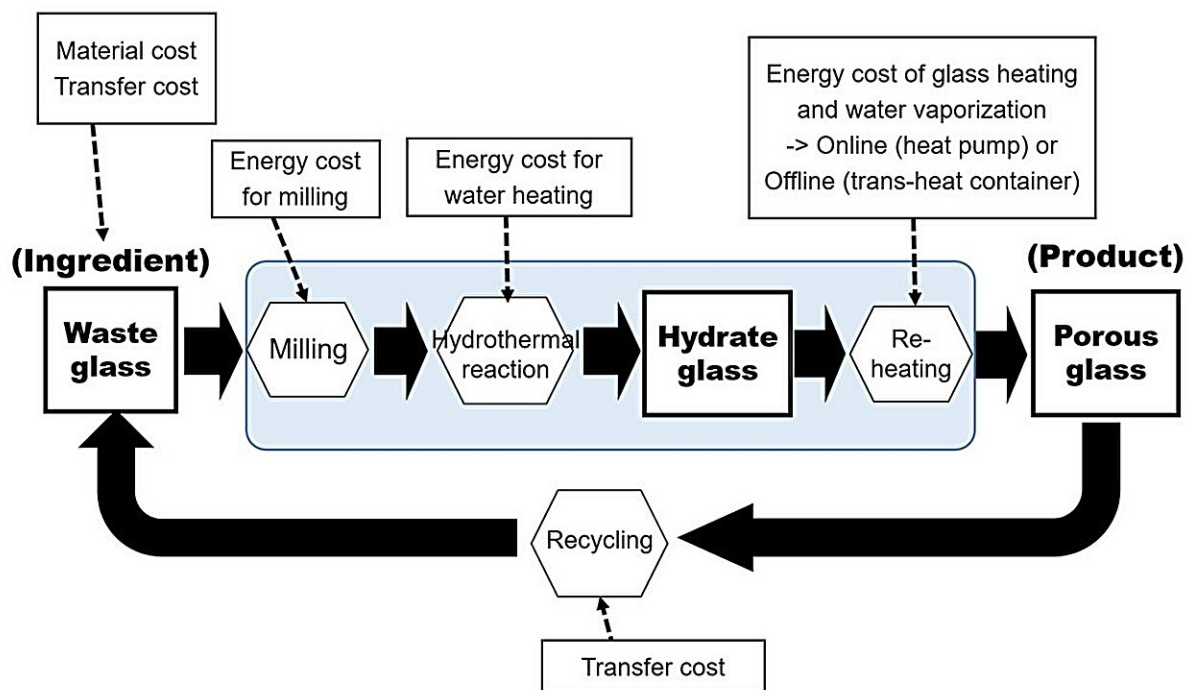


Using 'time travel' to think about technology from the perspective of future generations

March 19 2024



Processes of manufacturing using hydrothermal technology. Credit: *Technological Forecasting and Social Change* (2024). DOI: 10.1016/j.techfore.2024.123289

The world approaches an environmental tipping point, and our decisions now regarding energy, resources, and the environment will have profound consequences for the future. Despite this, most sustainable

thought tends to be limited to the viewpoint of current generations.

In a [study](#) published in *Technological Forecasting and Social Change*, researchers from Osaka University have revealed that adopting the perspective of "imaginary future generations" (IFGs) can yield fascinating insights into long-term social and technological trends.

The researchers organized a series of four workshops at Osaka University, with participants drawn from the faculty and student body of the Graduate School of Engineering. The workshops discussed the state of future society and manufacturing in general, and also looked at one [technology](#) in particular: hydrothermally produced porous glass.

During the workshops, the participants were asked to think about this technology from the perspective of IFGs, to imagine how this technology might be adopted in the future and to assess its future potentiality.

"We chose hydrothermally produced porous glass for the [case study](#) because of the generational trade-offs involved," says lead author of the study Keishiro Hara. "Porous glass is incredibly useful as either a filter for removing impurities or an insulator for buildings. Also, it can be recycled into new porous glass more or less indefinitely.

"The problem is that making it takes a lot of energy—both to pulverize waste glass and to heat water to very high temperatures. There's a striking trade-off between costs now and gains in the future."

In the workshops, the participants first looked at issues involving society and manufacturing from the perspective of the present and were then asked to imagine themselves in the shoes of their counterparts in 2040.

"The future the participants imagined was quite different from the

future as seen from the perspective of the current [generation](#)," explains Toshihiro Tanaka, senior author. "Most groups described a future in which sustainability has become a central concern for society.

Meanwhile, advances in renewal energy mean that energy is abundant, as are resources, as frontiers such as the moon and deep ocean are opened to exploration.

"In this context, hydrothermally produced porous glass comes into its own as a sustainable way to recycle glass, and the [energy](#) needed to produce it is readily available."

The participants were surveyed between workshops and asked to rank indicators related to the future potentiality of the technology.

Interestingly, these rankings looked quite different after the workshops in which the participants were asked to take on the perspective of "imaginary future generations."

"We noticed that when the 'imaginary future generations' method, which has been proven to be effective in facilitating long-term thinking, was adopted, participants perceived the feasibility of this technology differently, and their adoption scenarios changed accordingly," says Hara.

The study suggests that the simple act of putting ourselves in the position of future generations may provide new perspectives on issues of sustainability and technology, helping us to rethink our priorities and set new directions for research and development.

More information: Keishiro Hara et al, Assessing future potentiality of technologies from the perspective of "imaginary future generations" – A case study of hydrothermal technology, *Technological Forecasting and*

Social Change (2024). [DOI: 10.1016/j.techfore.2024.123289](https://doi.org/10.1016/j.techfore.2024.123289)

Provided by Osaka University

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