable income distribution by incentivizing and enabling virtually anyone on the planet to set up their own solar generator, for example, for personal consumption. This renewable energy creation generates Swytch Tokens that can be exchanged or sold to generate income.

Swytch prosumers will also be able to use the Swytch app to determine their power generation and revenue potential, apply for an advance to purchase and set up their modular and expandable solar generation and storage unit, and then become contributing members of the Swytch global network. All of which is only possible through the possession of Swytch Tokens.

Incentivizing the adoption of Swytch by prosumers will be driven primarily by future partnerships with installers who earn bounties for registering nodes. This will streamline the process by making registration on the Swytch network part of the process of installing new residential assets. For existing assets, installers can register when performing maintenance or upgrades.

SWYTCH USE CASES FOR REC AND CARBON CREDIT MARKETS

RENEWABLE PROGRAM STANDARDS MARKETS AND SWYTCH

Renewable Program Standards ("RPS") are U.S. state-mandated programs that require retail energy companies and energy supply companies to procure, validate and track renewable energy offsets of the total load (demand) they are serving. If a retail energy company is required to procure 30% of its supply from renewable sources, they have the option to contract directly with renewable projects or turn to an exchange or over-the-counter market to purchase renewable energy credits to satisfy their obligation where such programs exist.

State Renewable Program Standards are anticipated to grow at a significant rate as states mandate aggressive, renewable targets. Many U.S. states as well as national governments worldwide are adopting goals that require 100% renewable targets by the year 2040.

A key design element of the Swytch platform is the minting algorithm "oracle" that warehouses the geolocation of each minted token. Following the initial phase of the Swytch platform, TCF may explore opportunities to work with local, regional and state governments to allow these tokens to qualify for both voluntary and mandated sustainability and renewable targets.

ADDITIONAL MARKETS USE CASE: EU CARBON MARKETS

In addition to the various state programs in the U.S., there are several other international carbon reduction programs with which Swytch can integrate, simplify and ultimately potentially replace.

The most advanced and active emission legislation is in Europe. The 28 EU countries plus Iceland, Liechtenstein and Norway have agreed to limit greenhouse gas emissions from approximately 11,000 energy intensive installations in the power generation and manufacturing industry sectors, and reduce 2005 carbon emission levels by 20% by 2020, and 40% by 2030.[15]

Currently the market is in Phase 3, which runs through 2020. Uncertainty exists in European markets post 2020 on the structure and subsequent cost of carbon offsets. Businesses must monitor and report their EU Emission

Trading Scheme ("ETS") emissions for each calendar year and have their emission reports checked by an accredited verifier. They must surrender enough allowances to cover their total emissions by 30 April of the following year. These allowances are then cancelled so they cannot be used again.

A business is penalized if it does not surrender enough allowances. It must buy allowances to make up the shortfall, and is "named and shamed" by having its name published, and must pay a fine for each excess ton of greenhouse gas emitted.

The accurate accounting of all allowances is assured by a single registry with strong security measures. The registry keeps track of the ownership of allowances held in electronic accounts, just as a bank holds a record of its customers and their money. But even with the EU's rigorous emission accounting, the system has been troubled by instances of fraud and tax evasion. For instance, in 2011 the European Commission froze the spot market for carbon trading following a series of scandals, including VAT fraud, hacking, and alleged stealing of carbon permits.[16]

The Swytch blockchain platform can work alongside current EU carbon registry and ensure compliance, verification and accounting across borders. The Swytch ecosystem can support the EU carbon cap and trade scheme directly and create trading and arbitrage opportunities for businesses and power producers to offset carbon purchases and carbon credit sales with equivalent volumes of Swytch Tokens.

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[15] The EU Emissions Trading System (EU ETS), European Union, 2016

[16] Reuters staff, "Timeline: Scandals in the EU carbon market", www.reuters.com, January 20, 2011, https://www.reuters.com/article/us-carbon-scandals/timeline-scandals-in-the-eu-carbon-market

To better understand what is motivating corporate renewables purchases – and what's holding companies back from doing even more – PwC conducted a survey of the U.S. renewables leaders,[17] the companies that are engaged in the renewables marketplace and are driving corporate renewables purchases, which yielded some interesting findings:

- The appetite for renewables is growing. A strong majority of these companies (72%) are planning renewable purchases in the next 18 months and 63% have become more inclined to purchase in the last six months.

- A small percentage is holding back for multiple reasons. The 28% who are not actively pursuing purchases cited the lack of a mandate (61%), an unattractive ROI/payback (56%), and the length of contracts (50%) as the top 3 reasons for not moving forward.

- The decision is cross-functional. More than 60% said facilities/energy management and sustainability executives are the key decision makers, followed by finance, operations, and procurement who were cited by nearly half of respondents.

- Sustainability and greenhouse gas emissions goals are the top drivers, as cited by 85% of those companies actively pursuing purchases. Beyond that, 76% are looking to generate an attractive ROI and 59% are focused on limiting exposure to energy price variability.

REWARDS SYSTEM FOR ENROLLMENT OF PRODUCERS

The Swytch platform creates a rewards system for individuals and organizations paid in Swytch Tokens to enroll renewable and sustainable technologies into the Swytch platform and help verify systems technology and energy output.

Additional rewards will be provided for "smart city" mandates and participation. These rewards will provide a treasury function and add additional ongoing revenue to cities. They also will provide an innovative, secure, privacy-compliant and open token commons platform for citizen digital services, such as Mobility as a Service, Works as a Service, and City Services as Service.

New producer enrollment will have an additional Swytch Token allocation in the rewards program and receive a percentage of minted allocations as a residual based off energy production. To obtain Swytch Tokens for utility use, one can purchase Swytch Tokens in the Token Sale, earn Swytch Tokens through producing asset registration and generation, or earn Swytch Tokens through rewards, which include among others, original equipment manufacturer ("OEM") hardware and Swytch blockchain integration, installation, verification, and audit. Additionally, Swytch Tokens can be earned through smart city and government service partners, and sustainable and renewable vendor partnerships.

[17] Favaloro, George, "Here's What's Driving Corporate Renewable Purchases", http://infocastinc.com/insights/solar/heres-whats-driving-corporate-renewable-purchases/
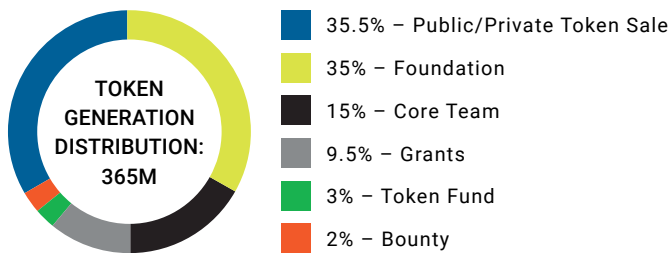
LAUNCHING THE SWYTCH NETWORK

TOKEN SALE TO TOKEN LAUNCH

The total maximum supply of Swytch Tokens will be limited to 3.65 billion tokens. Token incentive awards are dynamically calculated based off of total worldwide demand of energy of 36.5 trillion KWh by 2040. Supply is capped to prevent an unlimited/infinite supply from being generated over the next 22 years.

The Token Commons Foundation is issuing a Swytch Token allocation equal to 10% of the total maximum supply during the initial Swytch Token Sale period, including whitelist periods (collectively, the "Initial Token Allocation"). The remainder will be awarded to the network to incentivize generation of renewable and sustainable energy and continued adoption and deployment of renewable energy technologies.

The remaining 90% of the total token supply will be allocated over the next 22 years through the minting of tokens via sustainable and renewable energy production. The "oracle" will determine the appropriate amount of token to be minted through the energy production process and be dynamically allocated.

Tokens will not have a burning mechanism embedded in the smart contract. Overall, the Initial Token Allocation is expected to be distributed approximately as follows:

TOKEN GENERATION DISTRIBUTION: 365M

- 35.5% – Public/Private Token Sale
- 35% – Foundation
- 15% – Core Team
- 9.5% – Grants
- 3% – Token Fund
- 2% – Bounty

SWYTCH UTILITY TOKEN

The concept of utility value is deeply embedded in the structure of the Swytch Token and ecosystem.

Utility will be available as an access function to the development dashboard, an "oracle" based staking for earning incentives for contributions to the network and as a staking token for local sustainability programs

While Swytch Tokens and the Swytch network will continue to evolve and new features will develop, some immediate use cases for the Swytch Token will exist upon delivery of the Swytch Tokens following the Token Sale. These initial Swytch Tokens, as well as any subsequently minted Swytch Tokens, provide the holder with access to the Swytch platform, including the digital wallet, estimator, and any "oracle" data that can be shared publicly. Future use cases for Swytch Tokens, such as redemption for metering or other production hardware, and accessing marketplaces are currently under consideration and will be included as we formalize partnerships and agreements.

PROOF OF PRODUCTION MINTING AWARDS

Swytch Tokens that are generated from registered nodes on the system through production of renewable energy blocks incentives will be allowed as follows:

to TCF 5%
to Master Node 3%
to Minters 90%
to Oracle/DACM members 2%
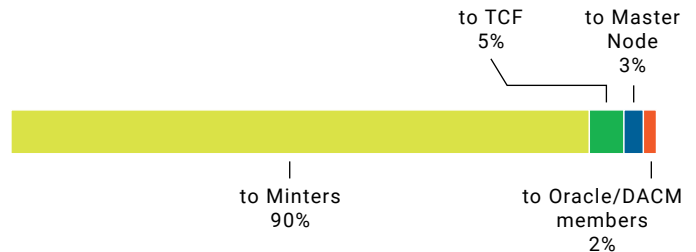
TOKEN SALE TIMETABLE AND MILESTONES:

The following are key milestones that we are currently targeting for completion in Q4 2017 through Q1 2018:

- Q4 – Q1 2018: Pilot development and testing with select partners;

- Q4 2017- Q2 2018: Community engagement, whitelisting & Private Pre-sale;

- Q2 2018: Public Token Sale; and

- Q2 2018: Maximum one-month period for audit and Swytch Token distributions. Swytch will be using 3rd party auditing services to validate contributions and wallet addresses.

DEVELOPMENT AND PILOT PARTNERS

- Atonomi – Edge level IOT device security and identity

- Bancor – Smart contract design Network Token Protocol

- Berkshire Cloud Evident Proof Platform – POP blockchain design and implementation

- Black & Veatch – Technology and "oracle" allocation model developer

- BTC Labs – CoinCart and blockchain smart contracts

- E2M – Pilot partner

- HST Solar – Estimator design and data inputs

- NDimensional – Machine learning/"oracle" allocation evolution

- Winjit – Mobile app and smart contract support

THE TEAM: PRINCIPALS AND ADVISORS

Swytch has put together a team of seasoned executives, academic leaders, and entrepreneurs from the energy, finance, technology, and blockchain fields. The founding team credentials include experience with Citibank, Deutsche Bank, TrailStone Group, Bain & Company, Maya Design, MIT Media Lab, Cambridge University, and Harvard's Berkman Klein Center. The team also includes Bitcoin and Ethereum developers and thought-leaders who have launched successful technology solutions in this space.

TEAM

Evan Caron
Cofounder and Managing Director

John Redpath
Cofounder

John Clippinger
Cofounder and Head of Token Innovation

Andrew Pearsons
Managing Director

Youngsook Park
VP of Business Development

Eric Miller
Director of Product and Lead Blockchain Developer

Shawn Harmsen
Senior Back-End Developer

Chris Griffith
Senior Back-End Developer

Luke Filipos
Senior Front-End Developer

Troy Martin
Director of Compliance and Governance

TECHNOLOGY PARTNERS

Bancor Network
Berkshire Cloud Evident Proof Platform
Black & Veatch
BTC Labs
DNV GL
E2M
HST Solar
nDimensional
Winjit
Atonomi

ORGANIZATIONS

Cambridge University Institute for
Sustainable Leadership
Energy Web Foundation
Korea Green Foundation
Kunkuk University
Seoul National University
Trailstone Group
UN Future Forum (Millennium Project
Korea)/Solar Makers

PR/MEDIA

InDaily News Korea
MakerCity
Porter Novelli

CITIES/REGIONS/GOVERNMENT

Korea – Ansan, Pohang, Suwon, Yongin

LEGAL ADVISORS

PST Legal & Consulting
Reed Smith, LLP

ADVISORS

Galia Benartzi – *Cofounder Bancor*
Charlie Firestone – *Aspen Institute*
Brad Hardin – *CTO, Black & Veatch*
Thomas Hardjono – *Technical Director, MIT Internet/Trust Consortium*
Peter Hirshberg – *Cofounder & Chairman, Maker City*
Steve Jurvetson – *Venture capitalist and green energy advocate*
Marcia Kadanoff – *Cofounder & CEO, Maker City*
Kent Larson – *Director, MIT Media Lab City Science/CityScope Project*
Curt Lefebvre – *CEO, nDimensional*
Mickey McManus – *Senior Advisor, Boston Consulting Group, Autodesk Fellow*
Tony Seba – *Stanford University, Solar disruption and Innovation Advisor*

MISSION

The Swytch mission is to accelerate a sustainable and equitable energy future. Swytch will endeavor to provide a decentralized, open, and resilient infrastructure for the verified generation of renewable energy and exchange of tokens of value and trust. Whether by forming partnerships with cities to use Swytch Tokens as the basis for their local sustainability programs or by building a consortium to drive innovation and development of better energy data sources and token allocation algorithms, Swytch aims to be the platform through which smarter sustainable actions are identified and incentivized.

To support this mission, Swytch will use the contributions from the Token Sale to continue to iterate the supporting technologies and evangelize the benefits of the project. Through the rest of 2018, Swytch will be rolling out its platform and protocols for use by all interested commercial entities. In 2019, we hope to reach the prosumer market and include residential solar in our network. We will also be working toward including the concepts of trusted devices and reputational staking in the Proof-of-Production protocol.

However, the true value of the Swytch Token and platform will be created by the network itself. For too long we have depended on central authorities to address climate change. Swytch aims to provide the millions of people and organizations that would like to take more active role in reducing reliance on carbon with the tools to do so. Swytch can bring that community together to maximize the power of the resulting network and the scale of renewable energy economies.

We will reach our goals by the following principals:

1. Develop a new ecosystem that encourages the use and production of usable renewable technologies through the issuance of Swytch Token, a utility token;

2. Use encryption technology and blockchain linked to Internet of Things ("IOT") and existing Smart metering devices to create a POP protocol and "oracle" adaptive control module for capturing, validating, and disseminating invaluable data;

3. Work with governments at all levels to augment existing renewable and sustainability programs to incorporate Swytch Tokens as a method of standardization and a staking currency for other utility tokens that incentivize sustainable actions;

4. Provide a clear incentive structure for corporations, organizations, and individuals to make renewable and sustainable investments such as residential solar panels, storage systems, etc., through the Swytch Token and platform;

5. Build a global brand around the Swytch Token as a direct investment in the world's future by addressing energy sustainability, climate change, and socio-economic equity regardless of nationality; and

6. Provide a data commons and distributed and decentralized "oracle" platform that allows third-party developers to create blockchain verifications and establish processes for IOT, smart-meter technology, demand response, energy price forecasting, demand forecasting, energy settlements, peer to peer energy trading, on demand energy trading, energy storage as a service, energy supply as a service, pay-as-you go energy programs, vefficiency programs, etc.

RISKS

The purchase of the Swytch Token carries significant risk. Prior to purchasing Swytch Tokens, the purchaser should carefully consider the risks listed below and, to the extent necessary, consult a lawyer, accountant, and/or tax professional prior to determining whether to purchase Swytch Tokens.

1. The Swytch Token is intended to function as an "access" or "rewards" token that facilitates access to Swytch's platform and services rather than as an investment or security. An access or utilization token is a means of access to **a platform**. It derives value by providing access to **a** platform which has inherent value. It is possible, however, that the U.S. Securities and Exchange Commission "SEC") , or securities regulatory agencies in other jurisdictions, could characterize Swytch Token as an "investment contract" subject to regulation under their securities laws and regulations. If the Swytch Token is deemed a security under U.S. securities laws and regulations, or under the laws and regulations of any other jurisdiction, Swytch Token will be subject to restriction on trans fer in the United States and/or such other jurisdictions. Such restriction on transfer may preclude development of an active trading market for Swytch Tokens.

2. There is no assurance that at any time in the future the Swytch Token (i) may be used to satisfy renewable energy portfolio standards requirements or in compliance with other renewable energy incentive programs, or (ii) may be traded on any known exchange.

3. The Token Sale may not reach the target sale amount and consequently TCF may not have sufficient funds to execute in whole or in part on its business plan. There is no guarantee that TCF will be able to execute its business plan as anticipated. If TCF is unsuccessful in implementing its business plan, that may limit the currently anticipated utility of the Swytch Token, and adversely affect its value.

4. Swytch Token will be stored in a wallet, which can be accessed with a password selected by the purchaser. If a purchaser of Swytch Tokens does not maintain an accurate record of his or her password, this may lead to the loss of Swytch Tokens. If a purchaser's password protection is weak and it is cracked or otherwise obtained by a third party, this may also lead to the loss of Swytch Tokens. As a result, purchasers must safely store the passwords in one or more backup locations that are well separated from the primary location. Swytch and TCF are not responsible for any purchaser's loss of password or other credentials.

5. The purchaser recognizes that some of the services that Swytch anticipates offering in the future are currently under development and may undergo significant change before release. The purchaser acknowledges that any of its expectations regarding the form and functionality of the Swytch platform and/or Swytch Token may not be met for any number of reasons.

6. The purchaser understands that while Swytch will make best efforts to launch its anticipated services on time, it is possible that the official release may be delayed or that certain services may not be developed or enabled as currently anticipated.

7. As with other crypto-tokens, the value of the Swytch Token may fluctuate significantly and decline in value for any number of reasons, including but not limited to, supply and demand, overall crypto token market conditions, political and geographical reasons, changes to laws and/or regulations in any jurisdiction, and technical reasons.

8. The ownership of Swytch Tokens may fall under existing and/or new and unprecedented taxation laws that will erode the benefits of Swytch Tokens.

9. There is no guarantee that other current or future solutions or technology will not render the Swytch business plan and Swytch Token obsolete.

10. Swytch Tokens will be issued on the Ethereum blockchain. As such, any malfunction or unexpected functioning of the Ethereum blockchain may impact the purchaser's ability to transfer or securely hold Swytch Tokens. Such impact could adversely affect the value of Swytch Tokens.

11. Third parties may bring intellectual property claims against Swytch or TCF. Such claims may result in litigation and could impair Swytch's operations or implementation of its business plan.

12. It is possible that, due to any number of reasons, including without limitation, the failure of the business relationships, competing intellectual property claims, or token class action claims, Swytch may no longer be a viable platform and may dissolve or fail to launch.

13. Sales of crypto-tokens have been known to come under malicious attacks from hackers and criminal parties resulting in theft of tokens, which may result in massive losses to purchasers and Swytch.

14. Many crypto-tokens fluctuate in value in tandem with the market price of Bitcoin and other tokens. It is possible that Swytch Tokens will be affected by events that cause Bitcoin or other tokens to increase or decrease in value.

15. Regulators continue to provide guidance with respect to ambiguities in existing laws and regulations in the context of token sales. Lawmakers and regulators are also considering and may approve new laws and regulations that govern the offering of crypto-tokens. It is possible that a government or regulatory agency will pursue Swytch and require it to suspend or cease its business operations and the platform in light of new interpretation of existing laws or regulations, or passage of new laws and regulations.

16. In addition to risks related to potential regulatory enforcement action, we may also be subject to private suits brought by aggressive plaintiffs' attorneys on behalf of investors. The explosion of interest in initial coin offerings and in "blockchain" technology has attracted the plaintiffs' bar. In late 2017, plaintiffs' attorneys filed the first private investor class action lawsuits involving these offerings, with more lawsuits subsequently filed or threatened. While we believe and have taken steps to ensure that our Swytch Tokens are not "securities" as defined by the Securities Act, this token offering may be scrutinized by both the SEC and aggressive plaintiffs' attorneys if Swytch Tokens are sold to U.S. purchasers. Any such litigation or regulatory action could result in substantial costs and diversion of resources, even if we are found not to be at fault, and could ultimately prevent us from developing and/or maintaining the Swytch ecosystem.

17. Crypto-tokens are a new and untested technology. In addition to the risks set forth herein, there are risks that Swytch cannot anticipate. Risk may further materialize as unanticipated combinations or variation of the risks set forth above.

DISCLAIMERS

To the maximum extent permitted by the applicable laws, regulation and rules, Swytch Token, TCF, Swytch and the officers and employees thereof shall not be liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract, or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this White Paper or any part thereof by you.

TCF, Swytch and the officers and employees thereof shall not be liable for your loss of any Swytch Token after it is transferred to you by any reason, including but not limited to your failure to maintain or backup an accurate record of your password or password cracking by somebody due to your poor maintenance of your password.

The Swytch platform is in the early phases of development, and TCF and Swytch do not provide any warranty as to the release of the Swytch platform or any particular feature or component thereof described in this White Paper, and assume no liability or responsibility for any loss or damage that would result from or relate to the inability to use Swytch Token.

This White Paper contains brief, selected information pertaining to Swytch Token and the business and affairs of TCF, and does not purport to be all-inclusive or to contain all the information that a prospective investor may desire in investigating Swytch or TCF. Prospective purchasers should make their own independent investigation and analysis of Swytch and TCF, and their own assessment of all information set forth in this White Paper.

Regulatory authorities are carefully scrutinizing businesses and operations associated with crypto-tokens throughout the world. In that respect, regulatory measures, investigations, or actions may impact Swytch's business and may limit or prevent it from developing its operations in the future. Any person undertaking to acquire Swytch Tokens must be aware that Swytch's business model and/or the Swytch platform may change or need to be modified because of new regulatory and compliance requirements from any applicable laws in any applicable jurisdictions. In such case, purchasers and any person undertaking to acquire Swytch Tokens acknowledge and understand that neither TCF, Swytch nor any of each's respective affiliates shall be held liable for any direct or indirect loss or damages caused by such changes.

Neither TCF, Swytch nor any of the officers and employees thereof are to be or shall be considered as advisor in any legal, tax, or financial matters.

Acquiring Swytch Token shall not grant any right or influence over TCF's or Swytch's organizations and governance to the purchasers.

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The forecast information contained in this presentation is incomplete and is only estimated, and there can be no assurances that any of the projected results will be realized. The forecasted information is based upon a number of estimates and assumptions that are subject to significant business, economic, governmental, regulatory and competitive uncertainties and contingencies, most of which will be beyond the control of Swytch or TCF. The forecasts are included solely as estimates of what results might be obtained in the future, and are not included for the purpose of predicting future results or returns, which may differ materially from the results forecasted.

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