



PLANETAIR ÉTS PORTFOLIO (APPLIED RESEARCH)



Location: Canada (Québec) and multiple countries

Portfolio Type: Mixed Portfolio - Gold Standard Credits and Climate Research

The Planetair ÉTS Portfolio has two components. The first component of the portfolio allows you to offset all your greenhouse gases through certified Gold Standard credits. In this way, you are assured that your offsetting is real, quantified and verified.

By choosing the Planetair ÉTS Portfolio (Applied Research), you are also contributing to the ÉTS Research Fund on Climate Change, which finances applied engineering



university research on the fight against climate change. The research projects focus on technologies for reducing and adapting to climate change, as well as on measurement and modeling.

Hence, through the Planetair ÉTS Portfolio you offset your emissions according to the highest standards, and, you contribute to applied research that will improve our understanding of climate change and support the development of technological solutions.

COMPONENT 1 - GOLD STANDARD-CERTIFIED PROJECTS

Each tonne of greenhouse gases you wish to offset is compensated through a certified Gold Standard credit included in the Planetair Global Portfolio. This portfolio is made up of Gold Standard-certified projects, ensuring that your GHG emissions are compensated in a real, additional, transparent, and verified manner. Gold Standard carbon credits are the best credits available on the market for voluntary offsetting of GHG emissions.

The credits originate from various types of projects (wind, solar, energy recovery, etc.). The climate benefits of these projects are immediate, unlike those of trees, which can take up to 70 years to capture a ton of carbon. With the climate crisis accelerating, we do not have the luxury of waiting all these years to offset the greenhouse gases we emit today.

To be certified, the projects and credits must be audited by independent evaluators against the stringent Gold Standard requirements. The Gold Standard requires projects





to contribute to at least three UN Sustainable Development Goals, including Goal 13, which pertains to the fight against climate change.

A table showing various Gold Standard projects to which Planetair has recently contributed can be consulted at the end of this brochure.

COMPONENT 2 - ÉTS PROJECTS

Specializing in teaching and applied research in engineering and in technology transfer, ÉTS, a school of the University of Québec in Montréal, trains engineers and researchers recognized for their practical and innovative approach.

ÉTS Research Fund on Climate Change

In June 2021, ÉTS created the ÉTS Research Fund on Climate Change (FRECC). The FRECC was created in order to:

- Stimulate research contributing to the fight against climate change by mobilizing more resources;
- Contribute to raising awareness in the ÉTS community on issues concerning the fight against climate change.

The FRECC will launch at least one call for projects per year for projects aimed at developing technologies to reduce greenhouse gas emissions. The themes of calls for projects could also target measurement, modeling, and adaptation to climate change.

A scientific committee, made up of internal and external experts, is responsible for managing the calls for projects and choosing the recipients of the funds on the basis of the criteria established by the FRECC.

First call for projects

A first call for projects was launched by the FRECC in the fall of 2021 to support research projects aimed at reducing greenhouse gas emissions.

The winner of this first call for projects is Sylvain Cloutier, professor in the Department of Electrical Engineering at ÉTS, for his photocatalytic cell project aimed at CO₂ degradation using solar energy.

The researcher, who received a \$25,000 grant, worked with two co-researchers, two doctoral students and an industrial partner to bring his project to fruition. "The innovative side of this project lies in a titanium dioxide (TiO₂) synthesis process which



has the advantage of requiring less energy and that is better at absorbing sunlight to carry out the photocatalysis," explains Mr. Cloutier.

"I also welcome the creation of the FRECC," continues the winner. This type of program is vital since it stimulates research by mobilizing more resources to work on this complex issue with serious consequences that have direct impacts on our society at all levels. »

The ÉTS

ÉTS is engineering for industry... and for society. ÉTS trains a quarter of Quebec engineers and aims to be a tool for positive change through technological innovation addressing environmental and societal issues. The professors-researchers carry out several activities within the university's various laboratories, chairs, and research groups. Their work makes a concrete contribution to scientific progress and to the training of a highly qualified workforce.

In the fight against climate change, ÉTS professors work in a wide range of activities to improve understanding of the phenomenon as well as the development of innovative solutions to counter it. The areas of expertise involved are diverse and increasing in number over time: measurement-modeling-simulation, energy, mobility, buildings, materials, supply, waste management, life-cycle analysis, circular economy, hydrology, aeronautics, etc.

We donate 25% of your contribution to the ÉTS Climate Change Research Fund, whose activities promote the development of knowledge on this salient global issue.

ABOUT PLANETAIR

Planetair is a climate protection programme set up by the Unisfera International Centre, a non-profit organization created in 2002. Our mission is to promote sustainable development and contribute to the fight against climate change. Our funding comes from the advisory services we provide as well as from grants and carbon contributions.





Planetair's compliance with the commitments we make to you are audited every year by chartered professional accountants (CPA). Their most recent audit report can be downloaded from our home page: planetair.ca.

Moreover, Planetair is the only carbon credit supplier recommended by *Protégez-Vous* (*Protect Yourself*), the consumer protection magazine. A link to their report is posted on our home page as well (available in French only).

ProtégezVous.

Question? Comment? Write to us at info@planetair.ca

Thank you for your support!

Some of the Gold Standard projects to which Planetair has recently contributed

Project/technology/country	Climate solution
<p data-bbox="401 383 590 412">Ugastove Project</p> <p data-bbox="401 420 590 449">Efficient Cookstoves</p> <p data-bbox="428 457 562 487">Uganda/Africa</p> 	<p data-bbox="810 383 1881 526">Problem: Eighty-five percent of Ugandans rely on wood and charcoal for cooking. These fuels are burned using inefficient technologies, causing environmental challenges (deforestation, greenhouse gas emissions), health-related challenges (air quality in homes) and economic challenges (cost of firewood and / or time for collecting wood).</p> <p data-bbox="810 573 1881 716">Solution: To address these issues, the project is supporting the manufacture and distribution of more efficient cooking stoves. These were not available in Uganda before the start of the project. The use of efficient stoves reduces consumption of firewood, which in turn limits deforestation, greenhouse gas emissions and fumes harmful to the health of the occupants.</p>
<p data-bbox="401 849 590 878">Paradigm Project</p> <p data-bbox="365 886 625 954">Home Energy Efficiency and Drinking Water Supply</p> <p data-bbox="436 963 554 992">Kenya/Africa</p> 	<p data-bbox="810 849 1881 992">Problem: In Kenya's rural areas, more than 65% of the population does not have access to drinking water and households frequently use wood and charcoal to cook their food and purify their water thereby causing environmental challenges (deforestation, greenhouse gas emissions), sanitary challenges (air quality in homes) and economic challenges (cost of firewood and/or time for collecting wood).</p> <p data-bbox="810 1039 1881 1182">Solution: To address these issues, the project subsidizes the production, and distribution to low-income families, of efficient stoves. The use of efficient stoves reduces the consumption of firewood by about 50%. The project also supports the installation of water treatment systems at communal water sources, which saves families the trouble of boiling water to purify their drinking water.</p>

Project/technology/country	Climate solution
<p data-bbox="359 305 632 331">Rwanda Climate Project</p> <p data-bbox="384 342 606 368">Drinking Water Supply</p> <p data-bbox="426 380 564 406">Rwanda/Africa</p> 	<p data-bbox="812 305 1885 410">Problem: In Rwanda, households frequently use wood and charcoal to cook their food and purify their water, thus causing environmental challenges (deforestation, greenhouse gas emissions), health challenges (air quality in homes) and economic challenges (cost of firewood and/or time for wood collection).</p> <p data-bbox="812 456 1885 599">Solution: To address these problems, the project is supporting the rehabilitation of water wells to provide safe drinking water to Rwandan communities, thus removing the need to harvest and burn wood to boil and purify water. The project also subsidizes the production and distribution of efficient stoves for low-income families. Efficient stoves reduce the consumption of firewood by about 50%.</p>
<p data-bbox="394 712 596 738">Siam Solar Project</p> <p data-bbox="432 750 558 776">Solar Energy</p> <p data-bbox="432 787 558 813">Thailand/Asia</p> 	<p data-bbox="812 712 1885 777">Problem: Thailand is one of the largest consumers of energy in Southeast Asia and the second largest importer of oil in the region. Fossil fuels represent around 80% of the country's total energy demand.</p> <p data-bbox="812 823 1885 1083">Solution: To address this problem, the project is supporting Thailand's energy transition. The project finances 10 solar photovoltaic plants in the provinces of Kanchanaburi and Suphanburi; the agricultural center of Thailand. This project reduces GHG emissions, reduces Thailand's dependence on imported fossil fuels, and stimulates economic growth in the country and the region. In addition to meeting the energy demand of people in central Thailand, the project improves local infrastructure and provides employment for skilled and unskilled workers from adjacent communities for the manufacture, installation, operation, and maintenance of equipment.</p>

Project/technology/country	Climate solution
<p data-bbox="417 305 573 332">Prony Project</p> <p data-bbox="430 342 560 370">Wind Energy</p> <p data-bbox="380 380 611 407">New Caledonia/Oceania</p> 	<p data-bbox="812 305 1885 448">Problem: The Pacific Islands face increasing environmental and socio-economic pressures, heightened by climate change. The UN recognizes small island states as being particularly vulnerable to climate change. Hard hit by natural climate variability and extreme tropical weather events, they are significantly vulnerable to future regional climate changes as well as sea level rise.</p> <p data-bbox="812 493 1885 711">Solution: Beyond replacing the use of fossil fuels with renewable energies, the project helps strengthen civil society and Kanak indigenous rights, by supporting local and regional initiatives focusing on employment, young people, and community. As New Caledonia is in a region prone to hurricanes, the entire wind farm can be folded up in a short time in the event of an extreme weather warning. The project serves as a demonstration project in the South Pacific and is an example of environmentally friendly development made in collaboration with local tribes.</p>
<p data-bbox="401 789 590 816">InfraVest Project</p> <p data-bbox="430 826 560 854">Wind Energy</p> <p data-bbox="436 863 554 891">Taiwan/Asia</p> 	<p data-bbox="812 789 1885 854">Problem: Despite its privileged coastal and windy location, Taiwan still depends substantially on its coal resources to fuel its economy.</p> <p data-bbox="812 899 1885 1008">Solution: The project consists in the deployment of wind turbines on the West coast of the island. In addition to its positive impact on the climate, the project creates local jobs. The project also contributes to the development of sustainable tourism through guided tours on sustainable energy development.</p>

Project/technology/country	Climate solution
<p data-bbox="430 305 562 332">BFB Project</p> <p data-bbox="386 342 606 370">Wastewater Treatment</p> <p data-bbox="428 380 564 407">Thailand/Asia</p> 	<p data-bbox="812 305 1887 370">Problem: The wastewater treatment facility uses fossil fuels to operate. The former operation of the plant also led to unpleasant smells, impacting people in the surrounding communities.</p> <p data-bbox="812 418 1887 561">Solution: Thanks to the project, methane generated by the process is now captured, preventing it from contributing to climate change. In addition, it is used to generate energy and thus limits the need to resort to additional fossil fuels. Moreover, the project generates jobs for the local population, and it supports social and educational activities in the community.</p>
<p data-bbox="415 828 577 855">Yingxi Project</p> <p data-bbox="426 865 567 893">Heat Recovery</p> <p data-bbox="443 902 550 930">China/Asia</p> 	<p data-bbox="812 828 1887 930">Problem: China's economy is heavily propelled by fossil fuels, including coal. This is the case with the Yingxi Glass Factory. In addition, before the project was implemented, the residual heat from the processes was simply vented into the atmosphere.</p> <p data-bbox="812 979 1887 1159">Solution: Thanks to the project, the residual heat from the furnaces during the melting of the glass is now recovered and is used to generate electricity. In this way, the plant's fossil fuel consumption can be reduced by 76,000 MWh annually. In addition to the climate and environmental benefits of the project, the project promoter is involved in local sustainable development. Among other activities, the company financially supports schools, the elderly and village infrastructure and provides free machinery to the villagers.</p>