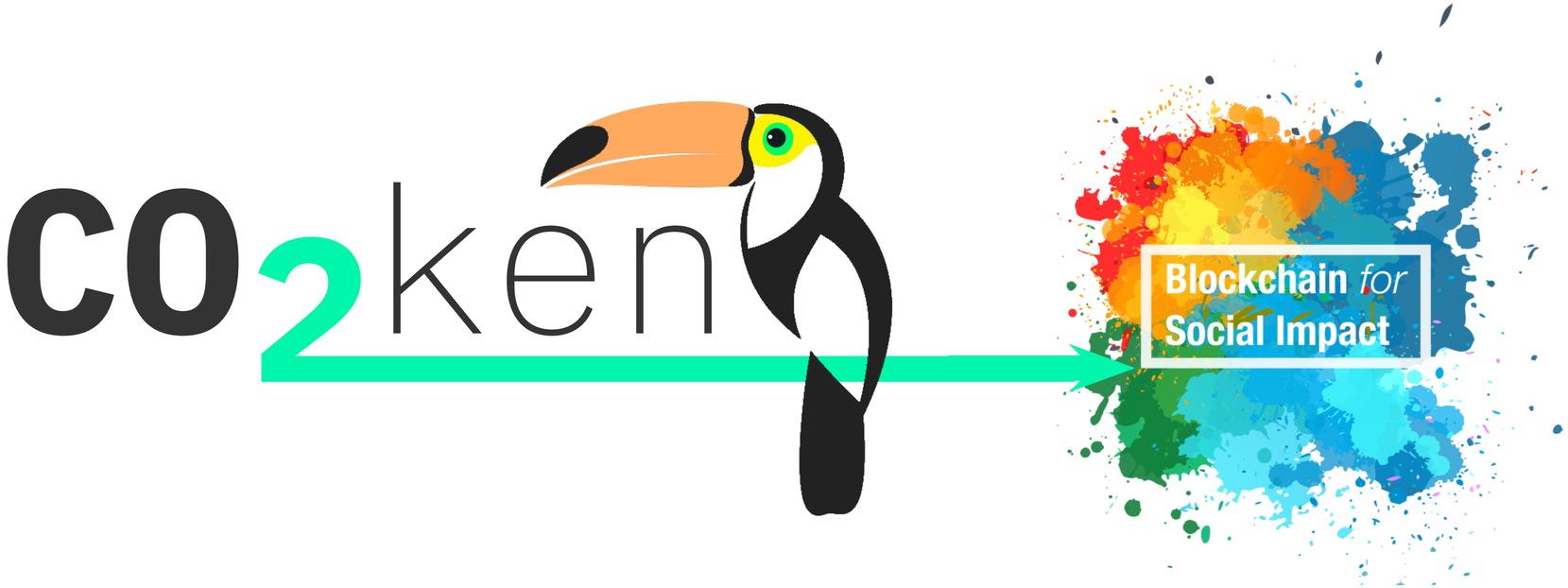
CO2ken

open & decentralized carbon accounting ecosystem



CO2ken.io
@CO2ken_io

Adam Spiers & Jan Benes & Nick Cannon & Raphaël Haupt

Vision

carbon neutral economy

by 2040

Value Proposition

> *We build the **open carbon accounting ecosystem** needed to achieve this vision*

Problem

Problem We're Solving

Carbon markets are not sufficiently effective.

Tragedy of the Commons

We use our atmosphere as a waste dump!

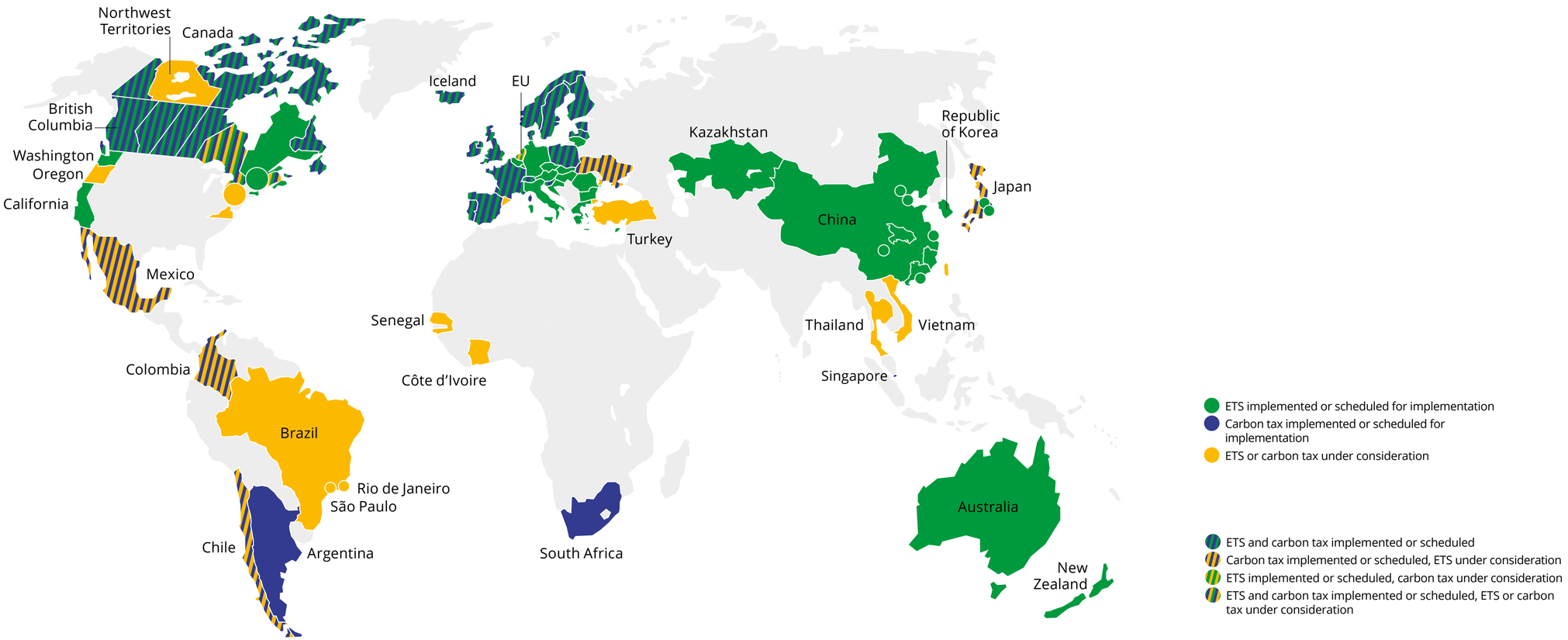
Free-Riding Nation States

No, YOU start!

Problems with Carbon Markets

Fragmented, intransparent & prone to double counting

Emission trading systems



http://documents.worldbank.org/curated/en/191801559846379845/pdf/State-and-Trends-of-Carbon-Pricing-2019.pdf

Problems with Carbon Markets

A plethora of acronyms to describe 1 tCO2e

Emission Trading Systems

AAU
assigned amount unit

EUA
European Union allowances

Clean Development Mechanism

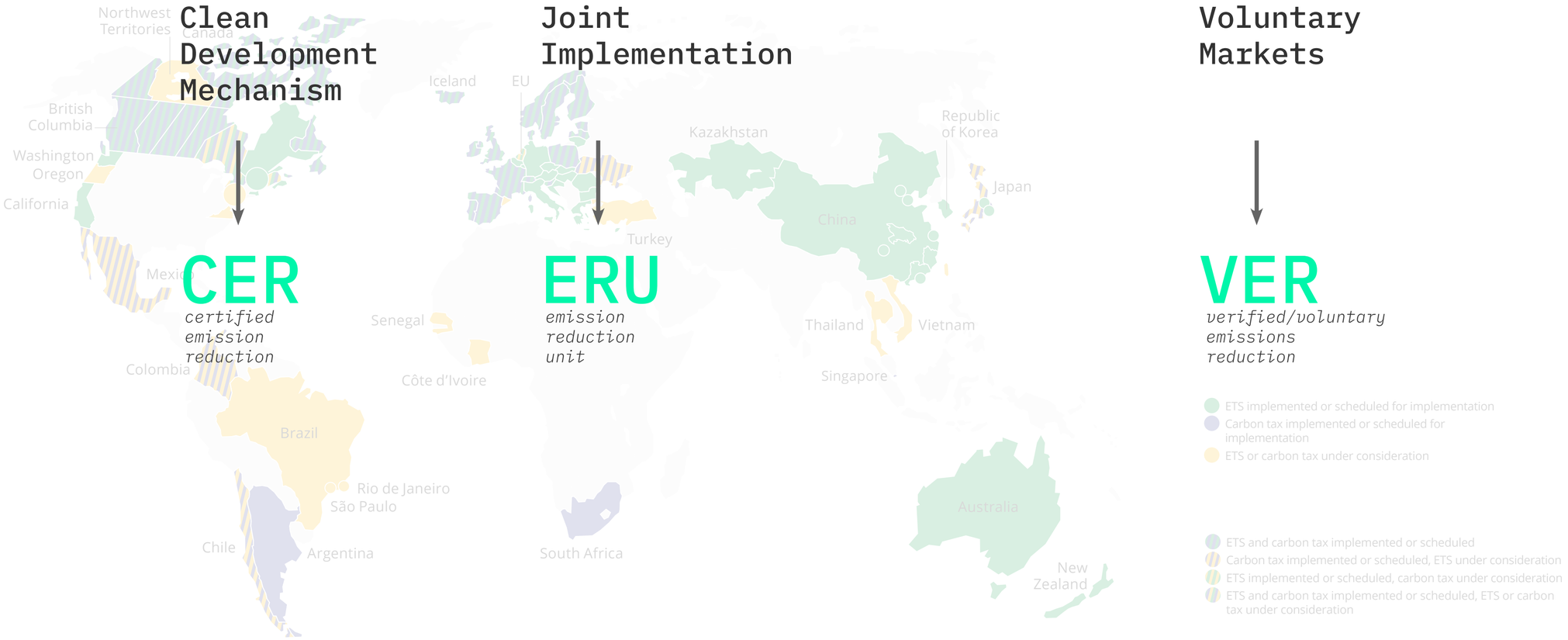
CER
certified emission reduction

Joint Implementation

ERU
emission reduction unit

Voluntary Markets

VER
verified/voluntary emissions reduction

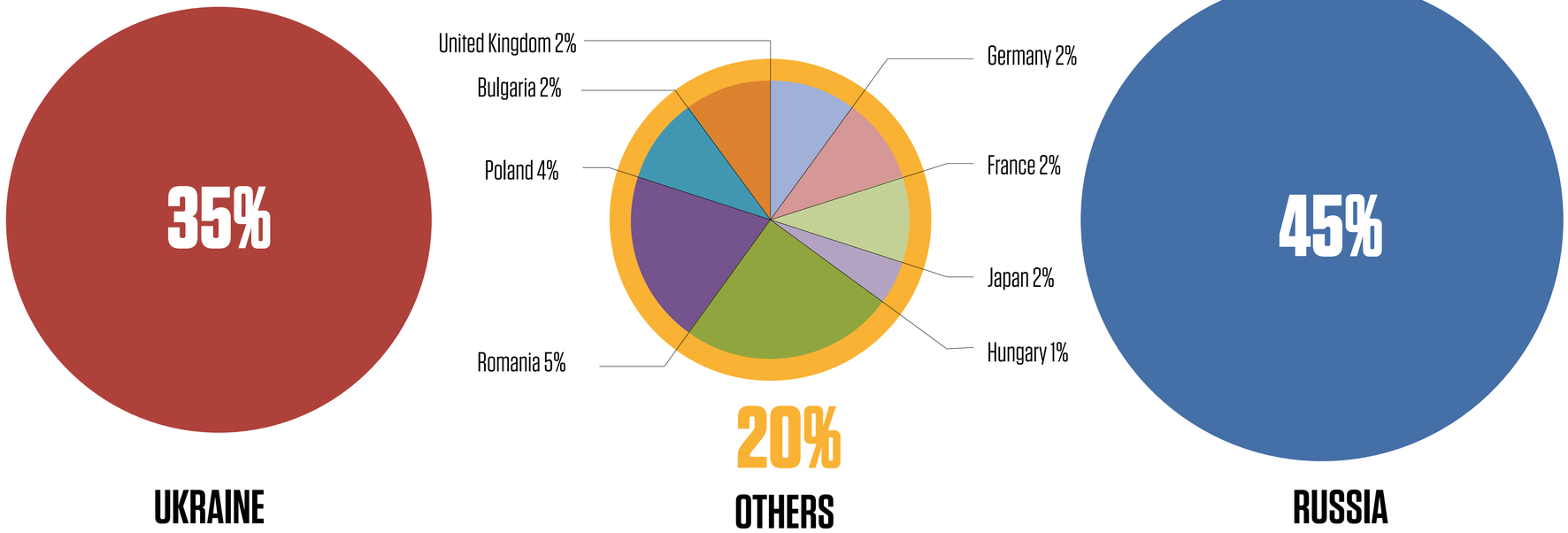


http://documents.worldbank.org/curated/en/191801559846379845/pdf/State-and-Trends-of-Carbon-Pricing-2019.pdf

Problems with Carbon Markets

Flawed incentive design leads to absurd dynamics

AAUs HELD BY COUNTRY



AAUs HELD BY COUNTRY top 10 (Mt CO2e)

Russia 5089
Ukraine 4001
Romania 533
Poland 411
Bulgaria 260
United Kingdon 243
Germany 228
Bulgaria 187
Japan 171
Hungary 169

https://carbonmarketwatch.org/publications/empty-targets-how-to-avoid-trading-of-hot-air-under-the-paris-agreement/

Problems with Carbon Markets

>80% of carbon offsets have no additional positive effect on climate

AAUs HELD BY COUNTRY top 10 (Mt CO2e)

Russia 5089
Ukraine 4001
Romania 533
Poland 411
Bulgaria 260
United Kingdon 243
Germany 228
Bulgaria 187
Japan 171
Hungary 169

https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean_dev_mechanism_en.pdf

No Agreement at COP25

Still no international carbon market mechanism

TIEMPO DE ACTUAR

COP25
CHILE
MADRID 2019

https://www.carbonbrief.org/cop25-key-outcomes-agreed-at-the-un-climate-talks-in-madrid

No Agreement at COP25

Still no international carbon market mechanism

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We have to act fast!

We have to massively scale up the rate at which we remove carbon from the atmosphere

global capacity for carbon removal

↓

!

10-1000 ktCO2/year

We have to act fast!

We have to massively scale up the rate at which we remove carbon from the atmosphere

x100

10-1000 ktCO2/year

Opportunity Space

Target Market

Attack the voluntary carbon market first.
Go for the big fish compliance market later.

compliance
market

$57 B

TIME

https://www.ecosystemmarketplace.com/carbon-markets/ [voluntary market] & https://icapcarbonaction.com/en/?option=com_attach&task=download&id=625 [compliance marekt]

Target Market

Attack the voluntary carbon market first.
Go for the big fish compliance market later.

voluntary market

$300M

compliance market

$57 B

TIME

https://www.ecosystemmarketplace.com/carbon-markets/ [voluntary market] & https://icapcarbonaction.com/en/?option=com_attach&task=download&id=625 [compliance marekt]

Rising Public Awareness

People and consumers are starting to care!

Rising Public Commitment

Companies are starting to care!

Tech

carbon-negative by 2030

Microsoft

Oil & Gas

$300M in offsets

Aviation

offset all domestic flights

BRITISH AIRWAYS

AIR FRANCE

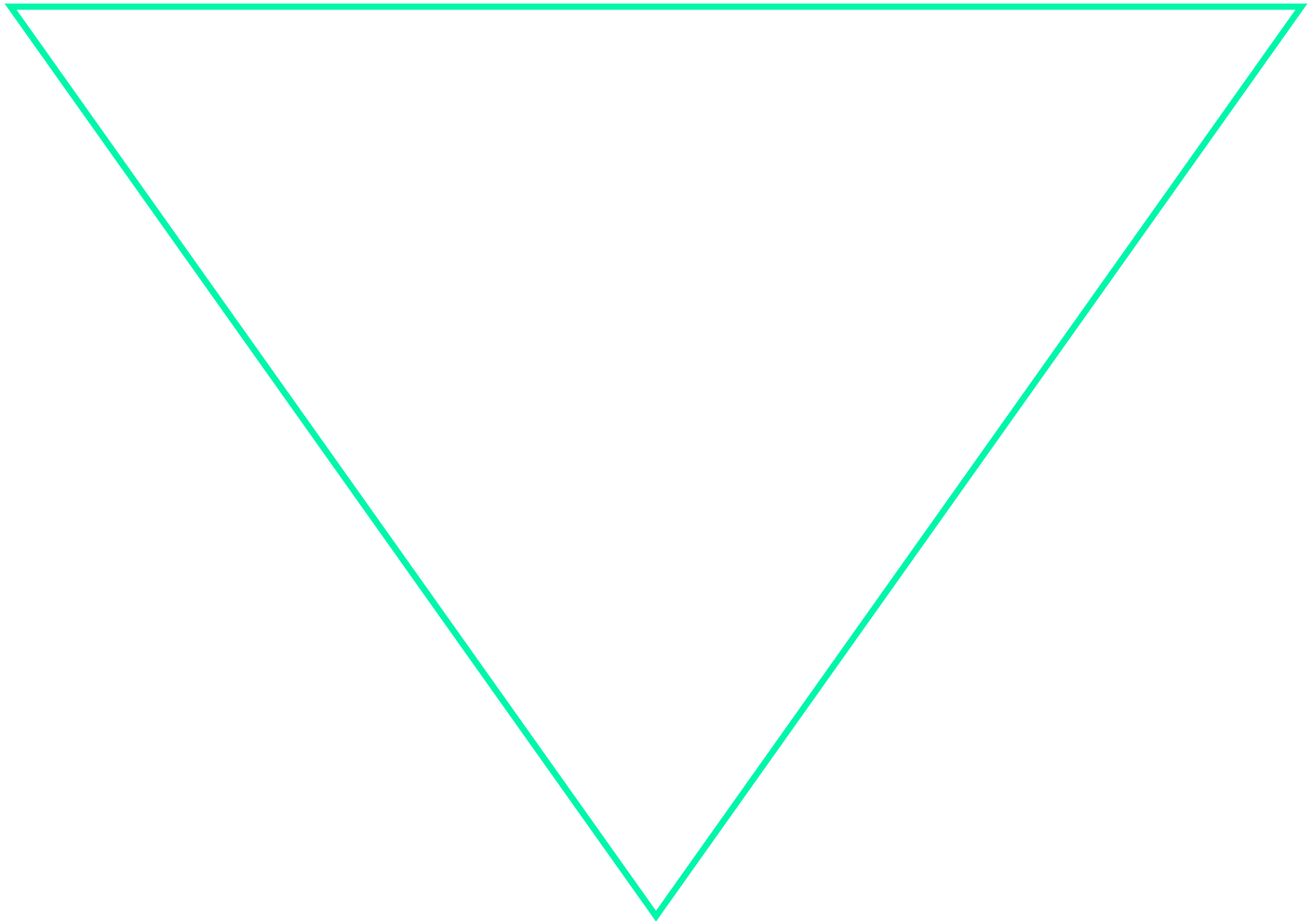
all emissions

easyJet

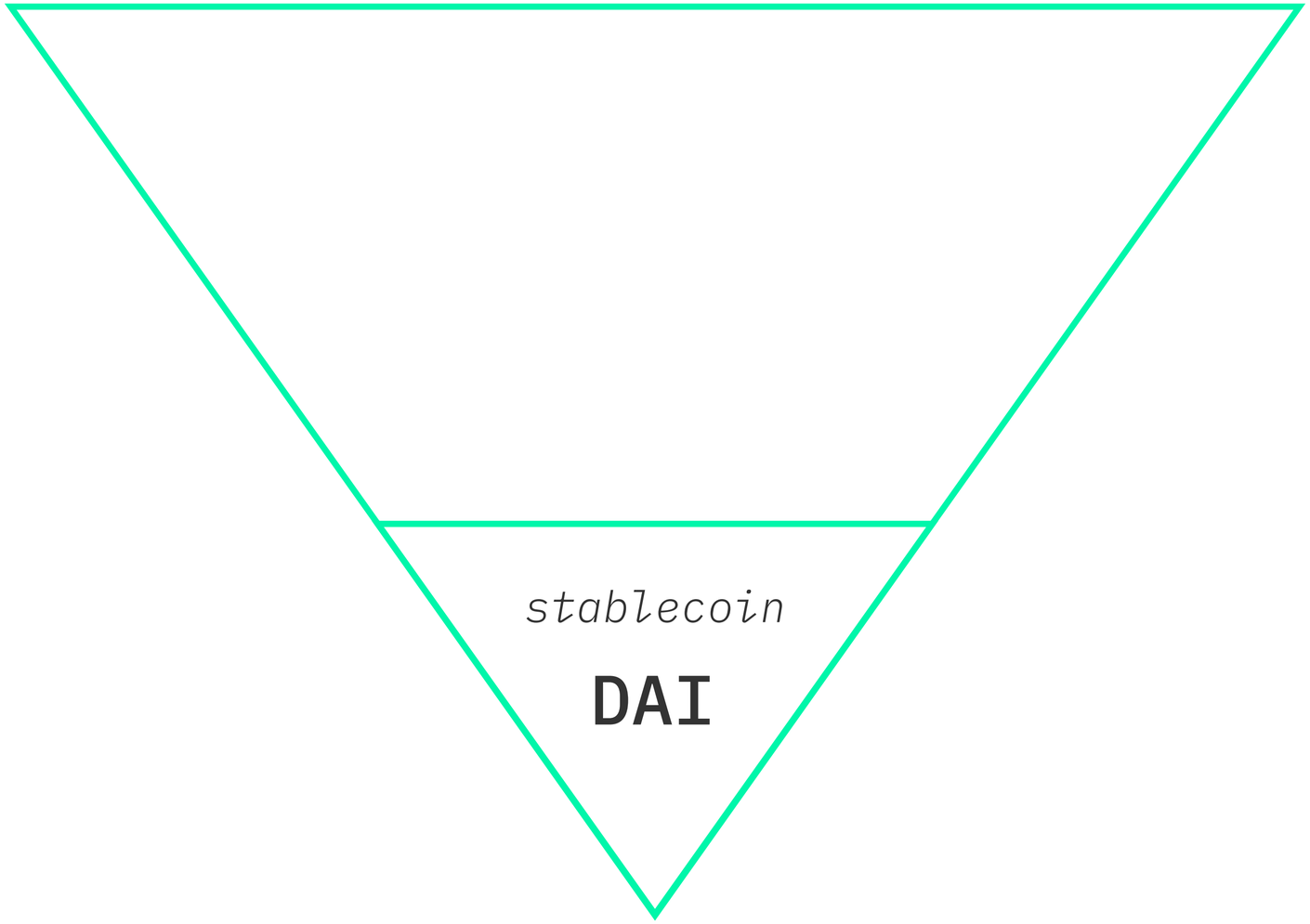
https://www.ecosystemmarketplace.com/articles/voluntary-carbon-volume-hits-seven-year-high-on-demand-for-natural-climate-solutions/
https://www.edie.net/news/6/-Transformation-through-transparency---How-Microsoft-will-collaborate-to-meet-its-carbon-negative-goals/

The Solution

DeFi



DeFi



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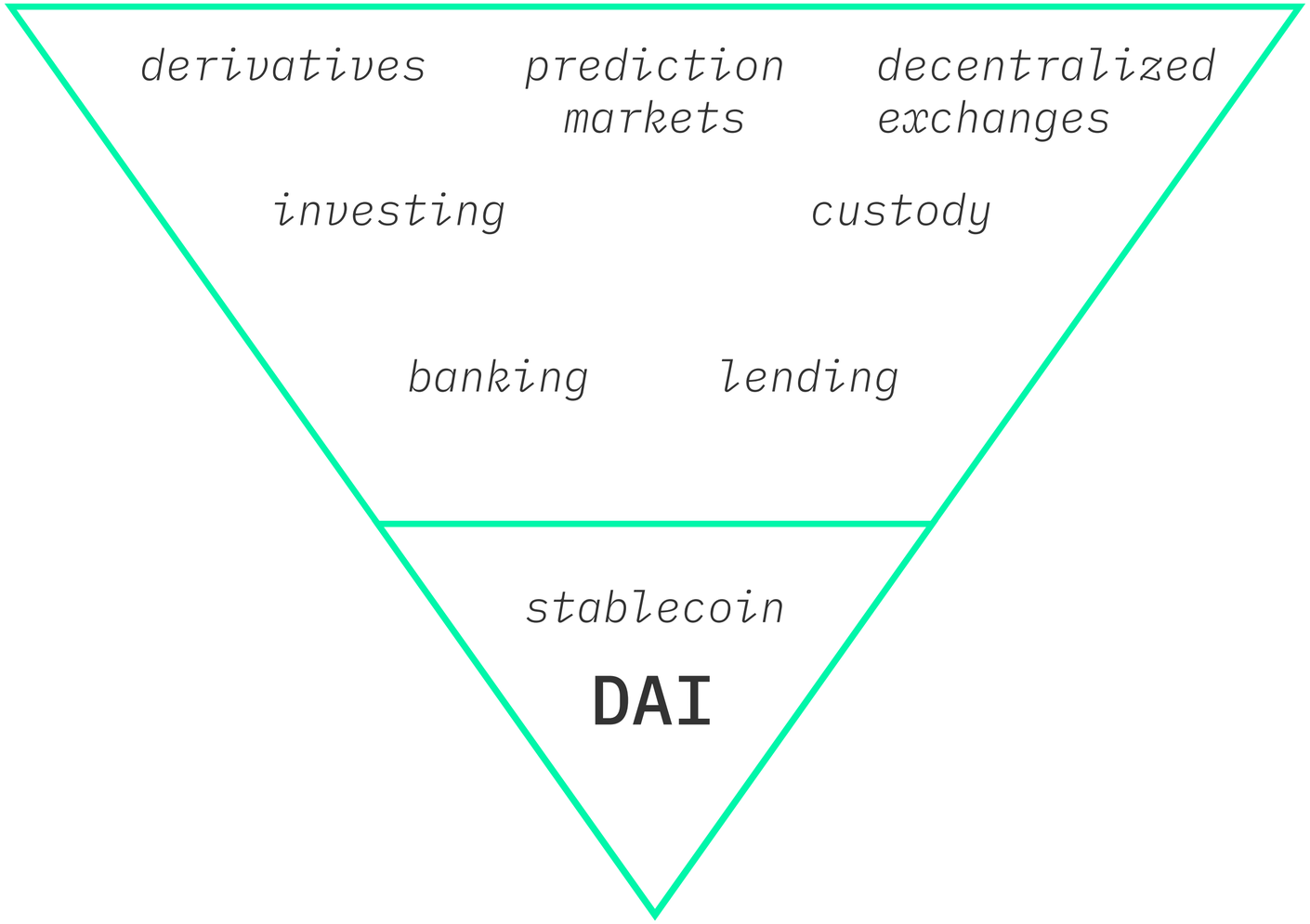
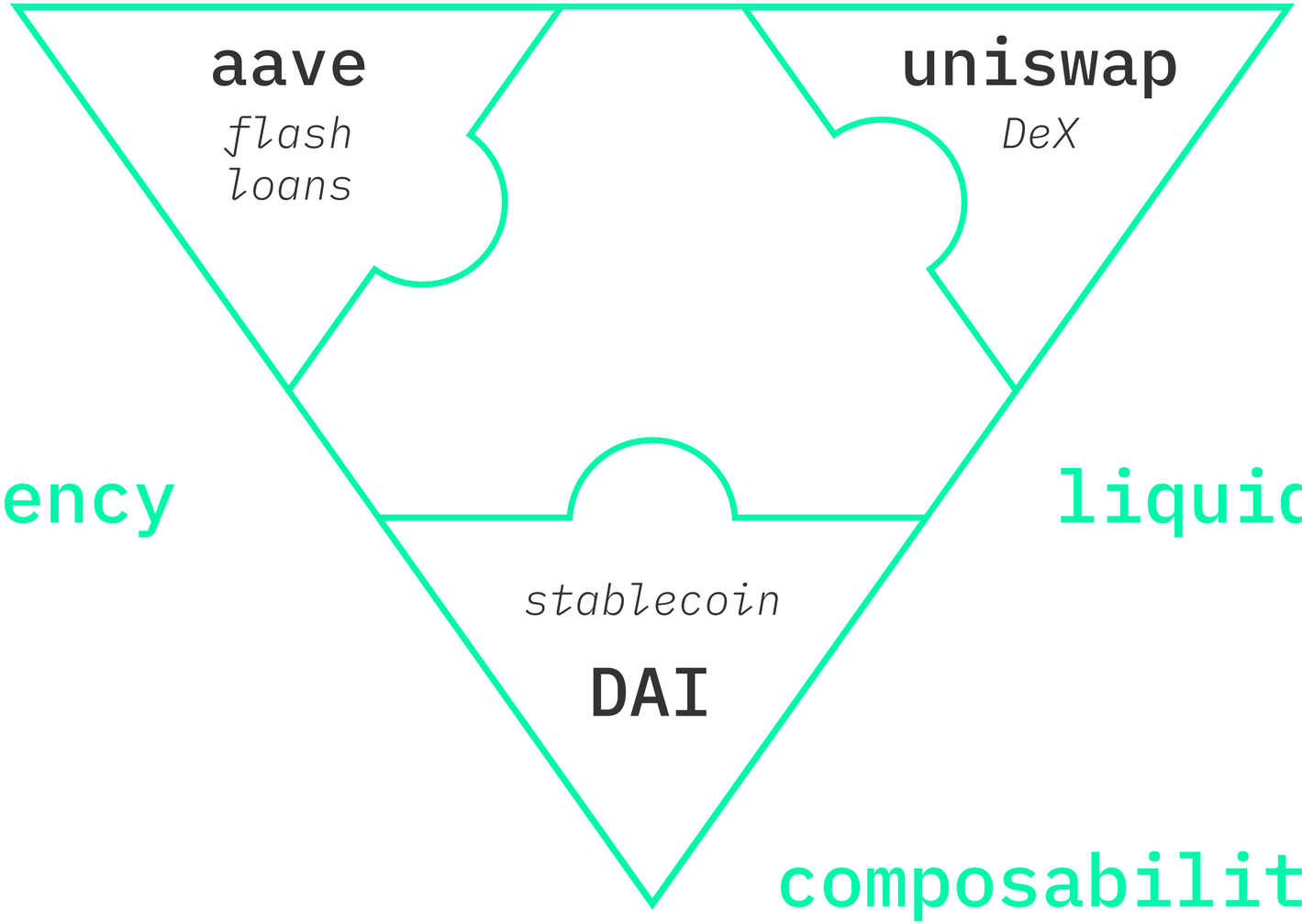

derivatives
prediction markets
decentralized exchanges
investing
custody
banking
lending
stablecoin
DAI

DeFi

new markets

open



transparency

liquidity

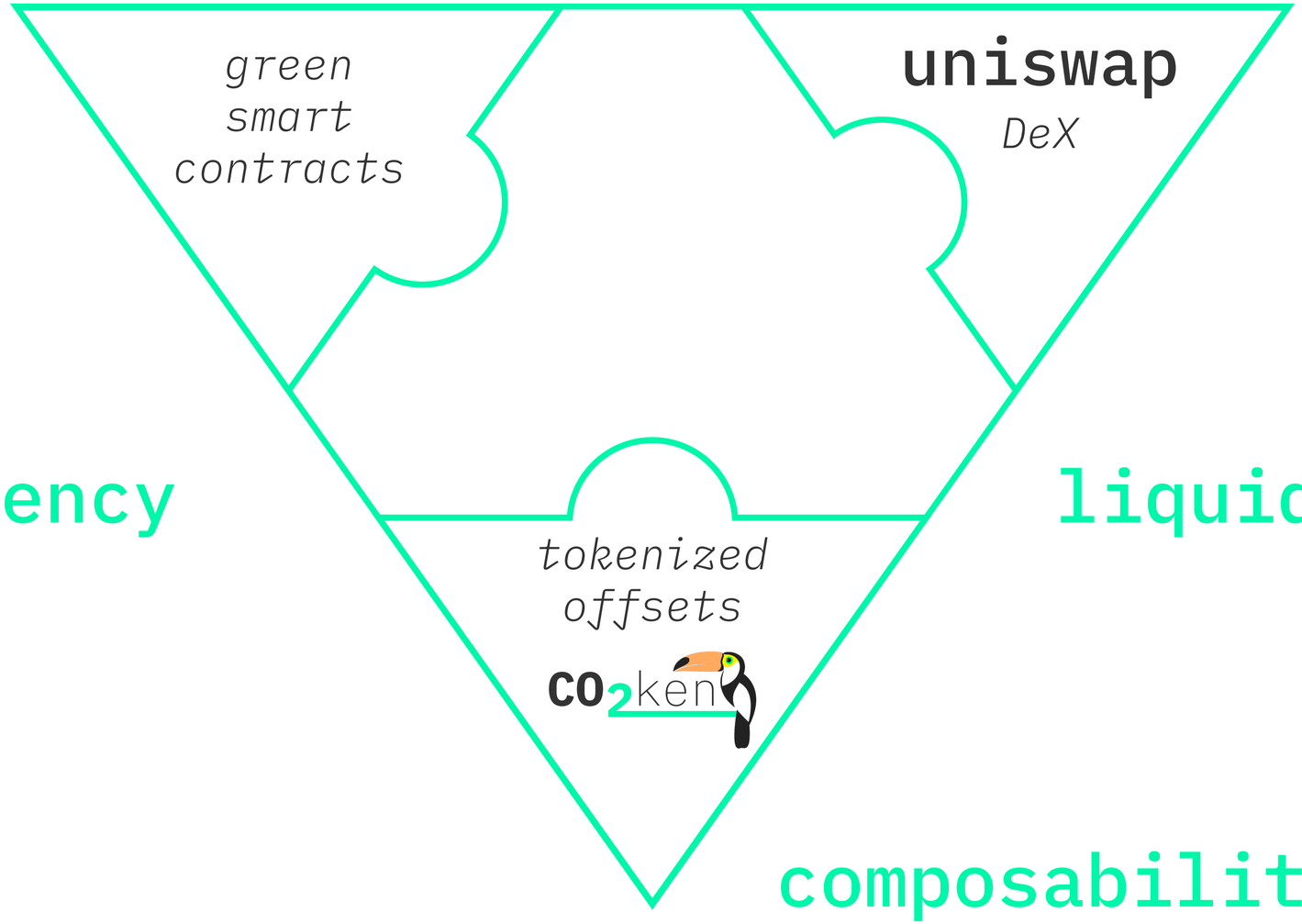
composability

DeCA

Decentralized **C**arbon **A**ccounting

new markets

open



transparency

liquidity

composability

Architecture

Accountability and automation along the offset value chain

SUPPLY → **MARKETPLACE** ↔ **DEMAND**

OFFSET CREATION | MVR & AUDITING | CERTIFI-CATION | ISSUANCE | INTEGRATION | DISTRIBUTION | CUSTOMERS

ACCOUNTING & REPORTING

Architecture

Accountability and automation along the offset value chain

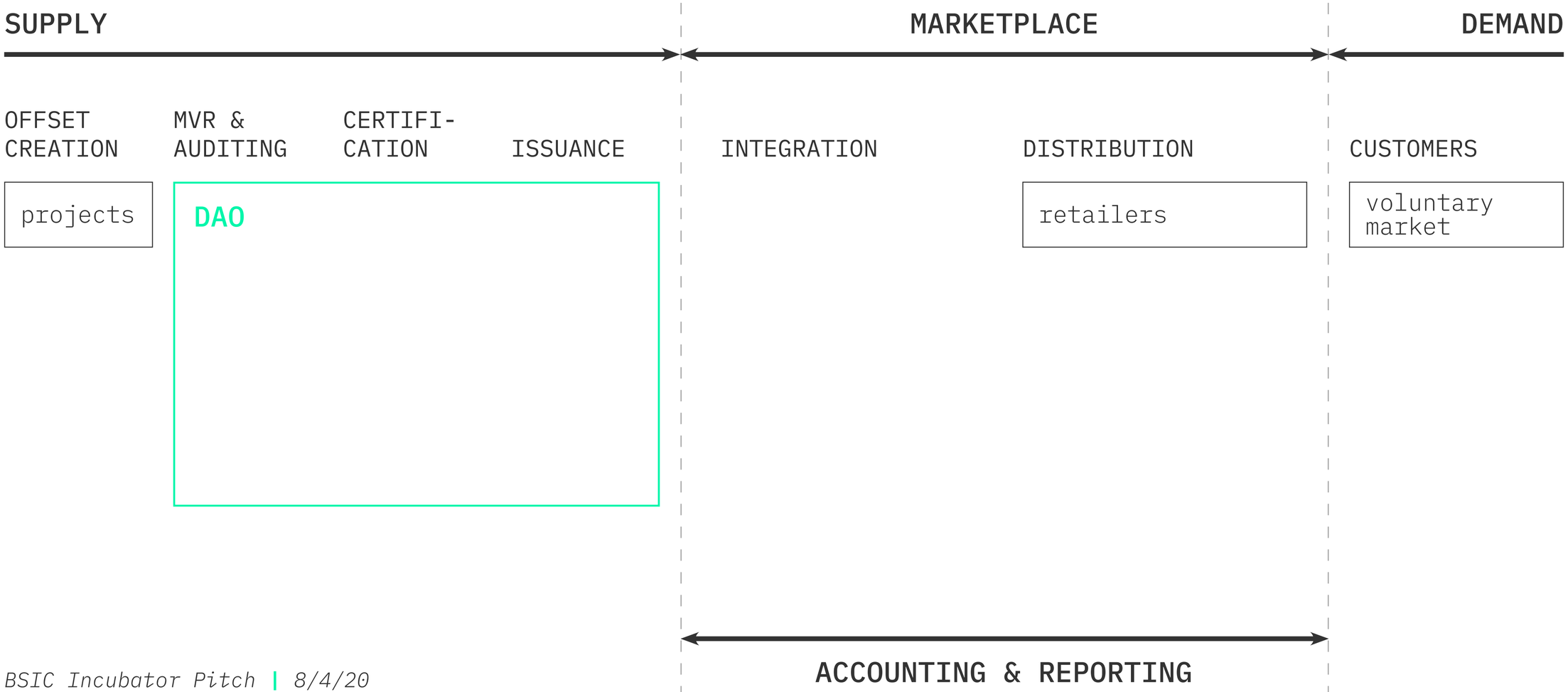
SUPPLY → **MARKETPLACE** ↔ **DEMAND**

OFFSET CREATION	MVR & AUDITING	CERTIFI-CATION	ISSUANCE	INTEGRATION	DISTRIBUTION	CUSTOMERS
projects	auditors	certifiers			retailers	voluntary market

ACCOUNTING & REPORTING

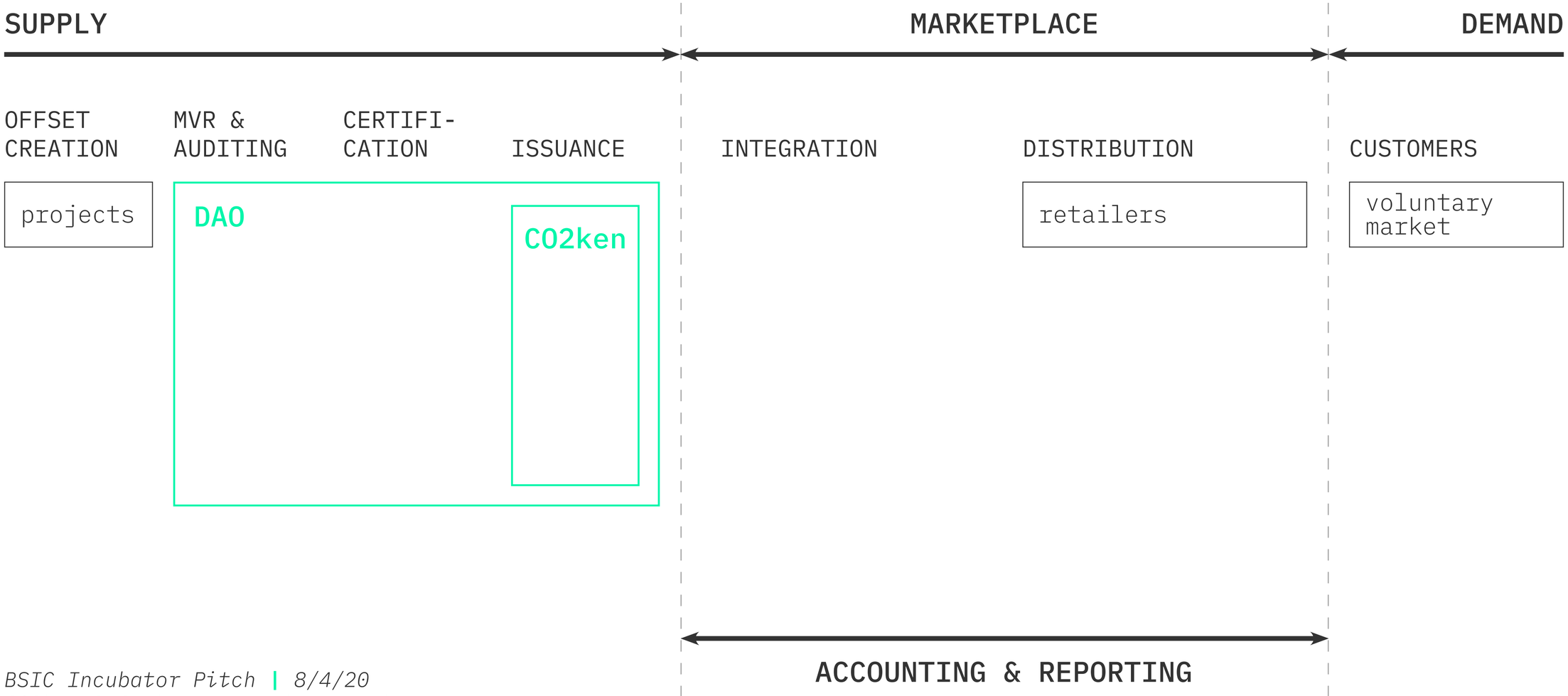
Architecture

Accountability and automation along the offset value chain



Architecture

Accountability and automation along the offset value chain



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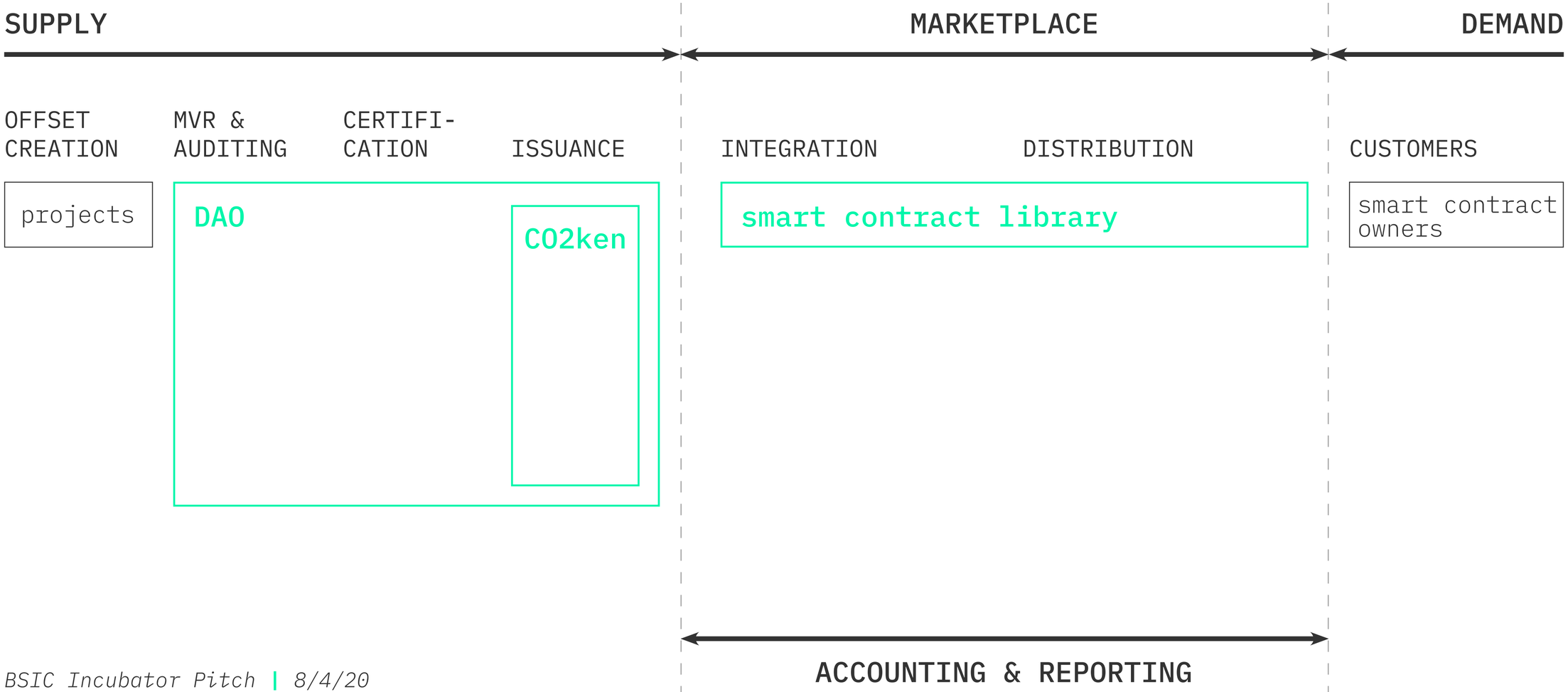

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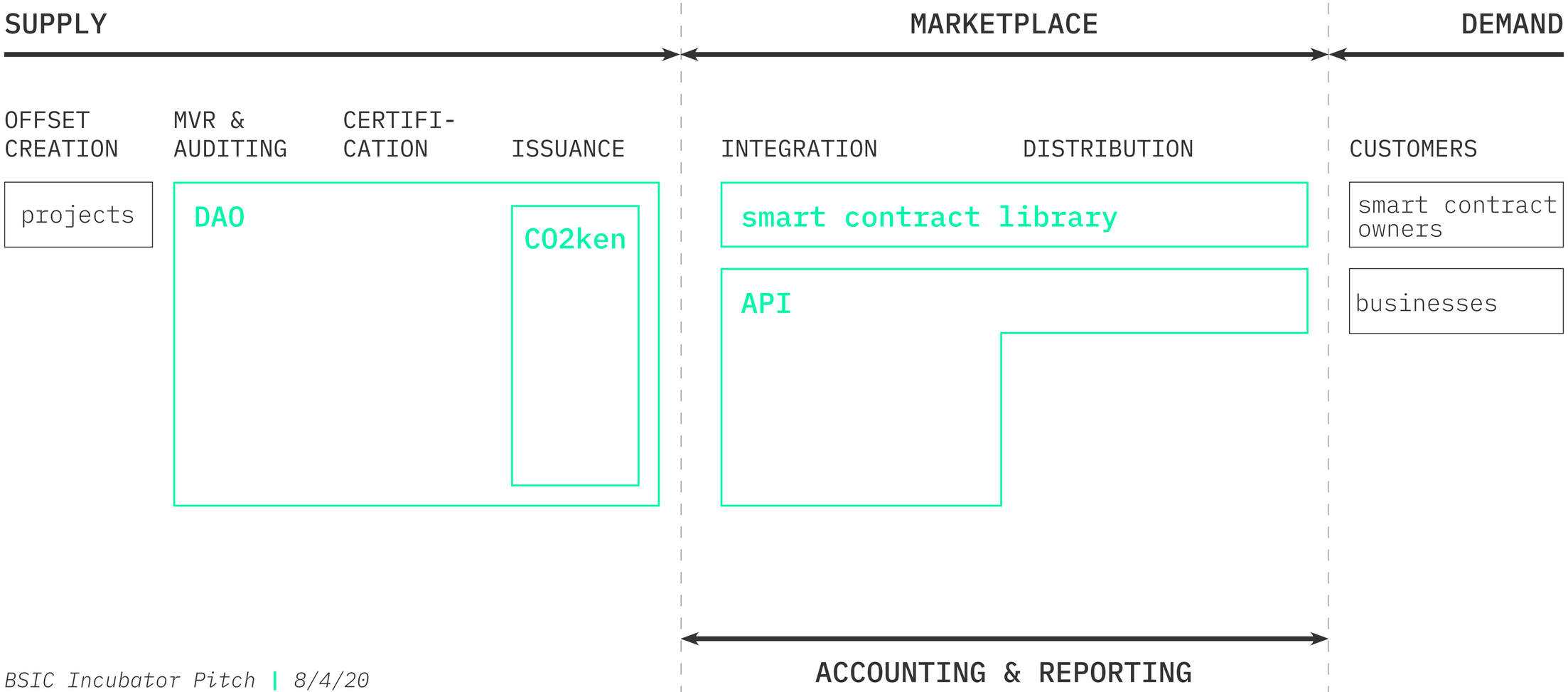

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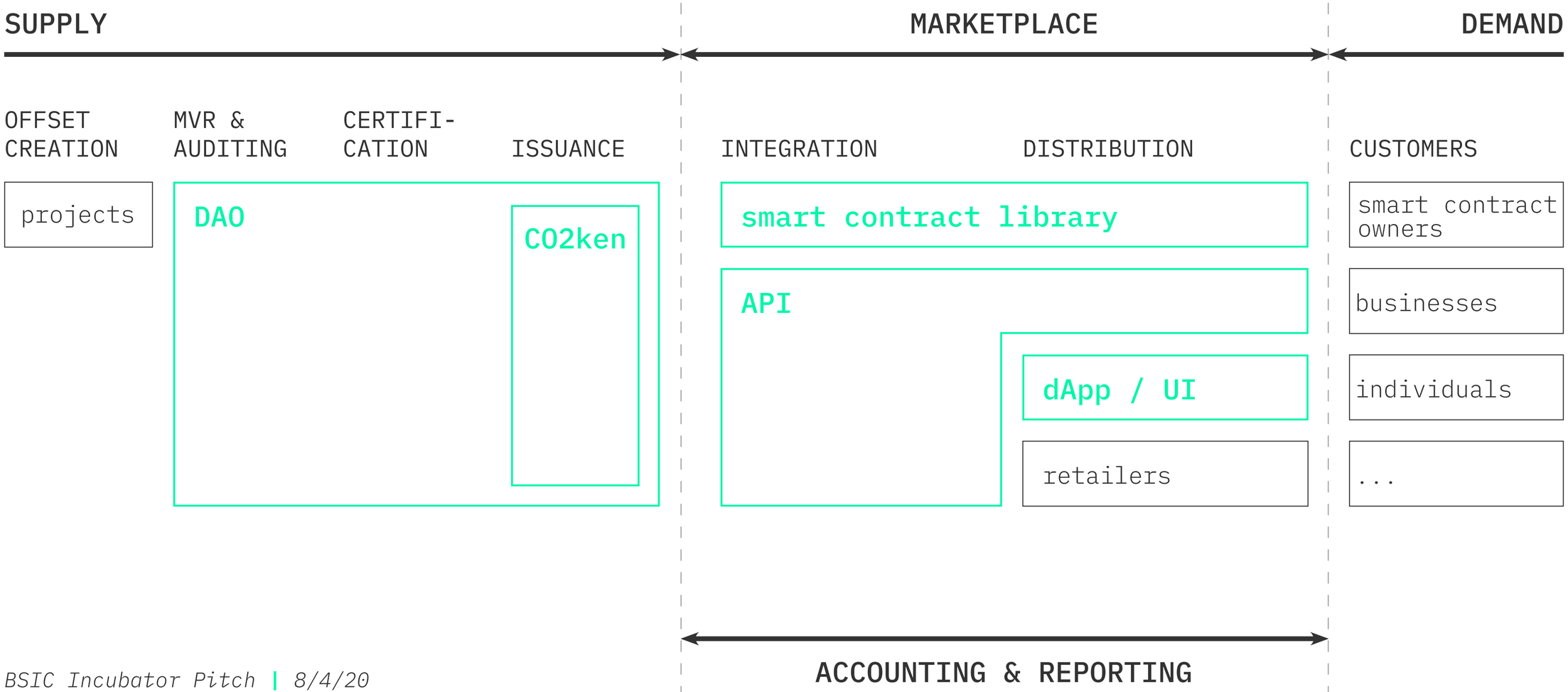

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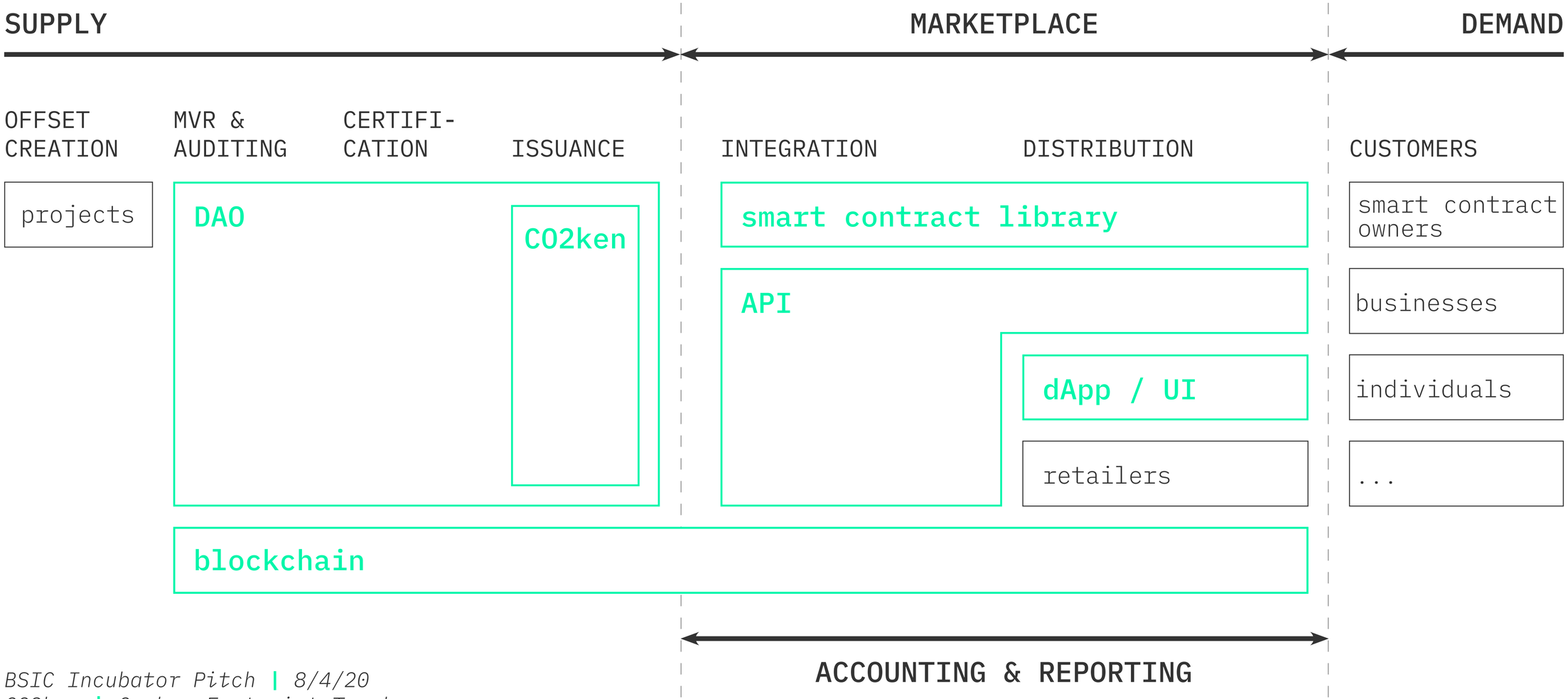
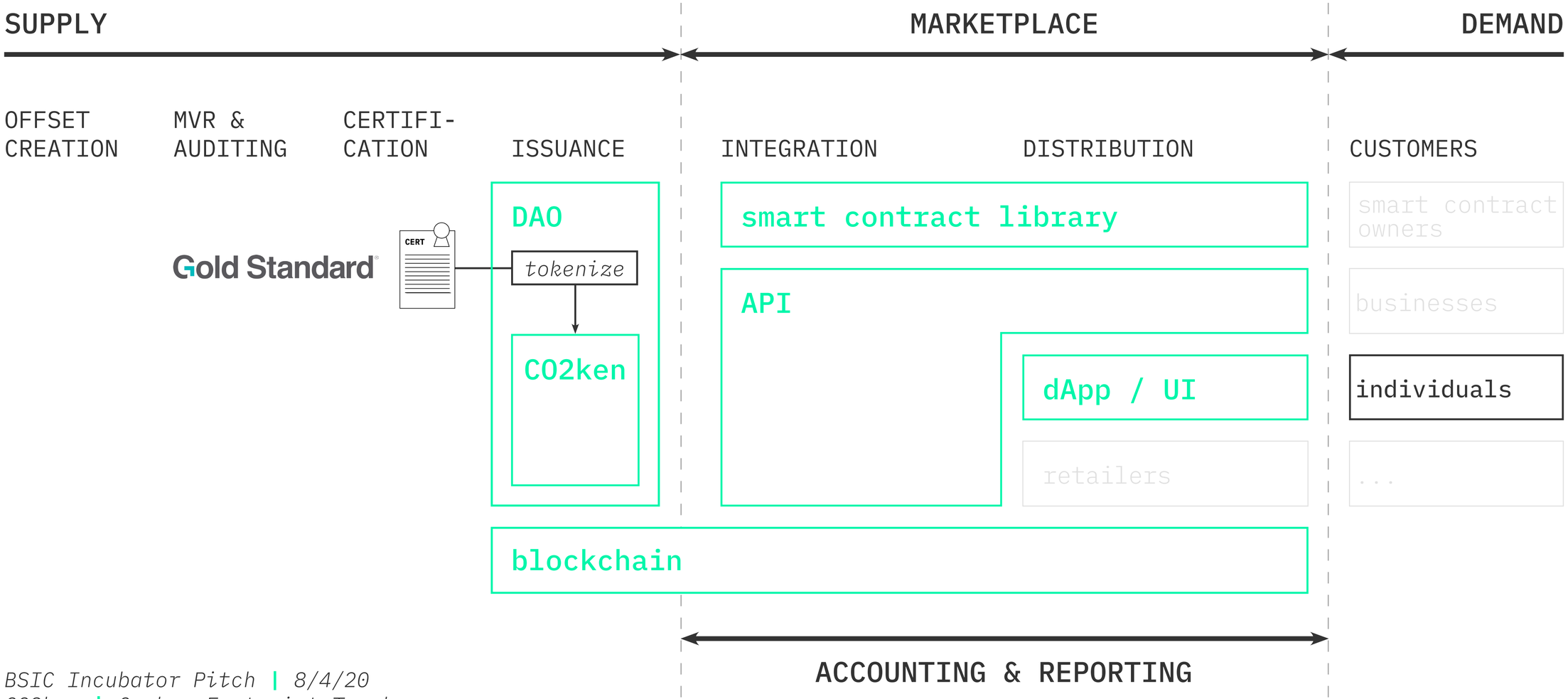
Accountability and automation along the offset value chain



MVP

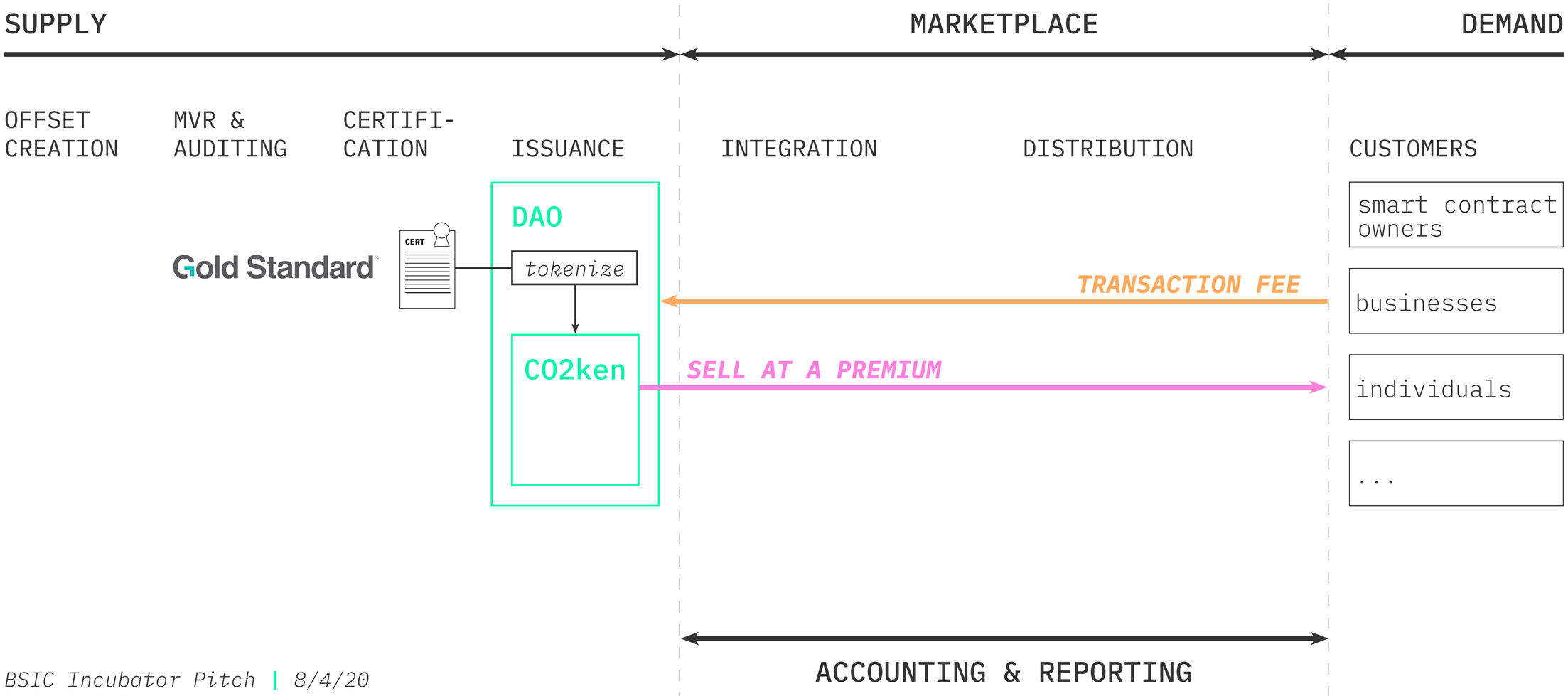
Validate demand for tokenized carbon offsets



Demo

Revenue Model

Like a traditional platform business. Just more transparent.



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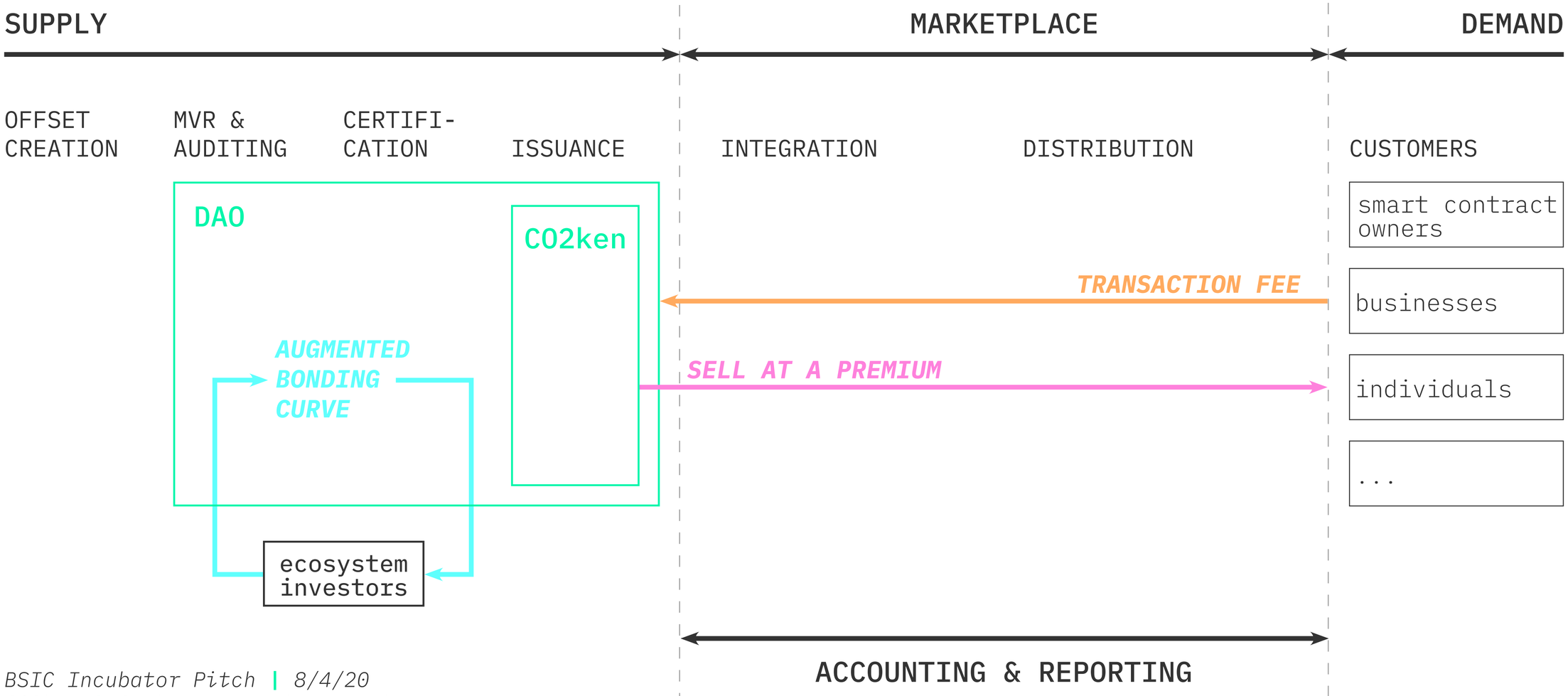
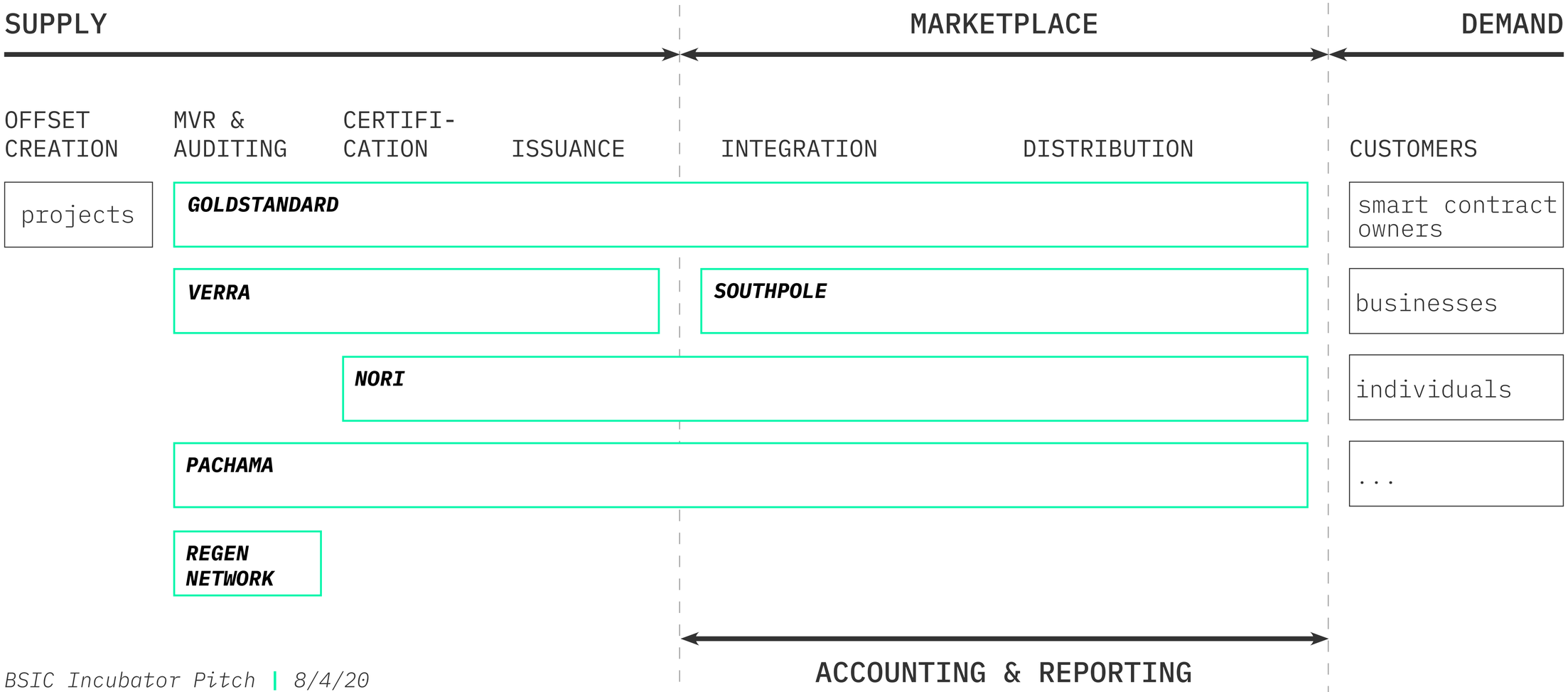


Competitive Analysis

Accountability and automation along the offset value chain



Plan to Validate Customer Segment

- Feature request signaling
- Active market research
- Google analytics
- See user engagement on Ethereum mainnet

KPIs for Success

- **Are people interested in buying tokenized carbon offsets?**
  Validation: 40 users (like *Dani*) buy CO2kens via our UI.
- **Are investors interested in founding this project?**
  Validation: 1 fund reaching out (unsolicited) with the objective to invest.
- **Are carbon offset projects interested in joining a CarbonDAO?**
  Validation: contact 10 projects with at least 3 positive replies.

Team

Adam

- 25+ years in open source development
- specialized in cloud & distributed systems
- previously Senior Architect at SUSE

Jan

- machine learning graduate
- data scientist focused on DeFi ecosystem

Nick

- founder of EthereumPrice.org in 2016
- runs a network of crypto websites
- newsletter with >10k readers

Raphaël

- co-founder of Curve Labs
- specialized in decentralized energy & carbon markets

Partners

Curve Labs

Curve Labs.

- *experts in organizational technologies*
- *past projects:*
  - *Aragon Black*
  - *DAOStack*
  - *Pando*

DSV

Deep Science Ventures

- *venture builder with a track record of successful energy companies*
- *commercialization*

Networks

CCC

CLIMATE CHAIN COALITION

- *stakeholders in blockchain-based climate action*
- *200+ organizations*

BSIC

Blockchain for Social Impact

- *advisors*
- *product development*
- *commercialization*

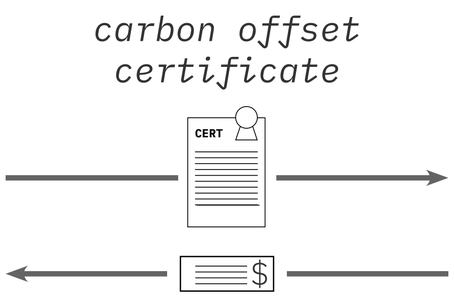
Appendix

Carbon Markets

Put a price on CO2 emissions to internalize the externalities

Reduce CO2 emissions

fuel switching & renewables
avoidance & reduction
sequestration & removal
...



Carbon emitters

industry under regulation
businesses with green values
conscious individuals
...

Put a price on carbon!

Carbon markets try to internalize the externalities

carbon offset certificate

money

Reduce CO2 emissions

fuel switching & renewables
avoidance & reduction
sequestration & removal
...

Carbon emitters

industry under regulation,
businesses with green values,
conscious individuals,
...

4 key principles

additionality

Put a price on carbon!

Carbon markets try to internalize the externalities

carbon offset certificate

money

Reduce CO2 emissions

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avoidance & reduction
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...

Carbon emitters

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conscious individuals,
...

4 key principles

additionality

sustainability

Put a price on carbon!

Carbon markets try to internalize the externalities

carbon offset certificate

money

Reduce CO2 emissions

fuel switching & renewables
avoidance & reduction
sequestration & removal
...

Carbon emitters

industry under regulation,
businesses with green values,
conscious individuals,
...

4 key principles

additionality

sustainability

verifiability

Put a price on carbon!

Carbon markets try to internalize the externalities

carbon offset certificate

money

Reduce CO2 emissions

fuel switching & renewables
avoidance & reduction
sequestration & removal
...

Carbon emitters

industry under regulation,
businesses with green values,
conscious individuals,
...

4 key principles

- additionality
- sustainability
- verifiability
- reliability

Carbon Offset Lifecycle

Too many intermediaries eating from the pie ...

Carbon Offset Lifecycle

Too many intermediaries eating from the pie ...

1. **Project Design Document** → Project developer / participant

Carbon Offset Lifecycle

Too many intermediaries eating from the pie ...

1. **Project Design Document** → Project developer / participant
2. **Approval** → Designated National Authority

Carbon Offset Lifecycle

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Carbon Offset Lifecycle

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Carbon Offset Lifecycle

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Carbon Offset Lifecycle

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7. **Issuance**	→ Certifier's Executive Board

Carbon Offset Lifecycle

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7. Issuance	→ Certifier's Executive Board
	→ Retailers, brokers, ...

Carbon Offset Lifecycle

Too many intermediaries eating from the pie ...

1. Project Design Document
2. Approval
3. Validation
4. Registration
5. Monitoring
6. Verification & Certification
7. Issuance

→ **Project developer / participant**
→ Designated National Authority
→ Designated Operational Entity *(auditor)*
→ Certifier‘s Executive Board
→ Project developer / participant
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→ Certifier‘s Executive Board
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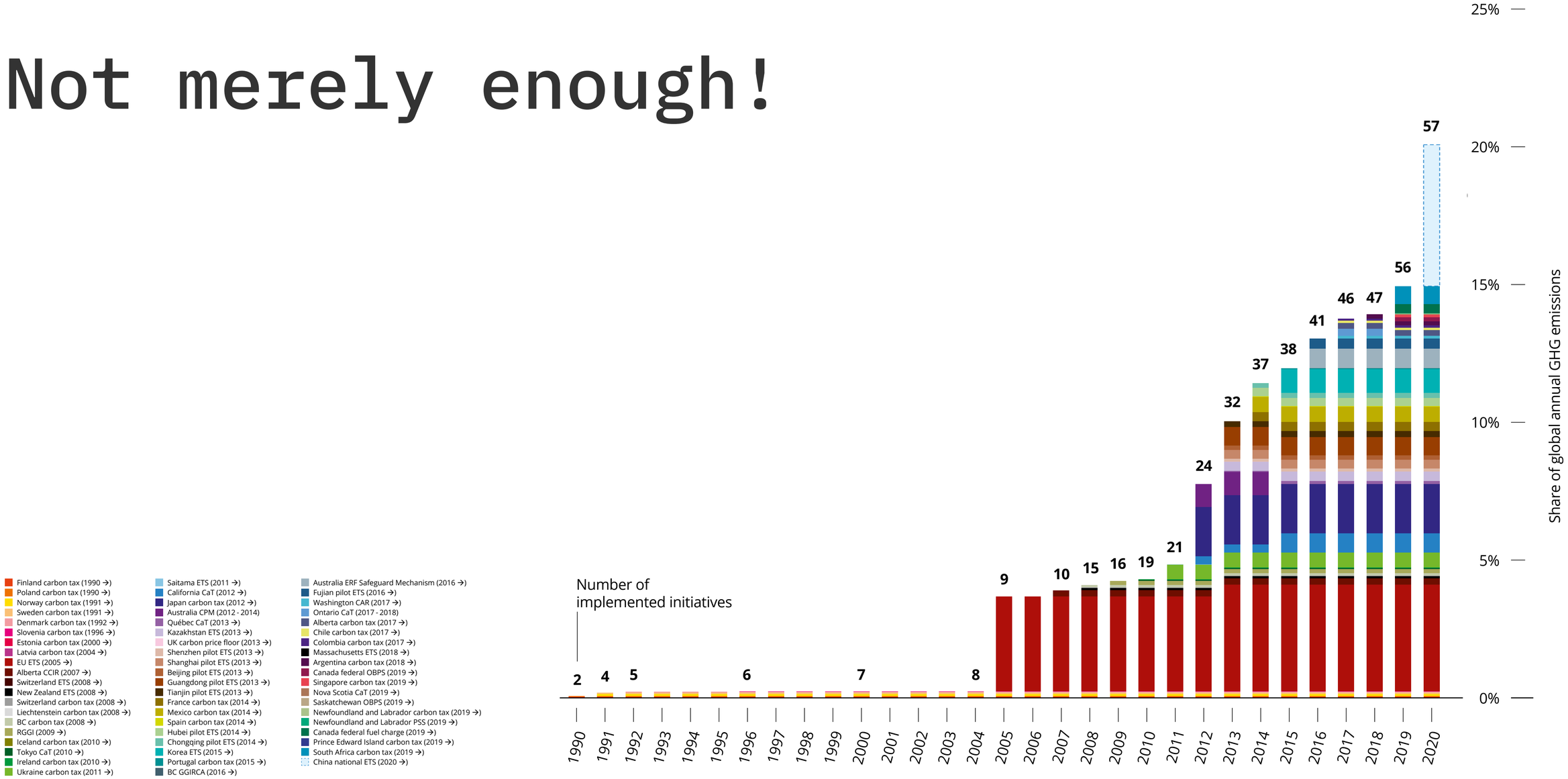
10%

https://www.c-agg.org/wp-content/uploads/Zook_C-AGG_Presentation_March_8.pdf

Not merely enough!



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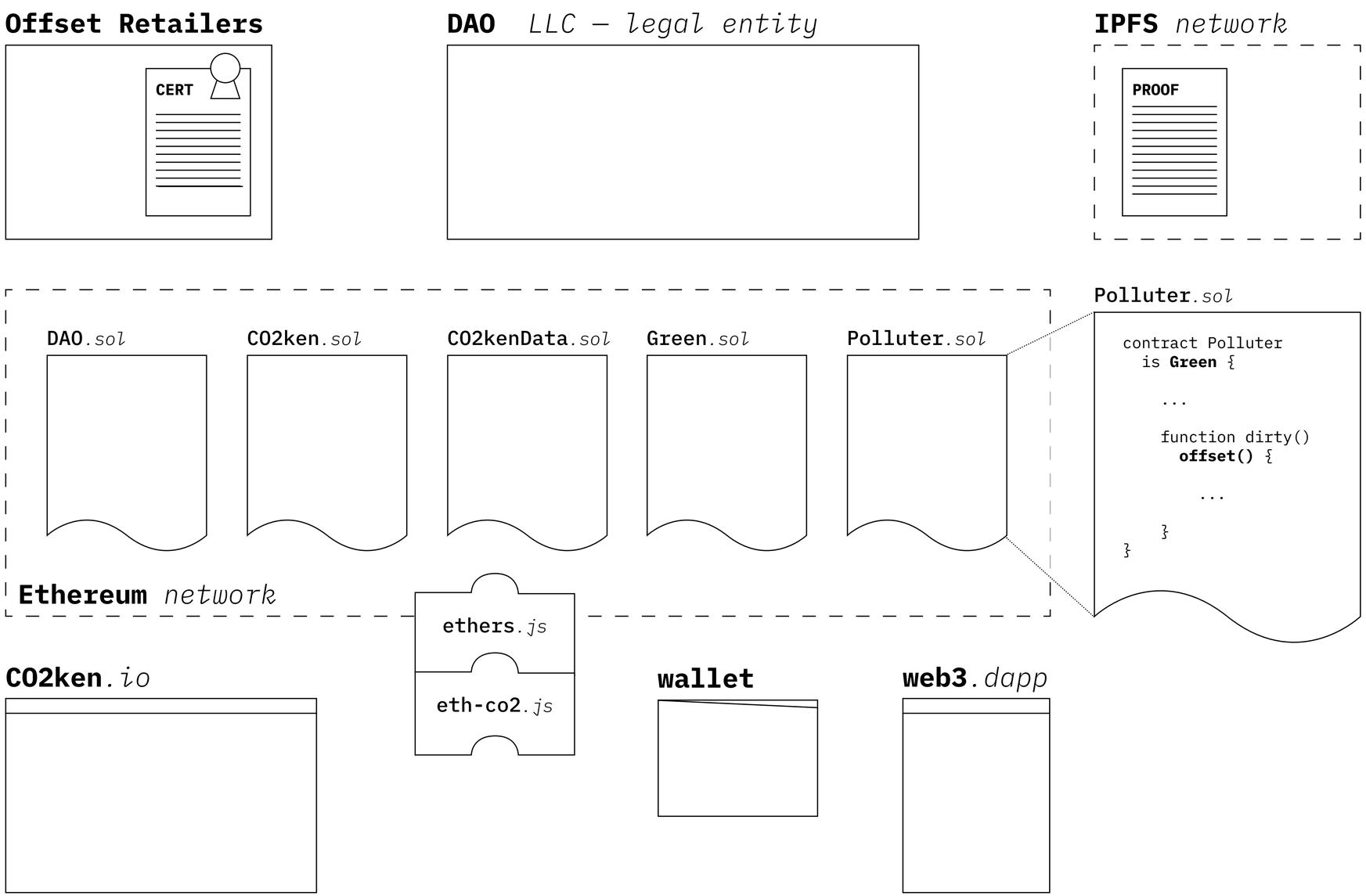

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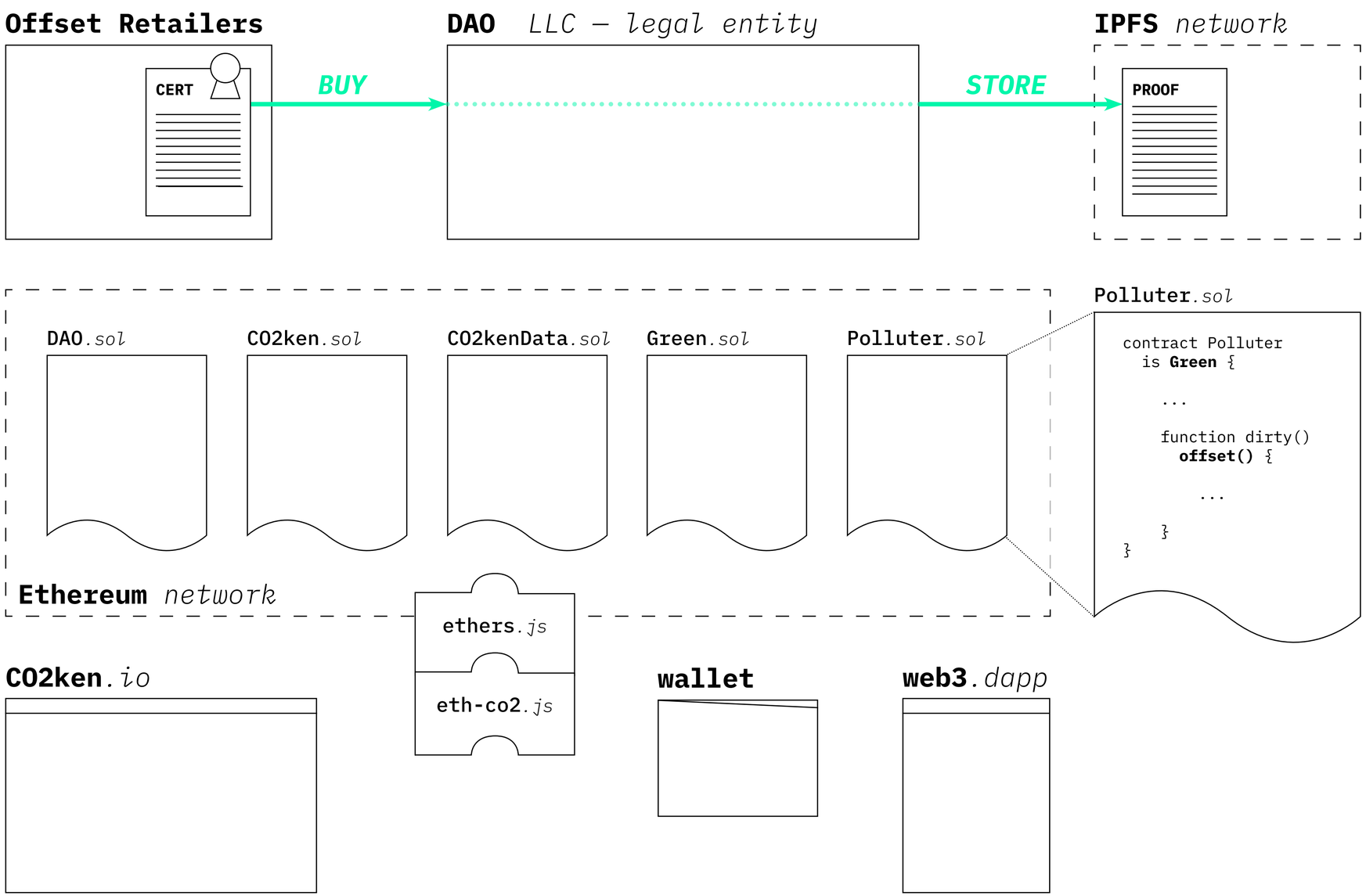

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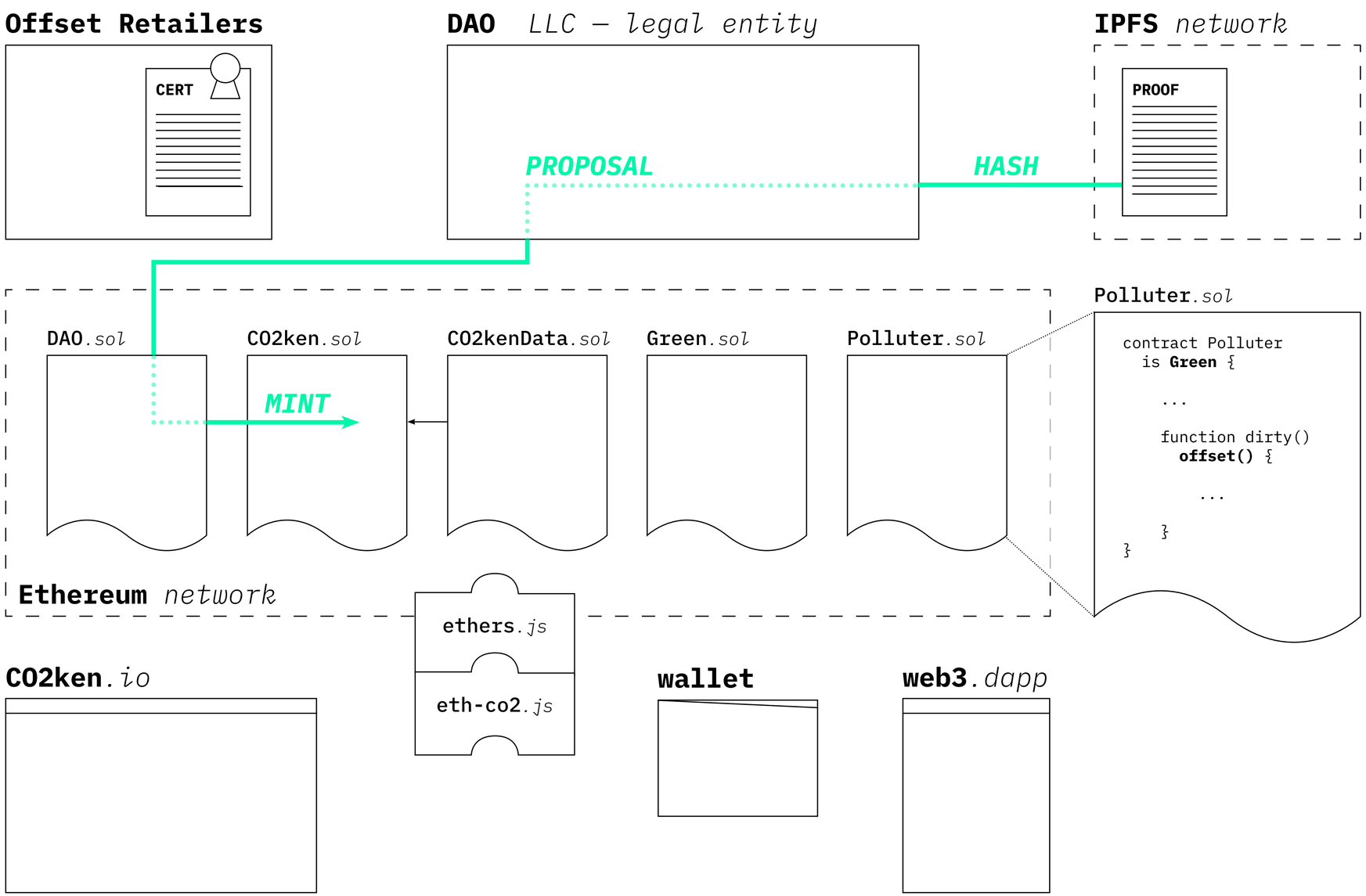

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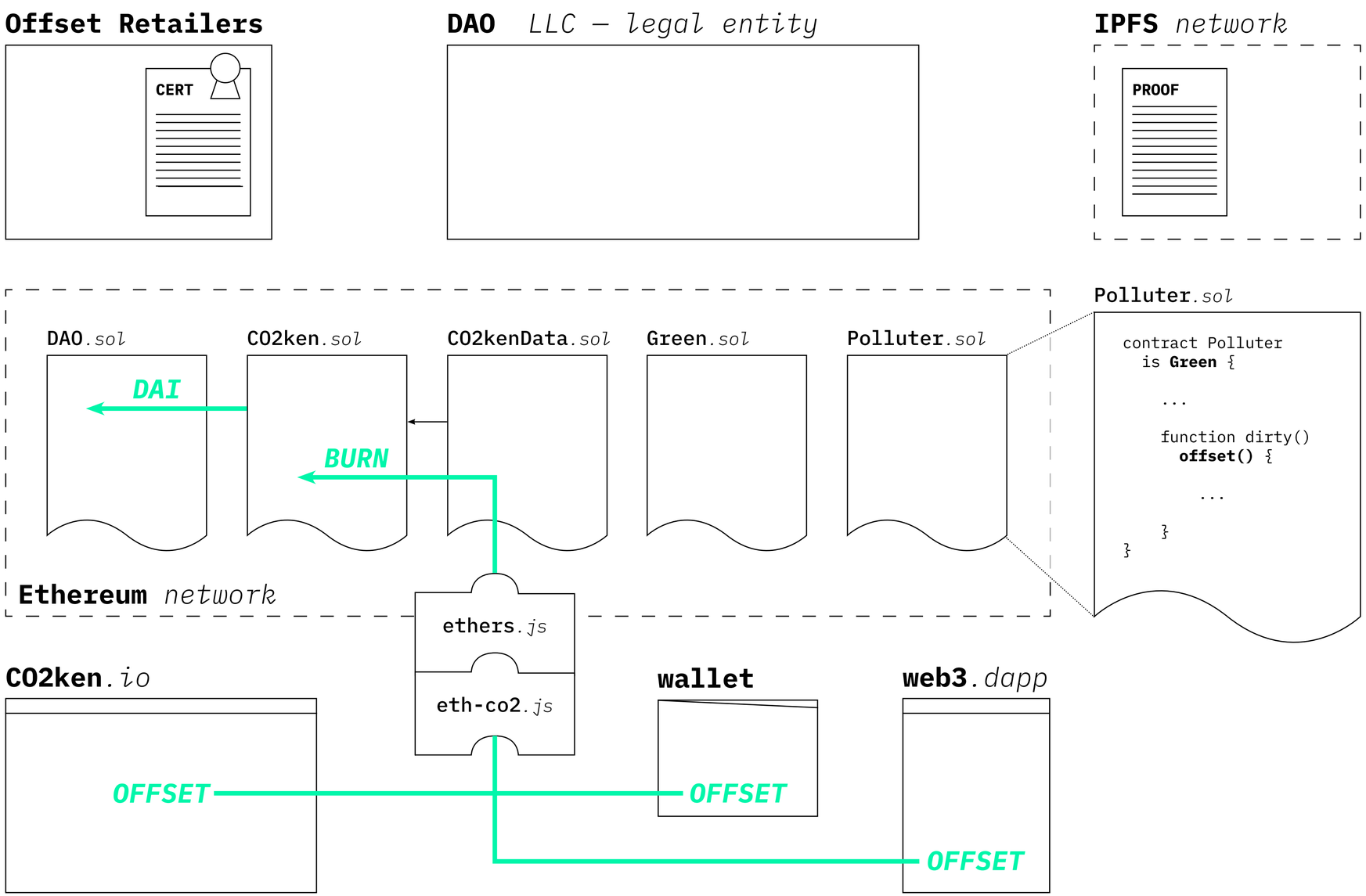

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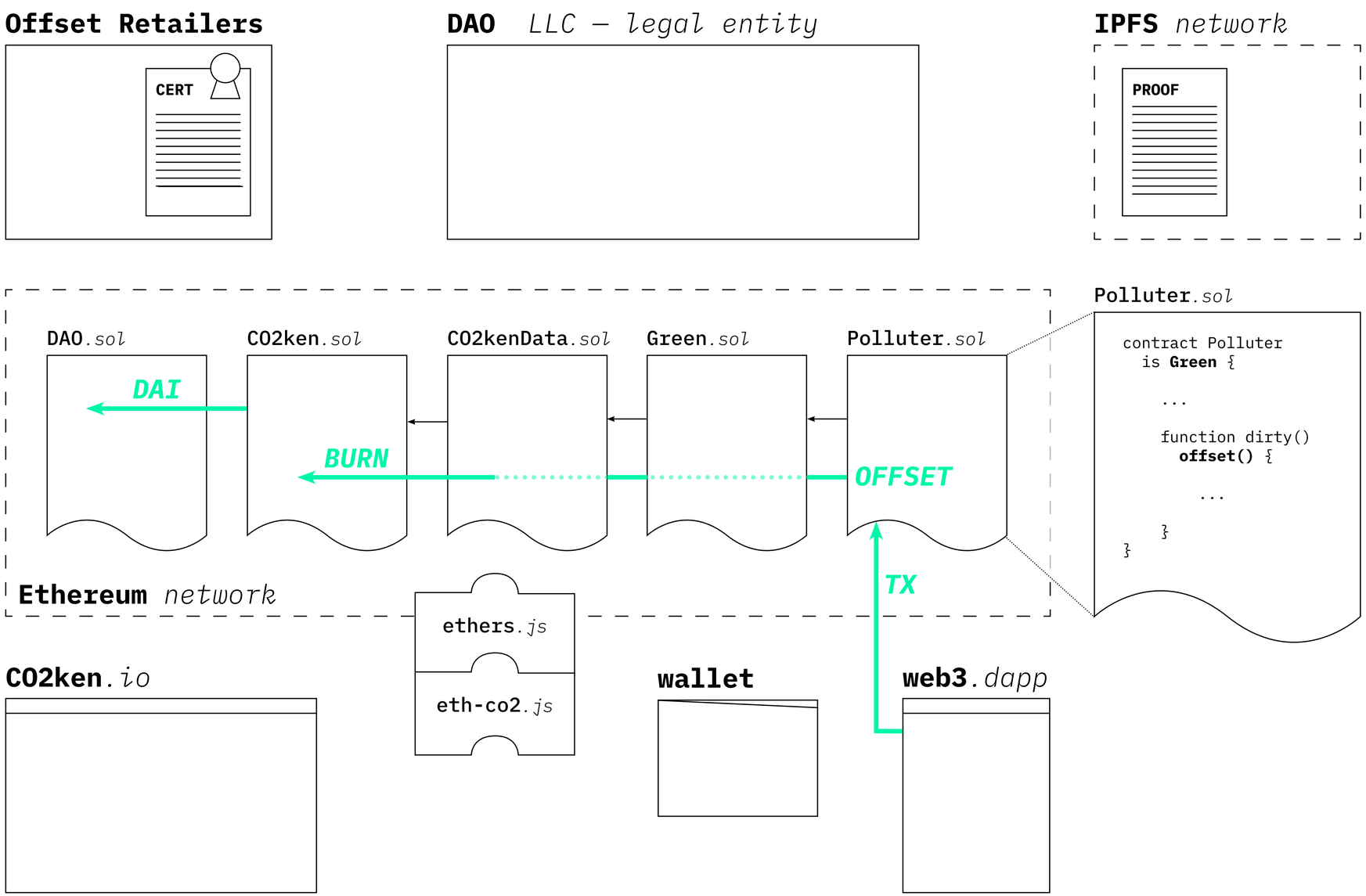

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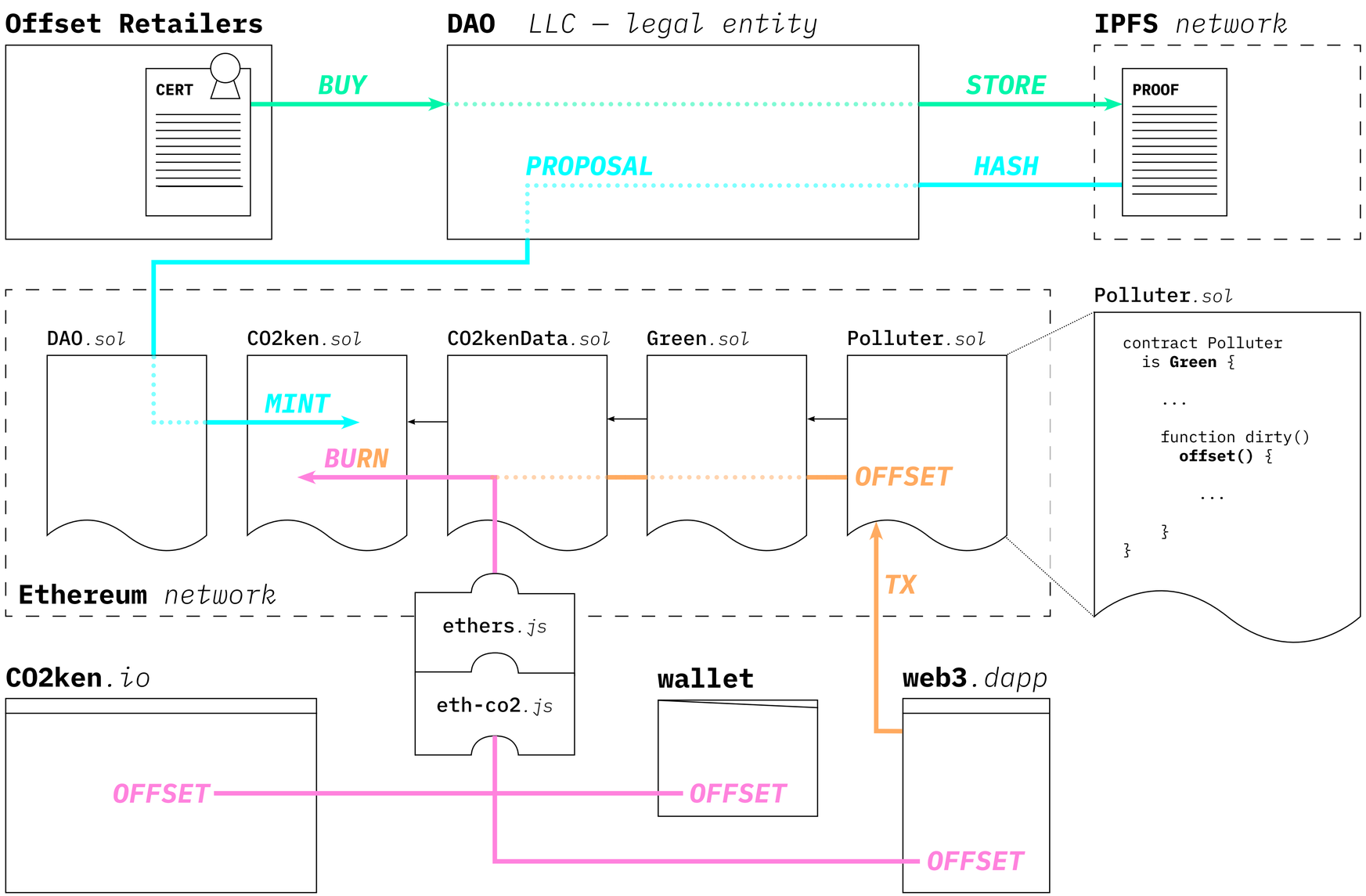

Business Model Canvas

Current Phase: 0 — MVP: We are the real customers!

Key Partners
What are your key partners to get competitive advantage?

- dOrg: provides DAO support
- Mentor with carbon trading background: advisor
- Deep Science Ventures
- BSIC Incubator
- GoldStandard or Southpole

Key Activities
What are the key steps to move ahead to your customers?

- Buy initial offsets and mint tokens to mainnet
- Run an ethereum dApp / website with leaderboard
- Blog posts describing the project
  - Tutorial / how to on offsetting
- Run an analytics tool on the website

Key Resources
What resources do you need to make your idea work?

- Social media marketing person
- Developers building / expanding UI
- One big customer making noise at launch
- Best distribution channels channels researcher
- Product segment testing
- Money to buy first carbon offsets

Key Propositions
How will you make your customers' life happier?

- Offset carbon emissions with crypto
  - easiness
- Transparent record of offsetting activity
  - Signaling
- Guilt-free web3 usage
- dApps and projects can use their carbon neutrality as a way to generate their own differentiators and business models (CO2ken = enabler)

Customer Relationships
How often will you interact with your customers?

- Twitter, social
- Support e-mail address
- Understand purchaser data (analytics)
- Education (Webinars, presentations, blogs, ...)

Channels
How are you going to reach your customers?

- humble communication
- Twitter, social
- BizDev form, diagnostic form
- Website
- LinkedIn
- Partners & ambassadors (helping with spreading the brand)

Customer Segments
Who are your customers? Describe your target audience in a couple of words.

- 1-3 carbon offsetting partner (b2b)
- Signal validation of service (yes, we'd buy it!)
- Crypto-native individuals
- Signup / information gathering form
- dApp and smart contract developers who want to create green products for their end users

Cost Structure
How much are you planning to spend on the product development and marketing for a certain period?

- Webflow subscription
- Cost of buying carbon offsets
- Badge / reward system? Gamification rules!
- Receive notification when you lose your leaderboard rank

Product development needs budget and "timeline" for stages 1 + 2

Revenue Streams
How much are you planning to earn in a certain period? Compare your costs and revenues.

- DSV Founder salary
- Gitcoin grants
- Sell tokenized offsets at small premium

https://www.c-agg.org/wp-content/uploads/Zook_C-AGG_Presentation_March_8.pdf