Aalto University
School of Arts, Design
and Architecture

What kind of research for what kind of problems?

Knowledge-making for Sustainability 8.5.2019

Mikko Jalas

Outline

- What is the role of science in sustainability debates
- Eco-managerialism
- Sachs
- Ostrom-Hardin
- Millstone: Knowledge and power

Break

- Forming of groups
- Group
- Initial insight

Eco-managerialism

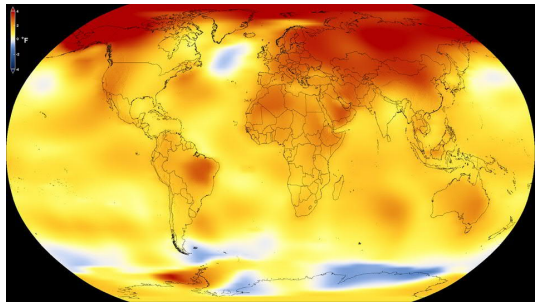
E.g. 20th century Schools of Forest management (Luke 1999)

- **3R's: resource, risk, and recreation**
- **Subordinates nature and does not contribute to well-being of nature**

Luke, T. (1999). Eco-managerialism: environmental studies as a power/knowledge formation. *Living with nature: Environmental politics as cultural discourse*, 103-120.

Charting earth resources

Sachs



Total view from the satellite with no blindspots, do depth, no perspective.

Material for camera: There is either beauty in anything or potential interests. There is nothing that should not be seen or recorded.

Satellites do not see or (remote)sense, but produce computational and theoretical collages.

(cf the NASA CO2 monitoring programme to be run down by the Trump administration)

Sufficiency science?

Narratives of care?

Historicity?

User experience?

Stuart Walker: Sustainability as an ethical and aesthetic project

Aalto University
School of Arts, Design and Architecture

Biosphere

From ecology to ecosystem science and to ‘earth as a self regulating machine’ …. Earth system science, ‘planetary boundaries’.

Earth as a living organism, Gaia ‘integrating empiricism and ethics, science and religion’

Earth does not only have a biosphere, it is a biosphere.

Hardin / Tragedy of the Commons

Sustainability problems cannot be solved with technical solutions – we need to decide what to maximize.

How to legislate temperance?

Appeal to conscience?

Instituting and supporting coercive devices!

Getting rid of the commons!

Chertow, M. R. (2000). The IPAT equation and its variants. *Journal of industrial ecology*, *4*(4), 13-29.

Pixabay: Zdenet

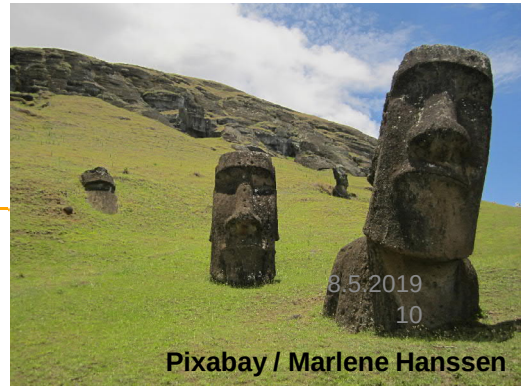
Ostrom / Governance of common pool resources

Simple theoretical models (of human behavior) and prescriptions of universal solutions lead not unwarranted generalizations (cf Hardin).

There is evidence that some government policies accelerate resource depletion and that some resource users are able to self-govern. Top down policies have failed (but Ostrom does not present a theory for the failure), and commons may be a workable solutions for some SESs. >> Evidence against the 'Tragedy of the Commons'

Analysis of a layered reality. A framework of a set of potentially relevant variables and their subsystems. (complex socio-ecological systems),

For similar argument about plurality of economic relations see Gibson-Graham, J. K. (2008). Diverse economies: performative practices for other worlds'. *Progress in Human Geography*, *32*(5), 613-632.



Pixabay / Marlene Hanssen

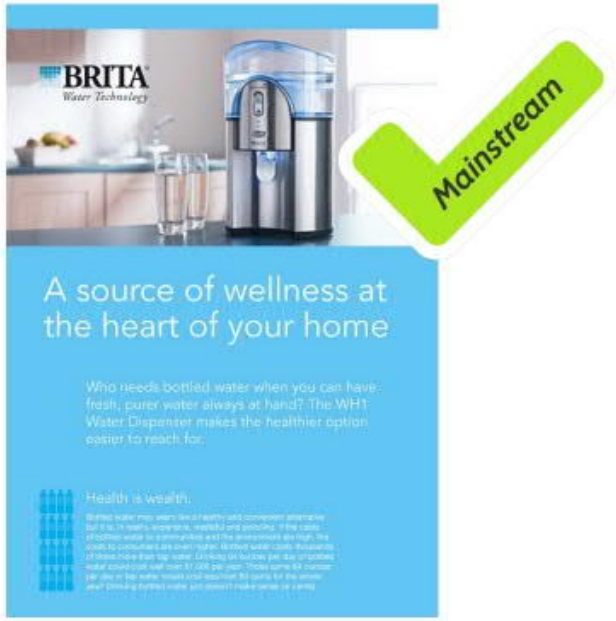
Strategic design uses the most favourable discursive frames to reach the most people

Planet

Global • Environmental ideology

People

Local • Well-being ideology



RESEARCH INSIGHT

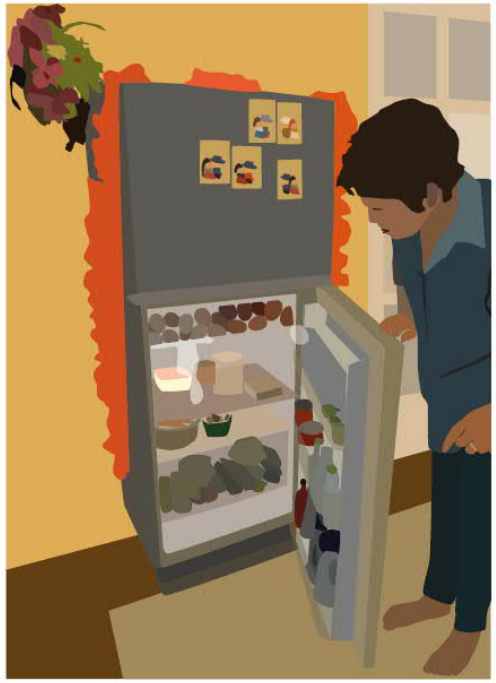
WHAT'S IN THE FRIDGE? URBANISATION, CONSUMPTION AND DEMAND IN BANGKOK AND HANOI

Key points

- In one or two generations, fridge-freezers have become normal appliances in virtually all households in urban Bangkok and Hanoi. This is one of the reasons for increasing household energy demand
- The 'need' for a fridge-freezer and the energy consumption that follows is related to the dynamics of urbanisation and diversification in food provisioning, but this is not a simple or predictable relationship
- Households define quality, fresh and safe food in very different ways: some use supermarkets and favour a 'Western' diet; others avoid mass-produced food and rely upon local suppliers. In both situations fridge-freezers are essential appliances, but for very different reasons

demand.ac.uk

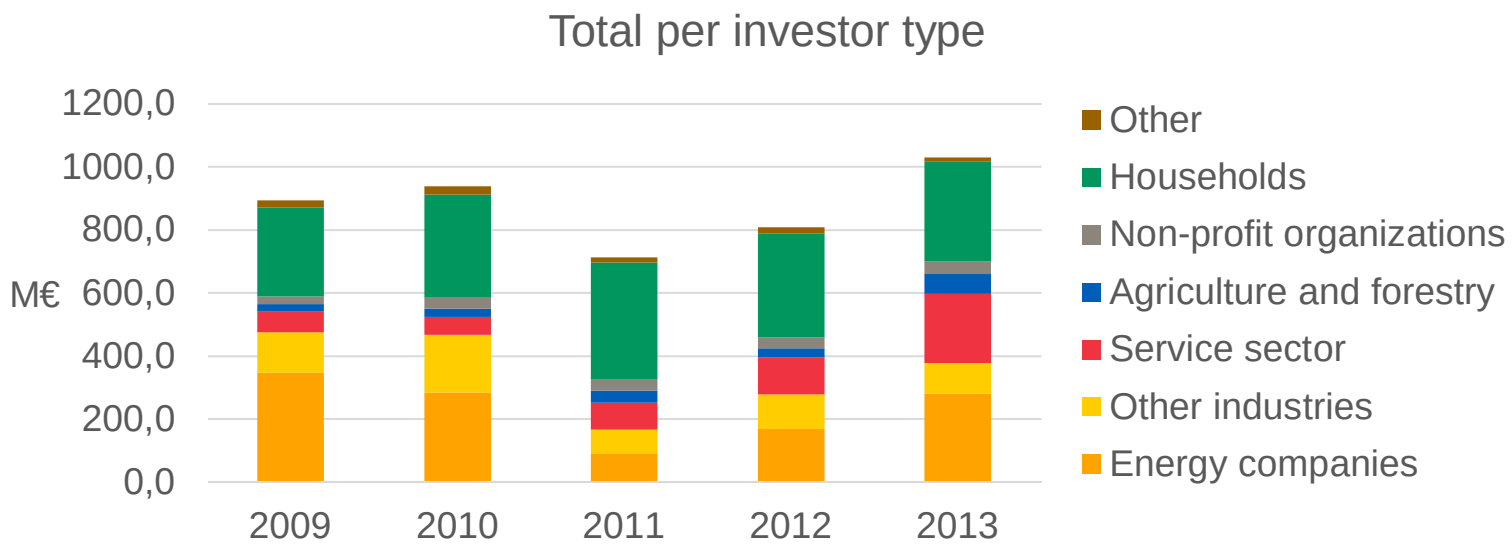
DEMAND
DYNAMICS OF ENERGY, MOBILITY AND DEMAND



At eleven o'clock I rise and lumber [in Finnish 'lompsin'] to the boiler room. I stop at the door: room is death silent and the air control is open. Didn't the damn thing light in the morning? I gauge the thermometer and my head records the figure of 40c as I open the hatch. Few cinders glow in the empty boiler fire place. It has burned a full load wood in two hours. Molok mouth! … [Later during the day the same happens] I try to care for the heating, but after ironing and preparing batter for creps the fire has again used all wood. (SKS Diary 1999/42336.)

Jalas, M., & Rinkinen, J. (2016). Stacking wood and staying warm: time, temporality and housework around domestic heating systems. *Journal of Consumer Culture*, *16*(1), 43-60.

RES investments in Finland



Heiskanen, Eva, et al. "Small streams, diverse sources: Who invests in renewable energy in Finland during the financial downturn?." *Energy Policy* 106 (2017): 191-200.

Productive design knowledge
‘How can we get rid of coal by 2030?’

- Taking targets earnest
- Planning steps, stages, experiments, and pathways
- Creating a politics of transitions

Techno-science

Technology and techno-science, engineering and design

[how-to science]

- **Inherently violent?**

Flickr: C Dombres

Millstone

‘Power [is] exercised by controlling the creation, diffusion and portrayals of scientific evidence.’

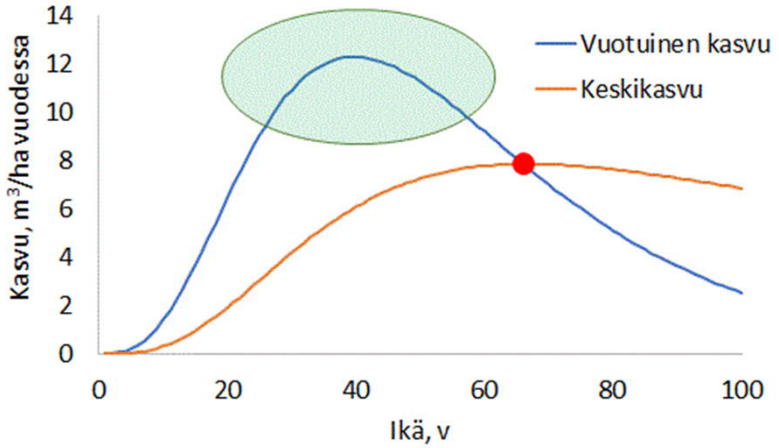
- 1,5˚c global waming as ‘safe’

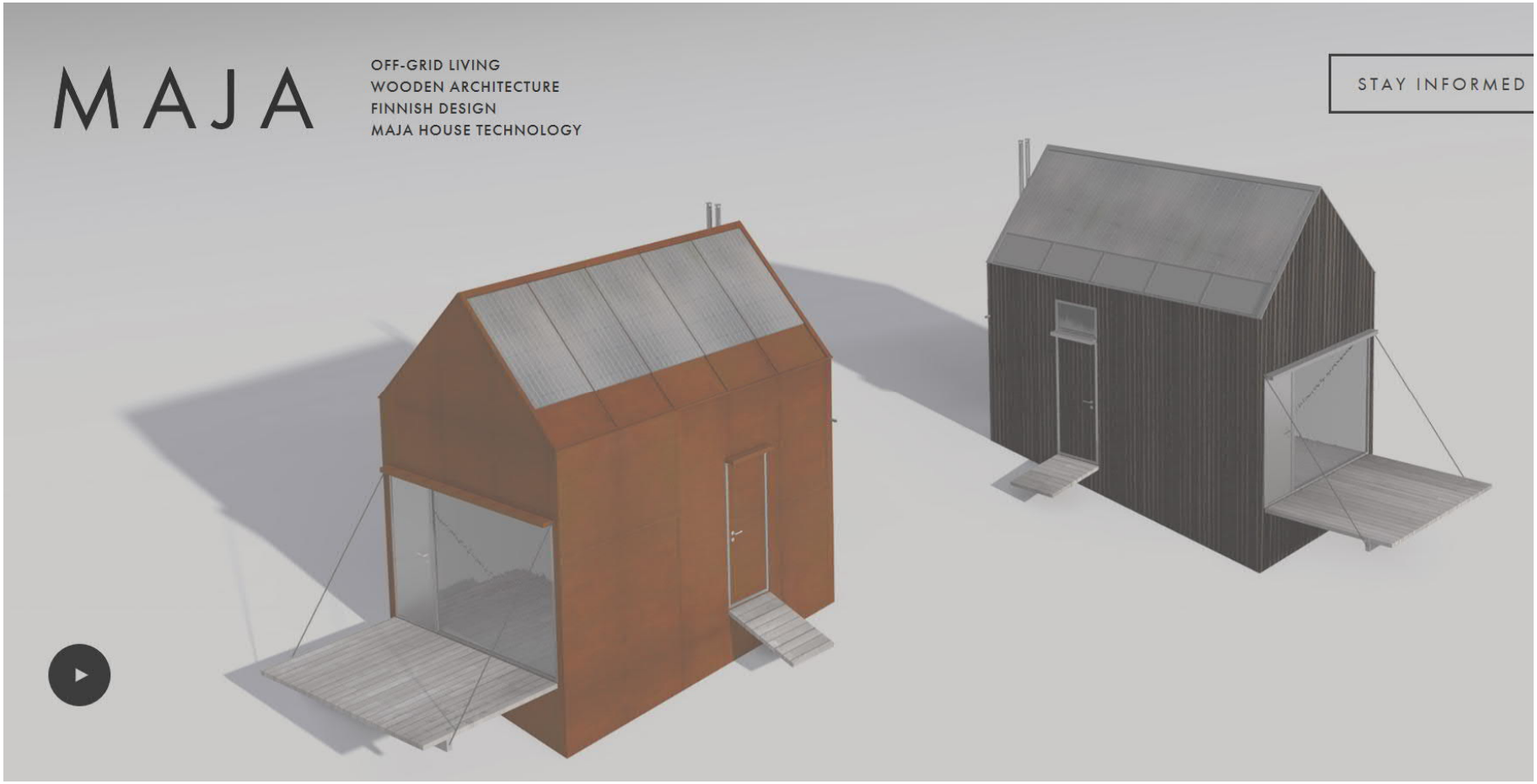
Fixing uncertainties by professionals protects the politicians.

‘Freedom of information’ acts

Despite the precautionary principle, regulators are reactionary

Maa- ja metsätalousministeriö




MAJA
OFF-GRID LIVING
WOODEN ARCHITECTURE
FINNISH DESIGN
MAJA HOUSE TECHNOLOGY
STAY INFORMED

Uutela in class exercise

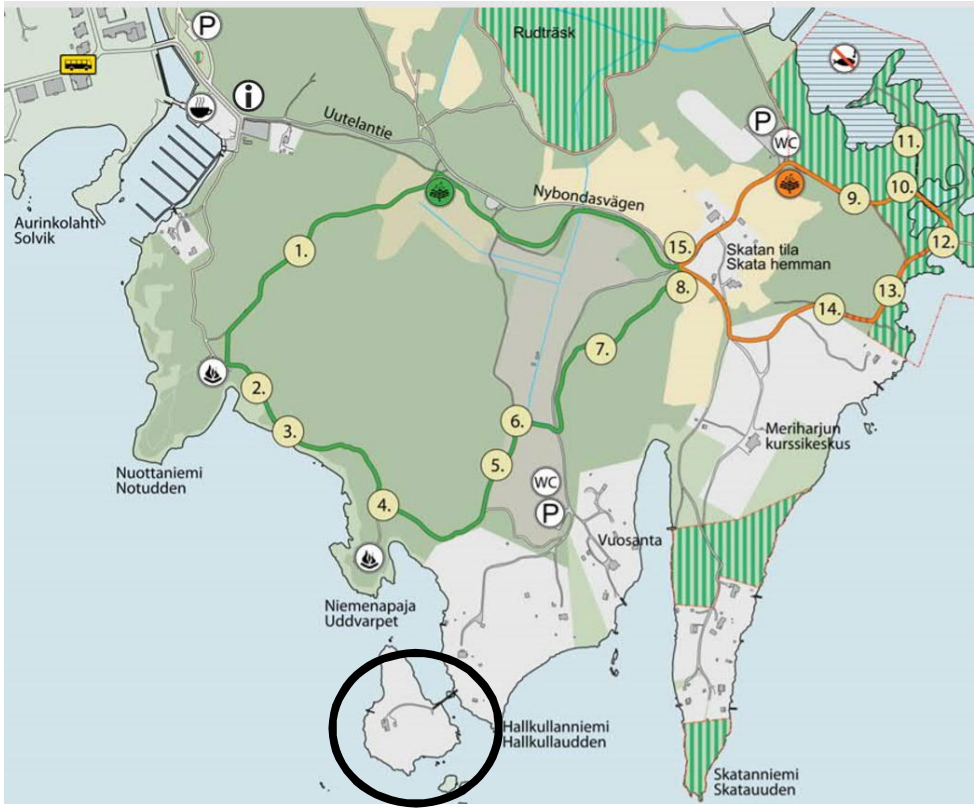
Uutela is an recreational area on the coastline of Eastern Helsinki. In addition recreation, the area has nature values.

An entrepreneur ‘Majamaja’ has planned to build small off grid cabins to be rented for short time. Local opposition has claimed that the plan jeopardizes both nature and recreational values. Plan is expected to bring significantly more traffic to the hitherto quiet area.

The city of Helsinki is looking for to gain experiences to use the same concept also on other islands.

Uutela exercise

Groups 1-3: Plan research to help the city of Helsinki decide whether the project should be allowed.

Groups 4-6: Plan research to support the project initiators

Groups 7-9: Plan research to support the opposition