Version v 1.0

Green
Energy
CryptoToken

Green Energy Crypto Token

Establishing a reliable dividend-based security crypto-token

2019/3/18

Content

Abstract

Energy is indispensable to the development of global economy. In the current Internet era, with the development trend of interconnection, the development of large servers, Intelligent Cloud Storage and other technologies has produced unprecedented demand for electric energy. So, environmental deterioration and climate warming caused by traditional energy sources such as coal and natural gas are becoming more and more serious.

Renewable energy, such as solar energy and wind energy, are more clean, sustainable and low-cost, and are gradually favored by all countries. However, there is a major obstacle of capital supply to renewable energy supply chain during construction period. Centralized regulation makes renewable energy supply chain inefficient and fraudulent as well.

GECT was based on block chain technology; it can monitor the whole process of renewable energy supply chain. It can not only solve the problem of fund supply during construction period, but also enable participants to monitor the whole process and truly prevent fraud. At the same time, each GECT has equity value because it is linked to real new energy assets. It can not only circulate in the digital world, but also bring bonus candy to holders every year.

This white paper mainly shows the technical principle, application scenario, governance scheme, issuance strategy, and issuance scale of GECT.

GECT will effectively change the issue of renewable energy supply chain, aiming to provide more renewable power for the global population and allow more participants with a common sense of mission to enter the renewable energy field.

The main application scenarios of GECT are renewable power consumption, payment of renewable energy products and services, exchange of fiat currency or other digital currency, and serving as a settlement and investment tool.

I. Project Overview

As a kind of digital crypto-token linked with the equity value of green energy assets, GECT (with the full name as Green Energy Crypto-token) specially provides the institutions and individuals with a kind of credible crypto digital token in the digital world and aims at realizing the right transfer or value exchange between all digital assets. At the same time it uses the actual accounting principles and decentralized storage technology of the Blockchain to conduct distributed accounting of GECT in circulation to make sure that all the issued GECTs in circulation are true, effective, open and transparent. It is a kind of auditable and cryptographic global ledger with the Blockchain technology as the innovative and embedded consensus mechanism (Dpos[1]).

This is a boon to all digital market participants. Therefore, GECT not only has the function of marking other digital assets and itself but also has the inherent equity value, that is, in addition to the incomes from the trading market, the holders of GECT may get the dividend candy (Dividend Candy [2]).

GECT is registered and issued under the protocol of Ethereum ERC20 [3], and the Blockchain technology is used to bind GECT with physical green energy assets. The income generated by real green energy assets will be converted into the digital equity tokens (that is, digital crypto-token) so the person or institution holding GECT can share this income, thereby making the GECT have the functions of hedging and upvaluation.

II. Our vision, mission and value

GECT is committed to becoming the encrypted digital currency with intrinsic and circulation value in the global digital asset field, and to be an Alipay in digital currency settlement eventually

Make it our duty to improve the efficiency of renewable energy use and reduce global carbon emissions

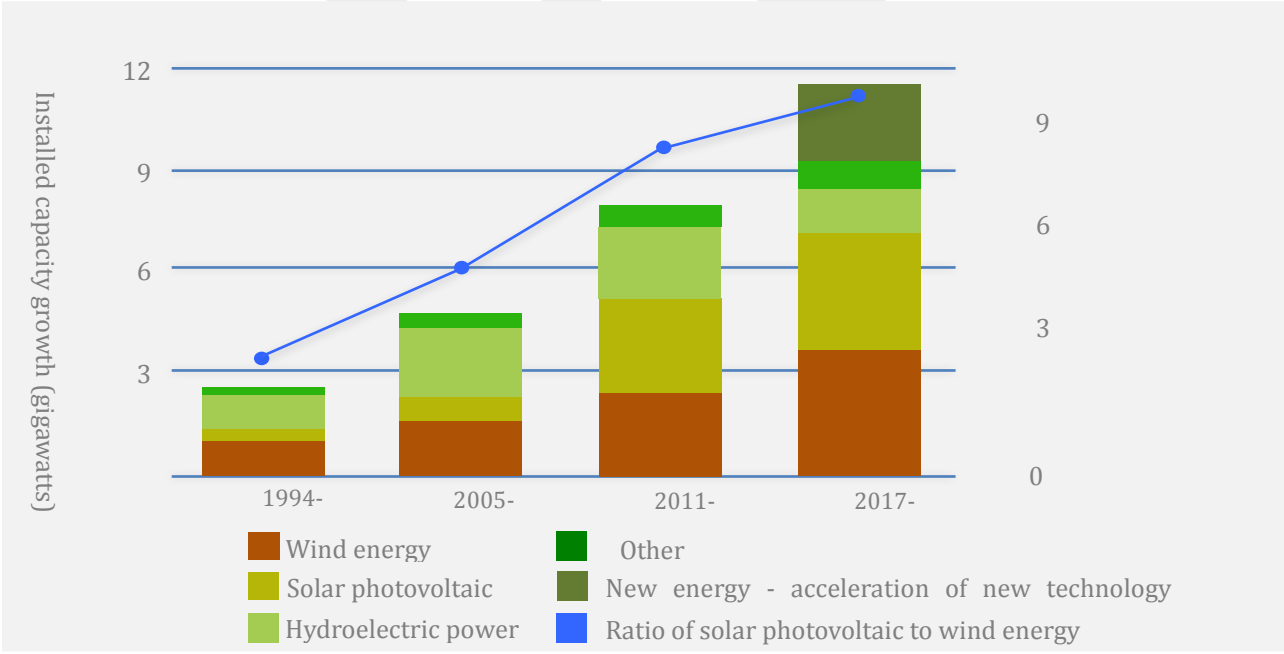
Adhering to the principle of serving the real economy with Blockchain technology, and to set up a credible renewable energy trading platform

III. Industry trends

3.1 Current Situation and Prospect of Global Renewable Energy Development

Energy has always been one of the biggest problems facing by all countries in the world. Owing to the demand of developing the economy, many countries need to consume a huge of energy, and most of countries depend on coal-fired power plants to meet their demands in the present.

With global climate warming, its situation is gradually making change1. The World Environment Organization strongly advocates that countries reduce CO2 emissions in the process of energy production. At the meanwhile, Chinese top leader make a pledge at the World Environment Protection Conference that carbon dioxide emissions per unit of China's gross domestic product（GDP）by 2020, which will be 40%~50% lower than in 2005, and make the sky blue. Because solar energy and wind energy are cleaner, more sustainable and cheaper than fossil fuels, so that green power generation is becoming more and more popular in various countries. Governments have strengthened the development of renewable and clean energy; especially in the aspect of marketing absorption will be fully guaranteed. For example, in the Act on Regulation of Power Supply, which was amended by the Energy Bureau of the National Development and Reform Commission of China on August 15, 2018, it requires that the incremental distribution network, micro-grid, equitable connection of distributed green energy and preferential absorption of clean power will be guaranteed, which provides policy basis and guarantee for the access, transmission and absorption of urban power energy supply system, especially distributed green power energy.



Source: Renewable energy, 2017, IEA

Many countries in the world are vigorously promoting green distributed energy. In 2016, the global total energy output is about 24,767Twh. Renewable energy provides enough electricity to supply 24.5%2 of the global total output. Renewable energy power generation has reached the largest annual

growth rate ever. Its capacity has increased by 161GW, and more than 45% of the newly installed renewable energy sources are solar photovoltaic power. As shown in the figure below, renewable energy continues to grow during the transformation of the global energy industry, while the consumption of traditional petrochemical energy resources is declining year by year.

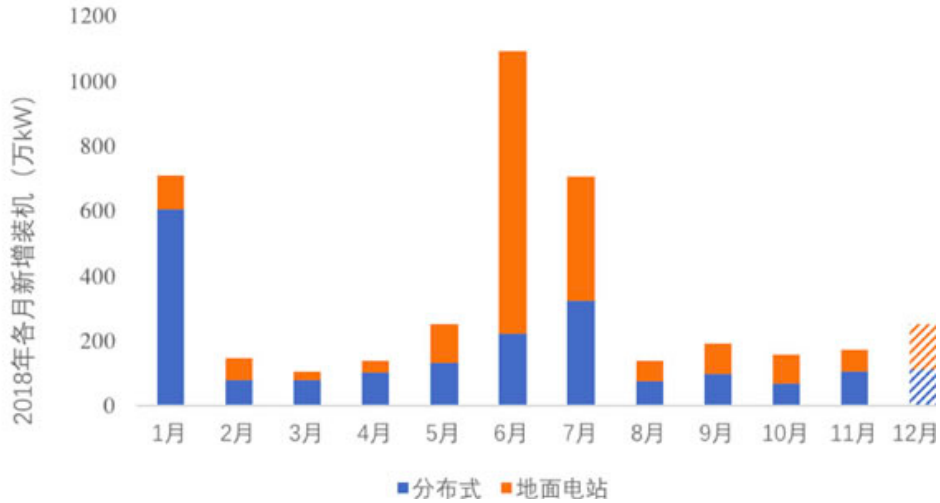
Over the past five years, distributed power in the United States, especially rooftop solar power, which grew rapidly as component prices declined.

According to the statistics of the State Energy Administration of China, by the end of 2018, China, It has added 40GW of new photovoltaic power plants, with a total installed capacity of 174.5 GW (of which is 50.61 GW of distributed photovoltaic power plants and 123.84 GW of centralized photovoltaic power plants). It is the country with the largest installed capacity of photovoltaic power plants in the world.

Overview the world, the unprecedented growth in renewable energy deployments that was enable solar and wind energy to greatly increase their value in developing and emerging economies. Looking ahead, renewable energy will continue to grow.

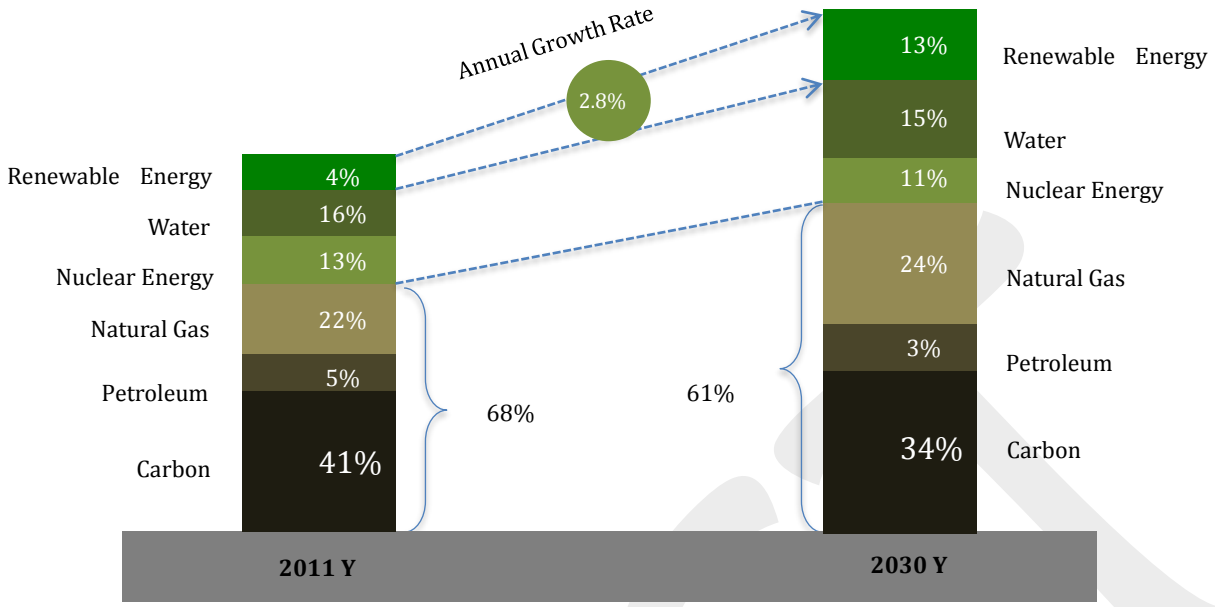
According to the "13th Five-Year Plan for Solar Energy", by 2020, the cumulative installed capacity of photovoltaic power generation in China will reach 105 million kilowatts, of which distributed photovoltaic power plants will account for 22.5 million kilowatts.

It is said by Bloomberg New Energy Finance (BNEF), the annual net increase in renewable energy will be much larger than the outdated traditional energy sources (such as energy resources of coal and natural gas) under the premise of increasing global energy demand. It is estimated that between 2017



and 2040, global electricity and energy demand will increase by 58%. By 2040, global new power generation that will reach 10.2 trillion US dollars, of which 72% (US$7.4 trillion) of total investment will be used. As for renewable energy, while solar and wind power will be dominated, with investments of $2.8 trillion and $3.3 trillion respectively6. By 2040, solar and wind energy will account for 48% of global installed capacity and 34% of global electricity generation.

3.2 Status of renewable energy supply chain



Source: Renewable Energy, 2017, IEA

As energy is an important resource for a country's development, governments all over the world control energy resources. Over the past decades, in a regulated energy market, the entire process of energy supply chain from construction, generation, transmission, distribution to meter terminals， all of which has been operated solely by government-affiliated public utilities.

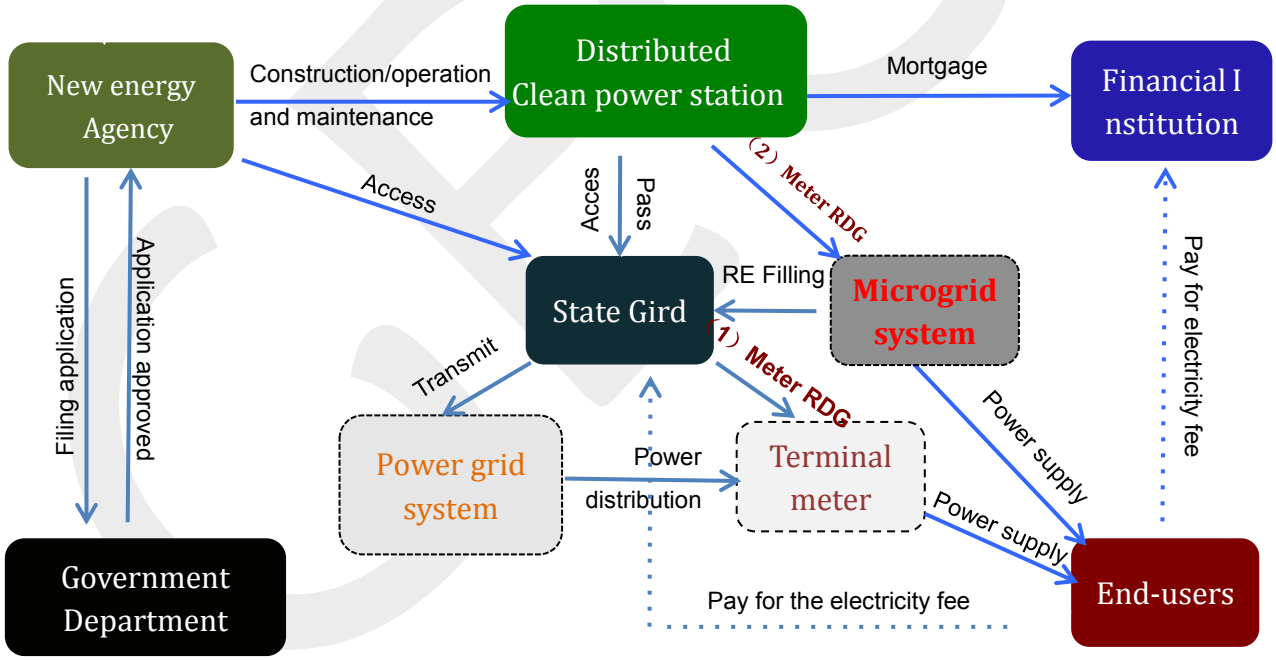
Take the United States as an example; the United States is facing the problem of mismatch between distribution and consumption. The power system includes power generation and transmission of power stations. The power system of the United States is established by the National Electricity Commission (NERC) and implemented by the Federal Energy Management Commission (FERC). The regional power distribution system consists of regional utility companies, which directly provide electricity to local communities under the supervision of state and local governments. Apparently, utilities monopolize the electricity market in the United States. Traditional utility models generate more than $360 billion in electricity revenue annually in the United States.

With the gradual deterioration of the global environment, the global warming effect is intensifying, and more and more countries are beginning to realize that it is imperative to liberalize the renewable energy market and vigorously develop renewable energy. At the World Climate and Environment Conference held in Paris in November 2015, Chinese national leaders pledged that “in the future, China will further increase its efforts to control greenhouse gas emissions and strive to achieve a 40%-45% reduction in carbon intensity by 2020” At the same time, he pointed out that "in addition to governments, enterprises, non-governmental organizations and other social resources should be mobilized to participate in the process of international cooperation, raise public awareness and form synergy"; and further emphasize that "the Paris agreement should be conducive to increasing investment and strengthening action security.

Access to financial technical support and improved response capacity are prerequisites for developing countries to implement climate change action. Developed countries should implement a commitment of mobilizing 100 billion U.S. dollars per year by 2020 and provide stronger financial support to developing countries after 2020. In addition, the climate-friendly technologies should be transferred to developing China so that to help them develop a green economy.

For renewable electricity sources to access the national public grid, governments around the world have taken action. China has also accelerated the pace of reform on the power supply side, attaches importance to market development and supervision, and access, transmission and distribution of urban power energy supply systems, especially distributed solar photovoltaic power plants, distributed wind power plants and other green clean energy power stations. And consumption, providing policy basis and guarantee, and promoting more and more non-government institutions and private enterprises to enter the new energy power supply industry.

In an open energy market, that every part of the supply chain can be operated by an independent operator, which is a challenging and once-in-a-lifetime opportunity for the renewable energy supply chain. It was in this context that GECT was made, and it is expected to support the supply chain of the global renewable energy market. Take China as an example. The supply chain process of renewable energy is shown in the following figure:



Providing construction funds

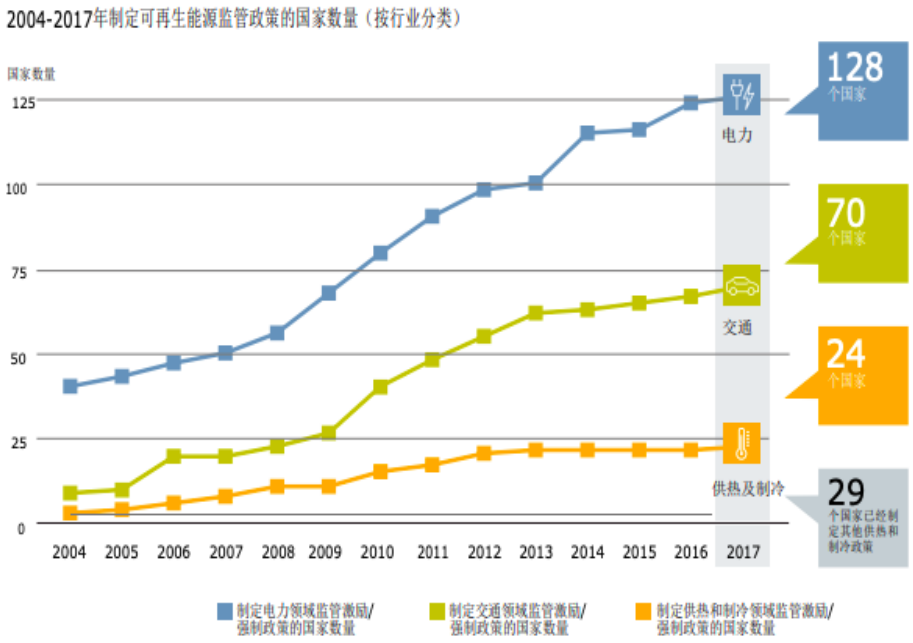
As shown in the above figure, the supply of funds during the construction period is the key in the entire new energy supply chain. Conventional financial institutions lack the professionalism of new energy industry technology, resulting in low regulatory and inefficient methods. They often only conduct credit investigations for owners of new energy projects, and the control of new energy technologies is very weak. Moreover, a centralized approach to regulation can itself be fraudulent. With

the gradual liberalization of renewable energy control in countries around the world, we believe that in the next few decades, more and more companies and even individuals will invest their money in new energy projects. Professionalism, security, cross-domain and fraud-free will be especially important.

GECT was made to solve the above problems in the new energy supply chain. It is based on blockchain technology and monitors the entire process of the new energy supply chain. Thus, GECT cannot only solve the problem of capital supply during the construction period, but also it allows all participants to monitor the entire process and can really prevent fraud. At the same time, each GECT has an equity value due to its linkage to real entity of new energy assets. Not only can you circulate in the digital world, you can buy other digital assets, and you can share the operating bonus candy for those who hold GECT. This is undoubtedly an innovative digital crypto token model in the field of new energy supply chains. We will elaborate on this in the following sections.

3.3 Regulatory posture in the global energy market

Since the publication of the Paris Agreement [4], the global gradual liberalization of the control for the energy market, especially the control of the renewable energy market. In an open energy market, in order to ensure the normal operation of the supply chain system, each part of the supply chain system must be operated by a single independent entity. In the US market, for example, California, Texas, and Michigan have been released. In Europe, most countries in the European Union have opened up the electricity market. Since 2007, the European Union has been striving to eliminate regulatory barriers in order to enable a free-flowing and fully integrated power distribution system throughout Europe to create a market competition for electricity prices, thereby breaking the power supply monopoly and allowing electricity consumers to obtain more affordable electric energy. At the same time, it can also allow more organizations and even individuals to participate and share the dividends brought by new energy.



3.4 Technical innovation is the power for accelerating the transformation of energy structure

Technological advances in power generation equipment and systems that have driven manufacturing to increase efficiency, reduce costs and improve performance. With the further improvement of power grids, ultra-high-speed communication networks (such as 5G) and network security, digital energy is getting closer and closer to us, and is rapidly and fundamentally changing the way energy is produced and consumed. On the supply side, sensors and data analysis help reduce O&M costs, reduce planned outages, and improve power plant and grid efficiency. On the demand side, more and more power companies are using wireless communications and smart appliances to reduce consumer load when necessary. As a result, vehicles and buildings become more interconnected, and process control in the industry that also helps reduce energy consumption.

Traditional power companies, power grid operators and third parties that are jointly developing decentralized energy platforms, including the installation of roof photovoltaic and energy storage batteries at the "meter back end" (the user end of the distribution network) and their operation as virtual power plants. These virtual power plants are integrated through cloud-based intelligent control systems, which make power companies to discharge batteries at the time when consumers and communities reach the greatest interests, and improve the permeability of volatile renewable energy in the grid, while ensuring the stability of the power grid.

The development of blockchain technology is changing with each passing day. It is a public distributed ledger, anonymously recording and confirming digital transactions, representing a new way of sharing information. In the energy sector, blockchain technology provides opportunities for micro-transactions between new consumer markets and solar producers. In the past two years, the number of projects introducing blockchain technology in the energy sector has continued to grow.

According to the Goldman Sachs Market Research Center, the US National Grid will evolve from the existing centralized utility model to the integration of more decentralized resources, real-time quotation systems and closer matching of demand and supply. Nodes can not only send and receive data, but also perform P2P [5] transactions. Therefore, blockchain technology will play an important role in facilitating communication, trading and securing the security of millions of counterparties.

According to a research report by Goldman Sachs, the blockchain will bring about a decentralized energy market, which will not only greatly promote investment activities in distributed energy, but also have a revenue of 2 to 7 billion US dollars. Assigned to new market participants (rather than to traditional utility companies)

Therefore, the future transformation trend of renewable energy is unstoppable. However, even if the development trend of blockchain + distributed energy has been formed, we still find that in this trend, there are obstacles in the supply chain, that is, the supply of funds during the construction period. This is also one of the main problems that have caused uneven development in various regions of the

world. For example, Denmark is currently the only country in the world that promises that all future energy sources will come from renewable sources. In other areas, it is still in the era of "old stone tools" powered by fossil fuels, living in a state of lack of electricity supply.

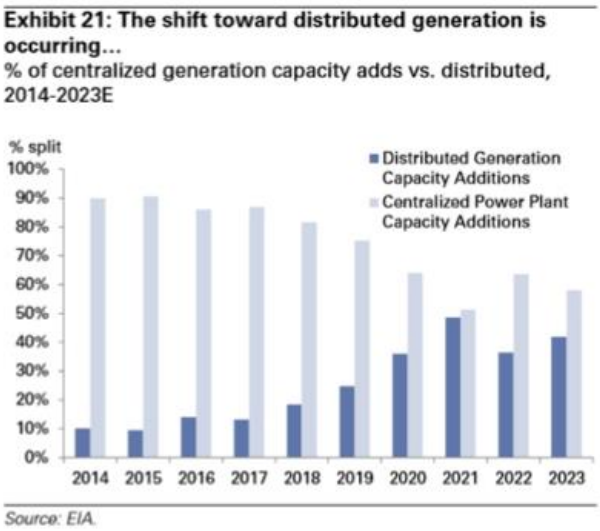


Chart: Trend towards Distributed Electricity Production Centralized Production Capacity VS Distributed Production Capacity
Dark color is distributed and light color is centralized production capacity in 2014-2023 (expected)

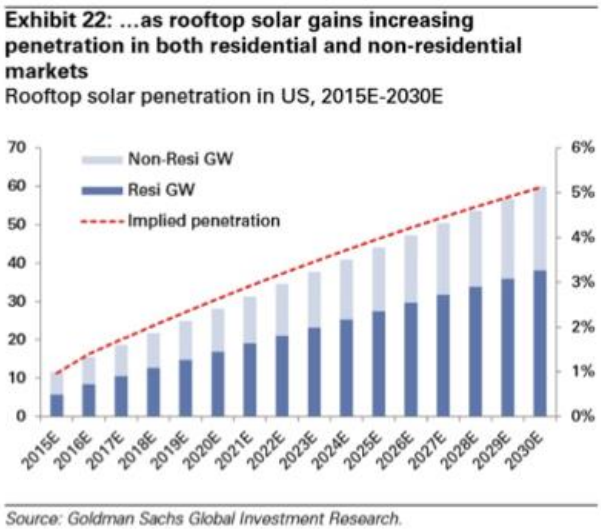


Chart: Roof solar energy is increasing penetration in residential and non-residential electricity markets
Estimated US rooftop solar penetration rate for 2015-2030
The dark color is for residents, the light color is for non-residential electricity, and the dotted line is the expected penetration rate.

The above data sources: EIA (American Electronic Industry Association), EEI, Goldman Sachs Global Investment Research Center

The use of blockchain technology can effectively change the problem of the renewable energy supply chain and allow more people to use renewable energy sources. According to research data from REN21 [6], the 2016 distributed renewable energy system provides living power supply to nearly 300 million people worldwide.

Therefore, it is one of the goals and purposes of GECT as a trusted digital encryption token, which is to allow more participants with a common sense of mission to enter the renewable energy sector and provide more renewable energy to the global population.

IV. GECT based on Blockchain technology

Since the appearance of the decentralized blockchain network with POW [7] as the consensus mechanism created by Dorian S. Nakamoto [8] in 2009, the first genesis block [9] was born and the first Bitcoin was dug out from it. Over 10 years of technical development, this decentralized blockchain network has received global concern and attention and various applications based on the blockchain technology have sprung up. The public blockchain network for various consensus mechanisms have come out, such as the Ethereum (ETH) network of POS [10] of the improved POW consensus mechanism,

the quantum chain (QTUM) [11] of the network called the lightning blockchain [12] and EOS [13] blockchain network of DPoS of the improved POS consensus mechanism and so on. The development and further improvements of these public blockchain underlying technologies have caused various applications to come into existence.

GECT is registered on the Ethereum blockchain network with the use of the most popular Ethereum ERC20 protocol in the world today. It has been improved on the basis of the Ethereum POS consensus mechanism to establish the blockchain network that we use to conduct the digital authentication and authorization of the renewable real entity energy assets, ensuring that all the real entity renewable energy assets on the blockchain are traceable and tamper-resistant and that each GECT transaction is just, fair and open. Moreover, all transactions are carried out under the supervision and signature of each party [14], thus eliminating the fraud of the transactions.

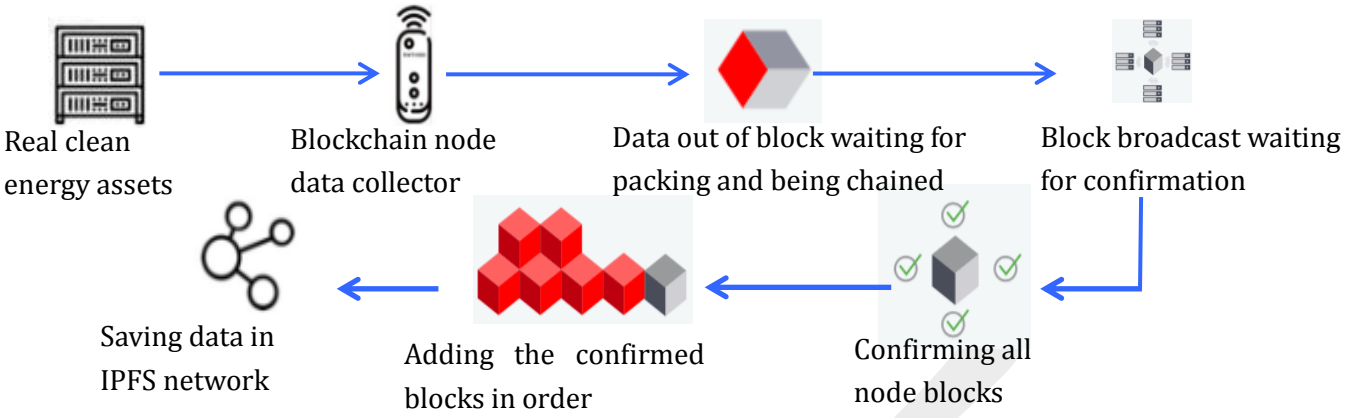
Finally, the data of all real assets will eventually be stored in the decentralized distributed storage network, ie IPFS [15] blockchain storage network, which also fundamentally avoids the possibility that the value of the real assets are tampered, and helps to truly realizes the goal of decentralized blockchain network + distributed energy.

ETH (Mainstream public chain)	DPOS (Improved public chain)
☐ Waste resources	☐ Make full use of the calculation unit
☐ Many invalid blocks	☐ Packing blocks according to the transaction
☐ Low network utilization	☐ Only spread valid blocks
☐ TPS 20+	☐ TPS 10000+

Comparison of the improved consensus mechanism (Dpos) with the conventional Ethereum public chain

4.1 How does the GECT blockchain network authorize and chain the renewable energy assets?

All the real nodes linked by GECT's blockchain public network platform are the data collectors and transmitters that are developed by us independently based on the RS485/network communication protocol [16] and are marked by taking the embedded node module as the only hash value [17] of the blockchain network. The 4G/5G/GPRS [18] network can be used for the real-time point-to-point (P2P) data transmission.



(1) The output data of all real renewable clean energy assets must be collected through our own designed and developed blockchain node data collector to ensure that the real and effective data are collected;

(2) The data collected by the collector is waiting for packing [19] in the GECT blockchain network;

(3) The packed data blocks are broadcast [20] in the GECT blockchain network and all the blocks waiting for being packed are confirmed by all nodes;

(4) After all the nodes receive the broadcast, this block is confirmed after the comparison of height [21] of the front and rear blocks;

(5) The confirmed blocks are sequentially applied to the longest chain [22] of the blockchain network to maintain data consistency;

(6) All confirmed data would eventually be stored in the IPFS storage network to keep the data from being tampered.

As each block depends on all previous blocks, they form an unbreakable chain. No one can destroy the previous blocks without destroying the entire chain, which means that the data cannot be tampered.

Meanwhile, all participating nodes have equal access to information and business logic without the need to be confirmed by the centralized server.

Each application node (the collector carrying the applications) will keep the database of all network transactions (called a "ledger") and take part in transaction verification. The ledger is not stored in any single location, which means that the data it retains is truly public and easy to be verified. This information is not stored on a centralized cloud server so will no be destroyed by hackers or lost due to technical errors.

This blockchain network structure is managed by all participating nodes and establishes the immutable, distributed, public, and growing data records for all transactions occurring on the network. The blockchain can realize trustless transactions without the need of verification and approval for the data or each transaction chained every time from the central administrator or trusted third party,

thereby, saving time and money.

4.2 Smart contract based on the Ethereum

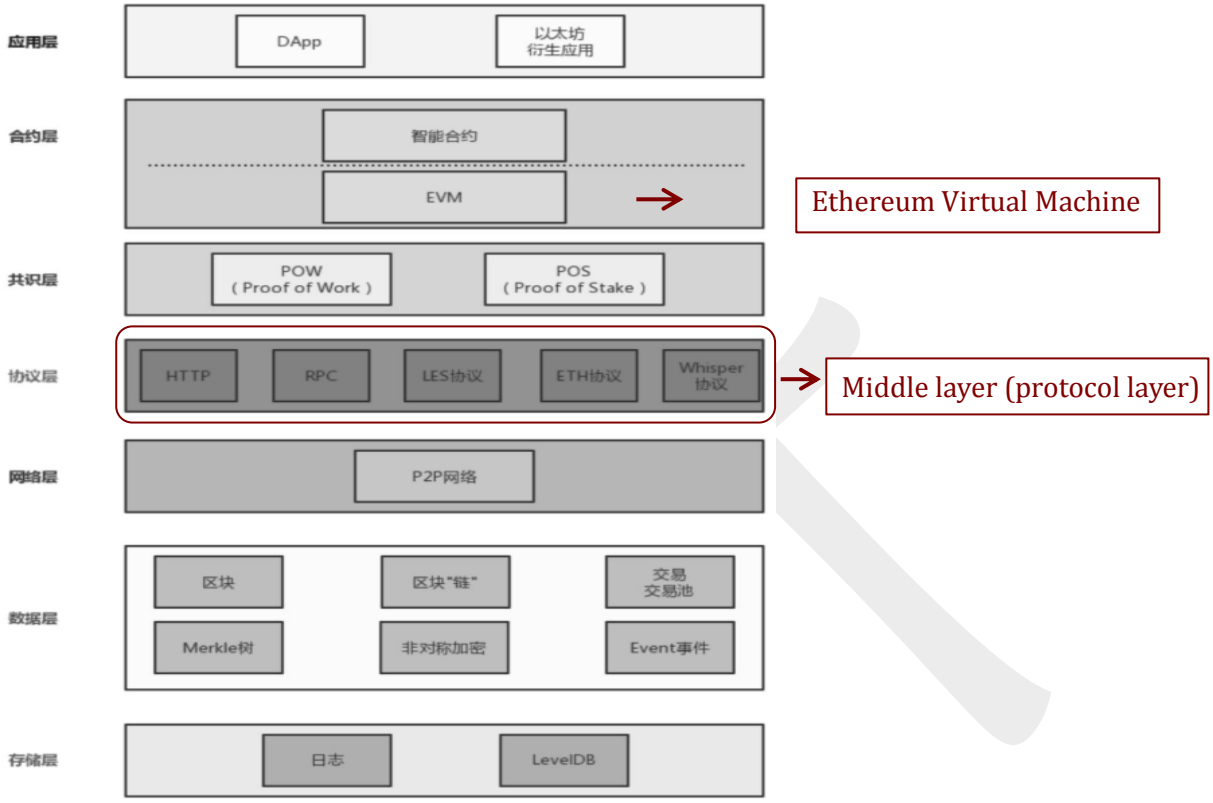
The attributes of GECT are determined that based on the smart contract generated by Ethereum ERC20, which must be linked to the real entity's renewable energy assets and to be used as a digital token for its rights confirmed (ie GECT). All token transacted are to make the real equity of the energy assets a mortgage transaction. The token turn in, turn out or transaction must be carried out after the consensus of the blockchain network node.

The smart contract on Ethereum is performed by Ethereum's virtual machine （EVM [23]）. According to the rules of the Ethereum network, the implementation of smart contracts also requires the consumption of GAS fees [24].

The smart contract of the prepared GECT is deployed to the Ethereum to generate a token with special attributes.

```
//澜链通证 (GECT)
contract GECToken is StandardToken,Controlled {

        //账户集合
        mapping (address => uint256) public balanceOf;
        mapping (address => mapping (address => uint256)) internal allowed;
    //初始化通证参数
        constructor(uint256 _initialAmount, string _tokenName, uint8 _decimalUnits, string _tokenSymbol) public {
        totalSupply = _initialAmount;//10亿
        name = _tokenName;
        symbol = _tokenSymbol;
        decimals = _decimalUnits;
        balanceOf[msg.sender] = totalSupply;
    }
    //根据实体可再生能源资产上链增发
    function mintToken(address target, uint256 mintedAmount) public onlyOwner {
        balanceOf[target] = balanceOf[target].add(mintedAmount);
        totalSupply = totalSupply.add(mintedAmount);
        emit Transfer(0, owner, mintedAmount);
        emit Transfer(owner, target, mintedAmount);
    }


    function transfer(address _to, uint256 _value) public transferAllowed(msg.sender) returns (bool success) {
                require(_to != address(0));
                require(_value <= balanceOf[msg.sender]);

        balanceOf[msg.sender] = balanceOf[msg.sender].sub(_value);
        balanceOf[_to] = balanceOf[_to].add(_value);
        emit Transfer(msg.sender, _to, _value);
        return true;
    }

    function transferFrom(address _from, address _to, uint256 _value) public transferAllowed(_from) returns (bool success) {
                require(_to != address(0));
        require(_value <= balanceOf[_from]);
        require(_value <= allowed[_from][msg.sender]);

        balanceOf[_from] = balanceOf[_from].sub(_value);
        balanceOf[_to] = balanceOf[_to].add(_value);
        allowed[_from][msg.sender] = allowed[_from][msg.sender].sub(_value);
        emit Transfer(_from, _to, _value);
        return true;
    }

    function approve(address _spender, uint256 _value) public returns (bool success) {
        allowed[msg.sender][_spender] = _value;
        emit Approval(msg.sender, _spender, _value);
        return true;
    }

    function allowance(address _owner, address _spender) public view returns (uint256 remaining) {
      return allowed[_owner][_spender];
    }
```

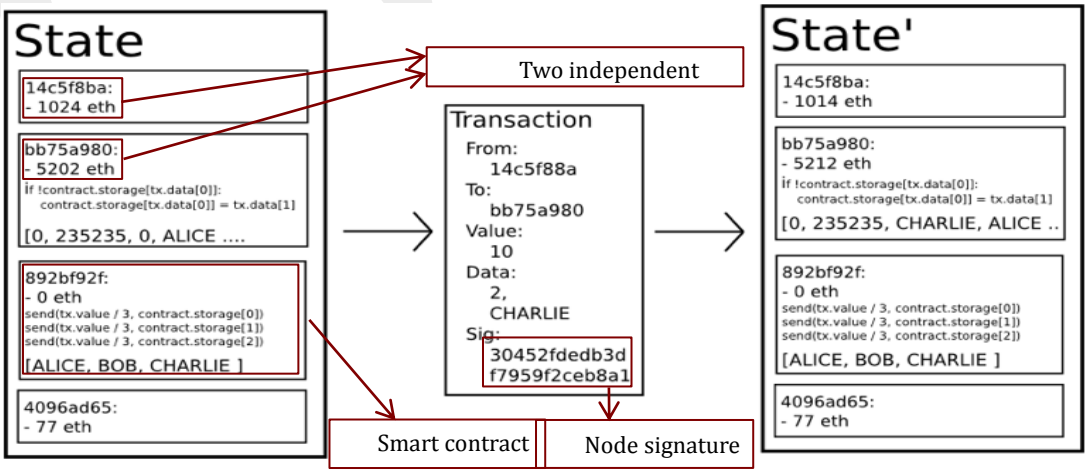
The following is the part code of GECT smart contract, which is the pass-through generation process for the token of the rights of the renewable energy assets:



In the architecture of the Ethereum network, the smart contract is deployed on the Ethereum virtual machine (EVM), which is also the key to decentralization of the blockchain, because in the network without third-party control, all nodes that execute the program with Incentives are needed to maintain the continuous and efficient operation of the entire blockchain network.

4.3 Account model based on the Ethereum

The digital token generated based on the Ethereum ERC20 will have an original account which is similar to the bank's private account. All digital tokens turned in or out or transacted that must be executed after the consensus of the blockchain network node.



The Account model [25] has kept the state of the entire chain that generally exists in the form of StateRoot and ReceiptRoot in the block for the consensus. All transactions are only the events themselves and do not include the results. So the consensus of the transaction is isolated from the consensus of the state in nature, which ensures the fairness, fraud prevention and tamper resistance of the transactions.

As the shown from the above Figure, it could be found that each account is independent without interference and the accounts communicate with each other through messages. So, theoretically, when the users initiates multiple transactions which will not call the same account with each other, the transaction can be executed completely and concurrently, ensuring the high efficiency of the transactions.

In addition, Ethereum's Account model also preserves the code of the smart contract. Thanks to its own state, this Account model has better programmability and the scene application is more extensive.

When there are transactions between the Account models and other accounts, the Ethereum also uses nonce [26] to solve the problem of transaction replay [27]. In the GECT blockchain network, we use a random nonce scheme so there is no dependency between the users' transactions. There will be no series failure and the transactions can be processed in parallel, greatly improving the efficiency of the transactions. For the transfer between the accounts, the transaction content can only contain one amount, so a signature is enough, which can greatly shorten the time of transaction transfer.

In terms of storage for the Account model, nodes store the transaction state. The Ethereum uses MPT [28] for the storage and Block only needs the consensus StateRoot. In such way, for the data on the chain, the smaller the Account model actually is, the smaller the network transmission quantity is. Meanwhile, the state is saved in the way of MPT in local nodes and the space use is also more efficient.

The GECT blockchain network adopts the light node [29] method. Therefore, for the blockchain network adopting the Account model, when the transaction is performed, just according to the status of the "State", it can prove the contract data (code) that was true or false by the current status in the "State Proof".

GECT's digital wallet adopts the method of light node to store the user's GECT digital crypto-token, and generates the wallet public key and private key through asymmetric encryption [30] to ensure the security of the user's account.

4.4 Data collector based on blockchain technology

Realizing the confirmation of renewable energy assets is not simply to upload the data of its collector to the cloud or the so-called distributed cloud server. The data collection by this way is still not decentralized. Therefore, this requires a blockchain data acquisition device with embedded consensus mechanism and node address.

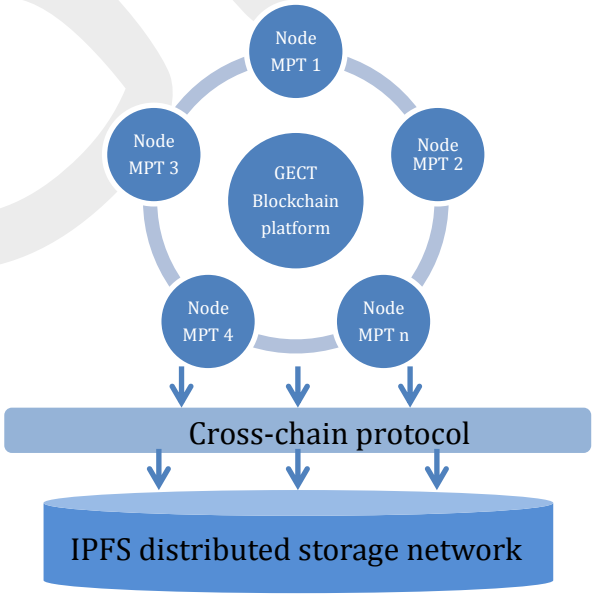
GECT used a modified consensus algorithm, DPOS+BFT dual consensus mechanism, to achieve the purpose of decentralizing data acquisition and uplink storage. At the same time, GECT blockchain data collector could also be blockchain “Mining" equipment.

It has the following characteristics:

- Support multiple inverter data formats;
- Communication methods could be used in various ways such as Ethernet/WiFi/GPRS/4G/5G;
- Plug and play, easy to operate;
- The data structure of the node is in the format of MPT, and the data could be stored for more than 20 years;
- Additional equipment such as smart meters, radiation sensors, temperature sensors, etc.;
- Built-in node address, and a unique hash address, so it could participate in "mining";
- Built-in node Web Service to remotely monitor node health.

Embedded node module LSC-E01

4.5 Data storage method



All nodes on the GECT blockchain network use Ethereum's MPT data structure to store data, and the final complete data will be stored across the chain to the IPFS distributed blockchain storage network, through the middle Implemented by a cross-chain protocol. To ensure the datas of all nodes that could be integrity, traceability and non-tampering.

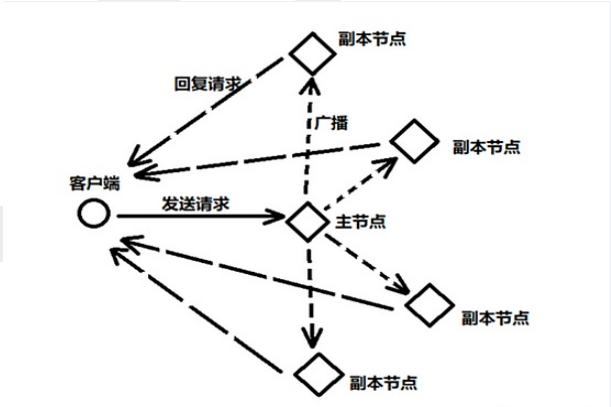
4.6 Consensus mechanism of GECT

The underlying architecture of the GECT blockchain network is based on the Ethereum consensus mechanism and to be improved, using the DPOS+BFT dual consensus algorithm to balance the efficiency and security of the GECT blockchain network. It also improves the way of packege out, only packing the blocks with transaction data, which not only saves storage space, but also improves the efficiency of the network.

All nodes participating in the GECT blockchain network are dynamically generated to generate a certain number of super nodes (ie, DPOS consensus nodes), which can effectively avoid network fork [31] caused by network delay and node stall. Thereby improving network efficiency.

BFT, Byzantine Fault Tolerance, is a type of fault-tolerant technology in the field of distributed computers. It can solve the problem of consensus security between network nodes. It filters out a node as the primary node by using rotation or other algorithms in a limited number of nodes. And give the node the right to block. After the master node packs the transaction in this period into blocks, it signs the block with its own private key and broadcasts it to all nodes. When the master node receives at least two-thirds of the signature blocks of different nodes, then, the blockchain completes the verification of all the nodes, and becomes an irreversible block connected in series to the blockchain.

We adopted this (DPOS+BFT) dual consensus mechanism to ensure a consensus on the state of the network among all normal nodes, thus to ensure that the efficiency and security of the GECT blockchain network.



（DPOS+BFT） dual consensus mechanism

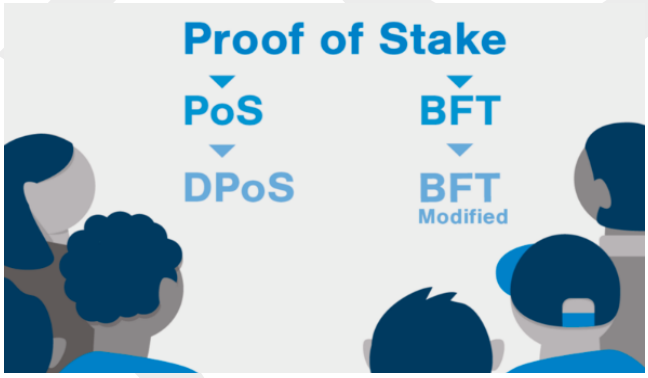
4.7 Mining mode

The so-called "mining" is a visual representation in the blockchain network system. It's actually a mechanism for reaching consensus among various nodes, usually by proof of workload, that is, the algorithm of POW, to determine the accounting rights of a certain node. This model is derived from economics and is an effective economic strategy to prevent server abuse or resource abuse. Bitcoin network is to determine the billing right through the consensus mechanism of POW. Who proves that his workload is large and who is responsible for billing. The mining process is to find a random value that can fill the block chain head, so that the hash value of the block chain head meets a certain standard.

Mining technology evolution: CPU mining -> GPU mining -> FPGA mining -> ASIC mining -> large-scale cluster mining.

GECT's blockchain network has been improved on the framework of large-scale cluster mining, by embedding mining procedures into all nodes to form a "cloud mining" model, through improved consensus algorithms （DPOS）, to determine the billing rights. The BFT consensus algorithm is used to ensure the accuracy of the recorded data. The data recorded here refers to the results of all transactions in the GECT blockchain network.

The user could participate in the mining with adding the weight of the GECT (Stake) by downloading the mobile APP, and obtaining the GECT reward.



Mobile mining

V. Main technical principles of GECT

As we all know, code is law. When a program is written, the result is the same no matter how many times it is executed, without interference from external factors or changes in parameters. The block chain network of GECT adopts the ERC20 protocol of ETH to realize seamless interaction between smart contracts and decentralized applications on Ethereum blockchain.

All GECT circulated that are managed and supervised by the legitimate GECT Foundation as the trustee of tokens. In each accounting year, independent third parties and qualified auditors will audit GECT in circulation and in stock separately, which is to ensure the intrinsic equity value of each GECT.

Audit results will be published on public networks.

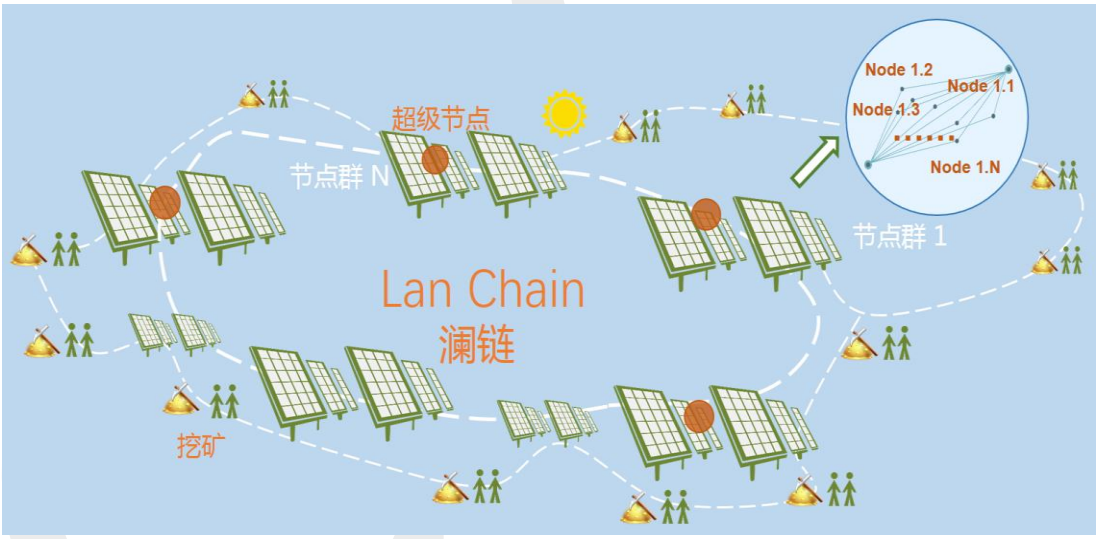
5.1 The ecosystem of GECT

GECT was born to solve the problems of renewable energy in the supply chain, and is linked to the already established clean energy entity assets, so that users holding GECT digital encryption token can immediately share the proceeds of candy, this digital asset model can effectively solve the bottleneck encountered in the new energy supply chain.

Each infrastructure of GECT-linked distributed renewable energy is a node of GECT blockchain network, which is connected in series with each other to form Lan Chain.

We used DPOS + BFT that is duel consensus mechanism to ensure the security, efficiency and data accuracy of the Chain, to ensure that the newly added infrastructure is in line with the up-chaining rules. of the Lan Chain by 21 super nodes confirmed that to maintain the security of the GECT blockchain network, packaging in the form of cloud mining, using the BFT consensus mechanism, every 5 minutes 1 block, the node data is chained to ensure that all the uplink data is accurate.

The ecosystem of GECT is shown in the following figure:



After the packaged blocks is to be confirmed, then it will be added sequentially to the longest chain of Lan Chain, and eventually we will store the data in the IPFS distributed storage network.

5.2 GECT issuance criteria

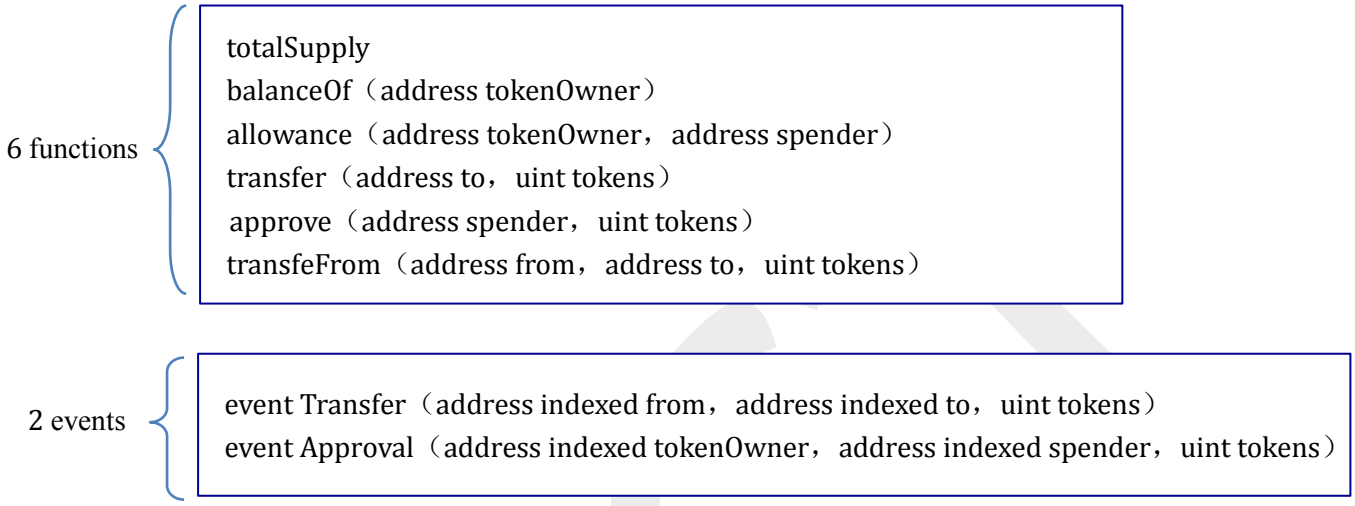
GECT is based on the ERC20 protocol rules to generate smart contracts on the Ethereum network, and generating 1 billion GECT digital certificates at a time.

The GECT issuance guidelines are that gradually released or additionally issued to the market that based on the total size of the up-chain of all entities renewable energy assets. Smart contracts will perform asset-winding verification, which ensures that GECT in circulation is linked to real assets.

5.3 Technical principle of GECT generation

GECT is based on ERC20 protocol rules to generate, and its smart contract contains GECT specific rules, such as: trading rules, transfer rules, etc.

The ERC20 totally defined six functions and two trigger events:



totalSpply: defined the maximum issue of our GECT (ie Token) registered on Ethereum

balanceOf: defined the interface that could query the GECT balance of the target address account

allowance: allowed one-way transactions between two different addresses which have been created multiple times and the owner of GECT (ie Token) could withdraw GECT from this smart contract.

approve: This function needs to quote “allowance”, indicating that it defines that the holders of GECT agree to create their own transactions. And this function also needs two parameters, namely address spender (the address of the consumer), and uint tokens (the amount transferred)

transfer/transferFrom: It defines how GECT is transferred and the process of performing the transfer

event Transfer: It defines when the Token is transferred (including value), this event must be triggered

event Approval: It defines that this event must be triggered after any successful call to the function approve.

According to the definition of the ERC rules, the generated Token could be retained up to 18 bits after the decimal point. GECT chooses to retain 8 digits after the decimal point:function decimalsconstant returns (uint 8 decimals).

5.4 Proof of GECT's linked asset reserve process

Blockchain is a specialized network technology that is not the same concept as digital currency. Since the blockchain is a decentralized distributed ledger technology, it has built-in incentives to drive this technology to operate normally in an unmanned state, so which requires the use of Tokens to reward each node. The contribution made for this. This is the Token economy in the blockchain era. Currently, most blockchain projects on the market are based on such mechanisms.

However, thus has also caused many doubts in the digital market. It is believed that the Token of some projects does not have financing functions, and there will be distrust of the solvency and financial transparency of the project party Token. In this financial language, it is referred to as the “transaction risk” of the value of storage with third parties.

The real assets reserve proof of GECT's renewable energy is an innovative and reliable way. We will use our own developed blockchain with ownership affirmation equipment to trace the real eneity energy assets in real time to ensure all linked and supported real assets could be checked at any time on our blockchain network platform.

In the configuration of GECT, each GECT in the market circulating represents the equity of an entity asset, which means that the total amount of GECT in circulating in the market is equivalent to the sum of the equity of the entity assets. The GECT we register and distribute could be checked at any time on the Ethereum platform, and the total equity of our real entity assets can also be viewed in real time on GECT's blockchain network platform. Therefore, this proves that the intrinsic value of our GECT is reliable. As follows:

Entity asset operation legend：

A single entity operation legend:

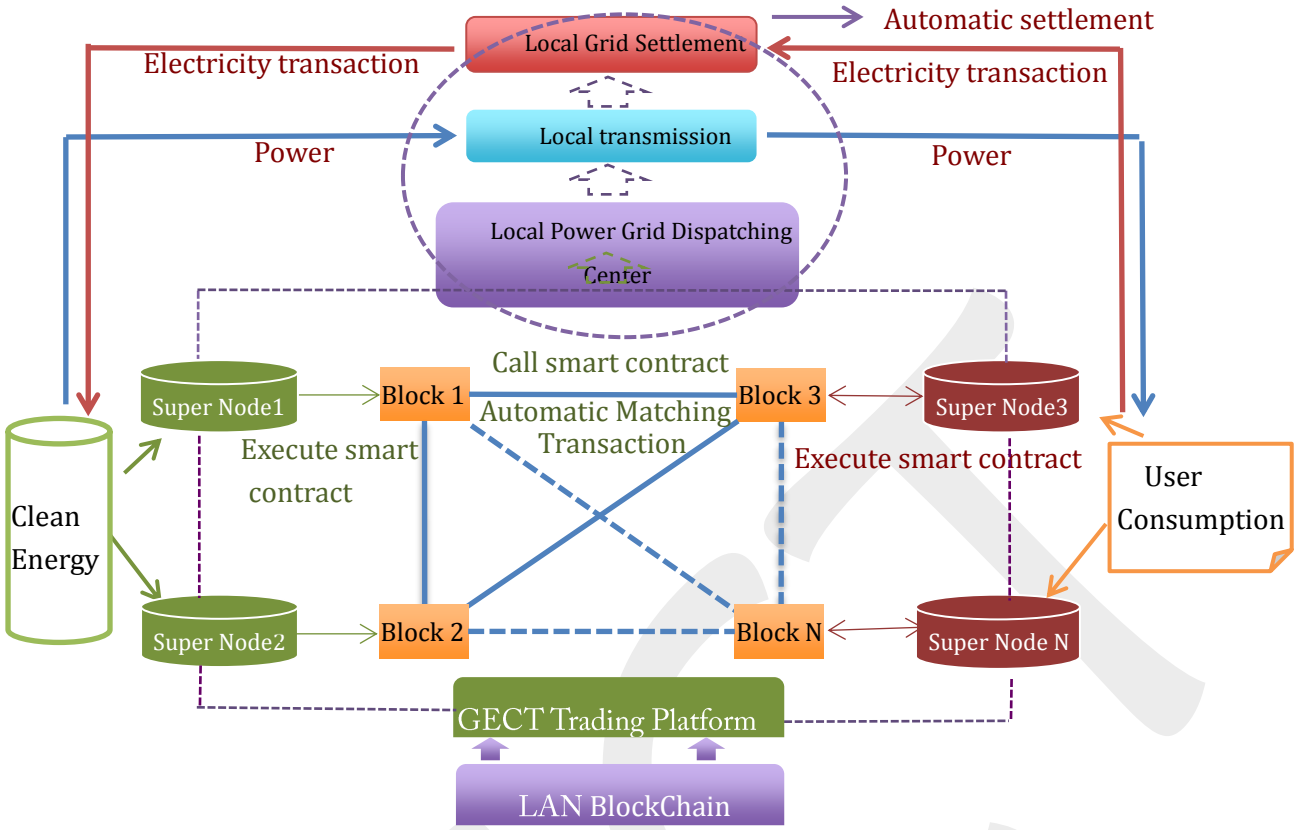
VI. GECT application scenarios

6.1 The consumption of renewable electricity energy

GECT is committed to be an encrypted digital currency with intrinsic real value in the field of global digital assets.

GECT Block Chain Network Settlement Platform can realize peer-to-peer consumption and transfer realized by linking the production and marketing of renewable power energy worldwide.

The following diagram is a block-chain settlement platform for renewable power sources:



6.2 As a payment tool for renewable energy products and services

We are committed to expanding renewable energy products and services globally that to make new energy products and services are more accessible to global users.

The GECT digital encryption token circulating in the market, each of which is linked to the real entity assets, therefore, GECT is a digital encryption token with stability and intrinsic value, and it has the function of settlement.

For example, when a user wants to rent a new energy car, they can open GECT's digital wallet DApp [32] and use GECT to complete the payment, it could also be used to pay for clean electricity fee, etc.

6.3 OTC transactions or purchases of other digital assets

GECT will be listed on the top 10 digital currency exchanges in the world. There are plans to list on bit-z.pro, Huobi, OKEX, Bitfinex and other digital currency exchanges.

At that time, GECT will be traded with the mainstream digital currencies as a trading pairs on the exchange: GECT/USDT, GECT/BTC, GECT/ETH. At the same time, in the near future, we will also open OTC transactions, namely: GECT/CNY, GECT/USD, GECT/HKD, and designate special investment institutions as real-time online payment institutions to facilitate GECT on the market. The holder

converts digital money into legal money.

6.4 Act as a tool of settlement and investment

Block chain is a system of global payment, transfer and settlement. It is a new financial service system. Using digital currency that it can more effectively maintain its privacy.

The exchange between GECT and legal tender is anonymous, without any intermediary financial institutions, such as GECT and CNY trading pairs. There is no exchange rate difference between GECT and CNY. Only the legal tender of the inherent value of GECT is reflected. GECT holders can keep their GECT holdings through a de-centralized digital wallet, and each year they can get revenue from GECT-linked physical assets. This is an innovation compared with the way of depositing legal currency in the third-party centralized bank to obtain interest.

For the supply chain of commercial trade, GECT is a forward-looking settlement tool, which reduces the intermediate channel between the opening bank and the reimbursement bank, shortens the settlement time, greatly improves the turnover rate of funds, and avoids the risk of exchange rate loss between the legal currencies of both trading countries.

In addition, GECT can also be used to invest in other digital property rights token, such as new energy digital token.

VII. GECT governance

All GECT in the registration and distribution will be managed by the Foundation and will be implemented as follows:

7.1 Announce the market circulating status on the official website regularly

The Foundation will regularly publish the total amount of GECT circulating on the GECT official website and the stock of GECT in the Ethereum blockchain, so that to ensure the total equity of GECT is equal to the sum of equity for real entity assets in the chain.

7.2 List the operational status of real entity assets on the official website regularly

The Foundation will also regularly list financial data such as the operating status, asset status and income statement of the real entity assets that linked to GECT on the official website in a quarterly and annual basis, which as a reference for market participants.

7.3 Candy issuance

According to the annual operating conditions, the Foundation will distribute dividend candy to GECT (not included in the registration pool), which is sold in the market, and that is distributed proportionally according to the total amount of GECT held in the user's digital wallet. The form of issuance will be announced on the official website.

7.4 Appoint the accounting firm or audit institution with professional qualification

The Foundation will also appoint to a professionally qualified accounting firm or auditing agency to audit the GECT, which is circulating in the market, and publish the results of the verification on the official website, so that to ensure the transparency, rigor, fairness and fairness of GECT.

VII. Legal policies and opportunities for digital crypto-token

8.1 Law and compliance

The GECT Foundation will be incorporated under the Singapore Financial Regulations and will be wholly owned by a BVI company established under the BVI Business Companies Act of 2004[33].

GECT will also be in accordance with the relevant securities service laws of the United States and the guidelines of STO [34] to become a bond-type digital encryption token that can be circulated globally.

At the same time, the GECT Foundation will work with anti-money laundering and counter-terrorism financing agencies around the world to conduct due diligence, record, save and report the process of GECT customers in accordance with relevant STO regulations.

From the beginning, our goal is to achieve compliance operations, and comply with relevant laws and regulations in various regions of the world, and strive to become the best third-party new energy financial service partner of major commercial banks around the world.

8.2 Marketing opportunity

On the one hand, the global market desires for renewable energy assets in order to reduce the pollution of petrochemical energy to the environment, since the Paris Agreement, the World Environment Organisation has been working to reduce carbon dioxide emissions to the sky so that to alleviate the global greenhouse effect. This is not only achievable by local governments, but also requires a large amount of private capital to participate. This requires a fully open, transparent, and fair decentralized renewable energy autonomous community that renewable energy can be freely merged to complete the transaction. Blockchain is the key technology to achieve this goal.

On the other hand, with the continuous developing of the digital economy, a large number of

blockchain projects have emerged, but unfortunately, so far, most of the digital token issued in the name of blockchain projects are just a string of null characters. So, it does not have the value of being intrinsic. Therefore, it is necessary to have a digital token with real intrinsic value to lead the correct direction of digital tokens.

Our GECT is linked to the global renewable energy assets' equity, and these are confirmed by the blockchain network nodes, then after, we also will publicize on the official website a audit result by professional third-party audit institutions conducted to audit on GECT's circulation market value and liquidity, so that to ensure the intrinsic value of GECT in circulating by thus a series of measure. It will also help more people participate in the global renewable energy industry and share benefits from it.

This is undoubtedly a creative digital financial service, and it will surely bring a clean stream to the entire digital economy that we believe.

8.3 Future development trend

Since the introduction of the Bitcoin blockchain network of Nakamoto in 2009, after 10 years of development, the technology of blockchain has matured and various applications have emerged. Especially in 2018, it is called the first year of blockchain application.

Governments have begun to pay attention to and start to develop blockchain technology, especially in China, Xinhua News Agency reported: China's Ministry of Commerce has issued a call to accelerate the application of blockchain technology in the business sector; and the Chinese government A blockchain test garden has been established in the Hainan Free Trade Zone. A number of well-known technologies have been in place, including 360 Network, Thunder Technology, etc.. According to China Trade Finance Network, China Construction Bank's blockchain trade financial platform trade exceeded 200 billion.

In the United States, just in November 2018, CSIS (Center for Strategic and International Studies) released a report "Harnessing Blockchain for American Business and Prosperity -10 Use Cases, 10 Big Questions, 5 Solutions" ("Using Blockchain to Realize American Business and Prosperity: 10 Cases, 10 Questions, 5 Solutions") said: Today, blockchain has not only been applied in specific industry sectors, but also many Fortune 500 Both corporate and government agencies are applying blockchain technology. Equity trading for blockchain start-ups also increased from 50 deals in $98 million in 2013 to 144 deals in 2017 of $640 million. And this trend will become more rapid in the future. The article also pointed out the top 10 most promising industries in the future, including blockchain + renewable energy, and blockchain + financial applications.

The future is not far away, and it is not waiting for us. The blockchain empowers the entity and serves the entity. It will also become another feast after the Internet + prosperity.

IX. Strategies and functions of GECT issuance

9.1 Basis for issuance

Since GECT is linked to renewable energy entity assets' equity. Therefore, the issuance and circulation of GECT will be based on the total equity of the real entity renewable energy assets on the chain. That is, these real entity assets support each GECT issued. In other words, the real value of GECT is used as a guarantee for the intrinsic value of GECT.

9.2 The function of GECT's equity witness

GECT is issued to digitize the rights and interests of renewable energy assets, and is adopted a blockchain technology approach to ensure digital equity recognition without any third-party intervention or manipulation. .

This is a forward-looking technical means to ensure that this method of recognition for the rights and interests is conducted in an open, transparent and traceable manner, which prevents fraudulent activities that may exist in the process of equity recognition.

9.3 Payment Measures in OTC Transactions

The so-called legal currency transaction is to directly deal with between the global legal currency and digital encryption token in the digital currency exchange, so that investors can freely transact digital tokens without being affected by geographical and exchange rates. For example: GECT/USD, GECT/HKD, etc.

The GECT Foundation will appoint to a professional and experienced investment institution as a trading firm (trader) for legal currency transactions, and at the same time, stabilize the price of the GECT market.

X. Market risk

The market risk of GECT is mainly reflected in:

Regulatory policy: The regulation of digital tokens in countries around the world will gradually be clear and unified. The current conditions of issuance and circulation may be subject to change.

Technical problem: Blockchain technology that can confirm the data of renewable energy on the chain that is safe and traceable. One of them is the production and marketing of clean electricity. Because the grid is used as the dispatching management of transmission and distribution, it needs to have special the interface is connected to the chain. This requires process time.

Linked assets: The value of renewable energy equity supported by linked assets may move in the

unfavorable direction of the market price of the digital assets (GECT) it supports. This results in a total equity value of the pledged assets that is lower than the total value of the issued digital token (GECT), resulting in systemic bankruptcy. At that time, the Foundation will close the equity transaction and liquidate the pledged assets (sold on the open market), and the sale of the funds, first used to redeem the GECT in circulation, the redemption price may be lower than the value of issued digital token (GECT).

Trading risk: GECT will be listed to trade on the one of top ten digital exchanges in the world under the arrangement of the Foundation. There may be a risk that the price of the digital token (GECT) will deviate from its intrinsic value. Therefore, investors Or users, need to review the situation, control risks, avoid losses.

Derivatives: once GECT entered into the trading channel, various digital tokens investment institutions or exchanges such as might introduce it: swaps [35], quantitative trading [36], and various futures varieties to trade and more. The GECT Foundation hereby declares that the GECT Foundation does not set any GECT-derived derivatives and that the Foundation will not participate in any of these derivatives transactions. All trading operations on GECT derivatives are not related to the GECT Foundation. Here, the GECT Foundation only advises on the trading risks of such derivatives, but does not make any comments and benefits guarantee.

XI. Project roadmap

- On March 18, 2019, GECT White Book will be officially launched.
- On April 4, 2019, the registration and establishment of an overseas Foundation will be started up.
- On April 18, 2019, completed to deploy GECT's smart contract on the Ethereum.
- From April 20 to April 30, 2019, the roadshow will be warming up (in China)
- From May 6th, 2019 to June 30th, 2019, the global roadshow will be officially started up
- In August 2019, will be listed to trade on the one of the top ten of world digital currencies exchange, such as bit-z, etc.
- From October 2019, startup to a tour of developing for overseas renewable energy assets.

XII. Team member

12.1 Founding team

The core founding team members are all from elites, entrepreneurs and senior professionals in the energy, technology, finance and other industries. Rich industry experience and diverse background are the foundation for the success of the GECT project.

✧ **Liu Wenping (Dylen Liu Ph.D)**

He graduated from the Physics Department of Peking University and obtained a doctorate in engineering from the Chinese Academy of Sciences.

He has served as an executive director of Jiangshan Holdings (00295), a listed company in Hong Kong, and chairman of the board of directors. In three years, he lead the team to complete more than 7 billion Hong Kong dollars of additional issuance and 9 billion Yuan of debt financing, and acquired more than 40 photovoltaic power plants, totaling 1.66GW.

Dr. Liu has six years and eight years of experience in the financial industry and the solar industry, especially in the solar energy industry research, investment analysis, capital operations and other fields, with rich practical experience. Dr. Liu also served as a senior analyst at the International Semiconductor Equipment and Materials Association (SEMI) and Pacific Epoch.

He is currently the Chairman and President of Silicone Industry (Hong Kong) Co., Ltd. and one of the co-founders of GECT project and is the Chairman of the Board of Directors of the GECT Overseas Foundation.

✧ **Zhou Wei (Davy Zhou)**

He graduated from Fudan University with a major in computer science. After studying abroad, he studied MBA Programming Course at the Nanyang Technological University in Singapore.

He has served in Shanghai Jahwa (600315) and Singapore Informatic Education Group and has held positions in key positions. After that, he began his career in Internet entrepreneurship and became the CEO and CTO of the startup company. With more than 10 years of experience in software development and system architecture, in 2014, he lead the technical team to win the bid for the development project of the interactive platform of Oriental Pearl (600637) (Baitong IPTV Shopping Channel).

He is also the builder of RuiLu's “Yundianbao” distributed PV operation and maintenance system architecture. He is the founder of RuiLu New Energy Technology, the CEO of RuiLu New Energy Technology (Shanghai) Co., Ltd. and Ruitang Network Technology (Shanghai) Co., Ltd. CTO.

In 2015, the development of blockchain public chain technology, from consensus mechanism to node architecture distribution design, has a deep understanding and development capabilities. Starting in 2017, the "Hours" blockchain health care big data platform was built. On July 19, 2018, the "Hours"

chain successfully landed on the world's sixth-ranked digital currencies exchange, Bit-Z.

He is currently the general manager of RuiLu Network Technology (Shanghai) Co., Ltd., and is one of the co-founders of GECT project. He acts as the CEO and CTO, and is also the director of the GECT Foundation. He is responsible for the technology of GECT blockchain network platform, architecture design and developing.

✧ **Guo Tairan (TaiRan Guo)**

He got Bachelor of Economics and German from Peking University;

Previously served as CFO and Senior Vice President of two Nasdaq-listed companies;

Good at cross-border mergers and acquisitions, equity financing and asset management;

He has developed photovoltaic power plants in Europe, Japan, and the United States.

For now, he is a co-founder of GECT project, responsible for the investment and mergers and acquisitions of overseas renewable energy assets.

12.2 Executive team

✧ **Kong Yanqin (Echo Kong)**

Vice President of Pegasus Venture Capital, Managing,Partner of Lingmeng Media, Founding Partner of Timeline Capital, Founder of Global Famous School Blockchain Alliance, Secretary General of Shanghai Blockchain Investment Alliance.

7 years of VC equity investment experience, she is the talent entrepreneurial mentor and expert judges in Shanghai and other cities. She has worked as an investment and financing consultant for a number of blockchain innovations companies, such as BUY++, EET (Easy Energy Chain), etc., and has made these projects successful in VC investment.

Now, she is the chief strategist of GECT project, responsible for overseas capital docking.

✧ **Pablo Jimenez**

Graduated from the Economics of the ICADE Business School in Madrid, Spain.

He has served on the Spanish Trade Commission of Hong Kong.

He has worked with many of the world's top market players to develop residential and utility-scale solar projects across Spain. He has more than 10 years of experience in the Spanish PV industry.

Currently serves as the overseas business operation officer of GECT project.

✧ **Shen Shujun (Juliet Shen)**

She graduated from East China University of Science and Technology with a bachelor's degree in Management and a master's degree in Design.

She once worked at a management consulting firm.

She has served at a well-known million-level digital currency wallet company.

Now, she serves as the chief commercial officer of GECT project.

✧ **Liu Yonghong (Leon Liu)**

He graduated from Materials Science, Shanxi University of Science and Technology.

Proficient in the development of programming languages such as Java, PHP, Ruby, etc., and have a deep research on various technical frameworks and database structures. He is good at DB2, ORACLE, MySQL and other database development, and is proficient in various algorithm designs.

He has served as the head of the development department in high-tech enterprises in Shanghai and Ningbo.

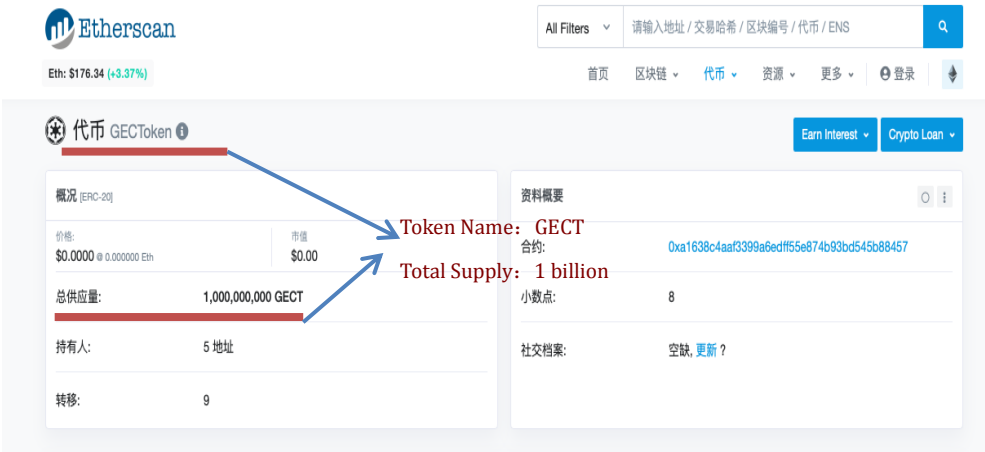
He currently serves as the chief technology officer of GECT project.

XII. GECT's total registration volume，issuing scale and price

GECT registration is different from the issuance. GECT is registered on the Ethereum blockchain network. According to the ERC20 agreement, a dedicated smart contract is written and deployed on the Ethereum network.

13.1 Total registration volume

The first GECT tokens registered, in accordance with the ERC20 agreement, was set dedicated GECTs with smart contract that has been successfully deployed on the Ethereum blockchain network. For now, 1 billion GECTs have been registered.



13.2 Initial issuing size and price

The size of the initial issuance is based on the 10 MW solar photovoltaic power plants in China for the time being that prepared for the uplink to the GECT Chain, which corresponds to the issuance volume of 60,000,000 GECT.

The issue price is: 1 GECT ≈ 0.1 USDT.

XIV. GECT's Fund raising and distribution plans

14.1 Fund raising plan

Stage	Timing	Remarks
Stage 1: the cornerstone	April 28th to June 30th, 2019	Specific investors buy GECT in 10% off
Stage 2: Private placement	July 1st to July 30th, 2019	Qualified investors participate in exchange trade (IEO)
Trading on the Exchange	August 30, 2019	Cornerstone lock-up period: 2 months (6 times release) Private placement lock-up period: 1 month (12 times release)

14.2 Distribution plan

Distribution plan	Description
GECT was a totally registered number of 1 billion, and then is going to carry out corresponding issuance according to the total amount of equity linked to the physical assets.	GECTs in the registration pool are only used to be a reserve, and will be issued to a specific market after each asset is chained and publicized. If GECTs in the registration pool is exhausted, the additional issuance again.
Set up 30 million pieces of GECT for mining	It is going to make a block every 5 minutes, and each block rewards 20 GECT. Halved every 2 years.
The founding team reserved 10% (100 million GECT)	A reward mechanism for founding team members. (12.5% will be released every six months, completed in eight times).
We are going to release a total of 60,000,000 GECTs to the market for this time	All funds raised that will be invested in or acquired real entity renewable energy assets.
The Foundation is going to withdraw commission about 2% of each issuing	As a daily management fees for the Foundation, this time, 1,200,000 GECTs were charged.
7% of each issue will be withdrawn as marketing expenses	For brand promotion, marketing, strategic cooperation, etc, this time, 4,200,000 GECTs were charged.
After this issuance, the remaining 774.5 million GECTs were still in the registration pool	The remaining GECTs will release to a specific market when the next real entity renewable asset is standby to uplink the chain.

14.3 Official website

Official website: www.gectoken.cn

Technical website: www.gectoken.io

Transaction platform: www.gectoken.pro

White Book: www.gectoken.info

Business consulting: 839950450@qq.com

Technical consulting: davy.zhou@rtang.cn

XV. Disclaimer

Nothing in this White Book constitutes legal, financial, commercial or tax advice, so you should consult with your own legal, financial, tax or other professional adviser before participating in any activity related to this White Book. Whether it is the GECT Foundation, (referred as "Foundation"), project team member working on any related project (referred as "GECT Team") or any third-party service provider will not be responsible for any direct or indirect damages or losses suffered by your access to the White Book, information provided by the Foundation or any other material published by

the Foundation.

All contributions will be used for the Foundation's goals, the solution of the structure of the GECT blockchain network platform and the expenditure of related green energy real asset projects.

This White Book is only for providing the general information and will not constitute the prospectus, offer document, offer of securities or investment acquisition. The information below may not be exhaustive and does not imply any element of contractual relationship. The accuracy or completeness of these cannot be guaranteed and cannot or does not intend to provide any provide any representation, warranty or promise. In case that this White Book contains the information acquired by the third parties, the Foundation and the GECT team do not independently verify the accuracy or completeness of such information. The accuracy or completeness of such information is not guaranteed and any representation, warranty or promise of the accuracy or completeness of such information cannot be provided.

This White Book does not constitute an offer of any GECT (as defined in this White Book) sold by the Foundation or the GECT Team. The whole or any part thereof, and the facts stated therein do not constitute the basis of any contract or investment decision and can not be related to any contract or investment decision. Nothing in this White Book is not and cannot be taken as the basis or the commitment, representation or promise to the future performance of the Platform. Any agreement on GECT sales signed between the Foundation (or its affiliates) and you is subject to independent clause and conditions of this agreement. The Foundation and the GECT team do not and do not want to make any representations, warranties or promises to any entity or individual and declare they will assume no responsibility. Potential investors of GECT should carefully consider and evaluate all risks and uncertainties (including financial and legal risks and uncertainties) related to the GECT Sales, Foundation and GECT team.

By reading this White Book or any part of it, the representations and warranties you made to the Foundation and the GECT team as follows:

(a) Please acknowledge, understand and agree that GECT may have the value, that there is no warranty or representation of the price or liquidity of GECT and that GECT is not used for speculative investments;

(b) Please do not make any decision to invest in GECT in accordance with any statement in this White Book;

(c) Please will and assume the costs thereof to ensure that you follow all applicable laws, regulatory requirements and restrictions (as appropriate);

(d) Please acknowledge, understand and agree that the agreement of GECT investment and sales shall be subject to the separate token purchase agreement and the terms and conditions of the agreement (refereed as “Token Purchase Agreement”) and agreement is available on the GECT website before the sale of any GECT. If any inconsistency is found between token purchase agreement and this

White Book, the token purchase agreement shall prevail.

All statements in this White Book, statements in press releases or from places that the public can access, and verbal statements that may be made by the Foundation and/or the GECT team may constitute forward-looking statements (including market conditions, business strategies and plans, financial condition, specific provisions and risk, intentions or beliefs of management practices, or statements of the current prediction).

Please do not reply on these forward-looking statements improperly, because they involve known and unknown risks, uncertainties and other factors that may cause that the future actual results are very different from the results described in the forward-looking statements. These forward-looking statements can be applied only as of the date of this White Book and the Foundation and the GECT team expressly declares that they will not be responsible for modifying these forward-looking statements to reflect events after this date.

This White Book may be translated into a language other than Chinese. If there is conflict or ambiguity between the Chinese version of this White Book and its translated versions, the Chinese version shall prevail. Please acknowledge that you have read and understood the Chinese version of this White Book. No part of this White Book shall be copied, reproduced, distributed, or transmitted in any way without the prior written consent of the Foundation.

XVI. Other risk prompts

1. Systematic risk

On one hand, in terms of the market, the risk of this investment will increase for any changes in the overall situation of the digital asset market and, on the other hand, the systematic risk also includes a series of force majeure factors, including but not limited to natural disasters, large-scale failures, political turmoil, etc. of the computer networks around the world.

2. Policy risk

We argue that countries all over the world may introduce relevant supervisory policies and regulations, which standardize blockchain, and electronic tokens in the near future. There are some uncertainties in future policies. Major changes in government-related policies or the introduction of relevant policies and regulations will cause fluctuations in the digital currency market and the issuance and price of tokens will be influenced, thereby bringing risks to the participants investing the digital assets.

3. Team risk

People compose the GECT team with rich experience in the capital markets, the Internet and blockchain field and the senior practitioners and experienced technology developers in the blockchain field are attracted. However, in the future development, the possibility of the negative influence on the

whole project caused by the departure of core personnel and internal conflicts still remains.

4. Technical risk

Now, the application of blockchain technology is still in the initial stage of exploration and development and the blockchain industry also faces the situation of lack of talents and fierce competition of talents. The technologies such as blockchain, distributed ledger, decentralization, and tamper-resistance support the core business development but the GECT team can not fully ensure that in the plan development process of the project, the development progress of the project will be affected certainly by the insufficient technical test and technical route estimation, causing project delay, interruption or termination.

5. Token risk

The GECT team will spare no effort to achieve the development goals described in the white book. Although the founding team has accumulated rich interpersonal network and experience in the industry, there are still unpredictable and potential difficulties in the project development, which may makes the project face the risk that the project can not develop as the expectations.

6. Risk that the project cannot develop as the expectations

The use scope of the token of the project is directly related to the recognition of users and the market, after the completion of the test and use of the project, the acceptance and popularity of the final token on the chain and in the physical scene are uncertain, thereby influencing the use and transaction of the token of the owners.

XVII. Term interpretation

[1] **Dpos:** Dpos (Delegated Proof of Stake) is the consensus algorithm based on the vote and looks like the Democratic Congress where the holder selects several representative nodes to operate the network and uses professionally operating network server to ensure the security and performance of the blockchain network. In the Dpos mechanism, there is no need to calculate the mathematics problem with the use of algorithm and the holders will select the producers. If the producers are not competent, there is a possibility that they will be voted out at any time, which solves the performance problem of the Pos.

[2] **Dividend Candy:** As the term of blockchain network, it is generated based on the ERC20 protocol. It is often used to reward the holders and is a marketing tool.

[3] **ERC20:** It is the data communication standards or rules based on the Ethereum blockchain network platform. Therefore, any token established under this rules can be compatible with Ethereum's wallets (eg Jaxx, imtoken, etc.), and exchanges can integrate these tokens more easily to facilitate the transactions.

[4] **P2P:** It refers to point-to point and personal-to-personal data transmission or transfer.

[5] **Paris Agreement:** It refers to the climate change agreement adopted at Paris Conference on December 12, 2015 and signed in New York on April 22, 2016 and this Agreement arranged the global climate change action. Paris Agreement mainly aimed to control the global average temperature increase in this century within 2 degrees Celsius and to control the global temperature increase within 1.5 degrees Celsius above the pre-industrial level.

[6] **REN21:** It refers to "Renewable Energy Policy Network in 21st Century". As the global policy network, the company provides a renewable energy platform for international leaders and is committed to providing policy support for the rapid commercialization development of the renewable energy in economic systems of the developing and industrialized countries.

[7] **POW:** That means Proof of Work; it refers to the proof of workload. It is a mechanism for consensus algorithm used by the blockchain networks and does also the Bitcoin blockchain network use a consensus algorithm.

[8] **Dorian S. Nakamoto:** His real identity is unknown and has published the paper called “Bitcoin: A Point-to-Point Power Plant Cash System” in 2008. He is known as the founder of Bitcoin protocol and related software Bitcoin-Qt.

[9] **Genesis block:** The blockchain network is composed of several connected blocks, and each block records the transaction of data in the network for a period of time, that is, it is taken as the account page in the account book. The first established block is called the Genesis block and has a unique ID number. Then each subsequent created block includes two ID identification numbers. One is the ID identification number of the blockchain itself, and the other is the ID identification number of the block of the preorder. So blockchain data is traceable.

[10] **POS:** That means Proof of Stake. Like POW, it is a consensus algorithm, POS.

[11] **QTUM:** It is called Quantum Blockchain in English. As an open source community, the QTUM chain is committed to developing a third blockchain ecosystem beyond Bitcoin and Ethereum, and broadening the application and technology boundaries of blockchain technology to allow the ordinary network users feel the value of blockchain technology. In the QTUM system, the point-to-point value transfer is achieved through a value transfer protocol, and a decentralized application developing platform supporting multiple industries (including finance, internet of things, supply chain, social contact, gaming, etc.) are established based this protocol.

[12] **Lightning blockchain:** Lightning Network is a decentralized system and is evolved based on the micro-payment channel. Two types of transaction contracts been creatively designed, namely, RSMC (Revocable Sequence Maturity Contract) and HTLC (Hashed Timelock Contract). RSMC solves the problem of one-way flow in the channel, and HTLC solves the problem of currency cross-node transfer. The combination of these two types of transaction constitutes the lightning network.

[13] **EOS:** It is called Enterprise Operation System in English, that is, a blockchain operating system designed for commercial distributed applications.

EOS is the introduced new blockchain architecture and aimed to extend the performance of distributed applications. It is not a currency like Bitcoin and Ethereum, but a token developed based on the EOS software project, called blockchain 3.0.

[14] **Supervised and signature:** It is a security mechanism on the blockchain, and is also called Multi-sig, which means that multiple users simultaneously sign a digital asset. It can be simply understood that multiple people have the right to sign and pay in an account.

[15] **IPFS:** It is called Interplanetary File System in English, and IPFS is a distributed web, point-to-point hypermedia protocol that allows our Internet to be faster, more secure, and more open. The goal of IPFS protocol is to replace the traditional Internet protocol HTTP.

[16] **RS485/network communication protocol:** It is the communication protocol of the hardware layer and based on the serial port communication interface, the data is transmitted after “packing". So it is generally used for industrial-level data transmission and is more suitable for long distance transmission.

[17] **Hash value:** It is also called a hash function (or hash algorithm and hash function in English), and it is a way to create small digital "fingerprint" from any data. The hash function compresses the message or data into a abstract to lessen the data amount and fix the data format. This function disorganizes and mixes the data and recreates a fingerprint called hash values. The hash value is usually represented by a string of short random letters and numbers and there are less hash collisions of good hash functions rarely in the input domain. It is more difficult to find the database records without suppressing conflicts to distinguish data in processing the hash tables and data.

[18] **4G/5G/GPRS:** 4G (all-IP data network) refers to that all voice calls will be in the form of VoIP through digital conversion. So communication through 4G networks can rely on the wired or wireless network without necessarily needing to be covered by the mobile signals.

As the fifth-generation mobile communication network, the maximum theoretical transmission speed of 5G networks can reach several tens of Gb per second, which is hundreds of times faster than the transmission speed of 4G networks.

[19] **Packing:** It is a term for blockchain and refers to that the data joins the longest blockchain after the formation of a transaction and confirmation of packing of miner.

[20] **Broadcast:** It is a term for a blockchain and refers to that in the blockchain network, the information to be acknowledged will be sent to all nodes after the successful packing of the data transactions, that is the process of waiting for packaging.

DAPP GPRS is General Packet Radio Service in English (referred to as: GPRS, General Packet Radio Service), and is mobile data service opened by the mobile communication companies for GSM mobile

phone user.

[21] **Height:** It refers to the identification numerical value of ID of the block in the blockchain network and represents the location of the block in the entire blockchain.

[22] **The longest chain:** It refers to the chain with the most overlapping blocks in the blockchain network and is also called the main chain of the blockchain.

[23] **Virtual machine (EVM):** The virtual machine refers to the computer system that is simulated by software and runs in an isolated environment with full hardware system functions, such as virtual physical machine VMware, Java virtual machine and so on. Theoretically, the Ethereum in complete in Turing. Its virtual machine provides the basis for the realization of smart contract and can implement the operation in any complexity. The Ethereum virtual machine is a code that is established on the running environment on the Ethereum blockchain and can execute code for smart contract.

[24] **Gas fee:** It refers to the transaction commission on the blockchain network. The miners will charge commissions from transactions and actions within the Ethereum blockchain and they will confirm the transaction and determine which transactions can enter into the new blockchain. The transaction commissions are calculated in Gas and are paid by Ether. The Gas fee is called "fuel" on the Ethereum network and can be used for the transaction, implementation of smart contract and start-up of the DApps as well paying for data storage.

[25] **Account model:** It refers to the way the tokens are stored in a blockchain network and Ethereum uses the Account model. This model preserves the state of the world and the consensus of this state of the chain is generally performed in the form of StateRoot and ReceiptRoot. The transaction is only the event itself and does not contain results. Essentially, the consensus of the transaction and the state can be isolated.

[26] **Nonce:** It is the abbreviation for Number once and Nonce is an arbitrary or non-repeating random number that is used only once in cryptography.

[27] **Transaction replay:** Transaction replay is also called replay attack and return visit attack. It refers to bad interception of the valid data and the repeated transmission in the network. Thanks to the validity of the original data (usually from the authorized user) so the network's security protocols typically treat such attacks as normal data transmissions, which will cause repeated transactions and user losses.

[28] **MPT:** The MPT tree is defined as an improved data structure that integrates the advantages of both the Merkel tree and the prefix tree structure. In Ethereum, MPT is a very important data structure and the transaction information, status and corresponding status changes of the account, as well as related transaction information are managed by MPT in Ethereum. It is an important part of the entire data storage. All the transaction tree, receipt tree, and status tree adopt the MPT structure.

[29] **Light node:** In Ethereum, the so-called full node is in fact the node that synchronizes all blockchain data, including related information such as Body of various blocks and transaction lists and so on.

However, it is because the data of all nodes are saved so we have no need to depend on the intermediary to verify the data.

Therefore, the Ethereum light node (light client) is generated, that is, whenever a block appears on the network, the block header will be downloaded, instead of the status of all quantity.

The request of Merkel proofs of the specific state required by the client will be sent. At the same time, the distributed hash table is used in the Ethereum light node to trace the prefix nodes instead of directly using LevelDB for direct storage.

[30] **Asymmetric encryption:** This is an encryption method in cryptography and different from the symmetric encryption, the so-called symmetric encryption algorithm refers to that the encryption and decryption use the same secret key. The difference from the symmetric encryption algorithm is that the asymmetric encryption algorithm requires the public key and private key and the public and private keys are in pair. If the public key is used to encrypt the data then only the corresponding private key can decrypt it. The asymmetric encryption is safer than symmetric encryption. The communication parties of the symmetric encryption use the same secret key. If one party's secret key is disclosed then the entire communication will be cracked. While the asymmetric encryption used a pair of secret keys with that was one for encryption and one for decryption. The public key is open and the secret key will be saved. There is no need to synchronize the secret key before communication, avoiding the risk of the information being stolen by hackers in the process of synchronizing the private key.

[31] **Network fork:** Since the blockchain network does not have a centralized organization, every system upgrade requires all network nodes to vote. If the node has the exact opposite opinion when voting, then there will be a fork in the network.

[32] **DApp:** English full name (Decentralized Application), meaning decentralized application, is a name relative to APP.

[33] **BVI Business Companies Act:** The British Virgin Islands (BVI) is one of the fastest growing oversea offshore investment centers in the world and the companies registered here are known as BVI companies which can be common in the VIE transaction structure built overseas or listed in Hong Kong. The BVI Business Companies Act of 2004 (as amended) (the “Companies Act”) stipulated that subject to any clear modification or limitation in the company’s memorandum and articles of association (the “Articles”), the director will manage the operations and matters of the company or instruct or supervise the operation based on it. At the same time, the integrity obligations of the director under the common law have been incorporated into the Companies Act.

[34] **STO:** Security Token Offering (in English). ST (Security Token) offering (STO) is a solution to the legality of token sales and start-ups and new blockchain companies provide the financial products under supervision of Securities Act for the investors without violating the Securities Act. Different from the UT (Utility Token) used to access the network or platform or capacity to purchase goods and services from the network, the full or partial ownership, companies, real estate or even intellectual property

stocks of assets of ST (Security Token) can be represented by the ST (Security Token).

[35] **Swaps:** It is a financial derivative and it is also called Swap. It is a transaction that the two parties exchange between each other within a certain time limit in the future according to a pre-agreed agreement. The swap hedging refers to a hedging method for the exchange transaction taken to compensate for the losses caused by price fluctuations.

[36] **Quantitative trading:** It refers to that the advanced mathematical models are used to replace artificial subjective judgments and the computer technology is used to select various "high probability" events that can bring excess returns to develop strategies from the vast historical data, greatly reducing the influence from the sentiment volatility of the investors and avoiding irrational investment decisions in extreme fanaticism or pessimism conditions.