DAO IPCI

Blockchain ecosystem for carbon markets, environmental mitigation assets and liabilities
The world faces global environmental risks, climate change-related threats, which affect life of individuals, their health and well-being, businesses (including physical risks, financial, liability and regulation risks), and natural environment.
Climate change – global challenge caused by human economic activities

#CarbonCredits

Mexican Bay Hurricanes
Assessment and offsetting of carbon footprint becomes universal business custom

The U.S. Department of Energy’s Lawrence Berkeley National Lab study:

- energy expenditures of $5 billion
- 1% of national electricity consumption
- The yearly greenhouse-gas pollution equals that of 3 million cars
- 1kg indoor cannabis = 4.6 tCO2e
- => offsetting and legalization of outdoor production needed
Transaction-based mitigation scheme

Environmental damage is a result of economic activity, i.e. deals and transactions.

DAO IPCI fundamental concept is balancing environmental damage (liability) with environmental mitigation outcomes.

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One and the same basic asset and liability fragmented into pieces, dozens of markets and instruments.

Carbon markets global perspective:

- Probably the largest global commodity market in the foreseeable future (global carbon market volume at maturity \(\geq\) USD $10 trillion).

- Carbon pricing, mainly market-based models, introduced in 54 jurisdictions, covering 40% of global GDP.

- Around 40 different carbon compliance units representing fundamentally similar basic asset – the right to emit 1 tCO2e under different jurisdictions and programs; dozens of platforms: registries, tracking services systems, exchanges, auctioning platforms.

- In 2017, 20 to 25% of global GHG emissions shall be covered by carbon pricing.

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![Map of global carbon markets](image)
DAO IPCI background and rationales

Global environmental risks, climate change-related threats, damages and liabilities affect everyone but only selected stakeholders are admitted to the markets.

The goal is to afford the opportunity to overcome the barriers and bring together pieces of the Market:

- External: between the markets
- Internal: in the markets

NOW

DAO IPCI provides common space, common space fabric, financial instrument/ecosystem that is universal, reliable, easy-to-use, transparent and allow both businesses and individuals to register and invest environmental damage mitigation projects, to offset carbon footprint, acquire and trade the outcomes of mitigation activities.

DAO IPCI – truly decentralized public blockchain ecosystem – is authentically private nonprofit project, independent of government, corporate, business or green NGO particular interests.
DAO IPCI – fully decentralized public and programmable

Environmental Programs’ Operators, Independent Entities (IE), Issuers and Compliers:

Are operating under independently sustained program rules and may interact within the integral digital ecosystem,

Register assets, rights and liabilities and issue asset-based environmental units using common set of adjustable and ready-to-use modules and smart contracts.

DAO IPCI provides unlimited access of the Users to DAO IPCI data and markets

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DAO IPCI transactions

Pilot transactions:
>200,000 units issued

Participants:
Operator of the Integrated Program for Climate initiatives
Independent Entities — Causa Privata Law Firm, KPMG
Issuer — Aera Group (France), Khimprom (Russia)
Complier — Russian Carbon Fund
User — ECOPOLIS (Russia)

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DAO IPCI decentralized application

Searching for projects and units in the blockchain

To comply (offset)

To trade

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Cryptocurrencies’ carbon footprint = millions of TCO2E

• Bitcoin network carbon footprint = Cyprus
• Ethereum network carbon footprint = Moldova
• Proposed greening of BTC and ETH

1 token = offsetting of carbon footprint of 1 ETH
1 token = offsetting of carbon footprint of 1 BTC

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DAO IPCI development plans and projected milestones

- **2017**: Voluntary, pilot market partnerships; core modules development
- **2018**: Mandatory compliance markets and institutions gateways; advanced smart-contracts and modules
- **2019**: Transaction footprint mitigation model development
- **2020**: Linking and merging of environmental mitigation markets
How can we prepare Mars for Devcon50

Sergey Lonshakov
Research team leader at Airalab, DAO IPCI architect
Can we make Mars a little bit more comfortable for Devcon50?

**Mars today**

**Surface temperature**

- **Min**: 130 K (-143 °C)
- **Mean**: 210 K (-63 °C)
- **Max**: 308 K (35 °C)

**The atmosphere**

- **Carbon dioxide**: 96%
- **Argon**: 1.93%
- **Nitrogen**: 1.89%
- **Traces of oxygen and water**
The Agreement aims to respond to the global climate change threat by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.
Keeping global temperature rise well below 2 degrees Celsius = The first planetary terraforming experiment based on economical game
Human-machine systems in DAO concept
Today Paris Agreement is Human-to-human system with strong reputation requirements
If we shift that on Ethereum network…

Paris Agreement can be Human-to-machine system based on algorithms and independent arbitrary validators…
IoT + Ethereum network

validators

Keeping global temperature rise well below 2 degrees Celsius

Factory  Power station  Farm

Smart cities

Sensor  Sensor  Sensor

Ethereum network

Validator+ with carbon credit emission algorithms (additional software packages)

Validator+  Validator+

Green humans

Green human boosts green economy all over the world
IoT + Ethereum network
validators

Manufactures on the way to green economy

Factory  Power station  Farm

Smart cities

Sensor  Sensor  Sensor

Ethereum network

Validator+ with carbon credit emission algorithms (additional software packages)

Smart contracts for collecting donations

Validator+

Smart contracts for collecting donations

Green human boosts green economy all over the world

Ask the network for collected data about carbon footprint

Collect data about carbon footprint around the city

Send annual report

Ask the network for collected data about carbon footprint

Collect data about carbon footprint around city

Send annual report
IoT + Ethereum network
validators

New terraforming tasks! 😊

Factory | Power station | Farm

Ethereum network
Validator+ with carbon credit emission algorithms (additional software packages)

Sensor
Sensor
Sensor
Sensor

Ethereum network
Validator+ | Validator+ | Validator+

Green humans
Green human boosts green economy all over the world
What do we have now?

• DAO IPCI: smart contract packages for carbon credit market tested with real participants.

dApp IPCI for human-to-human communication.

AIRA distributive for building carbon footprint sensors and network validators.
What are we doing now?

- R&D for showing the first algorithms for Human-to-Machine system on Carbon market.

- Try to involve Paris agreement participants in COP23 to our concept.

- Build the first service for reducing your carbon footprint with only carbon credits based on Ethereum network.
On the way to Devcon50