

Human Research Ethics

Participant Information Statement Online Survey

Fostering Consumers' Solar Panel Agency



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Hello! We invite you to participate in a research project exploring new ways of understanding and designing future neighbourhood energy systems.

1. What is the research study about?

Our team has developed a scalable neighbourhood-based energy network model that uses cellular automata (a complex system model) to simulate how household renewable energy nodes might behave as autonomous, decision-making agents. Drawing inspiration from foundational models such as **Von Neumann's Game of Life**, we aim to investigate whether individual households—when represented as self-directed energy “cells”—can generate emergent patterns of energy circulation, storage, and consumption across a community.

The proof-of-concept simulation is tailored to conditions in the Hunter Region, abstracting each household's energy behaviour into a node within a larger system. The model considers both human and non-human forms of agency, allowing us to treat the building itself as an active participant within the energy network.

We are looking for input and feedback on our online simulation, which we want to use to get consumers thinking about and being proactive about their role in energy futures.

2. Who is conducting the research?

Our team brings together expertise in creative technologies, media, design, and materials science. Dr Marilia Lyra Bergamo explores the intersection of art, technology, and society; Associate Professor Craig Hight specialises in digital storytelling and emerging media; and Dr Andrea Cassin investigates design, communication, and digital engagement. Professor Richard Wood contributes deep expertise in materials science and sustainable engineering, while PhD researcher Aaron Parker examines how digital tools enhance creativity and human–technology interaction.

3. Who can participate in the research?

As part of this project, we seek to engage with energy stakeholders, including industry partners, individuals interested on the subject, policymakers, community representatives, and energy researchers. Your insights will play a crucial role in shaping our online prototype and informing broader discussions about the future of neighbourhood energy systems.

What does participation involve?

We would like you to participate accessing our online simulation and:

- Interact with the online simulation
- Answer an anonymous survey

4. Do you have to take part in this research study?

No. Participation in this research study is voluntary. If you do not want to take part, you do not have to.

5. What is the benefit of participating in this research study?

There may be no direct personal benefit to participants. However, you may enjoy engaging with creative ideas about energy and sustainability and have the chance to share your views and contribute to broader discussion and debate about energy futures.

6. Are there any risks associated with your participation in this research?

The risks to participants are expected to be minimal and may include mild discomfort when discussing speculative ideas, minor inconvenience due to the time commitment, and possible concerns about the privacy of personal views.

7. How will your privacy be protected?

The survey will be hosted in Microsoft Forms, a pre-approved University of Newcastle tool. It will not collect any identifiable information.

For more information, please access [Security and Privacy in Microsoft Forms \(External Link\)](#).

8. How will information collected by the research team be used?

We will analyse the information from the simulation by focusing on simple patterns rather than precise numbers. Our goal is to observe how energy moves, is stored, or is used within the neighbourhood model and then describe the behaviours that appear. We will group similar patterns together—for example, signs of cooperation, instability, or resilience—and compare how the system changes under different conditions. Visual maps will help make these patterns easy to understand.

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As noted above, we are aiming to use our simulations to get consumers especially thinking about and being proactive about their role in energy futures.

Your answers, along with feedback from other stakeholders, will help keep our interpretations grounded in real-world experience. Besides this online survey, this research is also conducting public workshops or exhibitions, where we may also observe how people interact with the simulation to understand how the model encourages engagement, curiosity, or critique. Overall, our approach—observe, describe, compare, visualise, discuss, and reflect—will help us develop responsible and meaningful insights into possible future energy systems and how these can be represented / displayed / translated.

We will post our key findings and insights, and display future simulations, on a website (we will send details to all participants when this site is ready).

De-identified and anonymous data will be uploaded to Figshare to enable access and reuse.

9. What you need to do to provide consent to participate

Read this Information Statement in its entirety and be sure you understand all the information provided before agreeing to participate.

If there is anything you do not understand, or if you have questions, contact Dr Marilia Lyra Bergamo (marilia.lyrabergamo@newcastle.edu.au).

This online survey uses implied consent. By choosing to complete and submit the survey, participants are giving their consent to take part.

10. What if you want to withdraw from the online research study?

Because the survey responses are fully anonymised, we are unable to withdraw individual answers once they have been submitted. The data cannot be linked back to any participant, so we have no way of identifying which responses belong to whom.

11. Do you need more information?

If you would like more information about this research project and your potential involvement, please contact Dr Marilia Lyra Bergamo (marilia.lyrabergamo@newcastle.edu.au).

Thank you for your time and consideration of this information,

Dr Marilia Lyra Bergamo

School of Humanities, Creative Industries and Social Sciences.

University of Newcastle

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Concerns or complaints about this research

This project has been approved by University of Newcastle's Human Research Ethics Committee, Approval No. H-2026-0035. If you have concerns about your rights as a participant in this research, or if you have a complaint about the manner in which the research is conducted, please contact Dr Marilia Lyra Bergamo (marilia.lyrabergamo@newcastle.edu.au).

If you would prefer to contact someone independent of the research project, you can forward your concerns to:

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