MEDIA COVERAGE

FortyThree

Bloomberg BNA | June 27, 2018

https://sg.finance.yahoo.com/news/blockchain-based-renewable-energy-pilot-191714065.html

Beyond Bitcoin: The Future of Pollution Tracking With Blockchain

By David Schultz

The same technology that powers bitcoin and other cryptocurrencies could unlock the holy grail of real time pollution monitoring as Silicon Valley pitches the power of blockchain to environmental regulators.

Using blockchain for environmental monitoring is still in its embryonic phase, with actual examples of users adopting the data storage technology few and far between. But entrepreneurs are formulating plans to use the technology to change how society keeps track of air pollution, water quality, and even renewable energy generation.

“It’s a new paradigm of computing,” Anna Poberezhna, founder of the London-based startup Smart4Tech that works on water rights trading applications, told Bloomberg Environment. “It’s a technology that allows you to do things cheaper, faster, and better.”

Blockchain can store and encrypt voluminous numbers of transactions on multiple different computers across a system, instead of storing all of this data on one central server.

Because the data is not housed in any one location, and because each transaction is cryptographically linked to every other transaction, blockchain ledgers are often described as nearly impossible to hack. The decentralized, transparent nature of storing information in a blockchain removes the need for third-party verification.

And that could revolutionize how businesses report their pollution or track flows through pipelines, allowing faster transmission of data by speeding up the verification process.

Quest for the Holy Grail

The “killer app” tantalizing everyone in his field is the potential to use blockchain to collect and store data in real time from pollution sensors, said Louis Sweeny, an environmental IT consultant and former Environmental Protection Agency staffer.

“I know those kinds of conversations are happening,” Sweeny told Bloomberg Environment. “I don’t know if any solid business models have emerged.”

As often happens at this stage of a nascent technology’s development, it’s far from clear exactly how, or even whether, blockchain will spread into the environmental monitoring field.

“Clearly it’s going to be a transformative technology, but that doesn’t mean it’s going to transform everything,” said Rebecca Bratspies, an environmental law professor at the City University of New York, who focuses on technology.

Neno Duplan, CEO of the Silicon Valley-based information management company Locus Technologies, said blockchain will be most useful in managing the deluge of data that will be generated by internet-connected pollution sensors of the future.

Managing Large Amounts of Data

These future pollution monitoring devices would be part of the “internet of things,” in which devices ranging from tractors to refrigerators to air conditioners are outfitted with internet connections.

But Duplan said it would be far too labor intensive to use internet-of-things environmental sensors *without* blockchain. “They’re unmanageable under current internet structure,” he told Bloomberg Environment.

Today, a company that installed an internet-enabled air sensor outside its factory would need to employ people to verify the data it generates and then submit that information to the EPA or another regulator, Duplan said. But by using blockchain, this data could be securely transmitted to the regulator the instant it gets generated.

‘Opportunity to Simplify’

“It creates tremendous opportunity to simplify what is now an extremely complex process,” said Duplan, whose company is working with the Energy Department and other federal agencies on blockchain projects.

With blockchain providing the ability to securely store vast amounts of data, one limiting factor is the ability to manufacture sensors that are cheap and energy-efficient enough to be economically viable, Duplan said.

Bratspies told Bloomberg Environment another factor that could limit the value of all this data is how it gets turned into easily understandable information.

“What the blockchain really adds for most things is permanence and a guarantee that it won’t be tampered with,” said Bratspies. But “raw data is often not particularly useful to people. What they need is the data to be synthesized and analyzed.”

Eliminating the Middleman

Evan Caron, co-founder of the Swiss emissions tracking startup Swytch, said blockchain could theoretically eliminate the “rent-seeking middlemen” who currently package a company’s pollution data and submit it to regulators.

With blockchain, “every time a generator generates an electron or a molecule of gas, you’re able to track that all the way back to creation,” Caron, a former Wall Street energy trader, told Bloomberg Environment. “That’s very powerful because you can

trust the data and trust the information. You don't need to have a third party validate that or attest to that."

Sam Dibble, a Silicon Valley-based attorney with the firm Baker Botts who works on raising capital in the tech industry, said drilling companies are also looking into using blockchain to track the oil and gas they send through their pipelines at every step of the process. He said blockchain could allow these companies to store more data securely than had previously been conceivable.

Transferring Trust?

These drillers are looking into ways to track their product "from the actual drilling or other extraction through the pipelines and through the other end and then onto final use," he told Bloomberg Environment. "It's either happening or people are working hard to figure out how to make it work."

But Bratspies said it would be a mistake to assume that data encoded with blockchain is by definition secure. She said it's true that, once a block has been created, the technology's encryption and interconnectedness would make tampering nearly impossible. It would not be hard, however, to imagine data being corrupted before even entering a blockchain, she said.

"The cryptography is probably unhackable," she said. But "you're putting a lot of trust in those who are maintaining the blockchain that they're doing it accurately and with integrity. ... There's all this rhetoric about replacing trust, but it seems like it just transfers the placement of trust."

'Why Wouldn't We Use It?'

Of course, predicting how blockchain will be used in the environmental world assumes that businesses and regulators will want to use it.

This is a problem for Chris Richter, co-founder of the tech startup WaterBot, which is working on a monitoring device that, with the help of blockchain, can sample water quality once a minute. The Milwaukee-based entrepreneur said some of the cities WaterBot has targeted as potential clients told him they worry real-time water monitoring will unearth problems they'd rather not know about.

But Richter said he thought this "ignorance is bliss" attitude will slowly fade away once blockchain becomes more widespread and consumers start to demand it.

"The technology is there for real-time monitoring," he told Bloomberg Environment. "Why wouldn't we use it?"

CCN | July 11, 2018

Swytch: Reducing the Global Carbon Footprint with Blockchain Technology

By Rahul Nambiampurath

In recent years, the detrimental effects of climate change, including global warming, a rising sea level and extreme weather conditions, have become more and more adverse. Atmospheric levels of carbon dioxide have also been rising for the past few decades due to rapid industrialization. While efforts have been made to bring greenhouse gas emission under control, most of them have proved to be woefully insufficient so far. Even the Paris Agreement, which was signed by 175 parties in 2016, is not on track to succeed in its mission to curb climate change by 2020.

Swytch believes that it can help solve this environmental crisis with its blockchain-based platform. The company aims to use the technology to track and verify sustainability efforts around the world, even in the absence of a third-party auditing authority. The platform will also offer token-based rewards to individuals and corporations that actively reduce their carbon footprint by producing renewable energy.

To assess the relative impact of a renewable energy producer, Swytch has developed a software solution called the 'Open Oracle'. The algorithm uses machine learning to dynamically generate a forecast of carbon offsets. Swytch will acquire data streams from a host of IoT devices around the world, including smart meters and batteries, to build accurate models of the global carbon impact. The idea is that municipalities and governments can use this tool and its data to assess the viability of renewable energy in their own regions. Aside from the incentive program, Swytch Tokens can also be used to gain access to data sets, production numbers and ROI estimators.

The burning of fossil fuels to generate energy is alone responsible for the majority of worldwide carbon emissions. To address this, Swytch will reward users that migrate away from conventional energy sources, especially those located in areas with a high carbon output. The company will also use the aforementioned models to allocate tokens proportional to an individual's energy production.

The Swytch platform is currently being tested in conjunction with Europe-based renewable energy aggregator e2m. The pilot, based in Germany, is testing the first versions of the data flow, blockchain, dashboard, estimators, token allocation models and other key parts of the platform. The tests will involve the platform recording data from approximately 3.5 Gigawatts of energy, all obtained from renewable sources such as solar, wind, hydro and biogas.

While initially, only those producing renewable energy will be rewarded, Swytch has stated that other sustainable actions will also be incentivized in the near future. To expand upon this, users will be rewarded for almost any environmentally responsible

action that can be measured, including driving an electric vehicle and reducing the household's monthly energy usage.

The Swytch Token public crowdsale commenced last month, on June 12 and is scheduled to run until Wednesday, July 11. Until then, early adopters and investors can purchase tokens in exchange for either Bitcoin and Ethereum. The hard cap for the duration of the sale period is set at $30 million, with each token valued at $0.50.

Since Swytch is a blockchain-based platform, it offers token holders a number of advantages, including the ability to access services and markets in the ecosystem. For instance, Swytch Token owners that decide to stake their tokens towards Oracle development will have access to the complete set of data held in the system. While the maximum supply of Swytch Tokens is capped at 3.65 billion tokens, only 10 percent of that figure will be made available during the token sale. The remaining 90 percent will be dynamically minted by producers of renewable energy over the next 22 years.

CryptoPotato | July 8, 2018

https://cryptopotato.com/swytch-ico-helping-the-earth-reduce-its-carbon-footprint/

Swytch ICO- Helping The Earth Reduce Its Carbon Footprint

By Toju Ometoruwa

For the past 30 years, scientists have published their concerns about climate change, and the negative effects greenhouse gases and C02 emissions have had on our environment.

During this time many private and publicly funded initiatives have been launched to reduce air pollution, create sustainable energy, and promote eco-friendly practices, such as recycling, driving electric cars, etc.

However, despite these initiatives, and a global awareness of the problem, there are few signs that we are making any real progress (as of 2015, only 10% of global energy consumed came from hydro, solar, and wind sources).

Current solutions are inefficient, and incentive models are difficult to track and reward effectively.

This is why Swytch is developing a blockchain-based platform that awards institutions and individuals with Swytch tokens for producing clean energy and engaging in eco-friendly practices.

The company is combining Blockchain technology with IoT to develop a ‘proof of production protocol’, which will enable energy usage to be effectively tracked on smart devices and then recorded on their decentralized public ledger.

How it works

In order to participate and receive awards in the Swytch ecosystem, users must register a smart hardware or software device that captures data on the renewable and sustainable energy being produced. Nodes are linked to devices in order to track energy production. A distributed rooftop system, integrated high-rise project, utility-scale solar farm, storage system, or wind farm that is registered on Swytch is considered its own separate node.

Once a user registers their device, a Swytch wallet is created. They then consent to share data in exchange for Swytch Tokens. The power produced by devices is then validated as a node on the Swytch blockchain network.

The Swytch platform consists of the following elements:

Mobile Clients

Users can download an app, which includes a digital wallet for storing Swytch tokens. The app also displays the nodes that are linked to the user's wallet so that funds can be awarded based on the amount of renewable energy produced. The app features a dashboard, heat map, tracking of asset production, and more.

Oracles

Oracles are open source algorithms that calculate the amount of Swytch tokens awarded based on the quantity of energy produced by devices and how much they offset the impact of carbon emissions and pollution. The oracle is also capable of forecasting energy production and validating smart meter data streams.

Nodes

Nodes connect with smart IoT devices to track energy production data and report it to oracles in order to calculate the amount of Swytch tokens awarded.

Swytch nodes are developed in partnership with the Berkshire Cloud Evident Proof Platform.

Verified Installers

As master nodes, verified installers oversee and validate the entire energy data tracking and subsequent token awarding process.

Proof of production protocol

Swytch has developed a unique proof of production (POP) protocol that is based on the integration of IoT devices with blockchain databases.

The protocol makes use of nodes, oracles, smart meters, and verified installers to help the platform arrive at a consensus with regard to the validity of renewal energy consumption/production and the number of tokens that should be awarded.

The protocol also features 'reputation staking' as a way to weed out bad actors who try to take advantage of the system.

Token Use

Swytch is creating ERC20 compliant tokens labeled 'SET'.

SET tokens are the required currency used to access the Swytch platform. They provide an incentive for users to engage in renewable energy production, storage, and sustainable actions. Swytch tokens are also used to incentivize network validators under the proof of protocol and delegated proof of stake protocols adopted by the Swytch platform.

TEAM

Swytch was founded by Evan Caron, a former Wall Street energy trader, and accomplished entrepreneur; Dr. John H. Clippinger, entrepreneur, author, and co-founder of the Law Lab at the Berkman Klein Center at Harvard Law School and a Research Scientist at MIT Media Lab specializing in secure trust frameworks; and John Redpath, CEO of Trailstone Group and seasoned energy expert.

Swytch's advisory board also consists of more experienced and accomplished entrepreneurs in the tech and energy sector:

The Token Sale

Token Sale Timeline: 12th of June – 11th of July 2018
Total max. Supply: 3.65 billion
Soft cap: None
Hard cap: 30,000,000 USD
Available for Token Sale: 55%
Token allocation:

Pros:

- Token incentive model allowsindividuals that are currently excluded from existing incentive programs to join the global effort to reduce carbon emissions and clean up the environment.
- Swytch has formed high-quality partnerships that provide real technical value to the platform:
  - *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*
- Reputation staking ensures honest behavior in tracking energy data and administering awards.

Limitations:

- The clean energy industry is heavily regulated by g In certain cases, governments pass laws in favor of competing energy sectors like oil, gas, and coal. Swytch will need to overcome the challenges of disrupting these energy

sectors, particularly if they have lobbyists helping them pass laws restricting renewable energy adoption. Furthermore, climate change is a highly politicized topic that divides regular people who may need to be educated about the validity of human beings contributing to the current rate of carbon emissions. Lack of belief may be a roadblock preventing many from participating in Swytch's renewable energy initiative.

Conclusion:

Protecting the environment is a monumental challenge that requires strong and easily administered incentive models to produce real results.

Swytch is building the necessary foundation for individuals and institutions to actively participate in a globally cohesive renewal energy initiative that could reverse the negative effects of man-made climate change.

Coinspeaker | July 10, 2018

https://www.coinspeaker.com/2018/07/10/swytch-and-energy2market-partnered-on-new-3-5gw-blockchain-pilot-in-germany/

Swytch and Energy2market Partnered on New 3.5Gw Blockchain Pilot in Germany

By Polina Chernykh

By partnering with Swytch, e2m will provide energy producers and traders with an access to a tokenized incentives program that promises to reduce costs and eliminate fraud.

Swytch, a blockchain-based clean energy project, in collaboration with a decentralised energy retailer Energy2market GmbH (e2m), has launched a pilot of the first blockchain and clean energy initiative in Germany.
The trial includes around 3.5Gw of solar, hydro, biogas, and wind energy capacity which is capable of powering more than 500,000 homes. Under the program, the companies will be testing the new platform, including the first versions of the estimators, dashboard, data flow, and token allocation models.

Based in Austin, Swytch aims to change the way people produce and consume energy. The company offers a blockchain-powered platform that tracks and rewards organizations and people who make sustainability efforts to reduce worldwide level of carbon emissions. By generating clean energy, producers issue Swytch utility tokens.

The solution is based on an open-source “Oracle” that uses artificial intelligence and machine learning technology to trace how much carbon is emitted and determine the amount of tokens to award. Thus, Swytch will serve as an incentive for producers to generate solar, wind and other forms of renewable energy.

“We firmly believe that blockchain technology can be used to unlock long-term value for Europe’s renewable energy assets,” said Andreas Keil, CEO of Energy2market. “Today, renewable energy represents 32 percent of the total energy market in Germany, but we have a goal of reaching 70 percent by 2050. Government-based incentive programs can only do so much, and a more dynamic option is needed. Additionally, some countries, like Germany, will begin phasing out their incentive programs in the next few years. We need to prepare for the future and identify new subsidy instruments and trading mechanism.”

e2m is the leading energy trading company in Europe, specializing in managing and optimizing diverse portfolios of generators, consumers, suppliers and grid operators. With a Virtual Power Plant and a 24/7 trading team, the company can aggregate power from decentralized generation and consumption systems and trade it in real time.

By partnering with Swytch, e2m will be able to leverage the benefits of the blockchain technology and get information about existing incentive programs. The company believes that Swytch can urge governments, corporations, cities, and people to take part in driving the use of sustainability programs.

“Just as blockchain is applicable to supply chain management and verification of physical assets, it is also beneficial for recording and tracking environmental attributions,” said Evan Caron, co-founder and managing director of Swytch.

“When compared to existing programs this will drastically reduce fraud and administrative costs as well as open up incentive mechanisms to residential properties, which are the key to accelerated adoption of renewables. This positions Swytch as a central player in the global grassroots movement to reduce carbon emissions.”

At the moment, Swytch is running a token generation event that will be closed tomorrow, on July 11, 2018.

Crypto Daily Gazette | July 1, 2018

http://cryptodailygazette.com/2018/07/01/swytch-rewards-clean-energy-in-germany-launches-initial-coin-offering-ico/

Swytch Rewards Clean Energy in Germany, Launches 'Initial Coin Offering' – ICO

By Fergus Reynolds

Swytch is a blockchain-based clean energy incentive from the US which has recently announced with Energy2market (e2m), a German energy trading group. They will together pilot an initial coin offering (ICO), which is a token allocation project for companies and people that reduce carbon emissions.

The Swytch blockchain platform can track and verify the global levels of C02 emissions and the impact of actions which try to reduce them, as well as sustainability efforts.

Swytch can test versions of the data flow, estimators, blockchain, token allocation models, dashboard, and other important parts in the platform. The program will cover enough power to be used in 500,000 homes by gathering 3.5Gw energy capacity in Germany with solar, wind, hydro and biogas energy.

The platform uses an open-source "Oracle", AI and machine learning to estimate how much carbon is reduced and how many Swytch tokens to be awarded. By producing renewable energy, companies and people can receive Swytch tokens.

Unlocking Valuable Renewable Energy Assets in Europe
According to the German energy trading group Energy2Market, this project will surely attract large energy producers, wrote CEO of Energy2market, Andreas Keil:

"We firmly believe that blockchain technology can be used to unlock long-term value for Europe's renewable energy assets. Today, renewable energy represents 32 percent of the total energy market in Germany, but we have a goal of reaching 70 percent by 2050. We need to prepare for the future and identify new subsidy instruments and trading mechanism."

Evan Caron, managing director and co-founder of Swytch, added that:
"Just as blockchain is applicable to supply chain management and verification of physical assets, it is also beneficial for recording and tracking environmental attributions."

He concludes that this initiative will reduce fraud and administrative costs, but it will also make people adopt renewable energy:

“When compared to existing programs this will drastically reduce fraud and administrative costs as well as open up incentive mechanisms to residential properties, which are the key to accelerated adoption of renewables. This positions Swytch as a central player in the global grassroots movement to reduce carbon emissions.”

The public token sale started at the beginning of June, will run until 11 July, and is limited to non-US investors.

Bitcoin Exchange Guide | June 22, 2018

https://bitcoinexchangeguide.com/swytch-blockchain-clean-energy-project-partners-with-reflective-venture/

Swytch Blockchain Clean Energy Project Partners with Reflective Venture

By Bitcoin Exchange Guide News Team

Swytch Gets Reflective Venture's Multi-Million Dollar Strategic Growth Investment

Blockchain-based clean energy solution provider, Swytch, has said it has accepted a multi-million dollar strategic growth investment from a privately owned and managed blockchain technology fund, Reflective Venture Partners.

The deal is expected to fund the growth and development of the Swytch platform that tracks and verifies the carbon impact of renewable energy generation and other sustainable actions.

The funding also covers strategic and technical collaboration between Swytch and the Rchain platform.

Is Swytch and Reflective Ventures A Good Fit?

An indeed innovative platform, the company said Swytch uses smart meter and blockchain technology to reward companies and people who reduce carbon emissions the most.

It leverages an open-source core that uses artificial intelligence and machine learning to determine how much carbon is being displaced and therefore how many Swytch tokens to award.

According to Steve Careaga, the general partner of Reflective Venture Partners, the Swytch team understands the global energy financial dynamics and are doing everything right to disrupt the energy sector.

Partnership For Strategic Growth

Swytch said the partnership is very strategic considering that Reflective Venture Partners itself is the product of an ongoing strategic partnership with RChain Cooperative, a third generation blockchain platform that will allow developers to build self-sufficient, high-performance applications with built-in industrial grade scalability, security and speed.

For Evan Caron, Co-founder and Managing Director of Swytch, the deal with Reflective Ventures is top move as the venture capitalist is well recognized as a long-term investor in blockchain projects with a higher purpose.

SolarWakeup | June 26, 2018

http://www.solarwakeup.com/2018/07/05/nra-greenpeace-solar-rocks/

NRA and Greenpeace Reach Historic Agreement: Solar Rocks

By Frank Andorka

It's our distinct pleasure to announce that the National Rifle Association (NRA) and Greenpeace have come to a historic agreement. And that historic agreement is this: Solar. Rocks.

According to a new survey by Swytch, a blockchain platform that tracks, verifies and rewards those reducing the global carbon footprint, 75% of both NRA and Greenpeace members believe businesses that switch to clean energy should be rewarded – and NRA members are more than twice as likely to own solar electrical systems than the general public.

Those are the headlines from the new survey, but they are not the only evidence that solar and clean energy support crosses party and regional lines. There's this significant finding, too:

The survey also found that an overwhelming majority (92%) of Americans believe that renewable energy is either very important or somewhat important to the world's future and more than 81% of respondents believe that solar power is the most important.
It's the second part of that finding that should hearten solar advocates from coast to coast. It's long been considered a settled fact that at least 90% of American support solar, but as far as SolarWakeup can remember, this is the first survey to show Americans have a marked preference for solar over other clean energy solutions. The survey solidifies the idea that the Solar Revolution is here to stay, something that could be proven only anecdotally through stories of the industry's spread to non-traditional solar states.

The survey also had two more interesting findings about the motivation behind decisions to go solar and what might encourage more people to do so:

- Roughly 48% of respondents stated their primary motivation for switching to clean energy would be to save money and more than 37% would switch to reduce their environmental impact.
- Almost 92% of respondents would be more willing to install solar if they had a battery to store the extra energy produced and 88% would be more willing if they could sell the extra energy produced

Those last two findings are important. It shows solar advocates that the way to potential users' hearts is through their wallets, and it shows that net metering and battery storage are critical to the spread of the Solar Revolution.

Solar Power World | July 5, 2018

https://www.solarpowerworldonline.com/2018/07/study-finds-nra-greenpeace-align-on-clean-energy/

Study Finds the NRA and Greenpeace align on clean energy

By Kelsey Misbrener

Recent innovations in renewable energy technology have significantly lowered costs and made renewables an economically viable option. To better understand attitudes and choices around renewables and clean energy trends, Swytch commissioned a survey of over 1,000 consumers across the United States.

Nearly 73% of respondents in red states and 74% of respondents in blue states are worried that there isn't enough being done to reduce climate change. Well above three-quarters of residents in both red (77%) and blue (80%) states believe that the government should offer incentives such as tax credits for renewable energy businesses to expand. In addition, over 60% of those surveyed in red states and about 63% of those surveyed in blue states think the government should subsidize renewables.

The survey also found that an overwhelming majority (92%) of Americans believe that renewable energy is either very important or somewhat important to the world's future and over 81% of respondents believe that solar power is the most important. Surprisingly, NRA members are over twice as likely (38%) to have solar panels than the general population (17%). Generation-wise, Millennials are the most likely (21%) to have solar panels when compared to Gen X (12%) and Baby Boomers (11%).

The positive sentiment around clean energy is widespread. In fact, three-quarters of both NRA and Greenpeace members believe that businesses should be awarded for producing clean energy. Roughly 48% of respondents stated their primary motivation for switching to clean energy would be to save money and over 37% would switch to reduce their environmental impact.

Other interesting facts include:

- Over 80% of Gen Z believe that there isn't enough being done about climate change, compared to only 66% of Baby Boomers
- Over 90% of Gen Z believe that businesses should take responsibility for reducing the world's carbon footprint compared to about 74% of Millennials
- Almost 92% of respondents would be more willing to install solar if they had a battery to store the extra energy produced and 88% would be more willing if they could sell the extra energy produced

Think Progress | July 5, 2018

https://thinkprogress.org/nra-members-love-solar-panels-0de785c8e648/

NRA members more than twice as likely to have solar panels as other Americans

By Joe Romm

New survey finds clean energy and climate action as popular in red states as in blue.

Support for clean energy cuts across the political spectrum, a new survey finds.

“Well above three-quarters of residents in both Red (77%) and Blue (80%) States believe that the government should offer incentives” for renewable energy businesses, such as tax credits, according to the survey released on Thursday.

CLEAN ENERGY AND CLIMATE ACTION ARE AS POPULAR IN RED STATES AS IN BLUE ONES. CREDIT: SWYTCH.

Nearly three fourths of both red state and blue state respondents “are worried that there isn’t enough being done to reduce climate change.” Those are key findings of a new survey of more than 1,000 U.S. consumers commissioned by Swytch, “a blockchain-based platform that tracks and verifies the impact of sustainability efforts and actions on the worldwide level of CO2 emissions.”

These findings match those of a post-election survey by a GOP polling firm that found 75 percent of Trump voters support taking action to accelerate the development and use of clean energy.

Trump’s pro-pollution policies, however, are actually aimed at decelerating the development and use of clean energy — even if it means red state voters end up paying more for their electricity.

In fact, the survey published on Thursday found that a remarkable 38 percent of National Rifle Association (NRA) members have solar panels — more than twice the percentage of the general population (17 percent).

It also found that three-quarters of both NRA and Greenpeace members believe in rewarding businesses for producing clean energy.

Recent years have seen the emergence of a so-called “Green Tea Party” or Coalition — conservatives who support clean energy. Indeed a 2017 article in Environmental Sociology, “Green tea: clean-energy conservatism as a countermovement,” notes

that “Clean-energy conservatism has emerged, in part, as a dissenting response to the alignment of conservatism with support for fossil fuels.”

At the same time, because solar power allows people to operate equipment and indeed, entire houses, off-grid, it has become very popular with survivalists and so-called “doomsday preppers” — who are preparing for a time when a catastrophe might disrupt the social order and bring down the national electric grid.

Articles such as “Best Portable Solar Panels & Solar Powered Products For Doomsday Preppers & Long Term Survival” are common online at survivalist websites, which typically also sell things like water filtration systems and guns.

In fact, the official NRA store online itself sells an “NRA Survival Solar Power Bank,” pointing out, “This powerful tool harnesses the power of sunlight to recharge your electronic devices — even when no electricity is available.”

Solar power’s benefits are universal.

Smart Grid Today | July 9, 2018

https://www.smartgridtoday.com/members/Swytch-survey-finds-wideranging-agreement-on-renewables.cfm

Swytch survey finds wide-ranging agreement on renewables

Blockchain-based "clean energy incentive" Swytch announced yesterday the results of a new study revealing Americans across the country, from the National Rifle Assn (NRA) to Greenpeace, support renewable energy. Recent innovations in renewable energy technology have significantly lowered costs and made renewables an economically viable option, the organization noted, and to better understand attitudes and choices around renewables and clean energy trends, it commissioned a survey of over 1,000 US consumers.

Nearly 73% of respondents in Republican (Red) states and 74% of respondents in Democratic (Blue) states worry not enough is being done to reduce climate change, the survey revealed. Well above three-quarters of residents in both Red (77%) and Blue (80%) states believe the government should offer incentives such as tax credits for renewable energy businesses to expand, the organization said.

Over 60% of those surveyed in Red states and about 63% of those surveyed in Blue states think the government should subsidize renewables, it added. Swytch is a blockchain platform that tracks, verifies, and rewards those reducing the global carbon footprint, the organization said.

The survey found an overwhelming majority (92%) believe renewable energy is either very important or somewhat important to the world's future and over 81% of respondents believe solar power is the most important.

NRA members are over twice as likely (38%) to have solar panels than the general population (17%) and the Millennials generation is the most likely (21%) to have solar panels when compared to Gen X (12%) and Baby Boomers (11%). [**EDITOR'S NOTE:**Our understanding of the generations is as follows, Baby Boomers were born from 1946-1964, Gen X from 1965-1980, Millenials from 1980-1994, and Gen Z from 1995-2012. Swytch did not identify generational years of birth in its reporting.]

The positive sentiment around clean energy is widespread, Swytch said. Three-quarters of both NRA and Greenpeace members believe businesses should be awarded for producing clean energy. Roughly 48% of respondents stated their primary motivation for switching to clean energy would be to save money and over 37% would switch to reduce their environmental impact, it added.

"Over the last couple of years, people around the world have become more aware of the negative impact that climate change is having on the Earth," said Swytch co-founder and Managing Director Evan Caron in prepared remarks. "Renewable energy

technology has seen vast improvement, but due to the lack of effective global mechanisms, the transition to sustainable energy production has failed to take hold.

"Swytch provides a smarter way to incent companies, municipalities, and investors to flow capital into the projects that will have the biggest impact on CO2 emissions," he added.

Over 80% of Gen Z believes not enough is being done about climate change, compared to only 66% of Baby Boomers, the organization said. Over 90% of Gen Z believes businesses should take responsibility for reducing the world's carbon footprint compared to about 74% of Millennials, it added.

Almost 92% of respondents would be more willing to install solar if they had a battery to store the extra energy produced and 88% would be more willing if they could sell the extra energy produced.

Yahoo! Finance | June 13, 2018

https://sg.finance.yahoo.com/news/blockchain-based-renewable-energy-pilot-191714065.html

New Blockchain-Based Renewable Energy Pilot to Power 500,000 Homes

By Jimmy Aki

As the effects of climate change make their mark across the globe, people are more wary of their carbon footprints and are gradually switching to renewable energy. Swytch, a blockchain-based energy platform will work with Energy2market GmbH (e2m), a leader in aggregated energy trading, on a pilot program which will allow it to power homes in Germany with renewable energy while rewarding users with tokens.

The large-scale pilot program aims to distribute roughly 3.5Gw of solar, wind, hydro and bio-gas energy capacity, which is enough to power over 500,000 homes.
Based in Austin, Texas, Swytch combines smart meter and blockchain technology to reward those who generate low carbon emissions. It does this through an open-source Oracle platform which acts as a distributed authority in determining how much carbon is being displaced and how many tokens should be awarded.

Co-founder and Managing Director of Swytch Evan Caron told Bitcoin Magazine his company has already started leveraging the first version of the Oracle to evaluate the assets being managed by e2m.

“We intend to move toward full-scale adoption of the Swytch protocols for full transparency and traceability of energy and environmental attributes and to reward the assets with swytch tokens,” he states.

e2m is a European leader in aggregate energy trading and provider of market access services. It specializes in managing and optimizing diverse portfolios of generators, consumers, suppliers and grid operators. With a Virtual Power Plant and its 24/7 trading team, e2m has the ability to aggregate power from decentralized generation and consumption systems and market them in real time.

e2m believes the partnership will be beneficial to both parties as it sees Swytch's approach to tokenized incentives to be quite attractive to the energy producers and traders it serves.
Andreas Keil, CEO of Energy2market GmbH said, “Government-based incentive programs can only do so much, and a more dynamic option is needed. Additionally, some countries, like Germany, will begin phasing out their incentive programs in the next few years. We need to prepare for the future and identify new subsidy instruments and trading mechanism.”

The partnership will allow e2m to gain more insight and leverage blockchain technology while empowering businesses and individuals to be more active in their adoption of renewable energy.

Energy companies have been testing blockchain technology and how it can benefit them. Ethereum-based platform ImpactPPA is seeking to disrupt renewable energy to finance and accelerate global clean energy production. Scanergy was also launched as an energy blockchain for European prosumers. Scanergy makes smart energy trade between prosumers possible while coping with the dynamism in the demand and supply of electricity.

NewsBTC | June 10, 2018

https://www.newsbtc.com/press-releases/swytch-uses-blockchain-incentivize-renewable-energy/

Swytch Uses Blockchain to Incentivize Renewable Energy

By NewsBTC Staff

The next set of renewable energy incentives will rely on blockchain technology. One project in particular, Swytch, leverages smart meters and IoT devices to reward the companies and people who reduce carbon emissions the most. The project has just announced their public token sale which will begin June 12th and last 30 days maximum.

Swytch is currently running a successful pilot in Germany with hundreds of assets representing over 1.5GW of energy capacity, enough to power 500,000 homes.

“The time is now to make a real impact in the global renewable energy space,”says Evan Caron, founding partner and managing director of Swytch. “We have been very busy securing partnerships, onboarding advisors and testing our technology over the past few months in order to position the project for long-term success.

To hear Caron address Telegram channel questions visit here.

What makes the project unique is that Swytch dynamically awards tokens based on the amount of carbon (CO2) offset estimates to any individual or organization who chooses to partake in the effort to reduce emissions, including consumers, corporations and non-governmental organizations.

Swytch’s goals include creating a more efficient and truly global carbon market, rewarding and empowering individuals and companies to participate in eco-friendly actions and generating valuable data to drive policies and decisions. Swytch also aims to incentivize investments in renewables, such as where CO2 emissions are high or power generation is low. By rewarding tokens based on how much CO2 emissions are reduced, Swytch encourages capital to behave more efficiently.

Swytch is founded by Evan Caron, former Wall Street energy trader, Dr. John Clippinger, MIT research scientist and John Redpath, seasoned energy expert. In addition, Swytch has world-class advisors including: Dr. Steve Waterhouse, experienced blockchain investor, Tony Seba, Stanford University clean energy academic and Steve Jurvetson, original Tesla and SpaceX investor.The Swytch team has secured many strategic partnerships with well-known players in the energy and blockchain space including:

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
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

The token sale will open to public on June 12th at a cost of $.50 USD per token. Interested participants should sign up on the Swytch website, join the dedicated Telegram group, where full details of the token sale will be announced and view this FAQ video with Evan.

Blockchain News | June 14, 2018
http://www.the-blockchain.com/2018/06/14/swytch-pilots-clean-energy-rewards-in-germany-launches-ico/

Swytch Pilots Clean Energy Rewards in Germany, Launches ICO

By David Bentley

US blockchain-clean energy incentive, Swytch on Tuesday announced its initial coin offering (ICO) alongside a partnership with German energy trading group Energy2market (e2m) to pilot a token allocation project in the country that rewards carbon emission reduction.

The Swytch blockchain platform tracks and verifies the impact of sustainability efforts and actions on the worldwide level of C02 emissions, using smart meters to reward the companies and people that reduce them the most.

As part of the German pilot, Swytch said it will test first versions of the data flow, blockchain, dashboard, estimators, token allocation models and other key parts of the platform. The program aims to cover some 3.5Gw of solar, wind, hydro and biogas energy capacity in Germany, which is enough to power over 500,000 homes.

At the core of the Swytch platform is an open-source “Oracle” using artificial intelligence and machine learning to determine how much carbon is being displaced and how many Swytch tokens to award. Producers of renewable energy create Swytch tokens by generating solar, wind, and other forms of renewable energy. According to Energy2Market, this approach to tokenized incentives is particularly attractive to the larger energy producers and traders it serves.

“We firmly believe that blockchain technology can be used to unlock long-term value for Europe’s renewable energy assets,” said Andreas Keil, CEO of Energy2market, in a statement. “Today, renewable energy represents 32 percent of the total energy market in Germany, but we have a goal of reaching 70 percent by 2050. Government-based incentive programs can only do so much, and a more dynamic option is needed. Additionally, some countries, like Germany, will begin phasing out their incentive programs in the next few years. We need to prepare for the future and identify new subsidy instruments and trading mechanism.”

“Just as blockchain is applicable to supply chain management and verification of physical assets, it is also beneficial for recording and tracking environmental attributions,” said Evan Caron, co-founder and managing director of Swytch. “When compared to existing programs this will drastically reduce fraud and administrative costs as well as open up incentive mechanisms to residential properties, which are the key to accelerated adoption of renewables. This positions Swytch as a central player in the global grassroots movement to reduce carbon emissions.”

The Swytch public token sale, which is limited to non-US investors, launched on Tuesday and will run until July 11, 2018.

NullTX | May 18, 2018

https://nulltx.com/swytch-a-blockchain-based-platform-for-saving-the-environment/

Swytch – A Blockchain-Based Platform for Saving the Environment

By NullTX Guest Author

During the last couple of years, people throughout the world have become more aware of the negative impact that climate change is having on the Earth. Not to mention, recent innovations in renewable energy have lowered costs and made renewables an economically viable option. However, while governments have tried to incentivize people to reduce greenhouse and CO2 gases, most of the efforts have mixed results, and pollution remains a significant issue in many cities around the globe.

Swytch aims to nudge markets in favor of renewables and address many of these longstanding problems. To do so, Swytch has created a blockchain-based platform designed to track, verify, and reward the carbon impact of renewable energy production and other sustainable actions to reduce greenhouse gases. What makes the project truly unique, however, is the fact that Swytch dynamically awards tokens to any individual or organization who chooses to partake in the effort to reduce greenhouse gas emissions, including consumers, corporations, and non-governmental organizations. In doing so, Swytch provides the tools and incentives to drive smarter investment and policy decisions needed to tackle one of the world's most intractable issues.

When it comes down to how Swytch works, a combination of blockchain, tokens, and an Open Oracle power the platform. Blockchain allows Swytch to create a more efficient and trusted means of capturing proof of production and building transparent records and data for use by the network. Tokens, allocated based on carbon offset estimates, serve as the reward for energy producers and allow participants to access services and markets on the Swytch platform. The Open Oracle leverages AI and machine learning to run multiple, competing models aimed at determining token allocations for network participants. All of this results in an innovative reward system that creates a global, market-based incentive to reduce carbon emissions.

In the beginning, the Swytch platform will focus on providing incremental benefits to renewable energy generators who earn Swytch tokens by displacing carbon. With time, as the community grows, individuals and organizations will earn tokens by participating in other eco-friendly actions as well, such as driving electric vehicles, or lowering their daily energy usage. In the future, Swytch plans to reward people for just about any verifiable action that reduces the carbon footprint. To support this vision, the platform plans to access data from IoT devices, batteries, EV chargers, smart meters, and other devices, to identify the impact of different behaviors and reward users accordingly.

Some of the main benefits of Swytch include, but are not limited to: creating a more efficient and truly global carbon market, rewarding and empowering individuals and companies to participate in eco-friendly actions, shifting investments in renewables to areas of greatest need, and generating valuable data to drive policies and decisions. At this moment in time, Swytch has already partnered up with a growing number of organizations and other key players in the energy and blockchain industries to serve as official advisors to help Swytch succeed.

You can join Swytch's energy revolution by participating in the Token Sale which will be held on June 12th and following Swytch on Twitter, Facebook, and Telegram for updates. You can also check out their website, view the explainer video and read the white paper.

Coin Reviews | May 21, 2018

https://coinreviews.io/swytch-review/

Swytch Review – Fighting Climate Change With the Blockchain

By Charles Custer

Consider the following facts:

1. Carbon Dioxide (CO_2) is a heat-trapping “greenhouse” gas.
2. In the post-industrial age, human civilization is releasing large amounts of stored CO_2 into the atmosphere that would not be released as part of the natural CO_2 cycle.

Politicians can debate about the extent to which humans are affecting the climate (although scientists are mostly on the same page). But at a basic level, hopefully everyone can *at least* agree that using renewable energy is better in the long run than burning fossil fuels.

The problem is that in many cases switching to renewables requires making some changes and overcoming some challenges. And although in the long-run, it's almost always cheaper to go renewable, the up-front cost of entry can be a big barrier. More people would switch if they had stronger and shorter-term incentives to do so.

Swytch is a blockchain-based crypto solution to that problem. It aims to track and incentivize renewable energy use by creating a truly global, decentralized carbon market that rewards both organizations and individuals for reducing their carbon footprint and generating renewable energy.

How Swytch Works

At its most basic level, what Swytch does is allocate tokens to users on its blockchain based on their rate of renewable energy generation. It has an on-chain “oracle” that assesses data from sensors in your renewable-energy generator, calculates the carbon output offset by your renewable energy generation, and awards you with a proportionate amount in Swytch crypto-tokens.

For example, if you're an individual with a rooftop solar panel, you can connect that panel's output data to the Swytch blockchain, and the oracle will measure your electrcity generation and regularly allocate you tokens accordingly.

It works the same way if you're a large corporation with a wind farm, or any other renewable-energy generator. At present, the oracle's only capable of measuring generation, but in the future Swytch plans to add the capability to measure (and thus incentivize) other climate-friendly actions like driving electric vehicles.

Why Anyone Would Want the Swytch Token?

Obviously, Swytch's system only works if the tokens have some real value; otherwise there's no real incentive at play. But because it will be collecting big, global-scale data about renewable energy generation rates, local electricity demand and prices and how those are affected by renewables, etc., it will have large amounts of data that's valuable to governments, energy companies, academic institutions, and more. That data will be available only to holders of Swytch tokens.

Swytch also says the system (and the tokens) will be valuable to governments and corporations looking to incentivize renewable energy generation and use. Because it's blockchain-based and decentralized, Swytch is trustless and transparent, so companies and governments don't need to worry about people gaming their incentive systems, and they don't need to go to the effort of verifying renewable energy generation because the Swytch oracle has already verified it and the proof is stored on the Swytch chain.

Swytch tokens thus act as a kind of immutable proof-of-renewable-energy-generation that could be exchanged for all kinds of rewards. In the future, as Swytch develops and adds partnerships, the tokens might be redeemable for green-energy hardware, or perhaps local tax credits, or a variety of other benefits in local, national, or global sustainability programs. The sky's really the limit.

And of course, individuals interested in feeling like they're contributing to the global fight against climate change will also likely be interested in the tokens, since they offer immutable, ironclad-by-blockchain proof of their contributions.

The Swytch Token

Swytch is approaching the launch date for a public token presale on June 12, and it has allocated 10% of all capable-of-existing Swytch tokens for this token generation event. The remaining 90% of Swytch tokens will be generated on-demand by the oracle and paid as renewable energy is generated.

A total of 3.65 billion tokens can be generated by Swytch's oracle over the next 22 years – a number that's pegged to match the global estimated energy of 36.5 trillion KWh by 2040. There's no “burning” mechanism, but because tokens are minted as renewable energy is generated, it's possible that not all of the possible 3.65 billion tokens will ever be generated, and the initially available supply on the markets will be much less.

Also, the amount of energy generation required to mint a Swytch token scales based on how much in carbon emissions that energy is offsetting. As the world gets “greener”, it will require progressively more renewable energy generation to mint a Swytch token.

Can Swytch Help the World Swytch?

Like any pre-crowdsale blockchain project, it's important to note that Swytch is still in the early stages of making its vision a reality. But there are strong signs that Swytch really could help us all Swytch.

On the staffing side, Swytch's management team brings decades of experience in energy, finance, and technology to the table, in addition to some serious brainpower. Case in point: founder and CIO John Clippinger brings *three* Ivy-League diplomas to the table (Yale undergrad, UPenn MA and Ph.D) in addition to work experience as a research scientist at the MIT Media Lab (among other impressive credentials). And Swytch also boasts a large advisory board with diverse backgrounds and skillsets.

And although it's not totally up and running yet, it has also already signed up a number of impressive partners, showing that it's on the right track and there's real interest in its platform. Its existing partners include blockchain and tech companies like BTCLabs and Autonomi, academic institutions like University of Cambridge, and four city government partners in South Korea, all with populations of over 500,000.

Swytch is also showing signs that it plans to do things in an open, transparent way. For example: one of the first items on its agenda after the public crowdsale is a third-party audit to ensure transparency.

There are signs that even outsiders recognize Swytch's potential. The company recently beat out 21 other startups to win a pitch competition at a decentralization convention. Token investors who are interested in saving the planet – or just interested in promising projects – would be well-advised to give it a look.

VentureBeat | March 18, 2018

https://venturebeat.com/2018/03/18/the-next-generation-of-cryptocurrencies-will-be-smarter-and-more-stable/

The Next Generation of Cryptocurrencies will be Smarter and More Stable

By John H Clippinger

Like any new market, the birth of the ICO market has brought with it an enormous amount of noise, messiness, and raw speculation. Armed with little more than a hunch, early investors seem to be all in, even with the most preposterous valuations. From the outside, such investments look reckless, “irrational”, even fraudulent. They are met with derision and finger wags from regulators and the pillars of the financial establishment.

Yet ICO investors are pioneers — technology wildcatters — willing to take on enormous risk with very little data; willing to take long odds on the hope of hitting it big. Go big or go broke. There is a technology sea change on the horizon, and they want to be part of it. Given the rapid appreciation of many crypto-tokens, their exuberance may not seem so irrational.

An argument can be made that “reasoned speculation” is not “irrational exuberance” but a necessary cost of entry into a discontinuous technology era. One may not be able to call the future success of a specific IOC or token, but to the technology wildcatter, it is a good bet that as a category, a portfolio of bets, crypto tokens are sound investment and here to stay. What could be bigger than the reshaping of the global economic, financial, and monetary system?

The current deluge of ICOs is the natural consequence of the market exploring the potential of profoundly disruptive technologies and protocols. The subsequent, inevitable cleansing, rout, and Darwinian culling of less viable crypto tokens is the market resetting itself and starting to establish new signals. It is doing so with explosive speed and a total disregard for tradition and precedent. It is the quintessential Schumpeter paradox of “Creative Destruction.”

Crypto 1.0 — the originalists

The foundational and unifying force behind the crypto-token explosion is a vision of a wholly decentralized — autonomous — peer-to-peer network of trusted/trustless services, where there is no central control, no capture by special interests. Bit Torrent for currencies! A vision of an autonomous state where authority is inherently decentralized and algorithmic.

This is Crypto 1.0, where arguments and architectures are still framed by the Satoshi Origin Myth and its core tenants of Proof of Work and Proof of Stake consensus, Shaw 256, permissionless over permissioned access, and public over private blockchains.

There is also room for “smart contracts” written on the Ethereum Blockchain, but at significant costs and with performance issues. Given that lucrative fees that can be made from mining Bitcoin and Ether, not surprisingly, the mining of coins is seen as the sacrosanct incentive mechanism for keeping the network permissionless and trustless. For the founding group of miners and coin holders, there can be no divergence from the original Libertarian framework of Satoshi; there is only Crypto 1 and its subsequent upgrades and improvements.

Then there are those who have to deal with reality.

Crypto 2.0 — the pragmatists and reformers

Pragmatists understand that there are a number of considerations you have to deal with when launching a new token or blockchain that Satoshi didn’t account for: white lists, KYC/AML, privacy, fraud, security, transaction performance, storage, scalability, resilience, recovery, customer experience support, and interoperability. These pragmatists are working with side chains, private blockchains, and master nodes, trying to design trusted exchanges and secure, user-friendly wallets. In doing so, this group is providing alternative solutions that challenge some of the Bitcoin and Ethereum orthodoxies.

Adaptive protocols

As blockchain applications and services have become more mainstream, the locus of innovation is turning towards smart contracts and exchangeable “smart tokens.” Rather than being subject to the uncertainties, bubbles, and manipulations of markets, a new generation of tokens is being designed to adapt or adjust to changes in order to preserve some state, such as price stability, adjusted risk, diversity, or liquidity – or all of the above. This is something that is inconceivable under the current economic, financial, and monetary system. But machine learning, real-time data feeds, programmable contracts, and adaptive algorithms make it feasible to design token protocols that are self-regulating financial instruments. As a result, we could see “stable” coins that can resist volatility, level out pump-and-dump schemes, and preserve liquidity. And we could see “smart” baskets of tokens — much like ETF (Exchange Traded Funds) — that can buy and sell different types of tokens to preserve some desired outcome.

Adaptive protocols are the self-correcting programs that control the exchange of different types of tokens in order to maintain a certain range of outcomes or “homeostasis.” These protocols could avert classic market failures. Instead of using a uniform market pricing mechanism that loses information diversity by collapsing dimensionality into a single price function, tokens can be designed to reflect various dimensions and values to control for overall stability.

This problem is very similar to the one robotics and autonomous vehicles designers recently overcame: How do you stabilize and direct autonomous behaviors or outcomes with massive amounts of incomplete, diverse, and highly variable real-time sensor data? This problem has effectively been solved through the evolution of open source libraries sponsored by DARPA for autonomous vehicles and the open Robotics Operating

System (ROS) to the point where autonomous vehicles are a near-term commercial reality and Boston Dynamics robots can now perform complete backflips.

Real AI and an end to bubbles

AI programs can control their behaviors to preserve certain outcomes under conditions of extreme uncertainty and volatility. The Achilles Heel of AI has long been its "brittleness"; you couldn't program it for things and events it had never seen. That is no longer the case, and that is monumental. Imagine being able to design, dare I say, "derivatives" that are not instruments of mass destruction but verifiable, stable instruments of mass affluence for preserving dynamic ranges of liquidity, solvency, and risk.

What makes something truly intelligent is that it learns from its mistakes. Markets don't do that. They runaway until they crash and burn. There is no feedback, no learning from past experience, and no way for immediate correction. That is where the "creative destruction" comes in to the detriment of all but a privileged few. When the dominos of default and counterparty failures start to tumble, those with privileged information and resources go into self-preservation mode and offload the risks and costs onto the unsuspecting and the less powerful. This has been the boom-and-bust curse of capitalism and markets since its inception. This need not be case for next-generation financial systems.

We are seeing a generation of crypto 2.0 tokens, protocols, and platforms emerge that are grounded in addressing high value real-world application. Expect to see more kinds of tokens that address identity, trust, reputation, privacy and KYC/AML and other issues that are immediate and pressing to the build-out of a new global financial and economic system.

The imperatives for global financial reforms will almost certainly vastly accelerate the adoption and innovation in crypto-tokens and other decentralized and smart technologies. Expect this transformation to happen sooner than you might imagine. In this new world, AI tokens and protocols will provide verified market signals of utilization value. Finally, math, algorithms, and evidence will replace sorcery, speculation, and wanton waste and manipulation. And that should accelerate our path to a sustainable and more equitable global economy.

Forbes | February 16, 2017

https://www.forbes.com/sites/robertwolcott/2017/02/16/blockchain-burning-man-and-the-future-of-governance-a-conversation-with-john-clippinger/#1c293d651b0b

Blockchain, Burning Man and the Future of Governance: A Conversation With John Clippinger

By Robert C. Wolcott

John Clippinger always seems to be ahead of trends. In 1965, he marched in Selma, Alabama in support of civil rights. In 2013 (more prosaically), Clippinger introduced me to blockchain. When others were just discovering this methodology underlying Bitcoin, he had already been exploring how blockchain might transform business and government.

Clippinger's wider interest is how humans organize—from contract law to Burning Man—and how technologies like blockchain enable new approaches to business and government. I recently had the opportunity to explore his ideas while we were both visiting the Santa Fe Institute in New Mexico. Find a video of our conversation here.

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The Rise Of The Open Sector

As public trust in established institutions plummets, issues of governance become ever more urgent. Clippinger, founder of the Institute for Data-Driven Design (ID3) and a Research Scientist with MIT Media Lab, is a pioneer in the definition of what he and others refer to as the *open sector*, a movement challenging traditional, top-down leadership paradigms. "It's not the public sector, it's not the private sector, it's not under a government or the UN…It's owned by everyone and nobody." Founders create a set of initial conditions from which rules emerge through the interactions of participants.

As precedent, Clippinger cites a seminal article from 1881 by Oliver Wendell Holmes regarding the evolution of British Common Law. Holmes described how British Common Law, a basis for America's legal system, evolved from customs and norms, eventually being codified into constantly-evolving laws. "It wasn't top-down. It was constantly reinventing itself around the circumstances, and there was no single point of control." According to Clippinger, to maximize overall prosperity, laws of engagement in the *digital* arena should best evolve this way as well.

He cautions that control of the digital sphere by governments or corporations should be resisted by anyone with a stake--which means all of us. “If we’re going to have any kind of freedom, we have to have control over this.” How can individuals verify identities and other data in ways acceptable to authorities, but not controlled by them?

Blockchain offers one open sector solution. It is essentially a distributed trust engine requiring no third party to verify transactions or other digital interactions. Such a capability can enable commerce, self-expression, even new forms of economic interactions and organizations. Some corporations are paying attention, from cyber security firms to banks and insurers. In late 2016, five European insurers announced a consortium to experiment with blockchain, initially in the reinsurance sector.

Clippinger cites Burning Man as another example of open sector development. What started as a small group in 1986 has evolved into an annual, week-long gathering of 70,000 in the Black Rock Desert of Nevada. Celebrating community, art and radical self-expression, Burning Man emerges each year out of the contributions of ‘burners’, as participants are known.

For years, Burning Man hadn’t memorialized any rules. In the mid-1990s, through some tragic events, “They had an existential moment… it sort of went over the edge.” That could have been the end. The founders eventually formalized the 10 Principles, such as radical inclusion, cooperation, gifting and leaving no trace. The community aggressively defends its principles. “It’s always about how much you do from the top-down…. Sometimes you need a nudge from the top and sometimes you allow things to come up from the bottom. So it’s sort of a living experiment.”

The movement’s success has spawned a worldwide network. The founders, Clippinger and others are investigating how to scale worldwide while remaining true to Burner principles, taking Burning Man, “from the bubble of the desert into a new kind of post-capitalist economy.”

Public, Private And Open Sectors Co-Evolve

This proliferation of ideas from the edge— a defining feature of the open sector— ultimately engages the public and private sectors. What may begin as rejection or competition often evolves into something richer and more complex. Notes Clippinger, “You want something to compete with the traditional sector. And as it starts to become more effective and gains legitimacy, then it’s going to shape all sectors.”

As traditional political structures such as the European Union or the United States experience increased stress, open sector movements percolate. Communal groups spontaneously arise in various forms across Europe, from Spain and Italy to Berlin, many in urban areas. “When you have a nation state that is not very effective… it goes back to the city. It’s a level of governance that people can participate in and be effective.” Some cities are already taking more assertive roles. London and Los Angeles endeavor for global engagement while their national governments seek isolation.

Generational factors also appear to play a role, “particularly among [millennials], who think of… how they gather and what’s legitimate and not legitimate.” The rapidity with

which millennials engage and abandon new online platforms manifests the shifting of power to the edges, as well as the fluidity of open sector development.

As wider ranges of social, economic and political activities occur within the open sector, how should businesses respond? “What happens is they say, ‘we’ll wait till it matures, and then jump in.’ That’s what newspapers did, and look where it got them.” Traditional institutions in general won’t disappear, but roles and power relationships will change.

Rather than resist the transition, corporations that discover how to navigate co-evolution between public, private and open sectors will be more likely to thrive. Meanwhile, the experiments of people around the world-- their customers-- will continue to lead the way.

Cryptos R Us | June 8, 2018

https://cryptosrus.com/swytch-tracks-energy-production-on-the-blockchain/

Swytch Tracks Energy Production on the Blockchain

By Cryptos R Us Staff

Swytch has announced its public token sale which will begin June 12th and last 30 days maximum. Swytch is a blockchain-based clean energy solution that tracks, verifies and rewards consumers, companies and non-government organizations that reduce CO2 emissions. Commercial generators of renewable energy can get started with Swytch immediately and no additional hardware is required.

Swytch is currently running a successful pilot in Germany with hundreds of assets representing over 1.5GW of energy capacity.

“The time is now to make a real impact in the global renewable energy space,” says Evan Caron, founding partner and managing director of Swytch. “We have been very busy securing partnerships, onboarding advisors and testing our technology over the past few months in order to position the project for long-term success.”

To hear Caron address Telegram channel questions visit here.
What makes the project unique is that Swytch dynamically awards tokens based on the amount of carbon (CO2) offset estimates to any individual or organization who chooses to partake in the effort to reduce emissions, including consumers, corporations and non-governmental organizations.

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Blockonomi | June 9, 2018

https://blockonomi.com/swytch-energy-market/

Swytch: A Blockchain-Based Platform Reinventing the Global Renewal Market

By Oliver Dale

Swytch aims to nudge markets in favor of renewables by tracking, verifying and rewarding consumers, companies and non-government organizations that reduce CO2 emissions. The project has recently announced that its public token sale will begin June 12th and will last 30 days maximum. Commercial generators of renewable energy can get started with Swytch immediately and no additional hardware is required.

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Swytch is currently running a successful pilot in Germany with hundreds of assets representing over 1.5GW of energy capacity.

“The time is now to make a real impact in the global renewable energy space,” says Evan Caron, founding partner and managing director of Swytch. “We have been very busy securing partnerships, onboarding advisors and testing our technology over the past few months in order to position the project for long-term success.”

What makes the project unique is that Swytch dynamically awards tokens based on the amount of carbon (CO2) offset estimates to any individual or organization who chooses to partake in the effort to reduce emissions, including consumers, corporations and non-governmental organizations.

Swytch’s goals include creating a more efficient and truly global carbon market, rewarding and empowering individuals and companies to participate in eco-friendly actions and generating valuable data to drive policies and decisions. Swytch also aims to incentivize investments in renewables, such as where CO2 emissions are high or

power generation is low. By rewarding tokens based on how much CO2 emissions are reduced, Swytch encourages capital to behave more efficiently.

Swytch is founded by Evan Caron, former Wall Street energy trader, Dr. John Clippinger, MIT research scientist and John Redpath, seasoned energy expert. In addition, Swytch has world-class advisors including: Dr. Steve Waterhouse, experienced blockchain investor, Tony Seba, Stanford University clean energy academic and Steve Jurvetson, original Tesla and SpaceX investor.

The Swytch team has secured many strategic partnerships with well-known players in the energy and blockchain space including:

- 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
- 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

The token sale will open to the public on June 12th at a cost of $.50 USD per token. Interested participants should sign up on the Swytch website, join the dedicated Telegram group, where full details of the token sale will be announced.

Blockchain Daily | June 12, 2018
https://blockchaindaily.news/2018/06/12/new-blockchain-renewable-energy-pilot-to-power-500000-homes/

New Blockchain Renewable Energy Pilot to Power 500,000 Homes

Swytch and Energy2market Partner on New 3.5Gw Blockchain Pilot in Germany
By Blockchain Daily Staff

Swytch, a blockchain-based clean energy incentive, and the Germany-based Energy2market GmbH (e2m), a leader in aggregated energy trading throughout Europe, today announced a pilot program which includes roughly 3.5Gw of solar, wind, hydro and biogas energy capacity in Germany, which is enough to power over 500,000 homes.

As part of the large-scale pilot, Swytch is testing its first versions of the data flow, blockchain, dashboard, estimators, token allocation models and other key parts of the platform.

Swytch is also announcing today its public token sale. To sign up, visit Swytch.

Swytch is a blockchain-based platform that tracks and verifies the impact of sustainability efforts and actions on the worldwide level of C02 emissions.

Swytch leverages smart meter and blockchain technology to reward the companies and people who reduce carbon emissions the most.

At the core of the Swytch solution is an open-source “Oracle” that uses artificial intelligence and machine learning to determine how much carbon is being displaced and therefore how many Swytch tokens to award.

As a result, producers of renewable energy create Swytch tokens by generating solar, wind and other forms of renewable energy.
e2m perceives Swytch’s approach to tokenized incentives in the energy market as particularly attractive to the larger energy producers and traders it serves.

This partnership will allow e2m to gain insight into alternatives to existing incentive programs and leverage blockchain, which has security and immutability, making it an ideal technology to help reshape an industry that relies on timely and accurate data.

Additionally, e2m believes that Swytch, as a global incentive program and data source, has the ability to empower governments, cities, corporations and individuals to take a more active role in accelerating the adoption of renewable supply and sustainability programs.

A partnership with Swytch will create a competitive advantage as buyers and sellers of energy gain access to higher quality data in addition to an incentive that will be effective across geographic barriers.
P2P Foundation | June 14, 2018

https://blog.p2pfoundation.net/blockchain-as-a-force-for-good-how-this-technology-could-transform-the-sharing-economy/2018/06/14

Blockchain As a Force For Good: How This Technology Could Transform the Sharing Economy

By Aaron Fernando

Aaron Fernando: Blockchain has become one of those buzzwords that commands attention and carries a powerful social glow, yet in the likes of similar buzzwords that have attained such a prized status, it has lost much of its meaning. Blockchain has become a catchall term for just about any digital ledger system regardless of crucial variations in its design. With so many blockchain projects ranging from social impact initiatives to opportunistic marketing ploys, it can be difficult to discern which projects hold real potential. For this reason, here's a deep dive on blockchain applications in our niche: social impact.

The volatility in the price of cryptocurrencies doesn't matter to restaurateur Helena Fabiankovic, who started Baba's Pierogies in Brooklyn with her partner Robert in 2015. Yet she and her business are already positioned to reap the real-world benefits of the technology that underpins these digital currencies — the blockchain — and they will be at the forefront of a sustainable, community-based peer-to-peer energy revolution because of it.

So what does a restaurateur have to do with the blockchain and local energy? Fabiankovic is one of the early participants in the Brooklyn Microgrid, a project of the startup LO3 Energy that uses a combination of innovative technologies — blockchain and smart meters — to operate a virtual microgrid in the borough of Brooklyn in New York City, New York. This microgrid enables residents to buy and sell green energy directly to their neighbors at much better rates than if they only interacted with centralized utility providers.

Just as we don't pay much attention to the critical infrastructure that powers our digital world and exists just out of sight — from the Automated Clearing House (ACH), which undergirds our financial system, to the undersea cables that enable the Internet to be globally useful, blockchain is likely to change our lives in ways that will eventually be invisible. In the sharing economy, we have traditionally just used existing infrastructure and built platforms and services on top of it. Considering that those undersea cables are owned by private companies with their own motives and that the locations of ACH data centers are heavily classified, there is a lot to be desired in terms of transparency, resilience, and independence from self-interested third parties. That's where open-source, decentralized infrastructure of the blockchain for the sharing economy offers much promise and potential.

In the case of Brooklyn Microgrid, which is part of an emerging model for shared energy use via the blockchain, this decentralized infrastructure would allow residents like Fabiankovic to save money and make sustainable choices. Shared ownership and community financing for green infrastructure like solar panels is part of the model. "Everyone can pay a different amount and you can get a proportional amount of energy that's put off by the panel, based on how much that you own," says Scott Kessler,

director of business development at LO3. “It’s really just a way of crowdfunding an asset.”

The type of blockchain used by the Brooklyn Microgrid makes it possible to collect and communicate data from smart meters every second, so that the price of electricity can be updated in real time and users will still transact with each other using U.S. dollars. The core idea of the Brooklyn Microgrid is to utilize a tailored blockchain to align energy consumption with energy production, and to do this with rapidly-updated price information that then changes behavior around energy.

One of the Brooklyn Microgrid’s core goals is to upend traditional energy pricing and change people’s energy use by adjusting pricing in real time. All of this happens on a local level, between neighbors. “I really like the idea of the community sourcing energy to one another,” Fabiankovic says. “I thought it was a smart way of sourcing energy, and we try our best to maintain sustainability as well, whenever we can. So this is just another way to do that.”

Localizing the energy grid is indeed a smart way of sourcing energy that also offers a way to reduce a neighborhood’s carbon footprint. “What we’re trying to do is create a real tight market that reflects the time value and the locational value of where energy is used,” says Scott Kessler, director of business development at LO3. The Brooklyn Microgrid utilizes LO3’s hardware, but it’s the blockchain-based software that really does the legwork, providing a kind of infrastructure layer for the energy-sharing economy. LO3 is not the only organization doing this — groups like Power Ledger, Swytch, and WePower, are experimenting with other versions of blockchain-based P2P energy grids.

What exactly is a blockchain?

Before diving further into the uses of the blockchain in shared enterprises, let’s take a quick look at how exactly this emerging technology operates. In its original form, the term blockchain refers to a type of database that is permanent, public, distributed and uses cryptography for security. Here, distributed means that multiple computers simultaneously update and store data once they have come to a consensus about which data makes the cut. Permanent and public means that all changes to this type of database will be visible to all, going back to the moment the database was started.

Yet there are exceptions, and the term blockchain is becoming increasingly vague as many networks marketed as using “blockchain” are often not public or distributed in any meaningful way. Crucially, not all blockchains have a native cryptocurrency, which are the exchangeable digital money-like units with a market price. For blockchains that do have a native cryptocurrency, units of cryptocurrency are usually issued into existence as incentives for running and securing the network. This occurs either through a process of repeated, energy-intensive computations called “mining” or through other means.

Mining has fueled criticism about some blockchains' enormous use of electricity, especially mining on the Bitcoin blockchain which eats up more energy than many countries. The practice of mining however, is becoming outdated as more efficient mechanisms of securing blockchains crop up. Moreover, as demonstrated by up-and-coming sharing economy entities that utilize blockchains, the technology isn't limited just for speculative assets like Bitcoin or other cryptocurrencies. Organizations around the globe are finding innovative ways to use blockchain for as a mechanism for good, providing the powerful rails that the sharing economy of the future runs on.

Blockchain for a better economy

One organization creating these rails is Origin, which is working to reduce the cost, difficulty, and barriers to entry for building marketplaces, enabling people to build truly peer-to-peer marketplaces on the blockchain. In creating this kind of decentralized underpinning, blockchains offer communities alternatives to one-size-fits all solutions and economies of scale.

"Decentralization will enable people to self-organize and have more unique or highly-localized offerings," says Coleman Maher, who handles Origin's partnerships. "It's convenient from a user experience perspective, in some ways, that AirBnB is the exact same experience in San Francisco as it is in Rio de Janeiro as it is in Tokyo. But all those cities have different cultural environments, regulatory environments, and different specialized, local concerns. It doesn't really make sense that the same organization is running the home-share market in these three, vastly different cities. We think it makes sense that home-sharers host self-organized get-togethers and say, 'Hey, we want to have our own home-sharing decentralized marketplace that's fair to us and fair to our guests. We don't want to have to play by AirBnB's rules.'"

Another crucial part of the sharing economy infrastructure is financial infrastructure. Consider the two billion unbanked and underbanked adults around the world. Can blockchain benefit them as well? WeTrust is one of the blockchain startups working to do this, and has already put out a lending circle product on Ethereum, the second most popular blockchain after Bitcoin.

Lending circles (also called money pools, tandas, susus, chit funds, and a whole lot of other things depending where in the world you are) facilitate shared community finance and peer-to-peer credit for those who do not have the ability to take out bank loans. Plus, lending circles have "been around and used by millions of unbanked people for millennia," says Jake Kuczeruk, former director of partnerships at WeTrust.

Lending circles are democratic and allow people to lend to their peers without requiring any financial institution to mediate them — practically, at least. Regulation is another story. Still, "most of these circles are being done with cash, with fiat currency, which obviously has some real safety and security issues, not to mention just being crazy inconvenient," Kuczeruk says.

Since blockchain can deal with these issues, reduce administrative costs, and increase transparency, WeTrust sees potential in applying this technology to people's existing

behavior around finances. “We’re realistic here,” he says. “Bitcoin and blockchain technology in general only have about a 15 million person ecosystem. Obviously the global unbanked/underbanked aren’t really familiar with this technology yet … But now we’ve reached a point where it’s like ‘Hey, this is live. Let’s sit down together, we’ll walk you though this.’ Because at the end of the day, we want to make this as easy to use as Venmo.”

Other startups are taking a different approach. Companies like Kora are making the blockchain immediately accessible to populations in need of financial services by finding ways to integrate it with technologies they already use, such as mobile phones.

In addition to creating what is effectively an open-source payments infrastructure, Kora has been working directly with a range of groups — from farmers in Nigeria to coffee producers in Peru to a cooperative in Bangladesh — to make financial products that are accessible and work for groups that may otherwise go without them. The blockchain allows these groups to access financial services at a lower cost, increase transparency around where their funds are and how they get used, and allow projects to scale up more easily. “We just think about what users need, and then blockchain just happens to be a nice way to get there,” Maomao Hu, co-founder and chief operating officer of Kora, says.

Plus, the types of groups that stand to gain the most by integrating blockchain into their daily lives are very often the existing sharing economy entities that were disadvantaged by traditional finance and market forces. “Everywhere we go, the co-op has become a centerpiece,” Hu says. “They’re a really powerful structure for raising economies of scale, locally. The blockchain is actually this really powerful tool that almost overlaps, word for word, with some of the academic research that’s been done on co-ops.”

Another player using blockchain in the financial inclusion space is Moeda, a cooperative crypto-credit banking platform. “Moeda provides a transparent impact investment platform to impact investors and a banking-as-a-service platform to entrepreneurs who will be receiving loans to not only fund, but to scale and grow their businesses,” Taynaah Reis, CEO of Moeda, told Shareable in 2017. “In turn, their local communities will directly benefit.” Moeda has provided a round of microloans and seed funding for businesses in Brazil, and has partnered with a network of agricultural cooperatives in Brazil called Unicafes to do so.

Not all that glitters is digital gold

But there are still quite a few reasons to be wary of using blockchains. Emin Gün Sirer is computer science professor at Cornell University and co-director of the Initiative For Cryptocurrencies & Contracts (IC3), a group of academics and researchers working on cryptocurrency and blockchain development. Sirer created a digital distributed currency, Karma, that predated Bitcoin and is also familiar with the sharing economy and its reluctance to embrace blockchain. “Deep down, the underlying ethos is different,” says Sirer, about the two worlds. “In one, you have these highly individualistic, highly profit-driven people and they want to make money. And in the

other, you have the exact opposite type of people. They want to make the world a better place and they don't care about personal monetary compensation, typically." But, Sirer explains that many in the latter "have a bootstrapping problem, they find it difficult to raise money."

"But at the intersection of these two worlds are fantastic ideas. If you can come up with something that is easy to bootstrap, that does have some incentives built in for the people operating the schemes, and also makes the world a better place — then we're talking. And we're beginning to see such projects." Some, like Chelsea Rustrum, co-author of the book "It's a Shareable Life" and a contributor to Shareable, are focused on reconciling these two worlds so that they can work together. Rustrum started a group called Blockchain for Good which runs regular meetups in the San Francisco Bay Area and New York City and has also organized around diversifying this space, since women are severely underrepresented in the blockchain space, and minorities are still underrepresented in the tech industry.

But other problems still exist. This ecosystem is still rapidly emerging. As such, applications and code are getting deployed as fast as possible by startups that feel acute pressure to move first — lest they allow competitors to swoop in, dominate a niche, and lock them out of the market. This rapid pace has made it particularly easy to lose funds due to hacks resulting from bugs in code and mistakes, in addition to scams and phishing attacks that prey on those new to the ecosystem.

Furthermore, the regulatory environment around assets issued and sold on a blockchain remains highly uncertain, and laws are playing out differently across countries and individual states. Decisions about whether certain types of blockchain assets are securities, commodities, money, or a new asset class are still being made and are changing over time. On top of that, a few Initial Coin Offerings (ICOs) have been outright scams, and many others are nothing more than honest, but inadequate ideas presented in a whitepaper, along with a website and some team photos.

Blockchain for cities

Still, the idea of crowdfunding on the blockchain goes beyond ICOs. Cities are finding innovative ways to use the blockchain to raise and distribute funds for public projects. In the U.S., the city of Berkeley in California announced that it would be using blockchain as the backbone for municipal bonds, allowing for more flexible funding for small directed projects, along with increased transparency. Importantly, this model would allow the less-wealthy residents of cities to peer-fund small projects in their locality and receive a financial benefit from doing so. "Normally, because the bonds are so expensive — these fiduciary firms looking to scale their profits," says Ben Bartlett, Vice Mayor of Berkeley. "They disallow small projects. You have to pay $100 million [to issue a bond], and things like that. But this way you can issue a bond for something small like a firetruck." And that's exactly what Berkeley is planning on doing.

Separately, the City of Austin recently announced that it plans on using blockchain technology to provide identity services to its homeless population, simplifying the

process of offering services and benefits to a demographic that frequently runs into obstacles due to lack of identity.

This is where the concept of a self-sovereign identity comes in. Simply put, a self-sovereign identity on the blockchain is a permanent identity that can only be accessed in full by the person or entity to whom it belongs, yet portions of that identity can be shown to any individual, organization, or agency whenever it becomes relevant. Since self-sovereign identities are decentralized and encrypted, identity theft or incidents like last-year's Equifax hack become much less of a problem.

The existence of self-sovereign identities could allow individuals and small organizations to verify information about each other without having to go through third parties, again facilitating peer-to-peer uses. For example, instead of waiting on a credit report for a rental application, a landlord would be able to verify an applicant's rental payment history, after the applicant chooses to authorize the landlord to see that information. Furthermore, the existence of self-sovereign identities would allow startups, NGOs, and government agencies to provide services to beneficiaries and vulnerable populations while granting agency and protections to recipients of those services.

Blockchain for education and aid

One organization moving toward implementing a self-sovereign identity indirectly by providing a different set of services first is Amply near Cape Town, South Africa. Similar to the way a person could fund a new fire truck in Berkeley, they might also fund an educational center facilitated by blockchain. In Durban, some early childhood development centers receive government subsidies based on how many children attend its programs, but to date, the recordkeeping for these centers have been done on hand, on paper. As a result, the quality of the data is quite low and reporting is cumbersome.

Amply's smartphone app simplifies the process of recording student attendance, and the organization aims to increase the app's versatility via blockchain in quite a few ways. "The longer term goal, also here is that each child and staff member gets a decentralized identity (a DID). That identity, we hope, will eventually build up to become a self-sovereign identity," explains Joyce Zhang, project lead at Amply.

By using a blockchain to track specific outcomes, Amply and partner organization ixo will make it significantly easier and more transparent for the South African government, nonprofits, and individual donors to measure and track impact with high levels of precision. If widely adopted, this won't just make it easier for entities to see where their funds have the greatest cost-to-impact ratios, but it will vastly simplify and enable the sharing of impact data and information about what works between organizations and across borders — all while protecting the sensitive information of vulnerable populations.

Potential donors can decide that "this is a really cool project, I want to donate $100," says Zhang, who is also the program manager at ixo. "And then for those attendances,

instead of the teachers getting it from the government, they can get it from private funders or whoever else is using this system."

One of the main aspects of the blockchain is that when any type of information gets put onto it, it is unfeasible and nearly impossible to alter or delete that information at a later time. On a secure blockchain, a record is a record and it always will be.

Blockchain as a public good

This is particularly useful for certain purposes that have nothing to do with transactions or markets, such as sharing information in the face of censorship from powerful or moneyed adversaries. The journalism platform Civil is tapping into this potential to permanently secure information in the public domain. Once something is published on Civil (planned to launch later this year), the platform enables a permanent archive of the content to be logged in the Ethereum blockchain so that no one — hackers, new management, or unsympathetic government — can alter or delete that content for private gain.

This is not a theoretical threat. In 2016, the Hungarian newspaper Nepszabadsag (People's Freedom) was abruptly shut down and all of its records were taken offline in retaliation for its criticism of Hungary's Prime Minister Viktor Orban. Closer to home, the Trump administration has taken down the Environmental Protection Agency's climate change webpages, though its archives are still available.

In fact, the founders of the Civil platform created this functionality in response to incidents faced by local websites recently. In a post Daniel Kinsley, engineering lead at Civil, wrote that, "In 2017 alone, DNAinfo and Gothamist, two of the leading, local news-focused publications in the U.S., were abruptly shut down by their billionaire owner. Eight years of archives were taken down in a single day, and were only restored after vociferous public protest." Yet by storing or backing up journalistic on decentralized blockchains, inadvertent censorship of this sort, as well as purposeful censorship will be much less of an issue.

Today's media makes it nearly impossible to be level-headed about the potential for blockchain. It has a few reputations, all of which are extreme: blockchain as a technological panacea; blockchain as the driver of an apocalyptic crypto-bubble fueled by speculators, scammers, and ponzi schemers; blockchain as a force of revolution that will overthrow governments and bring entrenched industry incumbents to their knees.

It's possible that certain aspects of of all of these visions will be realized, but eventually much of the sound and fury will subside, outlived and overtaken by the use cases that actually serve people on a day-to day level. Originally conceived as a peer-to-peer technology, the brunt of blockchain's potential still lies in its ability to serve as the technological underpinning for the sharing economy and facilitate financial inclusion, information sharing, and even democratic self-governance and local governance.

When we find ourselves in a world fully immersed in blockchain, we will find that it is a permanently transformed one — one where cooperatives, schools, and neighborhood groups have many of the same technological advantages as governments and multinational corporations. But it will also one be a world that we take for granted and just seems normal — as normal as today's world of electric light, wireless internet, and satellites in space.

Global Banking & Finance Review | June 20, 2018
https://www.globalbankingandfinance.com/swytch-and-mobilebridge-partner-to-drive-clean-energy-generation-globally/

Swytch and MobileBridge Partner to Drive Clean Energy Generation Globally

By Global Banking & Finance Staff

Partnership Aims to Boost Generation of Low Carbon Energy Through Token Incentives in Communities of All Sizes.

Swytch, a blockchain-based clean energy incentive, and MobileBridge, the international leader in mobile engagement, today announced a partnership to drive sustainable energy generation to reduce global carbon production and to drive economic and environmental sustainability in towns and cities across the globe.

By connecting sustainable energy generation to the consumption of locally produced goods through token loyalty rewards, the goal is to provide significant cash flow to the "Main Street" economy.

The partnership taps the MobileBridge Momentum platform that enhances the relationship between Swytch and the users of its innovative blockchain-based solution that tracks and verifies the impact of sustainability efforts and actions on the worldwide level of CO2 emissions. MobileBridge's Momentum enables Swytch to better manage feedback, incentives and rewards in order to strengthen loyalty and confidence as well as assist in overall ecosystem development.

Advances in technology have prompted marketing innovation and placed a focus on consumer experience and feedback. Momentum's loyalty-driven marketing platform allows Swytch to reward customers in exchange for their attention, business, brand advocacy and feedback, while giving the consumer full control over their personal data and a real monetary value for the support they've provided to the Swytch community.

Swytch leverages smart meter and blockchain technology to reward the companies and people who reduce carbon emissions the most. At the core of the Swytch solution is an open-source "Oracle" that uses artificial intelligence and machine learning to determine how much carbon is being displaced and therefor how many Swytch tokens to award. As a result, producers of renewable energy create Swytch tokens by generating solar, wind and other forms of renewable energy.

"The goal of this partnership is to provide a catalyst for cities of all sizes and locations to produce and use sustainable energy," said Evan Caron, co-founder and managing director of Swytch. "By enabling the necessary economic incentives, we aim to accelerate the transition to the Fourth Industrial Revolution, which is a fusion of technologies that is blurring the lines between the physical, digital and biological spheres and disrupting almost every industry in every country."

Aspen Daily News | June 18, 2018

https://www.aspendailynews.com/news/blockchain-intertwining-with-environmental-technologies/article_f5995116-72a7-11e8-9ce7-ab1554dbc41a.html

Blockchain Intertwining With Environmental Technologies

By Madeleine Osberger

The disruption that blockchain technology has unleashed is being applied to the energy sector and the environment will be the primary benefactor, according to the moderator of a forum during the 15th annual American Renewable Energy Day Summit that opens today in Snowmass Village.

AREDAY's theme this year is one that marries a save-the-environment movement started in the 1970s with new technologies that purport to advance their mission by removing government and the middle man from the economic equation, according to Peter Hirshberg, a principal with Swytch.

Swytch offers a "blockchain-based solution for accelerating a sustainable and equitable energy future" through use of a platform with protocols to verify energy production data and CO2 emissions in real time, Hirshberg said further in advance of the program's opening. A blockchain is a digital ledger that is encrypted and decentralized and is seen as a disruptor to the way business has traditionally been done.

AREDAY, which includes an Eco Expo and Impact Film Series, as well as speakers such as Jean-Michel Cousteau and Dr. Sylvia Earle to discuss climate change solutions, continues through June 23. Tickets are available to individual events and movies. For more, go to www.areday.net.

Hirshberg will moderate a seminar on Tuesday night that complements AREDay's overall theme, "Global Security, Conservation Capitalism and Regeneration: Whole Systems Solutions to Climate Change."

The talk he'll oversee, entitled, "The Inevitable Shift of Power - Blockchain and CryptoCurrency Democratize Finance," begins at 7 p.m. in the Viceroy's grand ballroom. Hirshberg is set to be joined by Evan Caron of his same firm, Hanieh Sadat of GenesysOne Capital, John Clippinger of TokenCommons Foundation and Bill Tai of Hut 8 Mining.

Later, the panel will discuss the future of decentralized electricity production and legal implications of financial cryptocurrencies.

"At its core what we're really talking about with blockchain is a way to accelerate a movement that allows you to solve a problem in a peer-to-peer way," Hirshberg said.

The application to the clean energy sector, through solar power and wind power, offers incentives that drive the public toward renewables, he said. That they can be monitored in real time is seen as one of its positives.

“In a distributed environment, where you have many assets in many places that can generate energy or store it, if you understand what’s being produced and where, you are able to reward value for the highest return with the least carbon,” Hirshberg said. “There’s trillions of dollars that would love to invest in renewable energy,” he added, noting the emerging markets of Africa and Asia where bank regulation otherwise keep access to capital tight.

“It’s a very exciting time that wasn’t available five years ago,” noted Evan Caron of Swytch, who said his background is energy trading, financing and delivering power to North America.

This year, the AREDay summit features 176 speakers who will take part in 89 panel discussions, “armchair conversations,” keynote addresses and networking events.

Monday’s talks focus on water and following remarks by Chip Comins and Sally Rainey of the American Renewable Energy Institute and an opening by a Southern Ute Elder and a reverend, move into “Blue Heart of the Planet: Oceans = Life” with Sylvia Earle of Mission Blue and The Sea Alliance at 9 a.m. That’s followed by “What’s on the Horizon for Oceans?” which is moderated by Catherine Novelli and features Earle and Jean-Michel Cousteau in a panel discussion.

At 11 a.m., a panel discussion of “The Battle to Save Wild Blue Intelligence: Of Whales and Men” precedes the keynote address, “The Blue Economy: Remedy or Sacrifice?” In a prepared release, Comins stated, “We’re presenting a discussion of this breakthrough technology with some experts in the field because of its relevance to renewable energy. Large, multi-national corporations are using the digital transactional tracking of blockchain technology.”

He noted that in Brooklyn, Siemans is using blockchain to build a utility.

The FinTech Times | May 7, 2018
http://thefintechtimes.com/swytch-leading-the-blockchain-energy-worldwide-revolution/

Swytch – Leading the Blockchain Energy Worldwide Revolution?

By The FinTech Times Staff

John Clippinger is Chief Innovation Officer and Founder at Swytch.io. He has held senior positions in government and large enterprises as well as founding multiple software companies. He recently founded the Token Commons Foundation in Zug Switzerland, where his team is developing protocols for decentralized governance, self-sovereign identity, and the issuance of Swytch, a utilisation token.

Here at Swytch, we are involved with using blockchain based crypto tokens that incentivize and facilitate the general industry transition from old-style (fossil) fuels, to new, clean, renewable energy sources. This paradigm shift is very close to happening, but there are still barriers to the switch that remain in place. This is what we hope to do with our product; to remove some (if not all) of these major roadblocks.

Carbon Pricing is the problem that needs to be tackled

The big issue that we are facing right now, in tackling climate change, is the fact that you do not have pricing of carbon. Therefore, there is no real incentive for people to change. But if you can start to price the carbon, and rewarding those who produce sustainable energy, creating viable local markets, and creating liquidity in those markets, you may have a solution.

Therefore, the mission is to create a protocol. A token that incentivises, on a global scale, the transition from fossils to sustainable. Take sovereign wealth funds, like in Norway, for example. They may be looking great right now, sitting on $3tn, but we know that is all going to evaporate in the next 5/6 years. It is very clear, we cannot continue to be betting everything on the petrodollar, or in the value of carbon, and therefore I think there is going to be a hell of a wake-up call. We know the tragedy of the commons.

When you think of the climate as a common collective burden, you see that it is really in everyone's interest to fix this problem. Then the next question is: to keep it alive and generative, how do we do that? And that's where we come in: when you realise the full cost of carbon and you want to make the transition, you buy Swytch, you produce Swytch, you hedge against this market.

Various cities and organisations around the world are getting on board with this energy revolution, they are open to change.

Take Barcelona, for instance, as a whole they are very open to these ideas; their mayor is very supportive, in fact. That's part of the Catalonian experience, they provide us and others with a very receptive environment. For example, they want to introduce tokens for housing, and also for transportation. There is also a company in the Netherlands and Israel that is creating tokens for reward-style programs. What I am seeing, however, is that it is very difficult to work with traditional governmental bodies, because you are meeting with a lot of resistance, despite the amazing things that all these different technologies can do. For now, the really interesting developments are happening when

we are working on the edge of cities, it's those bodies that are most receptive to change.

Everyone here at this event (Energy Unblocked) is now working in this alternative economy. If the current traditional economy starts to collapse, and is no longer viable, I am in the other side, I am hedging against that. And you find that a lot of other people are looking at that as well.

The new 'prosumer' model is what will be driving this change

What we have being seeing lately, is the rise of the 'prosumer' model. In the traditional capital market, you have the producers on one side, and the consumers on the other. But our token is designed on the premise that you can do both; you can augment your account, you can deficit your account, you can produce more value by using Swytch. There is a new way for people to generate income, so if they want to provide a service like cleaning up a park or similar, they can issue tokens around that. And, even better, they don't have to offset it by debts. So I think that we are moving into a whole different world. We are at the convergence of many exciting technologies, that's what makes this all possible If you want to create liquidity, whilst also mitigating risk; how do you do that? You do that with real-time learning in the device. We never had that before. That, to me, it's a huge breakthrough. All these technologies that develop opensource, we can use when designing our smart tokens. We have baskets of this things that perform dynamically in a certain way. That's new. And that's really wild. So we are part of a next generation of tokens that are themselves programs. And they are adaptive programs. So you get smarter and smarter tokens that change their behaviour in order to maintain some kind of outcome. And what's more, you don't have pump and dump, because it's an algorithm that controls that.

Furthermore, what this new technology does, is allow anyone, anywhere, to access this market. So we have a mobile app. So say I'm in Africa, I can produce so much SWYTCH at this cost, and I can set up a unit and I can trade this anywhere in the world. Or I can be doing this in California. But I have different configurations of different prices. And the oracle is making the adjustments, it's a machine-learning oracle.

You have to be careful about AI, however. I was at an early stage of AI and people were sold it and they were all sorts of kinds machine learning levels, specification, and it gets all over-sold. We are a whole group that have been doing it for many years in MIT. There is a lot of bullshit being done. There is no doubt about that. And there is very very ambitious projects, and they are pointing in to a number of. And they are raising a lot of money. And there are really cool ideas. But they are early. But in my mind there is no doubt that something is gonna shake up. Because you are starting to see things at a working scale. We are building this whole new infrastructure and is just popping up. And things are falling by the wayside. I'm sure that 80% of the things are falling up by the wayside. And the rest is gonna remain. And they are going to be the new Google.
Cryptocurrency Investing | January 19, 2018

https://ccinews.net/swytch-ico-thats-flipping-switch-towards-sustainable-future/

Swytch – An ICO That's Flipping the Switch Towards a Sustainable Future

By Anthony Scarpulla

Just today, NASA released their findings that the year of 2017 was the Earth's second hottest year since global estimates became feasible back in 1880. I mention this not to espouse some global warming.propaganda or fear, but it felt like a perfect introduction to the ICO that I'm going to introduce. While many countries have taken giant leaps forward in their adoption of renewable energy (such as Germany, Sweden, and Iceland), we still have a long way to go here in the good ole' U.S of A.

While the U.S boasts one of the world's largest installed solar PV capacities and an installed wind energy capacity second only to China, on the whole, we still can't seem to make the collective "switch" over to solar and wind. Billions have been spent by governments around the globe, but the lack of a standardized approach has limited the potential for widespread adoption and use. And as of 2015, only 10% of global energy consumed came from hydro, solar, and wind sources.

That's where Swytch comes in!

According to their Medium blog, Swytch is poised to tackle several of the main issues within the renewable energy field, namely:

- The lack of a global and easily tradeable incentive mechanism
- The inability to efficiently verify and secure production data at the source
- The dearth of quality public data on where and how renewable energy is produced

So what is Swytch exactly? Swytch is a renewable energy incentive powered by blockchain technology, with the ultimate goal of creating a more sustainable and equitable future for the world. Swytch works by verifying and rewarding the production of renewable energy through the issuance of their ERC-20 token (SET). Swytch is hoping to incentive the investment in various renewable technologies, from large-scale industrial power infrastructure to small residential assets. By capturing energy production data from IoT and smart devices, as well as market aggregators, Swytch creates immutable geo-stamped proof of production and then distributes SET tokens through their "Oracle."

There are four main components to the Swytch eco-system. The first is a mobile app that will allow users to determine their power generation and revenue potential, apply for an advance to purchase and set up their own modular/expandable solar unit, and then become contributing members to the Swytch eco-system!

The second piece of their platform is nodes. Through a proprietary blockchain built in conjunction with Berkshire Cloud, Swytch will integrate with IoT devices to capture energy production data from your equipment. Third, is the "Oracle," which is their open source algorithm that will determine Swytch token allocation based on the impact that a

given unit of energy has on offsetting carbon pollution and emission. This ensures that people utilizing renewable energy tech in areas of dire need will be rewarded greater than those utilizing a solar panel, say, in suburban Arizona. Lastly, verified installers will confirm system design and receive bounty rewards for accuracy.

Through Swytch's renewable energy Oracle data, they aim to "give municipalities the tools and data they need to create smart cities centered on local renewable and sustainable initiatives." Swytch is already partnered with an impressive array of companies, including The University of Cambridge, Berkshire Cloud, BTC Labs, and Atonomi, to name a few.

Their ICO sale will launch on February 15th and end on March 15th, with each SET token costing $1. Approximately 10% of their total maximum supply of 3.65 billion tokens will be sold during their public sale period.

Learn more about how you can help create a more sustainable world at www.swytch.io
Join their community on Telegram, Facebook, Twitter, Instagram, and Medium.

Wind Power Monthly | May 9, 2018
https://www.windpowermonthly.com/article/1464170/awea-2018-storage-like-bacon

AWEA 2018: Storage Is 'Like Bacon'

By David Weston

UNITED STATES: At Day Two of the American Wind Energy Association's (AWEA) Windpower 2018 conference and exhibition in Chicago (7-10 May), the CEO of the Energy Storage Association (ESA) said storage applications are central to sustainable grid.

Kelly Speakes-Backman, CEO of ESA, told delegates at Windpower 2018 storage is the "critical hub" for a more sustainable grid.

"Storage is like the bacon of the grid — it makes everything a little better," she joked with the audience.

Speakes-Backman said storage can, and should, be used for all energy sources, including nuclear and coal. "Storage is fabulous because it has a lot of potential revenue streams," she said.

Speakes-Backman also referenced a white paper by the ESA, in partnership with Navigant Research, with showed a pathway to 35GW of energy storage in the US by 2025 from less than 1GW today.

Big turbines

Also at the opening session, GE Renewable Energy executives John Lavelle (CEO Offshore) and Danielle Merfeld (CTO), lauded the potential for offshore wind.

Lavelle said there could be 100GW of offshore wind globally by 2030. He said with a stable European market, and the emergence of the US and Asia, global innovation "comes in to play".

Merfeld said the "age of the big turbine was finally here".

"When you have bigger turbines you have fewer foundations, more efficient cabling and not much more 'at-sea time'. Bigger turbines drive down the cost."

GE revealed its 12MW offshore turbine in March.

Blockchain

Energy markets will be one of the main beneficiaries of blockchain technology, said Evan Caron, managing director of Swytch, a platform that tracks sustainability efforts.

"The underlying technology and energy can provide open and transparent access," he told the opening conference on Day Two of the American Wind Energy Association’s Windpower 2018 conference in Chicago.

"It can disrupt the centralised utility model… and every home can become their own utility."

Blockchain can "democratise" energy by improving access markets for renewable

energy sources such as wind or solar, and by "enabling peer-to-peer energy networks, and enabling people to trade power on micro- or community grids", he suggested.

"It gives customers better access to renewable energy and better rewards systems," he said.

"Disrupted energy resources, such as from solar panels, also have better access." Demand response and electric vehicle charging are both key goals of energy companies using blockchain, Caron said.

But the fundamental question surrounding blockchain-energy is "How can you integrate renewable energy into the grid without disrupting resiliency?", he concluded.
Swytch describes itself as offering a new blockchain-based solution that uses mart meters to track, verify and reward consumers and business that make renewable energy.

The Block Talk | April 17, 2018
https://www.theblocktalk.com/2018/04/making-the-swytch-to-sustainability/

Making the Swytch to Sustainability

By TJ Mulqueen

You might think a US President installing solar panels on the White House would signal a sea of change in renewable energy, but with Jimmy Carter's loss in the 1980 election, the panels came down and haven't been up since. It's puzzling that an industry that has the potential to save the planet isn't thriving, even after decades of development. Especially when one considers how much the technology has improved, with renewables set to be cheaper than fossil fuels in a few scant years.

The reasons behind this are numerous. Many governments remain suspicious of the technology, no doubt thanks to strident lobbying by the fossil fuel industry. When governments have taken action, as with the US under President Obama, the results fell short of admittedly lofty expectations. And the country's CO2 emissions are set to increase 1 percent in 2018 after a brief period of decline.

However, even the most effective government in the world would find it hard to push the planet into a greener tomorrow. Governments only hold sway over the land within their borders, and even if a major player like China enacted sweeping reforms, it would do little to change matters in the rest of the world. Blockchain technology is uniquely poised to organize global governmental efforts, thanks to its inherent data security and decentralization.

"The main purpose of blockchain in governance, at least in its current guise, is data integrity," says Jon Martindale in Digital Trends' "Blockchain Beyond Bitcoin" series released this week. "If more government entities can rely on the integrity of data from partner agencies, then sharing information should make many facets of government more efficient, while also improving security," Martindale continues.

If we're going to see a fundamental shift in world energy production, a system that transcends local governments by democratizing data and adding efficiencies offers a significant step forward.

"It turns out that much of the world agrees that we need a reduction of carbon – that's what cities, countries, and corporations like Microsoft want to achieve. But it's a very tough objective function for the world to solve for, because if you think of the incentive structure – it's local – it can't be traded across geography, so it's inefficient and temporal," says Evan Caron, Co-Founder and Managing Director at Swytch, a blockchain platform that verifies and rewards the production of sustainable and renewable energy.

How Green is Our Valley?

Swytch solves one of the most significant factors in lagging renewable energy adoption – the lack of a global and easily tradable incentive mechanism.

The solution is four-fold. First, Swytch collects data from renewable energy producers using existing smart meter technology. This data is 'stamped' onto Swytch's blockchain, then verified and evaluated by a collection of open-source algorithms. Once the

algorithms determine the amount of clean energy produced (and by extension the amount of carbon displaced) a corresponding amount of crypto-tokens are minted and delivered to the energy producer.

The tokens are ERC20 compliant and can be converted into fiat currency, other cryptocurrencies, or invested into other renewable projects. In a way, Swytch is the opposite of Bitcoin. Instead of using proof of work, which generates an obscene amount of CO2, Swytch uses proof of production, rewarding reductions in carbon emissions. The incentive model is scalable, too – everyone from homeowners with solar panels on their roofs to heavy industry leaders able to take part. Entire cities are on board, including six in South Korea, as well as parts of Austria and Germany.

Data is Power

Another issue plaguing renewables is the lack of comprehensive, trustworthy data. It's currently difficult to gauge where the most energy is being produced and what types of energy is most efficient.

Swytch is seeking to change that through its data collection feature. Every bit of information gathered from energy producers will be made publicly available in order to provide a shared, objective system that anyone can learn from.

As Evan notes, "Anyone in the power business realizes that the more good data there is, the better the whole system is. The data that's out there is not that great – it comes in slow increments. What we're betting on is that people want to share the data and if they're getting compensated for it, they want to do it even more."

While Swytch's data aggregation techniques have the potential to revolutionize how information is gathered and shared in the renewable energy market, it's the platform's ground-up incentivizing structure that has the most disruptive potential. Through tokenization and the blockchain, Swytch can do what others have not – transcend borders, local politics, and the lingering power of oil and gas conglomerates to bring the world closer to 100 percent sustainable energy.

Green Energy Times | June 14, 2018
http://www.greenenergytimes.org/2018/06/14/june-14-green-energy-news-5/

June 14 Green Energy News

By Green Energy Times

Headline News:

- Scotland's Climate Change Secretary announced that the country had met its statutory annual greenhouse gas emissions target for the third year in a row in 2016, and this resulted in emissions being down 49% on a 1990 baseline. Of European countries, only Sweden, with a drop of 51%, reduced emissions faster than Scotland. [**CleanTechnica**]
- Swytch, blockchain-based clean energy incentive, and the Energy2market, a German company aggregating energy trading in Europe, announced a blockchain renewable energy trial that could power over 500,000 homes. The pilot program, which is in Germany, includes approximately 3.5 GW of solar, wind, hydro, and biogas energy capacity. [**SmartCitiesWorld**]
- The US added more solar electric capacity than any other type in the first quarter of 2018. A report from the nonprofit Solar Energy Industries Association said the US solar market added 2.5 GW of new capacity in the first quarter, up 13% from the first quarter of 2017. That accounts for 55% of all new US electric capacity for the quarter. [**Business Insider**]
- Consumers Energy, Michigan's largest energy provider, said it will stop using coal to generate electricity by 2040. The utility company has said it will increase its use of renewable resources, especially solar, and begin closing its remaining five coal-fired units in 2023. The plan is being filed with the Michigan Public Service Commission. [**The Detroit News**]
- Antarctica is shedding ice at an accelerating rate, according to a report in the journal *Nature*. Satellites monitoring the state of the White Continent indicate some 200 billion tonnes a year are now being lost to the ocean as a result of melting. This is pushing up global sea levels by 0.6 mm annually, three times as fast as it was in 2012. [**BBC**]

Windpower Engineering | June 11, 2018
https://www.windpowerengineering.com/business-news-projects/swytch-tests-new-blockchain-renewable-energy-pilot-program/

Swytch tests new blockchain renewable energy pilot program

By Michelle Froese

Swytch, a blockchain-based clean energy incentive, and the Germany-based Energy2market GmbH (e2m), a provider of aggregated energy trading throughout Europe, announced a pilot program that includes roughly 3.5 GW of wind, solar, hydro, and biogas energy capacity in Germany — which is enough to power over 500,000 homes.

Swytch is a blockchain-based platform that tracks and verifies the impact of sustainability efforts and actions on the worldwide level of C02 emissions. The Swytch dashboard shows tokens earned and carbon displaced in real time. Learn more here.

As part of the large-scale pilot, Swytch is testing its first versions of the data flow, blockchain, dashboard, estimators, token allocation models, and other key parts of the platform.

Swytch leverages smart meter and blockchain technology to reward the companies and people who reduce carbon emissions the most. At the core of the Swytch solution is an open-source “Oracle” that uses artificial intelligence and machine learning to determine how much carbon is being displaced and, therefore, how many Swytch tokens to award.

As a result, producers of renewable energy create Swytch tokens by generating wind, solar, and other forms of renewable energy. e2m perceives Swytch’s approach to tokenized incentives in the energy market as particularly attractive to the larger energy producers and traders it serves.

“We firmly believe that blockchain technology can be used to unlock long-term value for Europe’s renewable energy assets,” said Andreas Keil, CEO of Energy2market. “Today, renewable energy represents 32% of the total energy market in Germany, but we have a goal of reaching 70% by 2050. Government-based incentive programs can only do so much, and a more dynamic option is needed. Additionally, some countries, like Germany, will begin phasing out their incentive programs in the next few years. We need to prepare for the future and identify new subsidy instruments and trading mechanism.”

This partnership will allow e2m to gain insight into alternatives to existing incentive programs and leverage blockchain, which has security and immutability, making it an ideal technology to help reshape an industry that relies on timely and accurate data.

Additionally, e2m believes that Swytch, as a global incentive program and data source, has the ability to empower governments, cities, corporations and individuals to take a more active role in accelerating the adoption of renewable supply and sustainability programs. A partnership with Swytch will create a competitive advantage as buyers and sellers of energy gain access to higher quality data in addition to an incentive that will be effective across geographic barriers.

“Just as blockchain is applicable to supply chain management and verification of physical assets, it is also beneficial for recording and tracking environmental attributions,” said Evan Caron, co-founder and managing director of Swytch. “When compared to existing programs this will drastically reduce fraud and administrative costs, as well as open up incentive mechanisms to residential properties, which are the key to accelerated adoption of renewables. This positions Swytch as a central player in the global grassroots movement to reduce carbon emissions.”

Swytch is also announcing its public token sale. To sign up, visit Swytch.

SmartCitiesWorld | June 13, 2018
https://www.smartcitiesworld.net/news/news/blockchain-renewable-energy-pilot-3014

Blockchain Renewable Energy Pilot

By SmartCitiesWorld news team

Partnership will allow e2m to gain insight into alternatives to existing incentive programmes

Swytch uses artificial intelligence to determine how much carbon is being displaced

Swytch, blockchain-based clean energy incentive, and the Germany-based Energy2market (e2M), a company aggregating energy trading throughout Europe, have announced a blockchain renewable energy trial which could be enough to power more than 500,000 homes.

The pilot programme in Germany includes approximately 3.5Gw of solar, wind, hydro and biogas energy capacity.

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Hacked | April 12, 2018
https://hacked.com/ico-analysis-swytch/

ICO Analysis: Swytch

By Kent Hamilton

Fossil fuels continue to be consumed at an alarming rate, which releases harmful C02 emissions into the atmosphere. The world knows there is an energy issue and that we cannot continue to use fossil fuels acting as if the problem will fix itself. Currently, there is no way to track and verify renewable energy in real-time. There is also a lack of easily accessible, quality data to educate potential energy investors where to find the most effective and types of energy production in specific locations. There are also not enough incentives to encourage the transition from traditional energy production to renewable energy.

Swytch is building a platform on the blockchain that will verify and reward renewable energy producers with tokens. Incentivizing investors with more tokens where C02 emissions are high or power generation is low, by using an open-source dynamic adaptive control module (DACM), will speed up the adoption of renewable energy. Current incentive programs carry high administration costs. Building Swytch on the blockchain will remove the verification (middle-man) and lower the cost to implement the incentive program significantly.

Token

Swytch (SET) is a utility ERC20 token leveraging Proof of Production consensus to verify and incentivize renewable resource transactions and investments.

Swytch tokens will be minted and used to reward small residential and large, industrial power generation investments based on the production and use of renewable energy. Swytch tokens can be cashed in for fiat, other digital currencies, or used to invest in new renewable energy projects, helping accelerate the adoption of renewable energy worldwide.

The token distribution is as follows:

- 55% Token Sale
- 15% Core Team Founders
- 14% Foundation
- 10% Grants & Energy Partnerships
- 3% Token Commons Project Funds
- 3% Bounties/Affiliates

Blockchain Tech News | May 9, 2018
https://www.blockchaintechnews.com/articles/blockchain-startups-tackle-carbon-reduction/

Blockchain startups tackle carbon reduction

By Bradley Cooper

*Blockchain Tech News recently reported on ways that **blockchain can improve access to green energy**. Just as importantly, though, blockchain has the potential to reduce humankind's overall carbon footprint. For example, some startups are developing solutions to help improve carbon offset markets.*

Blockchain Tech News spoke with a few startups working on green tech projects to get their perspectives:

Q: What are some blockchain use cases for green tech?

David Fragale, Co-founder, Atonomi

With improving cost and production efficiencies, renewable energy technology will continue to gain market share. As a result, assets will become more dispersed and energy production and consumption will become disintermediated as the prosumer model becomes more widespread.

This all leads to an energy market that is more resilient, lower cost, and based on abundance rather than scarcity. However, to support this model there will need to be improvements in automated production and consumption tracking, validation, payments, transparency, incentives and security.

Blockchain can help address each of these challenges and is relevant to all participants at every layer of the market. This is why we are seeing such a broad range of projects in the energy space.

One of the most promising areas where blockchain can have a significant impact is improving carbon offset markets. Swytch, a blockchain solution for the renewable energy space, is tackling the offset market by providing trusted, real-time production data, and leveraging oracles and tokenization/smart contracts to reward carbon displacement.

This solution is made even more robust through Swytch's partnership with Atonomi to develop edge-level security and consensus protocols to reduce barriers to gathering trusted data from smart meters.

Richard Ettl, CEO and co-founder, Smart Containers Group

Smart Containers is a high-tech company that provides temperature-controlled containers for pharmaceutical and the food airfreight logistics.

From the very beginning, the company has focused on reducing their [carbon dioxide] footprint and strives to be as environmentally friendly as possible. It uses recycled PET bottles as material to build the containers, and all damaged containers are taken apart at center that offers employment to those with special needs in Switzerland. This way, most recollected parts can be reused to build new containers.

Smart Containers has built its software technology based on elements of blockchain and is moving forward to integrate its logistics processes fully on a blockchain protocol within the next one to two years. The aim is to reduce the use of paper and create more effective logistics processes. The vision is to make this system available to all logistics players through open source software.

The Logi Chain foundation will be the sentinel of this project and we will make software development available to all its members. This will lead to increasingly decentralized logistics processes (today it is highly centralized), and therefore a reduction in shipments, since it will become possible to administer even the smallest shipments at minimal cost. There is no need to pool everything together in big warehouses anymore.

Smart Containers works in close collaboration with MyClimate and is able to issue CO2 certificates to its clients. The elements of Smart Containers Group's business that reduce CO2 are:

- Insulation technology made out of recycled PET bottles.
- Passive system that is lighter than competition.
- Blockchain technology to decentralize logistics and, therefore, reduce shipments and the use of paper.

Q: How can blockchain boost overall efficiency?

Evan Caron, Cofounder, Swytch

Blockchain is an important part of the solution, but not the answer in and of itself. Smart combinations of blockchain and other technologies, such as smart meters and batteries, will improve overall market efficiencies. What makes blockchain so exciting is that it opens up a number of options that were previously impossible.

Take the example of Swytch, a solution for carbon markets and other renewable energy incentives. Incentive programs have been around for decades, yet the space has long been rife with fraud, and ineffective in terms of addressing the core issue of carbon emissions.

Additionally, these programs tend to be jurisdictionally specific, and relatively complex to participate in and administer. By leveraging blockchain, smart meter, and oracle technologies, Swytch is able to create a more trusted, efficient, and effective system for tracking and rewarding carbon displacement via renewable energy production.

Please note the use of the phrase, "carbon displacement." Swytch rewards the displacement of CO2, and it differentiates relative displacement, too. Meaning, a green kilowatt in Mumbai may receive a larger token award than a green kilowatt in California, based on the energy source it is displacing.

While blockchain is at the core of the solution, the need for automated and secure data feeds and AI and machine learning marketplaces are also key to the solution. This is why Swytch partnered with Atonomi, which offers a blockchain-based security protocol for the Internet of Things, to build consensus protocols to secure IoT-enabled smart meters; and with numerous energy analytics firms to build our data and analytic platforms.

The result will be more efficient markets for carbon offsets, more efficient data transmission and validation, and more efficient and cleaner energy stemming from renewables.

Ettl: Blockchain protocols allow us to eliminate intermediaries. This almost always leads to reducing cost and increasing speed in processes.

In logistics, for example, it is more expensive to administer a shipment than to effectively transport it. Smart Containers is aiming to integrate the administrative tasks through blockchain technology, so that the cost for administration will fall drastically. We see the same potential in other industries.

Q: How can blockchain reduce waste?

Fragale: Blockchain can eliminate waste however you choose to define it, whether it be cost, pollution or excess energy production. Blockchain can automate processes and transactions, significantly reduce costs, and result in inherently trustworthy sources of verified data. Blockchain can facilitate smarter carbon offsets and renewable investment and policy decisions.

Blockchain can also provide the groundwork for demand-response solutions. Again, the key is to securely marry blockchain and smart contracts with other supporting technologies to make these ideas a reality.

An interesting take on reducing waste is minimizing fraudulent energy production data by combining Swytch's ability to capture and validate energy data via its blockchain solution with Atonomi’s IoT security solution.

Misreporting data creates massive inefficiencies in existing renewable incentive programs, which limits effectiveness and trust. By capturing immutable proof of energy production, running open-source estimators to verify, and layering in Atonomi's blockchain to enhance security and trust, Swytch is able to address this challenge in a relatively low-cost and low-touch way.

This not only cuts down on bad actors and bad data, but also creates a more robust incentive market by improving trust and accuracy.

The Fintech Times| June 21, 2018
https://thefintechtimes.com/unlocking-an-energy-revolution/

Unlocking an Energy Revolution?

By Helen Disney, the Founder of Unblocked Events

What happens when you put together the old-fashioned, slow-moving energy sector with the fast-paced and cutting edge world of blockchain technology? The discussion at a recent Unblocked Events conference on this topic got stuck into some wide-ranging themes about how our society is changing, describing the major societal and environmental shifts which are forcing the energy sector to reform and modernise, and where it turns out that blockchain and distributed ledgers have a key role to play.

So what are the global mega trends shaping this energy transition? There are the now well-known 4 'Ds' – Decarbonisation, Decentralisation, Digitalisation and Democratisation – but there are also wider trends. These were outlined in a broad-ranging speech by keynote speaker, John Henry Clippinger of Swytch, who discussed how we can accelerate the transition to sustainable 'glocal' economies at scale. He argues that the move towards financial, monetary and institutional innovation created by the advent of blockchain, combined with exponential innovation in solar and battery tech and data-driven machine learning analytics, is giving us the opportunity to make a fundamental shift in how we price energy and will fundamentally change how we invest and do business globally.

In a lively follow-up panel with speakers from Electron, IBM, Fintricity and UCL Energy Institute on the challenges of real-world implementation, speakers debated whether blockchain or distributed ledgers were best used to reform existing centralised business models to make them more efficient or whether time was best spent on disrupting these industries and creating entirely new business models altogether in which fossil fuels and traditional utility companies would soon be a thing of the past. Perhaps there is still room for both?

A more nuanced approach would see the utilities not being disintermediated but shifting towards being business-to-business providers rather than business-to-consumer operations. Self-described 'recovering MP' Laura Sandys outlined a vision in which the entire regulatory model needs to be reshaped to reflect this new world where a wave of technologies and challenges – including blockchain but also AI, the Internet of Things, Big Data, and a Multi-Utility, Multi-Vector model – will be so complex as to leave regulators struggling to catch up. A future model might instead be based around the following principles: regulate for how consumers consume not how businesses are organised; regulate for system optimisation to deliver the most productive, efficient and affordable system; promote transparent, cost-reflective and open markets; and only regulate for where energy system security is truly at risk.

But, some might ask, how can blockchain companies talk of reforming the energy sector and policymakers talk up the benefits of blockchain when the environmental impact of the bitcoin mining process – known as proof of work – is so energy intensive? As Alastair Marke, who heads up the climate change work of the British Blockchain Association as well as being head of blockchain innovations (Climate Change) at Abt Associates explained, it has been estimated that Bitcoin mining guzzles as much electricity annually as Nicaragua in the first quarter of 2016. However, it may not be as bad as it seems since as Marke points out: "Energy-efficient blockchains can process

significantly more transactions per second at minimal cost, while accommodating an ever-expanding user base". Possible solutions discussed by participants at the event may entail combining green blockchain-based innovations with using either blockchains based on proof of stake, rather than proof of work, or new generation blockchains like hashgraph or others which use different types of consensus mechanisms. Marke is also working on concept that combines a blockchain mining regime with the trading of renewable energy certificates (REC). "If validating computers are chosen based on the RECs registered within a parallel energy blockchain network, this could energise many energy-related digital currency systems and scale up renewable energy development in many countries", he says.

Start ups presenting in a rapid-fire showcase also had a variety of answers to the question by providing different green technical and business solutions, all of which could help lead us to a lower-carbon future. Presenters included Energi Mine (using Artificial Intelligence and Blockchain to revolutionise the way that energy is purchased and consumed globally), Verv (a platform allowing homes with renewable energy and battery storage to share green power directly with their neighbours at an affordable cost), Zero Carbon Project (purchase energy through a zero carbon market place and be rewarded with Energis tokens if you spread the word) and Irene Energy (an energy supplier built on the Stellar blockchain allowing you to choose renewable producers). There seem to be many different ways to square the green blockchain circle.

Other global champions of blockchain implementing projects around the world such as Manu Marchal of ConsenSys, Nick Beglinger of Cleantech21 and Ismail Malik of Blockchain Lab spoke of the key components for success including more regulatory certainty, access to capital and developers, the need for a well-educated audience and the challenges of making institutional changes, where blockchain is a shift in mindset not just another IT solution.

Singapore, Dubai, Korea and Switzerland all received honourable mentions as good places to do blockchain business but the UK got a mixed review – some gave brownie points for the FCA sandbox being opened up on a global scale but there was also criticism of Britain being to slow to act in implementing blockchain and getting real-world projects off the ground, mainly due to regulatory concerns.

An even more radical vision might be one in which a decentralised energy blockchain future was not dependent on the conditions of any one nation state or jurisdiction – but that vision of a decentralised future and the current reality still remain many worlds apart.

Electrical Contractor | April, 2018
https://www.ecmag.com/section/systems/chain-building-blockchain-support\

Off the Chain: Building Blockchain Support

By Claire Swedberg

The digital transaction system known as Blockchain is a nascent technology that may be getting an outsized share of hype. Right now, it is confined to usage with cryptocurrencies, such as Bitcoin. However, analysts, energy companies and entrepreneurs are working to identify how it will ripple across industries and when. In the long run, it likely will affect electrical contractors.

Put simply, blockchain is a public ledger that distributes data and transaction histories across many computers instead of residing on only one. It is arguably more secure and more trustworthy.

The cryptocurrency process and its verifications for each transaction consume a huge amount of power. Due to the nature of blockchain, those processes are performed at data centers around the world, distributing the energy demand.

On a broad scale, blockchains could influence many markets, especially in the utilities. Applications for blockchains are springing up like mushrooms, and in fact, there are already about 50 startups looking at the model and repurposing it for energy sharing. Many of those are in Europe, but there are some in the United States, said David Groarke, Indigo Advisory Group.

The goal is to provide an easy charging infrastructure for the buying, selling and sharing of power. In the long run, it could change the way power is managed as well as just who is managing it. Companies include Grid+, which enables wholesale energy markets, and Swytch.io, which tracks and rewards production of clean, renewable energy.
It means companies that generate more power than they are using can more easily sell or share it, and become utility companies on a smaller scale. Once blockchains take hold, utility markets may become more decentralized.

However, changes are wrapped up in other trends too, Groarke said—namely artificial intelligence (AI), robotic processing and internet of things (IoT), all of which mean machines are managing much of what is happening in and around them and sharing access to the data related to each event.

All the sensors required for the IoT and AI need to be supplied and deployed, and just who is going to do that may still be up for grabs. Groarke said many blockchain companies are in the software business but not actually installing sensors that would be collecting and sharing data.

There are a few forms of low-hanging fruit when it comes to blockchain use in power supply, including electric vehicles (EVs). Individual home or business owners could earn revenue by letting others charge their EVs in a peer-to-peer manner. Users could employ an app that accesses blockchain data to understand where available power stations are and where the rates may be higher or lower. The utility can act as a facilitator of these transactions.

“For contractors, I see this transition as helpful,” Groarke said, as more companies get into generating energy. “One thing we might see is a shift to more contractors working for third parties.”

Navigant’s energy research analyst Johnathon de Villier also pointed to EV charging stations as an area where blockchains may lead to infrastructure changes. Blockchain can help with two categories for EV charging. In one case, it can support a secure platform for infrastructure sharing.

“Think AirBnB, except people share their charging stations instead of their homes,” he said. “[Moving forward], it could enable EVs to autonomously interact with and respond to the grid, for example, in a demand-response program.”

This is made possible by what he referred to as “smart contracts,” which equate to pieces of computer code that execute automatically when a set of predetermined conditions are met. In a blockchain network, every node (in this case, both the meter and the EV would be nodes) has a unique ID. An example of a simple smart contract could be: “If any EV other than my own charges at this station, charge $10 per kilowatt-hour,” de Villier said.

There are still hardware issues to consider, though, before this becomes commonplace. “A lot of charging boards [currently in use] are not compatible with blockchain,” de Villier said.

Since many charging stations are not networked, they will need to be retrofitted or rebuilt to accommodate a network where consumers and station owners can share data. In that way, people driving EVs can learn where the best rates for rechargers are, as well as share their charging credits with others.

De Villier also expects to see changes in how blockchain enables what he calls “transactive energy”—residents or buildings trading the power they generate with others. Increasingly, companies and homeowners are generating their own power, often with solar panels, and the opportunity to share it is gaining interest. Users could sell back power to their utilities or directly to their neighbors in a microgrid, community energy market.

Examples of this are already underway. New York power company LO3 Energy teamed up with Siemens Digital Grid to create an example of such a microgrid in Brooklyn. Known as the Brooklyn Microgrid project, it enables neighbors to produce solar energy as well as buy or sell that power using a blockchain on a transactive energy platform.

The blockchain time stamps every transaction in a series of secure blocks. Although the project represents one neighborhood system of trading energy, the long-term plan is that such microgrids could be possible anywhere and be of value around storms or other emergencies in which solar energy could be stored and accessed from battery storage units as needed, whether or not there was access to the utility grid.

Such systems require a network control and the related switchgear, batteries and smart electric meters.

“For a two-way exchange of energy flow, you would need meters with pretty specific capabilities in households,” de Villier said.

Thus far, blockchain startups are focusing more on software solutions than on selling and installing the hardware. The question is whether utilities will embrace blockchains to share data and, ultimately, energy with others. That would mean top-down pressure for more blockchains in addition to bottom-up pressure from the software startups.

Utilities could use blockchains to manage assets—such as the condition of their poles and power lines—by capturing sensor data wirelessly and potentially making that available privately within the company or publicly. Pilots of such solutions are underway in Australia and elsewhere.

People are even experimenting with blockchains around building automation, but de Villier said the business models for these applications have yet to materialize.
Smart appliances, especially those in homes, are likely to eventually leverage blockchains to share and receive data about the function of those items.
According to research by analysis firm Gartner, companies should respond to blockchain technology by performing scenario planning exercises for sharing and distributing ledgers.

However, there’s no reason to jump yet. According to Gartner, by 2022, only 10 percent of enterprises will have achieved any radical transformation with the use of blockchain technologies. Analysts forecast that the majority of the new blockchain-based startups will either consolidate, be bought out or close down.
However, one thing can be said definitively, according to de Villier: “Blockchain isn’t going anywhere.”

Eco World | April 27, 2018
http://www.eco-world.de/scripts/basics/econews/basics.prg?a_no=34218

For the next phase of the energy transition, the ability to change behavior on the production and consumption side in the short term will be decisive

By Eco World

Interview with Andreas Keil, CEO of Energy2Market GmbH in Leipzig on the occasion of the 14th Middle German Energy Talk on April 19, 2018 in Leipzig

Under the title "Energiewende - Lau or Verve?" In the past week around 100 guests followed the panel discussion between Andreas Keil (Energy2market), Ewald Woste (Thuringian Energy AG), Michael Wübbels (VKU) and Thorsten Kasten (VNG). As part of this event, an informative interview of the organizer, Rainer Otto, with the CEO of Energy2market, Andreas Keil emerged.

The 14th Mitteldeutsche Energiegespräch undertakes a Tour d'Horizon on the state of energy, heat and mobility change based on the political needs of the coalition agreement. How would you please assess the current status?
Such a general question is difficult to answer briefly, but I will try anyway. Since the beginning of the energy turnaround, mainly renewable generation plants have come into existence on a significant scale in all sizes and technologies. These have reached an astounding degree of efficiency, which makes a promotion more and more superfluous - as the last auctions show.

Since 2012, these systems have been successfully integrated into the energy markets. On the one hand, there is the emergence of virtual power plants, on the other hand, the development of excellent forecasting systems and a functioning and faster-reacting intraday market.This results in an incredible increase in efficiency in the management of fluctuating portfolios as well as a significant reduction in balancing energy prices.

At the same time, the imbalance between supply and required volumes of energy is increasingly reaching the capacity limits of networks and the full flexibility of conventional producers is needed to ensure supply.

This condition is exacerbated by the behavior of prosumers or developments such as e-mobility. As conventional people leave the market, we face the challenge that the remaining producers and consumers react flexibly to supply. For this they must be fit and energized.

What would have to be parliamentary in the coming 3 to 5 years or in the remaining current legislative period of the German Bundestag to ensure the success of the overall project?
Essentially, it will be about increasing flexibility on the consumption side and, in this context, removing all barriers to this change in behavior. Essentially, this is about alternative models for dealing with the costs of grid usage and taxes and duties.

Politics, it is said, requires power to shape, and power also sets facts in the field of energy. How do you assess the role of the so-called grassroots movement, which, as a result of the regionalization of individual processes of the energy turnaround, can partly shape the variables and thus have an influence on politics?
The much-cited grassroots movement basically describes the systematic dissolution of classical supply structures and market roles, as virtually every consumer can also generate, store and resell energy. The basis for this is the availability of efficient technologies (generation, control, communication) combined with a material incentive. The latter is apparently objectively given by the high end consumer prices.

The incentive for the grassroots movement is thus caused by regulatory action and can be shaped at any time politically. This could only change from the moment regenerative generation is the cheapest on the market. Then the autonomous grassroots movement in combination with virtual power plants could increasingly also reach for services in the context of grid and supply security.

In contrast, there is the realignment of the big "two" of the German energy industry. Do you see any serious need for the industry to reorient its strategies?
The creation of a national champion with international weight, lovingly circumscribed by you, will surely influence the future energy landscape in Germany. I do not deduce the necessity for a reorientation of our strategy from this, since this does not derive even today from the strategy of the enterprises mentioned. It will be more important that we continue to build on our ability to operate quickly and efficiently in markets. Here, too, the challenges do not become smaller for the new giant.

These days, in the media (for example, TAGESSPIEGEL - "get a renewal on the chain") could read about the cooperation of Energy2market with the US energy block chain platform Swytch. What does Blockchain mean for you?
Blockchain is simply a technology that makes it possible to capture information in real time and make it available to everyone involved in a secure and unchanging way. This allows us to make sensitive data exchange processes or business transactions and payments immediate, reliable and cost-effective. In the project you mentioned, we create the conditions for the direct and secure capture of the generation of green energy. In the future, for example, this will allow direct supply to consumers from green power plants.

What is new about Blockchain, what traditional energy trading can not do?
Everything and nothing. Let me show you this with two examples. The first example: energy trading today is mostly via stock exchanges, which act as the main marketplaces. In addition, it is of course also possible to conclude bilateral energy transactions. Through Blockchain, a marketplace can now be created between all partners involved, which has the transparency and security of a stock exchange - without institutionally exist. The expected cost savings on the part of the actors are expected to be up to 90% compared to today.

Second example: even today it is possible for a producer to supply his energy directly to a consumer. About Blockchain direct supply models are conceivable, in which Franz Mustermann can deliver the surplus electricity of the PV system on his family home to the WG of his son in the city. What potential there are for such business models is certainly a question worth discussing. But the low transaction costs of Blockchain make it possible.

If the technology approach is to exchange information very quickly, would blockchain technology not be very interesting for network operators in its application?
Yes, that would be it and there are already more in-depth considerations and initial projects in the market, which of course we are following with great interest.

And here again politics comes into play, how should the politics, in general the necessity of the open-mindedness of technology in the design of the energy turnaround be underlined, in the regulation and limit setting behave?
This is a very difficult question, because most of the rules and boundaries result from politically initiated promotion and control mechanisms, so there is always a winner and a loser if you change it. Based on my initial statement that the ability for short-term behavioral change on the production and consumption side will be decisive for the next phase of the energy transition, incentives for this behavioral change should exist and be usable. These can come from the market or created incentive mechanisms. In any case, they should be free of any technology attachment.

Finally, please allow the question, where do you see the further development of Energy2market?
As an aggregator, we see our role in pooling and leveraging the energy, flexibility and interests of as many decentralized actors as possible. To this end, we are developing a scalable and open platform that is also open to third parties for the implementation of their business models.

Andreas Keil *began his professional career with the beginning of the liberalization of the electricity market in 1999. In 2002 he joined the internationally active electricity trading company EGL (today AXPO) and in 2003 was appointed managing director of the newly founded subsidiary EGL Deutschland GmbH in Leipzig. In this position, he was instrumental in the development of EGL's German business with a focus on portfolio management for municipal utilities & producers.*
With the goal of establishing an independent trading house for renewable energy, in 2009 he founded Energy2market GmbH , based in Leipzig, and since then has served as Managing Director.