



Web3 a Regenerace



Jakub Lanc
jakub.lanc@gmail.com

Úvod



Osnova

Úvod

Regenerace

Definice

Udržitelnost vs. Regenerace

Vývoj a přísliby Web3 oblasti

Web3 / DLT / kryptoekonomika

Regenerativní obrat

Výhledy a kritika?



Úvod





Evropská unie
Evropský sociální fond
Operační program Zaměstnanost

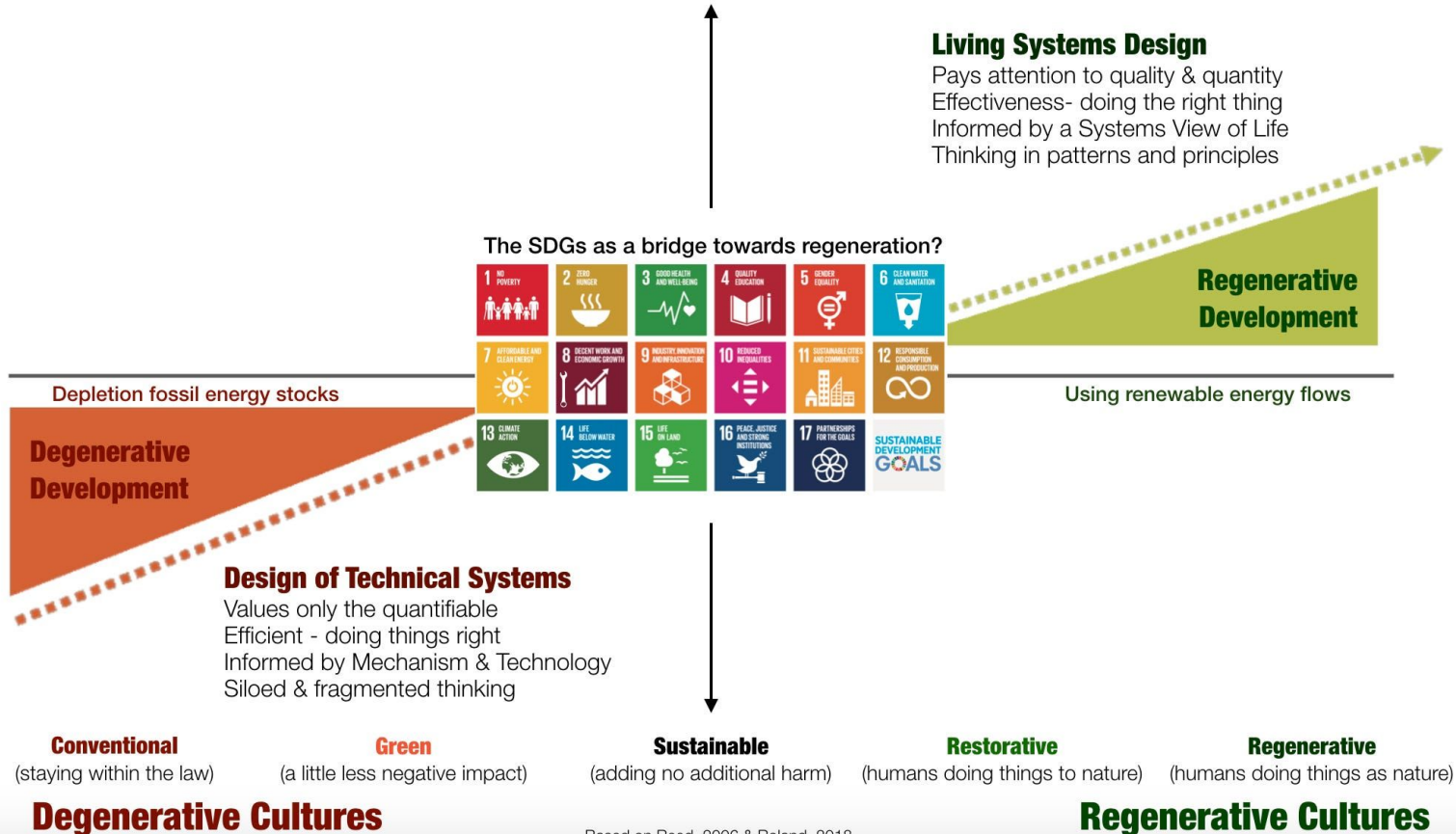


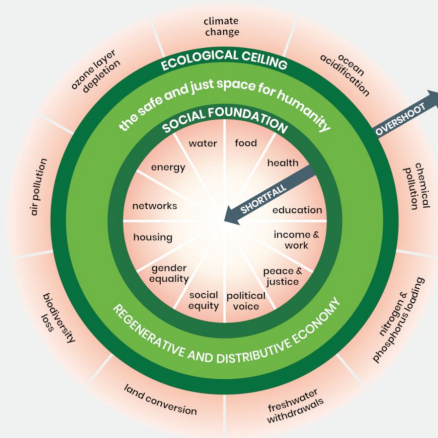
Ministerstvo životního prostředí

Commons kolaborativní ekonomika a digitální
kooperativní ekonomika v kontextu digitalizace a
udržitelného rozvoje

Regenerace

Beyond Sustainability: Designing Regenerative Cultures





📍 Local

🌐 Global

ECOLOGICAL CEILING

How can this place be as generous as the wildland next door?

ECOLOGICAL CEILING

How can this place respect the health of the whole planet?

How can all the people of this place thrive?

SOCIAL FOUNDATION

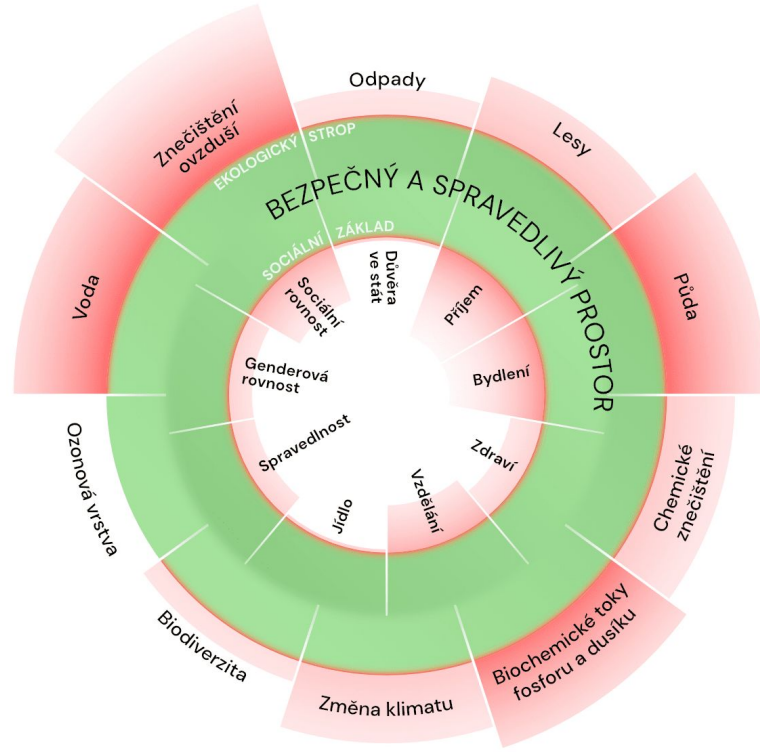
How can this place respect the wellbeing of all people?

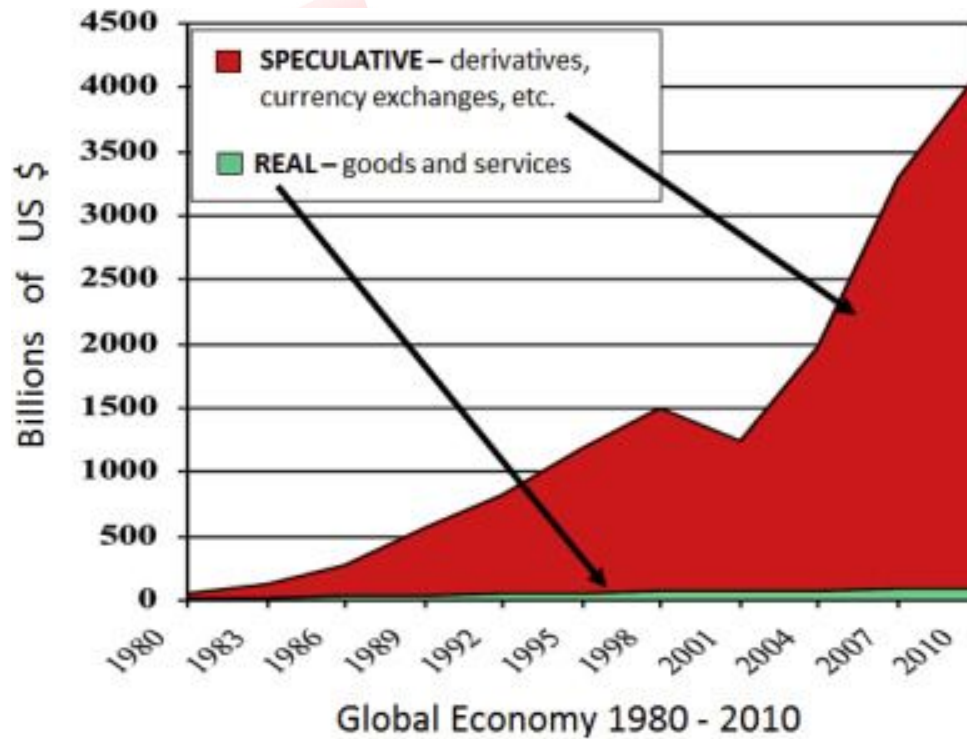
SOCIAL FOUNDATION

Local aspirations

Global responsibilities

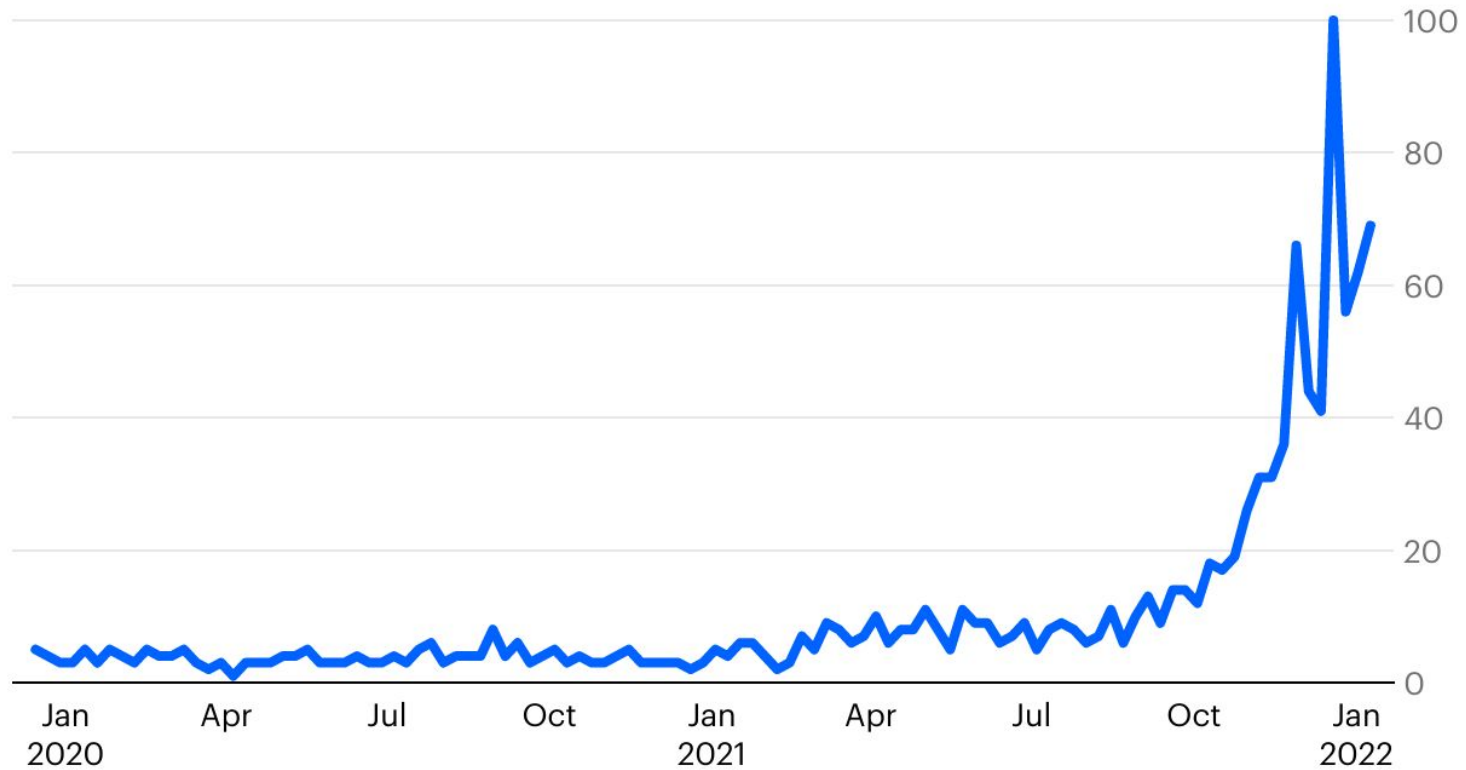






Web3

Global search interest: Web3




Source: Google Trends, Worldwide



Web3 is a broad movement and a group of associated technologies aiming to make the web and the internet more decentralized, verifiable, and secure.

The goals of Web 3.0 include (a) trustless infrastructure; (b) removing intermediaries; and (c) giving users power and ownership over their data, identity, security, and transactions.


The technologies add capabilities and functionality for securely linking data and programs, cryptographic verifiability, transaction processing, P2P connectivity, and trustless interoperability. They also provide decentralized computation and storage, enabling fully autonomous applications (dapps). The movement includes many blockchain and dweb projects, as well as some linked data efforts.



Bitcoin - proč?







Bitcoin: A Peer-to-Peer Electronic Cash System


Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

1. Introduction

Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services. With the possibility of reversal, the need for trust spreads. Merchants must be wary of their customers, hassling them for more information than they would otherwise need. A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.

What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions. The system is secure as long as honest nodes collectively control more CPU power than any cooperating group of attacker nodes.



Bitcoin - kontekst



Bitcoin - přísliby

Satoshi Nakamoto, 2008

Skupina programátorů?

“Cypherpunk” podhoubí - členové velmi technologicky znalí a zároveň citliví na nebezpečí technologií, umožňující masové sledování

Obavy z “kapitalismu dohledu”

Snaha nemuset se spoléhat na třetí strany (“trusted third parties”)

“Škálování důvěry” (scaling trust)





Bitcoin - technologie

Alchymie: kombinace několika kryptografických a IT inovací

Jako první řeší odvěký problém:

“Jak zajistit integritu dat v rámci distribuované sítě uzlů?”

Double-spend problém

Hash, block, chain

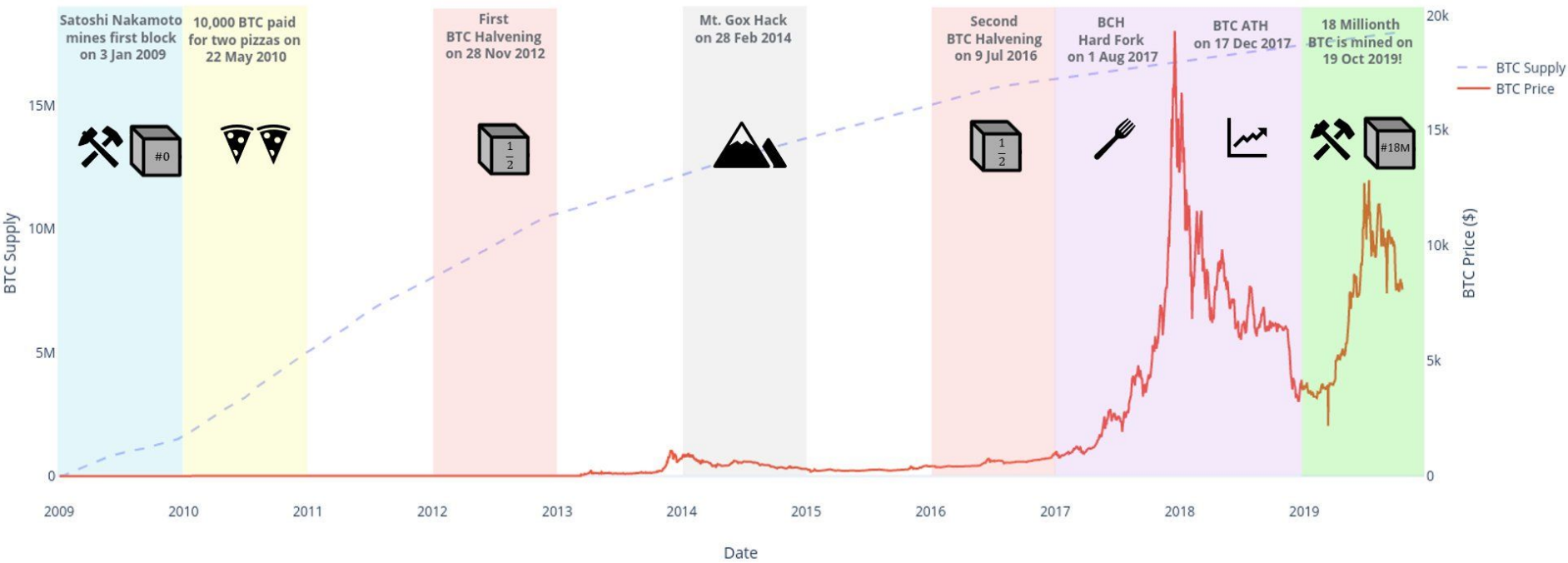
Těžení - mining, Proof-of-Work, konsenzus

Teorie her: *incentivizace*

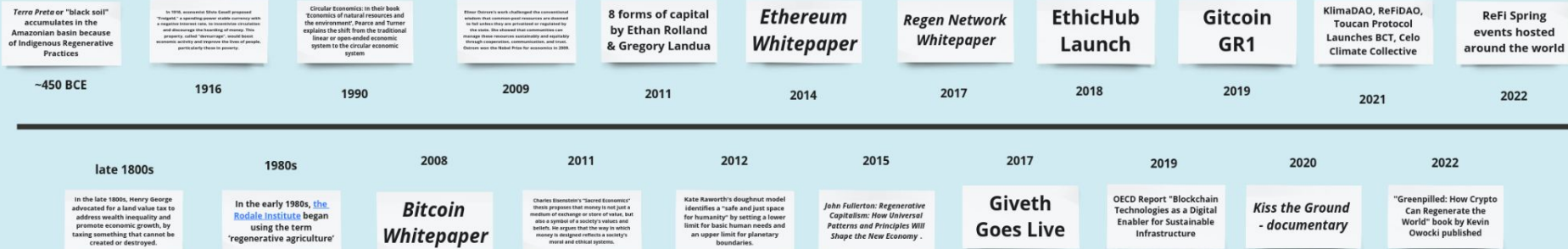





The History of Bitcoin



Vývoj Web3



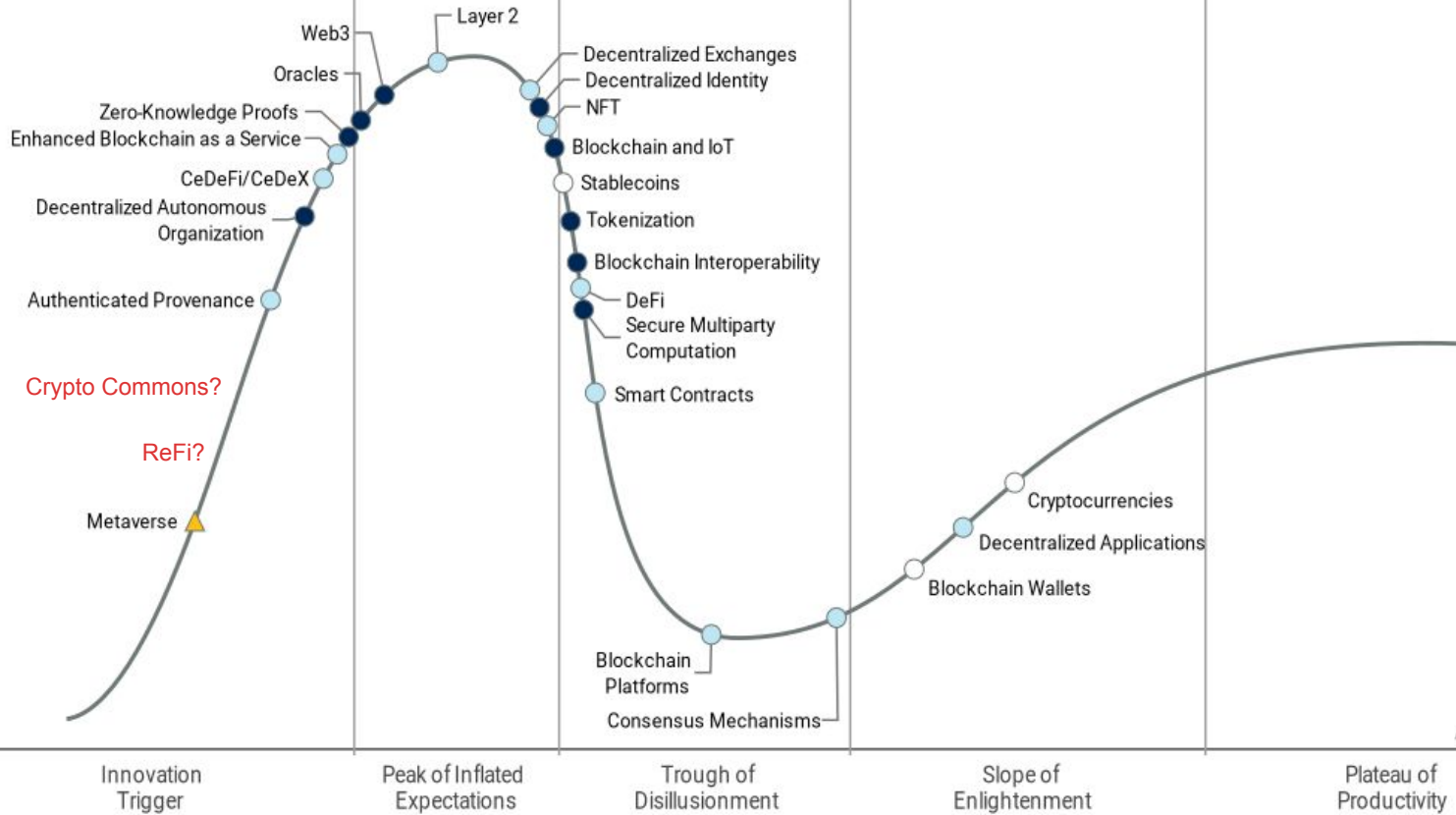


“Blockchain-based coordination may enable new types of economic activity that were previously not able to be governed by firms, markets, or governments... bringing economic coordination and governance institutions to spaces that are currently either poorly served or not served at all by extant coordination mechanisms... it is an institutional technology.”

(Davidson, Filippi, and Potts)



EXPECTATIONS



As of July 2022

TIME

Plateau will be reached: ○ <2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ⊗ Obsolete before plateau






Ethereum

Distribovaný Virtuální Stroj (EVM - Ethereum Virtual Machine)

*“Decentralized, open-source blockchain with **smart contract functionality**.
Ether (ETH) is the native cryptocurrency of the platform.”*

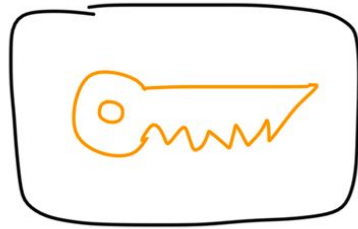
*“Ethereum is a transactional **machine of states**. A set of current **wallet balances** and **contract data** which is changed by creating new **transactions**.”*





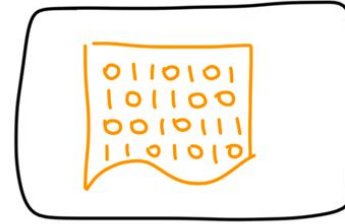


WALLETS



- MANAGED WITH PRIVATE KEYS
- CAN CREATE TRANSACTIONS
- CAN KEEP COINS ON THE BALANCE MANAGED BY THE ACCOUNT OWNER

CONTRACTS



- MANAGED WITH THEIR OWN CODE
- CAN CREATE TRANSACTIONS IN RESPONSE TO INCOMING TRANSACTIONS
- CAN KEEP COINS ON THE BALANCE MANAGED BY THE CONTRACT ALGORITHM

(EVERYONE CAN SEE IF THE CREATOR ALLOWED OUTPUT IN THE CODE)



Smart Contract

Krátký program běžící na blockchainu

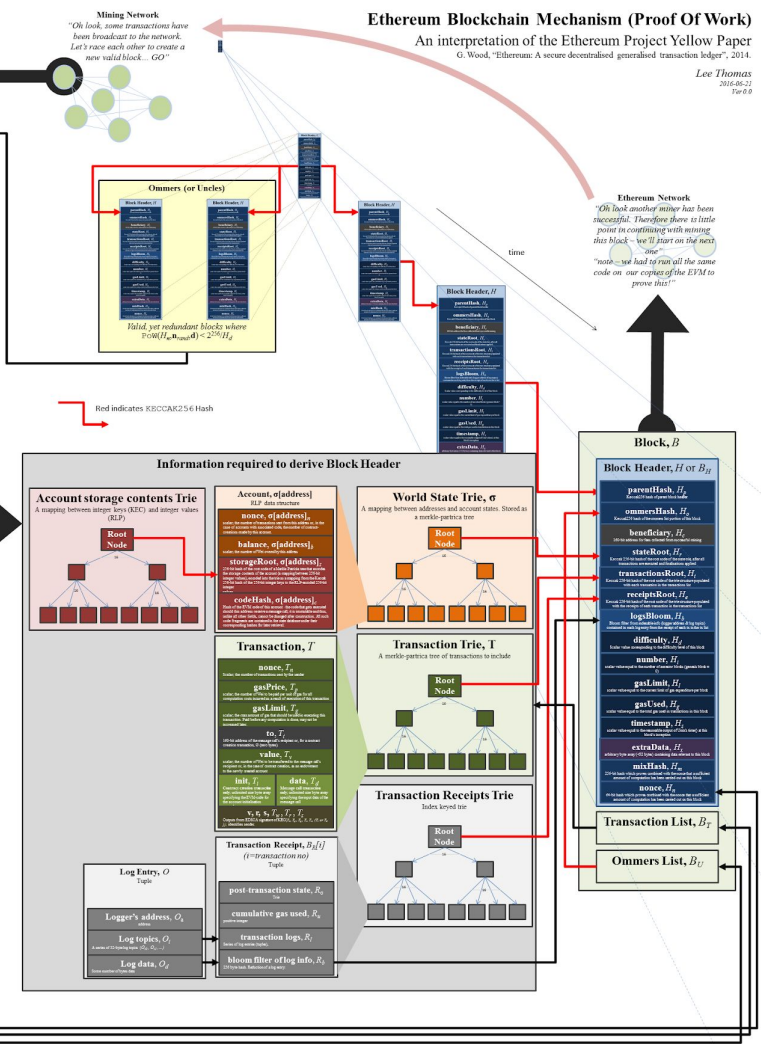
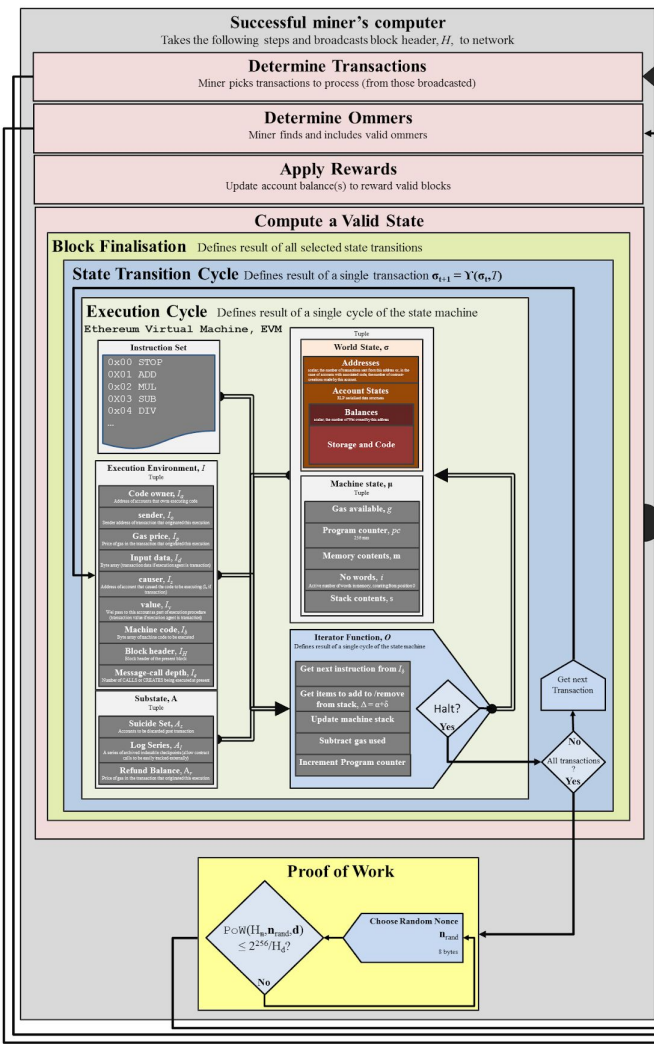
Automatizace transakcí apod.

“Programovatelné peníze”

Umožňuje mj. emisi Tokenů

“Code is Law” (Lawrence Lessig, 1999)







Ethereum v čase

2013 - Vitalik Buterin zakládá Ethereum

2015 - ostrý provoz

2016 - “The DAO” hack - ~50mil \$

fork Ethereum Classic

2017 - ICOs (Initial Coin Offerings)

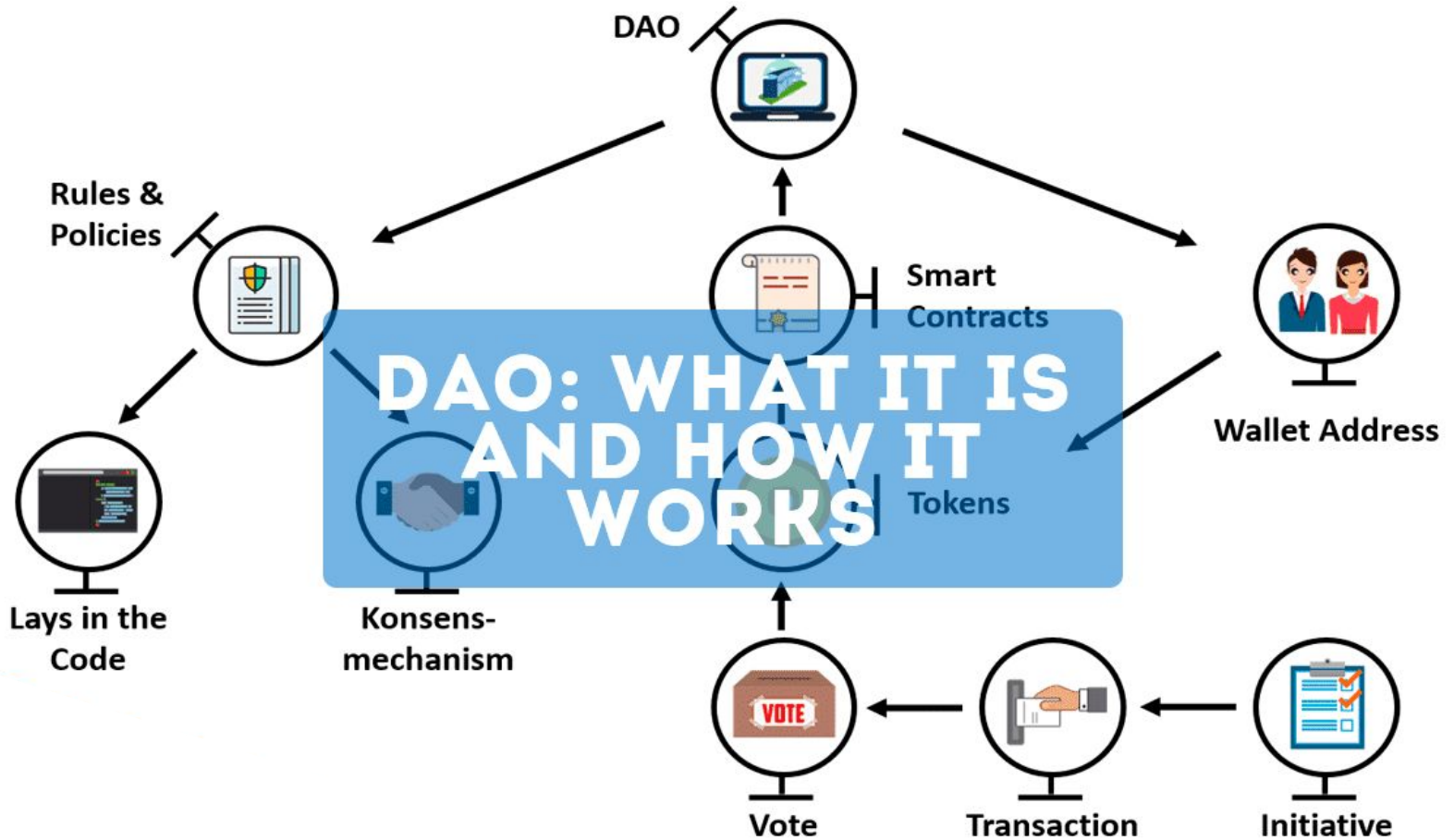
2019 - DeFi (Decentralizované Finance)

2020 - NFTs

2021 - ReFi (Regenerativní Finance)

2023 - CoFi (Kolaborativní Finance)





Look how much I have.



Can I hold it?





Web3 a regenerace?



Decentralizované Finance (DeFi)



Money



Decentralised Finance



Central Banking



Commercial Banking



Investment Banking



Exchange



Brokerage



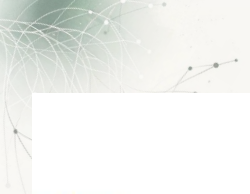
Insurance



Payments



Asset Management



Regenerativní Finance (ReFi)

Regenerativní finance

Terra Preta or "black soil" accumulates in the Amazonian basin because of Indigenous Regenerative Practices

~450 BCE

In 1916, economist John Maynard Keynes proposed "wage-led" as a spending power stable economy with a negative interest rate. He advocated credit expansion and discouraged the hoarding of money. This property, called "Keynesianism", would boost economic activity and improve the lives of people, particularly those in poverty.

1916

Circular Economics: In their book "Economics of natural resources and the environment", Pearce and Turner explains the shift from the traditional linear or open-ended economic system to the circular economic system

1990

Ellen Dunham's work challenged the conventional wisdom that renewable natural resources are abundant and will continue being plentiful or required by the world. She showed that communities can manage their resources sustainably and equitably through cooperatives, commonization, and trust. Climate was the Nobel Prize for economics in 2009.

2009

8 forms of capital by Ethan Rolland & Gregory Landua

2011

Ethereum Whitepaper

2014

Regen Network Whitepaper

2017

EthicHub Launch

2018

Gitcoin GR1

2019

KlimaDAO, ReFIDAO, Toucan Protocol Launches BCT, Celso Climate Collective

2021

ReFi Spring events hosted around the world

2022

late 1800s

In the late 1800s, Henry George advocated for a land value tax to address wealth inequality and promote economic growth, by taxing something that cannot be created or destroyed.

1980s

In the early 1980s, the **Rodale Institute** began using the term 'regenerative agriculture'

2008

Bitcoin Whitepaper

2011

Charles Eisenstein's "Sacred Economics" thesis proposes that money is not just a medium of exchange or store of value, but also a product of a society's values and beliefs. He argues that the way in which money is designed reflects a society's moral and ethical systems.

2012

Kate Raworth's doughnut model identifies a "safe and just space for humanity" by setting a lower limit for basic human needs and an upper limit for planetary boundaries.

2015

John Fullerton: Regenerative Capitalism: How Universal Patterns and Principles Will Shape the New Economy

2017

Giveth Goes Live

2019

OECD Report "Blockchain Technologies as a Digital Enabler for Sustainable Infrastructure"

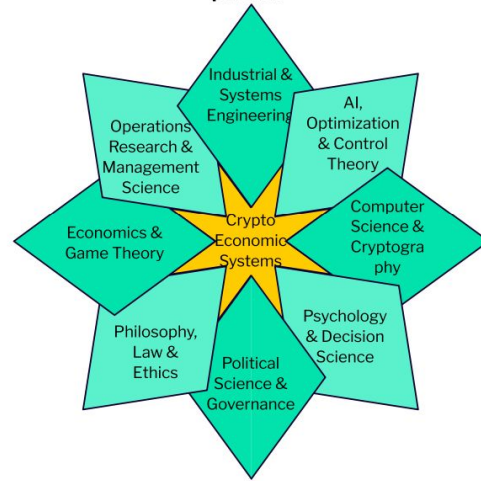
2020

Kiss the Ground - documentary

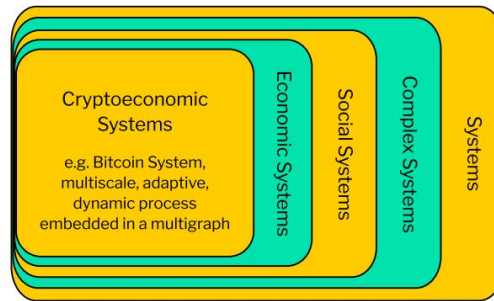
2022

"Greenpilled: How Crypto Can Regenerate the World" book by Kevin Owocki published

Study of Cryptoeconomics Systems is an inherently multidisciplinary pursuit.



Study of Cryptoeconomics Systems is a subset of the study of other types of systems.



Credit for these diagrams - Foundations of Cryptoeconomic Systems - Michael Zargam et al

About ReFi DAO

ReFi DAO is a network society to regenerate the earth.

Our mission is focused on developing strategic services and public goods for the Regenerative Finance (ReFi) ecosystem including movement-wide sense-making, education, opportunity development, fundraising support, onboarding and empowerment through a blend of online platforms, multimedia, and community coordination.

Central to our work is incubating and supporting the development of ReFi Local Nodes across all major regions in the world. These local communities are pivotal in championing ReFi solutions on the ground and enacting a cosmo-local network for the regenerative economy.



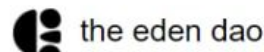


Patch



REGEN NETWORK

Solid World



- Tokenization
- Commercialisation
- Marketplace development

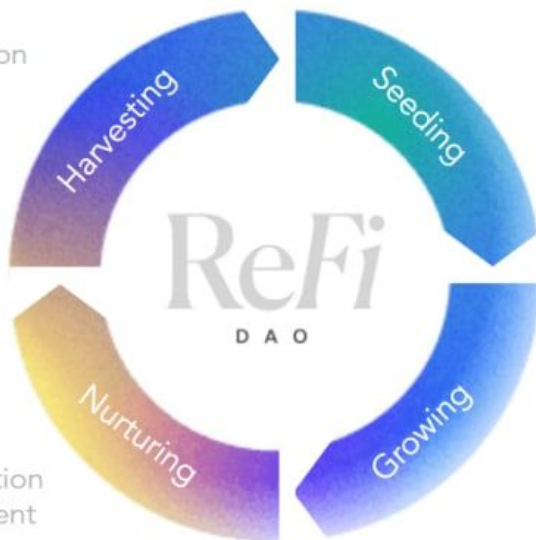
- Financing
- Project Design
- Resourcing & Talent
- Feasibility / Business Case Development

EARTHFUND



- Project Stewardship
- Impact Measurement & Monitoring
- Accreditation & Validation
- Stakeholder Engagement

- Project Execution
- Marketing & Growth
- Community Development
- Partnerships



fforests





Ecological Benefits Framework



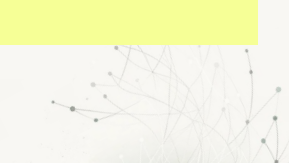




MANIFESTO

ETHPrague isn't looking for the next get rich quick scheme or groundbreaking DeFi apps. Instead, it's an event focused on the future of Ethereum and potential concepts or applications that don't yet exist.

We want to tackle challenges that could arise in the next decade because we believe Ethereum will play a major role in solving economic, social, and environmental problems. The future is in your hands, anon! You decide whether we end up living in a dark, authoritarian dystopia or a bright, solarpunk utopia.







Giveth empowers changemakers to accept crypto donations.

Join our community-driven movement to transform the way we fund nonprofits and social causes using innovative crypto fundraising strategies.

[EXPLORE PROJECTS >](#)

[OUR MISSION >](#)



Verified projects

Trust that your crypto donations will make an impact with our verification system.

[HOW IT WORKS >](#)

Donor Rewards

Get rewarded for giving to verified public goods projects with crypto donations.

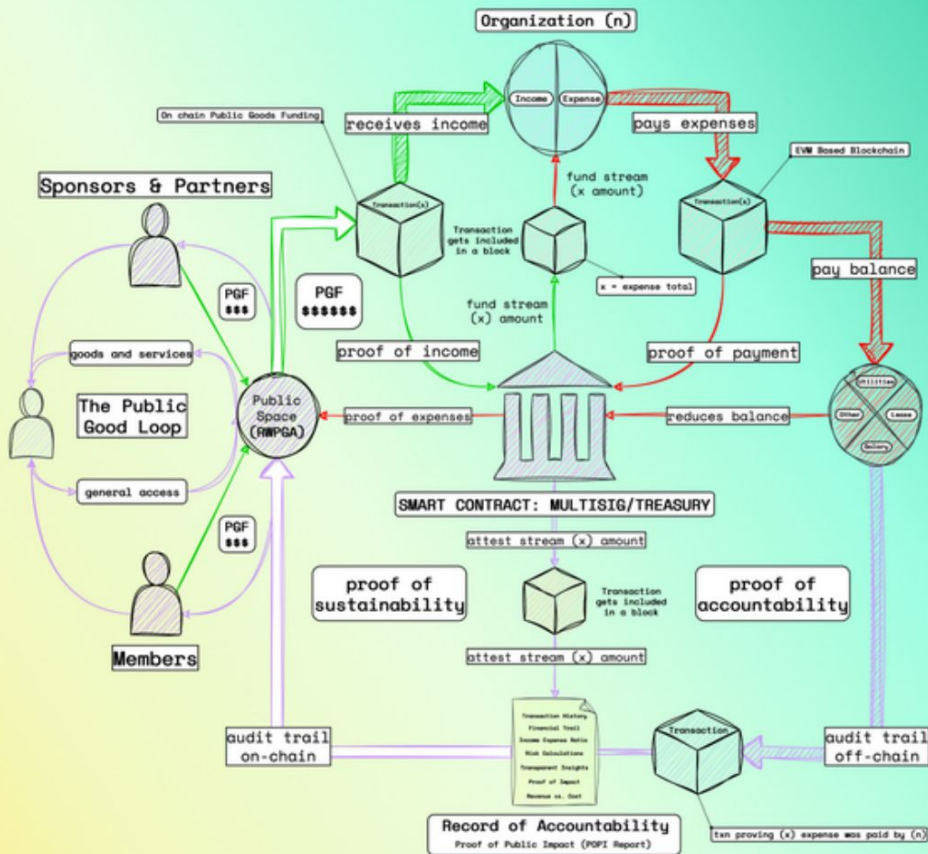
[LEARN MORE >](#)

Easy Onboarding

New to crypto fundraising? It's easy to get started on Giveth.

[GET STARTED >](#)

PUBLIC GOODS CO-OP



#1 WORKSHOP STYLE



#2 EDUCATION CIRCLE



#3 NETWORK & COLLABORATE



#4 THINK TANK

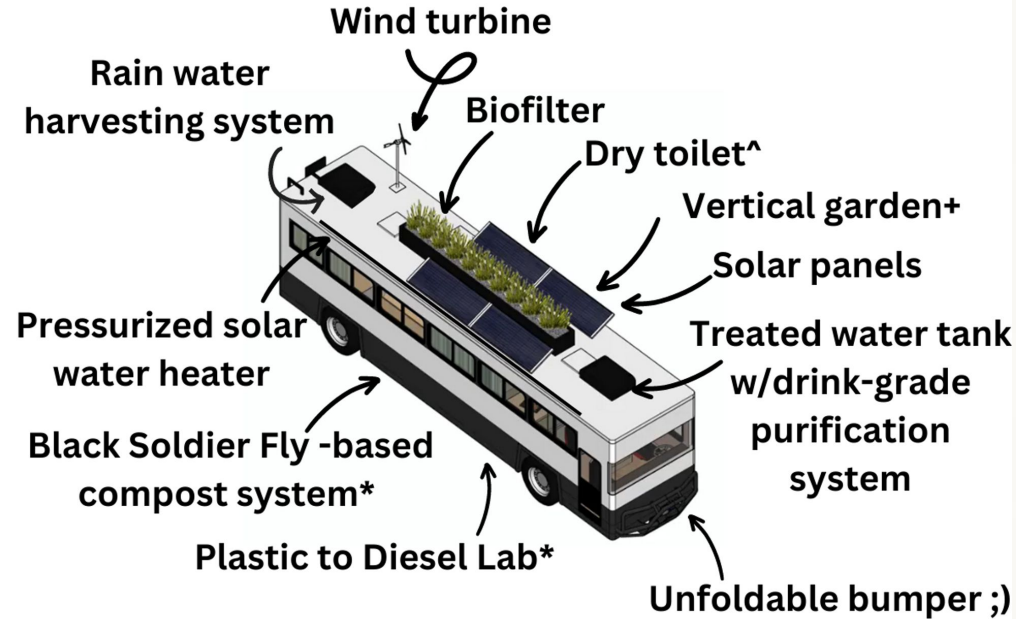


#5 GREENPILLED

A Public Goods Cooperative



Urbánika's Climate-positive bus



* Stored inside the trunk, and installed outside when parked

[^] Inside the bus

+ Stored inside while traveling, installed outside or kept inside options

Exploring MycoFi: Mycelial Design Patterns for Web3 and Beyond guides readers on an underground exploration into the world wide web of mycelial networks, the most prolific producers of public goods on Earth. This book examines how the evolutionary adaptability of fungi could help us imagine biomimetic alternatives to status-quo economic systems that demand infinite growth on a finite planet.

MycoFi translates six design patterns of mycelial ecologies to Web3 economies:

*Network Infrastructure • Fractal Nature • Emergent Coordination
Dynamic Flow • Mutual Reciprocity • Polycentric Pluralism*

If there is any hope for a transition away from extraction, domination, and planetary overshoot, towards regeneration, equity, and planetary healing, our economies must be realigned with nature's ecologies - and for that, we can't afford to ignore what mushrooms have to teach us. If we aim to design regenerative economies, what better place to start than with the thriving evolutionary patterns of nature?

"Fungi invite us to participate in a commons-based economy where resources are metabolized, shared, and regenerated simultaneously through the very same process. MycoFi is less about how to imitate them than how to join in the dance."

Douglas Rushkoff, author and host of Team Human

"Nature is a magical long-term, stable code base, with time for revisions and optimization. More recently, our attention spans have gotten shorter and we've forgotten how to listen deeply and pay attention to the truth around us. Hopefully, this work will provide another reminder that the answers have always been there. Let's listen together."

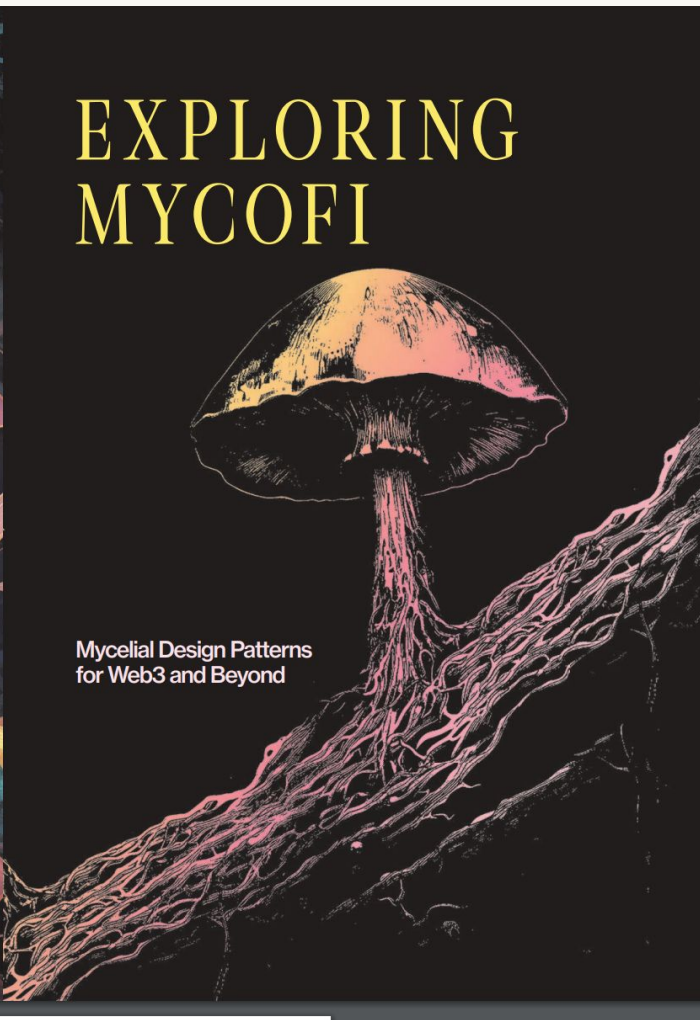
Amber Case, author of Calm Technology

"Mycelial networks are the foundation from which natural systems thrive. Obligation networks are the foundation from which social systems thrive. MycoFi is a beautiful recognition of the confluence of the natural and social worlds, of our mutual interdependence, of our obligations to take care of the planet and each other, and of how much more we still have to learn from the humble mushroom."

Ethan Buchman, co-founder of Cosmos and CEO of Informal Systems

EXPLORING MYCOFI

Mycelial Design Patterns
for Web3 and Beyond



ČR?



TOGETHER WE SUPPORT THE LOCAL ECONOMY

Corrency is a system to support the local economy. It allows town halls to set clear and simple rules for the efficient and transparent use of funds intended for residents or selected areas of business.

[How to join the project?](#)

WHAT IS CORRENCY

Check out the
[Detailed description of Corrency](#) ↓





Spolupráce

Ekumenická Akademie; Síť Solidárních Ekonomik

Paolo Dini - článek *“Collaborative Finance for Sustainability in the CZ”*

Rozptýlený Ateliér Commons (koncept, zapojení studentů)



“Sci-fi” výhledy

Dark Matter Labs

“Free-house” projekt

“Multivalent bioregional currencies” projekt

Economic Space Agency (ECSA)

Commons Stack

Machinations.io

MycoFi, POCAS

hREA