



ENTRADE IO

The Future Blockchain Marketplace for Social
Impact Renewable Energy Projects

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LETTER FROM CEO

Ten years ago, in Ethiopia, working with for the German Ministry of Economics and Energy, my goal was to build a fully renewable micro-grid to power a small village. Back then, the technology was not available- power plants were expensive, big and tough to manage.

Today, all of this has changed. ENTRADE technology combines state-of-the-art Soft-and Hardware-Automation plus Solar and Storage with the ability to bring reliable energy and clean water to areas most in need all over the world.

So why are so many people still without clean electricity and thermal energy?

It is because small-scale energy project funding currently does not work- this is what we need to change and it is urgent that we change it now! I want to see my vision of 100% renewable, sustainable, zero waste energy and water supply in my lifetime. In order to bring technology to rural off-takers in developing countries, we need to change the rules.

I believe that blockchain is the missing piece to help us bring our decentralized utility to all parts of the world! Smart contract ledgers, free flow of capital, dedicated token offerings for funding and direct donations will revolutionize the way small scale, high social impact energy projects will be funded in the future.

We are incredibly proud to partner up with Schneider Electric, one of the largest automation companies in the world, and make the ENTRADE IO platform a reality.



*Sincerely,
Julien Uhlig, CEO Arensis Group and ENTRADE IO Community Leader*

Executive Summary

Billions of people around the world lack access to reliable and affordable energy. Outdated grid infrastructures threaten regions and even countries with the limited transmission, power cuts, high price volatility, and cyber-attacks. In effect, customers, power generators, and energy off-takers suffer from inefficient energy storage and transfer, energy waste, and pollution cost with local and global repercussions.

The **Micro-grid Technology**, including mobile, self-sustainable generators, solar systems, and energy storage batteries could offer technological and structural solutions to some of the major energy problems while enabling growth and transformation of local communities, small businesses, and neighborhoods.

But the small energy projects face their own challenges. They are expensive to develop and implement successfully. It's rare for such projects to get funding from banks or stock markets as they are difficult to screen and monitor and deemed risky or unprofitable.

The Entrade Energy Platform aims to provide donors and investors with a direct access to local, small-grid, renewable energy projects, and facilitates screening, investment, and monitoring of said investments. It aims not only to find, but also initiate endeavors that could have a real impact on local communities and promote the transition to sustainable and decentralized energy-generation models.

Entrade.io and its ICO aims to use blockchain technology for the development of the Entrade Energy Platform, decentralized renewable energy project implementation and the development of further revolutionary technology. Together with its partners, Arensis and Schneider Electric, Entrade.io aims to streamline financing, development, marketing, and monitoring of the most exciting and transformative energy projects around the world, to create a real impact.

Renewable Energy Today

02 Our Vision

Global renewable energy investments are driven by varying factors and needs, depending on the geography and level of development. The energy demand in industrial countries is projected to decline over the next twenty years as outdated and inefficient infrastructure is replaced by more sustainable solutions in an effort to reduce cost and carbon emissions.

In 2017, the investment into renewable energy sector surpassed that of gas, coal, and oil-fuelled energy, combined, with an annual global investment volume of approximately \$280 billion. In the years 2014-2015 investments reached \$284 billion and \$323 billion respectively. The 157 GW of renewable power that was commissioned in renewable energy for 2017 far outweighs the 70 GWs from fossil fuels. The overall proportion of the world's electricity generated by wind, solar, biomass, waste2energy and geothermal grew from 11% in 2016 to 12.1% in 2017, reducing carbon emissions by 1.8 gigatons

With the switch towards renewables, the grid operators are facing new challenges, especially in updating their transformer infrastructure and cutting equipment costs. The solar and wind energy cannot be consistently produced throughout the year, so there is a higher pressure on the efficient management and storage solutions. We estimate the overall annual cost of grid and capacity upgrades at 1.2 Trillion USD and growing in the future.

Entrade.io wants to actively aid the global transition from the fossil fuels into clean, sustainable, and zero waste energy by streamlining the funding of micro-grid solutions and new green technologies.

Renewable Energy Today

02
Our Vision

2015-2020 renewable energy growth forecast



Micro-Grids of the Future

02 Our Vision

Community backed, micro-generation projects are becoming increasingly popular, as neighbors, friends, and partners invest together into a cleaner and cheaper energy infrastructure, for example, solar grids.

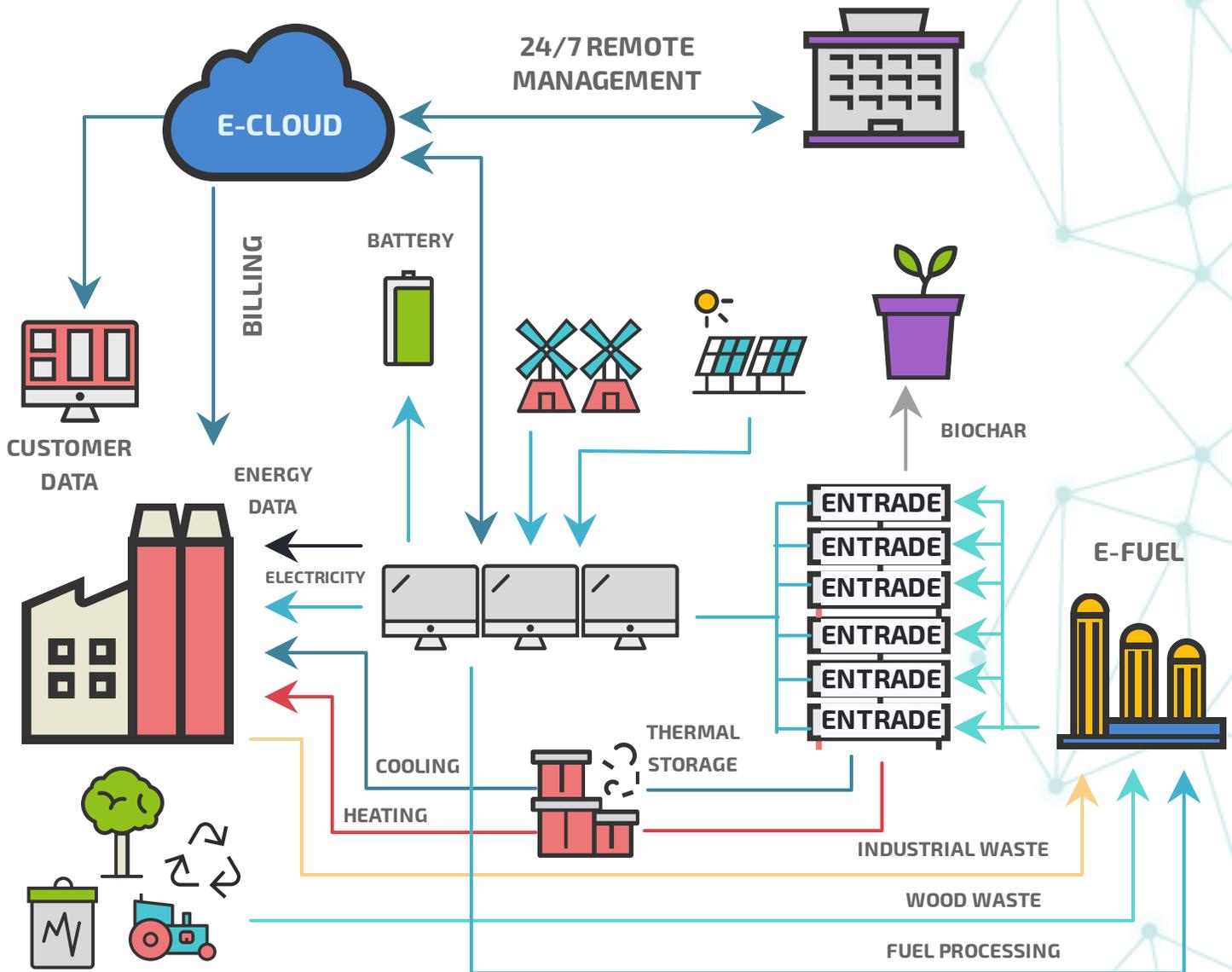
The localized initiatives are ready to be scaled globally, empowering families and communities worldwide, and perhaps selling or transferring the excess energy in an attempt to create a more sustainable, zero waste network. The main challenge has been the cost of organizing such projects and the expertise needed. It is not feasible to create a legal structure, draft documents, raise funds from neighbours through a security offering in shares and/or debt, for example.



Micro-Grids of the Future

02 Our Vision

What is a micro-grid?



Working in Developing Markets

02 Our Vision

The most interesting and impactful opportunities today lie in the development of off-grid resources in developing countries, primarily rural areas, islands, and military installations. Those markets are subject to various risks and challenges that require innovative and scalable solutions.

Some Energy Industry Challenges in the Developing Markets include:

- Fluctuating energy prices and unstable monetary situations;
- Conflicts, natural disasters, and/or hacker attacks on vulnerable systems;
- Corruption, underdefined laws, and limited to no banking infrastructure;
- A significant cost of developing missing grids and assembling large projects;
- Growing energy demands from developing industries and businesses;
- Subsequent pollution and the climate change impact.

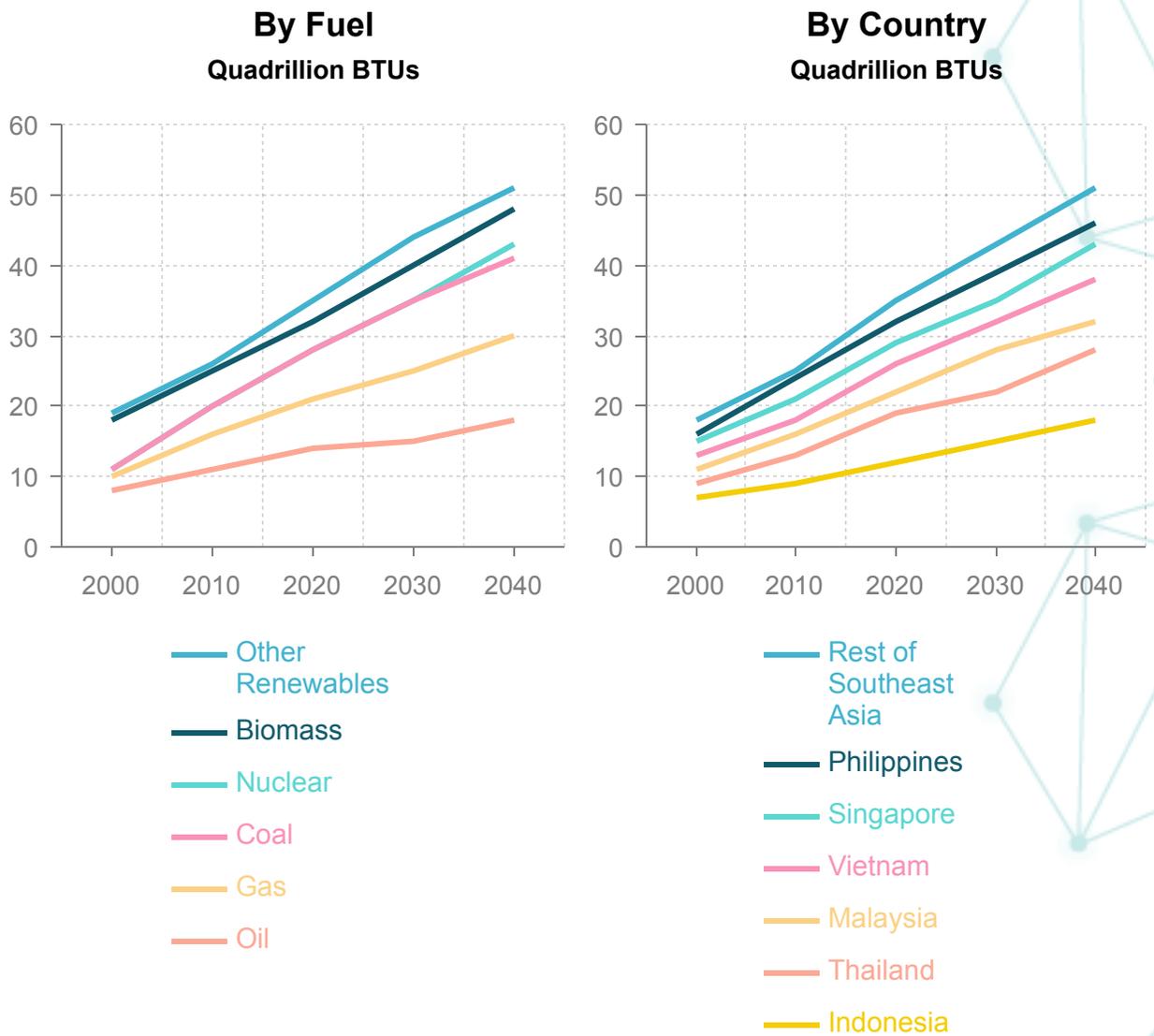
Deploying decentralized energy systems and pre-sale schemes could limit risks from single points of failure and make grids more efficient and self-sustainable. The micro-grid projects coming from within communities rather than international corporations would also face less resistance and potential legal costs and repercussions.

Access to the developing energy markets with their rapidly increasing demand for energy, equipment, and technologies, could offer investors incredible opportunities not only to join the blooming new markets at the ground level but also to help provide electricity, thermal energy, and water to billions of people in need.

Working in Developing Markets

02 Our Vision

Southeast Asia Energy Demand by Country



Clean, Efficient, Zero Waste Energy for All

02 Our Vision

Current energy systems are not only outdated in terms of hardware and software, but they also can't keep up with consumer trends. Today, the consumers are becoming more curious and aware of where their energy is coming from and how it impacts the environment. The local and global movements towards zero waste and higher sustainability prompt individuals, families, and groups to seek the alternative, closed system energy solutions like solar panels, waste2energy, growing fuel, etc.

Decentralized, micro-grid solutions could offer those consumers even more awareness and control over where their energy is coming from. However, to date, it's been too costly to implement utilities on such a small scale or in remote locations.

That's where Entrade.io wants to make a difference by enabling and optimizing financing and management of small projects, and making it more efficient and profitable to implement micro-grids on a larger scale. We aim to not only give people the knowledge but also a choice of where their energy is coming from and how it impacts the environment.

Blockchain Technology – the Missing Piece

02 Our Vision



Till now, many industries lacked a reliable, transparent solution for managing, monitoring and recording energy transfer.

Distributed Ledger Technology (DLT) at the core of Blockchain offers endless applications that will be incorporated into the Entrade Energy Platform:

- Issuance of liquid, divisible, tradable assets (utility tokens) that represent units of renewable energy (Crypto Watt Hours)
- Using smart contract as financial instruments for transactions between consumers, energy producers, off-takers, and investors.
- Offsetting energy industry risks and price volatility in developing countries by increasing liquidity, transparency, screening, and monitoring of projects.
- Tracking the flow of energy and transfer of energy assets for invaluable insights into the renewables' industry.

With blockchain, the Entrade Energy Platform is able to create utility tokens that represent energy as a commodity and can be used by energy consumers, eliminating most of the current issues in the energy industry.

Who Are We?

03 Our Mission



Entrade IO is a blockchain based renewable energy marketplace helping develop local green energy project. With the use of our Entrade token (ENTR), we aim to develop and sponsor projects that have no other way to get funded due to the location in the remote, rural areas, or limited scalability.

Our team is passionate about making a difference in the world and bringing amenities to remote places to stimulate local economies. We choose renewable energy projects that may have a significant social impact and truly transformative domino effects.

Entrade IO has been created as an initiative of Entrade EnergieSysteme AG., Arensis Inc. and its international partner, Schneider Electric. Entrade AG is an innovative energy company with over ten years' experience and multiple patents and innovations in the renewable energy sector. Entrade IO operates as a separate legal entity but cooperates with its partners to initiate, promote, and sponsor promising renewables projects around the world.

Why Entrade?

03 Our Mission



Entrade IO has been founded out of Arensis and Entrade AG, as a way to breathe life into the worthiest, most socially impactful projects that can provide clean, sustainable, zero waste energy to the most impoverished, remote or rural locations.

Even though Arensis and Entrade AG gathered over \$100million in funding and develops ground-breaking, award-winning technologies including container micro-grids and waste2energy solutions, it still lacked financial and legal tools to sponsor the neediest projects.

The world needs new and innovative financial and legal instruments to efficiently and successfully bring electricity, thermal energy, water filtering, and other amenities to the neediest regions.

Having developed and overcome the technical issues faced 10 years ago, Entrade IO has decided to create their own tools and blockchain based tokens and plans to develop an energy marketplace to provide that financial, legal, and managerial framework for the projects that could truly transform peoples' lives, stimulate the economy, and create industrial and educational hubs.

What makes Entrade IO different?

- An established multi-award-winning brand in the energy business
- Experienced team in the energy industry with an existing track record and the project pipeline
- Existing global IT infrastructure = 211 units in 11 countries
- Patented technology including proprietary decentralized hardware and software for renewable energy creation, transfer, and storage. €100 million fundraising track record

And most importantly, the urgent need to fund social impact projects and bring energy, electricity, heating, and cooling to developing countries and people in need.

Project Roadmap

03 Our Mission

Unlike other ICOs, Entrade IO is associated with actual, real-life projects in Africa, Asia, and Europe in addition to the development of our technology. That's why most of the proceeds will go into launching clean energy projects in Afrika, Asia, and Europe.

2009

Founding of Entrade AG

2010

Concept of the small power station container

2012

Acquisition of Agnion Energy Inc., a leader in biomass-to-SNG plants

2012

Installation of the first ENTRADE CHP-90 Units (in cooperation with Spanner Re2)

2015

Development of E3 energy generating unit, a small mobile biomass power plant (25kWeI, 60KWth)

2017

Development of E4 energy generating unit (50kWeI, 120kWth)

2017

Construction and implementation of 150 decentralized micro power plants worldwide

2018

Development of E5 energy generating unit

JUL
2018

Founding of ENTRADE IO

Project Roadmap

03 Our Mission



Energy Micro-Investing

Many projects related to micro-grids and rural areas are deemed too risky to be available on the stock markets. It's connected to the high cost of screening and researching such projects in remote areas and inability to control and monitor their development.

Many large projects are doomed to fail from the start as they attract corruption, regional resistance, and incredible costs of trying to assemble the already expensive infrastructures. Smaller projects, coming from within communities have better chances to be adopted, but they can't easily find funding or bank loans. They lack the expertise, finance, and scalability to be deemed profitable.

Yet, if successful, such projects would have the largest impacts allowing for exponential growth and development of the whole regions and a rapid increase in demand for more energy. The access to the untapped developing markets could provide investors with incredible opportunities and massive ROIs while helping local communities and the environment.

By applying blockchain technology and development of the Entrade Energy Platform we allow investors to aid in the development of small, remote projects. With our 10+years of expertise and micro-grid technologies and decentralized energy generators, we are able to kickstart renewable energy projects around the world and help them develop and efficiently manage their energy.

Pre-purchase model

04 Entrade IO Solution



Many developing countries suffer from high inflation and currency fluctuation in relation to USD. That's why many energy providers switch to pre-sale energy model, where customers pre-purchase units of energy on a daily basis, simply using their mobile phones, and the energy can be cut off instantly if they can't pay anymore.

This system, though imperfect, gave us an idea about how to develop and implement energy tokens into the communities and rural regions, already used to this model and purchasing energy through the mobile phone apps.

On the Entrade Energy Platform and with Crypto-Watt-Hours (**cWh**) what we look to develop would have similar dynamics to stabilize the energy prices and connect energy producers and consumers.

Crypto Watt Hours

To digitize energy assets Entrade IO along with our partner Schneider Electric plans to develop a utility token that can express renewable energy in a digital way and allow people to easily purchase and trade energy.

Crypto-Watt-Hours (**cWh**) will represent the units of energy consumers can purchase from producers or energy off-takers, through our developed platform or the mobile app.

ENTR are tokens offered in the Entrade ICO and only have the ability to be bought and sold on the to be affirmed exchanges confirmed by Entrade IO. Crypto-Watt-Hours (cWh) tokens with direct function the planned Entrade Energy Platform to purchase renewable energy generated locally. They do not fall under securities act or regulations which facilitates their further trading and usage in crowdfunding of energy projects.

Our Initial Coin Offering will be launched using the ERC-20-based tokens (ENTR), these will be entirely separate to the Crypto-Watt-Hours (cWh) represented in the Entrade Energy Platform platform and its energy marketplace.

The overall cost of crowdfunding is also reduced by about 20% when using the utility tokens rather than securities as it helps avoid the broker fees on security transactions, closing fees, and other legal and due diligence costs.

Using tokens also helps transfer units of energy globally even if only virtually. Normally, the energy is traded as a commodity and large units can be transferred, stored, or off-taken when there is an excess in one region vs. the other. But the real energy often cannot be easily transferred except between neighbouring countries or using grids, physical batteries, and other infrastructure. With energy expressed as digital tokens, it can be traded globally and exchanged between parties even though the electrons themselves are not transferred. The Entrade.io platform will create an ecosystem of collaborations and trade between parties all over the world, ensuring that the physical units of energy reach the final consumers reliably and more efficiently than ever.

Green Technologies

04 Entrade IO Solution

Entrade IO together with its partners Arensis, Entrade AG and Schneider Electric developed multiple patented and award-winning technologies for the production of zero waste renewables. Among the inventions are the container size waste to energy generations, E3, E4, and E5.



The container generators are small, portable units of hardware and smart software, that can quickly be transported and deployed to create a decentralized, self-sustainable micro-grid, even in the most remote locations.

The generators are based on using the biomass and waste to create thermal and electrical energy. The most recent unit, E5 system, can produce about twice as much heat as electricity, giving the units an efficiency of more than 85%. The heat is then transported and stored in the form of hot water at about 95 degrees Celsius. Every unit includes a total of three heat exchangers from Gas-Cooling, Engine Cooling as well as Exhaust cooling.

Blockchain Technology in the Energy Market

Our partner Schneider Electric is working on developing the private and proprietary blockchain and establishing the Entrade Energy platform with full energy exchange marketplace and ecosystem.

Blockchain technology can streamline transactions along the utility value chain and significantly reduce the cost of each transaction. It especially lends itself to the energy industry since generated and sold units of energy are already measured via smart meters and the exchange of goods is already live monitored and managed via the existing Arensis server infrastructure.

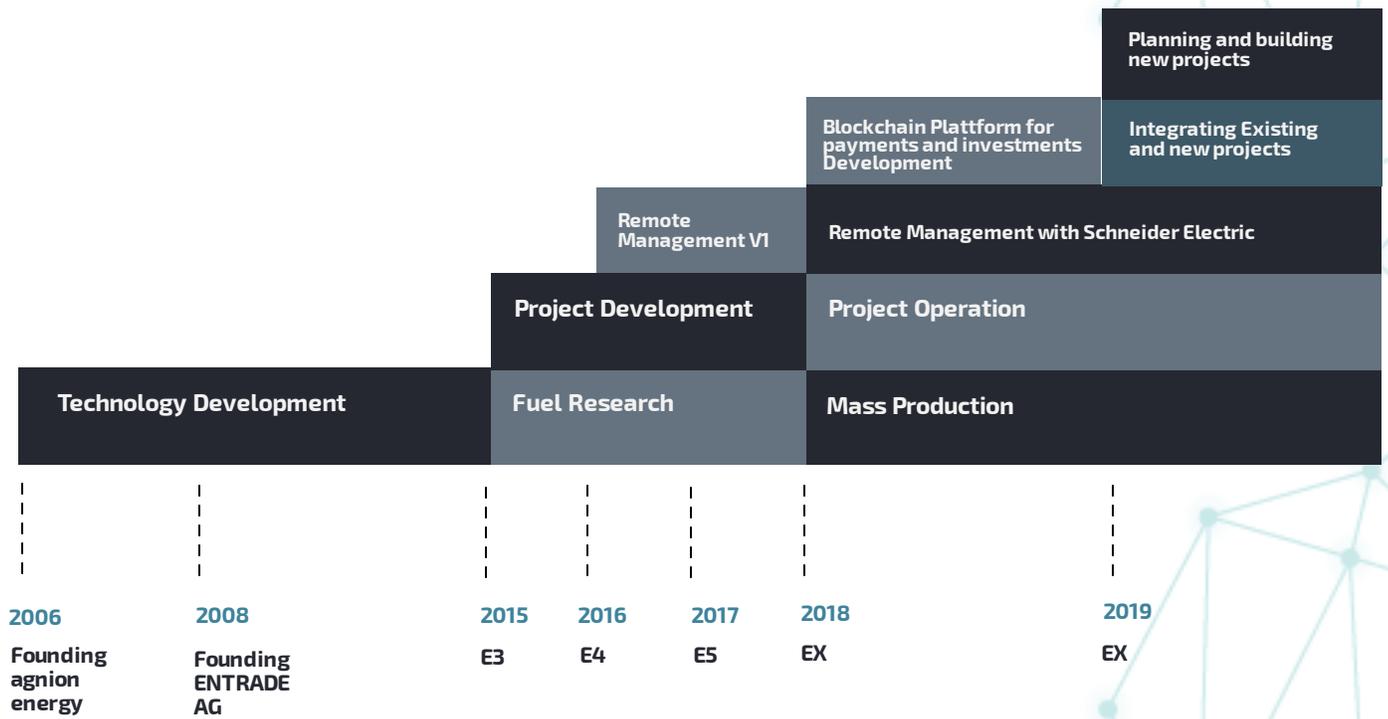
Blockchain offers the fourth layer of automation to the micro-grid management by using smart contracts in the process of invoicing the customers. Currently, the sale of power is executed either on a Power Purchase Agreement model at a fixed rate or in an auction model. The integration of smart contracts allows for automation of large numbers of transactions and solves issues stemming from lack of banking infrastructures and bank accounts in some developing countries and areas.

ENTRADE IO also plans to pioneer blockchain-enabled smart meters in underfunded South African schools so that donors can pay the school's electricity bills. Blockchain-based payments allow transparency and ensure that 100 percent of donation is used for its intended purpose.

The blockchain technology could also enable real-time transactions and balance the energy supply and demand. Some projects like TenneT in Germany and Netherlands and Electron in the UK apply blockchain to increase flexibility and either adjust power demand to better match supply or compensate with backup sources in times of shortage. Electron even goes a step further and aims to inform consumers of times when they best should utilize energy when the green energy supply is the highest, vs. when it's low, and their energy might come from less sustainable sources.

Finally, blockchain digital ledger could help manage power grid infrastructure in real time by adding a layer of data security, real-time data communication, as well as a means of payment so faster responses in emergency situations.

ENTRADE IO Development Plan



Case Study



04 Entrade IO Solution



Project Background

In December of 2015, a 20 ft shipping container with two pre-installed Entrade E3 micro-CHP generators arrived at the client Edward Baarda Ltd.'s site in Hull, UK. Edward Baarda Ltd., is a tomato and cucumber grower, and is the first grower in the UK to utilise a biomass CHP system such as this to supply the heat and electricity needed in their greenhouses. The E3 system was the perfect solution for Edward Baarda as it provides a reliable, renewable and affordable form of heat and power, as well as an additional 20-year income stream through the government's Renewable Heat Incentive and ROCs.

PROPERTY

COMMERCIAL SALAD GROWER

12 ACRES OF GREENHOUSES

PREVIOUS FUEL

BIOMASS (STRAW)

GAS

TECHNOLOGIES

BIOMASS CHP DUAL ENTRADE
E3 SYSTEM (50 KWEL & 120 KWTH)

BIOMASS (WOOD PELLETT)

GASIFICATION

HEAT RECOVERY

SMART REMOTE CONTROL

x2 SYNGAS SPARK IGNITION ENGINES

x2 32KVA GENERATORS

Case Study

04 Entrade IO Solution

SPECIFICATION

The Dual E3 system was quickly commissioned and up and running in just 72 hours. This biomass system has an electrical capacity of 50 kWel and a thermal output capacity of 120 kWth. The modularity of the system allowed the client to determine the appropriate size to fit their needs while allowing for more capacity to be installed to meet the future needs of their growing business. Since its installation, it has achieved more than 20,000 operational hours and has been in continuous operation for the last 2½ years with an overall uptime & efficiency of 80%. For more information on the Entrade E3 powering Edward Baarda Ltd see <https://youtu.be/jLp3CbTgxok>

Benefits

The realised benefits of this system have been numerous for Edward Baard Ltd. The E3 system has proven to be the most economic and reliable biomass CHP on the market. With 24/7 remote monitoring and assistance, the E3 experiences reduced downtimes and maintenance issues allowing the system to run with an uptime of up to 85%. The clean, carbon-neutral power supplied by the E3 helps companies to meet their sustainability goals, and because the system is fully accredited for the RHI, it offers a good ROI within 4-5 years (RHI is paid for 20 years).

"Our biomass straw boiler was unreliable and we were at electrical supply capacity. In addition, financial penalties would be imposed for exceeding this. We therefore wanted to produce our own heat and electricity. This led to the realisation that the E3 Biomass CHP unit was the best option. It reduces our electricity and heating bills, whilst at the same time, improves our green credentials. The unit gives us the option to expand our business without increasing energy costs, or incurring those supply penalties. A major benefit is that we can forecast utility costs in advance due to the nature of biomass costs being far more stable and predictable than volatile gas prices." Mr. Andrew Baarda of Edward Baarda Ltd"

Partners

05 Partners & Projects



THE FUTURE OF DECENTRALIZED ENERGY

Arensis/Entrade AG

Entrade Energiesysteme AG is a German company focused on using waste2energy solutions coupled with solar and battery storage technologies for sustainable and complete systems of renewables generations.

Arensis and Entrade hold patents for E3-E5 micro-grid containers and are actively involved in generating, managing, and optimizing energy production in over 200 locations and projects in the world.



Schneider Electric

Schneider Electric the largest automation company in the world with circa 140k employees over 100 countries and €25billion revenue.

Schneider specializes in Energy Management and Automation in Homes, Buildings, Data Centers, Infrastructure and Industries. With an international presence in over 100 countries, Schneider is the leader in Power management and provides integrated solutions that combine energy, automation, and software.

Schneider Electric is working tightly with Entrade Group to build blockchain based the Entrade.io platform and mobile phone app that would include power exchange marketplace and energy monitoring ecosystem.

Projects

Arensis and Entrade AG provide energy solutions and design more sustainable energy systems for various companies. The solutions are implemented on a case to case basis to optimize the way resources, and energies can be used in each company's industrial process.

1. Greenyard Foods Ltd.

Arensis/Entrade has been contracted by Pinguin Foods (Greenyard Foods Ltd) to provide power, heating, and cooling to two of their sites in Boston and Kings Lynn.

The 20-year contract entitles Arensis/Entrade to generate on-site and supply approximately 14,000 MWh of electric energy, 35,000 MWh of thermal energy, of which 9,000 MWh will be used for cooling. Once designed, the generation processes are remote and automated.

The implementation involves 16×10^4 generators that produce 1,8mW electricity and 3,8mW thermal energy. The deployment provides Pinguin/Greenyard a 40% savings, approximately 360,000 GBP per year on energy spending. The thermal energy is transformed into cooling by using adsorption technology and adsorption chillers from Sortech AG company. The cooling is supplied to the company in the form of cold fresh water for washing and blanching vegetables as part of the food processing on-site.

Phase 1 of the project is currently underway.

In phase 2 sensors and controllers will be integrated into the existing energy management platform of Entrade to manage on-site loads and generation in a virtual power plant arrangement.

Projects

05 Partners & Projects

2. Surface Transforms, UK

ST is a ceramic company deploying 8xE4 energy grid to produce 400kW electricity and 960kW thermal energy a year. The electricity used for building lighting and office space, while thermal energies used in ceramic production processes as well as for heating.

Phase 1 of the project: 12mW energy produced in 5 years.

3. Lufthansa, Puerto Rico

Pilot grid: 1xE4

Using Catering food waste to fuel light and electricity in the Lufthansa facilities, and the thermal water for building cooling using adsorption chillers.

4. Biodico, USA

Pilot grid: 1xE4

40 farm feedstock waste electricity used for wind and solar processes, and thermal water for heating.

5. EDWARD BAARDA LTD, UK

2xE3

Edward Baarda Ltd. is a tomato and cucumber grower and used for heat and electricity needed in their greenhouses.

Platform Features & Blockchain technology

06 The Platform



Entrade IO together with Schneider Electric is creating an Ethereum-based platform to allow trading and monitoring of the renewable energy units (cWh). The Entrade Energy Platform.

The platform links the management of the project to the monitoring of the energy units created, managed and sold in real-time. Investors, donors, and customers can see live how energy, as well as funds, are transferred via OPCUA Open Data protocols running on IPsec2 hardware encrypted data channels. This way, financial investment as well as social and climate impact can be monitored and monetized in real time.

The platform is meant to be a complete marketplace and enable various interested parties to:

- Scan new renewable energy projects for potential investment;
- Pre-purchase energy directly from small, green energy producers from all over the world;
- Monitor the green energy units production, management, and purchases.

ENTRADE's IO will benefit from fees for transactions processed on the platform, with platform tokens increasing in value with the rising number of projects financed, executed, and monitored through the ENTRADE IO platform.

Platform Audiences

Entrade IO is working to develop a platform that would accommodate many different audiences, from energy producers and off-takers to developers, traders, and finally the customers. As a complete marketplace and an ecosystem, Entrade IO could offer pre-purchasing of the power units, tracking and monitoring global energy supply trends, and investing in developing markets.

Projects Screening

Entrade IO is going to promote exciting and pre-screened projects for the potential financing and crowdfunding. With their global network of connection and presence on multiple continents, Entrade IO aims to perform a level of due diligence needed to endorse the projects they believe in.

Many projects are already in the making and initiated using the technology of Entrade AG and its partners Arensis and Schneider Electric. Thanks to this immediate access to the portable container energy generators, Entrade IO can immediately start crowdfunding projects that are less risky and costly, as they use proprietary hardware as well as teams 10-year industry expertise.

In the meantime, Entrade IO is also seeking out and observing external projects seeking financing and development advice via the Entrade.IO platform.

Energy Monitoring

06 The Platform

The newly created platform will use cWh to express and track the flow of units of energy, globally. It could give companies and possibly investors invaluable insights into how the energy demand and supply looks like globally, spot inefficiencies and bottlenecks, and identify potential business and growth opportunities.

Such insights could help energy producers quickly adapt to changing energy demands or better understand the fluctuating market prices.

To investors, the global asset that expresses renewable energy could be an informative metric and an insight into developing markets as a whole.

To customers, a user-friendly application that allows them to pre-purchase green energy for the lowest prices empowered people to make more sustainable choices and gain awareness.

Team Structure

07
Our Team



Julien Uhlig
Founder & CEO

Entrade. 11+ years running Bioenergy companies. With Arensis / Entrade for 8+ years. Director for Energy Research for the Ministry of Economics and Technology (AGIT) New School University.



Michael Hofmeister
Arensis Group CTO

Serves as CTO to the arensis group. With more than 20 patent applications, he drives the limits of what is technically possible in small-scale power



Laurie Peters
VP Strategic Communications

5+ years Real estate broker for retail. Experience in marketing management



Dr. Moritz Husman
Asia Head of Engineering
Asia Head of Engineering for
ENTRADE Group



Peixian Liu
Arensis Group Impact &
Investment Associate
Impact & Investment Associate at
arensis group



Felix Schmidt
Financial Operations Manager
With Arensis / Entrade for 4+ years
in the fields of Project- and
Operations Development and
Management. Industrial
Engineering with business studies
at RWTH Aachen University.

Team Structure

07
Our Team



Oliver Barker
Arensis Group Financial Analyst
ENTRADE IO Investment Manager,
joined ENTRADE in 2018 with a
Master of Finance from the
University in Surrey



Peter Werner
CMO
With Arensis/Entrade for 5+ years.
Focus on marketing/communications
and retail design. Experience in
advertising agencies and trade
corporations.



Marco Segner
IT Director
Research Development



Christoph Wagner
IT Manager
Head of Sales International



Uwe Kloos
Investor Relations

Corporate Structure

07 Our Team

ENTRADE.io PTE LTD. has been founded by Julien Uhlig, the CEO of Arensis and the Entrade Energiesysteme AG, German companies building innovative, high social impact hardware and software for renewable energies, especially waste to energy innovations.

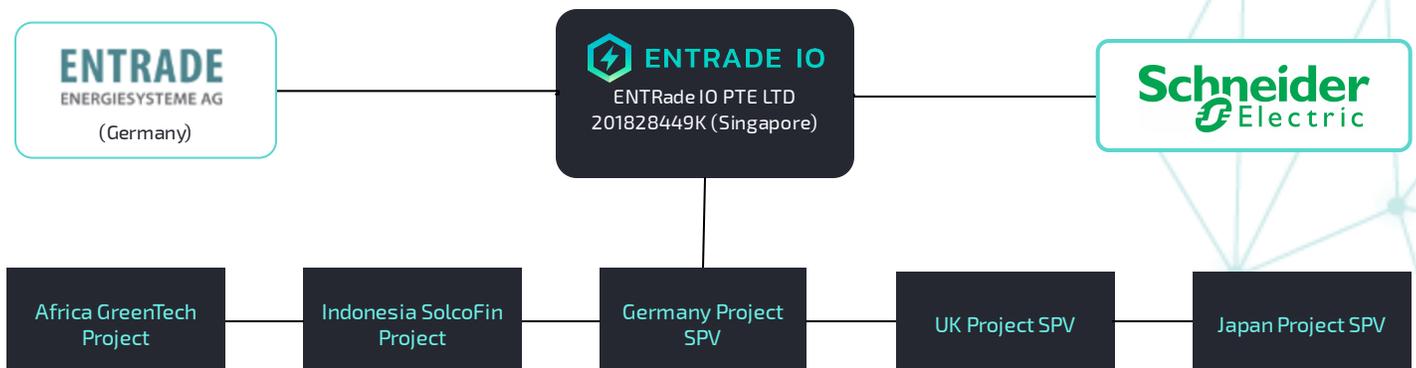
Entrade.io has been registered in Singapore, August 2018, as a separate legal entity to facilitate:

- purchasing energy units between consumers, energy producers, and off-setters;
- creation blockchain energy platform for various projects on the platform;
- investors and donors investments into the green energy projects around the world;
- the Entrade's own ICO token sale.

Together with its partners, Arensis, Entrade Energiesysteme AG, and Schneider Electric, Entrade.io is offering ready micro-grid units for green energy and zero waste projects in Africa, Asia, but also small community project in the EU and all around the globe.

Distribution Agreement for ENTRADE technology E3, E4 & E5 models.
Development & Manufacturing rights for ENTRADE EX unit

Join agreement in development of current Decentralised platform integrating Blockchain technology



Risk Factors

Finally making the impact that the founder and team set out to achieve is the driving factor. The current energy funding structure is not working for social impact driven energy investments-ENTRADE IO sets out to change that.

1. The ICO investment volume may be too low for ENTRADE IO to finish the blockchain platform needed to administer the energy projects.
2. The ENTRADE IO trading may be limited by supply and demand. As brokers cannot provide liquidity, there is no guarantee that tokens can be traded at all times.
3. The business model is strongly based on the definition of the ENTRADE IO Token (ENTR) and Crypto-Watt-Hours (cWh). In many global jurisdictions, there is an ongoing unresolved debate on how to handle utility tokens and whether to deem them as securities which would change the legal landscape of the offering and may cause pressure to reimburse investors from different jurisdictions based on future rulings. If these rulings exceed the cash reserves, future operations may be deemed impossible.
4. Risk of staff changes or retention of staff. There is a need for highly qualified and specialized staff within the organizations or through partners. While ENTRADE IO strives to secure talent on a long-term basis, it is possible that resources cannot be utilized and that replacement is difficult and slow to be recruited and/or trained in the vital sectors of company functioning.
5. Limited access to token marketplaces. The market for tokens is still in the development phase with new offerings coming in and more consolidated offerings in the future. There is no guarantee that after a successful ICO the ENTRADE IO ENTR token can be converted into other tokens or reserve-backed currencies such as the U.S. Dollar or Euro.

Risk Factors

6. There are numerous risks to energy investment projects. Political decisions to provide subsidies and or any other price stabilization mechanisms can be revoked at any time potentially making a project no longer viable.
 7. The landscape of energy subsidies is continually changing and previously solid investment propositions that have taken time and money to develop may not be economically viable after changes in the funding structures.
 8. There are risks from planning and development mistakes that can cause delays and add unforeseen costs.
 9. Risks of manufacturing and technical deployment can make previously promising projects unviable. Technical mistakes on-site could be harmful and potentially result in lawsuits.
 10. Environmental regulation can change, making previously viable projects impossible to operate in a changing legal environment.
 11. Hardware and software providers and suppliers may stop trading thus harming the maintenance, service, and warranty agreements as well as potentially reducing operations because of missing spare parts.
 12. Projects partners or staff members can generate projects through bribery and or other unlawful business practices making the company liable for legal payments of any kind.
 13. Transportation of power projects can be hindered or delayed for multiple reasons adding to the cost and transport and loss of revenues.
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Risk Factors

14. Laws in regard to taxation of projects as well as the international sale of power might be implemented in one or more markets where the company is active. There are numerous unclear regulations in the regards to the taxation of crypto tokens.
 15. Entrade IO might not get all the permits in order to generate and sell electricity to end customers in every market. Permits to sell energy might be revoked for political and or business reasons.
 16. Energy projects might be harmed or destroyed by natural disasters, vandalism or conflicts, making it impossible to recover assets and generate revenue.
 17. Patent and other right issues with hard- and software might arise in the future making it difficult or impossible to use purchased and planed equipment.
 18. The operations of Entrade Energiesysteme AG power equipment can cause major injuries if not operated correctly leaving the company open to lawsuits, settlement and or payments.
 19. The trade of cryptocurrencies can be banned in the future for a multitude of reasons harming the ability for token-holders to convert ENTRADE IO tokens into any other currency and/or token.
 20. The ENTRADE IO Token platform and future token offerings can be hacked with risks of the token being stolen or manipulated making it impossible to continue the business.
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Comparable Analysis

There are a few projects in the renewables sector that would also like to use innovative solutions, blockchain technologies, and financial instruments to promote green energy. We applaud anyone who would like to make an impact in the world and provide green and sustainable energy. Here are some of our main competitors and how we differ from them in our product offering.

Competitor's Name and Token	What is their project about?	How is Entrade IO different?
Energy(GGG COIN) 	Providing an easy switch to low tariff energy within the UK. Transparent and flexible tariff energy providers.	Entrade focuses on green and renewable energy and promoting local projects that are impactful.
WPP Energy(WPPCOIN) 	Provides mobile power plants and sells the surplus of renewable energy on their platform.	Entrade will also provide an excess of green energy for sale on the Entrade.io platform, but on top of that, it will allow investors to join pre-sale and crowdfund the promising local project.
Renucoin(RENU COIN) 	Plans to pay people for their waste in the Renu Coin and use the waste to create renewable energy. Renu coin could then be used to purchase energy from various providers.	Entrade IO already has an infrastructure: hardware, software, experienced team, project pipeline, and the blockchain platform in development by Schneider Electric. Renucoin has great ideas but no products or pipeline or proprietary technology to turn the waste into energy.

Comparable Analysis

Competitor's Name and Token	What is their project about?	How is Entrade IO different?
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Green Energy Company (GEC COIN)



A company aiming at processing waste and turning it into energy then used for cryptocurrency mining and to sell to customers.

Entrade IO partners already have patents and units able to efficiently convert biomass and waste into energy but is not limited to only this kind of production. Entrade IO is open to collaborations and development of new solutions for water processing, solar grids, and other renewables. Entrade IO also hopes to support and crowdfund local initiatives and green energy projects around the world.

Earth Token (EARTH TOKEN)



Is a Natural Asset Exchange platform that attempts to turn natural assets like energy from various sources including waste, solar, and wind energy into tradable assets.

Entrade IO also plans to digitizes green energy and creates an asset (a utility token) that investors and traders could trade or include in their portfolios. Unlike Earth Token, Entrade focuses on creating real green infrastructures, empowering communities to produce clean energy, and sponsoring exciting small-scale projects that could not be funded otherwise.

Comparable Analysis

To summarize, in comparison with most of our esteemed competitors, Entrade IO has a few competitive advantages like the strong company infrastructure with experienced employees, connections, project pipelines and the 'know how' required to launch difficult renewables projects globally.

We also have the working and patented technologies to instantly implement micro-grid energy generators rather than look for external ways to process waste or biomass, and we are developing other projects and solutions for water processing and solar energies, together with our partners.

Similarly to our competitors, we plan to leverage the blockchain technology in order to fuel development of projects that need it the most and the Entrade Energy Platform plus helping with the efficient management and transfer of information and energy units (in the form of Crypto-Watt-Hours). But our tokens will not only serve for purchasing and trading, but they will also be used to crowdfunding worthy and high impact projects.

Finally, Entrade IO wouldn't exist if not for our need to make a difference, especially in the impoverished, rural regions and economies where reliable access to energy could transform and kickstart whole industries and the job market.

ICO Timeline

09
Initial Coin Offering

Token Sale Information

Main Token Sale Date		28/02/2019
Pre-Sale (Reserved)		16/09/2018
Bonus 1 Duration (Days)	45	31/10/2018
Bonus 2 Duration (Days)	61	31/12/2018
Bonus 3 Duration (Days)	59	28/02/2019

Tokenomics

09 Initial Coin Offering

The ENTR tokens will be created on Ethereum platform compatible with ERC-20 wallets. The token generation event will see 250 million tokens produced, 170 million for the sole purpose of the sale.

The ENTR token will only have availability to be traded on the exchanges set out by Entrade IO.

Entrade IO plans to either invest the revenue from the planned energy projects into new and developing energy projects, causing further revenue, or to buy back ENTR tokens on the confirmed exchanges, thus causing a buy-side pressure and increase in ENTR value.

CWH is a utility tokens that will be used for trading and purchasing renewable energy units on the Entrade Energy Platform, this is to be developed.

The tokens will be pre-sold at 1 ENTR = 1USD

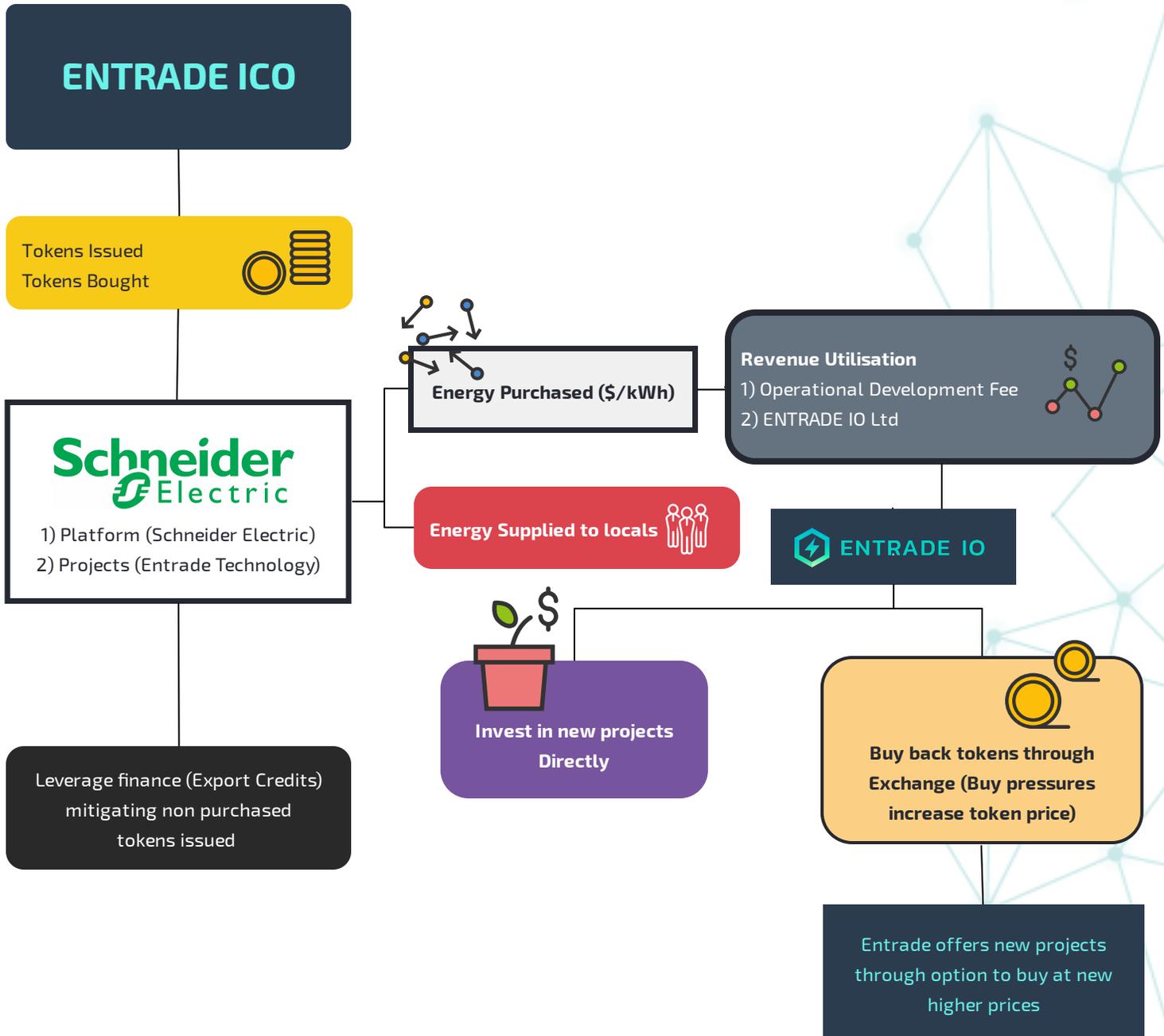
All unsold tokens would be burned.

The tokens will be available for purchase using BTC, ETH, Wire Transfer and FIAT currencies upon completing registration and the whitelisting procedures.

After the successful launch of the Entrade IO platform, the ENTR tokens will be fully released and exchangeable on the affirmed exchanges.

Tokenomics

09 Initial Coin Offering

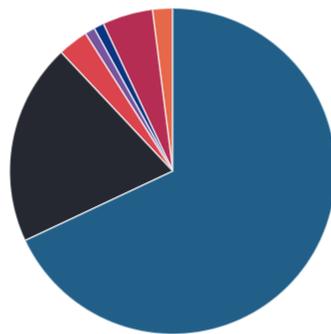


Token Distribution

09 Initial Coin Offering

Summary		
Total ENTR Token Supply	100%	\$250,000,000
Total ENTR Token Supply for Sale	68%	\$ 170,000,000
Unsold Tokens		Burned
Soft Cap		\$ 5,000,000
Exchange Rate for Token Sale		\$1.00
Minimum Investment		\$100.00

Token Structure



● Token Buyers	68.0%
● Founders & Team	20.0%
● Reserved Funding (Friends & Family)	3.0%
● Advisors	1.0%
● Future Hires	1.0%
● "Bounty/Referral" Campaign	5.0%
● Bonus	2.0%

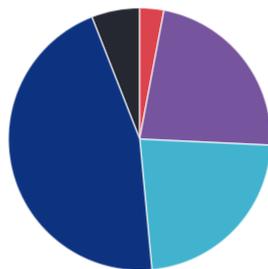
Funds Allocation

Unlike the standard ICO projects, Entrade together with its partners Arensis and Schneider Electric already have the technology necessary to implement the decentralized renewable energies anywhere in the world. The Entrade blockchain platform is also being developed by the international company and our partner, Schneider Electric Partners.

That's why the majority of proceeds from the ICO will go into new and already developed projects in Asia, Africa, and Europe, permitting investors to find, scan, and participate in worthy, high social impact investment opportunities in the developing countries and local renewables initiatives.

46% of proceeds will go into the higher risk projects in Africa and Asia that were pre-screened and approved by Arensis and Entrade. Another 46% will go into small European projects in UK and Germany, for the more rural communities. Only 5% will go into finishing the Entrade IO blockchain platform.

Fund Allocation



Platform (Schneider Electric Partner)	3%
Africa Projects (Africa GreenTech)	23%
Indonesia Project Pipeline (PNL Partner)	23%
Developed Projects	46%
EX Development	6%

Media Coverage

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Appendix

Bloomberg

Radioactive Fukushima
Wood Becomes Power
in German Machine

FAST COMPANY

Most Innovative
Companies - Entrade

Mashable

Mashable Report
Entrade



E&Y Entrepreneur of
The Year



Internet of Things (IoT)
& EcoStruxure: Clean
Energy with Entrade
Worldwide



CNN - Entrade Special



Nasdaq CEO
Signature Series



Arensis Closes £13,500,000
Capital Raise from London
Stock Exchange Listed
Hadrian's Wall to Fund UK
Renewable Energy Projects



Arensis signs 2 MW
biomass to energy
project agreement