Winner of the Award for Innovative Methods

Women's imaginaries: Futuring Energy in Mexico City's Public Markets

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Introduction

Imagine waking up tomorrow in a city that does not depend on fossil-fuels. What kind of energy will we have? Which energies will power economic and social systems, and how do they shape our lives? Also, picture how we move towards that future. Ask yourself, whose voices were listened to, in order to reach that future and what, if any, visions were hegemonic?

When I try to answer these questions, I see two opposite scenarios informed by my interest in energy transitions and my political engagement as a feminist promoting sustainability and justice. On the one hand, I see a single future in which more technologies are put in place, but not so much has changed in terms of their impact on distribution, equality, justice or ecological depletion. On the other hand, I envision a plurality of futures beyond exploitation; where less energy is needed, and everything is powered by a mix of renewable and human powered kinetic energy. In these futures, my voice and other women's voices are listened to and they shape the communities which we live in.

Yet, while trying to answer the above questions, I realize that there are many more visions than my utopian/dystopian ones of how the future will be. So, it makes sense to ask wider questions about the future and to ask them to the people who have not been listened to. This is in order to speak in the plural of futures and to open up the possibility of imagining and envisioning other realities. After all, imaginaries have the potential of limiting pathways by closing down alternatives that individuals or social groups can choose from, or these have the capacity of opening up pathways that can challenge the vision of those in power (Birch 2017). Importantly, while this does not eliminate the inevitable contingency of the future, it offers new possibilities that consider other ways of designing and using energy (Strengers et al. 2019: 114).

In particular, when talking about the future of municipal public markets and their energy systems in Mexico City, the city's government has apparently selected a single future vision with a single future pathway to achieve it: by 2024 a percentage of electricity will be supplied from photovoltaic systems and energy efficiency will be improved by replacing some of the appliances used in marketplaces. However, as important as these efforts are for a new energy landscape in Mexico City, there are still more futures to uncover and thus different realities to enact. Futures that focus on the needs and ends of vendors; specifically women vendors, who are the majority of business owners and employees in municipal public markets, and whose visions have not been at the center of the current imaginaries.

Thus, the major tasks of this research are to challenge the singular in Mexico City's energy future by including women's imaginaries of the future of municipal public markets and their socio-technical energy systems; to explore women vendors' visions' content and their opportunities; to contribute to a growing body of heterogeneous perspectives in energy and futures research by weaving theoretical and conceptual debates in the fields of futures, sustainable energy transitions, imaginaries and feminisms; and to design, implement and test a narrative methodological approach centered on women's voices.

In the PhD research, a narrative methodological approach and art-based research tools are proposed. It uses digital platforms to create stories that capture the diverse imaginaries of futurity, produced and

reproduced in multiple ways by multiple actors. In particular, adopting this methodological approach allows us to unfold what the future might hold for women vendors in a creative and playful manner. The use of digital technologies, specifically, allows us to interact while face-to-face communication is limited. Although similar approaches have been used in the field of energy research and social science before, they have achieved scant attention and have never been applied in the Mexican context. Hence, this research is the first of its kind.

Methods

Due to the COVID-19 pandemic the storytelling activity took place in a virtual space. The activity was a storytelling-game called *Tell me an (un)fortunate story* that used messaging apps as a medium to maintain physical distance. The game consisted of co-creating stories with 16 vendors about the future of municipal public markets and their energy systems. Audio files and visual materials were developed to make the interactions imaginative. For example, the instructions were sent as an audio and summarized in a GIF:

Once the responses were sent by the participants, these were edited and recorded as audio messages by the researcher. The audios were sent to the next participants, together with some questions and complete-the-gap exercises to continue the story. At the end of each round, the same steps were repeated until the participants concluded the story.

After several working days with the vendors, four stories were created, one per market. The final versions of the stories were sent to the vendors and discussed in a brief face-to-face conversation at their marketplaces. During the conversations ten questions were asked, such as "Were you surprised by something that happened in the story?, In what way do you think your market's future will be similar to the future of other markets?". The questions were designed to help the researcher in the process of uncovering assumptions, meanings and understandings, as well as to add deeper reflections about vendors' future visions.

What came out of both activities was that vendors envisioned strong female characters who work at the markets and who collaborate with other vendors to make markets better places in the future. Next to the

AUDIO INSTRUCTION

"[...] Each person will be a single element of the story: you can be the main character or characters, the place where the story takes place, the actions that the character performs, or their emotions and moods. I will go from one participant to another and in each turn the participant must add a bit to the collective story according to her corresponding story element. In total there will be three rounds. I will begin the story by time traveling with you. Then you will continue creating the story with the help of some questions and sentences that I provide. [...]

The only rules are that 1) the main character or characters must stay alive and 2) you need to answer to my message that same day or the following with your responses. [...]"

GIF INSTRUCTION

plot of the story, characteristics of the marketplaces and their energy systems in the future were narrated. Vendors described new energy technologies and fuels, such as solar energy and waste-to-energy technologies, to face future energy challenges. Also, they described governing structures in which renewables are installed and controlled by a combination of actors.

To conclude, I consider that the presented methods and tools are innovative because they facilitate the convergence of marginalized voices, without which diverse socio-technical imaginaries cannot be possible. Also, the methods give space for people to show their interest in and knowledge about the implementation of renewable energy technologies, allowing counter narratives to challenge the hegemonic imaginary of the government centered on fossil-fuels. Finally, the art-based and creative character of the methods is original because it makes energy research accessible and engaging.

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