ECO2

White Paper

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1. Global Warming

Global warming is a long-term rise in the average temperature of the Earth's climate system, an aspect of climate change shown by temperature measurements and by multiple effects of the warming. Though earlier geological periods also experienced episodes of warming, the term commonly refers to the observed and continuing increase in average air and ocean temperatures since 1900 caused mainly by emissions of greenhouse gasses in the modern industrial economy In the modern context the terms global warming and climate change are commonly used interchangeably, but climate change includes both global warming and its effects, such as changes to precipitation and impacts that differ by region. Many of the observed warming changes since the 1950s are unprecedented in the instrumental temperature record, and in historical and paleoclimate proxy records of climate change over thousands to millions of years.

1.1 Extreme Weather

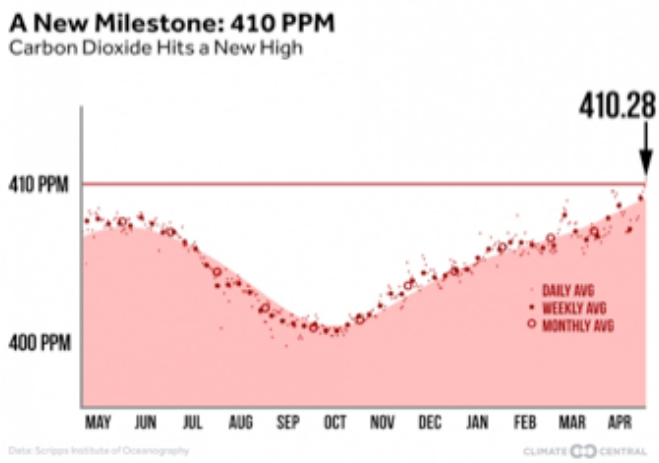
Extreme weather events include droughts, floods and associated landslides, storms, cyclones and tornadoes, ocean and coastal surges, heat waves and cold snaps. A warmer world should in theory be wetter as well, since the rate of evaporation is increased and the atmosphere will contain more moisture for precipitation. Changes in precipitation however, will not be the same all over the world. Wet areas are likely to become wetter, with more frequent episodes of flooding, whilst dry areas may become drier, with longer periods of drought leading to an increased threat of desertification. In general, as more heat and moisture is put into the atmosphere, the likelihood of storms, hurricanes and tornadoes will increase.

Any shift in average climate will almost inevitably result in a change in the frequency of extreme events. In general, more heat waves and fewer frosts could be expected as the average temperature rises, whilst the return period of severe flooding will be reduced substantially if precipitation increases. A 1 in a 100-year event for example, may become a 1 in 10-year event, whilst 1 in a 10-year event may become a 1 in 3-year event. For less adaptable societies in the developing world a shorter return period of extreme weather events may not allow them to fully recover from the effects of one event before the next event strikes.

1.2 The concentration of CO2 rises

On April 18th 2017, the Mauna Loa Observatory recorded its first-ever carbon dioxide reading in excess of 410.28 parts per million. Carbon dioxide hasn't reached that height in millions of years since measurements began. It stood at 315 ppm when record keeping began at Mauna Loa in 1958. In 2013, it passed 400 ppm. Just four years later, the 400 ppm mark is no longer a novelty.

Carbon dioxide concentrations have skyrocketed over the past two years due to in part to natural factors like El Niño causing more of it to end up in the atmosphere. But it's mostly driven by the record amounts of carbon dioxide humans are creating by burning fossil fuels.



"The rate of increase will go down when emissions decrease," Pieter Tans, an atmospheric scientist at the National Oceanic and Atmospheric Administration, said. "But carbon dioxide will still be going up, albeit more slowly. Only when emissions are cut in half will atmospheric carbon dioxide level off initially." Even when concentrations of carbon dioxide level off, the impacts of climate change will extend centuries into the future. The planet has already warmed 1.8°F (1°C), including a run of 627 months in a row of above-normal heat. Sea levels have risen about a foot and oceans have acidified. Extreme heat has become more common.

All of these impacts will last longer and intensify into the future even if we cut carbon emissions. But we face a choice of just how intense they become based on when we stop polluting the atmosphere. Right now, we're on track to create a climate unseen in 50 million years by mid-century.

2. UNFCCC

The United Nations Framework Convention on Climate Change (UNFCCC) was an international environmental treaty adopted on May 9, 1992. It was opened for signature at the Earth Summit in Rio de Janeiro from June 3 to 14, 1992. The treaty entered into force on March 21, 1994, after a sufficient number of countries have ratified it. The goal of the UN Framework Convention on Climate Change is to "stabilize the concentration of greenhouse gases in the atmosphere at levels that can prevent human disturbances that pose a risk to the climate system". The framework sets non-binding restrictions on greenhouse gas emissions from countries and does not include enforcement mechanisms. Instead, the framework outlines how to negotiate specific international treaties (called "agreements" or "agreements") to clarify further actions to achieve the goals of the UN Framework Convention on Climate Change.

Initially, the Intergovernmental Negotiating Committee (INC) prepared the text of the "Framework Convention" during the New York meeting from April 30 to May 9, 1992. The UNFCCC was adopted on May 9, 1992 and opened for signature on June 4, 1992. As of December 2015, the United Nations Framework Convention on Climate Change had a total of 197 Parties. The Convention has broad legitimacy, mainly due to its almost universal membership.

2.1 Kyoto Protocol

The Kyoto Protocol, signed on 11 December 1997, was the first agreement between nations to commit them to achieve greenhouse gas (GHG) emission reduction targets. Specifically, industrialized nations pledged to an overall reduction of ~5% below 1990 levels in the period 2008-2012, with targets varying by country. Kyoto laid the foundations for the Paris Agreement which was reached at the 21st Conference of the Parties (COP-21), and has since been signed by 170 countries.

2.2 Paris Agreement

The Paris Agreement came out of the COP21, the 21st Conference of Parties of the UNFCCC (United Nations Framework Convention on Climate Change), held in Paris from November 30th to December 12th, 2015. The agreement was adopted on December 12th, 2015.

The Paris Agreement, like the Kyoto Protocol and the Doha Amendment, falls under the framework of the UNFCCC. Article 7 of the UNFCCC established a Conference of Parties

(COP), which acts as the supreme body of the convention, and meets annually unless otherwise decided. It is at these annual meetings, the UN Climate Change Conferences, where negotiations and decisions on behalf of the state parties are made.

Negotiations for the Paris Agreement started in Durban, South Africa at the COP17 with the establishment of the Ad Hoc Working Group on the Durban Platform for Enhanced Action, commonly known as the Durban Platform, in which the Parties to the UNFCCC agreed to establish a working group to negotiate "another legal instrument or an agreed outcome with legal force" by 2015 at COP21 (the Paris Conference) and to come into effect and be implemented by 2020.

The Paris agreement was open for signatures from the April 22nd, 2016 to April 21st, 2017. In accordance with article 21, it came into force on November 4th, 2016, the 30th day after the date on which at least 55 Parties, accounting for an estimated 55 percent of the total greenhouse gas emissions, have deposited their instruments of ratification, acceptance, approval or accession.

The Paris Agreement's long-term goal is to keep the increase in global average temperature to well below 2 °C above pre-industrial levels; and to limit the increase to 1.5 °C, since this would substantially reduce the risks and effects of climate change. As of March 2019, 195 UNFCCC members have signed the agreement, and 185 have become party to it.

3. Emission Trading System

An emissions-trading system is a system whereby the total amount of emissions is capped and allowances, in the form of permits to emit CO2, can be bought and sold to meet emission reduction objectives.

A central authority (usually a governmental body) allocates or sells a limited number of permits to discharge specific quantities of a specific pollutant per time period. Polluters are required to hold permits in amount equal to their emissions. Polluters that want to increase their emissions must buy permits from others willing to sell them. Financial derivatives of permits can also be traded on secondary markets. Various countries, states and groups of companies have adopted such trading systems, notably for mitigating climate change.

The advantage of an emissions trading system is that it permits compliance flexibility, allowing each source to make a tailored choice in order to meet the target limit for emissions. This is critical, as incremental clean-up-costs of emissions control vary sufficiently across regulated entities. As a result, incorporating an emissions-trading system into an environmental policy could imply that the same level of environmental protection would be achieved at a lower overall cost.

3.1 Compliance Carbon Market

Compliance offset markets driven by mandated caps on greenhouse gas emissions, which operate at a significantly larger scale. Compliance carbon markets are marketplaces through which regulated entities obtain and surrender emissions permits (allowances) or offsets in order to meet predetermined regulatory targets. In the case of cap-and-trade programs, participants – often including both emitters and financial intermediaries – are allowed to trade allowances in order to make a profit from unused allowances or to meet regulatory requirements. The most active compliance carbon offset program is the United Nations Clean Development Mechanism, the source of offsets for Kyoto Protocol Signatory Counties and buyers in the European Union Emissions Trading Scheme.

3.2 Voluntary Carbon market

The voluntary carbon marketplace encompasses all transactions of carbon offsets that are not purchased with the intention to surrender into an active regulated carbon market. It does include offsets that are purchased with the intent to re-sell or retire to meet carbon neutral or other environmental claims.

Voluntary demand for carbon offsets is driven by companies and individuals that take responsibility for offsetting their own emissions, known as purely voluntary buyers, as well as entities that purchase pre-compliance offsets before emissions reductions are required by regulation.

Purely voluntary offset buyers are driven by a variety of considerations related to corporate social responsibility, ethics, and reputational or supply chain risk. Pre-compliance buyers speculatively procure offsets before a compliance carbon market start date, hoping to obtain a lower price than what the same offset may eventually fetch in the compliance program.

4. Carbon Standard

4.1 CDM

The Clean Development Mechanism (CDM) is a cooperative mechanism established under the Kyoto Protocol to help developing countries create sustainable emission reduction projects that produce "certified emission reductions" for investors to use. This mechanism gives countries and private sector companies the opportunity to reduce emissions at any cost-lowest place in the world, and then they can factor these reductions into their respective targets. Through emission reduction projects, these mechanisms can stimulate international investment and provide the necessary resources for clean economic growth around the world, especially the Clean Development Mechanism, which aims to help developing countries achieve sustainable development through environmentally friendly investments by governments and businesses in industrialized countries.

Funds obtained through the CDM should help developing countries achieve some of their economic, social, environmental and sustainable development goals, such as clean air and water, improved land use, rural development, employment and poverty alleviation. In addition to promoting green investment priorities in developing countries, the CDM provides opportunities for simultaneous progress on climate, development and local environmental issues. For developing countries that may otherwise focus on current economic and social needs, the prospects for such benefits should provide strong incentives to participate in the CDM.

The Clean Development Mechanism allows Annex I Parties to the Kyoto Protocol to implement a project to reduce greenhouse gas emissions in the territory of non-Annex I Parties or, if restricted, to eliminate greenhouse gases through carbon sequestration or "sinking". The resulting certified emission reduction, or CER, is available to Annex I Parties to help achieve their emission reduction targets. CDM projects must be approved by all relevant parties to achieve sustainable development in host countries and generate real, measurable and long-term benefits in mitigating climate change. In the absence of the project, any increase that may occur must also be reduced.
In order to participate in the CDM, countries must meet certain eligibility criteria.

All Parties must meet three basic requirements: 1. Voluntary participation in the clean development mechanism. 2. Establish the National Clean Development Mechanism Authority. 3. Ratify the Kyoto Protocol.

4.2 VCS

The Verified Carbon Standard (VCS), formerly the Voluntary Carbon Standard, is a standard for certifying carbon emissions reductions. VCS is administered by Verra, a not-for-profit organization.

In 2005, The Climate Group, International Emissions Trading Association (IETA) and The World Economic Forum - convened a team of global carbon market experts to draft the first VCS requirements. The World Business Council for Sustainable Development (WBCSD) joined the effort soon after. These experts soon formed the VCS Steering Committee, which worked to draft the first and subsequent versions of the VCS Standard. Many of the members of the original steering committee went on to be on the original Board of Directors, which now has evolved into a body of 12 members that offers input and guidance to the organization.

By 2008, with the VCS Standard becoming more widely adopted, the Board of Directors named David Antonioli the organization's first Chief Executive Officer. Soon after in 2009, VCS incorporated in Washington D.C. as a non-profit NGO.

On February 15, 2018, the organization that maintains the Verified Carbon Standard changed its name from Verified Carbon Standard to Verra.

4.3 GS

Gold Standard (GS, Gold Standard) A global monitoring system established by the World Wide Fund for Nature (WWF) and other non-governmental organizations (NGOs) in 2003 to ensure that carbon reduction projects under the United Nations Clean Development Mechanism (CDM) are also Helping sustainable development. The next-generation standard, the Gold Standard for the Global Goals, launched in 2017, allows climate and development initiatives to quantify, certify and maximize their impact on climate security and sustainable development. The Gold Standard currently has more than 80 NGO supporters and more than 1,400 certification programs in more than 80 countries, creating billions of dollars in common value through global climate and development initiatives.

The Gold Standard for Global Goals aims to provide appropriate safeguards, requirements and methods to measure and justify the impact that the project and its contributors seek to achieve – from market instruments such as carbon credits and renewable energy labels to gender equality and improved health.

4.4 ISO-140064

In March 2006, the International Organization for Standardization (ISO) completed the development of the four-year ISO-14064 standard, which consists of three components for greenhouse gas management activities, including the development of physical emissions inventories. The development process includes the participation of more than 175 experts representing 45 countries. These standards include minimum requirements for greenhouse gas storage, which provide a basic structure from which reliable and consistent independent audits can be performed. The ISO 14064 standard provides decision makers with the basis for preparing best practices for establishing greenhouse gas reduction plans. ISO-14064 provides organizations users with the opportunity to improve consistency, increase flexibility and reduce work related to voluntary greenhouse gas inventories.

ISO-14064 is a standard established by processes organized according to international standards. The International Organization for Standardization (ISO) is a non-governmental organization based in Geneva, Switzerland, which coordinates technical expert groups representing various national standards institutes to develop consensus-based voluntary technical standards on a variety of issues. ISO has released more than 16,000 standards, including the well-known ISO-9000 and ISO-14000 quality and environmental management standards series. The goal of the ISO standard is to promote international cooperation, especially business and trade, by promoting the exchange of technical issues between industry, government, consumers and other stakeholders, and allowing products and services to be consistent within and outside national borders.

4.5 Others

CAR

Climate Action Reserve, as the primary carbon offset registry for the North American carbon market, the Climate Action Reserve Program CAR encourages action to reduce greenhouse gases (GHG) by ensuring environmental integrity and economic benefits of emissions reduction projects emission. The Climate Action Reserve Program, originally created by California in 2001, aims to address climate change issues through voluntary calculations and public reporting of emissions. The California Registry helps more than 415 California-based companies, organizations, government agencies, and municipalities voluntarily calculate and publicly report their greenhouse gas emissions. Its existing expertise in emissions accounting translates into expertise in North American carbon market emissions reductions.

ACR

The American Carbon Registry (ACR) is a non-profit company of Winrock International. Founded in 1996, it is the world's first private voluntary greenhouse gas registry. As a mission-driven institution named after the philanthropist Winslow Rockefeller, Winrock believes that climate change will have

a profound impact on the world's poorest people, and market mechanisms are the most effective way to mobilize emissions reductions. Winrock operates ACR to build confidence in the environmental and scientific integrity of carbon offsets to accelerate transformational mitigation actions. As a pioneer in using market forces to improve the environment, ACR sets a threshold for compensation quality, which is the current market standard and continues to lead the market in innovation.

5. Blockchain technology application on climate action

Blockchain provides a means of establishing a single point of truth between entities through the application of consensus methods. Real-world assets can become tokenized on the blockchain, including carbon credits or green energy. These assets are tradable, creating value and incentivizing climate change efforts within nations and enterprises.

In January 2018, the United Nations announced the formation of the Climate Chain Coalition. The announcement outlined the mission of the group in “advancing collaboration among members working on issues of common interest, and to help enhance the environmental integrity and results of DLT applications for climate.” The coalition now has more than one hundred members, including NGOs, consulting firms, and various blockchain companies and associations.

5.1 What is blockchain

A blockchain, originally block chain, is a growing list of records, called blocks, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a Merkle tree).

By design, a blockchain is resistant to modification of the data. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way". For use as a distributed ledger, a blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for inter-node communication and validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without alteration of all subsequent blocks, which requires consensus of the network majority. Although blockchain records are not unalterable, blockchains may be considered secure by design and exemplify a distributed computing system with high Byzantine fault tolerance. Decentralized consensus has therefore been claimed with a blockchain.

Blockchain was invented by a person (or group of people) using the name Satoshi Nakamoto in 2008 to serve as the public transaction ledger of the cryptocurrency bitcoin. The identity of Satoshi Nakamoto is unknown. The invention of the blockchain for bitcoin made it the first digital currency to solve the double-spending problem without the need of a trusted authority or central server. The bitcoin design has inspired other applications, and blockchains which are readable by the public are widely used by cryptocurrencies. Blockchain is considered a type of payment rail. Private blockchains have been proposed for business use.

A blockchain is a decentralized, distributed and public digital ledger that is used to record transactions across many computers so that any involved record cannot be altered retroactively, without the alteration of all subsequent blocks. This allows the participants to verify and audit transactions independently and relatively inexpensively. A blockchain database is managed autonomously using a peer-to-peer network and a distributed timestamping server. They are authenticated by mass collaboration powered by collective self-interests. Such a design facilitates robust workflow where participants' uncertainty regarding data security is marginal. The use of a

blockchain removes the characteristic of infinite reproducibility from a digital asset. It confirms that each unit of value was transferred only once, solving the long-standing problem of double spending. A blockchain has been described as a value-exchange protocol. A blockchain can maintain title rights because, when properly set up to detail the exchange agreement, it provides a record that compels offer and acceptance.

5.2 Blockchain climate action

The biggest difference between the Paris Agreement and the Kyoto Protocol is top-down emission reduction method turn to the bottom-up approach. The signatory countries propose Intended Nationally Determined Contributions (INDCs) to reduce greenhouse gas emissions. Countries put forward their agreements in the context of their own national circumstances, capabilities and priorities, within the ambition to reduce global greenhouse gas emissions enough to keep global temperature rise to 2 degrees Celsius

However, the bottom-up approach of the Paris Agreement is only at the national level. At the non-national level, the Non-State Actor Zone for Climate Action (NAZCA) allows non-state organizations around the world to propose independent contributions. Currently, there are more than 12,000 organizations, including enterprises. Government units and investors propose their emission reduction targets. Judging from the current progress, it is difficult to achieve temperature control within 1.5 to 2 degrees Celsius in this century. More people need to join the ranks of emission reduction. According to the UNEP 2018 Emissions Gap Report, under the different conditions in 2030, with the ideal estimate, reaching the goal of Paris Agreement needs to increase the carbon emission reduction by 13 to 15 GtCO2e per year, but if the country, enterprises and NGOs alone cannot achieve the goal.

Blockchain technology allows the Paris Agreement’s bottom-up approach start from individuals. The blockchain network can link all individuals who are willing to participate in emission reduction, make individual actions into group actions, and cooperate with the blockchain consensus platform to allow enterprises and individuals to record each unit's emission reductions in a decentralized ledger on the chain. Transparently and publicly record the emission reductions of each participant. Individuals' willingness to reduce emissions will be higher if the individual's actions are immediately linked to international climate actions. Relevant institutions, NGOs can jointly perform climate actions on the chain.

Based on this concept, we propose ECO2, starting with environmental cryptocurrency and gradually educating the public about environmental protection. The ECO2 environmental cryptocurrency is built on the blockchain's environmental community, allowing more people to focus on global warming awareness and the development of the carbon credit industry. When ECO2 is freely circulated around the world, the environmental consensus behind it is also passed on.

In order to complete the comprehensive blockchain application of climate action, our plan is as follows:

1. Establish an environmental cryptocurrency ECO2 based on blockchain technology to build a blockchain environmental community.
2. Use ECO2 to connect the carbon markets and blockchain communities, and create VER Trade International Carbon Trading Platform, to activate idle funds in the blockchain market to carbon markets,
3. Establish an ECO2 blockchain carbon account to allow individuals to have a personal carbon account,
4. Promote personal carbon neutrality consensus and achieve universal personal purchase carbon sinks to offset carbon emissions.
5. Comprehensive blockchain technology revolutionizes all aspects of the carbon market and makes a substantial contribution to the Paris Agreement.

In a report released by World Bank in March 2018 (Blockchain and Emerging Digital Technologies for Enhancing Post-2020 Climate Markets), It is clearly pointed out that problems in the carbon market can be overcome by blockchain technology. The carbon credit of carbon market and the cryptocurrency of the blockchain are all virtual commodity, which can be combined in transparency, data storage, account transfer and etc. To this end, the World Bank has proposed the Metric Guidelines, which describe the clear outline of the future technology operation of the carbon market.

METRIC Principles:
1. Market Integrity
2. Environmental Integrity
3. Transparency
4. Recognize ambition
5. Inclusiveness
6. Cost-effectiveness

These are the goals we are gradually achieving, completing technology-based global climate actions, providing more creativity with open platforms, services, structures, and gradually improving emission reduction capacity for the goals of the Paris Agreement.

5.3 VER Trade

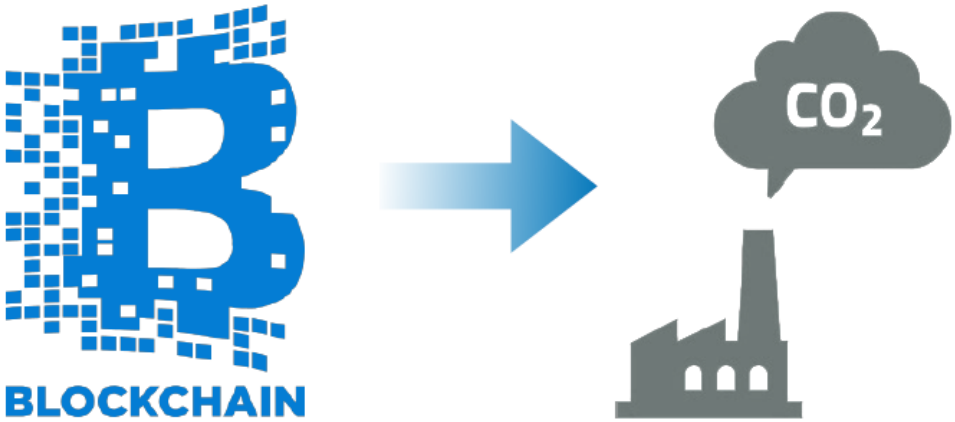
www.vertrade.org

VER Trade international carbon trading platform based on blockchain technology to promote carbon trading, carbon neutrality and ow-carbon economy. VER is the abbreviation of Voluntary Emission Reduction. Focusing on the voluntary carbon market. It provides the first transnational online trading platform, enabling buyers and sellers to break through the time and space restrictions, conduct direct and immediate online transactions and reduce communication costs.

VER Trade uses the transparency and immutability of blockchain's features to vitalize the international carbon market, and it also helps small carbon credits holders to trade directly online with relatively lower cost. We believe by this implement; this platform could fulfill the demand of precise poverty alleviation. And increase carbon trading between developed and developing countries.

The individual carbon neutrality service provides a personal calculation of the carbon footprint in daily life, allowing users to purchase carbon credits on a voluntary basis for personal carbon neutrality. We offer exquisite certificates, real carbon credits and complete records to promote the spirit of individual climate action.

Bring blockchain fund into the carbon market by ECO2



VER Trade's features:

1. Instant: Trading carbon credits anytime, anywhere, 24 hours a day, 365 days a year.

2. Direct: Enterprises and individuals can complete transaction directly through auction or fixed price mechanisms, which optimize the transaction process and lower various costs, stimulate global carbon trading market and accelerate low carbon economy.

3. Liquidity: Use environmental cryptocurrency ECO2 as transaction tool, which can be circular on global exchanges and easily converted into local currency. Exert the strengths of cryptocurrency, transform idle resources and hot money into real and solid applications.

4. Security: Safeguard properties by the highest level of security includes but not limited to dual authentication mechanism, independent hardware and cold wallet control, SSL&SSH securings, Host.conf, Sysctl.conf, FTP, TMP hardenings, PHP tightening & upgrade, DDos and CC attacks protections.

5. Community: Enable individuals to participate in carbon neutral movement without membership fee, which encourages more global citizens to support worldwide climate action. Contributors can not only receive certificate but also be listed on online honor board.

6. ECO2

The blockchain solution for climate action

Our goals:

1. Develop blockchain climate consensus.
2. Vitalize international carbon market.
3. Encourage individuals to participate in carbon neutrality
4. Establish blockchain environmental standards.

Issuance Mechanism:

The total circulation of ECO2 is 300 million.

a. 20%: For initiate start-up and projects development of carbon credit.
   10%, use to teams building, cost of carbon credits development, platform setup costs and related low carbon applications.
   10% is owned by the ECO2 team.

b. 50%: For carbon credit assets development.
   The quantity of ECO2 issued is based on value of carbon credits. ECO2 developed credit credits since 2016. The speed of ECO2 issue will be in accordance with the market value of carbon credits that gradually completed from ECO2s' projects. When we start issuing ECO2, we will announce the details of our carbon credits on website.

c. 30%: used for carbon trading promotion and other emission reduction applications, will announce details on the official website when it starts to be used.

6.1 Climate Chain Coalition, CCC

ECO2 is the member of the Climate Chain Coalition (CCC), The Climate Chain Coalition (CCC) is a registered not-for-profit organization based in Canada. As an open global initiative engaging a diverse range of small and large stakeholder groups around the world, organizations do not pay a membership fee to CCC. Therefore, the CCC depends on volunteers, sponsors and supporters in order to operate.

The membership list of CCC
www.climatechaincoalition.io/membership-list

During the One Planet Summit on December 12, 2017 in Paris, France (the 2nd anniversary of the Paris Agreement), a multi-stakeholder group of 12 organizations working on distributed ledger technology (DLT, i.e. blockchain) held a meeting to agree to collaborate and establish an open global initiative called the Climate Chain Coalition (CCC). As of August 2018, over 100 organizations have joined the CCC.

The Climate Chain Coalition membership agreed on shared principles and values to facilitate and guide activities for capacity building, networking, research, governance, demonstrations and pilot projects.

6.2 Source Code of ECO2 Smart Contract

ECO2 used Ethereum's ERC-20 standard as its blockchain network at the beginning. After completing the development of blockchain environmental standards, it will be converted into its own blockchain network.

```
pragma solidity >=0.4.22 <0.6.0;

interface tokenRecipient {
    function receiveApproval(address _from, uint256 _value, address _token, bytes calldata _extraData) external;
}

contract TokenERC20 {
    // Public variables of the token
    string public name;
    string public symbol;
    uint8 public decimals = 18;
    // 18 decimals is the strongly suggested default, avoid changing it
    uint256 public totalSupply;

    // This creates an array with all balances
    mapping (address => uint256) public balanceOf;
    mapping (address => mapping (address => uint256)) public allowance;

    // This generates a public event on the blockchain that will notify clients
    event Transfer(address indexed from, address indexed to, uint256 value);

    // This generates a public event on the blockchain that will notify clients
    event Approval(address indexed _owner, address indexed _spender, uint256 _value);

    // This notifies clients about the amount burnt
    event Burn(address indexed from, uint256 value);

    /**
     * Constructor function
     *
     * Initializes contract with initial supply tokens to the creator of the contract
     */
    constructor(
        uint256 initialSupply,
        string memory tokenName,
        string memory tokenSymbol
    ) public {
        totalSupply = initialSupply * 10 ** uint256(decimals);   // Update total supply with the decimal amount
        balanceOf[msg.sender] = totalSupply;                     // Give the creator all initial tokens
        name = tokenName;                                        // Set the name for display purposes
        symbol = tokenSymbol;                                    // Set the symbol for display purposes
    }

    /**
     * Internal transfer, only can be called by this contract
     */
    function _transfer(address _from, address _to, uint _value) internal {
        // Prevent transfer to 0x0 address. Use burn() instead
        require(_to != address(0x0));
        // Check if the sender has enough
        require(balanceOf[_from] >= _value);
        // Check for overflows
        require(balanceOf[_to] + _value >= balanceOf[_to]);
        // Save this for an assertion in the future
        uint previousBalances = balanceOf[_from] + balanceOf[_to];
        // Subtract from the sender
        balanceOf[_from] -= _value;
        // Add the same to the recipient
        balanceOf[_to] += _value;
        emit Transfer(_from, _to, _value);
        // Asserts are used to use static analysis to find bugs in your code. They should never fail
```

```
        assert(balanceOf[_from] + balanceOf[_to] == previousBalances);
    }

    /**
     * Transfer tokens
     *
     * Send `_value` tokens to `_to` from your account
     *
     * @param _to The address of the recipient
     * @param _value the amount to send
     */
    function transfer(address _to, uint256 _value) public returns (bool success) {
        _transfer(msg.sender, _to, _value);
        return true;
    }

    /**
     * Transfer tokens from other address
     *
     * Send `_value` tokens to `_to` on behalf of `_from`
     *
     * @param _from The address of the sender
     * @param _to The address of the recipient
     * @param _value the amount to send
     */
    function transferFrom(address _from, address _to, uint256 _value) public returns (bool success) {
        require(_value <= allowance[_from][msg.sender]);     // Check allowance
        allowance[_from][msg.sender] -= _value;
        _transfer(_from, _to, _value);
        return true;
    }

    /**
     * Set allowance for other address
     *
     * Allows `_spender` to spend no more than `_value` tokens on your behalf
     *
     * @param _spender The address authorized to spend
     * @param _value the max amount they can spend
     */
    function approve(address _spender, uint256 _value) public
        returns (bool success) {
        allowance[msg.sender][_spender] = _value;
        emit Approval(msg.sender, _spender, _value);
        return true;
    }

    /**
     * Set allowance for other address and notify
     *
     * Allows `_spender` to spend no more than `_value` tokens on your behalf, and then ping the contract about it
     *
     * @param _spender The address authorized to spend
     * @param _value the max amount they can spend
     * @param _extraData some extra information to send to the approved contract
     */
    function approveAndCall(address _spender, uint256 _value, bytes memory _extraData)
        public
        returns (bool success) {
        tokenRecipient spender = tokenRecipient(_spender);
        if (approve(_spender, _value)) {
            spender.receiveApproval(msg.sender, _value, address(this), _extraData);
            return true;
        }
    }

    /**
     * Destroy tokens
     *
     * Remove `_value` tokens from the system irreversibly
     *
```

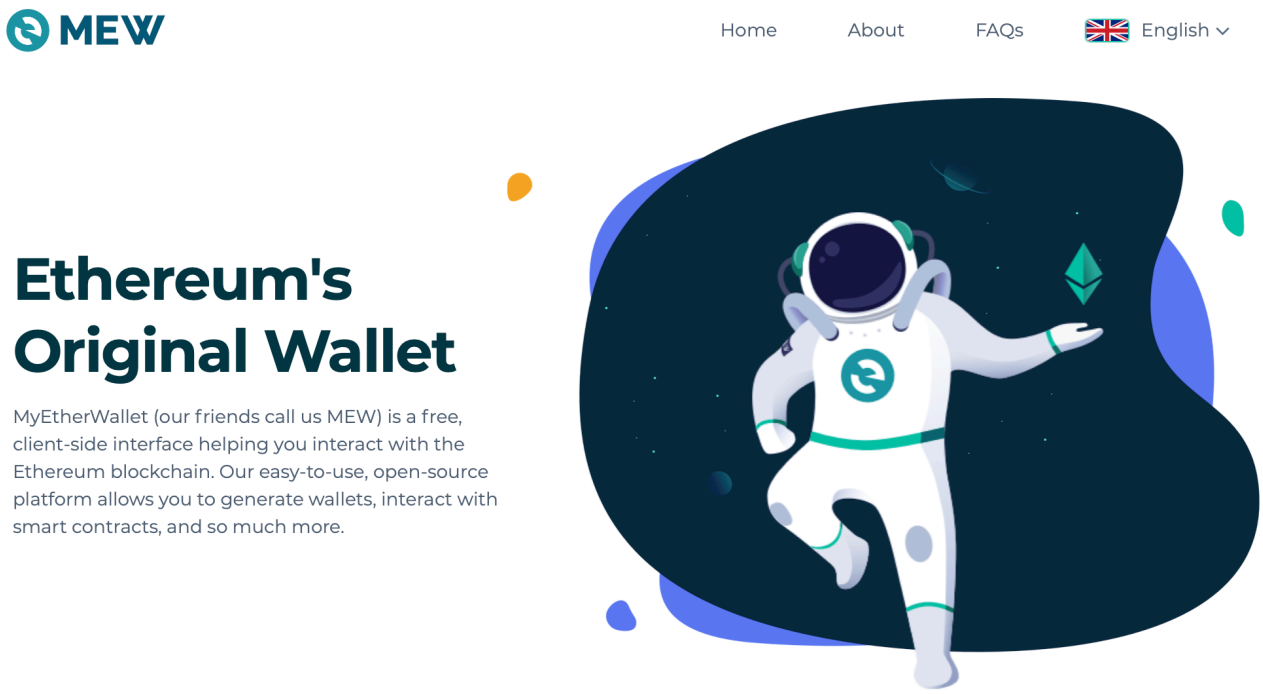
```
     * @param _value the amount of money to burn
     */
    function burn(uint256 _value) public returns (bool success) {
        require(balanceOf[msg.sender] >= _value);     // Check if the sender has enough
        balanceOf[msg.sender] -= _value;              // Subtract from the sender
        totalSupply -= _value;                        // Updates totalSupply
        emit Burn(msg.sender, _value);
        return true;
    }

    /**
     * Destroy tokens from other account
     *
     * Remove `_value` tokens from the system irreversibly on behalf of `_from`.
     *
     * @param _from the address of the sender
     * @param _value the amount of money to burn
     */
    function burnFrom(address _from, uint256 _value) public returns (bool success) {
        require(balanceOf[_from] >= _value);                // Check if the targeted balance is enough
        require(_value <= allowance[_from][msg.sender]);    // Check allowance
        balanceOf[_from] -= _value;                         // Subtract from the targeted balance
        allowance[_from][msg.sender] -= _value;             // Subtract from the sender's allowance
        totalSupply -= _value;                              // Update totalSupply
        emit Burn(_from, _value);
        return true;
    }
}
```

6.3 Wallet

1. MyEtherWallet

   www.myetherwallet.com

   In order to facilitate usage, ECO2 supports the mainstream third-party wallet to provide users with diversified capital storage methods. Please visit www.myetherwallet.com, apply for free with multilingual interface.

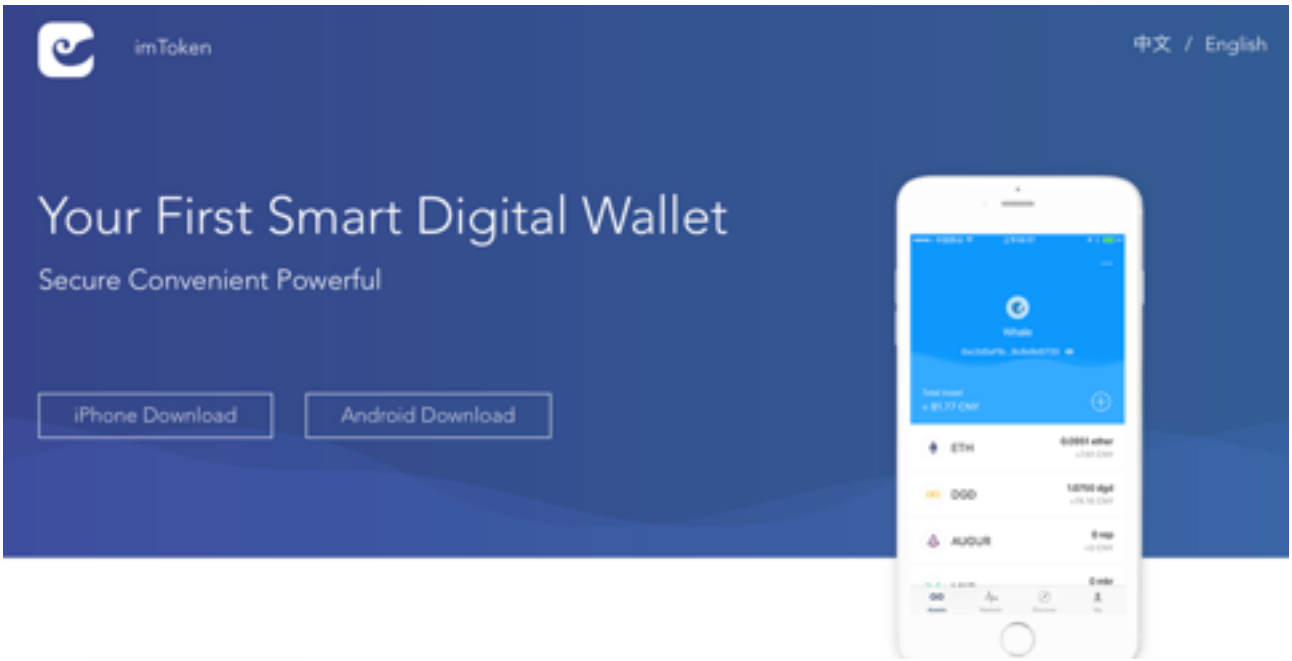


2. imToken

   www.token.im

   imToken supports importing old wallets, if user already owns the wallets, it can import the private key and use the original purse through imToken interface to facilitate the management.

   imToken supports iOS and Android mobile APP with interface in Chinese and English. APP can be downloaded from https://token.im



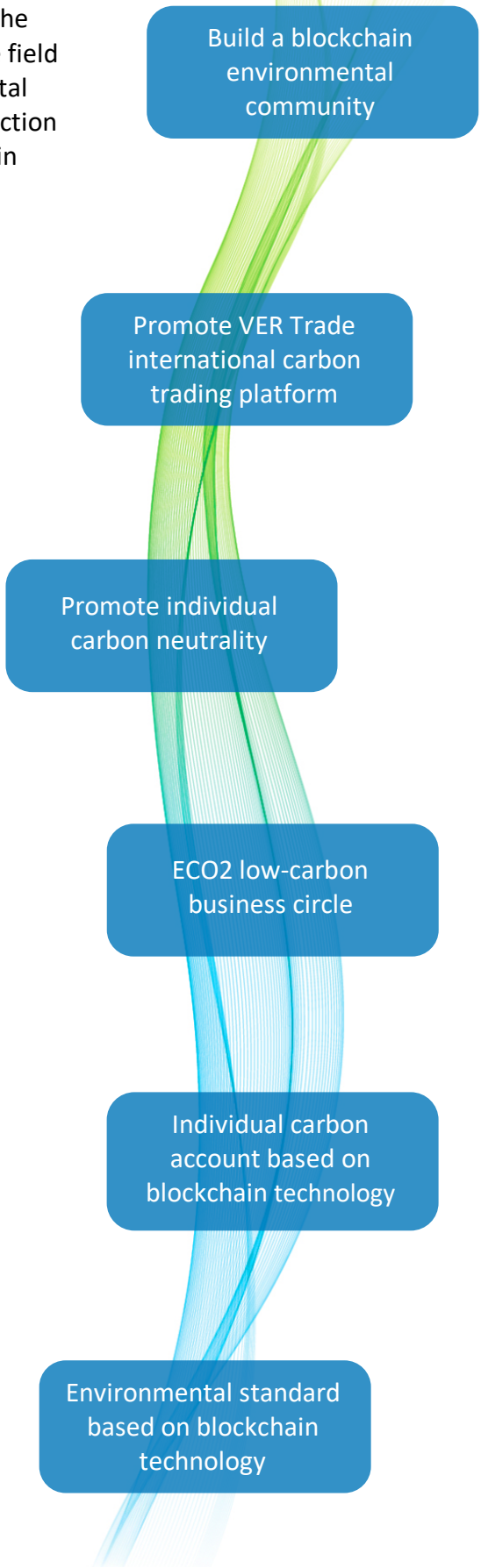
6.4 ECO2 Official Website

www.eco2.cc

For the latest news and updates on ECO2, please visit the official website.

7. Future Plan

ECO2 plans continual develop the application of blockchain in the field of low-carbon and environmental protection. Achieving climate action that allows global citizens to join together.



8. Timeline

2016
Invest VCS forestry carbon credit

2017
Initial planning stage of ECO2

2018-Q1
ECO2 listed on exchange

2018-Q2
Start to attend environmental activities and Blockchain Expo

2018-Q3
Started building VER Trade international carbon trading platform

2018-Q4
Attend the COP24 of UN

2019-Q1
Testing phase of VER Trade platform

2019-Q2
Launch VER Trade platform

2019-Q3
Vitalize international voluntary carbon market

2019-Q4
Develop environmental standards based on blockchain technology

9. Development Team

ECO2 is a flighting global warming application based on blockchain technology initiated by Carl Hao. He hopes to establish a global climate action through ECO2's blockchain network.

Founder: Carl Hao

Winner of the 2017 ASEAN 10th International Environmental Finance Innovation Award

Served 10 years in the military, demobilized in the film and television investment finance and other industries, and later focused on financial innovation. After Bitcoin entered China in 2012, he became a domestic senior player and think about the relevant Blockchain application innovation. In 2017 he won the ASEAN 1th International Environmental Finance Innovation Award. In 2018, he was nominated for the Dutch Accenture Environmental Innovation Award. He has been invited to participate in the Silicon Valley North America Blockchain Exhibition and attended in Beijing, Shanghai, Shenzhen, Foshan, participated in UN COP24 Climate Conference as well as giving speeches at environmental and blockchain forums.

Co-Founder: Neo Lin

MBA from Tamkang University, Taiwan (Research on International Carbon Trading). Application study on Blockchain Technology at Tsinghua University, Taiwan. Chinese delegation at the UN Climate Conference COP24

Has more than 10 years' experience in operation management of technology company and international brand promotion. In recent years, he has been positively responding to global climate action, and focusing on international carbon credit transition with the blockchain technology to obtain a multi-win effect. He has also actively participated in conferences and forums related to carbon credit trading, blockchain, and energy conservation at home and abroad, and made speeches at cross-forums like Asian Development Bank.

Co-founder & Strategy Director: Rich Huang

Master of International Management and Economics, Universität Innsbruck, Austria Master of Law, Risk Management and Insurance, NCCU, Taipei, Taiwan.

Rich has diversified experiences and plentiful achievements in cloud technology, legal, financial educational and other industries. Rich is in charge of global business development and resource integration.

Financial Consultant: Dr. Wan Jia Lin

American Finance PhD
CPA of American Certified Public Accountant,
CTA of US Certified Tax Agent.

He is responsible for financial planning, overseas company application, financial related license application, and overseas contract signing.

Blockchain Technical Consultant: Dr. Yu Qing Zhang

Vice President of the School of Information Engineering Geosciences University of Beijing China.

Full-time blockchain technology developer and blockchain smart contract applicator. Responsible for ECO2 and Blockchain Carbon Standard technology development.

Project Manager: Jennifer Wang

Studied in Capital College Pretoria South Africa.

With more than 10 years of international work experience, specializing in cross-border cooperation and implementation of various projects, in charge of ECO2 team operations and media promotion.

International Business Developer：Sophie Cao

Bachelor of International Economics & Business of Copenhagen Business School, Denmark.

As the role model of global talent, Chinese-Danish Sophie has spectacular achievements in cross-cultural business studies and various working experiences in FMCG. Sophie belongs to diversified communities like Startup Grind, Nordic Blockchain Association, Nordic-Chinese Startup Association, CBS climate club, etc. Sophie is in charge of Synergy's overseas market development and multimedia BlockWarming's operation as co-founder.

10. Disclaimer

ECO2 is a special token in the field of Blockchain. It does not represent company shares or securities. The Blockchain industry has unique technical, political and market risks, and the resulting risk holders are solely responsible.

If you have any questions, please contact ECO2 official website:

www.eco2.cc