GRØN SKY

Creating a Green Cloud to massively reduce the carbon footprint of small and medium enterprises

Jeremy Cox, Founder CX-Create

Sponsored by Oracle for Startups program

CX-Create

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About this report

Based on direct interviews with the founder and serial entrepreneur, Pierre Bennorth, this brief report introduces Grøn Sky (Green Cloud), A Danish company and one of the growing number of startups supported by the Oracle for Startups program.

Grøn Sky is an exciting and innovative business in the early startup stage with a passionate focus on sustainability through cloud technology.

The theme for this month is around startups in the energy and utilities sector and how they are innovating, changing the competitive landscape, and contributing to sustainability.

CX-Create is an independent IT industry analyst and advisory firm, and this report is sponsored by the Oracle for Startups program team.

The business context for Grøn Sky

Key drivers

A stark warning on climate change

COP 26, Glasgow UK November 2021, the global Conference bringing together government leaders, thousands of representatives, and businesses from across the world, has been positioned by the UN organizers as 'the world's best last chance to get runaway climate change under control.' This is the 26th' Conference of the Parties under the auspices of the UN. COPs in previous years barely received a mention in national newspapers. Today, citizens in every region of the world have witnessed the impact of man-made climate change. While the number of climate deniers is rapidly diminishing, it is no longer just activists concerned about the problem. The young see their futures held hostage, and the increasingly informed older generations fear the legacy they may inadvertently leave behind.

We have become familiar with the many causes that threaten to destroy our planet:

- The growing consumption of fossil fuels that power our supply chains, transportation, and heat or cool our homes
- The destruction of carbon-absorbing forests

What is less well known is the impact of digital technologies. A double-edged sword that holds the promise of innovation to solve climate change challenges yet also quietly contributes to the problem.

Cloud storage, the secret CO2 contributor

Most people (the author included before my interview with Pierre Bennorth) are oblivious to the staggering levels of CO2 that cloud storage generates. It is equivalent to the CO2 emissions of all the world's air travel at pre-pandemic levels (source: Lean ICT Report, The Shift Project, 2019). Remarkably, according to Bennorth, storage of documents, images, and videos are the chief culprits. The problem is that when we upload these items into the cloud, they are indiscriminately stored to allow immediate access, even though they are rarely accessed and could easily be archived. Live storage consumes considerably more energy than archived storage.

This is where Grøn Sky (Groen Sky) comes in

It is predicted that the use of data will increase twentyfold by 2030. In Denmark, a pioneering country in digital transformation, data use accounts for 17% of the total energy consumption in 2020. So we must either produce MUCH more energy or save on electricity consumption.'

Bennorth's small development team allows customers to choose how they store their files. Those that are only rarely accessed, typically around 80% or more, can be placed in archived storage that doesn't consume power except when accessed or moved to regular, live storage, which requires constant power. A real-time calculator allows customers to see how much CO2 they can save, based on a calculation that one terabyte of data consumes 11.3 Watt per hour – (source: The carbon footprint of distributed cloud storage Lorenzo Posania, Alessio Paccoia, Marco Moschettini).

> 'Our vision is to reduce CO2 emissions by 90% on cloud storage. We know it is possible to achieve - if the users and the (leaders, politicians, and decision-makers) will back us.'
>
> Pierre Bennorth, Founder and CEO Grøn Sky

Carbon footprint varies by region. For each KW of electricity, 700 grams of CO2 are produced in the US, 300 in the EU, and 160 in Denmark.

Key observations

- Cloud storage, the secret CO2 contributor
- Grøn Sky's vision is to reduce CO2 emissions by 90% on cloud storage
- Oracle Cloud Infrastructure and the Oracle for Startups program prove their value
- Grøn Sky promises to change the sustainability economics and fulfill its vision as it develops and grows.

Grøn Sky - the story so far

The beginning

Bennorth is a serial entrepreneur and inventor, a former toolmaker and housebuilder specializing in glass and aluminum construction. He invented a 1:1 stackable rack for storing CDs. In 1997 he made his first foray into IT with a shortcut program for the internet.

He is a father of five children and has a deep interest in sustainability and protecting the future for his children and future generations. In 2017 decided that heavy lifting in construction was becoming too demanding. It was time to take the plunge. He developed a decentralized data center combined with energy storage creating a prototype Cel2. With a built-in household battery, Cel2 can store power from solar energy produced during the day for use in the evening. In the same way, power can be saved from wind turbines, so they do not have to be turned off when it is windy.

Birth of the idea and serendipity

In November 2019, he went to a network meeting at the Danish Energy Association 2019. On the way down in the elevator from the 5th floor, he met Erik Ejdrup Hansen, CX - Senior Sales Executive from Oracle, and by the time they reached the ground floor, Erik replied to Pierre's pitch with an "Oh, is it really that simple?".

The next day he was introduced to Lars Vestergaard from Oracle for Startups, Head of Market Connect EMEA, and the relationship with Oracle began. A month later, he attended a webinar with

AWS, Microsoft, and Oracle and was immediately impressed by the highest levels of data security offered by Oracle Cloud Infrastructure. Information on electrical power usage is highly sensitive, and therefore security was his number one concern.

Launch of Grøn Sky – May 2019

On 29th May 2019, Bennorth officially launched the company and currently runs a team of four plus a student engineer.

On 6th March 2020, the components to build a prototype were delivered to the Danish Technology Institute for testing. Three days later, the Covid pandemic led to nationwide lock-down – hardly an auspicious start. Undeterred, Bennorth and his team have used the time to develop the Grøn Sky platform, outlined below.

Grøn Sky solution overview

Reducing the carbon footprint of cloud storage

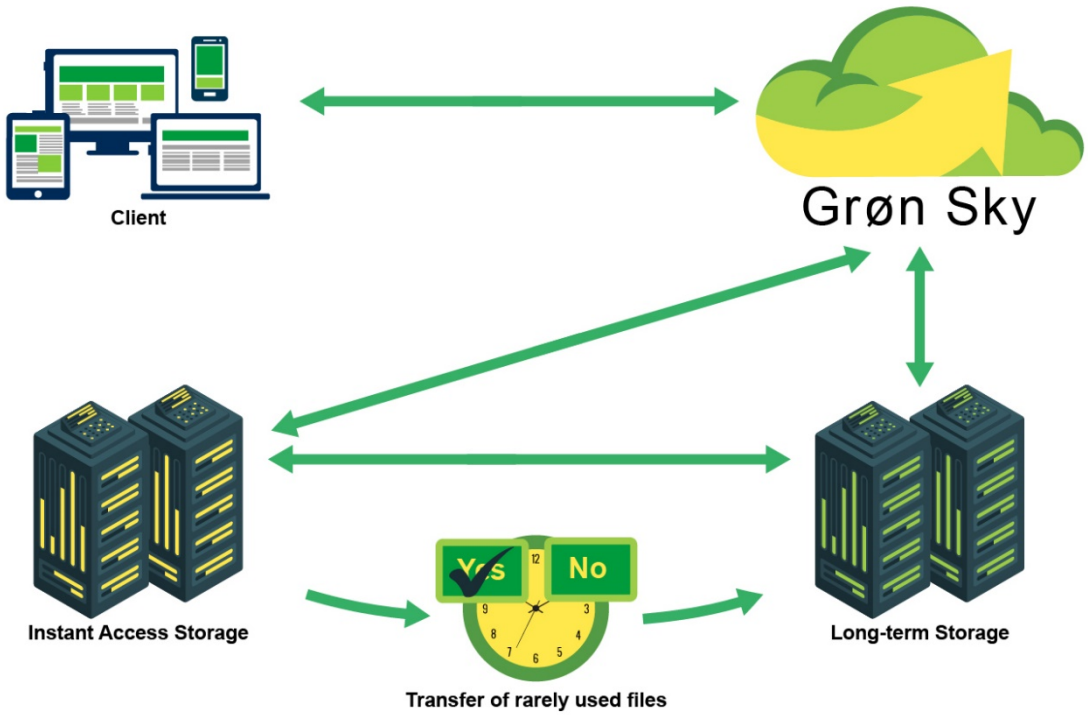

Figure 1: A model of how the Grøn Sky platform built on Oracle Cloud Infrastructure works.

The Grøn Sky cloud solution, all built on OCI, allows customers to archive files or images, videos, and documents that do not require instant access. In addition to the security advantages provided by OCI, Oracle has data centers throughout the world, providing potential global reach as Grøn Sky develops. An additional benefit is that Oracle's goal is to power its cloud with 100 percent renewable energy by 2025, a goal they have already achieved within the EU.

The design criteria included easy to use, and on his team of 4 developers, 2 are UX experts.

The solution can also be 'white labeled,' allowing companies to offer it as part of their offerings. In Denmark, as with many other countries, there is a shortage of well-qualified young employees.

Firms can offer the facility under their own branding to students to encourage and attract them as future employees and simultaneously gain carbon credits. A running total of CO2 consumption is provided in real-time.

Current position

The solution supports the UN's sustainable development goal SDG13 - **Take urgent action to combat climate change and its impacts**. The solution can be accessed via any browser and from March 2022 by a smartphone app. The company participates in the climate initiative' CO2 neutral websites' where the carbon emissions from its website have been neutralized by 200%. The company holds the prestigious CO2 Neutral Website Certificate that validates its carbon-neutral status.

Current investors

Currently, the company is self-funding; however, it has recently launched a crowdfunding campaign to provide development funds.

Strategic partnerships

Grøn Sky has strategic partnerships, including Oracle for Startups, Dansk Overscuds Energi (Danish Surplus Energy), DigitalLead - Denmark's digital technologies cluster organization, and several Danish organizations focused on sustainability.

Oracle Cloud Infrastructure and the Oracle for Startups program prove their value

The Oracle Cloud Infrastructure platform provides the data security that is vital to Grøn Sky. The company has excellent local Oracle connections, which helped it get started, and the Oracle for Startups program and responsiveness of its people have been exemplary. In Bennorth's own words: "It's been wonderful! – when we've asked for support, we have got it, and Lars opened the doors for us. Even when we were running low on credits, we didn't have to ask for a top up'. Unsurprisingly, Bennorth is an advocate of the program.

Future direction

Product development priorities

Grøn Sky has a shortlist of development priorities for the coming year:

- **Provision for shared accounts** - both employees and families can benefit from shared accounts where they can have both private and shared folders. An extra benefit is that they can share and transfer larger files than email inboxes allow.
- **CO2-certificate prog**ram - with a CO2 certificate, customers can show their friends or customers that they also support the climate and the goal of CO2 reduction. The company already has documentation as evidence of its CO2 reduction credentials. Eventually, they hope to develop a dynamic personal certificate that automatically updates as customers reduce CO2 emissions.
- **Auto-migration** – to make it easy to move data stored on other cloud storage providers. With Auto-migration, Grøn Sky will enable businesses and individuals to move all stored data from current providers to Grøn Sky entirely automatically.
- **Computer apps** (Desktop/Laptop) will enable customers to access their folders in the cloud without opening a browser. Their files will be immediately available on the desktop. They can also set up folders to automatically backup new files to the cloud. Ensuring vital files are not lost if something goes wrong with their computer.

CX-Create's viewpoint

The need for sustainable technology is growing, and Grøn Sky is an early mover in green cloud technology. Today the company is in the early stage of development. However, we expect it to meet its product development goals and increase its reach with additional funding. The Oracle partnership should lead to greater exposure and potential introductions to many more businesses in all regions.

The planned certification program and shared account option may also have a viral effect, making it easier to attract new customers.

Summary details

Table 1: Fact sheet

Solution name	Grøn Sky	**Solution category**	Green cloud storage
Key industries	Small and medium enterprises in any industry	**Geographies**	Global
Deployment model	SaaS	**Licensing basis**	Subscription
Size of organizations served	Small and medium enterprises with the potential to support larger enterprises	**Go-to-market model**	Direct and via white label as part of 3rd party solutions
Number of employees	4	**Key partnerships**	Oracle for Startups & OCI for development,
URL	https://groensky.dk/	**HQ**	Copenhagen, Denmark

Appendix

About CX-Create

Jeremy Cox founded CX-Create Limited in January 2021, a former principal analyst at Omdia (formerly Ovum) focused on customer engagement strategies and platforms.

He is recognized by major CX vendors, clients, and former colleagues as a leading thinker in customer experience and engagement. Formative experiences in the 1990s at IBM convinced him of the critical importance of understanding the business world from the outside in. These insights were put to practical use in his former roles as a principal CRM consultant at KPMG Consulting and as an independent consultant supporting public and private sector organizations.

Our mission

CX-Create's mission is to help enterprises and the vendors and startups that serve them remain relevant. The company's primary focus is to track and understand the constantly evolving customer experience world and share those insights with clients. Continuous innovation is also an essential component of persistent customer relevance, directly and indirectly, which is why we are enthusiastic about startups and the Oracle for Startups program.

Further reading

- Complete Intelligence – an AI-powered intelligence platform for strategic investment and procurement decisions
- The All-in-One Waste Management Platform from Evreka
- Faradai AI-powered Energy & Sustainability Intelligence Platform
- GRØN SKY – a Green Cloud to massively reduce the carbon footprint
- Oracle for Startups program fuels continuous innovation the open way
- Four communications industry trailblazers accelerate the monetization of 5G and Edge

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