



## Northern Lights Token (NLT)

Our environment is changing. CO<sub>2</sub> levels are skyrocketing.  
We will all be affected soon enough.

Northern Lights ("NLT") wants to change that.





## DISCLAIMER

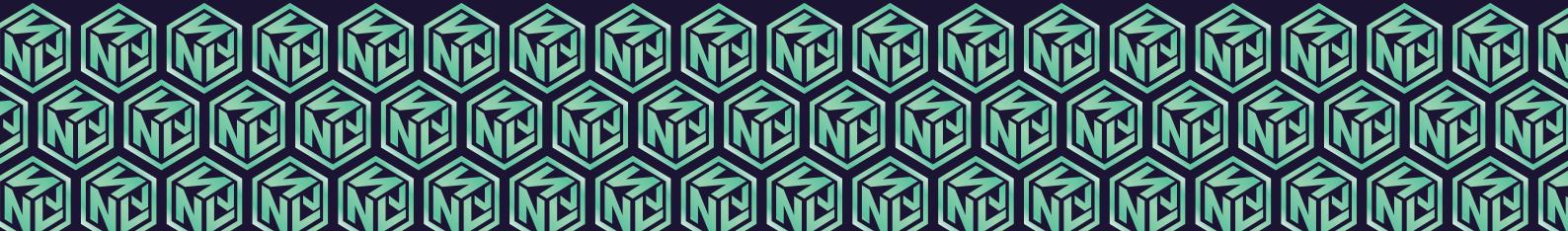
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You should consult a lawyer, accountant, tax professional and/or any other professional advisors as necessary prior to determining whether to purchase Northern Lights Tokens.





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# Introduction

Decentralised energy markets require a decentralised Token. The Northern Light Token (“NLT”) team has recognised the power of decentralisation within the financial markets and seeks to leverage this revolutionary technology within another decentralised market, the Northern European energy markets.

Northern Light Token (“NLT”) is an ERC20 governance token, issued on the Ethereum (ETH) blockchain. The token will be initially traded on the following DEX:

- **Uniswap**

Northern Lights is a permission-less token which brings together governance, utility and a stabilising factor in the rapidly evolving European energy crisis.

In 2021, we believe many of the available tokens are relying on nothing more than hype in order to sustain their market cap and overall position in the market. Northern Lights is a token that will deploy the available capital wisely in order to bring about tangible real-world change where it is most needed, namely in sustainable energy.

## Background to the Northern Lights

Northern Lights is a strong driving force within the current global drive to deliver green, sustainable, innovative and efficient power solutions with the sun as a natural provider of energy. We are planning to design software and hardware solutions that utilises the energy potential of the sun, creating energy-smart optimisation systems and storage capabilities that combine to make a big difference in securing our renewable energy needs for our future.

The Northern Lights, also sometimes referred to as “the polar lights” is the colloquial term for an Aurora Polaris which is a natural display of light predominantly seen in high-latitude regions around the Arctic and Antarctic. The Northern Lights is a display of dynamic patterns and brilliant lights that appear as curtains, rays, spirals or dynamic flickers covering the entire sky. The Northern Lights are the result of disturbances in the magnetosphere caused by solar wind which alter the trajectories of charged particles in the magnetospheric plasma. These particles, comprised mainly of protons and electrons, precipitate into the upper atmosphere (thermosphere/exosphere). The resulting ionisation and excitation of atmospheric constituents emit light of varying colour and complexity.

Even though we know why the Northern Lights appear, they are no less magical or mystical and it is what inspired us to create this token because it demonstrates the awesome power of nature, a power we can harness to power our beautiful planet without the need to burn fossil fuels.

The Latin name translates to ‘dawn of the north’, Aurora being the Roman goddess of the dawn. Steeped in myth and viewed in awe, these lights have captivated mankind for millennia.

As each country transitions towards carbon neutral electricity, heating and transport, their combined lead in renewables stands to grow. The importance of all renewable energy sources in the region, including biomass, wind, solar, hydropower and geothermal, is set to increase in the coming years. A fully carbon neutral energy system is on the horizon, as the region’s ambitions ramp up towards 2030.

The already decentralised energy market needs a decentralised energy production option so as to keep the option of renewable energy with the people, whereby the public are no longer forced into buying that source of energy. Today the option is not up to the people, instead it is made by the state based on which type of energy source is available at the time. We want to change that. By creating a decentralised token for the energy market we can, as a community, leverage what type of energy source we use, what it should cost, and force action on the decision makers to become more renewable and move away from the use of fossil fuels for energy.



## Background

It is no secret that Energy prices around Europe have risen exponentially to the point where it now has a meaningful daily impact on everyday people. The team behind Northern Lights recognise and acknowledge that struggle which is what brought the idea of this game changing community we wish to develop. The Northern Lights represents the pure energy of the Northern Lights which is the cornerstone of the community we wish to build.

European benchmark prices have more than tripled this year. While the fuel isn't a widely used commodity in the biggest Nordic country, it has sent other energy prices from electricity to carbon emission permits soaring, raising costs for everything from chemicals to auto parts. This is affecting all the different parts of society. Addressing these problems is necessary as well as aiming to achieve the economic development goal of the World Bank: to guarantee access to sustainable, reliable and modern energy for all.

The team behind NLT possess deep expertise in the energy sector having supplied electricity to over 500,000 consumers in the Nordic region as well as purchasing billions of Megawatt Hours MWh of electricity from the main European wholesale power market; Nordpool AS. Furthermore, we can demonstrate that all of the power we generate, purchase and supply comes entirely from renewable sources; Wind, Solar and Hydro Power.

**"In the long run, will be free, completely clean and will be in abundance when enough people produce, store and share their own energy."**

NLT is the first major step towards the energy of the future and the way of life of the future. Electricity is a product that, in the long run, will be free, completely clean and will be in abundance when enough people produce, store and share their own energy. Then the socio-economic conditions of our society will be very different from today.

That's what NLT is all about.

**500K**

**The number of consumers,  
the NLT team have  
supplied electricity to  
in the Nordic region**

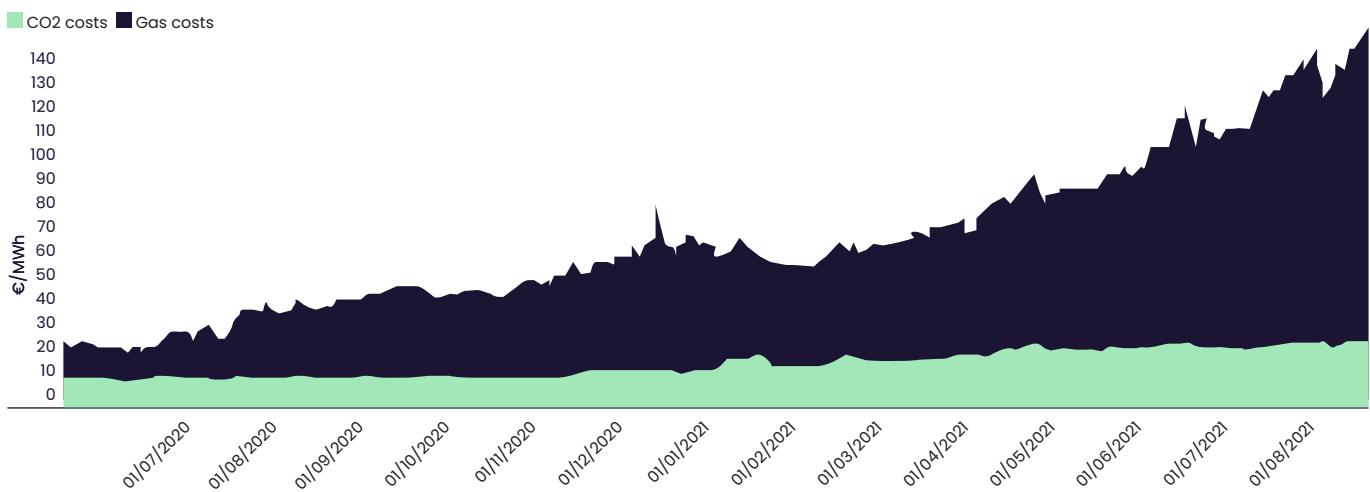


# Recognising the power supply issue in Europe

At a time when central banks are printing money and devaluing their currencies to the point of potential eventual obsolescence, we are now seeing the results of the inflationary policies they have implemented. Energy, fuel and food prices have, amongst many other commodities, all risen noticeably to the point where “fuel poverty” is now a real issue that needs to be addressed (See graph below). We believe these issues can be addressed by both democratising and decentralising the supply of energy, starting in Europe and eventually becoming available worldwide. Large energy providers have dominated the market for too long; hiking prices recklessly and writing unhedged call options to their customers in order to generate profits. When they are right, they make huge amounts of money. When they are wrong, they ask the government for bailouts. Our aim is to generate and supply power in a fair, democratic manner from sources that we know are not damaging the planet.

## Skyrocketing fossil gas prices push up cost of EU electricity

Fossil gas costs VS carbon costs for EU electricity generation from combined cycle gas turbines

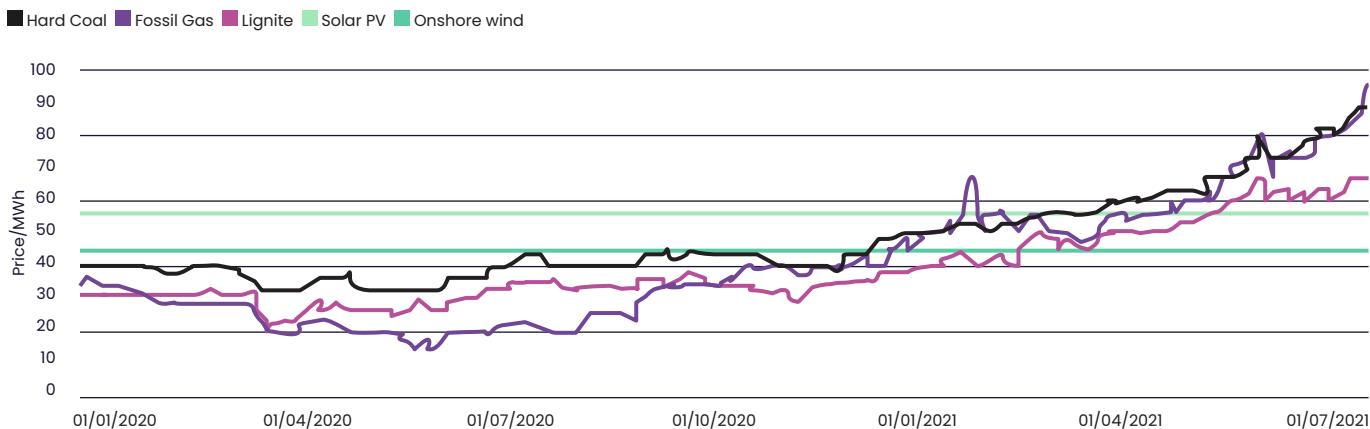


Source: Powernext for TTF fossil gas prices (day ahead), EEX for EU-ETS carbon prices (December contract). Costs calculated using emissions intensity of 0.37 tCO<sub>2</sub>eq / MWh and plant efficiency rate of 55%.

The good news is that we are now past the tipping point where energy generated from renewable sources can be supplied locally, cheaply and through the NLT solution, even stored at a fair cost, as opposed to being held ransom to the wealthier, developed nations only. (See graph below). This is where Northern Lights aims to focus for the foreseeable future.

## Power from new wind & solar cheaper than existing fossil electricity in Germany

Fossil gas costs v's carbon costs for EU electricity generation from combined cycle gas turbines



Source: LCOE data from IRENA 'Renewable power costs 2020' SRMC calculated using Dutch TTF day ahead gas prices; EU ETS front December contract prices; API2 Rotterdam front month prices; lignite fuel costs €1.5/MWh. Variable operating & maintenance costs €2/MWh. Plant efficiency factors: Hard coal = 38%; Lignite = 37%; Gas = 55%.



The Nordic Energy Market alone has a huge amount of demand that needs to be met, with a total consumption fast approaching 400 TWh annually.

## The Nordic Energy Market

More than 14 million electricity delivery sites

	Electricity consumption <sup>(1)</sup>	Consumption split <sup>(2)</sup>	Delivery sites <sup>(3)</sup>	Number of households <sup>(4)</sup>	Avg. household consumption <sup>(3)</sup>	Co2 total Mt <sup>(3)</sup>	Co2 Tons per capita <sup>(3)</sup>
<b>Norway</b>	122.2 TWh	 51% Industry & other 31% Households 18% Service Industries	2,800,000	2,512,317	22,715.97 kWh/y	37.35	7.03
<b>Sweden</b>	133.5 TWh	 48% Industry & other 23% Households 29% Service Industries	5,200,000	4,776,239	12,894.26 kWh/y	36	3.54
<b>Finland</b>	82.79 TWh	 52% Industry & other 26% Households 21% Service & public consumption	3,200,000	2,766,679	14,969.12 kWh/y	44.36	8.04
<b>Denmark</b>	33.02 TWh	 61% Industry & other 32% Households 8% Public services	3,200,000	2,788,291	5,662.44 kWh/y	33.38	5.76
<b>Nordic</b>	371.51 TWh	 73% All industries & other 27% Households	c. 14,400,000	c. 12,843,526	c. 14,060 kWh/y	151	23,64

References: 1. [www.worlddata.info](http://www.worlddata.info) 2. [www.irena.org](http://www.irena.org) 3. [www.worlddata.info](http://www.worlddata.info) 4. Norway: [www.ssb.no](http://www.ssb.no), Sweden: [www.scb.se](http://www.scb.se), Finland: [www.stat.fi](http://www.stat.fi), Denmark: [www.dst.dk](http://www.dst.dk)



## Mission of the Northern Lights team

NLT's mission is to erase Co2 from energy production by offering a market leading solution for the production of renewable energy. NLT mission is to decentralise the production and storage of energy and give the consumer unprecedented power. In getting the NLT community to a position of energy production and influence, NLT can contribute to lowering, and finally removing the carbon footprint of energy production.

The energy industry is at present undergoing the largest fundamental shift in history, equivalent to those of the telecom industry, personal computing and the internet two decades ago. It is technology driven and the fossil fuel value chain is breaking apart. That the blockchain revolution is in a similar state is not lost on us.

The ethical aspect in doing this is that the “green” energy market that is marketed to the public isn’t green at all, but is actually a diluted product with no transparency. Customers are told they are buying renewable energy but the grid cannot tell one electron from another, so what comes out of your wall outlet is the traditional energy mix (nuclear, hydro, coal, wind). Instead, energy companies are buying CO2 emission reduction certificates and marketing their product as “green”. We feel strongly about saving the earth and are driven towards the NLT vision to erase CO2 emissions.

**“The possibilities of energy storage is a potential game changer on both a micro and a macro level.”**

There are still many variables to the equation. The rapid technology development of solar and wind aggregation drives hardware costs down. Uncertainty in battery longevity and service costs are also a factor. In spite of all this the possibilities of energy storage is a potential game changer on both a micro and a macro level.

Northen lights is lean, clean and offers a gateway into the future of clean renewable energy. Trends in the energy market are clean energy sources, technological advances in duplex grids (smart grids), lifestyle products such as electric cars and bikes, portable energy sources, wearables and, the game changer, household battery storage.

The only way to guarantee a renewable source (solar or wind) is if the source is directly connected to a home or a smart grid. The solution to this is in supplying the market with NLT produced energy and being able to store it in-house. We define this as moving away from a confusing “green label” to an NLT concept: Clean, Stored and Free.



# Technology platform

In order to ensure the efficient, high-quality provision of power at relatively low costs, NLT has given careful consideration in formulating the optimal information technology infrastructure.

**Energy Trading:** A state of the art AI and Big Data system called: **EXPEKTRA** ([www.expektra.se](http://www.expektra.se))

- EXPEKTRA enables efficient short-term power trading and improved balance management (*defined below*)
- EXPEKTRA allows precise energy use predictions and therefore reduces the margin errors in purchasing electricity.

## Physical and financial power trading

Expektra has an extended skill within the power trading, which covers the whole value-chain, from production and distribution to the final customer.

## Artificial intelligence and machine learning

Data driven management information is here to stay. Expektra has an unique experience of implementation of the latest science within the power trading.

## The energy industry's data exchange

Skills concerning the power industry's interface and following praxis for an effective implementation. Support for Ediel, Nord Pool, eSett etc.

## Demand flexibility

The Demand Flexibility is a rarely used resource in today's on-line power market. Expektra has a wide experience in the subject based on everything from pilot projects, on-site measurements and tests, to simulations and analysis.

We help you with the questions. What? When? and how much?

## Expertise within power trading

Long experience and knowledge about the energy system and the power trading. The enterprise has foremost been active within power trading and electricity production, but has during the past years also been including power networking.

## Software development and data base architecture

Long experience of full-stack development, operation and maintenance of redundant system with high availability.

## Pre-study and specification of requirements

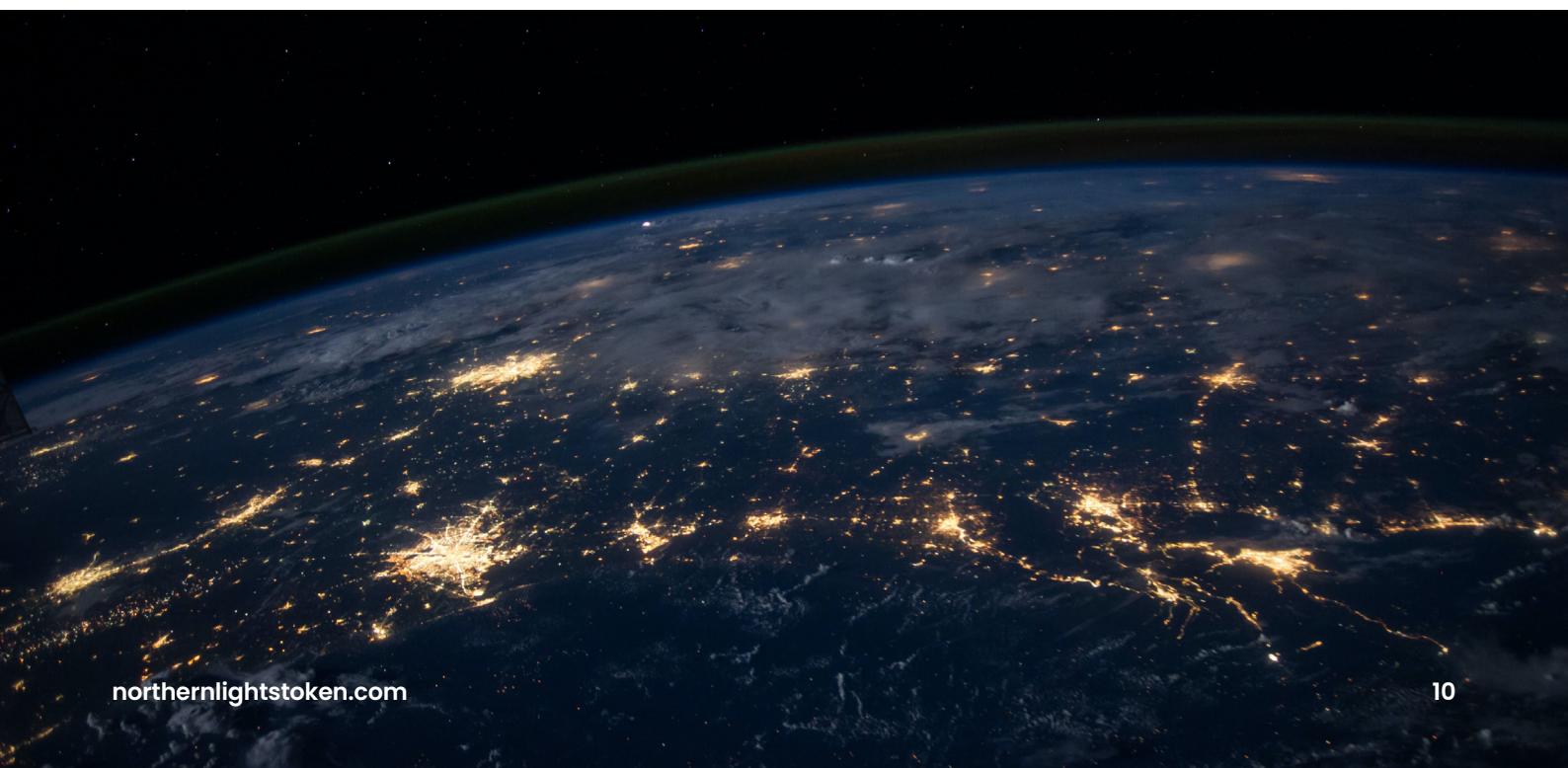
Analysis of problems, specification of requirements and proposals for IT-solutions.

## Modelling and prediction

Expektra has a proven experience of highly-functioning prediction models, based on AI and machine learning, with built-in redundancy for optimization against the real conditions.



The data that each smart meter will transmit will be validated and certified by the blockchain system, so as to be able to unequivocally guarantee the production or consumption at each point in time and, therefore, the quantity of KWh will be loaded on the user profile. NLT will develop a solution that shows in real time how much NLT's ecosystem consumes, produces, and stores. In stage 2 a system that shares the energy with in the NLTs ecosystem will be built using the smart grids that more and more countries install. All transactions will be made with the NLT.





## Providing power ethically

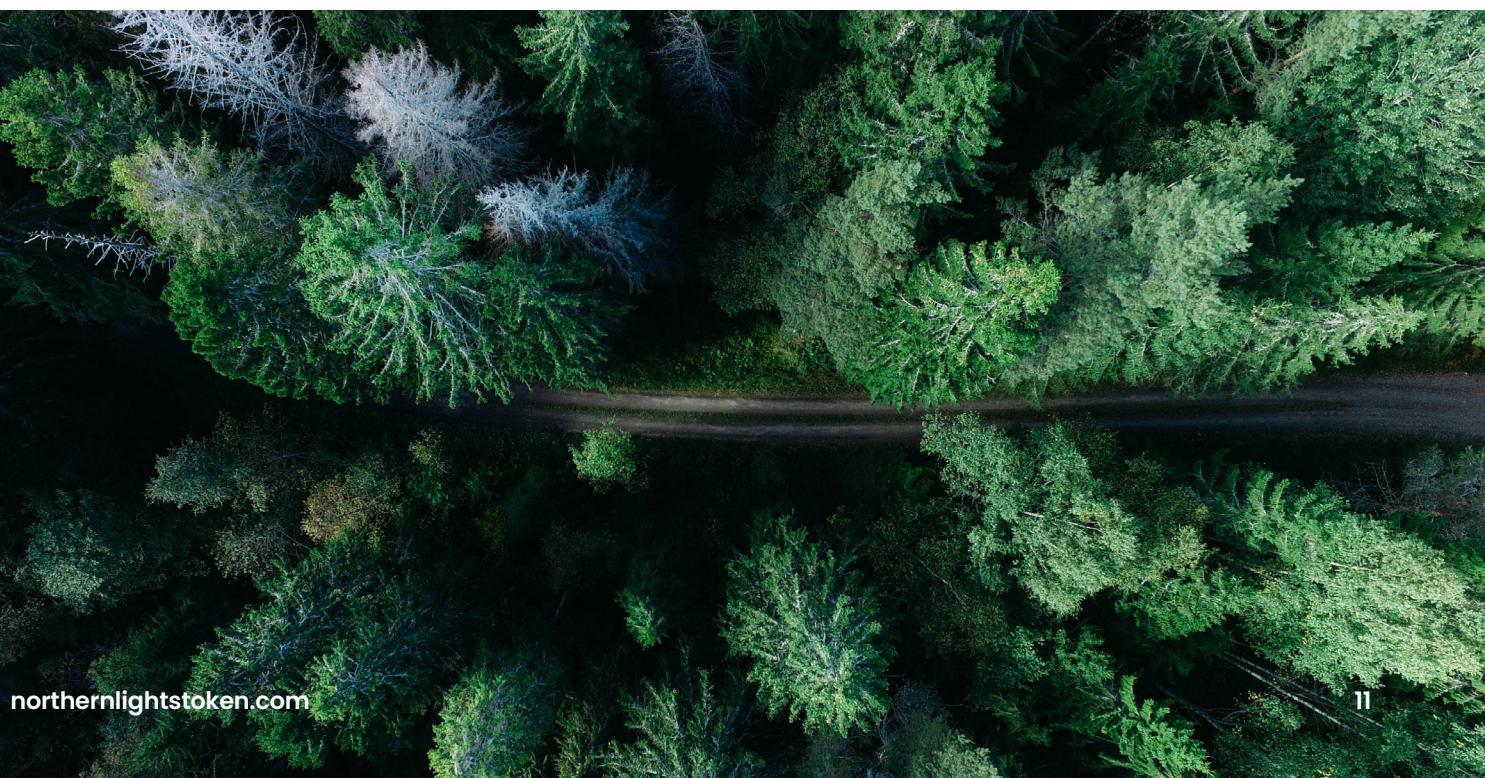
Electricity bills are a large budget item for both individuals and companies alike in Scandinavia. About 80% of the end users pay their electricity bill before or on the due date. For the remainder who may sometimes struggle to meet these costs, there is a constitutional right to electricity, which means that the government is likely to step in and pay. Because of this, Northern Lights can supply power to consumers, safe in the knowledge that we will not worsen consumers' financial situations.

### Scandinavian Electricity Market Analysis

Svenska Kraftnät is the authority responsible for ensuring that Sweden's transmission system for electricity is safe, environmentally sound and cost-effective. The Nordic countries deregulated their power markets in the early 1990s and brought their individual markets together as one common Nordic market. Estonia, Latvia and Lithuania have also since deregulated their power markets and joined the Nord Pool market in 2010–2013.

The term 'deregulation' means that the state is no longer running the power market. Consequently, free market competition was introduced as a way of essentially decentralizing the energy markets, something we fundamentally believe in. Deregulation was undertaken to create a more efficient market, with the exchange of power now taking place between countries, with increased security of supply. Available power capacity can therefore be used more efficiently in large regions compared to small ones and integrated markets enhance productivity and improve efficiency for customers.

Because of the fact that transferring power is now both possible and commonplace between the Nordic countries, the main European continent and the Baltics, this particular market now satisfies a significant percentage of Europe's growing demand for power. This means that power made available to the grid originates from many different sources, hydro, thermal, nuclear, wind and solar. This not only ensures a much more 'liquid' market where large volumes are traded daily, but a more secure power supply and often from renewable energy sources.





# Background about the Nordic energy market

## About NordPool (The energy market)

Nordpool is Europe's leading power market and offers trading, clearing, settlement and associated services in both day-ahead and intraday markets across 16 European countries.\*

## The daily process of NordPool

Capacities in the intraday system are provided by transmission system operators (TSOs) and are determined by the relevant TSOs after flow results of the day-ahead auction. Exact timing of capacity allocation varies and depends both on operational procedures and individual agreements between TSOs on the different borders. Intraday capacities are updated automatically, depending on the volume and direction of intraday trades.

NordPool's intraday markets are open 24/7, 365 days a year offering 15-minute, 30-minute, hourly and block products, thereby providing the flexibility to meet the needs of different market areas.

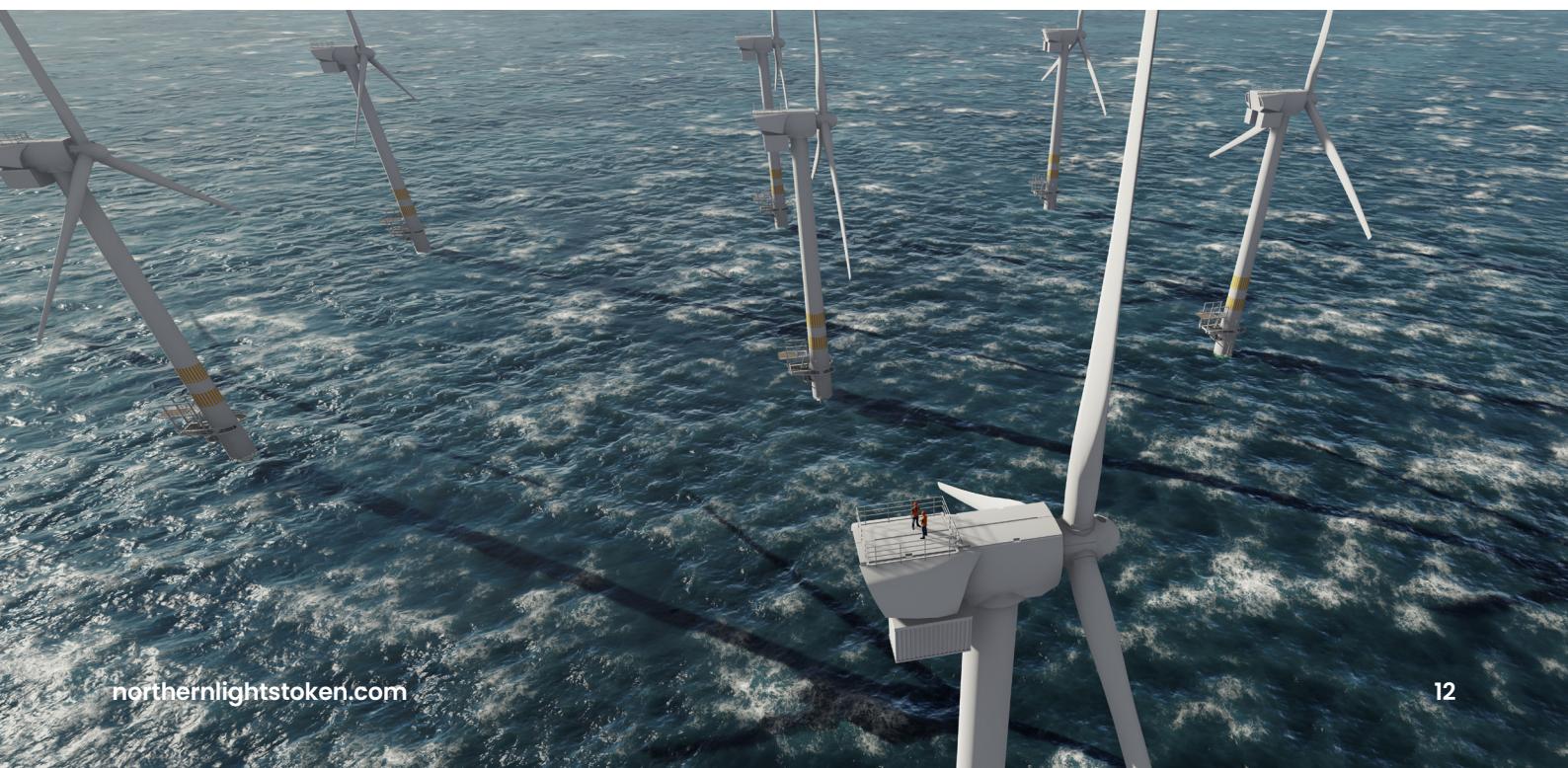
## Producers

There are more than 370 companies responsible for power production in the Nordic and Baltic countries. In a year with normal levels of rainfall and snow, hydro power satisfies approximately half of the Nordic countries' electricity demand.

In Norway almost all power is generated by hydro power whereas Sweden and Finland have a mixture of hydro, nuclear and thermal power (steam driven). Denmark, meanwhile, predominantly uses thermal power but wind power is becoming increasingly important. In Estonia and Lithuania there is mostly thermal driven power. In dry years, Nordic countries are more dependent on imported power from other countries: Russia, Estonia, Netherlands, Poland and Germany.

Production costs can vary. Hydro is the cheapest source of power however low hydro reservoir levels will often lead to producers using more expensive sources which will result in a higher overall production cost.

Reference: [www.nordpoolgroup.com/About-us/](http://www.nordpoolgroup.com/About-us/)





## The different types of production of energy



### Hydropower

Hydropower from dams and other setups power turbines via flowing water.



### Solar

Energy from the sun is captured in photovoltaic solar cells produce direct electricity, or heating fluids in thermal collectors to produce steam and drive turbines.



### Wind

Like giant pinwheels, turbines capture energy from the wind for conversion into electricity.



### Nuclear Power

With nuclear power, nuclear fission produces the energy-generating steam necessary to spin turbines and generate electricity.



### Natural Gas

Natural gas combustion alone, or as part of a furnace/boiler system, propels turbines to create energy.



### Petroleum

Petroleum can also be burned to produce combustion gases or steam to power turbines.



### Coal

Most power plants use coal-fired steam turbines to generate power, though a few converts coal to a gas before using it in turbines.



### Biomass

Derived from plant and animal waste, materials are burned directly and used as other fuels to power turbines or internal combustion generators.



### Geothermal

Heat from within the earth is harnessed to for heating water into steam to power turbines.



## Distributors

There are around 500 distribution companies in the Nordic and Baltic countries. A distributor ensures that power reaches the end-user. Power is transmitted from the power plant through the central grid and the transmission net to the end-user.

## Suppliers

There are around 380 companies supplying Nordic and Baltic end-users of power. A supplier buys power either directly from a producer, or through Nord Pool. In general, a supplier then re-sells it to small and medium-sized companies and households.

There is high degree of competition between energy suppliers within each country. Each end-user chooses their preferred supplier and makes a choice between different power contracts. Different types of contracts might be: fixed price contract, market price contract, etc. At present end-users cannot choose a supplier from another country.

## Traders/brokers

A trader represents the entity that owns the power while the trading process is taking place. For example, the trader may buy power from a producer and sell it to a retailer, or the trader may choose to buy power from one retailer and sell it to another retailer. There are many possible routes from the producer to the end-user.

Brokers play the same role in the power market as estate agents do in the property market. A broker does not own power but rather acts as an intermediary. A retailer may, for example, ask the broker to find a producer who will sell a given amount of power at a given time.

**380**

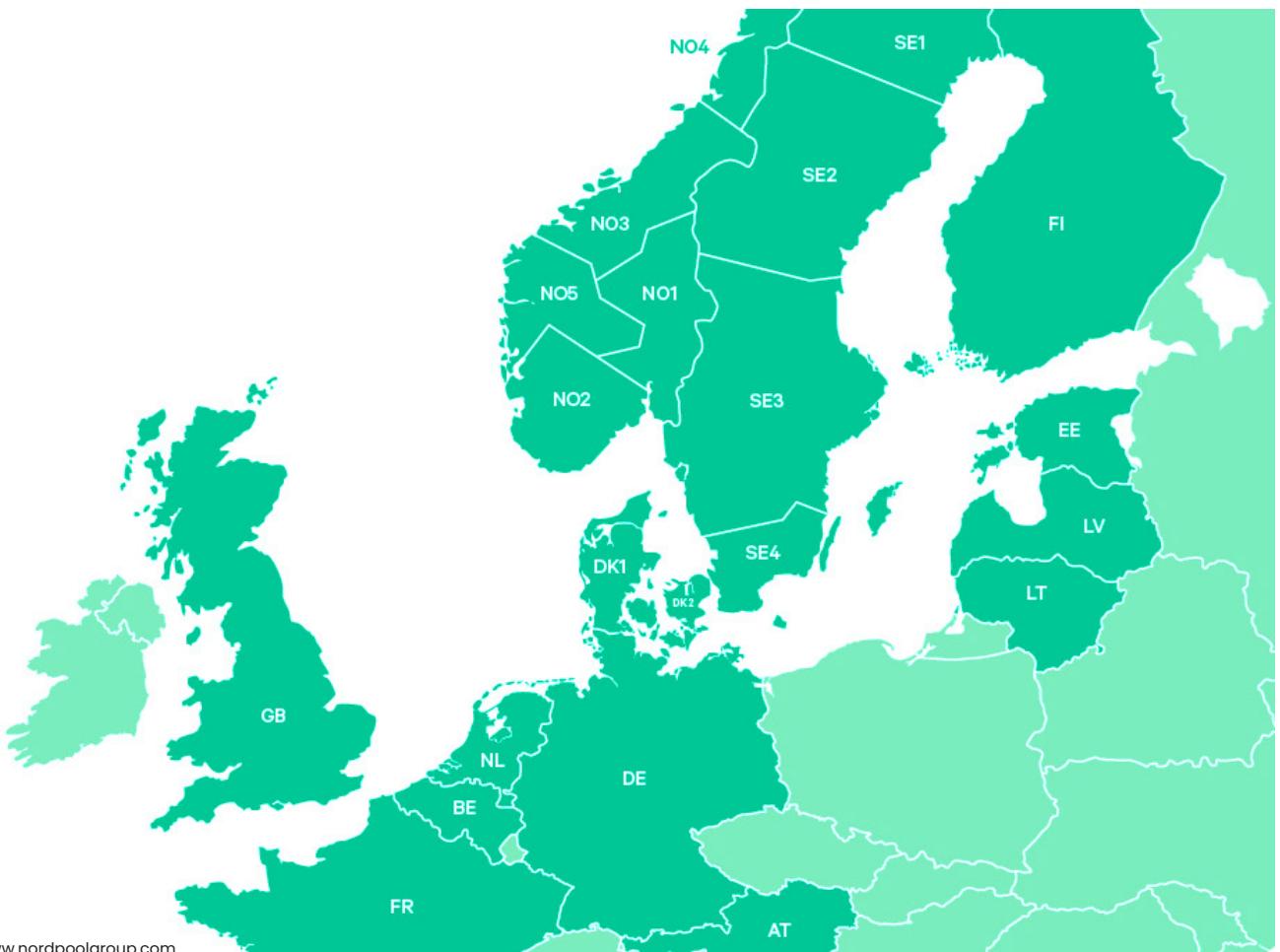
**The number of companies supplying Nordic and Baltic end-users of power.**





## The end-users

An end-user of power is either a company or a private household. Every end-user pays for the power consumed to the supplier, he pays for the power transmission to the distributor, and he pays taxes. An end-user can choose from a big range of suppliers while he has only one choice with regard to the transmission operator or distributor. Every geographical area has one distributor responsible for the network transmission.



The day-ahead market is an auction where power is traded for delivery each hour the next day. The Nord Pool markets are divided into several bidding areas. The available transmission capacity may vary and congest the flow of power between bidding areas, and thereby different area prices are established.

When all customers have submitted their orders, equilibrium is achieved between the aggregated supply and demand curves is established for all bidding areas. System and area prices are then calculated and published. The system price is calculated based on sale and purchase orders disregarding available transmission capacity between bidding areas in the Nordic market. The system price is the Nordic reference price for trading and clearing of most financial contracts.

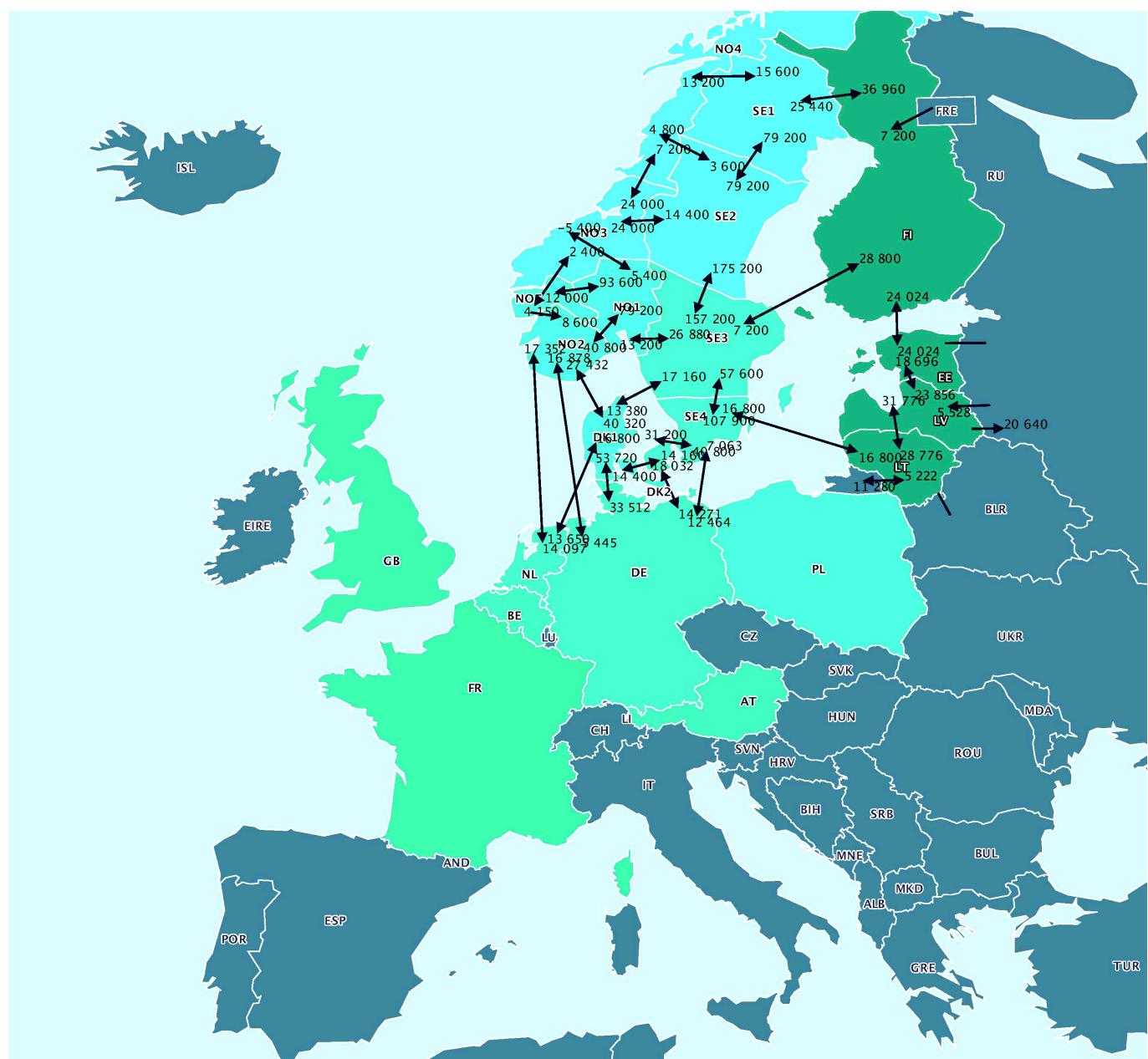
For each Nordic country, the local TSO decides which bidding areas the country is divided into. The number of Norwegian bidding areas can vary and as of today, there are five bidding areas. Eastern Denmark and Western Denmark are always treated as two different bidding areas. Finland, Estonia, Lithuania and Latvia constitute one bidding area each. Sweden was divided into four bidding areas on in 2011.



In Germany there are 4 bidding zones however they always have the same output price.

The different bidding areas help indicate constraints in the transmission systems, and ensure that regional market conditions are reflected in the price. Due to bottlenecks in the transmission system, bidding areas may get different prices called area prices. When there are constraints in transmission capacity between two bidding areas, power will always go from the low price area to the high price area. This principle is right for society: the commodity ought to move towards the high price where the demand for power is the highest.

This system also secures that no market members are assigned privileges on any bottleneck, which is an important feature of a liberal market. Nord Pool calculates a price for each bidding area for each hour of the following day.





## Norway

Norway has the highest share of electricity produced from renewable sources in Europe, and the lowest emissions from the power sector. The Ministry of Petroleum and Energy is responsible for Norway's electricity supply.

## Sweden

It's few countries that consumes more energy per capita than Sweden, but Swedish carbon emissions are low compared with those of other countries. The reason that Swedens emissions rates are that low are because 75% per cent of electricity production in Sweden comes from Hydroelectric and nuclear. More than 17 per cent of the electricity comes from wind power. Swedens solar cell market is still limited, but has shown improvement due to the aid of the government. It still accounts for less than 1 per cent of the total energy generated. Sweden target to generate 100% of its electricity from renewables in 2040 and reach carbon neutrality in 2045.

## Finland

Finland is the world's northernmost industrialised nation and Finland's energy consumption per capita and energy needs are high due to its energy-intensive industry, cold climate, and high standard of living. Finland is a world leader in smart grid technology due to the early adoption of related technologies such as household specific, remotely readable, accurate electricity consumption metering and real-time power grid failure monitoring. This has led to improved energy use information for customers and real-time billing.

Finland is now moving towards the next step of smart grid technologies to meet the increased volume of small-scale generation, customer-level energy storage, electric vehicles, and controllable loads with the intention of putting consumers "at the heart" and in control of their energy and efficiency measures.

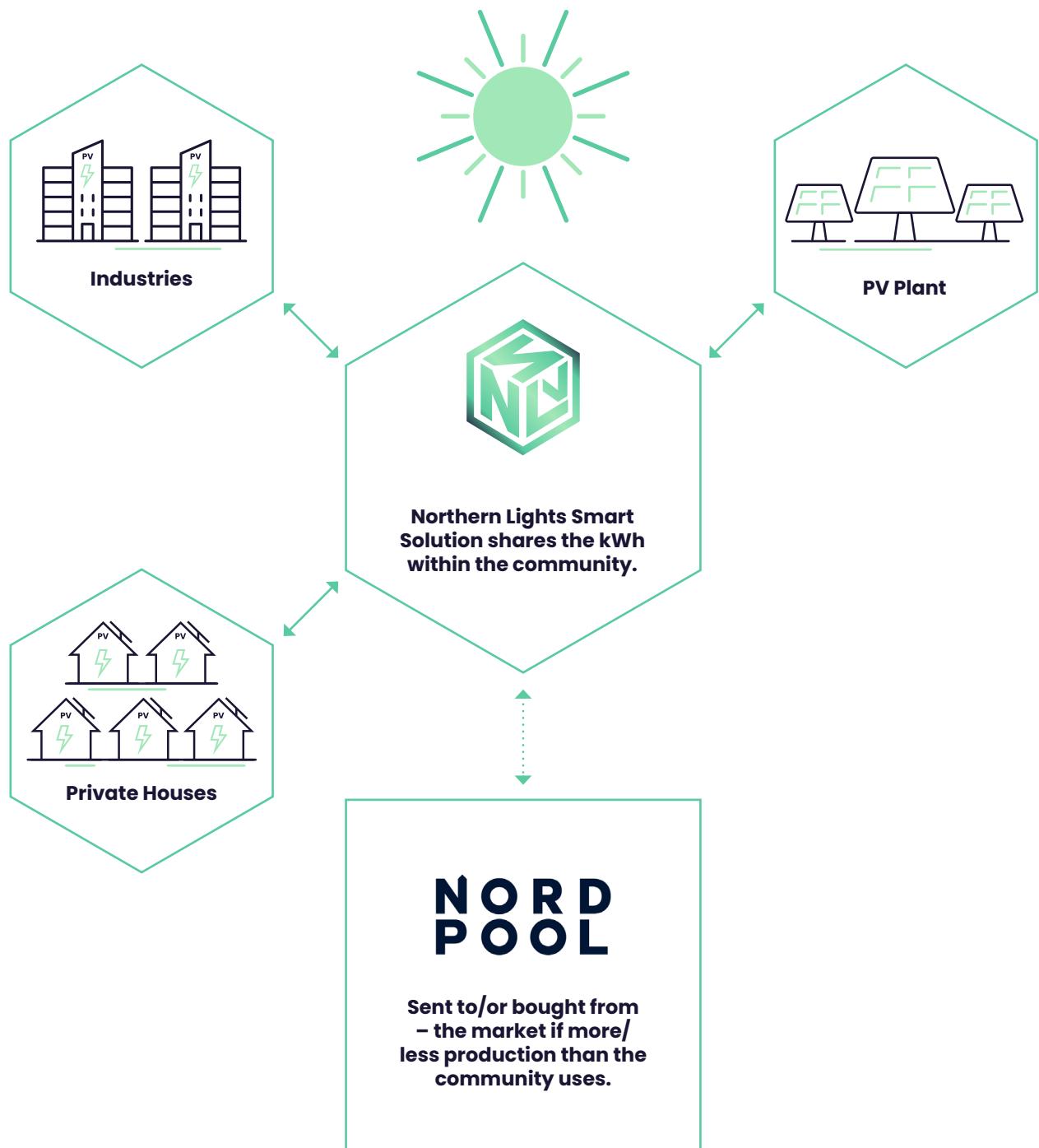
## Denmark

Denmark have made huge improvements in its zero emissions goal. As of 2019 Denmark had it's 80% of its electricity generated from renewables, the wind power production is a impressive 57%. Solar cell market is bigger than Sweden's with a total of 3% of its electricity production coming from solar power. Denmark's goals of 100% power consumption supplied by renewables at 2027 and aims to reach carbon neutrality by 2050.





## Solution





## Friends of Northern Lights(NLT):

**Q CELLS**



**EXPEKTRA**  
Solutions for efficient energy systems

 **eSett**

**NORD  
POOL**

**TESVOLT**  
THE ENERGY STORAGE EXPERTS

**SINOVEL**  
华锐风电

**Vestas®**



### Example of PV suppliers:

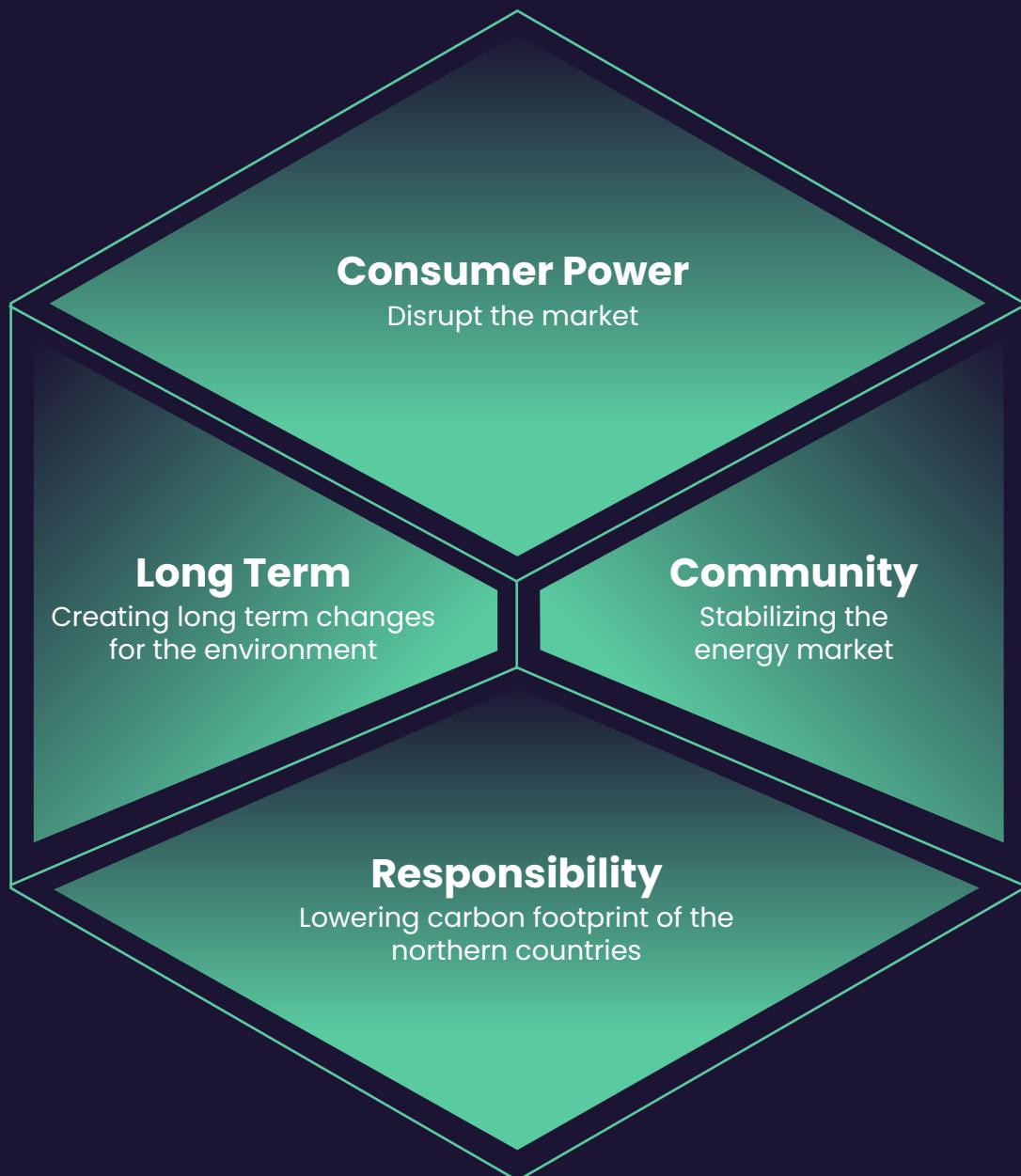
Aleo Solar	Germany
Atersa	Spain
Bisol	A manufacturer in Europe
BYD	China
Canadian Solar	One of the largest manufacturer in China
Finale 24	Belgium
First Solar	China, Malaysia
Hanwha Q Cells	South korea, Germany
Hareon Solar	China
JA Solar	China
Kyocera	Japan
LDK Solar	China
Open renewables	Portugal
Sharp Electronics Europe	USA
Solarwatt	Germany
Solarworld	Germany
Suntech Power	China

### Example of WindPower suppliers:

Vestas	(12,7 %, 5 217 MW)
Sinovel	(9,0 %, 3 700 MW)
Goldwind	(8,7 %, 3 600 MW)
Gamesa	(8,0 %, 3 308 MW)
Enercon	(7,8 %, 3 203 MW)
GE Energy	(7,7 %, 3 170 MW)
Suzlon and Repower	(7,6 %, 3 116 MW)
Guodian United Power	(7,4 %, 3 042 MW)
Siemens	(6,3 %, 2 591 MW)
Mingyang	(3,6 %, 1 500 MW)

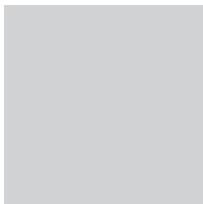


## CORE Values



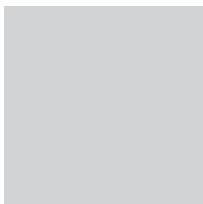


# Team



## Christoph Thiel Heyerhoff

Dipl.-Ing. Mechanical Engineering, 15 years' experience in solar PV industry through complete supply chain, R&D and project management. Expertise in building state of the art Energy Storage solutions. Christoph regularly holds training education seminars for PV-installers globally.



## Dr Philip Lewis

CEO VaasaETT Global Energy Think Tank, Leading expert in customer behaviour, value and related marketing, service and competition issues in the energy market. During 17 years in the liberalized utilities industry, Dr Lewis has conducted research and strategic support in over 60 countries on five continents for more than 500 organizations. Faculty Member, Diploma of Advanced Studies programme in Renewable Energy Management, University of St Gallen Executive School, Switzerland.



## Markus Winfridsson

Markus has a solid background as an successful entrepreneur. He has made turn-a-rounds and start-ups. The last 12 years he has spent in the energy sector, starting and building companies such as Sumer ([www.sumer.se](http://www.sumer.se)) and Stella Futura ([www.stellafutura.com](http://www.stellafutura.com)). In just 3 years he made Sumer one of the largest energy retailers in Scandinavia with 380 000 customers and Stella Futura is a leading market player in the environmentally friendly electrical solutions business in Scandi and Africa.



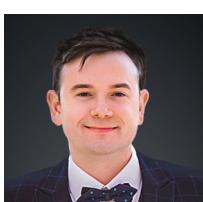
## Gustaf Teurnberg

Gustaf have a solid background in the realestate, financial solution and energytrading industries. Gustaf has had significant roles within these companies.



## Ben Gordon

Ben has circa a decade of specialist experience successfully implementing and executing marketing strategies. Originally based in Asia, he honed his skills by focusing on brand development, performance, and data orientation through bespoke project management across a multitude of social media and web content projects. Over the past three years he has transferred and applied his expertise to take on the role of marketing and growth lead across a number of blockchain and cryptocurrency operations globally.



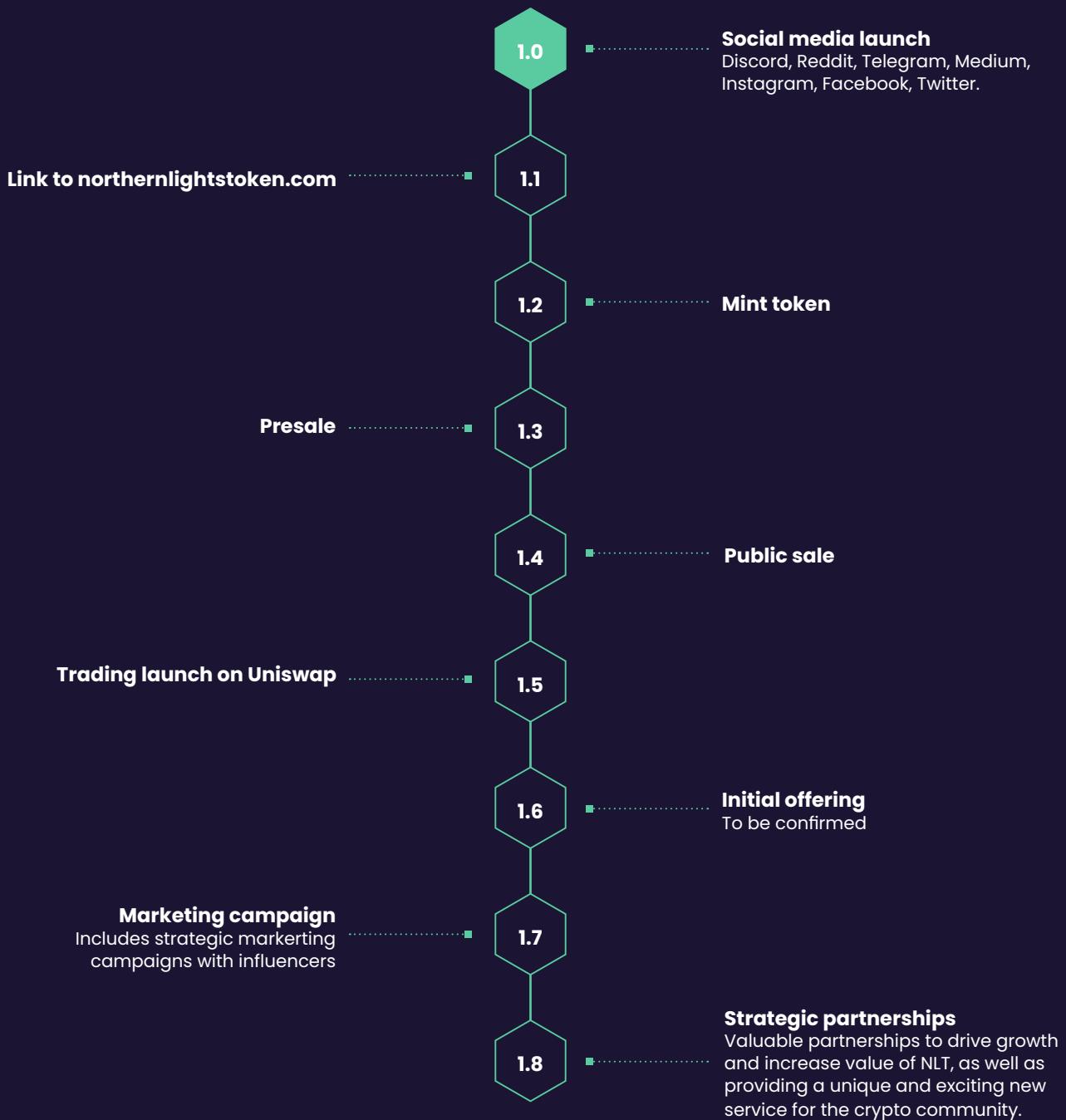
## Clint Shaw

Clint is a serial entrepreneur and has been involved in Cryptocurrency since 2012, first as an avid miner then as an investor and now as a coder with special focus on Solidity back end smart contract development. As CEO of Eyeboot Limited, a manufacturer and designer of Bitcoin SHA256 ASIC miners and other electronic hardware, he served customers from around the world, working alongside famous Bitcoin mining hardware companies such as Bitmain, Rockminer and Gekkoscience to help facilitate the distribution of mining machines to the masses. He brings a breadth of tech knowledge and blockchain experience to the team that is unparalleled in this space.



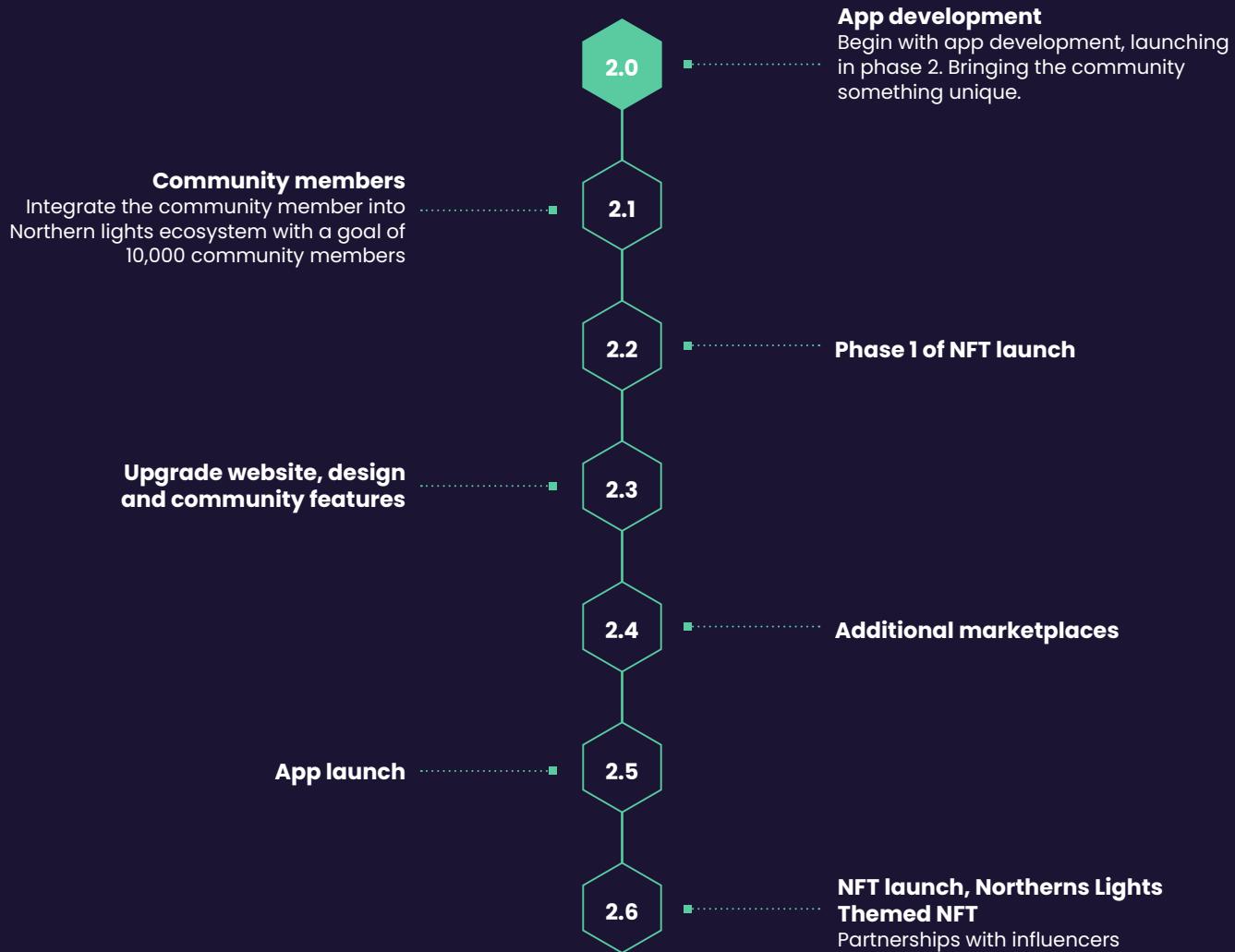
# Project Roadmap

## Phase 1:



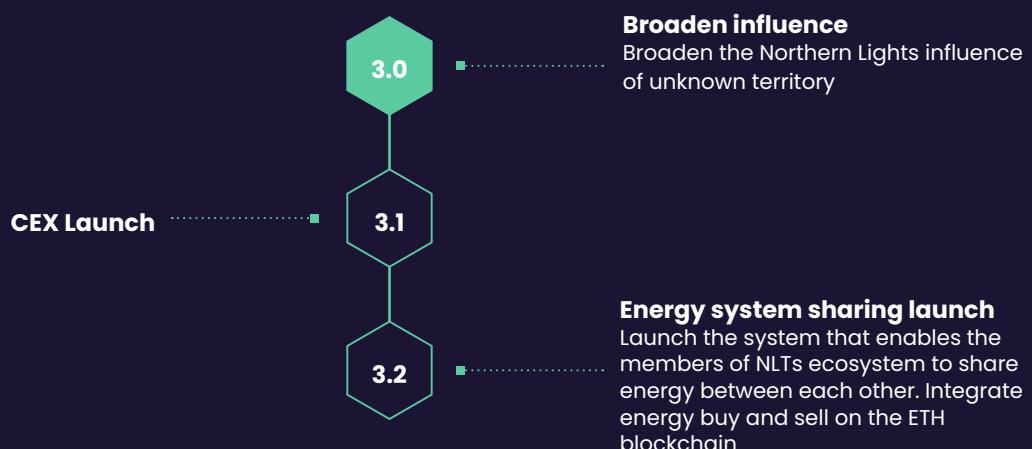


## Phase 2:





### Phase 3:



### Phase 4:





# Tokenomics

## Why Ethereum Blockchain

Ethereum is a decentralised world computer running on 11,250+ computer nodes distributed Worldwide. It is a permissionless, open-source blockchain platform that enables Turing-complete decentralised applications and tokens powered by smart contracts coded in the solidity programming language. ERC-20 is the dominant technical standard used for smart contracts on the Ethereum blockchain and for implementing tokens. The majority of tokens issued on the Ethereum blockchain are ERC-20 compliant.

### Permissionless

Solidity smart contracts can be built on the Ethereum blockchain without any permission from a centralised authority and once a token is deployed there is no downtime, fraud, or possibility of interference from a third party.

### Secure

The Ethereum blockchain is secured by miners using a consensus protocol called Proof-of-work (PoW). This allows the nodes of the Ethereum network to agree on the state of all information recorded on the Ethereum blockchain and prevents certain kinds of economic attacks. Proof-of-work is a tried and tested consensus mechanism that has kept Bitcoin and Ethereum secure and decentralized for many years. Northern Lights Token ("NLT") is an ERC-20 token on the Ethereum blockchain so the security aspects of validating blocks and transactions are outsourced to the ETH Network of decentralised miners who are incentivised to do this work.

### Compatibility

The Ethereum network offers our community an enormously powerful shared infrastructure with the added interoperability of facilitating their transactions through Ethereum- based wallets and apps (decentralised automatic market makers), such as MetaMask and Uniswap. The majority of digital asset trading, storage and transfer venues also widely support the ERC-20 protocol, enabling immediate integration and support for NLT. The proliferation of ERC-20 standard has also streamlined exchangeability and liquidity for these token types, which means NLT will be tradable against any existing ERC-20 token via Uniswap.





## Token Details

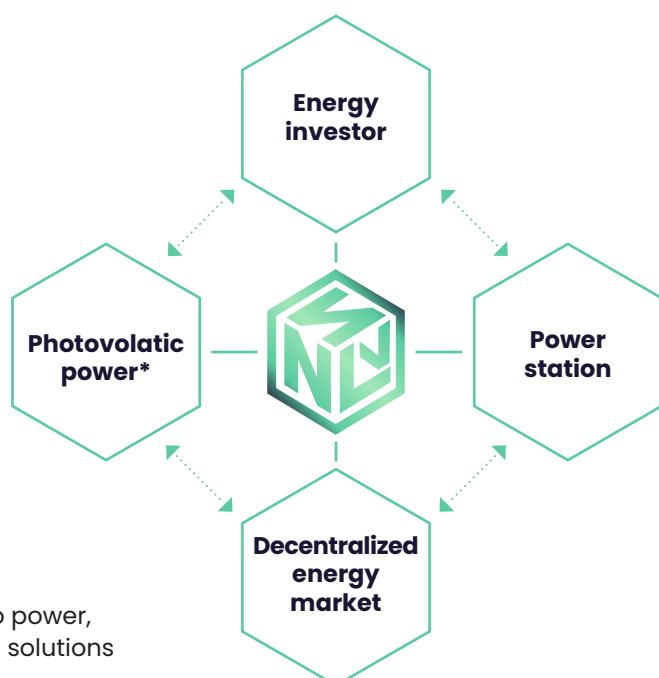
Name:	Northern Lights Token
Symbol:	NLT
Token Type:	ERC20
Supply:	1,000,000,000
Blockchain:	Ethereum

## Token Distribution



## Economics

The Northern Lights Token will disrupt and decentralize the entire energy market by creating millions of small home producers of energy, who will be able to store and share energy with each other through NLT solutions such as the smart grid. This will gain tremendous consumer power, removing many of the barriers between energy consumers and producers; NLT will fast become a market force to count within the energy sector.



\*including wind power, hydro power, different and potential green solutions



## Mining

Home owners and small energy suppliers with an excess production of renewable energy, such as solar or wind, can monetize and sell this energy surplus on within the decentralized NLT energy market in exchange for Ethereum or NLT. This will create a sustainable eco-friendly mining system, where small energy producers are paid in cryptocurrency for excess energy they mine from the sun.

## Settlement

NLT has utility functionality as it can be used as settlement for all transactions between energy users and producers within the NLT ecosystem. For example, end users will be able to settle their energy bills instantly using ETH or NLT as well as offset future energy consumption by sharing their excessive energy production today.

## Rewards

All holders of Northern Lights Tokens can benefit from the efficiency and energy savings generated from being a member of the NLT community even if their household is not connected to the NLT smart grid. This is because 1% of all energy earnings obtained in the ecosystem will be donated and redistributed among NLT holders via the power of smart contracts forever! In other words, through NLT, the energy savings of a third party are tokenized and can be used by everyone.

## Fractional Ownership

A Non-Fungible Token ("NFT") is a digital token representing the ownership of a unique item. ERC-721 tokens are the set standard for creating non-fungible tokens on Ethereum's blockchain while the ERC-20 standard is used to create fungible tokens such as Ethereum, Decentraland, etc. By leveraging both the ERC-20 and ERC-721 tokens standards, NLT will democratize investing by fractionalizing physical assets such as property, photovoltaic power systems, or even whole solar power stations. In the past, a high-value asset like real estate would have been impossible for everyone to own. Now with the emergence of NFTs, anyone can own a high-value asset at a low cost by gaining a fractional ownership. NLT will revolutionize the renewable energy sector by lowering the barrier of entry into assets that were previously exclusive to a small set of people.



To register your interest please email [team@northernlightstoken.com](mailto:team@northernlightstoken.com)

[northernlightstoken.com](http://northernlightstoken.com)