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Serious Games for Serious Energy Solutions

A Decarbon8 Seedcorn Project

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Image: Unsplash/Christopher Paul High

Starting Point

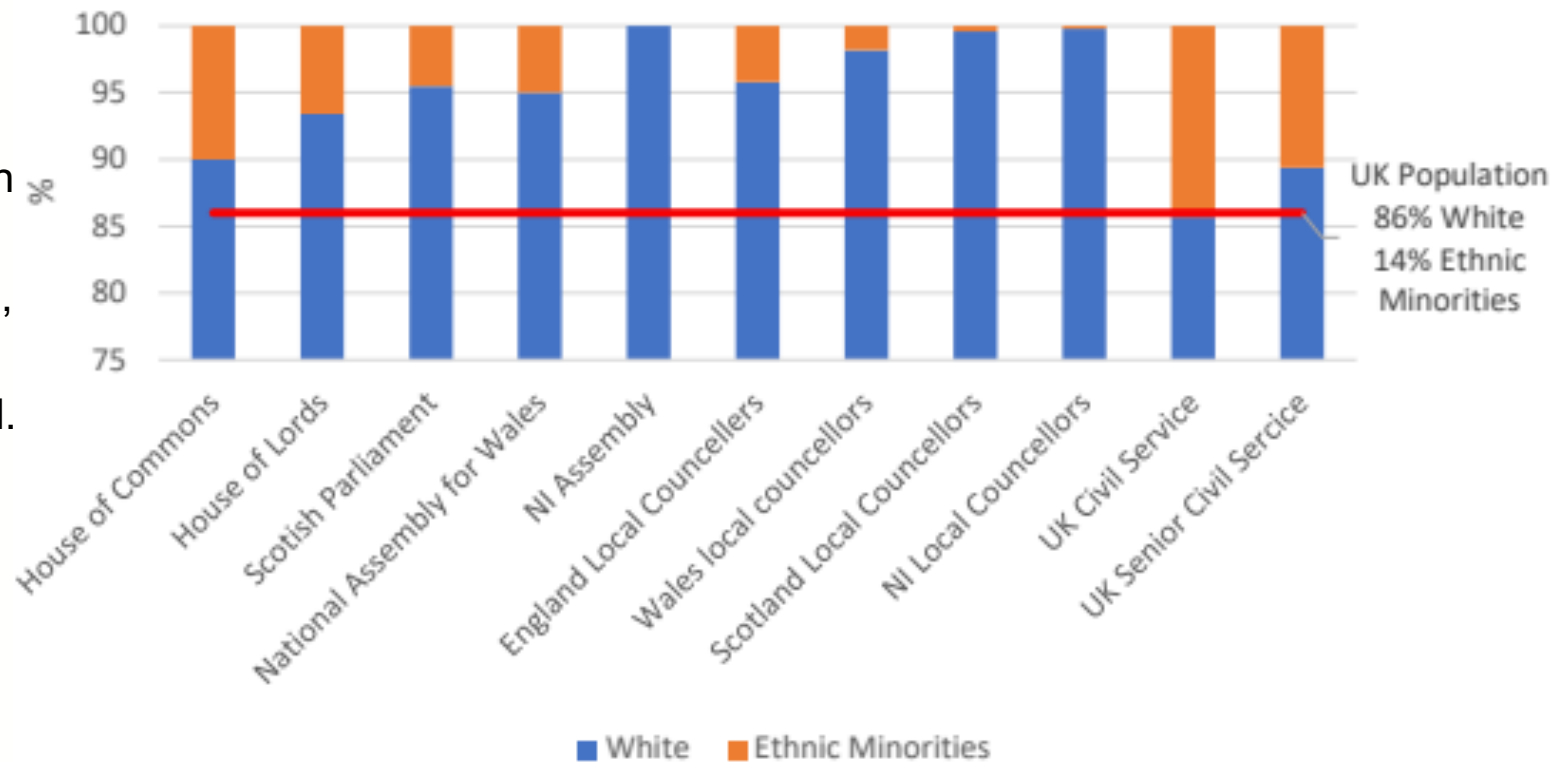


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UK policy making doesn't reflect the diversity of the population (exception of civil service)

Research suggests that more diverse groups can lead to:

- Better brainstorming sessions (McLeod et al., 1996),
- Higher levels of critical analysis (Nemeth et al. 1992)
- Radical innovation (Díaz-García et al., 2012; Bocquet et al., 2019).



Arguments

- Achieving net zero carbon requires significant changes and transitions within society
- For this to happen, transitions must be just and equitable.
- There is insufficient diversity within decision-making regarding decarbonisation.

Questions

- Is there a way to understand how diversity feeds into the process of collective decision making?
- Is there a way to understand the impact diversity has on collective decisions regarding sustainability?

Serious Games for Serious Energy Solutions



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Initial Aims and Objectives

- Identify an appropriate ‘serious game’, to be used to guide teams in problem solving through innovation.
- Develop a framework for assessing the level of innovation of serious game outcome.
- Develop a survey to understand levels of socio-economic diversity of team participants.
- Develop a methodology for assessing the contribution of diversity to problem solving.

Realities and revisions

- COVID :-/
- Local authorities were too busy
- Needed to be online
- Worked with the Equal Group to develop an EDI questionnaire
- Work with recruitment agency to create two user groups—homogenous and heterogenous

What does diversity mean in this context?



- Overly simplistic and normative understanding
- Restricted by recruitment realities

Group 1 – Heterogenous	Group 2 - Homogenous
<p>Characteristics:</p> <ul style="list-style-type: none">•75:25 ethnic minorities: White•50:50 split genderNon-managerial roles•Any age - no students, max 2 retirees (min 75% in FT employment)	<p>Characteristics:</p> <ul style="list-style-type: none">•Male•WhiteManagerial role•Over 40

New Shores Game



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- Free online game consisting of a (trained) moderator and participants.
- The goal of the game is to sustainably develop the naturally resource rich island in 10 rounds.
- The game can be played with participants being able to see and speak to one another or set up entirely anonymously.
- In the case of the latter, all participants and the moderator communicate through a chat function and pseudonyms are automatically assigned to each participant so that no one can see or hear the other participant.

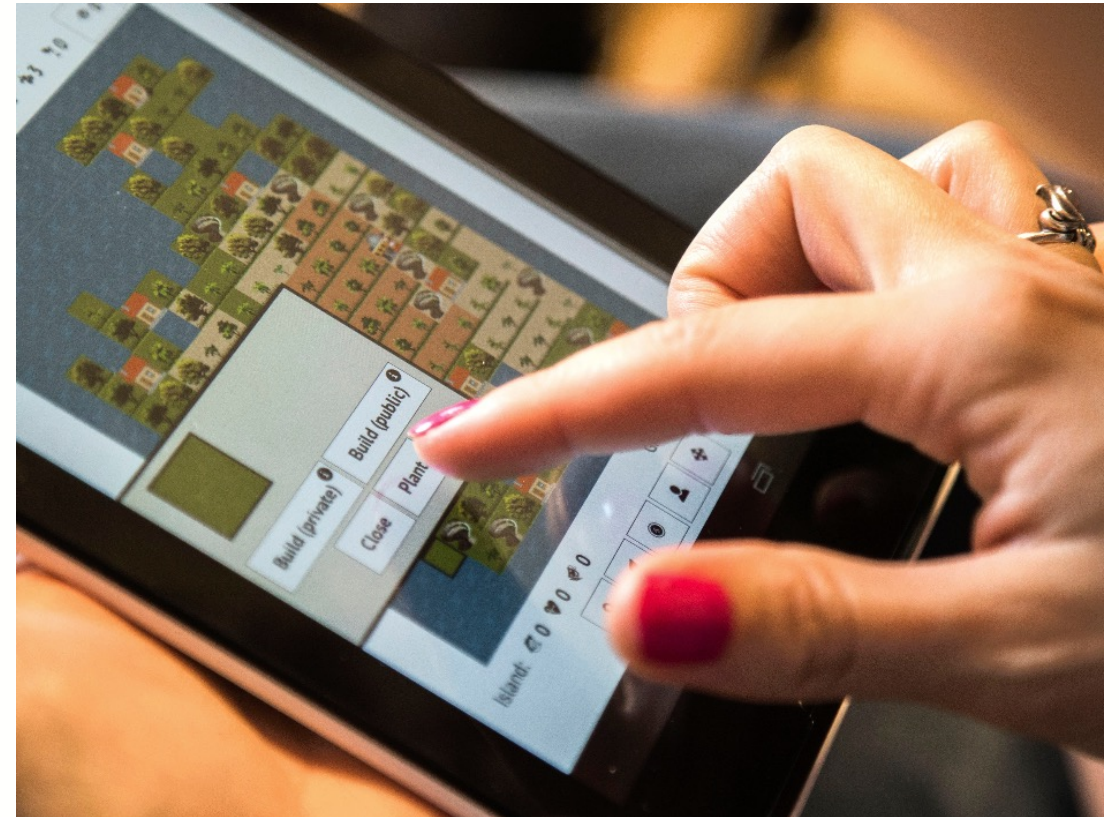


Image: <https://newshores.crs.org.pl/#game>

Playing the New Shores Game



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Group 1

Flood

Hurricane

Public buildings

Extracted coal



Group 2

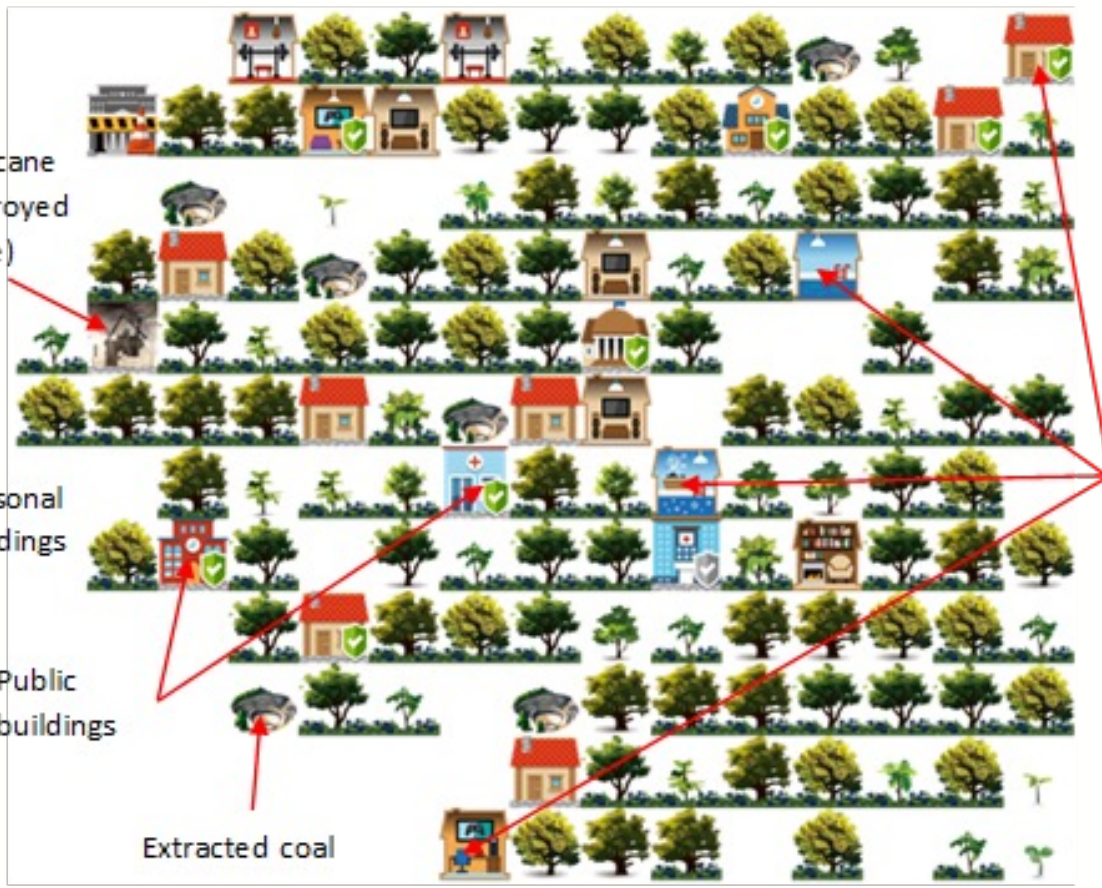
Hurricane (destroyed house)

Personal buildings

Public buildings

Extracted coal

Personal buildings



Final Round Results



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	Group 1 (Hetero)	Group 2 (Homo)
Accumulated income range	0 – 8.4	0.8 – 109.2
Total accumulated income	21	271.6
Standard of living range	1-7	1-18
Change in standard of living (Initial standard of living for all: 1)	No change: 2 Increased: 5 Homeless: 0	No change: 3 Increased: 3 Homeless: 2

	Group 1	Group 2
Total money spent in public investment	1892	1217
Accumulated income	4100	4506
Total number of trees planted	64	24
Total coal extracted	43	31
Total berries collected	262	418
Sanctions placed	0	-4
Flood loss	0	-85
Hurricane loss	0	-30

Group Interactions



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Group 1 (Hetero)

- **Betula:** *i think we should protect the health centres as top priority*
- **Acer:** *i wanted to contribute to the health centre but didn't have enough action points*
- **Moderator:** *great Betula what others think?*
- **P3¹:** *all do it in the next round and decide collectively*
- **Salix:** *Yep I agree*
- **Laurus:** *Why do u think that's important betula?*
- **Betula:** *me too, so we will need to start prioritising as a group*
- **P3:** *we all should contribute a small amount for public buildings in the next round*

Group 2 (Homo)

- **Sorbus:** *castanea's house gone*
- **Sorbus:** *youve a gym still but no where to shower now*
- **Castanea:** *not all bad then...*
- **Sorbus:** *castanea.. ha*
- **Fraxinus:** *havent you a private library too?*
- **Castanea:** *i am building a library! can't get more cultured than that*

Post game reflections



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Could you describe the community you created?

Group 1 (Hetero)

- *It was a catch 22, the only way to make money to invest was detrimental to the island, so it was a difficult decision for the group” (Betula)*
- *At first I felt a bit outcast as I didn’t agree with decisions but then just went along and understood why people were saying these things (Laurus)*

Group 2 (Homo)

- *Castanea still don’t see you taking responsibility for how you got so much cash? (Ulmus)*
- *Individual wins over community (Betula)*

Did you have any ideas or assumptions of who other participants might be?

Group 1 (Hetero)

- *Seemed like people were very environmentally thoughtful which would lead me to think they are from white middle class backgrounds as I am not, the environment is not at the forefront of my mind as I have more pressing issues before this such as poverty and discrimination.*

Group 2 (Homo)

- *Thought that Sorbus was a woman as they seemed to be more altruistic and caring.*

Conclusion



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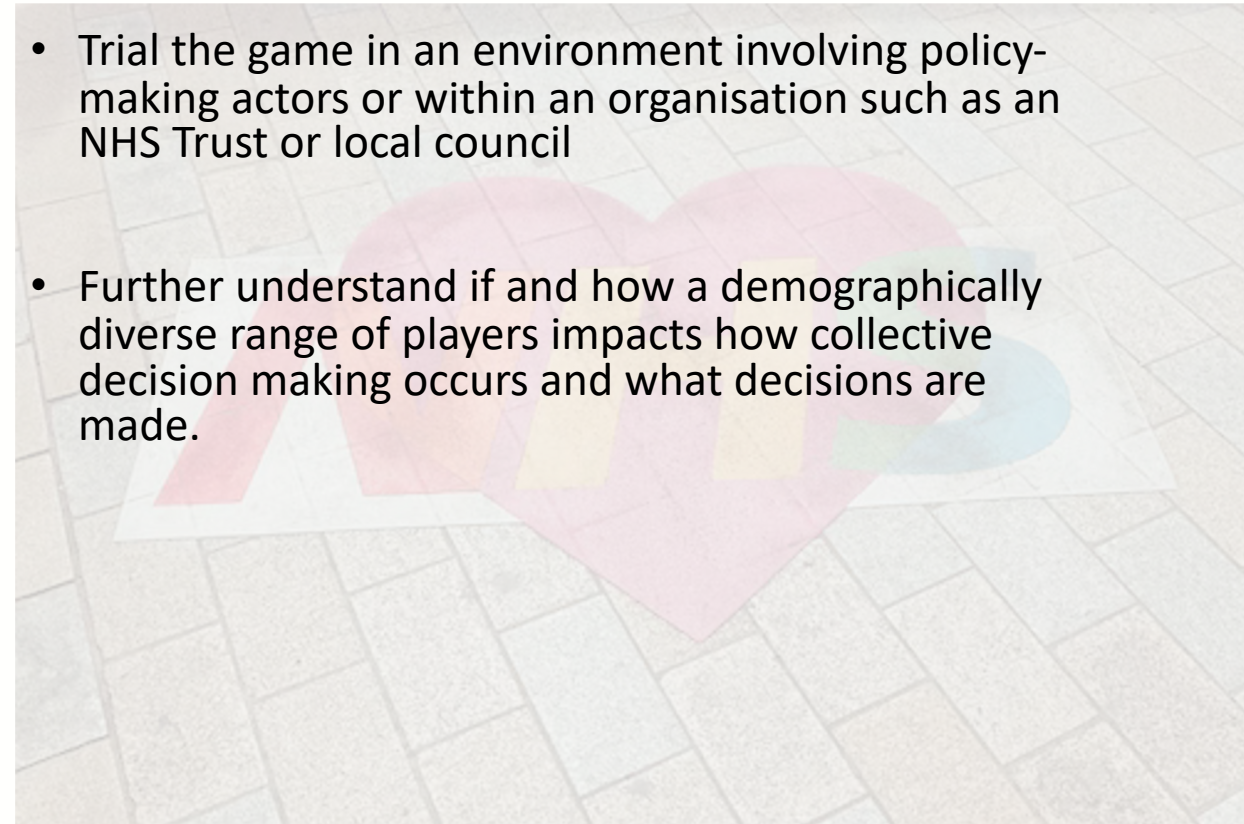
Findings

- This serious game was a useful starting point useful tool for understanding decision-making within a group.
- Heterogenous group displayed greater collaborative tendencies and decision-making when compared to our homogenous group.
- Heterogenous group had a more 'successful' island at the end of the game, particularly when it came to social equity amongst the participants.

Image credit: Unsplash/Nicolas J Leclercq

Next Steps

- Trial the game in an environment involving policy-making actors or within an organisation such as an NHS Trust or local council
- Further understand if and how a demographically diverse range of players impacts how collective decision making occurs and what decisions are made.





Read the report and get in touch!

Report: <https://decarbon8.org.uk/serious-games-for-serious-energy-solutions/>

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