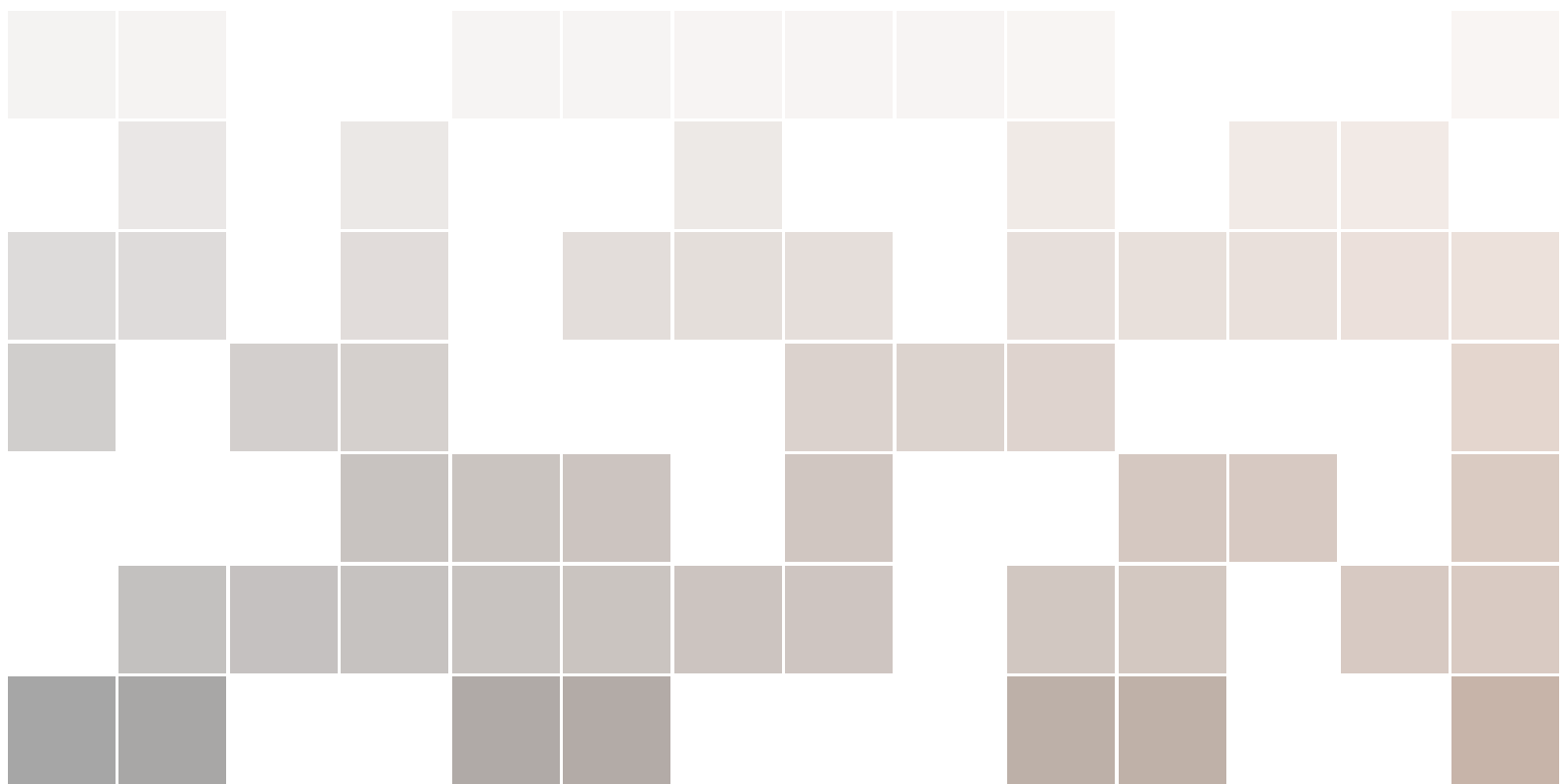


# NECC: Nature Energy Chain

A Whitepaper of Nature Energy Chain's Business and Market

NECC Team



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# Project Background

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# 1. Market Background Analysis

In recent years, blockchain technology has been developing explosively and innovatively. After ten years of development, China's blockchain industry has basically formed a relatively mature industrial chain. Many traditional projects bring forth the new through blockchain technology medium and create combined products. At the same time, the unique value network, decentralized consensus and other characteristics of blockchain can be combined with many industries to develop a more perfect economic system, reconstruct the business ecology, and stimulate a greater innovation environment ecology. Under the condition of national policy promotion and the continuous increase of demand in downstream application fields, the market size of China's blockchain industry is developing continuously, with a high degree of regional concentration and obvious industrial cluster effect. With the increasing maturity of blockchain technology, the blockchain industry as a whole is stepping into the 3.0 stage. It has a good performance in finance, logistics, copyright protection and other fields, and has contributed a great power to promoting China's digital construction and speeding up the process of digital China.

## 1.1 Global Digital Asset Market

At present, even though the global digital asset market is still facing tighter policy supervision in various countries, global capital is still enthusiastic about the digital asset market, and global investment scientists and financial giants are increasingly active in investing in digital assets. According to statistics, in the first quarter of 2018, the number of investment events in the blockchain sector reached 70. In terms of investment institutions, many traditional VCs and institutional investors are making an early layout in the blockchain industry. VCs that are more active include IDG Capital, Sequoia Capital China, Innocent Angel Fund, and Zhen Fund, etc. Institutional investors include SBI Group, Google, Overstock, etc. However, this is only the beginning. When digital assets based on valuable physical assets or financial assets appear, they will explode the entire global digital asset market. It is expected that the global digital asset market size will exceed one trillion dollars in the next five years. Today, the digital asset market has the potential to match or surpass the existing financial asset market and become an integral part of the future global economy.

## 1.2 Domestic Market Situation

Although the Chinese government is cautious about Bitcoin, it is supportive of blockchain technology. From 2016 to 2019, China has continuously issued various policies to support the development of the blockchain industry and encouraged the application of blockchain technology in various industries. Blockchain has been written as a technology in the 13th Five-Year Plan. It is believed that there will be sustained policy support in the next 3-5 years, and frequent national policies



provide sufficient kinetic energy for the development of the blockchain industry. In 2019, the Cyberspace Administration of China issued the Announcement on the First Batch of Domestic Blockchain Information Service Filing Numbers, which publicly released the first batch of 197 blockchain information service names and filing numbers. Standardize the record basis issued by the development of China's blockchain industry. Behind the companies in the list are Internet companies, financial institutions, public institutions and listed companies, among which blockchain technology platform, traceability, right confirmation, anti-counterfeiting, supply chain finance and so on are the key directions. The release of the list also indicates that the Chinese government has great expectations for the development of the blockchain industry, regulating the industry on the basis of rapid development, and making the industry development more standardized. With the continuous development of China's blockchain technology and the continuous expansion of the application of blockchain, China's blockchain industry in the future will show that blockchain has become the forefront of global technology development and open up a new track for international competition; Blockchain creates a new platform economy and opens a new era of sharing economy; Blockchain accelerates the process of "credible digitalization", and drives the financial industry to serve the real economy.

### **1.3 Wide Range of Application**

Various industries apply blockchain technology to form a new mode, and the demand generated by combining with blockchain technology to form a new blockchain ecosystem is also the main driving force for the continuous development of the blockchain industry. At present, the application of blockchain has been extended from a single digital currency application to all fields of economic society, such as the financial industry, copyright protection, traceability and anti-counterfeiting, energy industry, sharing economy, Internet of Things and many other fields. Among them, the financial sector has the broadest application prospect: Blockchain technology can be applied to different banking businesses, from payment and settlement, to bill circulation and supply chain finance, to more complex securities issuance and trading and other core business areas, financial institutions and technology companies have been actively exploring and trying. The benefits of blockchain technology will benefit all transaction participants, including banks, bank customers, bank partners (such as platform enterprises, etc.).





## 2. Problems Facing the Market

### 2.1 It does not have the ability of a centralized system, and its scalability is insufficient

The main performance is that the throughput and storage bandwidth are far from meeting the payment needs of the whole society. With the passage of time, the transaction data is getting bigger and bigger, and the burden on ordinary computer storage is getting bigger and bigger. Higher and higher requirements will gradually undermine the design purpose of decentralization. The proof-of-work mechanism of blockchain limits the transaction rate to only 6-7 transactions, which is not as fast and efficient as the mature payment system. Visa, for example, was processing 14,000 transactions per second at its peak. Secondly, the application of the blockchain list chain adds items and verification information to the postscript of transactions for the purpose of item traceability and certificate notarization, which further accelerates the expansion rate of the blockchain, so that the read-write operation of the blockchain becomes increasingly slow. Third, blockchain technology has an “impossible triangle” problem between high efficiency and low cost, security and decentralization.

### 2.2 The capacity contract itself has great defects and cannot fully realize the existing financial system

Public chain cannot be shut down, bug fixes are tricky and can be deadly if a security strengthened “centralization” at design time. According to the analysis of the core source code of Bitcoin, since 2010, when Satoshi transferred the control of the project to Gavin Andresen, the core code of Bitcoin is mainly contributed by 6 foreign programmers. Although the code contribution team has more than 200 members, there are almost no Chinese programmers. Once the blockchain code forms a scale and becomes an industry standard, another centralized organization will be formed to decide the decision of software repair and update and future development.

### 2.3 The original blockchain technology has no privacy protection. Once the data is linked, all the user's privacy will be exposed.

In the case of Bitcoin, anonymity is sufficient by breaking the link between the transaction address and the real identity of the address holder. But for blockchain to carry more business, such as real-name registration of assets, and how smart contracts can be executed without knowing the contract information, the solution is not yet mature.

## 2.4 May result in a large waste of resources

This is reflected in the fact that blockchain requires a lot of computing power. As of early 2016, the currency block chain of the entire network computing capacity has reached eight x1 operation 018 times/s, and the current of the world's fastest computer a nuclear weapons in the United States, blue gene supercomputer computing capacity of  $2.8 \times 10^{14}$  timesoperation/s, from the data computing power of the currency block chain is already the world's fastest single computer computing ability of 28 571 times. Second, the whole network computing power can not be as collaborative and interactive as cloud computing. The nature of the blockchain means that only one miner at a time gets billing rights, so the rest of the miners' calculations are wasted. The computing power of the whole network of blockchain technology cannot be exported and generated in a collaborative way like cloud computing. In addition, the competition for mining capacity is heating up, leading to high electricity bills. A miner in northeast China reportedly has 2, 500 mining machines, and the electricity bill for operating them is 400,000 yuan per month.

## 2.5 Blockchain trends

On OCTOBER 31, 2008, Satoshi Nakamoto released a white paper on Bitcoin - "A Peer to Peer Electronic Present".

Gold System, announcing the arrival of the Value Transfer Network. Bitcoin has many laudable designs, such as tamper-proof, data backup, relative anonymity of participants, and no other trusted party.

Blockchain technology is the product of cryptography, computer science, economics and other disciplines after the development of a certain stage, effectively integrating the outstanding achievements of multiple disciplines. The emergence of blockchain technology provides a powerful tool to solve the problem of trust in human society, and then brings the human society into the age of swarm intelligence.



# Origin of NECC Project

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### 3. The Concept of Blockchain

In 2009, Bitcoin emerged as a peer-to-peer cryptocurrency, and blockchain first gained attention as the technology behind it. Blockchain is a distributed database system with the participation of various nodes. Currently, there is no unified consensus on the definition of blockchain. On the whole, blockchain technology is not a single information technology. It relies on the existing technology, innovates and combines in a unique way, and then realizes the functions that cannot be realized by the original information technology. The core of blockchain is to ensure the normal operation of a decentralized trusted network through consensus algorithms and encryption techniques. In a narrow sense, blockchain is a decentralized shared ledger that uses cryptographic principles to ensure that it cannot be tampered with. Its data structures are arranged in a chronological chain. Broadly speaking, blockchain is a new decentralized network structure that uses distributed consensus algorithm to generate data, encrypted chain-like block structure to store data, data encryption technology to guarantee the security of information transmission, and script command to operate data. Generally speaking, blockchain is composed of “blocks” + “chains”. Blocks are data blocks, and each block records all data information that occurs when it is created. All blocks are finally linked into a data chain in chronological order, which we call the blockchain. Blockchain is an innovative application model of distributed data storage, peer-to-peer transmission, consensus mechanism, encryption algorithms and other computer technologies in the Internet era. Blockchain technology is considered as a disruptive innovation of computing mode after mainframe, personal computer and Internet, and is likely to cause a new technological innovation and industrial change on a global scale. The United Nations, the International Monetary Fund, as well as the United States, the United Kingdom, Japan and other countries have paid great attention to the development of blockchain, and actively explored and promoted the application of blockchain. At present, the application and development practice of blockchain technology is gradually spreading in the fields represented by financial technology. Meanwhile, the discussion craze is constantly set off under the promotion of major global economic forums and media. In general, under the catalysis of multiple forces and factors, blockchain technology has opened up a period of efficient information value transmission beyond Internet applications. Blockchain Business Level Technology Value Circulation Network The value circulation network developed through blockchain technology can carry the distributed accounting function of value circulation through decentralized network technology. That is to say, after the business value of information transfer, commercial information sent will no longer have mechanisms that can only be a receiver, and the value of the process of information transfer ownership was recorded by decentralized distributed books, anybody cannot be tampered with, and the formation of intelligent contracts to a certain extent, ensure the business trust agreement of both sides, both automatic access to business value of information transfer should reach the ideal business results. Therefore, the formation of the Blockchain commercial-level technology value circulation network can really enable the efficient and safe transfer of commercial value from point to point.



The core technology of blockchain mainly involves data encryption technology, timestamp, consensus mechanism of distributed nodes, programmable smart contract, etc.

### 3.1 Decentralization

Blockchain is a decentralized distributed architecture. All nodes are networked by point-to-point network protocol, and each node is distributed in a genealogy. The trust between nodes is established by mathematical algorithm rather than centralized organization, thus ensuring that each node has equal rights and obligations.

Since nodes have dual identities of buyers and sellers, the transaction information and data will be redundant backup in each node. Data damage of a single node will not affect the integrity of the entire information system, that is, a single node cannot realize arbitrary manipulation of data. Blockchain network realizes self-verification, transmission and management of data in the form of distributed records. It is precisely because the block chain technology has the function of the nodes jointly maintaining the information system and does not rely on the characteristics of the centralized system that the data information system based on the block chain technology has a strong resistance to denatured.

### 3.2 Trustless

Blockchain is completely transparent, and the internal data information of the system and the operating rules of the system are clearly visible. The exchange and update of information and data need to be verified by all network nodes with the help of digital signature technology, so the whole process can be completed without mutual trust. The application of digital signature technology relies on two asymmetric ciphers in the principle of asymmetric encryption – public key and private key to encrypt and decrypt data. The private key is kept strictly confidential to ensure the security of the transmitted data; The public key is fully disclosed to ensure the authenticity of the source data. Through this mechanism, each node of the blockchain can only rely on encryption algorithms and distributed consensus algorithms to reach consensus with other nodes without trusting each other.

### 3.3 Verifiability

The verifiability of blockchain is based on the application of timestamp technology to its data storage structure. The timestamp technology extends the time dimension to the chain-type block structure, which not only realizes the verifiability of blockchain data storage, but also realizes the traceability of data information. Blockchain proves the existence of block data through timestamps, which provides the basis for the creation of untampered and unforgeable blockchain database. The innovative introduction of timestamps in blockchain has laid a foundation for the application of blockchain technology in the field of data storage with time dimension.

### 3.4 Programmability

Blockchain is flexible and programmable. Blockchain systems are able to build automated and efficient smart contracts with the help of scripted code built into data blocks. Smart contracts can automatically judge pre-set state transition rules and trigger contract execution conditions, which not only ensures the fairness of contract execution process, but also greatly improves the efficiency of contract execution, providing a programmable mode for intelligent information exchange based on blockchain technology in the future.



## 4. The development history of blockchain

### 4.1 Birth and Development

In November 2008, Satoshi Nakamoto published a paper “Bitcoin: A Peer-to-Peer Electronic Cash System” first proposed the concept of Bitcoin. Nakamoto in the paper described the hope to create a set based on cryptographic principles and not based on credit, so that any agreement between the two parties can directly pay, do not need the participation of a third party intermediary electronic payment system. On January 3, 2009, the BTC issuing and trading system based on the blockchain technology officially started to run. With the generation of BTC, the first block in the blockchain, BTC was born. On January 12, 2009, Satoshi Nakamoto sent 10 Bitcoins to cryptography expert Halfini. In July 2010, the Bitcoin exchange Mt.Gox was established, and the value of Bitcoin was recognized around the world. Since 2010, Bitcoin trading platforms have emerged in many countries around the world, and a large number of investors have competed to buy and sell Bitcoin as an investment product. As a result, the price of Bitcoin began to rise in violent fluctuations, and it has gradually been recognized around the world. On issues such as the security and controllability of Bitcoin technology, the supervision of Bitcoin transaction and the legal status of Bitcoin, governments in the past few years have carried out continuous discussions with different attitudes, but the research and application enthusiasm for the underlying technology of Bitcoin blockchain is growing.

### 4.2 Technological Development

So far, blockchain technology has been in the transition from 1.0 to 3.0.

- Blockchain 1.0 era: Known as the era of blockchain currency, represented by Bitcoin, it is mainly aimed at solving the decentralized management of currency and means of payment.
- Blockchain 2.0 era: Known as the era of blockchain contracts, represented by smart contracts, it decentralizes the entire Internet application market on a broader scale, rather than just the circulation of currencies. Blockchain technology can be used to achieve the conversion of more digital assets, thus creating value for digital assets. All financial transactions and digital assets can be modified to be used on the blockchain, including financial products such as stocks, private equity, crowdfunding, bonds, hedge funds, futures, options, or digital records such as digital rights, certificates, identity records, patents, etc.
- Blockchain 3.0 era: Known as the era of blockchain governance, it is an era in which blockchain technology is combined with the real economy and the real industry, combining chain accounting, smart contracts and the physical field to realize decentralized autonomy and give full play to the value of blockchain.



## 5. Blockchain Design Concept

The concept of blockchain design involves the principle of choosing the main chain, where branches of different heights accept the longest one; The same height, the most difficult to accept; High difficulty has been, accept the network broadcast the earliest; All are the same, in the order the network accepts (node validation).Blockchain design mode in the balance of advantages and disadvantages, after examining the rational economic thinking, to maximize the security of the entire system operation. Of course, there are still some problems with its design concept, such as expansion in the later stage, lengthy transaction time, 51% attack and so on, all of which need to be improved by the later stage team. Bitcoin, as the most successful instance of blockchain landing in the real world, brings a lot of imagination space for more practical scenarios in the future.

There are three core technologies of blockchain design, which are also the three essential technologies that make up blockchain technology, namely: consensus mechanism, distributed storage and cryptography technology. The revolutionary nature of Blockchain technology is precisely that it transforms the trust between people and people into the trust between people and technology. The birth of Blockchain marks the beginning of the construction of the Internet that can be truly trusted.





## 6. Significance of Blockchain

Blockchain, developed in the early 21st century, is currently considered to be the most potential and imaginative technological innovation in the world. It is a decentralized network that can realize the peer-to-peer exchange of value, known as the Internet of Value. The most important function of blockchain is to solve the problem of intermediary credit. In the past, it was difficult for two people who didn't know each other and trusted each other to work together. They had to rely on a third party. For example, payment behavior, in the past, any kind of transfer, there must be a bank or Alipay such institutions. But through blockchain technology, Bitcoin is the first time that humans can transfer money with mutual trust without the involvement of any intermediary. This is a major breakthrough for blockchain. It has the following four main utility:

- The first utility: reducing commercial friction, in fact, is to play to the shareable, tamper-free database characteristics of blockchain. If multiple stakeholders share the same account, there will be less dispute.
- The second utility is to price non-standard goods. In the middle of a blockchain, tokens can represent any commodity and are more liquid than ever before. The more liquid a market is, and the more dispersed supply and demand are, the more efficient and precise the pricing of goods will be.
- The third utility: large-scale distributed collaboration. Distributed collaboration organization DCO through the token to confirm the contribution, more fair.
- Fourth utility: lower cost of use. Through block chain technology, computing, content addressing technology and other technologies, the operation mode of distributed overlaying the high operation and maintenance cost of traditional centralized computer room is realized, and idle resources are rationally utilized to return benefits to users.



# NECC: Nature Energy Chain

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## 7. Company background

Since its establishment, NECC Foundation has adhered to the management tenet of cooperation and win-win cooperation, adhered to the concept of creating wealth with integrity and leading the industry with innovation, standardized management and coordinated development. Our standardized investment operation process and perfect risk control system also has a place in the industry. The technology development of both blockchain and smart medicine chain has formed a huge influence in the industry. As an active researcher, we continue to improve the market profitability and competitiveness to achieve and maintain high-speed and sustainable development, so as to create a successful enterprise value benchmark and gain profits.

Most of the major members of the NECC Foundation are business leaders with rich experience and outstanding competence. They are both innovative and pragmatic. The internal mechanism of the company is sound, the organization is reasonable, the management mechanism is flexible, the development idea is clear. In the spirit of pioneering, honest and pragmatic, unity and innovation of the spirit of enterprise to constantly build a high-end platform of the storm.

### 7.1 The original intention of the Laboratory

In order to build a complete and effective set of coin win exchange NECC plate, in order to more effectively use the blockchain technology system, better give the global enterprise circulation value network. Adopted by the international top technical team composed of the NECC research laboratory, aim on the design and demand from NECC, NECC and related block chain technology exploration and research of various properties and characteristics of security mechanism, to help enterprises and institutions from algorithm, protocol and many challenges, such as system security so as to boost the global commercial grade value circulation network “blockchain+” build the safest service solution, the escort for the innovation and development in the field of NECC.

### 7.2 Laboratory technical team

Research laboratory core team members have safety test for hundreds of enterprises and institutions in the world and the security services, covering energy, banking, digital currency exchange, such as dozens of industries, and has set up hundreds of signing with a line of defense security expert practical experience, to provide strong security sustainable ability of output. He has rich experience in blockchain technology and is also involved in hydrogen energy.





## 8. Introduction of NECC

NECC, is an ecological interactive platform for sustainable energy, which aims to solve problems such as energy shortage in the form of blockchain technology. At present, the blockchain industry has entered the third stage of commercial application explosion, while the global energy blockchain is in the exploration stage, NECC hydrogen energy chain came into being.

NECC – Renewable Hydrogen Energy Trading System is launched by the World Hydrogen Energy Foundation to the world. Based on advanced and mature hydrogen energy extraction and storage technologies, combined with blockchain, NECC creates a decentralized renewable hydrogen energy alliance ecosystem. The ecosystem of the alliance chain includes users, research institutes affiliated to the World Hydrogen Energy Foundation, leading hydrogen energy enterprises in the world, application developers, auditors, notaries and supervisors, etc. The operation and development of NECC will go through three stages, namely, the existing hydrogen energy industry chain consensus, the development of hydrogen energy application market, and the construction of hydrogen energy industry alliance. NECC is currently in the first phase of its mission.

The NECC hydrogen energy chain achieves blockchain connectivity in the industry. For example, it has connected with China Hydrogen Energy Association, the leading hydrogen energy enterprise in China, to jointly promote the application of hydrogen energy chain, such as the hydrogen energy bridge vehicle that will be launched in the near future. Hydrogen serves as the fuel for cars. Hydrogen as energy for small planes and so on. NECC issuance mechanism, NECC total issuance of 13 million, for the development of the hydrogen industry chain, 10 million NECC is divided into 25,000 mining machines corresponding to different stages of digging. 3 million will be excavated in advance, 1.5 million will be used for airdrop reward, and 1.5 million will be used for recommendation reward. 80NECC will be directly shared and 40NECC will be indirectly shared.



## 9. NECC Development Plan

Currently, NECC is mainly focused on hydrogen energy. It will go through three stages: existing consensus on hydrogen energy industry chain, development of hydrogen energy application market, and construction of hydrogen energy industry alliance. NECC is currently in the first phase of its mission

### 9.1 Consensus Building

Consensus to build this piece of current through online and offline promotion, the current currency address has more than one thousand.

### 9.2 Industry Landing

We have reached a consensus with a domestic hydrogen energy company about the landing of the industry, and will launch China's first hydrogen energy supercar and hydrogen energy coupe at the end of 2022. Only 10 cars will be launched globally, and all of them are customized and full of carbon fiber body. Focusing on the side for the user to provide energy applications, including distributed energy, energy storage, electric cars and so on, through the Dutch side (especially energy-intensive users) integrated energy management, demand response, market transactions, etc., can significantly improve energy efficiency, reduce costs, increase demand side benefit and enterprise profit, to promote the use of renewable energy.

### 9.3 Industrial Alliance

At present, it has made positive communication with several leading enterprises in China, and actively participated in the establishment of China Hydrogen Energy Association, committed to serving the hydrogen energy industry with blockchain technology. Improve the system's controllability, reliability and self-balancing ability, reduce external dependence, improve the investment efficiency of the system, and further optimize and improve the utilization efficiency of renewable energy. Finally, the NECC hydrogen energy chain can realize the interconnection of blockchain in the industry. For example, it has connected with China Hydrogen Energy Association, the leading hydrogen energy enterprise in China, to jointly promote the application of hydrogen energy chain, such as the hydrogen energy bridge vehicle that will be launched in the near future. Hydrogen serves as the fuel for cars. Hydrogen as energy for small planes and so on. NECC issuance mechanism, NECC total issuance of 13 million, for the development of the hydrogen industry chain, 10 million NECC is divided into 25,000 mining machines corresponding to different stages of digging. 3 million will be excavated in advance, 1.5 million will be used for airdrop reward, and 1.5 million

will be used for recommendation reward. 80 NECC will be directly shared and 40 NECC will be indirectly shared.

#### **9.4 NECC 's application scenarios**

For enterprises (groups) whose main business is equipment sales in the field of renewable energy or engineering services, under the trend of energy Internet, business models can be extended from equipment to integration, finance, value-added services and other fields, so as to maximize the trading market of renewable energy. Through the evolution of the business model, a relatively complete business ecosystem and multi-link income channels can be formed, and by providing multi-level comprehensive services to users, additional benefits can be obtained, and the stable operation ability of the company can be improved. However, the specific business evolution route should be based on the industrial base, business model and governance structure of each enterprise, combined with the policies and resources of the main business areas and regions to conduct in-depth analysis, so as to best serve the transaction needs of different levels and different nodes.





## 10. NECC 's profit

Further sorting out NECC 's business model, in addition to the construction of industry and business chain, the ideal profit model can be decomposed into four aspects for specific projects: potential revenue sources, core services, basic services, and value-added services.

### 10.1 Potential sources of revenue

This mode is mainly applied to the park. In terms of land appreciation, it is mainly reflected in the increase of occupancy rate, the increase of construction rate and the improvement of environment. In terms of energy procurement, it is mainly reflected in the increase of energy use in the park and the improvement of energy bargaining power.

### 10.2 Core Services

Enterprises must have their own core products and certain payment collection ability, so as to promote the follow-up construction of the renewable hydrogen energy trading system and achieve rolling development. Of course, they can also find enough high-quality enterprises to cooperate and bear the risk of early loss together. We mainly include integrated energy services. In terms of energy services, mainly reflected in hydrogen energy, cost savings, to maximize the feasibility and simplicity of renewable hydrogen energy trading.

### 10.3 Basic Services

It is a service platform. In the early stage, it is in the integration of the energy system, and in the later stage, it needs to have the technical capabilities of load forecasting, transaction pricing, energy efficiency management and so on. Capital is an investment platform, and sufficient capital is needed to support the development and operation of the entire trading system, which requires guarantees in financing channels.

### 10.4 The Appreciation Service

About the ideal profit model, it needs to be explained that: not one enterprise can do all the business, but the need for multiple participation; Not all time nodes should follow this mode, but it can be carried out and implemented in stages, select-fully and with division of labor. For example, we set the target of hydrogen energy at present, we will start with hydrogen energy, and then try to integrate the business of users, gas and other aspects to gradually form the capability. In addition to a single project, enterprises should also pay attention to the organic integration of the industrial chain. After all, the income of a single project is limited, and the profit level can be improved through integration.



# NECC's Technical Framework

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## 11. NECC's Technical Framework

### 11.1 NECC 's design concept

Hydrogen is a kind of green and efficient energy with high calorific value, wide sources and various forms of utilization. It is called the ultimate energy by many scientists. Because of its renewable, the United States, Japan, the carrier, the European Union and other countries not only clear the hydrogen industry chain development strategy, and constantly to inject a lot of money in research and development, block chain through multiple combination of computer technology, is becoming the new technology of distributed architecture, the history of consensus node authentication and store the same set of data, the calculated results is possible.

Since 2015, the problem of excess capacity in various forms of electric energy has become increasingly prominent. While the country is actively promoting the replacement of clean energy and the transformation of energy structure, the economic downturn and the adjustment of industrial structure have led to sluggish energy demand, and the profit growth of the energy industry is increasingly facing difficulties. In technological progress, energy structure adjustment and reform, environmental pressure and deep interest game, driven by the factors such as the energy of the Internet as a breakthrough for the development of energy industry revolution, have been paid much attention by the state, and this year has been on the “Internet+” wisdom energy development guidance, about promoting pluripotent complementary and integrated optimization of the construction of the demonstration project implementation opinion and other documents, actively promote national energy production and consumption revolution, energy industry trade change also has brought the unprecedented development opportunity for the enterprise.

### 11.2 NECC 's overall framework

At the technical level, it provides the underlying technical services of blockchain and the upper technical services of blockchain, achieves internal encapsulation, external modeling and adaptation, provides a series of interfaces in line with the global commercial level diversified application scenarios, and reduces the complexity of application docking. The overall technical architecture of NECC is divided into three components: account center, distributed ledger services, and policy and management. Most of these are implemented from scratch, some using standard open source components, and some are optimized and improved on mature frameworks. Account Center: public and private key generation, public key writing, private key signature and management; Mapping of application layer user information and block chain address; Support real-name authentication and audit regulatory requirements.

Distributed ledger service: the underlying network is formed based on P2P protocol, and the

nodes distribute messages through P2P protocol. Provide the definition of the ledger structure and the storage of ledger data; Pluggable consensus module, responsible for ensuring strong consistency of underlying data while resisting attacks from “malicious” nodes. Adaptation for hydrogen energy trading, including the modeling and implementation of assets, records, transactions, contracts and other trading objects.

Policy and management: to provide complete data privacy security and access policy control solutions. To solve the trading loopholes in the system in a timely manner, and create a service for the trading needs of different users for renewable hydrogen energy.



# Use of Funds

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## 12. Use of Funds

### 12.1 Research and development ratio

To build a highly concurrent and highly available renewable energy interaction platform, the system adopts advanced technologies and concepts. At present, the research and development of NECC is in the early stage, and the application of blockchain is also in the development stage, which makes the implementation difficult. In addition, in order to facilitate the rapid formation of NECC's commercial ecosystem and the rapid development of the platform's core computing, the NECC experimental team will invest a large amount of money in the use of NECC, aiming to make it rapid. At the same time, the development of hydrogen energy interactive platform is also one of the main construction scenarios of the team, in order to solve the problem of renewable energy shortage in the world more quickly and efficiently. As a result, 60 per cent of the funds will be spent mainly on research and development.

### 12.2 Operation Ratio

After the official establishment of the renewable energy interactive platform, its background system will have high security, and the internal system needs to be continuously optimized. At the same time, energy is needed to ensure the safe and smooth operation of the NECC system after it is officially launched. Therefore, the team will use the funds raised in the volume of investment to optimize and maintain the NECC system and maintain its market development. Therefore, 15% of the funds will be invested in operational maintenance and so on.

### 12.3 Promotion Ratio

The stable development of NECC will take some time. If we want to build the renewable energy interactive platform ecology in a relatively short period of time and accommodate more use scenarios of end users, the business scenarios we are facing are relatively complex, because there is not only one type of energy. At present, we mainly focus on hydrogen energy, which will also face the different needs of various users, leading to the diversification of system design, so the team needs to carry out diversification of strategic layout. A large proportion of investment needs to be maintained for the rapid formation of NEC platform environment and the overall promotion and promotion for end users. Therefore, 15% of the funds will be invested in the promotion expenses of the platform.

### 12.4 Others

In the process of project development and operation, some unexpected situations may occur or sometimes humanistic care, subsidies or insurance for team members may be needed.



# The Team

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13.1	Amar Bhardwaj	
13.2	Brandon Walsh	
13.3	Olivier Machet	
13.4	Grant Strem	
13.5	Aminah	
13.6	Alexander Leonov	





## 13. The Team

### 13.1 Amar Bhardwaj

- Founder & CEO
- Master Degree of Stanford University, Marshall Scholar
- More than 3 years of experience, Lead Student Researcher, Solar Fuels Engineering Lab at Columbia University, Developed a strategy for Columbia to decarbonize its energy infrastructure by 2035



### 13.2 Brandon Walsh

- Co-founder, Marketing Director
- Grand Valley State University
- More than 8 years of experience, Network Marketing of Black Diamond, VP of Digital Marketing of Palmetto, Florida, IBM Software Trainer





### 13.3 Olivier Machet

- Co-founder & CTO
- HEC Paris Executive MBA
- More than 15 years of experience, TECHNICAL & BUSINESS PROGRAM DIRECTOR ENGIE Fab, Engie Group Incubator, Project Director on multi megawatt scale hydrogen project.



### 13.4 Grant Strem

- Adviser
- Hydrogen Energy Engineer of Proton Technologies Canada
- Canada's entrepreneurial university, A top research university



### 13.5 Aminah

- Business Director
- The University of Hull
- More than 5 years of experience of Chemical Engineer. Passionate about the energy transition



### 13.6 Alexander Leonov

- Blockchain Development Leader
- More than 5 years of experience, expert in development of blockchains and mining software. Blockchain development of Netbox.Global





# Future Planning

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## 14. Future Planning

With the further maturity of NECC technology and blockchain technology and the increase of their application, more and more enterprise users will join the NECC ecosystem, which accelerates the pace of NECC globalization. In the future, NECC will expand to multiple scenarios with renewable energy trading applications at its core.

### 14.1 Initial Stage

Open up the market application of major energy sources such as hydrogen energy, and gradually expand to the application of other renewable energy sources such as sound and light. The application market of renewable energy trading system will be gradually expanded to attract more users and investors.

### 14.2 Development Period

Through the global ecological link of NECC project, to realize the full circulation of all NECC project sectors and projects. At the same time, it can attract a large number of traditional enterprises, online and offline merchants, and all application scenarios of online communities to join the big ecology of NECC.

### 14.3 Future

NECC technologies and markets will mature to better integrate various application scenarios, leading to a renewable energy blockchain ecosystem. We will continue to explore and innovate, try our best to improve blockchain technology, and make corresponding efforts and innovative development for the further development of renewable energy industry.

# VIII Statement of Risk Control

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## 15. Statement of Risk Control

### 15.1 Risk Reminder

Digital asset investment as a new investment model, there are various risks, potential investors need to carefully evaluate the investment risk and their own risk tolerance. In addition, this document is used to introduce the development and operation of blockchain and the relevant situation of NECC project, the innovation sector of Binyin Exchange. It is only used to convey information, and does not constitute the relevant opinions of NECC investment, nor does there exist any form of contract or commitment.

Relevant prospective users shall clearly understand the risks of the NECC project. Once the investor participates in the investment, it means that he understands and accepts the risks of the project and is willing to personally bear all the corresponding results or consequences. The project team will not bear any loss of assets caused by participating in NECC project. It is prohibited to use NECC project to engage in money laundering, smuggling, commercial bribery and other illegal trading activities as well as violating national laws. If any illegal incidents are found, the user will cooperate with the trading platform to freeze his/her account and immediately report to the public security organ. All losses arising therefrom will be borne by the user himself/herself.

### 15.2 Project Risks

#### 15.2.1 Policy Risks

Blockchain technology is at an early stage, and the regulatory policies of various countries for blockchain projects will be unclear, and the project may have changes in the operating body and operation management. In addition, NECC project belongs to the innovative development stage, which requires continuous research and development and testing to obtain the market operation qualification.

#### 15.2.2 Volatility Risk

The digital assets issued by NECC are not legal tender, and the price fluctuates greatly, which requires investors to have certain psychological tolerance. Digital asset trading exists high risk (boom collapsed, market manipulation, team is dissolved, technical defects, etc.), as a global virtual digital currency, is 24 hours a day trading, there is no limit, easy price because the banker, and the influence of the global government policy, it is strongly recommended that you, within the scope of their own can bear the risk of, to participate in the virtual currency trading.

### 15.2.3 Technical Risks

The NECC technology and the blockchain technology used in the continuous research and development are in the development stage and cannot be guaranteed to avoid technical loopholes and hacker attacks in the project operation; Team risks: we cannot guarantee that the core staff will leave due to pressure, physical and personal factors in the development process of NECC, but we can guarantee that the replacement of the team will surely make the project develop more steadily.

### 15.2.4 Return Risk

The return on investment is highly variable and difficult to guarantee. We expect the NECC project to become profitable within three months after its launch into the market, but no guarantee is given. Under some possible market conditions, it may take one or two years or even longer to realize. Capital risk: the project may need a lot of money to pay the cost of operation, development, marketing, etc, in a market environment, if you need additional funding, project may not be able to receive timely, in this case, is likely to lead to delay of project development, market development, persist, project is likely to stop operating.

## 15.3 Disclaimer

This article is intended for informational purposes only and does not constitute an opinion on buying or selling digital currencies. The above information or analysis does not constitute any investment decision or specific recommendation. Once the investor participates in the investment, it means that he understands and accepts the risks of the project and is willing to personally bear the corresponding investment consequences. This document does not constitute or be construed as an offer to buy or sell, or an invitation to buy or sell, any security of any kind, nor is it an agreement or commitment of any kind.