

# Deepwater Project

+ Exploring the effect of climate change on the Gulf Stream



Switzerland



Martin Beniston



Partnership

INNOVATION

“The more we delay taking essential decisions, the harder it will be to cope with the impact of global warming”

Martin Beniston

## The problem

Climate change is now widely recognized as a multi-faceted environmental, social and economic threat at the global level. Though important research has already allowed scientists and policy-makers to gain an improved understanding of the specific processes involved, there is still much to learn.

This knowledge is essential not only to determining how future impacts of climate change may manifest (or indeed be averted through altered practices and technological innovation), but also in raising awareness about the consequences of current trends and galvanizing a public debate that has waned in many key countries.

## The idea

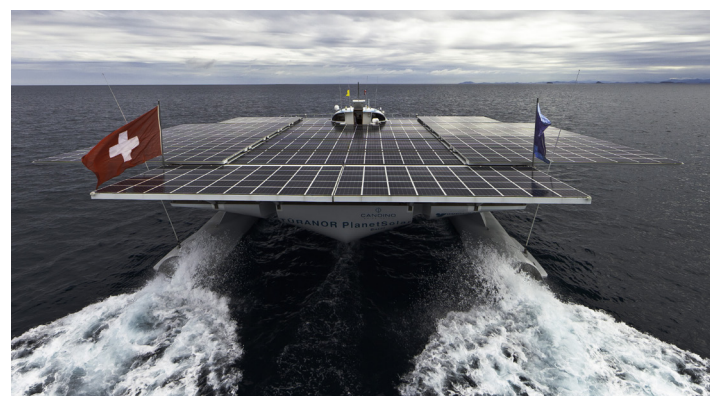
Planet Solar, a Swiss-based initiative founded in 2004, made headlines earlier this year after completing the first circumnavigation of the world in a boat powered only by solar energy. The MS Tûranor Planet Solar is the largest solar vessel ever built, and contains state of the art technology in the field of composite manufacturing and storage of solar energy.

The leaders of Deepwater Project aim now to deploy the ship to carry out a unique scientific measurement campaign along the Gulf Stream. This current is one of the significant regulators of climate, but the dense saline and cold waters that activate deep-water currents remain relatively unexplored. Any disruption affecting zones of deep-water formation could have vast repercussions for global climate. As a result, Deepwater Project intends to identify and document even subtle changes in the behavior of the ocean-atmosphere interface along the course of the Gulf Stream.

The unique measurements provided by this kind of expedition have never been collected at such a scale.

Critically, the data could be used to improve climate models, especially concerning small-scale processes. Moreover, the MS Tûranor Planet Solar is especially suited to a mission of this kind, as the exhaust fumes of regular ships significantly contaminate measurements and make a solar vessel an ideal platform for scientific experiments.

Similarly, beyond the purely scientific value of the project, it is expected that the exploration of the Gulf Stream by a solar-power vessel, combined with the results that emerge, will help in raising public awareness about the reality and complexity of climatic change, including in our oceans.





## KEY PROJECT FIGURES

<b>Timeframe</b>	Final exhibition in December 2012, with follow-up evaluations
<b>Partners</b>	University of Geneva
<b>Funding</b>	Seeking funding
<b>Staff</b>	10-12

## Potential impact

The potential impact of Deepwater Project is threefold. Firstly, the expedition will have a scientific impact in providing new climate-related data to expand the existing knowledge base in the field. Secondly, the use of the MS Tûranor Planet Solar will serve to build credibility around the use of renewable energy technologies in the arena of mobility. Thirdly, the nature of the project means it will have the potential to capture the public interest, in the process contributing to efforts to raise awareness about climate change and its direct and indirect effects on populations worldwide.

The combination of these three complementary objectives in one project ensures a strong and unique identity that sets Deepwater Project apart from other initiatives falling under the umbrella of climate-focused scientific research. This is further bolstered by the authority of project leader Martin Beniston, a joint recipient of the Nobel Peace Prize as a Vice-President of the Intergovernmental Panel on Climate Change.

## Social value

As already noted, beyond the expected value of scientific data gathered during the course of the expedition, a key element of Deepwater Project will be its organizers' aim of using the voyage as a platform to continue to raise awareness about the seriousness of climate change. In this vein, discussions are under way to have 'awareness-raising' stops in cities such as Miami, New York and London to explain the objective of the mission and to convey its importance.

Similarly, there is also a plan to develop an education and outreach program to be offered to school students during and after the expedition, so as to sensitize younger generations about the importance of scientific research and the imperative of addressing climate change while there is still time to do so.

Thus, aside from the inherent social value in improving societal understanding about the implications of climate change for important processes occurring in our oceans' depths, Deepwater Project will also perform a useful function in contributing in an innovative fashion to a continued debate on policies around climate change and renewable energy.

