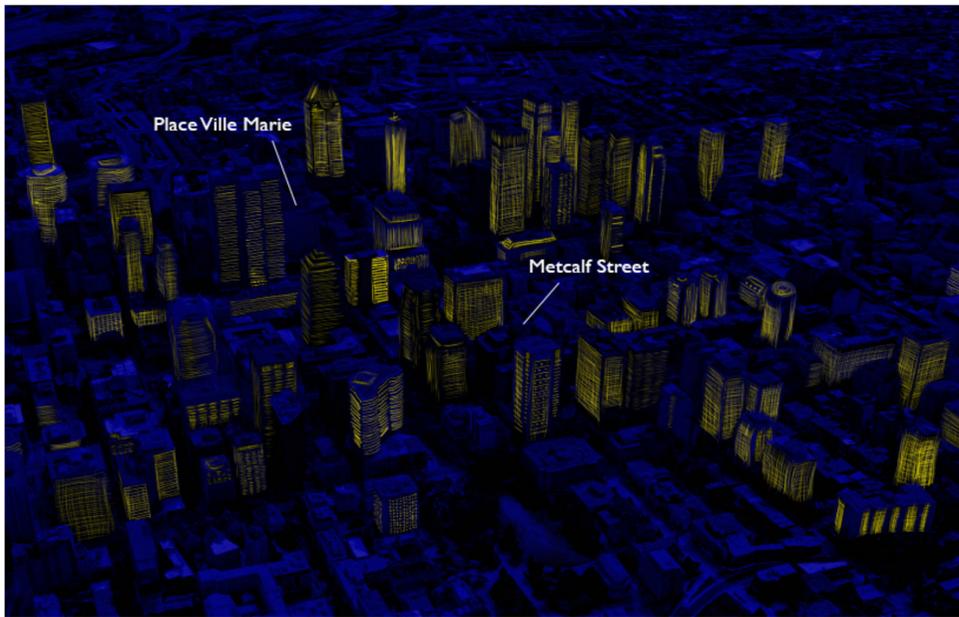
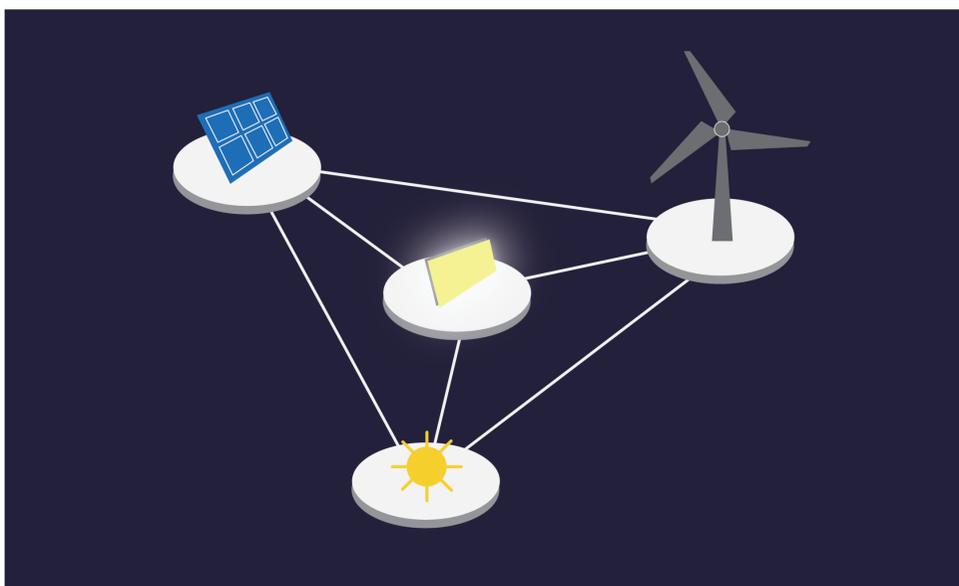


Sous Un Ciel Artificiel



Map of targeted downtown area, render of targeted area at night.



Installation close-up, Microgrid Diagram.



Installation render.

Under Artificial Skies

What is it?

Under Artificial Skies is a smart installation depicting the issue of light pollution and energy waste in Montreal. It is to be installed in the business district of Place Ville Marie, an area solely occupied by office and commercial spaces. Due to the lack of residential housing, there should be very little light during the night. The installation consists of an LED screen that is connected to a data set quantifying the amount of energy wasted overnight due to light pollution. The screen depicts a birds-eye-view of a heat map of downtown Montreal that will respond to the data, glowing brighter as the energy waste is increased.

Why is it needed?

With an increase in urban populations, light pollution and skyglow have negatively impacted ecosystem functioning, human health, and energy resources. It alters the natural equilibrium of light levels that many plants and animals rely on, disturbs human circadian rhythm, impairs immune response, causes disease, and has been linked to an increase in cancerous cell development. Light pollution also comes at a heavy financial cost, and energy waste contributes to greenhouse gas emissions and climate change. The effects of Light pollution, unlike other forms of pollution, can be reversed. If we act on it at the urban level, it will improve our quality of life as well as ecosystem equilibrium.

How it works?

The screen is connected to a micro-grid independent from the cities energy system, and relies on a separate network of renewable energy. This way the installation will directly address the issue it's concerning without having a counterintuitive impact. The data that will be used to inform the updates of the installation will be retrieved from HydroQuebec's data on energy consumption by postal code. Using the data of energy consumption in Place Ville Marie, we will compare it to that of a similarly sized residential area to calculate the amount of wasted energy in Kilowatts per hour.

Outcomes and next Steps

Everyone has a role to play in the sustainable development of their city. Through the execution of these public data visualizations, our goal is to raise awareness on the issue of light pollution and energy waste. In highlighting the presence of light pollution we hope to make people feel concerned, to promote action both for the individual and for the greater good of our community. The screen will respond to its environment, holding the city publicly accountable for their waste in the hopes that the installation will eventually go completely dark along with its urban surroundings.

Astou Touré, Lucia Giron
Concordia University

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



4 QUALITY EDUCATION



11 SUSTAINABLE CITIES AND COMMUNITIES

