

## Translation of Norwegian article

<https://www.innherred.no/nyheter/2021/08/02/Verdalsselskapet-imponerte-Erna.-Han-vil-hjelpe-verden-til-%C3%A5-redde-seg-selv.-Stadig-flere-tror-Gudesen-klarar-det.-24348401.ece>

## - We want to” clean” the world.



*Hans Gude Gudesen is a Norwegian serial entrepreneur, who now wants to commercialize CO<sub>2</sub> purification in Ocean GeoLoop.*

Those words belong to Hans Gude Gudesen, said with a certain sincerity. Mr. Gudesen is the architect behind Ocean GeoLoop, which is now testing its pilot plant in Trondheimsfjorden –outside the industrial site called Fiborgtangen. Their mission is to establish a full-scale CO<sub>2</sub>-cleaning and carbon capture plant by the help from tunicates; a slimy sea creature nourishing itself by consuming waste products, and as a result, is cleaning the water. According to Mr. Gudesen, this process is aligned with nature’s own method of combating increasing pollution. By cultivating the sea creatures, it is possible to use them in a greater scale to solve the global challenge of increasing CO<sub>2</sub>-pollution, caused by man-made carbon footprint.

- It’s like a barn under water, says Odd-Geir Lademo, CEO of Ocean GeoLoop.

Ocean GeoLoop’s mission is quite ambitious, but Mr. Gudesen believes that the development of Ocean-projects and solutions based on nature that he has been working on for 15 years, will reach its true potential. Or as Mr. Gudesen summarises it:

- We have established an effective cleaning method, which is measurable and has used science as a fundamental building block throughout the whole journey. We have access to the resources, and it will be important for us to use them.

Ocean GeoLoop was established with the aim to develop a natural cleaning solution for CO<sub>2</sub>. Mr. Gudesen highlights that nature itself is fully capable of cleaning CO<sub>2</sub>-pollution, however, it needs help to become even more efficient.

- Mother nature does the work herself, when we can support by strengthening the ocean’s ability to clean itself, he says.



*Hans Gude Gudesen leads the company's research work and the development of new technology for carbon capture in the sea. Here he presents the innovations to Prime Minister Erna Solberg in Verdal last week.*

### **An impressed Prime Minister**

Last Thursday, Prime Minister Erna Solberg visited Ocean GeoLoop's VIP-centre at Ørin with a couple of dozen attendees as part of the election campaign. The visit was part of the Mid-Norway election campaign tour, focused on innovation and entrepreneurship.

Due to delays, the event had to be cut short, but Mr. Gudesen managed to get his main points through.

- I have only five minutes, and this is a topic I can talk about for hours, Mr. Gundersen said as an opening line at the VIP-centre.

Tunicates are the creatures that will solve the challenge of cleaning gas emissions and other types of pollution from land to sea. Human activity has caused CO<sub>2</sub>-pollution to increase with more than 50 percent the last 20 years.

- The nature can restore and clean itself, but needs some help along the way, assures Mr. Gudesen.

In this meeting, he highlighted two possible solutions, in which can reverse the trend:

- Stop leakages of CO<sub>2</sub>
- Remove static CO<sub>2</sub> sources through carbon capture
- Our Carbon capture is close to 100 percent efficient, says Mr. Gudesen.

The opportunities for the project are endless, in which can use the process to create bioenergy and fish food.

- We want to show Norway that we can become carbon neutral, says Mr. Gudesen.

He also works to share the knowledge with several authorities.

- We work with researchers across the world, and do not want to keep the knowledge and solutions for ourselves, says Gudesen.



*Hans Gude Gudesen gave the corona- greeting to Prime Minister Erna Solberg during her visit to Verdal.*

- This is really impressive. The technology is exciting, whereas green solutions use the natural cleaning process, says Prime Minister Solberg. She also reinsured Mr. Gudesen that the Government will support and help all kind of innovative entrepreneurship.

The Conservatives has therefore through the Government platform, made possible for start-ups to seek 6 months of unpaid leave, aimed towards those who want to realise their ideas.

- It is important that we have policies supporting entrepreneurs and innovation that fits everyone. We know that many entrepreneurs are scared of giving up their jobs. Therefore, we want to extend this start-up leave, and five double the current amount of support we give to start-up enterprises, Prime Minister Solberg stated on behalf of the Conservatives.

### **A successful business**

Hans Gude Gudesen is son of a baker from Fredrikstad. Mr. Gudesen became Norway's first IT-billionaire when he founded Opticom, Thin Film and Fast Search & Transfer. By education Mr. Gudesen is an archaeologist and found a passion for new technology that could store archaeology data. After a research collaboration, he founded Opticom, in which in 1997 went on the stock market. At its peak, the company was worth six billion Norwegian kroner. Mr. Gudesen is the Ocean GeoLoop's main shareholder, and the company has in the last few years attracted 200 million Norwegian kroner to its projects. Half of this amount was acquired back in June, which adjusted the value of the company to 1.35 billion Norwegian kroner.

- We are now in the pilot phase and aim to have our full-scale production in operation during 2022. However, this depends on delivery times on certain elements, says Mr. Gudesen.





*Odd-Geir Lademo, CEO of Ocean Geoloop, met Erna Solberg (front in the middle) and the company's founder Hans Gude Gudesen on Thursday. To the right in front is Gunvor Øie, Research Manager at SINTEF Ocean director. Behind are Norske Skog Skogn's CEO Bjørn-Einar Ugedal and Jan Erik Olsen, research manager at SINTEF Industry.*

Several major players have entered the ownership side of Ocean GeoLoop, such as DNB Asset Management, First Fondene, GLS Real Estate, Gluteus Medius, MP Pension and Bergen Municipal Pension Fund, as well as the former Carnegie CEO Anders Onarheim and Norske Skog.

- This is not a financial project, but a long-term industry project. If the company succeed, this will become extremely exciting to follow, Mr. Onarheim said to Dagens Næringsliv last winter.

Since then, several pieces have fallen into place and the test plants have been put into operation. More and more people are opening their eyes towards our work, which also opened a new opportunity to closer collaboration with SINTEF in Trondheim.

- This collaboration has great potential. We are looking at several projects, such as the first plant for copepod, more focus on bioenergy, microalgae and tunicates. This is really exiting, says Gunvor Øie. She is the chief of research at SINTEF Ocean and believes that this is only the beginning of broadening the scope of how we can utilise the ocean, both within food production, CO2-cleaning and other areas of usage.

### **A serial entrepreneur**

Mr. Gudesen is connected to more than 50 technology companies and can safely be called a serial entrepreneur. Ocean GeoLoop has been closest to this heart for the last 15 years since the company was founded back in 2006. Since the 70's, Mr. Gudesen has started and managed 600 research projects in collaboration with more than 200 universities and research institutions. He started the research project

Ocean to develop new technologies for offshore renewable energy production and storage, as well as CCS. He emigrated from Norway in 1997, and now resides in Switzerland.

The business idea behind Ocean GeoLoop is briefly explained to capture flue gas from factories, store it permanently, or to reuse it for the production of other products. The company stands out by using nature's own cycles. As a result, gas emissions can be converted into valuable marine bio-products, such as fuel and food products and production. The company is headquartered in Verdal and is led by former SINTEF professor and research leader Odd-Geir Lademo.

The board consists of Anders Onarheim, Ole Jørstad, Hans Kristian Hustad, Ebbe Deraas and Morten Platou.

### **- Erna is great**

The tunicates are in practice described as a living tube, which pumps bacteria, particles, algae and other microorganisms into one end and sends clean water out the other end. This is how sea urchins eat food at the bottom of the food chain without competing with fish and other animals. The fact that the sea urchins also clean the ocean is an ever-increasing discovery, which will now be utilised in a commercial context.

- My mission is not to become rich or famous, but to make the world a better place, Mr. Gudesen said to the local newspaper Innherred after the Prime Minister Solberg's visit.

*-What do you think about the message from the Prime Minister today?*

- Erna is great! She has a winning personality, and her visit is inspiring for us, says Mr. Gudesen.

He highlights that Ocean GeoLoop is not applying for any type of government grants. The projects are entirely funded by Ocean GeoLoop and its investors. The knowledge gained in these projects will be used globally.

- I have been networking for 49 years, and it is crucial that we are using the whole world to test our solutions, says Mr. Gudesen.

### **An Exiting Autumn**

- Ocean GeoLoop is a great example of what an impact skilled and visionary entrepreneur such as Hans Gude Gudesen can have by developing new future-oriented solutions and industries, says Chair of the Board, Anders Onarheim, after the meeting.

The company is established to industrialize innovative environmental technology with a large, global potential for scale. The Green Platform project focuses on piloting a so-called "disruptive, technological and multi-functional system", GeoLoop Column, which can potentially make a strong contribution to solving the world's combined climate, environment and resource crises. It will also develop new forms of food production and export via the green shift. The answer to the application including funding from the Norwegian Research Council will come this autumn.

- Today's visit pins down the beginning of an exciting autumn for our company, says Odd-Geir Lademo.