SUSTAINABLE EDGE COMPUTING

CirrusCoin Token

Launch White Paper
January 2018
VERSION 2.0

TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS **5**

DISCLAIMER **6**

CIRRUSCOIN OVERVIEW **7**

DRCI ENGINEERING **12**

RACK ENCLOSURES 12

COMPUTATION, STORAGE, AND NETWORKING 12

COOLING 13

ENERGY SUPPLY 13

GREENSPARC ENERGY MANAGEMENT & REPORTING **13**

GREENSPARC GEOGRAPHIC LOAD BALANCING 13

GREENSPARC ENERGY AND SUSTAINABILITY REPORTING 14

ENERGY MARKETS **15**

STRUCTURE OF NORTH AMERICAN ELECTRICITY MARKETS 15

IMPACT OF RENEWABLES 17

THE “LAW OF LARGE NUMBERS” 18

ENERGY PRICES - THE DUAL MARKET SYSTEM 18

NEW PREDICTIVE MODELS 19

INCENTIVIZING ENERGY PRODUCTION AT THE RIGHT TIME AND PLACE 20

IMPACT ON EXISTING GENERATION 20

THE DRCI & HARDWARE INDEX **20**

GPU INSTALLED BASE **22**

BUSINESS CASE **22**

MANAGEMENT TEAM **25**

SAM ENOKA, CO-FOUNDER & CEO 25

MANU KALIA, CO-FOUNDER & CFO 26

TREVOR CURWIN, VP ENERGY MARKETS 26

ADVISORY BOARD **27**

DR. RICK MCPHEE 27

ELISE GERICH 27

DR. SHIVA HULLAVARAD 27

JESUS ARREDONDO 28

LIAM WEAVER 28

DR. BRIAN HIRSCH 28

RISK FACTORS **29**

Certain risks relating to the purchase, sale and use of CirrusCoin Tokens 29

Reliance on computer infrastructure 29

Security weaknesses 29

Risk of mining attacks 30

Rapid changes in technology may unfavorably affect the mining project 30

Variation in electricity rate 30

Risks associated with the Ethereum protocol 30

Risks associated with markets for CirrusCoin Tokens 30

Risk of uninsured losses 30

Risks associated with uncertain regulations and enforcement actions 31

Risks arising from taxation 31

Risk of an unfavorable fluctuation of crypto-currency values 31

Risks arising from taxation 31

Risk of an unfavorable fluctuation of crypto-currency values 31

Force Majeure 32

Disclosure of information 32

Change of the value of the CirrusCoin Tokens 32

Unanticipated risks 32

Token purchases **34**

Token Usage Rights **34**

ACRONYMS & ABBREVIATIONS

BA - Balancing authority
BOM - Bill of Materials
BTC - Bitcoin
CAISO - California Independent System Operator
CC - CirrusCoin
DRCI - Distributed Resiliency Cloud Infrastructure
ETH - Ethereum
GPU - Graphics processing unit
kWh - kilowatt hour
ICO - Initial Coin Offering
IoT - Internet of Things
ISO - Independent System Operator
PPA - Power Purchase Agreement
REC - Renewable Energy Certificate
RTO - Regional Transmission Operator

DISCLAIMER

This White Paper explains the CirrusCoin Project by Greensparc Inc., and informs potential token holders about the offered Token Sale. The facts in this paper may not be complete and do not indicate any aspects of a contractual relationship. The sole intention of this paper is to supply appropriate and reasonable information in order for potential token holders to decide whether to engage in a detailed examination of the project with the intent to buy CirrusCoin Tokens.

This White Paper does not form a prospectus in any way or a request for investment. It does not in any form comprise a solicitation or a proposal of an offer to buy any securities in any judicial system. This paper is not drafted in consensus with, and is not subject to, regulations of any judicial system or laws which are created to protect investors.

This White Paper contains certain estimates, propositions and monetary information that motivate anticipatory information or propositions. Such anticipatory information or propositions may contain acquainted and unacquainted uncertainties and risks which can result in actual events that vary substantially from the estimates enunciated or indicated in such anticipatory information.

The official source of information about the CirrusCoin Token Launch is this current White Paper, written in English. It may be translated into different languages and used for written or verbal communications with prospective and existing clients, advisers etc. It may happen through this procedure that some of the information may be distorted, misconstrued or lost. Therefore, it is important to note that the precision of such alternate communications cannot be ensured. Should these inaccuracies occur between such communications and this current official White Paper in English, the information of this English language original White Paper shall dominate.

There can be no assurance that CirrusCoin's token sale objective will be achieved and operating results may vary substantially over time. Prospective participants should carefully consider whether purchase of CirrusCoin token as a pre-payment for purchase of distributed computing resources is suitable for them in the light of their circumstances and financial resources.

Prospective participants should inform themselves as to the legal requirements within the countries of their nationality, residence, ordinary residence or domicile for such acquisition, any foreign exchange restrictions or exchange control requirements which they might encounter on acquisition or disposal of CirrusCoin Tokens, and the income tax and other taxation consequences which might be relevant to the acquisition, holding or disposal of CirrusCoin Tokens.

IF THE PROSPECTIVE PARTICIPANT IS IN ANY DOUBT ABOUT THE CONTENTS OF THIS DOCUMENT, THEY SHOULD CONSULT WITH THEIR ACCOUNTANT, LEGAL ADVISER OR OTHER PROFESSIONAL ADVISER BEFORE PURCHASING.

CIRRUSCOIN OVERVIEW

Greensparc Inc. ("Greensparc") is a San Francisco-based energy optimized cloud and edge cloud computing company that is issuing the CirrusCoin Token. Greensparc commoditizes high-performance distributed cloud computing in a way that is accessible by individuals, entrepreneurs, and large corporations alike. CirrusCoin tokenizes a new commodity: the linkage of electrical energy and cloud computing in a novel way. One CirrusCoin is redeemable, by the holder, for the high-performance (GPU) computation powered by one kilowatt-hour (kwH) of electricity in Greensparc's network of edge cloud resources co-located at optimal nodes in the energy grid (including renewable power plants).

Greensparc places edge compute resources at optimal energy market nodes to take advantage of the highly idiosyncratic and heterogeneous characteristics of North America's electrical energy grids and microgrids. Specifically, Greensparc seeks to provide access to a market for wholesale, commoditized cloud computing for 50% of the typical energy cost faced by most data centers.

In addition, Greensparc's CirrusCoin project will uniquely be able to provide specific and real-time reporting on the renewable energy content and carbon footprint of every kilowatt-hour (kWh) that powers the participating edge resources. Many of our cloud resources will be strategicially located at or near renewable energy generation assets (eg. wind, solar, geothermal, biomass, etc.), so CirrusCoin will be the first provider of indisputable green cloud compute NOT achieved by merely off-setting or otherwise green-washing data center energy consumption with Renewable Energy Certificates (RECs) or Power Purchase Agreements (PPAs) with distant power plants.

Greensparc will initially deploy in the U.S. and then expand globally. CirrusCoin provides access to wholesale edge compute resources for cloud service providers and providers of distributed applications.

Greensparc's deep knowledge of energy markets, utility and grid operations, edge infrastructure and renewable generation technologies enables development of a distributed , high-performance, resilient, and sustainably powered computing infrastructure that is more cost-efficient and environmentally friendly than any compute resource in existence today. As increasing amounts of compute migrate to the cloud, we believe that every cloud should have a green lining.

While general demand for cloud resources seems insatiable and provides Greensparc with enormous opportunity, corresponding demand for edge resources provides Greensparc with exponential geographic growth opportunity.

The rapid growth in Internet of Things (IoT), including everything from smart city sensoring and monitoring technology deployments, to fleets of autonomous vehicles and delivery drones, will mean dramatic increases in demand for compute capacity at the "edge," where the end nodes of IoT — human beings in urban environments for the most part — will need real-time data processing capacity to use these new technologies.

Research firm Gartner says 8.4 billion such connected devices will be installed by the end of 2017[1]; all will need compute capacity. But not everything can be backhauled to the centralized cloud, and that's where edge computing comes in, defined by research firm IDC as a "mesh network of micro data centers

[1]https://www.networkworld.com/article/3224893/internet-of-things/what-is-edge-computing-and-how-it-s-changing-the-network.html

that process or store critical data locally and push all received data to a central data center or cloud storage repository, in a footprint of less than 100 square feet."[2]

While the ultimate "cloud vs. edge" balance of where compute resides is yet to be determined, the growth in both will be dramatic, and Greensparc's approach is poised to take advantage of this growth.

Site selection for the CirrusCoin modules is one of the key value-added attributes of the Greensparc CirrusCoin offering. Modular rack enclosures engineered by our technical vendors/partners enable simple and cost-efficient deployment of compute nodes that are easy to tailor to the physical and energy resource availability at each site. All modules are strategically placed to eliminate transmission & distribution inefficiencies and/or benefit from energy market conditions in the local area.

CirrusCoin tokens enable purchasers to redeem tokens for energy that powers our distributed, GPU compute modules. Each CirrusCoin can be redeemed and scheduled, first-come-first-served basis for one GPU-kWh: one kilowatt-hour of energy powering our DRCI.

The first two sites are already identified and are fully specified and engineered for CirrusCoin compute modules. Beyond the first two sites, Greensparc has identified the next 20+ locations in California, Hawaii, Alaska, Texas, and the Northeastern U.S., for placement of the next GPU-cloud compute modules.

Greensparc utilizes its proprietary optimization, monitoring, and reporting algorithms to geographically balance the compute load across our network "mesh" of geographically-dispersed compute modules.

ICO proceeds will be used to deploy initial DRCI sites and then backstop the expansion of our mesh network of modules, leveraging our balance sheet with an asset-backed debt vehicle.

CirrusCoin has adopted the best practices of cloud computing architecture design and sustainable energy procurement to create the world's first distributed network of modular green compute nodes. We employ the state-of-the-art rack enclosures, cooling, and computational hardware and software to minimize cost and maintenance, and maximize network uptime. By utilizing network resiliency created by many compute nodes, we reduce costs typically associated with equipment and power redundancy at each node, in favor of maximizing space and power efficiency at each node.

OPPORTUNITY - MARKET SIZE

Demand for computing is already massive, growing exponentially, and likely to continue accelerating. Compute demand will continue to find new drivers of demand in the coming years -- IoT deployments, AI and machine learning, VR/AR, and now by blockchain and cryptocurrency requirements.

The size of the edge computing market -- and its related managed services sector -- is expected to grow dramatically in the next few years alongside the overall growth in data center and computing capacity markets. Research firm MarketsandMarkets forecasts the global edge computing market to grow from

[2]https://www.networkworld.com/article/3224893/internet-of-things/what-is-edge-computing-and-how-it-s-changing-the-network.html

$1.17 Billion in 2016 to $6.72 Billion by 2022. The global data managed services market will grow at a Compound Annual Growth Rate (CAGR) of 35.4% during the forecast period. [3]

Hyperscale, fortress-like campuses will continue to be hubs of computing, but there will be enormous pressure at the "edge," for a mesh of distributed computing resources that are much more geographically dispersed. The advantages of this type of distributed architecture include:

- **Pre-processing** -- IoT demands are such that the amounts of data generated simply cannot be hauled back to central data centers for processing. Much of the processing and filtration of sensor and small-device data needs to be done close to the point of origin.
- **Latency** -- Computation close to the consumer results in much less delay due to network congestion or distance, which is a requirement for many types of applications, such as finance, video-heavy, or gaming compute demands.
- **Resiliency** -- Much less redundancy of power-supply and of computing needs, when there are a great many fail-over points in a rich mesh of compute modules.

In our business plan, we have modeled the expectation that we will be able to provide high-performing GPU compute capacity on a scheduled "first-come-first-served" basis, for a healthy discount to cloud compute prices, allowing existing providers to meet peaks and surges in their demand without needing to bring new data centers online immediately. New data centers are being constructed as fast as possible, but the permitting, construction, and negotiations involved make this a long, often multi-year endeavor.

GREENSPARC HISTORY

Founded in 2015, Greensparc brings data and analytics to large consumers of electricity, starting with data center fleet operators. We provide the energy market information and insight to manage the largest operating cost to providing cloud computing services with over 7% of the world's electricity consumed by data centers and information technology[4].

After garnering many years of experience in energy markets, energy asset management and grid operations in North America's major deregulated energy markets, the founders of Greensparc set its focus on developing applications to improve energy market transactions. Greensparc has focused its efforts to deliver quantifiable benefits for the largest and most sophisticated consumers of electricity, without being encumbered by the stagnant stakeholder collaboration processes of independent system operators (ISOs), public utility commissions and energy regulators.

The greatest inefficiencies in energy markets exist at the nexus of public policy, current electricity markets, power generation owners/operators, transmission & distribution network owners/operators, and the real-time data providing crucial business intelligence for energy-related businesses.

Greensparc was founded to leverage its energy markets expertise for maximum impact and scalability. The opportunities the team discovered includes:

[3] https://www.marketsandmarkets.com/Market-Reports/edge-computing-market-133384090.html
[4]http://www.clickclean.org/downloads/ClickClean2016%20HiRes.pdf

- Market policy and regulation-efficient strategies (i.e. behind-the-meter & distributed/edge solutions)
- Capital efficient & scalable solutions (i.e. software & SaaS)
- Large commercial or industrial applications

In the course of its research and product development, Greensparc's capabilities around delivering maximum efficiencies through market optimization were found to be scalable to help meet global demand emerging from several technology trends, including:

- Data center capacity
- Distributed resiliency
- IoT and edge computing
- Distributed ledger technology and blockchain applications

Greensparc's first application for load optimization across energy markets is capable of delivering up to 30% energy cost savings to data centers. Utilizing the platform to identify the most advantageous price nodes in North American electricity markets, Greensparc has identified sites and locations to achieve 50% energy cost savings, or more, to deploy the infrastructure to support the launch the CirrusCoin.

CIRRUSCOIN'S PRICING

CirrusCoin is priced according to the following principles:

- CirrusCoin represents kilowatt hour (kWh) of computing service through CirrusCoin's Distributed Resiliency Cloud Infrastructure (DRCI).
- CirrusCoin's DRCI is comprised of a mix of standard cloud infrastructure and GPU-based high performance computing. Compute utilization for CirrusCoin is measured by applying energy against the Hardware Index.
- At ICO Launch, CirrusCoin will be offered at 0.005 ETH

We believe this represents a much more efficient approach than the currently widespread and common method of paying fixed cost per resource, as the power of networks increases continuously and proceeds based on computing power can erode rapidly.

CIRRUSCOIN MODULE SITES

Two sites have been selected as initial deployment locations for DRCI modules.

Greensparc will deploy 1-3 racks at each DRCI site to begin, but will expand to as many sites as enabled by sales from its ICO. Greensparc has already identified several more prospective initial deployments (see "Expansion Plan" section below for description of first 28 sites) that meet our minimum criteria for DRCI module deployment:

- Low cost real estate
- Advantageous nodal/energy prices
- Access to renewable/sustainable energy supply
- Advantageous access to fiber/gigabit connectivity
- Low cost cooling

Greensparc has completed the specifications, BOM (Bill Of Materials), and budget for each DRCI module, with scaling and cooling configurations tailored to best fit each site.

Expansion beyond the initial deployment phase will expand throughout North America, targeting sites that meet Greensparc's optimal mix of deployment criteria within the constraints described above.

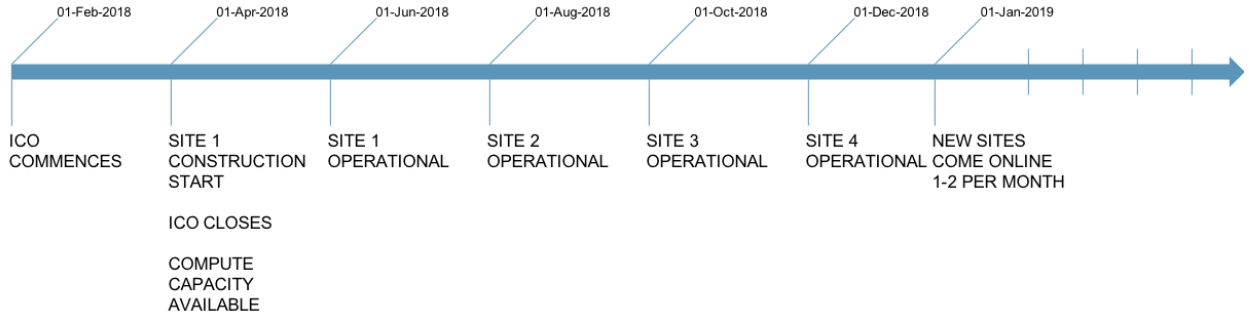
EXPANSION PLAN

Of the over 10,000 power generation facilities operating in North America currently, we estimate that at least 1,000 are ideal locations for the DRCI network of cloud-compute modules. We have already selected and prioritized the next 28 that we will build out after the initial sites:

SITE	MW CAPACITY	STATE	GRID
Norcal Wind 1	40	CA	CAISO
Norcal Wind 2	200	CA	CAISO
Norcal Wind 3	100	CA	CAISO
Norcal Municipal 1	5	CA	CAISO
Norcal Municipal 2	1	CA	CAISO
Norcal Hydro 1	5	CA	CAISO
Norcal Hydro 2	5	CA	CAISO
Norcal Solar 1	100	CA	CAISO
Norcal Biomass 1	20	CA	CAISO
Norcal Biomass 2	24	CA	CAISO
Norcal Biomass 3	15	CA	CAISO
Norcal Geothermal 1	20	CA	CAISO
Socal Solar 1	70	CA	CAISO
Socal Wind 1	50	CA	CAISO
Hawaii Solar/Storage 1	5	HI	HECO
Hawaii Wind 1	30	HI	HECO
Hawaii Bio 1	30	HI	HECO
Alaska Geothermal 1	1	AK	GVEA
Alaska – State 1	20	AK	GVEA
Alaska Wind 1	20	AK	MLP

Central NY Wind 1	125	NY	NYISO
Central NY Wind 2	35	NY	NYISO
West Texas Wind 1	150	TX	ERCOT
Vermont Wind 1	40	VT	ISONE
Massachusetts Solar 1	17	MA	ISONE
Maine Wind 1	81	ME	ISONE
Maine Wind 2	60	ME	ISONE
Maine Wind 3	42	ME	NMISO/NBSO

CirrusCoin Module Buildout Timeline



DRCI ENGINEERING

RACK ENCLOSURES

We have selected a rack enclosure manufacturer partner as the provider of our preferred solution for a fully enclosed, modular system to house our GPU servers. The vendor has preconfigured enclosures that maximize GPU compute density without wasting space on redundancy or power supply back-up that we do not need or want. This partner has a long history of leadership in modular data center equipment design, as well as a robust history of equipment deployed in the field for many years, both at their own data centers and at customer sites.

The enclosures include a standard height of 45 rack-units, and a 19-inch wide enclosure into which power, networking and its closed-loop, low-pressure, chilled-water cooling systems are connected. The cabinets are energy efficient. The fully populated enclosures currently deployed in the field operate with a supply temperature of 65 degrees Fahrenheit (18 degrees Celsius). Users employ slab floors in most facilities, but the cabinets can be outfitted to support both raised and slab floor deployments. Each cabinet has integrated FM200 fire suppression.

COMPUTATION, STORAGE, AND NETWORKING

The generic configuration that we will deploy will include three cabinets, each filled with:

- 10 GPU servers with 8 GPUs each (4U of rack-space each)
- Networking & storage units (5U of rack-space)

We have estimated each cabinet's cost, inclusive of smart-enclosure, computational/networking/ storage hardware, associated software, installation, engineering, and financing costs.

MONITORING AND MAINTENANCE

We will have monitoring software installed to constantly monitor the status of all equipment, as provided by a leading DCIM vendor, as well as our vendor's own rack enclosure control platform. We plan to monitor remotely and actively, making intervention decisions only as needed.

A small percentage of compute blades will fail, as per manufacturer's own specs. These failures will result in manufacturer replacement credits that we will apply to successive purchase orders, as we deploy new DRCI modules over time, and replace equipment at the end of its usable life cycle.

COOLING

In many cases, the locations at which we deploy DRCI modules will supply chilled water. In some situations, Greensparc may need to engineer cooling solutions for our deployments. In the latter cases, we have vetted cooling solutions (chillers). We have made chiller selections for both single-rack configurations, as well as larger 3-rack configurations, if sites do not or cannot provide chilled water. Our initial site selections, however, will be favor sites that include cooling resources as well as advantageous costs for electricity.

ENERGY SUPPLY

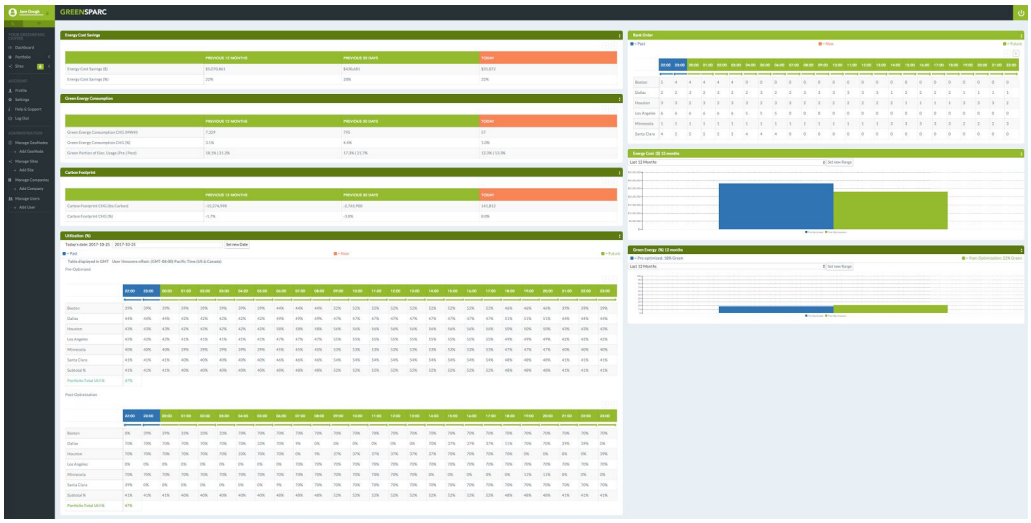
Each cabinet will draw about 30kW of power for IT purposes, and will require 11 kW for cooling (see sub-section "COOLING" above), for a total of about 102kW for a 3-rack configuration. Electricity required will be provided by onsite resources (or possibly grid interconnection). Energy prices at the source of generation will be substantially lower than retail prices of electricity. Transmission and distribution costs (which can reach as high as 50% of retail energy price), as well as line losses in energy transmission, are eliminated. Steady, known demand for energy is beneficial to generators, which are eager to sell electricity on these terms and without the need to involve the local utility.

GREENSPARC ENERGY MANAGEMENT & REPORTING

GREENSPARC GEOGRAPHIC LOAD BALANCING

Greensparc provides business intelligence applications and services for data center operators, and supplies key tools for the operation of CirrusCoins network of DRCI nodes. Greensparc provides data from all of the key system operators and markets in the United States' electrical grid, including energy

prices, renewable energy content, and emissions, in real-time on an hourly frequency using proprietary software and algorithms. With Greensparc's information and optimization algorithms, CirrusCoin can operate its fleet of compute modules with exceptionally precise knowledge regarding the local energy grid characteristics for each of its nodes.

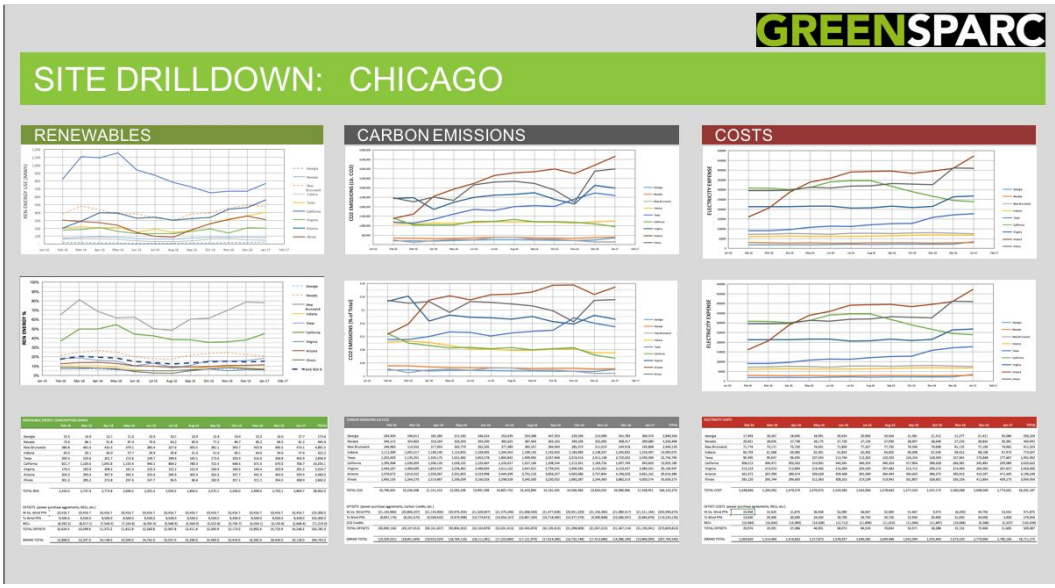


Greensparc energy-compute optimization dashboard

GREENSPARC ENERGY AND SUSTAINABILITY REPORTING

In addition to the geographic load-balancing intelligence described above, Greensparc also provides local-energy-grid monitoring reports that allows a user to map their hourly energy use in a given time period against the equivalent hours' renewable energy content and carbon emission output in a specific region. By using Greensparc's energy markets reporting product, CirrusCoin can monitor every pound of carbon produced and every kilowatt of renewable energy, versus non-renewable, consumed in its operations.

Whenever possible, CirrusCoin will be locating DRCI modules at or near renewable power generation sites, so this will be 100% renewable energy. In those cases when located modules are placed at fossil-powered generation, or when using grid power (if, for example, the local power plant happens to be offline), then all environmental impact of CirrusCoin operation can be precisely measured and offset.



Greensparc Renewables & CO^2 Reporting Detail

ENERGY MARKETS

A primary driver of Greensparc's competitive advantage is the energy markets understanding brought by the founders and team. Their collective experience will allow careful selection the sites at which to place DRCI modules—near renewable power plants like biomass, wind, and solar installations. Greensparc has selected several ideal sites and has relationships in place that streamlines and simplifies this process. Our knowledge of the realities and challenges of power resources in today's marketplace has allowed us to put together arrangements that are very attractive and agreeable to energy producers.

In addition to achieving a strategic cost advantage through site selection, Greensparc has also designed a way to deliver the world's first undisputable green cloud compute resource. No matter what their claims may be, the reality is that there is no current data center that is, or can be, 100% renewably powered (unless you broaden the definition of renewable to include large hydroelectric plants, in which case a handful of data centers located at large hydroelectric dams qualify).

Market claims of data centers being "100% renewably powered" are achieved by first consuming grid electricity, which is mostly fossil-fired in the US, and then offsetting the non-green portion of the electricity consumed with Renewable Energy Certificates (RECs), or Power Purchase Agreements (PPAs) negotiated with specific wind or solar farms. These techniques are considered the "best option available" for the data center community today, but they're looking to a greener future and Greensparc takes a different approach to achieve a 100% green goal.

For those who don't have familiarity with grid operations and electricity markets in the US, the following sections provide a short overview.

STRUCTURE OF NORTH AMERICAN ELECTRICITY MARKETS

Traditional utility-run wholesale electricity markets exist primarily in the U.S. southeast, southwest and northwest, as well as most of Canada, where incumbent utilities are responsible for system operations and management, as well as providing power to retail consumers. Utilities in these markets are frequently vertically integrated – they own the transmission and distribution systems used to serve electricity consumers, and typically will either own their own generation assets or contract for long-term PPAs with power plant owners/operators. In the U.S., there are also legacy federally run power systems, such as the Bonneville Power Administration and the Tennessee Valley Authority.

With the boom in renewable energy power plant build-outs and the challenges that publicly owned utilities face to maintain aging infrastructure and mitigate risks in owning generation assets, it is far more frequent now to see the risk and costs of building, operation and maintenance of power generation assets being pushed onto other owners instead of the utilities. Utilities will typically sign a PPA with a duration of up to 30 years where they agree to pay for energy and other market commodities at a set price $/mWh, with certain milestones and operating performance indicators built in.

That has changed the power plant ownership model, with private equity funds building and sometimes operating power plants, or with utilities in one regulated market leveraging their operational knowledge to open a non-regulated corporate entity to operate merchant power plants in a neighboring market. As well, smaller government participants -- from municipalities of all sizes to various other agencies, including water and waste management -- may “inherit” older energy generation assets or pan to build out their own renewable energy plants. In short, the marketplace for power plants is very fragmented, and captive to the whims of several market “overlords.”

Wholesale physical power trade typically occurs through bilateral transactions, and while the industry had historically traded electricity through bilateral transactions and power pool agreements, more recent market developments promoted the concept of an independent system operator (ISOs), operating at “arm’s length” from the utilities operating in each ISO’s geographic footprint

Designed to provide open access to transmission assets, ISOs operate the transmission system independently of, and foster competition for electricity generation among, wholesale market participants. Several groups of transmission owners formed ISOs, some from existing power pools. In some areas, utilities have joined regional transmission organizations (RTOs) which, like an ISO, would operate the transmission systems and develop innovative procedures to manage transmission equitably.

To provide grid stability and reliability in addition to adequate energy, each ISO/RTO has both energy and ancillary services markets in which buyers and sellers could bid for -- or offer -- generation of energy or provision capacity to provide energy in standby mode to bolster grid reliability (also called ancillary services). The ISOs and RTOs use bid-based markets to determine economic dispatch. While major sections of the country operate under more traditional market structures, two-thirds of the nation’s electricity load is served in RTO regions.

While electricity can be considered a commodity, it’s important to understand the differences between the wholesale energy markets and traditional financial markets to grasp the concept of how physical electricity is traded. Without significant energy storage, electricity is produced and consumed instantly, and thus supply (generation) must be matched with demand (load) in real time. Typically, across most ISO’s this results in a 5-minute market price at various nodes within the market footprint. But this leads

to a significantly different market design compared to common capital markets; the price isn't reflective of speculation on direction of the underlying asset, but rather the cost of the next "marginal megawatt" of electricity available at that node.

This design has restricted access to the wholesale markets, because while the markets are open, their intimidating technicalities have kept less experienced participants away. The penalties around failing to provide promised energy, including paying the cost of likely more expensive replacement energy, can be onerous to the market participants in a fragmented power plant ownership market.

Regulators encourage traders to join the markets, but potential participants must show technical knowledge to be granted access. It's not advisable to tackle these markets without sufficient knowledge.

The lack of storage and other more complex factors lead to very high volatility of spot prices. In order to hedge some of this inherent price volatility, generators and load serving entities look to fix the price of electricity for delivery at a later date, usually one day out; this is usually called the Day-Ahead Market (DAM). This combination of day-ahead and real-time markets is referred to as a dual settlement market design. The Day-Ahead prices remain volatile due to the dynamic nature of the grid and its components.

Energy prices are influenced by a variety of factors that affect the supply and demand equilibrium. On the load side, the main factors are economic activity, weather and general efficiency of consumption. On the generation side, fuel prices and unit availability due to repairs, construction costs and general fixed costs are the main drivers of price of energy. There's a number of physical factors between supply and demand that affect the actual clearing price of electricity. Most of these factors are related to the transmission grid, the network of high voltage power lines and substations that insure the safe and reliable transport of electricity from its generation to its consumption.

IMPACT OF RENEWABLES

In the past decade, in North America, state/province-level renewable portfolio standards (RPS) as well as federal initiatives have spurred the growth of renewable energy in the grid. Renewable energy sources, principally intermittent renewable energy source of solar and wind power, have become 13% of North American power capacity.

However, the intermittent nature of solar and wind power has created some control issues for grid operators, as the power grid was designed around the concept of large, controllable electric generators. Today, the grid operator uses a three-phase planning process to ensure power plants produce the right amount of electricity at the right time to consistently and reliably meet electric demand. Because the grid has very little storage capacity, the balance between electricity supply and demand must be maintained at all times to avoid a blackout or other cascading problem.

Intermittent renewables are challenging because they disrupt the conventional methods for planning the daily operation of the electric grid. Their power fluctuates over multiple time horizons, forcing the grid operator to adjust its day-ahead, hour-ahead, and real-time operating procedures.

California has the largest penetration of solar generation in the continent, and as such the California ISO (CAISO) has an issue requiring quick-ramping energy supply in the evening peak hours, from 4-8pm local time. And consider solar panels: in addition to daily fluctuations caused by sunrise and sunset, the

output from solar panels can also change suddenly due to clouds. Variability caused by clouds can make it more difficult for the grid operator to predict how much additional electric generation will be required during the next hour of the day, so it becomes difficult to calculate exactly what the output of each generator should be to accomplish the load-following phase identified in the first graphic above.

Fast fluctuations in output from wind or solar energy don't only disrupt the hourly load-following phase of grid planning, but also the second-to-second balance between total electric supply and demand. Today, the grid operator sends a signal to power plants approximately every four seconds to ensure the total amount of power injected into the grid consistently equals the total power withdrawn. Because wind and solar increase the magnitude of sudden power generation shortfalls or excesses, the grid operator requires more reserve power ready to respond at a moment's notice to ensure the grid remains balanced.

While renewables disrupt the grid's operation in a number of ways, it is not impossible to compensate for the additional intermittency and uncertainty. In fact, many of the strategies to overcome renewable variability are simpler than you might realize. There are several strategies that can be used to integrate renewable energy without the need for costly energy storage.

THE "LAW OF LARGE NUMBERS"

While at first glance it might sound like adding too much renewable energy could destabilize the delicate balance of the electric grid, it turns out that renewable energy actually becomes more predictable as the number of renewable, grid-connected generators increases, thanks to the effect of geographic diversity and the Law of Large Numbers.

The Law of Large Numbers is a probability theorem, which states that the aggregate result of a large number of uncertain processes becomes more predictable as the total number of processes increases. Applied to renewable energy, the Law of Large Numbers dictates that the combined output of every wind turbine and solar panel connected to the grid is far less volatile than the output of an individual generator.

Data collected through the Atmospheric Radiation Measurement (ARM) program reveal how aggregating solar resources across a utility territory significantly reduces second-to-second variations in power output, even when only 20 locations are combined. Because the grid operator is only concerned with balancing the total amount of renewable generation with the rest of the grid, the Law of Large Numbers causes the amount of reserve capacity required to balance renewables with the grid on a second-by-second basis to be a lot less than intuition suggests.

In a study commissioned by the Electric Reliability Council of Texas (ERCOT), General Electric calculated how much new reserve capacity will be required as Texas increases the amount of wind energy installed. The report found that an additional 15,000 megawatts of installed wind energy only requires an additional 18 megawatts of new flexible reserve capacity to maintain the stability of the grid. In other words, the spare capacity of one fast-ramping natural gas power plant can compensate for the variability introduced by 5,000 new average-sized wind turbines.

This increase in aggregated resources has two benefits to Greensparc. It provides more potential locations for distributed data centers, likely closer to compute ad energy load demand. It also creates

opportunities for more “distressed” centralized power plants, which no longer see enough energy sales into their energy market

ENERGY PRICES - THE DUAL MARKET SYSTEM

No matter what ISO/RTO or other balancing authority (BA) region is being discussed, physical electricity markets are typically handled in a dual market delivery system, with separate day-ahead (DA) and real-time (RT) markets. The ISO/RTO/BA determine both the day-ahead and real-time cost of energy through the use of locational marginal pricing (LMP).

LMP is determined based on physical constraints on generation or delivery/ device of load, as well as financial impacts such as virtual trades in the financial markets aside from the physical markets.

Since electricity cannot be stored in any significant amounts, the key calculation by any market participants is to balance generation and load in any given moment of time. Historic data and modeling process allow a market clearing body (which could be an ISO or other balancing authority) to estimate load for the next day, and therefore allow all resources in a particular grid to bid into a day-ahead market to provide electricity for the next day.

In this process, a power plant will bid to be picked up in the market, and will typically bid in a certain amount of energy at a certain price to cover costs and earn a margin on their efforts, depending on the have a contract for provision of energy and services in a market, or if they are purely merchant.

By the afternoon of the day before, power plants who have bid into the day-ahead market will see if their offers are accepted in full, in part or not at all. Any accepted bid is binding, and thus creates penalty if the plant fails to deliver.

This may account for 80-90% of estimated load for the next day, but given all the weather risks and other equipment factors, this can vary wildly. real-time prices are based on actual energy needs and supply constraints during the day. Oftentimes, ISOs/RTOs are unable to anticipate certain events that could lead to a shortage or overabundance of electricity.

A shortage means that demand will not be met for end users. Due to the inability to store large amounts of electricity, excess energy must be routed elsewhere on the grid. In reality, the action taken by ISO’s with real-time price signals significantly reduces the risk of any major disruption to the grid.

The real-time market’s prices then follow these balancing needs, typically in five-minute increments but providing a new open market every hour. These prices are consequently much more volatile due to their unpredictable nature. Regarding function, the real-time market operates in some ways similarly to the stock market, where buyers and sellers are brought together to conduct business at the prevailing price.

NEW PREDICTIVE MODELS

While the law of large numbers and the effect of geographic diversity causes renewable energy to smooth out its own fluctuations on a second-by-second basis, it can still be difficult to predict the expected level of renewable generation during the next hour or two of the day. Fortunately, experience

has shown that it is possible to effectively model and predict the aggregate renewable power available to the grid. Both wind and solar depend on natural systems that can be modeled and forecasted with reasonable accuracy.

Today, wind energy makes up over 10 percent of Texas's annual electricity supply, thanks in part to effective wind generation forecasts. This is especially significant because Texas has a unique isolated grid, with no way to access extra conventional electricity generation from outside the state.

INCENTIVIZING ENERGY PRODUCTION AT THE RIGHT TIME AND PLACE

While it's possible to manage second-to-second and hour-to-hour fluctuations in renewable energy output through aggregation and prediction, predicting how much renewable energy will be available a day ahead of time is significantly more difficult.

Integrating a large share of intermittent renewable energy into our daily electricity operations will require a mix of sources that complement each other to roughly equal our total energy demand over the day. This is technically possible because continental wind energy tends to peak at night, coastal wind energy tends to peak during the day, and solar can peak at various times over the day, depending on which way it is oriented.

Accomplishing this mix will require an efficient and effective electricity market that incentivizes electricity generation at the right time and place. Existing competitive electricity markets already have prices that vary over the day and over a region depending on the local level of electricity supply and demand. Exposing renewable energy to these prices can help encourage a mix of renewable sources that produces just the right amount of energy when we need it, and reduces the need for costly energy storage.

IMPACT ON EXISTING GENERATION

However, all of this work integrating renewables, as well as loss of grid-provided power to efficiency investments and on-site (also called "behind the meter") generation installations at large energy consumers, has made the economics of power plants more volatile. Utilities rarely build their own power plants anymore; they have offloaded the construction and management risk onto the participants, like private equity funds and other third-party asset managers with whole they sign long-term PPAs, often lasting up to 30 years in duration.

But with such a dynamic marketplace in power supply, utilities are finding these terms onerous, and are looking for ways to get out of long-term PPAs. And older power plants often find themselves in a situation where they have high fixed operational costs but generating less and less revenue. Operations conditions require these plants to often run at "minimum load." if that cannot be maintained, the plant could be idled. Thus, a source of load that can generate additional revenue and keep the plant in the market for incremental production could be a benefit to plant owners and system operators alike.

THE DRCI & HARDWARE INDEX

CirrusCoin is supported by Greensparc's Distributed Resiliency Cloud Infrastructure (DRCI). Greensparc participated in an emerging initiative in data center architecture hosted by Uptime Institute and 451 Research in June 2017 and, based on outcomes emerging from that research, these findings are incorporated into Greensparc's DRCI architecture models that help maximize energy market advantages identified using its proprietary load-balancing software.

From 451 Research:

> *"Resiliency describes the extent to which a system, digital infrastructure or application architecture is able to maintain its intended service levels, with minimal or no impact on users or business objectives, in spite of planned and unplanned disruptions. It also describes the ability of a system, infrastructure or application to recover full business operations after a disruption or disaster has occurred."*

This definition incorporates two perspectives:

1. Resiliency is primarily about the entire infrastructure or architecture – it is no longer based on a single datacenter (although clearly single-site availability remains a critical concern), nor is it about a single application (which are increasingly failure-blind). Additionally, resiliency is concerned with recovery as well as failure prevention. In the medium to long term, we believe the trend is for traditional disaster recovery (DR) and business continuity to become part of overall resiliency planning.

2. As systems evolve to have more complexity and interdependency, failure and recovery will often be less binary (on/ off) than in the past. Systems can be degraded or missing some services/components or critical data, but still function, unaffected, in other areas. This ambiguity about what failure means will undoubtedly lead to confusion and 'spinning' by some operators.

KEY ENABLING TECHNOLOGY/ INFRASTRUCTURE	WHY
Data center capacity in multiple locations	There must be sufficient capacity to absorb workloads or move them around
Homogenous, off-the-shelf hardware	Servers and storage must be homogenous across sites to pick up loads and/or replicate data/applications
Virtualization/cloud platform/containers	Applications will usually be portable and often composable/ stateless
Load-balancing software	Platform software is needed to balance loads and move work if certain sites lose or lack capacity
GTM/domain name management	Traffic must be switched seamlessly if there are problems in any sites

Application synchronization/ system of engagement for caching transactions	Users should have a consistent experience even if back-end systems are not working fully or at all
Software-defined network management	Network tools should be able to reconfigure the network dynamically if required
Distributed databases/not-only-SQL databases	Databases that are capable of working across multiple locations will provide integrity and transaction management in the event of node losses
Cloud orchestration/management software	Most applications will run on cloud platforms, often multiple clouds. Orchestration software must ensure interworking
Storage recovery/ management /DR /resiliency management tools	Storage management systems and related tools must ensure recovery and management, according to service levels, across multiple sites
Network and facility management tools/resiliency management tools	Tools for managing facilities and networks, including at the physical level, will help automation and rapid reconfiguration/ recovery

Further on the subject of resiliency, Greensparc developed its DRCI to insulate against technology risks by "indexing" the compute platform by using a mix of GPU types and vendors, thus attempting to protect against the risks of locking into a sole source of technology or vendor.

In the redemption of CirrusCoin, the incremental energy amount is thus calculated against the Hardware Index, the performance of which is not against a specific GPU type but rather the weighted average of performance of the portfolio of GPU deployed.

GPU INSTALLED BASE

Greensparc has selected a deployment configuration for the DRCI modules that provides optimal computing performance. We have focused our equipment selection to the most commoditized high performance hardware and software from the most secure and reputable vendors in each technology domain. We always seek to minimize hardware/tech risk through vendor and GPU diversification. As we roll out our modules over time, we will constantly be monitoring new product releases, and adjust our module design accordingly. The most recent deployments of equipment in our network will naturally be more advanced than the first deployments, but we expect to replace every element the GPU inventory regularly to coincide with technology lifecycles.

BUSINESS CASE

DRCI deployment will begin with commoditized, best-in-class equipment and software. After demonstrable success in verifying our infrastructure strategy, Greensparc will employ long-term asset-backed debt financing to accelerate and scale up the construction of the DRCI network. Our models show that even with conservative inputs, the business case for the infrastructure is sound. Here is an example of a typical deployment:

1) Greensparc identifies a suitable power station, available electricity supply of 150-600 kW.

2) Greensparc procures all necessary IT equipment, enclosures, cooling systems, network bandwidth, etc. Within 45-60 days, all hardware is available onsite, installed, and in service.

3) Each deployed rack will support the delivery of approximately one million GPU-kWh over the 3-year minimum usable life of one rack of GPUs, meaning that approximately each million CC tokens sold will require one rack to support the redemption of those tokens over the usable life of the equipment.

One CirrusCoin token entitles the holder to schedule (on our platform) 1 kWh worth of GPU computational use in our fleet of deployed DRCI. Those potential GPU cloud purchasers who do not own CirrusCoin tokens will need to seek out and purchase CC from the holder of those coins (purchased during this coin offering) in order to transact for GPU cloud kilowatt-hours from Greensparc's DRCI network of modules.

For particular hours in which coin holders choose not to redeem coins for compute resource, we will utilize our DRCI compute resources to develop strategies to optimize infrastructure utilization.. While we don't expect this source of revenue to be as valuable as the sale of wholesale GPU cloud compute, it may be useful for supporting the cost of the new or additional network buildout.

When the initial pool of CirrusCoin tokens has been issued, and the network of at DRCI has been constructed (which is what is required to redeem all issued CC over a period of approximately 36 months), Greensparc will seek to issue another block of CirrusCoin tokens to migrate all of the initial GPU compute blades with current, higher-performance equipment, as well as to increase the footprint of the DRCI with more modules at the existing sites, and expand to new sites.

COMPETITION OVERVIEW

There are not yet direct competitors to Greensparc's offering, but one might consider one set of potential competitors to be GPU Cloud Service Providers. However, we seek to provide wholesale GPU cloud capacity to this very group of service providers. Our low cost of delivery allows us to price our cloud compute to allow a healthy margin for cloud service retailers. They can deliver on their QoS commitments even during demand spikes by scheduling capacity with Greensparc, and redeeming CirrusCoin tokens.

Cloud compute demand is growing so rapidly that providers of cloud compute services cannot build capacity fast enough. There is price competitiveness, but no indications of underutilized capacity. We believe that our approach boasts a number of competitive advantages, despite the fact that the landscape right now shows significant room for many competitors:

- Advantageous energy cost due to location
- Modular build out strategy allows for rapid deployment (45 days vs. 1-3 years)
- Advantageous energy cost achieved by network resiliency vs. expensive equipment redundancy
- Unique ability to offer true, renewably-powered compute resource, NOT merely grid-powered and offset with RECs, PPAs, or other "greenwashing" tricks

- Proprietary optimization algorithms that geographically balance compute loads across the network, based on the realities of the available electrical power (this is key when utilizing intermittent renewable energy like wind or solar to power data centers)

Given all of these advantages, we believe that holders of CirrusCoin will be in the enviable position of holding cloud compute tokens from a leader in the enormous market for distributed edge compute. And CirrusCoin holders may benefit further if the market places additional value on the "green-ness" of Greensparc's cloud compute powered by renewable energy. All indications from the past few years point to increasing importance being placed by data center operators, their employees, and the public, on knowing that the compute cloud be powered renewably and sustainably.

TOKEN SALE DETAILS

Pre-sale begins February 1, 2018. A 33% discount is offered to pre-sale purchasers, with a minimum purchase of 1,000 CC required for participation in the pre-sale. Initial Coin Offering will begin on Feb. 15th, 2018 with discounts offered to early purchasers, as described in the "Launch & Timeline" section below.

Each CirrusCoin Token represents the right to redeem 1 kWh of GPU compute resource on Greensparc's DRCI network of compute modules, to be scheduled on a first-come-first-served basis. All available hours will be displayed and can be scheduled on the CirrusCoin website, http://cirruscoin.net. All potential compute customers must use CirrusCoin tokens to schedule time on the DRCI. If a customer has not participated in this coin offering, they will need to procure CirrusCoin tokens on a secondary market or exchange. Greensparc will provide updated links to all exchanges at which CirrusCoin are available for trading.

A total of 50,000,000 CirrusCoin Tokens will be offered for sale. When the maximum amount of cloud compute infrastructure has been built by Greensparc, Greensparc will initiate another coin offering to sell GPU-kilowatt-hours associated with additional deployed compute modules. New modules will be placed at existing sites, and some entirely new sites will be added to the footprint of the Greensparc DRCI network. In any case, compute equipment will be replaced with the latest, highest performing technology at the end of 3 years in operation (the expected usable life).

CIRRUSCOIN TOKEN LAUNCH & TIMELINE

The ICO will be conducted on the Ethereum Network. CirrusCoin Tokens will be available for purchase on pre-sale starting on February 1st, 2018 and during the ICO beginning February 15th, 2018.

Total tokens:	50,000,000 CC
ICO Start	01-Feb-2018
Discount Level 1: 01-Feb to 15-Feb	33%
Discount Level 2: 15-Feb to 22-Feb	20%
Discount Level 3: 22-Feb to 28-Feb	15%

Discount Level 4: 01-Mar to 07-Mar	10%
Discount Level 5: 07-Mar to 15-Mar	5%
Undiscounted Period: 15-Mar to 31-Mar	--
ICO End	31-Mar-2018
ICO token cap:	50,000,000 CC
General availability token price	0.005 ETH

CC can be acquired with ETH or fiat currencies via partners. Transfers can be made from any ETH wallet. For transfers of USD 10,000.00 and over, other options may be available.

USE OF FUNDS

100% of proceeds from ICO will be used for constructing, maintaining, expanding, and operating the mesh of distributed compute modules described in this white paper.

First priority is to install 1-3 modules. CirrusCoin has assembled the initial budget to deploy the DRCI modules, with some scale economies and volume pricing benefits that will improve as more modules beyond the initial deployment stage are constructed.

In addition to the direct DRCI costs, some of the proceeds of the ICO and subsequent offerings of CirrusCoin Tokens will fund the operations and other overhead associated with CirrusCoin's network of DRCI. We anticipate a relatively small staff, given the efficiencies of the CirrusCoin business model, especially the focus on minimizing maintenance costs for the mesh of distributed cloud compute modules.

CirrusCoin can be redeemed immediately upon the close of the ICO for service on the DRCI network.

Each token represents 1 kilowatt-hour of GPU computational power. CirrusCoin may elect, from time-to-time to purchase any issued CirrusCoin tokens held by the public.

MANAGEMENT TEAM

SAM ENOKA, CO-FOUNDER & CEO

As the Founder and CEO of Greensparc, Samuel Enoka leverages his broad range of experience in energy markets and alternative asset management, including institutional real estate, venture capital and technology, hedge funds, fund-of-funds, and commodity trading.

From 2006 to 2016 Mr. Enoka served as President and CFO of Viasyn, the leading independent third-party scheduling coordinator serving the CAISO electricity market. At Viasyn, Enoka's responsibilities included; CCA and energy program design, stakeholder management, resource development advisory and energy commodity financial product development.

Mr. Enoka graduated from the University of Alaska Fairbanks with a BBA in Finance and earned an MBA from the University of California Berkeley as a Toigo Fellow in 1999.

Mr. Enoka serves on the 451 Research/Uptime Institute Distributed Resilience working group and the advisory board of the Alaska Center for Energy and Power (ACEP). Previously, Enoka has served on various other working groups including SFPUC's Greentech Advisory Committee (2010), member of Western Power Trading Forum (2007-2016), Western Electricity Coordinating Council (2007-2016) and Entrepreneur in Residence at University of Alaska (2008-2010)

MANU KALIA, CO-FOUNDER & CFO

Manu Kalia has over 20 years of high tech and financial management experience. Prior to co-founding Greensparc, Mr. Kalia served as Chief Financial Officer of Power Choice, Inc. where he was instrumental in proposing rate tariffs and financing structures for SFPUC's Community Choice Aggregation program in 2010. Prior to working at Power Choice, Mr. Kalia served as CFO for Crownbutte Wind Power, Inc. (F/k/a Promana Solutions Inc.) since September 2008 and also served as its Principal Accounting Officer. Mr. Kalia served as Promana Solutions Inc.'s Chief Executive Officer from July 2006 to July 2008. Prior to that, he was a founder and principal of SF Consiglieri, which offered a full range of corporate finance and strategy consulting, including investment-banking-style analytical modeling and negotiation support to a number of public and private companies.

Mr. Kalia has an impressive track record and his experience with finance and marketing has helped several small companies to maximize their potential. He served as director of Finance and eventually Interim Chief Financial Officer of ARC International PLC from October 2002 to June 2006. He served as Chief Executive Officer of Open Source Creations Inc. from August 2000 to February 2001. Prior to that Mr. Kalia spent time as an Investment Banker for Commonwealth Associates from July 1999 to July 2000, as an Analyst for Sanford Bernstein from April 1998 to June 1999, and as a manager at Lucent Technologies Bell Laboratories from September 1995 to March 1998. He has been a Director of StarInvest Group Inc. since March 2009. Mr. Kalia holds a Bachelor of Engineering Sciences (cum laude) from Dartmouth College, and an MBA from the Amos Tuck School of Business Administration at Dartmouth.

TREVOR CURWIN, VP ENERGY MARKETS

Trevor Curwin has been an alternative investments analyst for over 12 years, with a focus on cleantech, renewable energy and distributed infrastructure investment opportunities since 2007. As an investment consultant, Trevor has helped several cleantech startups with market research and positioning, especially on renewables, and has evaluated over 20 renewable energy projects and technologies, from utility-scale generation projects under agreements to some of North America's largest utilities, to small-scale distributed generation and "behind the meter" projects, of all renewable energy fuel types..

For the last decade, he has been focused on asset management and power trading and operations. He has worked as an energy trader and markets strategist with Emera Energy, the energy marketing arm of Emera Inc. (TSX: EMA), where he forecasts energy demand in the northeastern US grids as well as eastern Canada, optimizing client assets as diverse as a 1GW combined cycle natural gas plant, a 200MW wind portfolio and a 250MW hydro facility.

As well, he has worked as an asset manager with Pacific Gas & Electric, managing a utility-owned and contracted renewable energy portfolio of over 10 GWs.

Prior to moving to the energy sector, Mr. Curwin worked on strategic marketing and capital formation in alternative assets for Bank of America, and helped launched CIBC's first telephone and online banking operations in Canada.

Mr. Curwin is also a frequent contributor and marketplace influencer on IoT and distributed systems, and has spoken at events global on these emerging technologies . He holds an MBA from Saint Mary's University, and is based in Halifax, Nova Scotia.

ADVISORY BOARD

DR. RICK MCPHEE

Rick McPhee served as an Senior Vice President of Engineering at OPOWER, Inc. since March 2012. Mr. McPhee served as Vice President of Engineering at Fortify since 2008 until 2012. Mr. McPhee served as Vice President of Engineering at OPOWER, Inc., since April 2012. Mr. McPhee is responsible for Fortify's research and development and their flagship Fortify 360 product suite which enables customers to drive down costs and security risks by automating key processes of developing and deploying secure applications.

Prior to Fortify, he served as Vice President of engineering at Vormetric, which develops encryption and key management products to protect sensitive data wherever it is stored. Prior to Vormetric, he served as Vice President of engineering at Sychron. Mr. Mcphee is an accomplished and well respected technology leader in the security industry. He has over ten years of experience leading engineering teams to build complex software systems for the enterprise. He serves as Member of Advisory Board of Threatmetrix, Inc. He holds bachelor of science in computer science from the University of Glasgow and a Ph.D. in computer science from the University of Oxford.

ELISE GERICH

Prior to joining Greensparc, Elise Gerich served as President of Public Technical Identifiers (PTI) and Vice President of IANA & Technical Operations. She worked in her position with IANA for eight years, starting in 2010. Shortly after the PTI was formed to replace IANA following the US government's relinquishment of oversight, Gerich was confirmed as President of PTI.

Prior to IANA/ICANN, Gerich worked for Juniper Networks for nine years, where she served most recently as Director of Software Product Management. Before then, she worked as the Director of Operations for the @Home Network, which built and operated the first national backbone for delivery of Internet Services by North American cable operators. Before @Home, Gerich served as the Associate Director National Networking at Merit Network in Michigan. While at Merit she was also a Principle Investigator for NSFNET's T3 Backbone Project and the Routing Arbiter Project. She also has served as co-chair of the Internet Planning Group (IEPG), chair and co-founder of the North American Network Operators' Group (NANOG), the National Science Foundation's representative on the Federal Engineering Planning Group and a member of the Internet Architecture Board (IAB). Gerich earned her Bachelor of Arts from the University of Michigan

DR. SHIVA HULLAVARAD

Dr. Shiva Hullavarad is Enterprise Content and Electronics Records Administrator for the University of Alaska System. In his role at UA, Dr. Hullavarad provides systemwide leadership on records compliance, records privacy, data management, analysis and projections and data-based decision methodologies. Prior to joining the UA System, Dr. Hullavarad built and lead Alaska's first micoelectronics, nanotechnology and photonics laboratory and research program at University of Alaska Fairbanks.

Dr. Hullavarad holds BSc and MSc degrees in Physics and Materials Science from Karnatak University (Dharawar, India) and PhD in Physics and Materials Science from University of Pune (Pune, India) and ECM/ERM practitioner. He has authored 81 technical papers and presented at national conferences.

JESUS ARREDONDO

As Principal and Founder of Advantage Consulting, Jesus Arredondo provides governmental, regulatory, public affairs and advocacy representation and counsel on state, national and international issues, including all aspects of support for media relations, specializing in crisis and Spanish language communication. The firm includes a network of policy analysts and consultants with subject-matter expertise with concentrated experience in governmental policy related to agriculture, energy and United States-Mexico relations.

LIAM WEAVER

Liam Weaver is a cleantech engineer and data scientist specialized in renewable energy systems, optimization, and controls. His professional work is focused on sustainable integration of renewable and intermittent resources into the grid.

Before entering the cleantech energy space, Liam worked on climate change infrastructure resiliency research in conjunction with the Knoxville Utilities Board, Oak Ridge National Laboratory, and the US Department of Homeland Security and advised the technical team as an intern for sustainable development at the New Zealand Green Building Council.

He holds a BS in Engineering from the University of Tennessee and an MS in Engineering from UC Berkeley in the Energy, Civil Infrastructure, and Climate program, where he collaborated with industry partners and focused on: optimal management and dispatch of distributed energy resource systems; demand response automation through cyber-physical systems; and machine learning applications for Smart Grid Smart City program analysis.

DR. BRIAN HIRSCH

Dr. Brian Hirsch is the President and Founder of DeerStone Consulting LLC, a renewable energy consulting firm focused on microgrid, utility, and community development in remote locations, especially the Arctic and the Tropics. Recent and ongoing projects include the largest solar photovoltaic-wind-battery-diesel hybrid system in the state of Alaska, identifying and pursuing energy development and savings opportunities for the Municipality of Anchorage, and contributing to a renewable energy replication strategy for remote locations across Indonesia. He is currently involved in

providing technical support to Alaska Native regional organizations and other groups covering over 120 communities.

From 2009-2015 he was the Senior Project Leader for the National Renewable Energy Laboratory's (NREL) Alaska Initiative and projects globally. In that position Dr. Hirsch led project development teams to advance efficiency and renewable energy technologies in remote communities across Alaska, Canada, and Indonesia. He received a Masters certification in Energy Analysis and Policy and a Doctorate in Land Resources from the University of Wisconsin-Madison, focusing on energy issues in northern regions of the world and a Bachelor's degree in Government/Political Science with an additional focus on electrical engineering from Cornell University.

RISK FACTORS

The purchase of crypto-currency and crypto tokens involves a high degree of risk. These risks are described below, but are not limited to these, and therefore this risk factor statement does not claim integrity. Before acquiring CirrusCoin Token, it is recommended that each potential token holder carefully considers all the risks that are stated in this White Paper, especially the following risk factors.

Certain risks relating to the purchase, sale and use of CirrusCoin Tokens

Important Note: CirrusCoin Cloud Compute Tokens are not being structured or sold as securities or any other form of investment product. Accordingly, none of the information presented in this White Paper is intended to form the basis for any investment decision, and no specific recommendations are intended. The CirrusCoin project expressly disclaims any and all responsibility for any direct or consequential loss or damage of any kind whatsoever arising directly or indirectly from: (i) reliance on any information contained in this White Paper, (ii) any error, omission or inaccuracy in any such information, or (iii) any action resulting from such information.

By purchasing, holding and using CirrusCoin Tokens, you expressly acknowledge and assume the following risks:

Reliance on computer infrastructure

The CirrusCoin project is dependent on functioning software applications, computer hardware, and the Internet. This implies that CirrusCoin can provide no affirmation that a system failure would not unfavorably affect the performance of the mining operations. CirrusCoin has executed all reasonable network security arrangements, but despite this, the processing servers are endangered by computer viruses, hacking attacks or other failures caused by third parties. This event may result in interruption, delay or suspension of the CirrusCoin services.

Security weaknesses

Because the Platform is based on open-source software, there is a risk that a third party or a member of the CirrusCoin team may intentionally or unintentionally introduce weaknesses into the core infrastructure of the Platform, which could negatively affect the Platform and CirrusCoin Tokens, including CirrusCoin Tokens' utility for obtaining Services.

Risk of mining attacks

As with other decentralized cryptographic tokens based on the Ethereum protocol, Cloud Compute Tokens are susceptible to attacks by miners in the course of validating CirrusCoin Tokens transactions on the Ethereum blockchain, including, but not limited to: double-spend attacks, majority mining power attacks, and selfish-mining attacks. Any successful attacks present a risk to the platform and CirrusCoin Tokens, including, but not limited to, accurate execution and recording of transactions involving CirrusCoin Tokens.

Rapid changes in technology may unfavorably affect the mining project

Mining crypto-currency is a very flexible and fast-changing business, therefore the CirrusCoin project will try to keep up with the latest technologies at its facilities. It might happen, despite CirrusCoin's best efforts, that it will fail to remain competitive. Because of that, token holders have to be aware of the risk of declining benefits.

Variation in electricity rate

The present cost of electricity provided in this White Paper is based on the estimated electricity power rates based on analysis of grid prices. These electricity rates will change and are not guaranteed. If a change in the electricity rates occurs, it may result in a change the value of CirrusCoins and ancillary costs.

Risks associated with the Ethereum protocol

Because CirrusCoin tokens and the Platform are based on the Ethereum protocol, any malfunction, breakdown or abandonment of the Ethereum protocol may have a material adverse effect on the Platform or Cloud Compute Tokens. Moreover, advances in cryptography, or technical advances such as the development of quantum computing, could present risks to CirrusCoin Tokens and the Platform, including the utility of CirrusCoin Tokens for obtaining Services, by rendering ineffective the cryptographic consensus mechanism that underpins the Ethereum protocol.

Risks associated with markets for CirrusCoin Tokens

CirrusCoin Tokens are intended to be used solely on the Platform. There is no support for any secondary trading or external valuation of CirrusCoin Tokens. This restricts the contemplated avenues for using CirrusCoin Tokens to obtain Services or access the Platform, and could therefore create illiquidity risk with respect to CirrusCoin Tokens you hold. Even if secondary trading of CirrusCoin Tokens is facilitated by third party exchanges, such exchanges may be relatively new and subject to little or no regulatory oversight, making them more susceptible to market-related risks. Furthermore, to the extent that

third-parties do ascribe an external exchange value to CirrusCoin Tokens (e.g., as denominated in a digital or at currency), such value may be extremely volatile and diminish to zero.

Risk of uninsured losses

Unlike bank accounts or accounts at some other financial institutions, CirrusCoin Tokens are uninsured unless you specifically obtain private insurance to insure them. Thus, in the event of loss or loss of utility value, there is no public insurer, such as the Federal Deposit Insurance Corporation, or private insurance arranged by us, to offer recourse to you.

Risks associated with uncertain regulations and enforcement actions

The regulatory status of CirrusCoin Tokens and distributed ledger technology is unclear or unsettled in many jurisdictions. It is difficult to predict how or whether regulatory agencies may apply existing regulations with respect to such technology and its applications. It is likewise difficult to predict how or whether legislatures or regulatory agencies may implement changes to law and regulation affecting distributed ledger technology and its applications, including the Platform and CirrusCoin Tokens. Regulatory actions could negatively impact the Platform and CirrusCoin Tokens in various ways, including, for purposes of illustration only, through a determination that CirrusCoin Tokens are a regulated financial instrument that requires registration or licensing. The company may cease operations in a jurisdiction in the event that regulatory actions, or changes to law or regulation, make it illegal to operate in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

Risks arising from taxation

The tax characterization of CirrusCoin Tokens is uncertain. You must seek your own tax advice in connection with purchasing Cloud Compute Tokens, which may result in adverse tax consequences to you, including withholding taxes, income taxes and tax reporting requirements.

Risk of an unfavorable fluctuation of crypto-currency values

The proceeds from selling CirrusCoin Tokens are intended to be used for expanding the DRCI network and to maintain the latest technology, as stated in this White Paper. The proceeds of the sale of CirrusCoin Tokens will be denominated in Ether, and may, at our discretion, be converted into other cryptographic and fiat currencies. If the value of Ether or other currencies fluctuates unfavorably during or after the Sale Period, there is the possibility that the intended use of the proceeds may not be sufficient to develop the CirrusCoin project as explained in this White Paper.

Force Majeure

The CirrusCoin business may be disrupted, suspended or delayed as a result of force majeure circumstances. Force majeure is intended to mean for the intention of this White Paper, any extraordinary circumstances and occurrences which could not be impeded and shall include: wars, mass civil disturbances, armed conflicts, acts of nature, industrial operations, lockouts, epidemics, ongoing shortage or other failures of power supplies or communication service, acts of state and other circumstances beyond CirrusCoin's control, which did not exist at the time of the Token Launch.

Disclosure of information

Personal information obtained from CirrusCoin Tokens holders, information about the amount of tokens, the wallet addresses used, and any other related information may be disclosed to government officials, law enforcement, and other third parties in case the CirrusCoin project is required to disclose such information by law, court order, or subpoena. At no time shall the CirrusCoin project be held responsible for such information disclosure.

Change of the value of the CirrusCoin Tokens

The value of the CirrusCoin Tokens can notably change on account of different reasons once the tokens have been bought. There is no guaranteed value of the CirrusCoin Tokens at any given time period. The CirrusCoin project is not legally liable for any change in the value of Cloud Compute Tokens. Statements regarding future developments include, not exclusively, predictions about future economic, market, and competitive conditions and operation decisions. The majority of these are not under the control of the CirrusCoin project team and so cannot be predicted precisely. Even though the CirrusCoin team considers that its predictions and forward-looking statements are legitimate, they might be erroneous. Emerging from that fact, the CirrusCoin team will offer no guarantees that the predictive statements included in this White Paper will turn out to be definitive. As a result of the uncertainties in the forward-looking statements contained in this White Paper, the integration of such information should not be interpreted as a warranty on behalf of the CirrusCoin project or another entity that the plans and purposes of the CirrusCoin project will be effectively reached. The CirrusCoin project may be subject to other risks not foreseen at this moment by the management team.

Unanticipated risks

Cryptographic tokens such as CirrusCoin Tokens are a new and untested technology. In addition to the risks included in this White Paper, there are other risks associated with your purchase, holding, and use of CirrusCoin Token, including those that are not anticipated in this White Paper. Such risks may further materialize as unanticipated variations or combinations of the risks discussed in this White Paper.

TERMS & CONDITIONS

The CirrusCoin management team accepts responsibility for the information contained in this White Paper. To the best of the knowledge and belief of the management team (who have taken all reasonable care to ensure that such is the case) the information contained in this White Paper is in accordance with the facts and does not omit anything likely to affect the import of such information.

Certain information contained in this White Paper constitutes “forward looking statements”, which can be identified by the use of forward-looking terminology such as “may”, “will”, “should”, “expect”, “anticipate”, “project”, “estimate”, “intend”, or “believe” or the negatives thereof or other variations thereon or comparable terminology. Due to various risks and uncertainties, including those described under the sections headed “Risk Factors”, actual events or results or the actual performance of CirrusCoin may differ materially from those reflected or contemplated in such forward-looking statements.

RESTRICTION ON DISTRIBUTION

The distribution of this White Paper and the ICO in certain jurisdictions may be restricted and accordingly persons into whose possession this White Paper may come are required to inform themselves of and to observe any such restrictions.

This White Paper is a solicitation to prospective applicants who meet the eligibility criteria to participate in the ICO and does not constitute an offer for sale of shares. However, it does not constitute a solicitation to any person in any jurisdiction in which such solicitation is not authorized or to any person to whom it would be unlawful to make such solicitation. The foregoing information is for general guidance only. It is the responsibility of any person or persons in possession of this White Paper and wishing to participate in the ICO to inform themselves of, and to observe, all applicable laws and regulations of any relevant jurisdiction. Prospective participants should inform themselves as to legal requirements also applying and any applicable exchange control regulations and applicable taxes in the countries of their respective citizenship, residence or domicile.

DISCLAIMERS

This White Paper does not constitute a recommendation by CirrusCoin, its management team, the Advisory Board or any other person, or advice to any recipient of this White Paper, on the merits of participation in the ICO. This White Paper does not necessarily identify, or purport to identify, all the risk factors associated with CirrusCoin. Prospective participants must make their own independent assessment, after making such investigations as they consider necessary, of the merits of participating in the ICO. Prospective participants should consult and rely upon their own investment, accounting, legal and tax representatives and advisers as to such matters concerning CirrusCoin and to evaluate independently the financial risks, consequences and suitability of an investment in CirrusCoin, or if in any doubt about the contents of this White Paper.

Purchasing CirrusCoin carries substantial risk and may involve special risks that could lead to a loss of all or a substantial portion of such investment (see further under the section headed “Risk Factors”). Unless prospective participants fully understand and accept the nature of CirrusCoin and the potential risks inherent in CirrusCoin they should not invest in CirrusCoin. Each prospective participant is wholly responsible for ensuring that all aspects of CirrusCoin are acceptable to them.

There can be no assurance that CirrusCoin’s objective will be achieved and operational results may vary substantially over time. Purchasing CirrusCoin is not intended to be an investment program for any purchaser. Prospective participants should carefully consider whether purchasing CirrusCoin is suitable for them in light of their circumstances and financial resources. Prospective purchasers should inform themselves as to the legal requirements within the countries of their nationality, residence, ordinary residence or domicile for such acquisition, any foreign exchange restrictions or exchange control requirements which they might encounter on acquisition or disposal of CirrusCoin Tokens and the income tax and other taxation consequences which might be relevant to the acquisition, holding or disposal of CirrusCoin Tokens.

IF THE PROSPECTIVE PARTICIPANT IS IN ANY DOUBT ABOUT THE CONTENTS OF THIS DOCUMENT THEY SHOULD CONSULT WITH THEIR ACCOUNTANT, LEGAL ADVISER OR OTHER PROFESSIONAL ADVISER BEFORE PURCHASING.

Token purchases

The CirrusCoin management team may at any time and for any reason decide to purchase or sell CirrusCoin Tokens.

Token Usage Rights

The Cloud Compute Tokens carry no ownership, revenue or governance rights: , ICO participant understands and accepts that CirrusCoin Tokens do not represent or constitute any ownership right or stake, share or security or equivalent rights nor any right to receive future revenues, shares or any other form of participation or governance right in or relating to CirrusCoin other than the right to redeem tokens for energy powering CirrusCoin time from the operation as described in this White Paper.

REPRESENTATION AND WARRANTIES BY THE PARTICIPANT

By transferring ETH to the CirrusCoin wallet, the ICO participant represents and warrants that:

- The ICO participant is not a citizen or resident of a country, whose legislation conflicts with the present allocation of CirrusCoin Tokens and/or CirrusCoin in general;
- The ICO participant has a deep understanding of the functionality, usage, storage, transmission mechanisms and intricacies associated with cryptographic tokens, like Bitcoin (BTC) and Ether (ETH), and blockchain-based software systems;
- The ICO participant understands and accepts that there is no warranty or assurance that the network of miners will allocate the CirrusCoin Tokens to the ICO participant.
- The ICO participant has carefully reviewed the code of the CirrusCoin wallet located on the Ethereum blockchain at the addresses specified on the CirrusCoin website and fully understands and accepts the functions implemented therein;
- The ICO participant is legally permitted to transfer ETH to the CirrusCoin wallet, create, liquidate and obtain Cloud Compute Tokens in the ICO participant's jurisdiction;
- The ICO participant will contribute ETH from a wallet or wallet service provider that technically supports the CirrusCoin Tokens. ICO participant understands and accepts, that failure to assure this may have the result that ICO participant will not gain access to his CirrusCoin Tokens; the ICO participant is legally permitted to receive software and contribute to the CirrusCoin wallet;
- The ICO participant is of a sufficient age to legally create and obtain CirrusCoin Tokens;
- The ICO participant will take sole responsibility for any restrictions and risks associated with the creation of Cloud Compute Tokens by the Greensparc wallet as set forth below;
- The ICO participant is not submitting ETH to the CirrusCoin wallet to obtain CirrusCoin Tokens for the purpose of speculative investment;
- The ICO participant is not obtaining or using CirrusCoin Tokens for any illegal purposes;
- The ICO participant waives the right to participate in a class action lawsuit or a class wide arbitration against CC or any individual involved with the creation of CirrusCoin Tokens or CC;

- The ICO participant understands the creation of Cloud Compute Tokens does not involve the purchase of shares or any equivalent in any existing or future public or private company, corporation or other entity in any jurisdiction;
- The ICO participant understands that the transfer of ETH to the Greensparc wallet and the creation of CirrusCoin Tokens carries significant financial, regulatory and reputational risks as further set forth in this Prospectus;
- The ICO participant understands and expressly accepts that there is no warranty whatsoever on CirrusCoin Tokens and the CirrusCoin wallet, expressed or implied, to the extent permitted by law, and that the CirrusCoin wallet is used and CirrusCoin Tokens are created and obtained at the sole risk of the User on an “as is” and “under development” basis and without, to the extent permitted by law, any warranties of any kind, including, but not limited to, warranties of title or implied warranties, merchantability or fitness for a particular purpose;
- The ICO participant understands that the User has no right against any other party to request any refund of the ETH submitted to the CirrusCoin wallet for the creation of the Cloud Compute Tokens under any circumstance;
- The ICO participant understands that the value of CirrusCoin Tokens over time may experience extreme volatility or depreciate in full; the ICO participant understands that the ICO participant bears the sole responsibility to determine if the User’s contribution to the Greensparc wallet, the transfer of ETH to the CirrusCoin wallet, the creation, ownership, use or liquidation of CirrusCoin Tokens, the potential appreciation or depreciation in the value of CirrusCoin Tokens over time (if any), and the allocation of CirrusCoin Tokens have tax implications for him; by creating, holding, using or liquidating CC, and to the extent permitted by law, the User agrees not to hold any third party (including developers, auditors, contractors or founders) liable for any tax liability associated with or arising from the creation, ownership or CirrusCoin Tokens.