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## En-ROADS: Using the Climate Interactive Tool for Designing and Planning

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## **En-ROADS: Using the Climate Interactive tool for designing and planning**

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Designers and planners are facing increasing challenges in creating a liveable environment in the face of global climate change. We are far behind the Paris Agreement's ambitious goals of limiting global warming to 1.5C, which is in line with pre-industrial levels. Advances towards this require both looking to a future without fossil fuel while also being able to meet global energy demands.

This complex combination of situations requires tools that can assist in understanding the system dynamics of short and long efforts when making designs or planning spaces. The En-ROADS Climate Workshop helps build support for energy strategies by using an openly available cutting-edge simulation tool created by Climate Interactive and MIT Sloan.

In this 90-minute interactive workshop, participants learn why it is important to understand the interdependency of climate change and energy sources. Participants are introduced to the En-ROADS modelling tool, an easy-to-use, science-backed simulation that can inform real-world design strategies.

Through a series of interactions with the facilitator, participants have an opportunity to test various approaches using En-ROADS to see the impact of energy decisions on global temperature and other factors, including equity. The workshop is an opportunity to experience what it is like to create climate futures using engaging conversations that result in an experience that is hopeful, scientifically grounded, action-oriented, and eye-opening.

Keywords: sustainability, modelling, systems design tool

RSD Categories: Socioecological Design, Learning & Education, Economic & Organizations

## **Description**

We are in the Anthropocene, and it will require many mitigations and adaptation approaches to ensure we, as a global society, can move into sustainable forms of development. Since the need for energy is an omnipresent force regardless of the sector one is working in, the ability to access necessary tools for designers and planners to have up-to-date and accessible scientific findings is an essential element for creating spaces and places that look to alternatives to fossil fuels.

The modelling tool En-ROADS can assist. The creators of this openly available tool have aggregated scientific evidence from international organizations, including the Intergovernmental Panel on Climate Change, United Nations, International Energy Agency, and the European Institute on Economics and the Environment to create a baseline model of what the global temperature trajectory is through 2100 if the status quo of energy sources and uses remain the same. (Climate Interactive, n.d.)

En-ROADS uses multiple points in its control panel to show how various solutions can work together or compete against each other to reduce fossil fuel consumption and global warming. These include solutions such as energy efficiency, carbon pricing, fossil fuel taxes, reducing deforestation, and carbon dioxide removal, among others.

Throughout this workshop, participants are asked to consider how interconnected and interdependent sustainability efforts and energy consumption are and how often these connections are considered during the design and planning phases. The goal is to provide another way to view global concerns, analyse scientific data, and actively interact with possibilities. Although this session will not provide an in-depth look at how En-ROADS can be utilized, it will provide a thorough overview and resources for interested individuals to dive deeper into its capabilities.

## **Workshop format**

90 minutes | online | open number of participants

This online workshop has three sections.

15 minutes (approximately): Introductory presentation about the complex entanglement of the climate crisis and global energy demands.

60 minutes (approximately): Overview of how the En-ROADS roads tool can be used and interactive prompts with the participants to create a simulation model.

15 minutes (approximately): Reflections on the tool and learnings from the interactive segment of the workshop.

## **Reference**

Climate Interactive (n.d.). What is En-ROADS? <https://www.climateinteractive.org/the-En-ROADS-climate-workshop/>