



DISCOVER A NEW FRESHWATER SUPPLY SOLUTION FOR SOUTHWEST NOVA SCOTIA

CONTEXT

Access to a reliable source of freshwater has become challenging for residents of southwest Nova Scotia in recent years. Drought conditions in four of the last six years (dating back to 2016) have dried up many wells. In the Municipality of Barrington, fire stations have had to deliver water to local residents and the municipality has implemented a Water Supply Upgrade Lending Program. The program offers loans provided by the municipality for residents to construct or upgrade wells. The driving force behind these recurring droughts has been less rain and milder temperature leading to less snowfall. The provincial government has left it to the municipalities to manage the water shortages at the local level. The Municipality of Barrington has been collaborating with Oneka to bring a reliable source of fresh water to the communities on Cape Sable Island.

WHO IS ONEKA?

A Canadian company founded in 2015, Oneka Technologies offers sustainable desalination solutions that use exclusively renewable energy from the ocean waves to turn seawater into fresh water. Our 100% mechanical systems have no submerged moving parts and operate in synergy with marine ecosystems. So far, Oneka has established itself in Canada, the United States and Chile.

“Our mission is to make the oceans a sustainable and affordable source of freshwater”

THE PROJECT

Oneka will be deploying the first of its kind Glacier class buoy in the waters off of Cape Sable Island in mid-2024. The project builds off the success of Oneka’s smaller scale buoys to develop the Glacier buoy capable of producing sufficient freshwater to meet the needs of the community. Thus, the goal is to demonstrate that Oneka's technology can be scaled up in a cost-effective manner, while providing an alternative source of freshwater for the community. The \$14.1M project is funded in part by Canada’s Ocean Supercluster and will see Oneka partner with local businesses such as A.F Theriault & Son who will be fabricating and assembling the buoy from their shipyard in Meteghan, Nova Scotia.



An ocean of opportunity



BENEFITS OF ONEKA'S SOLUTIONS

Environmental



Zero GHG Emissions

For a project in which 500 m³ of fresh water per day is supplied, 500 tons of CO₂e are avoided per year.



Limited Land Use

The desalination process is done entirely at sea. Only one tank is required on land to store the water that is delivered through the underwater pipe.



Responsible Brine

Within 2-3 meters of the outfall no increase in salinity can be detected. Oneka's low salinity brine is discharged over a large area where wave action promotes mixing.



No Chemicals in the Water

We do not use any chemicals in the process and do not discharge anything other than low salinity brine in the ocean.



Safer Intake

We use fine mesh of 60 microns, which is smaller than the thickness of a human hair.

Social



Creation of Local Jobs

We will hire 3 to 5 local operators to ensure the operations and maintenance of the system.



Sharing Relevant Data

We want to use our buoys as platforms to gather wave data and share it with local sea users.

Economic



Zero Water Cost

Water during the demonstration offered for free to the Cape Sable Island community.



Promote Economic Resilience

We provide a drought-proof water supply solution to support economic development.



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GLACIER DEVELOPMENT PROJECT AT CAPE SABLE ISLAND, NOVA SCOTIA, CANADA

