SCOTIABANK NET-ZERO RESEARCH FUND 2023

CANADA

CAFF THE CANADIAN AGRI-FOOD FOUNDATION	1	**CANADIAN AGRI-FOOD FOUNDATION** The Canadian agricultural industry hopes to gain a clearer picture of greenhouse gas (GHG) emissions at the farm level and in agricultural processing and transportation to facilitate more rapid decarbonization of the sector. As part of the project, the team will develop public policy recommendations to help achieve the federal government's goal of net-zero emissions by 2050.
DALHOUSIE UNIVERSITY	2	**DALHOUSIE UNIVERSITY** With the urgent need for carbon dioxide removal technologies, this project aims to quantify the effectiveness of River Alkalinity Enhancement (RAE), a potential new pathway for carbon dioxide removal. The outcome of this project will be the full-scale deployment and testing of a Monitoring Reporting and Verification (MRV) protocol to enable quantification of the RAE as a novel carbon sink.
GRENFELL CAMPUS | MEMORIAL UNIVERSITY	3	**MEMORIAL UNIVERSITY** Memorial University's Environmental Microbial Bioenergetics Laboratory at its Grenfell Campus in Corner Brook is conducting research into whether using seaweed as a fertilizer offers co-benefits for increasing soil carbon storage and reducing GHG emissions. The outcome of this research will help to advance approaches to agricultural decarbonization in Canada and elsewhere.
UNIVERSITY OF ALBERTA	4	**UNIVERSITY OF ALBERTA** The University of Alberta is researching the development of net-zero transition pathways for Canada's $15-billion steel industry. Pathways will be developed offering maximum economic, social, and environmental benefits to ensure Canada remains competitive in a global market racing to produce low-emission steel.
THE UNIVERSITY OF BRITISH COLUMBIA	5	**THE UNIVERSITY OF BRITISH COLUMBIA** LiteFarm was co-created at the University of British Columbia by farmers and researchers as a free, easy-to-use and open-source farm management web platform for participatory assessment of the social, environmental and economic sustainability of farming. New modules with new functionality are being developed to enable farmers around the world to easily calculate and report on ecological footprints. The aim is to help farmers reduce carbon emissions through improved management practices.
UNIVERSITY OF CALGARY	6	**UNIVERSITY OF CALGARY** The PEACH (Practical Electrochemical Air Capture and Hydrogen) DAC (Direct Air Capture) project is a Canadian initiative developing a cost-effective and scalable Carbon Dioxide Removal (CDR) technology that captures and stores CO2 using an electrochemical process for geological or ocean storage.

Université de Sherbrooke	7	**UNIVERSITE DE SHERBROOKE** Funding will support further testing and development of the University of Sherbrooke research group's three-step GENESIS project that will be tested in the city of Lac-Mégantic in Québec. The first step in the project is testing green-energy technologies used to turn waste into energy. The second step is testing a mobile greenhouse technology, and finally, testing the use of waste electricity to produce diesel.
LATIN AMERICA		
Icafe Instituto del Café de Costa Rica	8	**INSTITUTO DEL CAFÉ DE COSTA RICA** More than 60% of Costa Rica's coffee processors are small processing plants looking to implement technologies to reduce water consumption and greenhouse gas emissions. This project seeks to develop an economical field spray system to reduce the negative environmental impacts of processing coffee, which could also sequester carbon.
RAC Reef Aquaculture Conservancy A. C.	9	**REEF AQUACULTURE CONSERVANCY** Last year, RAC received NZRF support to implement the first phase of its Blue Ocean Credits Program (BOCP), which is focused on the protection and rehabilitation dunes, mangroves, marshes, seagrass and reefs. With this year's funding, it plans to accelerate coastal decarbonization efforts in the Mesoamerican Reef System.
UNITED STATES		
COLORADO SCHOOL OF MINES	10	**COLORADO SCHOOL OF MINES** This project aims to leverage the experience and expertise of its team members in mineral carbonation and steel-slag processing to advance the mineral carbonation of steel slag through the development of a next-generation carbonation technology based on supercritical CO2.