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**NORTHERN NOMAD:
DESIGNING TINY HOUSES
TO TEST NEW LIVING
HABITS**

28 August 2018

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Carleton University
Canada

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The [Northern Nomad Project](#) is a net-zero energy tiny home designed and built by undergraduate engineering and architecture students from [Carleton University](#) in Ottawa (Canada). The project started as a 4th year engineering capstone project and was inspired by the growing popularity of the tiny house movement.

As part of our Co-living series, we have asked team members Seungyeon Hong and Brigitte Martins to tell us about their objectives, their opinion on sustainable building and more generally, about the way design can make us live in better harmony with our planet.

Experimenting with sustainable design

Their project is meant to address two purposes: first, to test whether [net-zero energy](#) is possible on a small footprint on a mobile structure and learn about the real-life challenges of constructing such houses. Second, to develop a platform for building energy research by implementing state of the art equipment, instrumentation, monitoring and controls in the house.

“ For the experimentation of these new techniques, using a tiny house is easier - data and the lessons learned from it will then be applicable at the scale of a typical house to help improve the environment, our lifestyles, and the building industry for the betterment of our planet and our lives

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A unique learning experience for design students

The project is led from Carleton University [Community Design Lab](#) that focuses on developing tools and technologies which enable the development of net-zero energy communities. Students involved on the project have found many exciting opportunities in the areas of building integrated solar panels, assisted heating or cooling using air created by a roof vent, on-grid and off-grid solar and battery setup, heat recovery from batteries, on-site water generation, etc. It has also been a unique opportunity for students to learn through immersive learning – hands-on skills and knowledge are invaluable tools in the work force but are not often possible to obtain simply in a classroom setting.

Watch [Northern Nomad Tiny House Promo](#)

Tiny houses popularity and living more responsible lives

Back in 2007, the World Design Organization organized an [Interdesign](#) workshop in Toronto where 150 designers, students and practitioners had worked on the theme of “[Sustainable Housing and Water: Local and Global Challenges](#)”. Their objective was to experiment whether design could be built into a knowledge system that can address issues of global relevance, such as sustainable housing and water conservation and be applied appropriately to local situations.

In 2018, initiatives such as the [Ecological Living Module](#) from UN Environment and Yale University have been launched. This 22-square-meter “tiny house” demonstrates how to make modern living sustainable. The prototype was unveiled during the [UN High-Level Political Forum on Sustainable Development](#) in July 2018.

“ *Tiny houses have gained popularity in the public eye because they grant people financial and physical freedom, in apparent opposition to massive, mass produced and overpriced housing. It is an alternative lifestyle.* ”



Credit: news.yale.edu

“ “ With the increased number of people concerned about sustainability, businesses and policymakers are already responding to these needs, and undoubtedly the natural course of action will see cities adapting and changing with policies consequently

In Ottawa, a [bylaw](#) was passed in 2016 to allow coach houses to be constructed on existing residential properties when space allows for it. As of 2018, the city had issued six coach house permits. Another Carleton University graduate, [Ben Hayward](#) is building a prototype tiny house - a 185-square-foot futuristic structure.

“ “ Even though tiny houses may not necessarily be a scalable solution for cities, there is an important concept at the core of the tiny house trend — minimalism.

Indeed, tiny houses embody a mentality that less is more and that in the long run, this philosophy will improve one's lifestyle. It goes hand-in-hand with a concern for the environment.



ABOUT

NORTHERN NOMAD

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Carleton University
Canada

Northern Nomad started as a 4th year engineering capstone project at Carleton University. The idea was inspired by the growing popularity of the tiny house movement, as it was noticed that most of the tiny houses were built in warm climate locations, where the weather stays relatively constant and sun exposure times during the winter isn't an issue. The Northern Nomad project will showcase a variety of smart home technologies and will be designed to optimize energy and water efficiency. This project will be designed with the goal of achieving the Living Build

To support the project: To support the project:
<https://futurefunder.carleton.ca/project/northern-nomad-capstone-design-project/>

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