1. DECA's proposal

"Collaboration, decentralization, and digital democracy: the three keys to combating climate change."

DECA creates a green economy which digitally signs carbon credits into a blockchain. At this stage, emission reduction through carbon credits is controlled by a few market players: multinational companies and governments. Without a free market or access to people, the impact and purpose of the Paris Agreement is minimized, which is to reduce global emissions by 50% by 2050. Furthermore, current Nationally Determined Contributions (NDC's) are not nearly sufficient to reach the Paris Agreement mitigation target. DECA proposes to introduce a DAPP (decentralized application), which is designed to crypto-democratize the carbon credits by a Proof-of-Trust Consensus (PoTC) mechanism. For this means we propose to change the original proof-of-work from Satoshi's Bitcoin with an eco-friendly technology (ASIC proof) that solves the double-spending issue with a mechanism based on Proof-of-Trust Consensus, where trusted parties by staking can vote and trust. Accumulators will be able to deploy their carbon credits in the DAPP and miners vote for the most trusted ones, the carbon credits which get the highest amount of trust will be integrated into a candidate block and then integrated into the blockchain. We use the lightning network, which is an upper layer, to be fully in charge of transactions, yet it still uses the blockchain for holding snapshots where the DECA's transactions are timestamped and recorded. This will solve the speed problems that a blockchain based on the Proof-of-Trust Consensus (PoTC) might have. Supporting climate mitigation goals: the proposal reduces the DECA's emission per block each time by realizing a considerable percentage of reduction in CO_2. As Bitcoin, DECA's emissions will be reduced gradually. The design includes achievements of the CO_2 reduction assigned to a number of blocks. These achievements imply the gradual reduction of the DECA's emission and an incremental demand in the signed carbon credits that comprise a block.

2. The voluntary carbon market

Carbon credits

According to the World Bank, governments raised more than 44 billion USD by carbon markets (carbon tax, emission trading) in 2018, an increase of 70% since 2015. It is supposed that the revenue will increase as a growing number of countries and jurisdictions are implementing carbon pricing initiatives. In 2019, 57 jurisdictions had or were planning to have such an initiative. However, the world is still far away to mitigate the objectives of the Paris Agreement, which raises the question: If there is so much money in the game, why is the global community failing at climate change?

The following chapters provide a brief overview of voluntary carbon markets, and its key elements. For further information, consult our whitepaper and [DECA's website](#).

Table 1. Voluntary carbon market statistics

Year	Weighted average price	Market value**	Volume in MtCO$_2$e*
2006	4.1	111.3	31.6
2007	6.1	359	69.8
2008	7.34	790.2	134.5
2009	6.46	484.5	107.2
2010	6	444.1	131.4
2011	6.2	602.3	100
2012	5.87	529.8	102.8
2013	4.93	338.5	68
2014	3.8	298.5	76.8
***2015	3.26	278.2	84.1
****2016	3.1	191.3	64.5
2017	3.16	136.51	43.2
2018	3.01	295.4	98.4

Source: Own elaboration

*Prices in USD/CO$_2$e
**in Million USD
***2015: strong drop in volume as volume migrated to Californian cap & trade system
****2016: limbo after Paris Agreement

Source: https://www.ecosystemmarketplace.com/carbon-markets/

Fig 1. Total volume in MtCO$_2$e* and total weighted average price.

What are carbon credits?

The different kinds of certificates (CER, ERU, AAU, RMU, etc.), the virtual currency of the carbon market, are called carbon credits or carbon offsets. Basically, they are digital assets that are equivalent to one metric ton (1000kg/2205 lbs) of CO_2 equivalent.
In literature, two definitions of carbon credits are common:

A carbon credit is a tradable instrument which represents either:

• A permit which gives the holder the right to emit one ton of carbon dioxide or equivalent greenhouse gas (tCO_2e) into the atmosphere, or

• A certificate from a project that represents the removal or avoidance of one tCO_2e from the atmosphere.

The differentiation is not only theoretical, but there are also different markets for the permission and the removal of a carbon credit. Table 2 shows the main distinctions between the two carbon credit types.

Table 2. Distinctions between the two carbon credit markets.

Market	Compliance	Voluntary
Credit type	Permits to pollute	Project-based emission reduction credits
Description	1 permit to pollute = 1 tCO_2e, certificates issued depends on cap	1 certificate = 1 tCO_2e, emission from emission reduction project
Issued by	Governments	Independent certification bodies
Example	European Union Allowances (EUA)	Certified Emission Reduction (CER)

Source:
https://www.ieta.org/resources/Aviation/IETA%20IATA%20Workshops/Nairobi/What%20is%20a%20c arbon%20credit%20 -%20ClimateCare%20(NBO).pdf

What are the different types of carbon credits?

In the last 15 years, several new carbon credit types have emerged for various reasons. First, there were quality concerns regarding certain types of carbon credits; second, the industry asked for higher requirements; furthermore, it is a sign of the maturation of the voluntary carbon market.

Table 3. Carbon credit types.

Standard	Usage	Launch	Description
Climate Action Reserve	US (mainly California)	2008	The Climate Action Reserve is a national offsets program focused on ensuring environmental integrity of GHG emissions reduction projects: to create and support financial and environmental value in the U.S. carbon market.
Gold Standard	International	2003	The Gold Standard has been established by WWF and other international NGOs and focuses on environmental and social benefits. It can be used as an add-on for CDM projects in order to increase their quality.
Voluntary Carbon Standard	International	2006	The NGO Verra established the VCS with CDM- like Monitoring, Verification, and Reporting (MRV) requirements. It is the largest voluntary standard in the world, counting with more than 1300 projects.
VER+	International	2007	A Verified Emission Reduction (VER) is a certificate awarded to projects that decrease or avoid CO_2 emission in developing countries.
American Carbon Registry	International	2008	The American Carbon Registry (ACR), a nonprofit enterprise of Winrock International, was founded in 1996 as the first private, voluntary greenhouse gas registry in the world.
Climate Community and Biodiversity Standards	International	2005	Verra also manages the CCBS which is focused on land-based climate change projects that create employment, protect traditional cultures and endangered species, among other things. Nowadays, 100 projects have been validated.
Plan Vivo	Developing countries	1994	Plan Vivo is a registered Scottish charity that has created a set of requirements for smallholders and communities wishing to manage their land more sustainably. Plan Vivo has developed the Plan Vivo Standard, which is a framework for Payments for Ecosystem Services (PES) schemes for rural smallholders and communities dependent on natural resources for their livelihoods.
Clean Development Mechanism	International	2000	CERs are emitted by the Clean Development Mechanism scheme under the rules of the Kyoto Protocol which can only be located in non-Annex 1 countries (without Kyoto obligation to reduce emissions) These projects are verified by third-party auditors and approved or rejected by a CDM executive board. These certificates are traded in a compliance and voluntary market.

Source: Handbook of carbon credits

How does voluntary market work?

The voluntary market is, in contrast to a compliance market, an unregulated market in which companies, organizations and individuals can buy carbon credits. A company that is purchasing carbon credits to compensate for its emissions is doing voluntary offsetting. According to the German Environmental Ministry (DEHST), voluntary offsetting is a way of compensating GHG emissions from certain emission-intensive activities that cannot be avoided. Unlike carbon credits from the compliance market, carbon offsets come from real-life activities on the ground: like a tree-planting project that sequesters emissions as the trees grow, or a solar panel which substitutes fossil energy usage. Thus, one key element of the carbon credits used in the voluntary market is that they prevent, each, one tCO₂e from entering into the atmosphere. Another critical feature is the additionality principle: Emission reduction must have occurred as the result of the implemented activity. Due to the fact that global pollution has the same effect in India or in Canada, project-based carbon credits can be bought and sold globally.

Why are companies and individuals buying carbon credits?

The motivation of companies purchasing carbon credits is quite similar. Nowadays, companies feel social and environmental responsibility. There are operational reasons to support achieving a reduction of GHG emissions. These would include: when a company is not able to reduce emissions due to cost-effectiveness; support environmental changes through financing clean energy projects; brand-building through offering carbon-neutral products; market pressure as large companies become more and more committed, including requesting their suppliers to take action; and, Corporate Social Responsibility, which means that the companies want to embrace responsibility for its actions and have a positive impact on shareholders, stakeholders, consumers, and employees.

Purchasing carbon credits is a more complex topic as companies renew their requirements. If 15 years ago, companies bought carbon credits from whatever project with environmental impact, today they are looking for co-benefits beyond climate such as supporting vulnerable people or clean water. Sometimes corporations buy carbon credits in regions in which they have plants and take it as social license to operate in certain regions. The offset buyers also try to engage their customers or employees in their programs. Airlines are offering the compensation of CO₂ emissions when a customer buys a ticket; some postal services are offering to offset CO₂ emissions in transports for customers; utilities offer clean energy through the purchase of carbon credits.

What are the imperfections of the carbon market?

Analyzing the voluntary carbon market, we see that there have been a lot of issues in recent years:

● **Double counting:** Due to the use of a registry, there can be double-counting issues such as double issuance of carbon credits, selling the same carbon credits through two different registries (double selling), double monetization and double claiming. As the voluntary market is not regulated, governments cannot take measures to avoid them, and it is an issue which the private industry and registry have to solve.

● **Fraud in the project-based market.**

● **Cyber security:** In the past, the compliance market has had several issues with security breaches as national registries have been hacked, and that has led to the illegal transfer of allowances. Also, e-mails from fake emission registries have been used to steal data and carbon credits from companies that submitted their

information. Normally, this kind of issues are known from the banking sector, but since carbon credits are financial commodities, they have the same risks.

- **Carbon credit quality:** Project-based carbon credits, particularly in developing countries, are susceptible to corruption and fraudulent activities, especially in the additionality criteria for the approval of such projects. A survey, conducted by Point Carbon in 2010, showed that 15% of 890 respondents had seen fraud or corruption in voluntary market projects, especially in China. The requirement for additionality to reduce emissions below the business as usual scenario, access to carbon finance, and transfer of technology presents opportunities for interpretation; and thus, for corruption and fraudulent activities.

- **Demand:** Many project developers are claiming about low prices and the lack of demand. As the voluntary market is a buyer's market and only companies and governments can buy carbon credits, individuals have no opportunity to support those green projects.

- **Barriers for individuals:** Under the current scheme, the carbon credits are sold in bulk to corporations, which makes it impossible for individuals to access this market and reduce its environmental impact.

- **Transparency:** There is a lack of transparency on the voluntary carbon market. Especially the wide price range of carbon credits (between 0.5 and 50 USD) shows this. As the same carbon credits are often offered by several intermediaries, it is possible to find the offsets of the same projects at different prices.

3. The DECA solution

DECA seeks to create a fair and transparent way for parties to easily participate in a low-carbon economy. The goal being that individuals can participate and generate wealth by the value of the carbon credits being emitted. With DECA, individuals are part of the carbon credit process and can vote on the way they get generated, used, and allocated. This means that DECA community members can use the platform to enhance the scientific rigor of their local jurisdiction or to seek validation of a carbon credit from one jurisdiction into another. The DECA blockchain seeks to redress the wrongs of carbon emissions by adhering to the principles of the protocol, and by opening the process of the Paris Agreement to a worldwide audience.

Table 4. DECA solutions

Issue	Solution
Double spending of carbon credits	Open decentralized ledger based on distributed hash table registries
Cybersecurity of the system	Free software, community patches and a proof of trust consensus, blockchain
Carbon credit quality	Votes by staking mechanism where miners decide based on information
Demand & market liquidity	Purchase of DECA allows the project owner to finance further green projects
Market entry barrier	Easy access for individuals through the purchase of DECA

Source: Own elaboration

The DECA team is looking to solve the voluntary carbon market issues, create a green economy where participants can access products and services with DECA, and assure in each transaction an environmental and social impact. It will be done through two approaches: DECA token and DECA currency.

First approach: DECA token

The first approach is the creation of DECA token, which will eventually finance the development of DECA currency.

DECA token is already based on carbon credits, which will be registered before in OrbitDB: a decentralized database. Thus, it will have a social and environmental impact from the outset and give the token an intrinsic value, the carbon credits, apart from the security.

The DECA token has the following technical architecture:

• Smart Contract based on ERC20 and audited by Quantstamp.
• OrbitDB, a decentralized database in which the carbon credits will be registered (ipfs address in the smart contract).
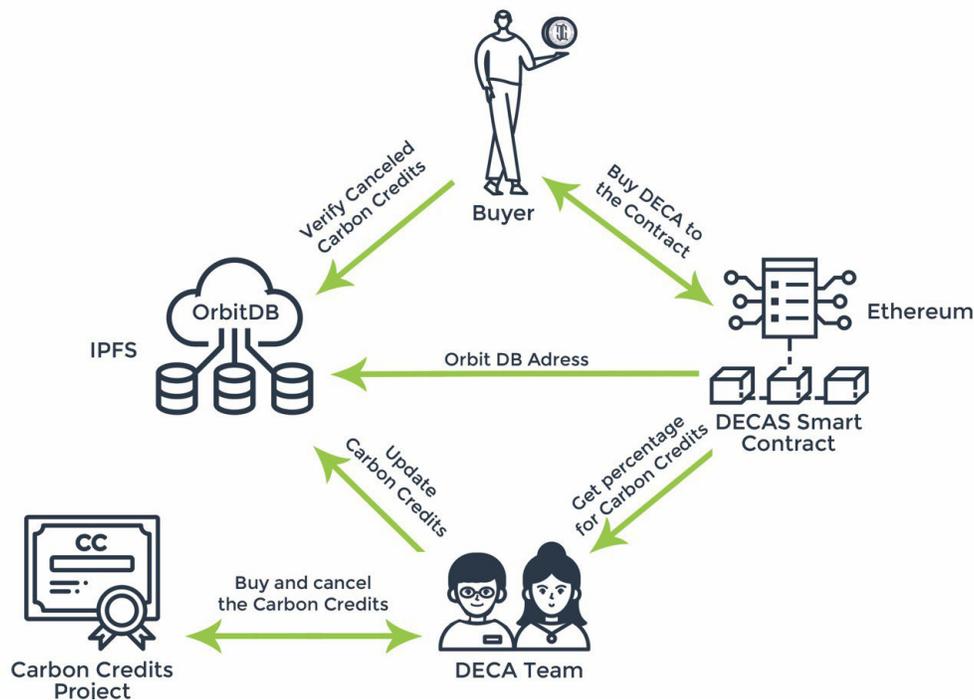• Webwallet, based on Metamask.
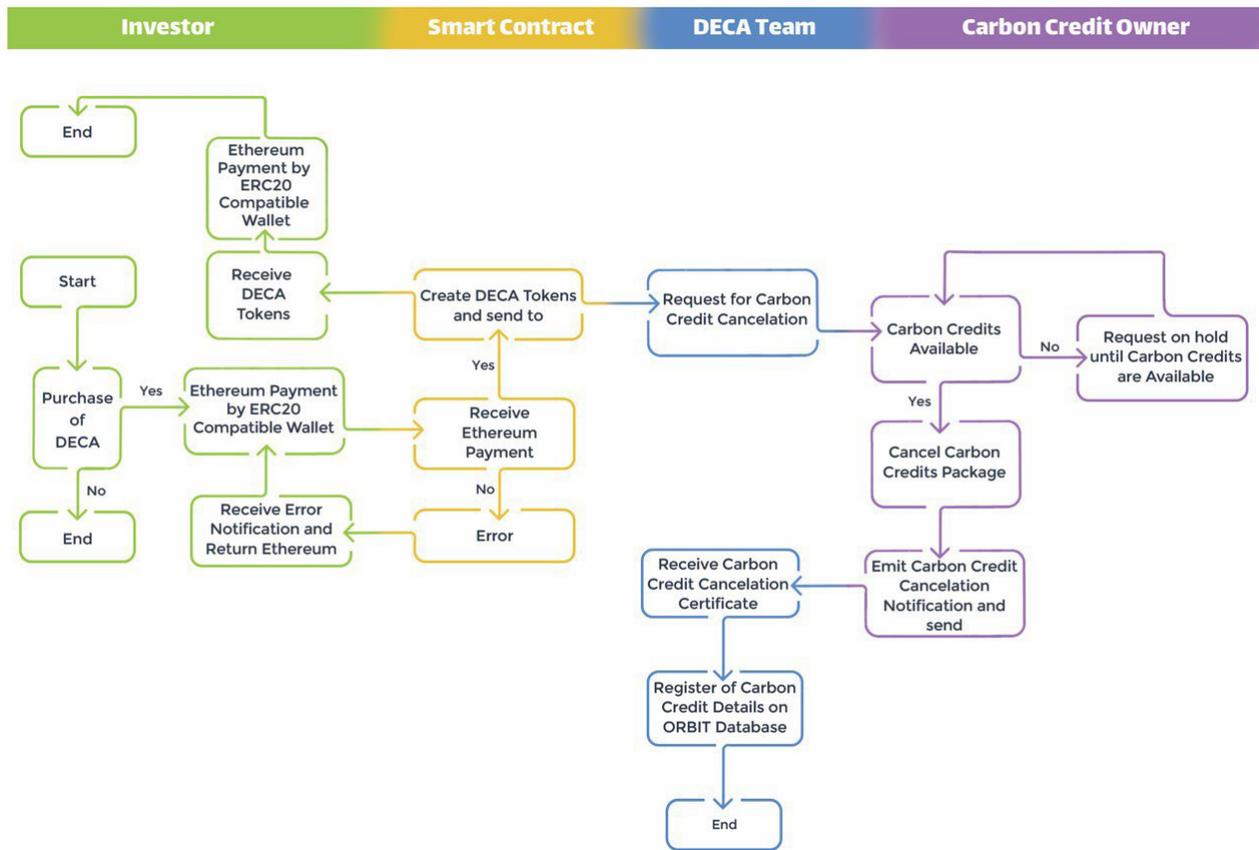

Fig 2. DECA process

Fig 3. DECA token's sequence diagram (Behavioral)

Table 5. DECA token base technologies

Technology	Description	DECA's usage
Smart contract (ERC20)	A technical standard used for smart contracts on the Ethereum blockchain for implementing tokens.*	To run the ICO; raise funds for DECA currency development, while it creates an usable token already based on canceled carbon credits.
OrbitDB	Serverless, distributed, peer-to-peer database. Uses IPFS as its data storage and IPFS Pubsub to automatically sync databases with peers.**	To register canceled carbon credits and make them publicly accessible into an open decentralized platform.
DECAMask	Metamask fork that includes. DECA token and linked through our nodes.	Access to DECA tokens, maintained and supported by DECA's team.

Source: Own elaboration

* https://en.wikipedia.org/wiki/Ethereum 24-01-2020
**https://orbitdb.org/ 24-01-2020
Note: OrbitDB address is published into the smart contract interface.

DECA's token - Tokenomics

The DECA token, in its initial stages, is a utility token operating on the Ethereum blockchain (ERC20 standard token). Its purpose is to create a green economy by developing a platform that allows individuals access to carbon credits through DECA currency. The intrinsic value derives from carbon credits due to the fast growth of environmental awareness globally. The DECA token is uncapped in order to assure the DECA currency

project finance. We are aware that almost every uncapped sale is criticized as being "greedy," but, as our goal is ambitious, we do not want to limit our project by funds. An uncapped token will promote the widespread distribution of the tokens and help us to reach our goal. There have been several successful uncapped token sales like Ethereum and Tezos. At DECA token, we use the Ethereum approach, an uncapped token sale, where prices are modified on a weekly basis during the ICO.

Table 6. DECA token promotion and return on investment

		Promotion DECA per Ethereum							
		300		275		250		225	
Carbon Credit Back-up	DECA Minimum Price*	DECA Price in USD							
5%	$ 0.40	$	0.77	$	0.84	$	0.92	$	1.02
10%	$ 0.80	$	0.80	$	0.84	$	0.92	$	1.02
15%	$ 1.20	$	1.20	$	1.20	$	1.20	$	1.20
20%	$ 1.60	$	1.60	$	1.60	$	1.60	$	1.60
Stage	Total Investment in the beginning	$	230,000.00	$	230,000.00	$	230,000.00	$	230,000.00
PreICO: 5%	Total Investment in Eth	$	1,000.00	$	1,000.00	$	1,000.00	$	1,000.00
ICO: 10%	DECAs Received		300,000.00		275,000.00		250,000.00		225,000.00
2021: 15%	Investment Value in 2022 in USD (DECA Rec x DECA Price in USD 2022)	$	480,000.00	$	440,000.00	$	400,000.00	$	360,000.00
2022: 20%	Profit in USD	$	250,000.00	$	210,000.00	$	170,000.00	$	130,000.00
	ROI total		**108.70%**		**91.30%**		73.91%		56.52%
	ROI annual		**36.23%**		**30.43%**		24.64%		18.84%

* depends on average carbon credit price
** depends on ethereum price

Average Carbon Credit Price	$	8.00
Ethereum per USD	$	230.00
Investment in Eth	$	1,000.00
Investment in USD	$	230,000.00
Investment Period	2 Years	

The DECA token sale will be structured in two parts, starting with a pre-ICO and followed by the main token sale (ICO). The token price is fixed at 300 DECA token per Ethereum with a pre-ICO discount and two other promotions in the first three weeks of the ICO.

The DECA token investment will last around two years until it converts to DECA currency. To make the investment attractive for investors, we forecast an annual minimum return on investment in a range of 10 to 25% per year, depending on the promotion, Ethereum price and average carbon credit price.

The DECA token model is unique as it is based on a commodity: the carbon credits. The carbon credits will back the DECA token and give it an intrinsic value. Based on current assumptions, the minimum price of a DECA Token will be 0.25 USD in the pre-ICO as it is 5% backed by a carbon credit with an average purchase price of 5 USD. Until 2022, the DECA token minimum price will increase to 1 USD as the backup percentage of carbon credits increases to 20%. Thus, the model makes it very attractive to buy for investors.

The pre-ICO will be launched from second quarter 2020, where our strategic partners and their investors can purchase DECA token with a special discount. From second quarter to third quarter 2020, we will organize the main token sale with the promotions mentioned above (table 6).

We expect to raise at least 500,000 USD in the pre-ICO. The pre-ICO funds will be used to cover future expenses for the main token sale:

- Purchase of carbon credits
- Marketing (marketing strategy, marketing campaign)
- Development (smart contract audit, web wallet)
- Administration (research and management)
- Roadshow, events

If we raise more funds than expected, we will purchase a higher amount of carbon credits with social and environmental impact. As a consequence, in the future, the carbon credit back-up percentage could be increased.

The soft cap for the ICO will be 10 million USD, which is determined in the financial model to develop DECA currency.

The ICO funds will be used as follows:

- Project development: 32 %
- Purchase of carbon credits: 20 %
- Innovative Hydrogen Solutions carbon credit fund: 33 %
- Reserve: 15%

The amounts are derived from our financial forecast model. The project development costs include software development, management and research, security audits, legal (KYC, AML), awareness (events, roadshows, campaign), and infrastructure (servers, platform). 20 % of the funds raised will be used to buy carbon credits in order to cancel them via the Innovative Hydrogen Solutions account and support projects with social and environmental impact. For example, forest projects which create work in rural regions. The reserve amount is subject to any not foreseen event, which could limit the project development like legal challenges (lawsuits), natural disasters, and market manipulation.

Token distribution

The DECA token will be distributed as follows:

- 2.5% for team members and strategic partners (Innovative Hydrogen Solutions, Neetsec, and personal), which will be printed in each DECA token purchase.
- 97.5% as the main sale to public investors, individuals including the pre-ICO.

To ensure a genuine decentralization, DECA aims to get a high number of wallets. The market can be easily manipulated if a small number of investors own 97.5% of the DECA token. The high number of wallets should avoid the 51% attack from a computational perspective.

The code for DECA token is open source and can be found at the DECA repository on GitHub. After the ICO, there is no further plan to organize another DECA token sale.

The ICO, in July 2020, will sell DECA token in order to finance DECA currency.

How to get involved:

If you have Ethereum, you can now exchange them for DECA token. If you have a wallet that supports ERC20, you can buy directly from the smart contract address that we will publish in the website www.deca.eco

For more information, see the tokenomics chapter.

Final approach: DECA currency

The final approach is creating DECA currency platform based on lightning network and blockchain; and the project goal is to create a fully decentralized green economy. DECA token becomes a genesis block of DECA currency, which will include all carbon credits and DECA tokens issued by the pre-ICO and ICO.

The concept of DECA currency is as follows:

Actors:

DECA currency relies on human interaction and participation. It is important for some actors to interact and help the project functionality. We define the Actors and a brief description in table 7.

Table 7. DECA currency actors

Actor	Description
Carbon credits issuer (CCI)	A physical or moral person who owns a carbon credit and wants to convert it to DECA through the DAPP.
Miners / Decentralized Verifiers	Individuals who vote (by stake) on carbon credits. If there is a lack of trust regarding the carbon credit, these individuals can provide a low qualification or vote against the issued carbon credit.
Node owner	A person who supports the infrastructure of DECA, adding a node that must be available at all times and with a good bandwidth-time online. All this to encourage decentralization.
Decentralized Autonomous Organization (DAO)	A decentralized autonomous organization that provides maintenance, in all aspects, to DECA. The first three years, this DAO will be managed by Innovative Hydrogen Solutions and NSI, and then released to people considered by the miners and voters.
Non-profit and charitable organizations with environmental concerns	Independent agents which seek on a daily basis the conservation of the environment through programs, projects, and global initiatives.

Source: Own elaboration

Technology

In addition to the blockchain, DECA requires lightning networks technology to guarantee secure and fast transactions (no need to validate blocks). DECA proposes to change the work test (PoW) by its own block validation mechanism based on the consensus Trust (PoT consensus). Blockchains handle a very limited number of transactions per second. Given this limitation, DECA utilizes the lightning network, which proposes the off-chain paradigm: which DECA uses as the principal method for transfers between its users. DECA takes the blockchain for a different purpose, containing snapshots of transactions as well as of canceled carbon credits. In this way, DECA maintains the backbone of DECA and supports the cryptocurrency by absorbing a percentage of the carbon credit economy.

Its main aspects are as follows:

DECA DAPP

The DECA DAPP is a decentralized application based on blockchain technology that provides a user-friendly interface. The DECA DAPP will provide the following:

1. A portfolio containing the amount of DECA.
2. An easy to use, uploadable interface for users to integrate their carbon credits into the blockchain.
3. A list of potential candidate blocks to be integrated into the blockchain by the CCMR.
4. An interface to vote for blocks in this list (where a confidence proof will be given by signing them).

The system of consensus is important as it generates a democratic network, which attaches value to each carbon credit that integrates the blockchain. The confidence testing seeks to give a voice to each DECA holder, with a one member one vote system to ensure equity and reliability towards carbon credit integration.

Proof of trust consensus

Similar to Bitcoin and other cryptographically generated currencies 'mined' by the concept of proof-of-work, DECA operates on a confidence test of the validity and unclaimed carbon credits. To ensure that the carbon credits entered onto the blockchain are valid, there is a constant (automated) revision of the credits. These evaluation serves to ensure the quality and the validity of the claimed credits. It is called DECA's proof-of-trust consensus mechanism.

This is where all the users that mine this currency guarantee, with their confidence, electronically sign the transaction, and corroborate that those canceled carbon credits are notarized in the name of DECA. The proof of trust consensus mechanism works as follows:

1. The "carbon credits issuers" will submit their carbon credits to be voted on an interface to upload data related to their carbon credits.
2. A list of the candidate blocks to be integrated into the chain have general access in all the wallets, in addition to their DECAs.
3. The miners will have access to the list of available carbon credits and will evaluate them following certain parameters, and to an interface to vote (by stake) for the blocks in this list (where a confidence test will be given by signing and qualifying them).
4. A DAPP in the wallet supports the management of points 1, 2, and 3.

5. The infrastructure manages a series of nodes that contain a percentage (sharding) of the blockchain and the network availability ratings. This promotes decentralization.

To solve the double-spending issue, the use of a voting mechanism (by stake) towards the most trustworthy canceled carbon credits is proposed. The blocks are formed with the credits that obtain the greatest confidence from the miners, and which will be the first to be integrated into the chain; In addition, a snapshot of the lightning network to keep close control of these transactions will be added to each block.

If the double-spending exists in a transaction or a duplicate credit, it will be resolved by different rounds of voting. This voting can give extra incentives to the miners.

Finally, the nodes must contain a percentage (sharding) of said blockchain to ensure decentralization, in addition to which, they generate incentives according to a system of online availability measurement.

Lightning network

Instant payments. Lightning-fast blockchain payments without worrying about block confirmation times. Security is enforced by blockchain smart-contracts without creating an on-blockchain transaction for individual payments. Payment speeds are measured in milliseconds to seconds.

Scalability. Capable of millions to billions of transactions per second across the network. Capacity blows away legacy payment rails by many orders of magnitude. Attaching payment per action/click is now possible without custodians.

Low cost. By transacting and settling off-blockchain, the lightning network allows for exceptionally low fees, which allows for emerging use cases such as instant micropayments.

Cross blockchains. Cross-chain atomic swaps can occur off-chain instantly with heterogeneous blockchain consensus rules. So long as the chains can support the same cryptographic hash function, it is possible to make transactions across blockchains without trust in 3rd party custodians.
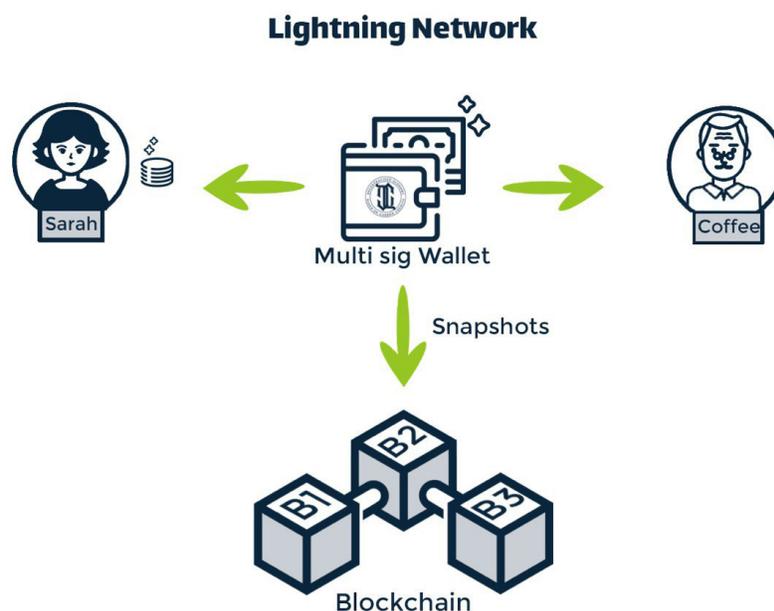

Fig 4. The lightning network in DECA

4. SWOT analysis DECA token and DECA currency

To evaluate the project, we use the SWOT methodology, which is one of the most popular strategic planning techniques. SWOT stands for:
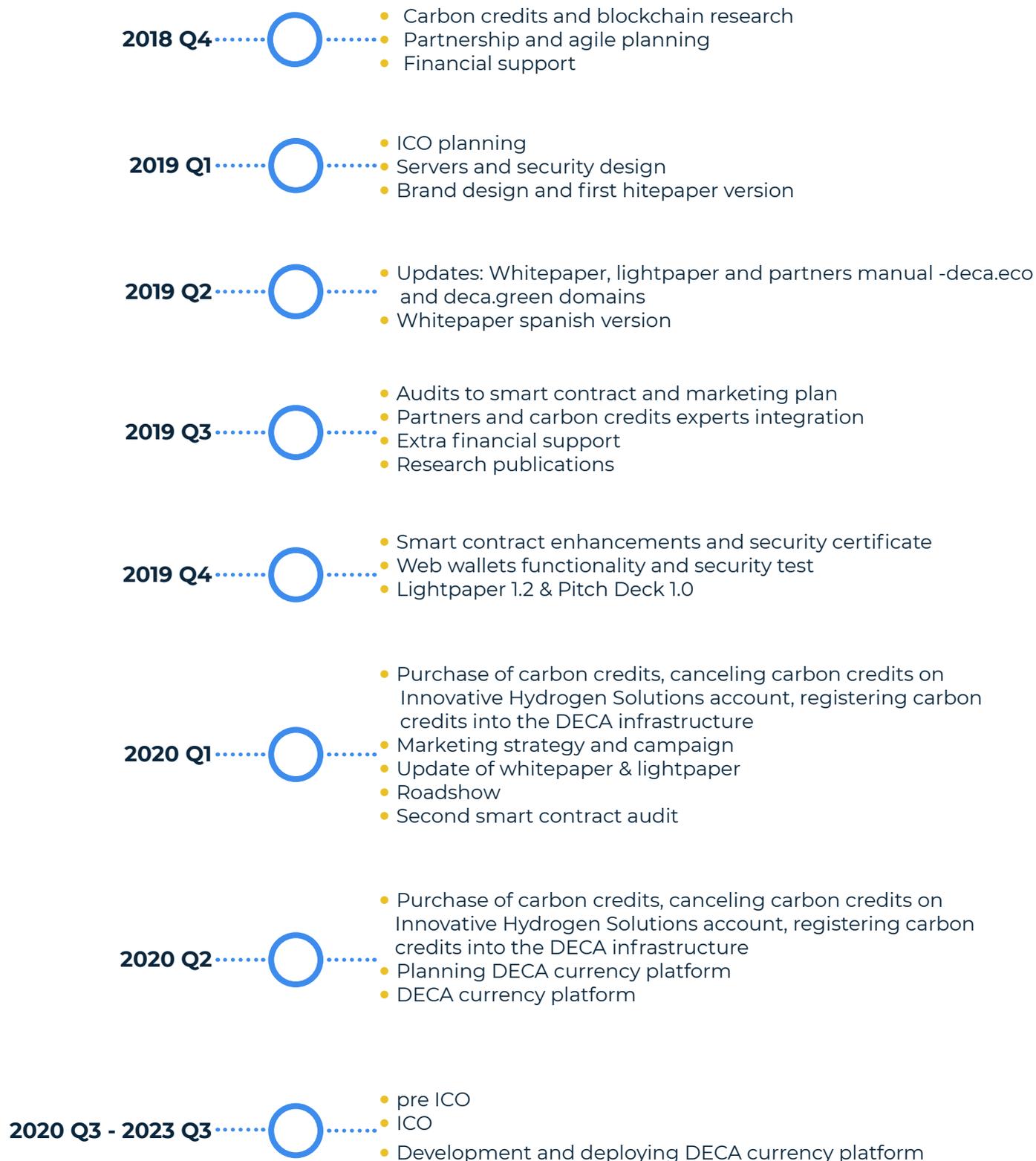
- Strength
- Weakness
- Opportunity
- Threat

Strength and weakness are internal factors, whereas opportunities and threats are external ones.

Table 8. DECA's SWOT analysis

Strengths:	Weaknesses:
• DECA token is based on a commodity (carbon credits) → Price cannot drop to 0 USD. • Current system is already developed (smart contract, web wallet) and tested (audited by Quantstamp). • Innovation in technologies like lightning network. • Open source technology. • High level qualification of team members. • Cyber security experts. • Uncapped token to avoid market manipulation. • Mining process does not draw high electricity consumption (PoS). • Partners will accept DECA as payment for services creating an ecosystem. • High trust level through user deciding about acceptance of carbon credit types. • Low transaction fees (gas). • Strong project partner: Innovative Hydrogen Solutions. • Business based in Canada.	• High dependence on team leader regarding technological knowledge (Blockchain, Development etc.) Small team, high reliance on individuals. • High dependence to the Ethereum price behavior (volatility). • Low capital budget.
Opportunities:	**Threats:**
• Exponential growth of carbon credit markets. • Higher environmental and social consciousness. • Access for individuals. • Financial support of social and environmental projects. • Global adoption through global carbon credit markets.	• Open source Github (Hacker) • Carbon market policies. • Fake carbon credits without additionality. • Cryptocurrency policies (fiscal, prohibition). • Market acceptance by carbon credit emitters and investors. • Market manipulation. • Technological failure.

5. Roadmap

Table 9. DECA's done and to do task plan by quarters.

2018 Q4
- Carbon credits and blockchain research
- Partnership and agile planning
- Financial support

2019 Q1
- ICO planning
- Servers and security design
- Brand design and first hitepaper version

2019 Q2
- Updates: Whitepaper, lightpaper and partners manual -deca.eco and deca.green domains
- Whitepaper spanish version

2019 Q3
- Audits to smart contract and marketing plan
- Partners and carbon credits experts integration
- Extra financial support
- Research publications

2019 Q4
- Smart contract enhancements and security certificate
- Web wallets functionality and security test
- Lightpaper 1.2 & Pitch Deck 1.0

2020 Q1
- Purchase of carbon credits, canceling carbon credits on Innovative Hydrogen Solutions account, registering carbon credits into the DECA infrastructure
- Marketing strategy and campaign
- Update of whitepaper & lightpaper
- Roadshow
- Second smart contract audit

2020 Q2
- Purchase of carbon credits, canceling carbon credits on Innovative Hydrogen Solutions account, registering carbon credits into the DECA infrastructure
- Planning DECA currency platform
- DECA currency platform

2020 Q3 - 2023 Q3
- pre ICO
- ICO
- Development and deploying DECA currency platform

6. Team

DECA is a project developed by two Canadian companies: Neetsec International Inc (NSI) & Innovative Hydrogen Solutions (IHS): NSI is an open-source, cybersecurity, and blockchain solutions company founded in 2019 in Aurora, Ontario. Innovative Hydrogen Solutions is a company founded in 2004 and based in Aurora, Ontario; Innovative Hydrogen Solutions develops and commercializes new hydrogen-based energy and power technologies that improve internal combustion engine performance.

Both companies main goal is to provide social and environmental solutions with new edge technologies developments.

You can see the corporate profile and personnel at neetsec.com and innovativehydrogen.com.

DECA ecosystem is made possible through the effort and skills of a unified team. It is a project filled with visionaries, experts, and believers unified by the possibility that there is a better tomorrow. This economy is potentialized by the companies Innovative Hydrogen Solutions Inc. and Neetsec International Inc. in the short term.

7. Partners

To have a correct functionality, DECA is audited and supported by companies specialized in cybersecurity, blockchain, marketing & others. Also, this project has the support of different expert advisors in areas such as the energy market, carbon credits & data analysis.

Legal disclaimer

This LightPaper is a plan presented by Neetsec International Inc. & Innovative Hydrogen Solutions Inc. to create DECA's ecosystem: a structure for a distributed Carbon Credit economy built on the concept of transparency brought about via blockchain technology. This paper is built as the founding block for various ideas and discussions and is not intended to be a final project script, but a new beginning from which the technological and market concepts can evolve. This paper is written in a way to encompass the major technological and sociological concepts as well as the challenges and opportunities that DECA may face. This is not a prospectus or a call to invest in our project, it is a paper which discusses the benefits and approach of creating a currency out of carbon credits. Legal challenges will be mentioned in the portion on called Regulations & Legal oversight.

This is not a solicitation for investment.