

E2COIN

It is the best blockchain platform to participate in and benefit from energy efficiency projects





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ABSTRACT

ENERGY EMPIRE disrupts the energy sector with a new business model, supported by the blockchain technology. Blockchain takes over the role of the middle man as a technology infrastructure, which can be trusted by default since any and all transactions on the blockchain are peer-to-peer reviewable. ENERGY EMPIRE is a platform that directly connects power generators and consumers into our Dapp based on smart contracts, which is a new, exciting and positive approach toward peer to peer power generation and trading. E2COIN's vision is to support a global self-sufficient energy community based on renewable energy and peer-to-peer energy trading based on the blockchain and smart contracts. By creating such an ecosystem, E2COIN would like to contribute to greater independence when it comes to energy.

INTRODUCTION

Energy systems are undergoing a rapid transition to accommodate the increasing penetration of embedded distributed energy resources (DER), such as solar photovoltaic (PV) arrays and wind turbines. Renewable energy sources have undergone massive development in recent years, enabled by privatization, unbundling of the energy sector and boosted by financial incentives and energy policy initiatives.

ENERGY EMPIRE is a project that connects three areas with enormous potential: Renewable energy generation, Blockchain and People. Growth and development in each of these fields is important for the quality of our lives. But joined together into a new, disruptive model of energy trading, they have the power to make our planet a better place to live in. Supporting E2COIN means supporting sustainability because it brings together energy producers and consumers with common interests: to save money and to create a decentralized, smart and clean future. New renewable energy is the most related industry to the survival of mankind created in line with this global trend. To overcome the global environmental crisis caused by existing fossil fuels, the ENERGY EMPIRE will start a transparent and reliable new renewable energy project that points to problems in the renewable energy industry and combines blockchain and big data technology.



WHAT IS RENEWABLE ENERGY?

It is a driving force for future growth as a measure against limited energy.

Definition of New and Renewable Energy

Energy used by converting existing fossil fuels or by converting renewable energy including sunlight, water, geothermal heat, precipitation, and biological organisms

- New energy: fuel cell, hydrogen, coal liquefaction and gasification and heavy residue gasification
- Renewable energy: solar power, solar heat, bio, wind power, hydropower, marine, waste, geothermal



Characteristics of Renewable Energy

division	Characteristic
public future energy	Long-term development and dissemination policies are needed to create markets and secure economic feasibility
Environmentally friendly clean energy	Almost no CO2 emission from fossil fuel use
non-depleting energy	Energy that can be recycled indefinitely using the sun and wind
technology energy	Energy resources can be secured through R&D

Importance of Renewable Energy

- Diversification of energy supply methods is required due to competition for resources due to the depletion of fossil fuels and the continuation of high oil prices.
- Increasing importance of increasing the proportion of clean energy to respond to environmental regulations such as the Climate Change Convention
- The new and renewable energy industry is a future industry that is rapidly expanding its market size as a next-generation industry along with IT, BT, and NT industries.

Bio-Energy

It refers to technologies such as chemical, biological, and combustion engineering that use biomass directly or in the form of liquid, gas, solid fuel, or electrical and thermal energy through bio-chemical and physical conversion processes.

Biomass : Biomass refers to biomass, including plants and cells that receive solar energy and photosynthesis of microorganisms, and animals that feed on them.



Wind Power

It is a technology that converts the power of wind into rotational power and supplies the generated power to the power system or consumers. It is possible to produce power anywhere there is wind, and it is easy to install and cheap, so it is in the spotlight as a future energy industry. It is composed of a momentum converter that absorbs and converts wind energy, a power transmission device, a power converter, and a control device.



Ocean Energy

Ocean energy is a technology that produces electricity or heat by converting the tides, waves, ocean currents, and temperature differences in the ocean.



Hydro Power

Hydroelectric power is a technology that uses the flow of water and potential energy. Prior to 2005, the facility capacity of 10 MW or less was defined as a small hydro power, but the entire hydro power is defined as a new and renewable energy with the revision of the law.

Hydrogen Energy

Hydrogen energy is a technology that produces and utilizes hydrogen through various methods such as infinite water or organic material conversion. It can be said to be a new and renewable energy field in preparation for the future hydrogen era.



Hydrogen Energy Composition

Geothermal Energy

Geothermal energy is a technology used for cooling and heating by using the temperature difference between water, groundwater, and underground heat. About 47% of solar heat is stored underground through the surface of the earth. Although it is different, the temperature in the ground close to the surface of the earth is maintained at about 10 ~ 20 °c and the deep part (1 ~ 2km underground) is maintained at 80 °c.



Geothermal Energy Composition Chart

Waste Energy

It is a technology that converts waste to produce fuel and energy. At work or home, processing and treatment methods such as oilification technology by pyrolysis, molding solid fuel production technology, combustible gas production technology by gasification, and heat recovery technology by incineration are used. It is a renewable energy that produces solid fuel, liquid fuel, gas fuel, waste heat, etc., and uses it as energy necessary for industrial production activities.

Coal (heavy residual oil) gasification and liquefaction

Integrated Gasification Combined Cycle (Integrated Gasification Combined Cycle) is a refining process by incomplete combustion and gasification of low-grade raw materials such as coal and heavy residual oil with limited oxygen together with water vapor in a high-temperature and high-pressure gasifier to produce syngas containing carbon monoxide and hydrogen as main components. It is a new technology that generates power by driving gas turbines and steam turbines after passing through



Fuel Cell

A fuel cell is a power generation device that directly converts the chemical energy of hydrogen (natural gas, methanol, coal, biomass) and oxygen into electrical energy through an electrochemical reaction. , it is a new technology device with an efficiency of 70-80% with a thermal efficiency of 40% or more.



We are developing an NFT marketplace for E2COIN investors to share power generation profits. This Dapp will be fully run on the Binance Network.

We will distribute the revenue generated from the power plant to users who purchase and hold NFTs. First, the waste power plant will start generating power in 6 months. Then we will start the wind power generation, then the hydrogen power generation. About 10 months from now, we will share the power generation profits with NFT holders. This is a kind of staking concept.



POWER GENERATION MARKET ANALYSIS

Electricity is one of the cornerstones for a modern society to function. Households, hospitals, air traffic systems, road infrastructures, communication and financial service industries are all dependent on electricity. The renewable energy market is developing fast, due to increasing energy demands and greater awareness of climate changes. This consequently opens new and interesting opportunities. Research shows that by 2040 more than 60% of total investment into the energy sector will go into renewables, which means that the total global investment will be \$11.4 trillion of which \$7.8 trillion will go into renewable energies and only \$3.2 trillion into fossil fuel energy. This is a significant increase of investments into the renewable energy sector, especially into wind and solar power energy; the latter two, amount to more than 65% of total investment into renewables.

In its current state, the energy market is facing challenges in the form of centralized conventional power stations that often require high costs of energy transmission over long distances. The existing electricity model with its infrastructure will not be able to cope with the increasing electricity demand that is expected to more than double by 2050. A change of the model is necessary with a shift to decentralized energy production supported by renewable energy. There has already been some movement towards renewable and sustainable distributed energy systems in recent years. Renewable energy obtained mostly from hydro, wind and solar power will definitely help pave the way to a cleaner, more sustainable energy future.



CHALLENGES



Integrated control & forecast limits of energy for small power plants

In Korea, the capacity of small distributed resource generators to trade offsetting has been expanded from less than 5KW in 2005 to 1MW in 2016 as part of the upgrade of new renewable energy facilities/development. In order to expand the prosumer business, the remaining electricity can be sold to KEP-CO after offsetting. However, there are not many brokers currently conducting power brokerage for small power resources and integrated control for 24-hour monitoring compared to the increase in small power resources, and most of them are sunlight(solar)-oriented energy brokers.

In particular, in the case of small private power plants, the amount of surplus outstanding electricity is increasing every year, which is like an energy loss. In addition, integrated control is restricted due to the difficulty of predicting the overall generation of renewable energy in Korea. In Korea, while compensation rules for improving efficiency have yet to be prepared, only eight out of 40 companies registered as power brokers have engaged in transactions in 2019, which is why their actual business performance is so low.



Lack of overall data reliability for energy generation / storage / trade

The current energy industry has problems from the time of generation and production. All data is stored on a centralized server and data is moved to the power exchange by the server administrator. This is the biggest security problem in which power generation and production history by insiders can be hacked. Energy data is highly vulnerable to manipulation by third parties and is a system with limited recognition of revenue relative to real-time power generation for generators (suppliers). There is also a problem with power trades. This is a ledger comparison between producers and consumers to check demand data, which is crucially an environment in which data leakage or contrast errors can occur at any time by manually checking power transactions by humans. Since energy data generated from each power plant or small power source and the history of power generation facilities are the most important sections of the industry, transparent or unreliable data are the first tasks to be solved at this point.



Intensification of asymmetry in info by country on global CDM policies

Although CDM is being carried out by the United Nations Organization (UN), it is not easy to obtain accurate information such as CER and energy business conditions as a national unit. Currently, policy information and energy policies of each country are so different and diverse in the era of data flooding that it is very limited for operators to study and enter into industry. If we build and provide a platform that can provide standardized information in one place and organize a wide variety of information in one category of renewable energy, this is also a great global achievement.

SOLUTIONS



Transparent and reliable integrated energy control based on blockchain

Energy The blockchain is a power control and mediate trading system that stores all of the key data of producers, suppliers, and ESS (Energy Storage)traders in order to communicate transaction information to a distributed ledger and serve as the ultimate transparent P2P power trade. Trades are easier and trade prices are lower since everyone becomes a supplier and consumer. This is because, rather than conducting tangible deals with papers or cash, energy is traded online. Energy supply is efficiently activated in blockchain energy trading because energy may be freely sold independent of the notion of suppliers and consumers. Furthermore, various energy data gathered in blockchain can aid in the identification of energy consumption. Allowing customers to provide and exchange as much energy as they require can reduce energy waste. These advantages can be actively utilized for small distributed power trade. In micro-grid, which independently produces and supplies renewable energy to consumers, it can be applied as a way to supplement renewable energy with inconsistent power generation. In other words, energy blockchain technology enables stable and transparent power to provide more cost-effective energy.



Expanding Small power generation energy usage and revenue business

Under the domestic renewable energy 3020 policy, a variety of renewable energy production firms are sprouting up. The number of tiny power plants, such as wind power plants, is fast expanding, which is a typical business. However, there is no adequate platform for processors of smooth energy creation, storage, supply, and trading to run properly due to the lack of an effective data integration monitoring center for modest power producing resources. Various power plants are used to generate this modest amount of energy. Through the exchange of System Marginal Price (SMP) and Renewable Energy Certificates, new renewable energy produces significant revenues for both producers and brokers (REC). If these energies are connected and monitored 24 hours a day, seven days a week at one location, they can offer rewards to both producers and mediators (suppliers) and consumers. The platform, which cherishes even small energy, can bring profits from both sides, and it is a strategy that can coexist with brokers who act as prosumers by utilizing it.

Community to provide asymmetric information integration



to become a pan-national platform. If each country's energy industry policies are standardised in one location, the problem of information asymmetry is overcome. By giving information on the United Nations Framework Convention on Climate Change (UNFCCC) and standard information from each country's renewable energy management bureau, global standards should establish all integrated communities relevant to renewable energy. This might be done to provide quick and easy services by dramatically decreasing entry barriers for small power generators into the carbon footprint (CER) sector.

OUR MISSION

E2COIN aims to address current pain points that impede the crypto custodial experience for the general public by combining the security, simplicity, and accessibility of cryptocurrencies into a power generating trading platform.

- Create a crypto token that can be traded digitally for energy trading.
- Make it possible for individuals to contribute to the improvement of the world situation.
- Support self-sufficiency and self-consumption.
- Utilize all of the local renewable resources to their utmost capacity.

- Benefit from blockchain technology.
- Using smart-contracts, enable transparent transactions between producers and consumers through the Pool.
- Lowering expenses by minimizing or completely removing the middleman's involvement
- Strengthen the blockchain network
- People from all across the world can be connected in a borderless way.
- Make a significant contribution to minimizing global warming.

VISION

With E2COIN we want to promote massive power generation through investment incentives by using the power of smart contracts and a coinization approach. These two technologies enable people from all over the world to invest in a fast, reliable, scalable, and environmentally friendly way. The idea behind E2COIN is to give many people the opportunity to contribute to power generation through wind, hydrogen, and solar PV and climate protection by investing in ecosystem-based solutions. The purpose of this project is to distribute the profits obtained through the power generation business to users who invest in E2COIN through purchase. To this end, we will do a presale and list it on a famous overseas exchange. We will do our best to do this.



ENERGY POWER STAKING

Staking is advantageous in the world of crypto-currencies since it generates incentives and passive income by maintaining the currency on any market. In a decentralized system, the simplest method is to own a currency and stake the pool. However, holding consumes much more energy and poses a greater risk than crypto mining. E2COINcan help you.

BENEFITS OF STAKING

SOVEREIGN SYSTEM

A decentralized currency dealing worldwide with a well-developed infrastructure.

SECURITY

It features built-in security, which is critical for ensuring a ledger's integrity. FAST TRANSACTION APP It also has a

higher transaction speed than most others, making him efficient and unique.

LOW TRANSACTION FEES

E2COIN is based on BNB, a cryptocurrency with exceptionally cheap transaction costs.

COMPLETE UNIQUENESS

E2COIN is a decentralized token with a community focus.

DECENTRALIZATION

Data is duplicated over a decentralized network of computers, removing numerous current concerns associated with storing data centrally. In the instance of the E2COIN app, there is no single point of failure.

PASSIVE INCOME

E2COIN is a decentralized protocol with the feature of double rewards staking system that is profit sharing utilities and token reflections.

LIQUIDITY

Liquidity providers receive LP tokens for providing liquidity. Users pay fees for trading on DEX, which is allocated to liquidity providers depending on the quantity of LP tokens or percent share they own in the pool. LP may suffer a temporary loss as a result of providing liquidity, lock it and they may not get the same number of tokens back. The ENERGY EMPIRE protocol guarantees that E2COIN holders' assets are immediately taken and locked for liquidity. The primary goal is to keep the holder informed about the E2COIN performance by avoiding whale dips when they are used in a mass trade-off. E2COIN secret is locked LP. We have a function here that serves as a dual-beneficial implementation for holders. To begin, the contract collects tokens from both sellers and purchasers and adds them to the LP, establishing a stable price floor. Second, the penalty serves as an arbitrage-resistant mechanism, ensuring that

the volume of E2COIN remains safe as a reward for the holders. In principle, the additional LP provides stability by adding the tax to the token's total liquidity, thus raising the token's overall LP and maintaining the token's price floor. This differs from other reflection tokens' burn function, which benefits only in the near term from the given supply decrease. Liquidity lockers enable project developers to enhance investors' trust in the project by showcasing that the liquidity is locked up and that the Developer/Team cannot drain (remove) the liquidity arbitrarily, leaving investors counting massive losses. Based on Binance Smart Chain, Pancakeswap is an outstanding liquidity locker that allows developer/teams to lock up any BEP-20 based LP tokens from exchange, protecting investors from DeFi rug pulls.

NFTS

NFT stands for 'non-fungible token' and represents a unit of data stored on a blockchain. Unlike Bitcoin and other cryptocurrencies, each token here certifies that a digital asset is one of a kind and therefore cannot be replaced with anything else. The NFT concept is a perfect fit for the power generation industry. NFT not only expands its boundaries but also changes the equity distribution model of energy assets. ENERGY EMPIRE has identified early and is trail blazing the market with its NFT-solution. E2COIN will develop a blockchain-based NFT platform that enables investors to issue, sell and exchange the electricity generated by NFT or to distribute energy assets by exchanging E2COIN. Unlike other crypto ecosystems and networks, the ENERGY EMPIRE NFT marketplace will be operated by smart contracts.



VALUABLES OF NFTS

Unique:

Non-fungible tokens include information in their code that explains the features that distinguish one token from others. A digital collectable may have coded information on individual pixels, whereas tokenized energy assets may include ownership, size, and feature characteristics.

Traceable:

Each NFT records on-chain record of all transactions since it was created, including every time it changed hands. This implies that each token can be verified as legitimate and not a forgery, which is clearly critical for owners and prospective purchasers.

Rare:

Non-fungible tokens must be provably rare in order to be appealing to purchasers. This ensures that assets stay attractive over time and that supply does not surpass demand.

Indivisible:

Most NFTs cannot be transacted as fractions of the entire. Non-fungible tokens, like half of a power generation or E2COIN trade, cannot be divided into smaller amounts.

Programmability:

Like all traditional digital assets and tokens built on smart contract blockchains, NFTs are fully programmable.

E2COIN

The native digital utility token of the ENERGY EMPIRE Platform (E2COIN) is a major component of the ENERGY EMPIRE ecosystem. E2COIN will be issued as a BEP-20 standard-compliant digital token on the Binance Smart Chain (BSC)/BNB blockchain, and it is designed to reward participants who interact within the E2COIN trading Platform. E2COIN is a BEP20 is BNB based which users need to have in order to pay for NFTs on the Platform. E2COIN will be used as a utility crypto asset in the NFTs industry. NFTs market will be traded with E2COIN in the near future.

E2COIN SALES PLAN AND AIRDROP PLAN

Airdrop:

90 days from July

Token listing:

Scheduled to be listed on the top 20 exchanges based on CoinMarketCap in July

NFT Issuance: :

Issued sequentially from September

HOW DO YOU PARTICIPATE

You can use the interface on www.energyempire.net





WIND POWER GENERATOR YEONGDONG POWER CO., LTD.



LOW-TEMPERATURE REGENERATED OIL RE100 OPERATOR KRP CO., LTD.



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Buyer agrees not to engage in money laundering, illegal currency trading and other restricted activities in any form through Coins and other related derivatives (if any). Each participant should be aware that Coins and other related derivatives cannot be directly or indirectly sold, exchanged or disposed of for money laundering purposes.

Warning Statement on Forward-Looking Statements

Certain expressions specified in this white paper contain predictive truth about the future and prospects of the project. These forward-looking statements contain various risks and uncertainties. If risks and uncertainties materialize and the actual performance and development of affiliates may differ from established expectations, participants should use this white paper for reference only.

Interpretation of language

This document is available in Korean and English. In case of dispute, we will resolve the problem based on the Korean version. For accurate interpretation of this white paper, please refer to the Korean version.