

**Solar Energy in Future Societies**  
Dr. Peter Vignati

**Participatory studies around socio-technical issues**

Public rejection of technological solutions

- Genetic modification
- Nuclear waste disposal sitings

acceptance    rejection    risk

**Technologies in the making**

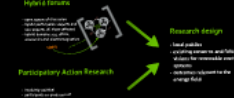
'After-the-fact' studies

assessment of possible futures → co-creation of socio-technical futures

**Why?**  
Socio-technical democracy

**How?**  
Let's explore...

Michel Callon et al. 2009  
*Acting in an Uncertain World*

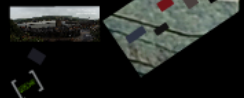


**Public experiments**

"The" evidence: "on-site" research and research in the field

Planning design participation: "on-site" or "in-lab" research?

Planning the future





# Solar Energy in Future Societies

*Dr. Anna Krzywoszynska*



**Stocksbridge 2050,**  
Your Energy Vision for a  
Future Neighbourhood.



What would your  
Stocksbridge look  
like in 2050?

If Stocksbridge  
made all the energy  
it consumed in  
2050 what would  
it mean for the  
community and the  
neighbourhood?



# Solar Energy in Future Societies

Dr. Anna Krzywoszynska



## Participatory studies around socio-technical issues

### Public rejection of technological solutions

- Genetic modification
- Nuclear waste disposal sitings

acceptance

rejection

ri

An aerial photograph of a vast body of water, likely the ocean, with numerous white-capped waves creating a textured, rhythmic pattern across the blue surface. The perspective is from a high angle, looking down at the water.

**acceptance**

**rejection**

The image features a background of a blue sky and ocean. The sky is a clear, light blue, and the ocean is a darker blue with visible waves. The word "risk" is written in a bold, white, sans-serif font, centered in the middle of the image.

**risk**

A scenic view of a river flowing through a forest. The water is clear and blue, cascading over large, moss-covered rocks. In the background, a waterfall is visible, surrounded by dense green foliage. The overall atmosphere is serene and natural.

**'After-the-fact' studies**

# Technologies in the making

A photograph of a waterfall cascading over dark rocks in a dense, green forest. The water is captured with a long exposure, giving it a soft, ethereal appearance. The surrounding vegetation is thick and vibrant green, with various types of trees and plants visible. The overall scene is serene and natural.

**assessment of possible futures**

**co-creation of socio-technical futures**

**Why?**

**Socio-technical  
democracy**

# How?

Let's explore...

Michel Callon et al. 2009

*Acting in an Uncertain World*

Delegative

Dialogic

"Dialogic democracy is the name given to this dynamic process of constitution of the common world which is a deliberately open, world"



# Delegative





**Problem**



**Community of concern**



# Creation of 'facts'

Delegation 1

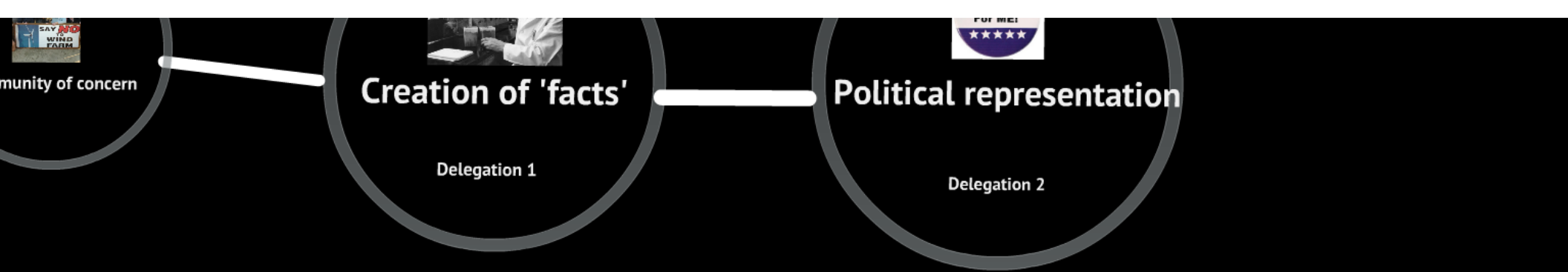
**Science**



# Political representation

Delegation 2

**Politics**



**Science**

**Politics**

The People

The People

The People

The People

The People

Michel Callon et al. 2009

*Acting in an Uncertain World*

Delegative

Dialogic

"Dialogic democracy is the name given to this dynamic process of constitution of the common world which is a deliberately open, world"



# Dialogic

*"Dialogic democracy is the name given to this dynamic process of constitution of the common world, which is a deliberately open, future world"*

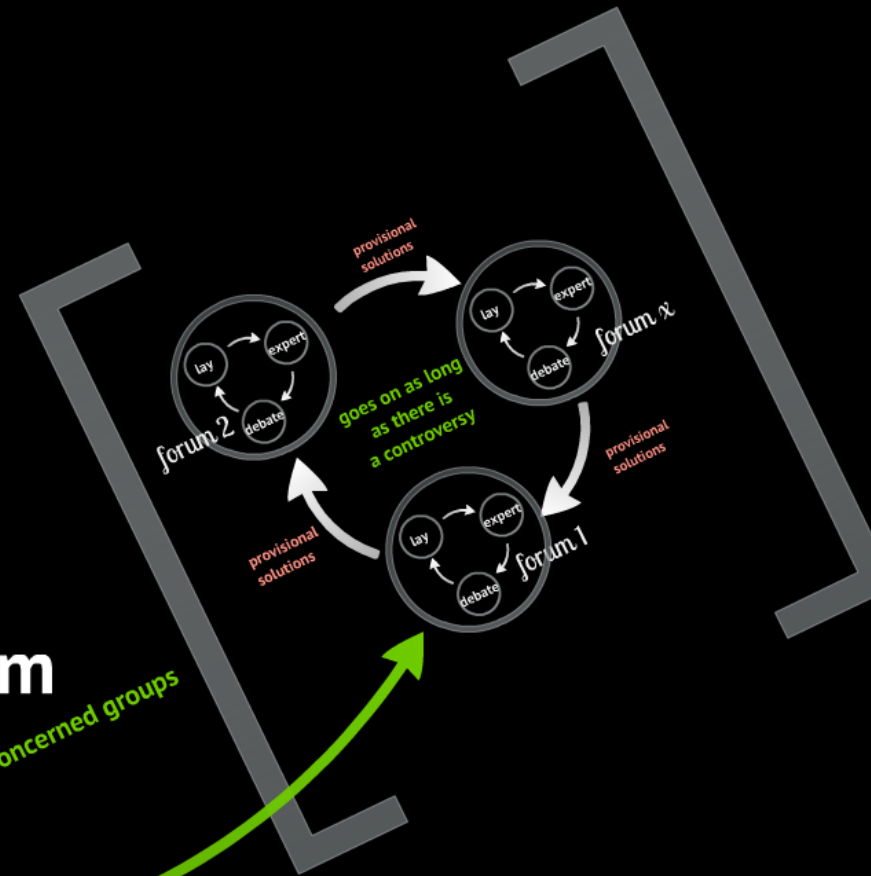
*(Callon et al. 2009: 146)*

# Hybrid forums

- open spaces of discussion
- hybrid participants: experts and non-experts, all those affected
- hybrid domains: e.g. ethics, economics and electromagnetism

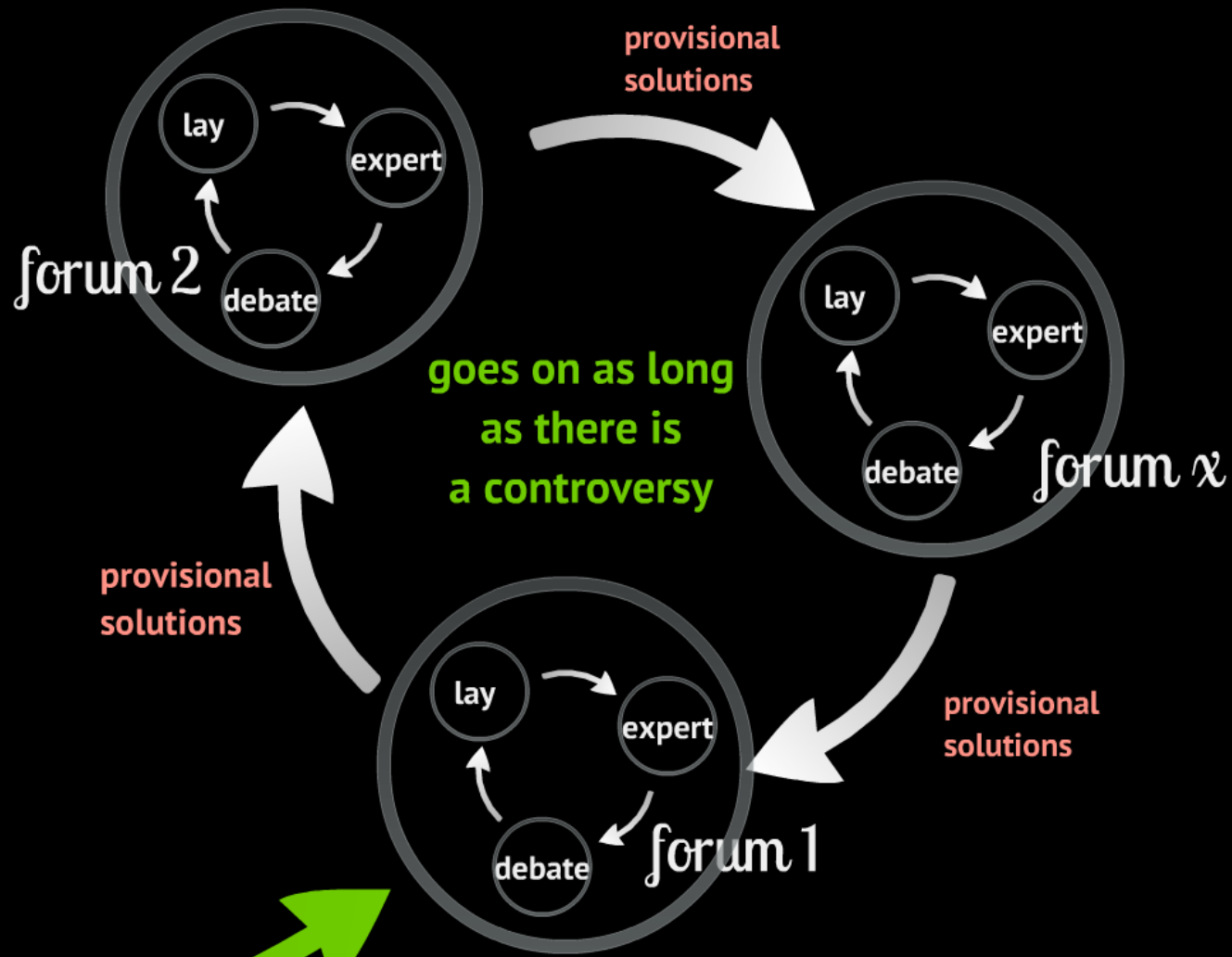
**spark**

*gathering of concerned groups*



nd

groups





# Participatory Action Research

- **implicitly political**
- **participants co-producers of knowledge**
- **communities**

# Research design

- **local publics**
- **existing concerns and future visions for renewable energy systems**
- **outcomes relevant to the energy field**

# Public experiment

'Flat' structure - 'secluded research' and  
'research in the wild'

“Render scientific cultures more self-aware of their own taken-for-granted expectations, visions and imaginations of the ultimate ends of knowledge, and render these more articulated, and thus more socially accountable and resilient” Macnaghten et al.’s (2005)

**“Render scientific cultures more self-aware of their own taken-for-granted expectations, visions and imaginations of the ultimate ends of knowledge, and render these more articulated, and thus more socially accountable and resilient” Macnaghten et al.’s (2005)**

# How to design participation to enable co-creation of futures?

## Our challenges

making energy visible

imagining 'the future'

*"...there are very few STS projects that relate user studies to a technological system that may or may not be realised at some unspecified point in the future." (Jensen 2012: 24)*



# imagining 'the futur

*"...there are very few STS projects that relate user studies to a technological system that may or may not be realised at some unspecified point in the future." (Jensen 2012: 24)*

Made by Delib



Tweet 528

Like 2,349 people like this. Be the first of your friends.

Brought to you by Department of Energy and Climate Change, Sciencewise-ERC and Delib.

This web presence is a visualization as well as simplification of the [2050 Pathways Analysis](#) in order to further share its findings.

Karen Parkhill and colleagues, Cardiff University,  
"Transforming the UK Energy System: Public Values,  
Attitudes and Acceptability"

*“How can we present a proposal intended not to say what is, or what ought to be, but to provoke thought, a proposal that requires no other verification than the way in which it is able to ‘slow down’ reasoning and create an opportunity to arouse a slightly different awareness of the problems and situations mobilizing us?” (Stengers 2005a : 994)*

# Making Things Public

## Atmospheres of Democracy

Assembling or Disassembling?

Which Cosmos for Which Cosmopolitics?

The Problem of Composition

From Objects to Things

From Laboratory to Public Proofs

The Great Pan Is Dead!

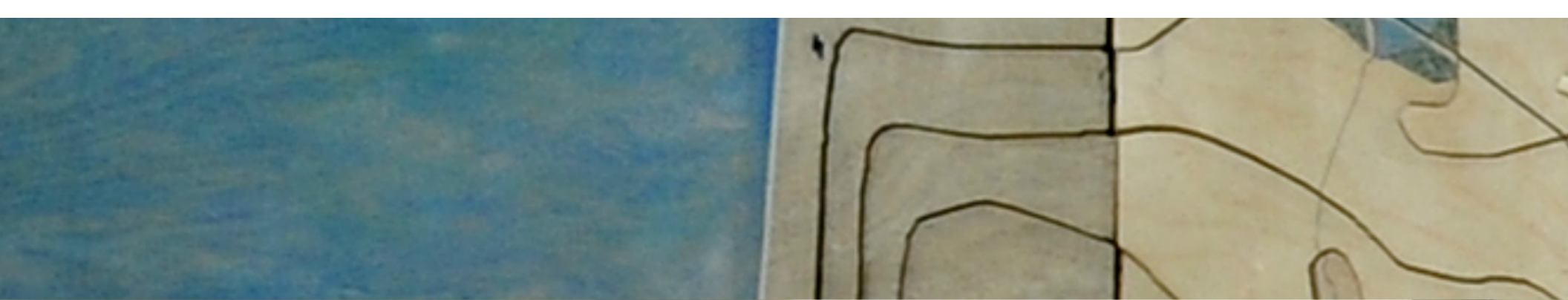
Reshuffling Religious Assemblies

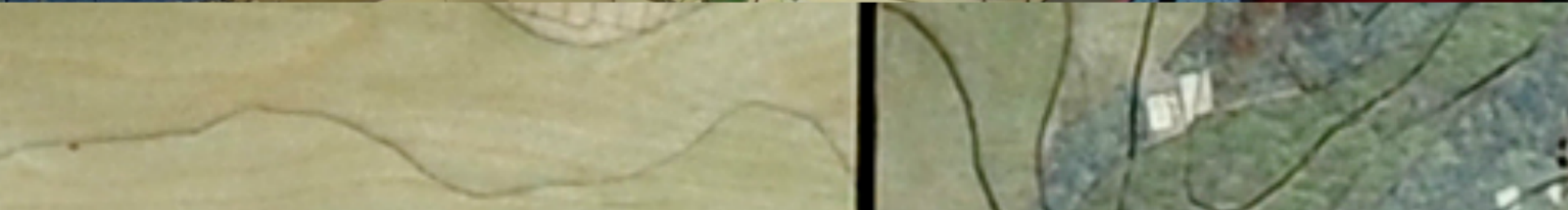
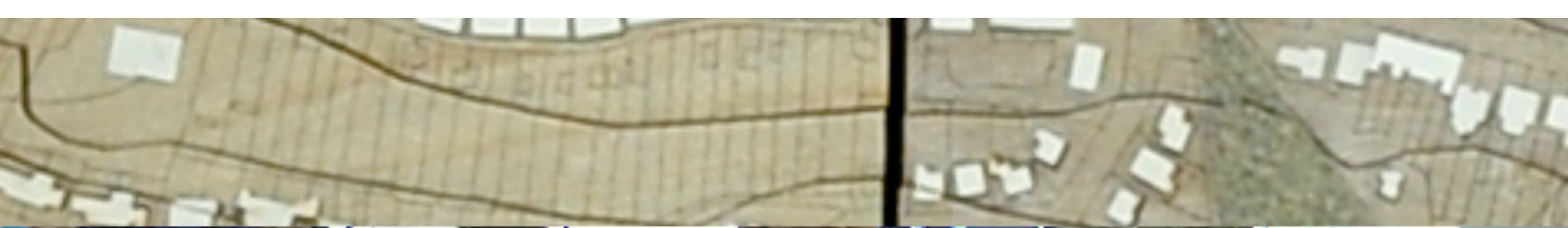
The Parliaments of Nature

edited by Bruno Latour and Peter Weibel



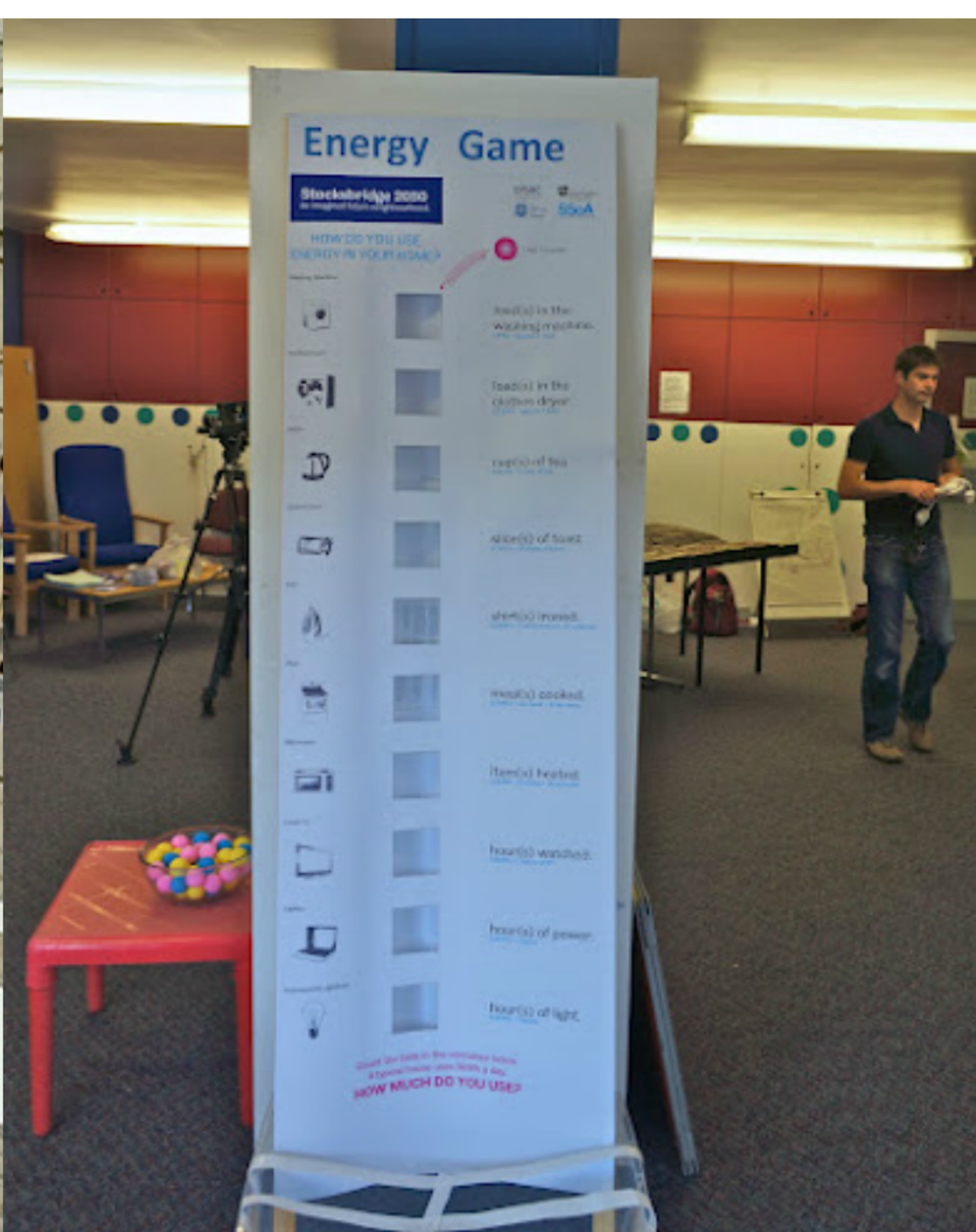






VERY HUNGRY  
CATERPILLAR





# Energy Game

Stockbridge 2020  
An EnergySmart Education Program

ES&C  
S&A

HOW DO YOU USE ENERGY IN YOUR HOME?

- load(s) in the washing machine.
- load(s) in the clothes dryer.
- cup(s) of tea.
- slice(s) of toast.
- shirt(s) ironed.
- meal(s) cooked.
- item(s) heated.
- hour(s) watched.
- hour(s) of power.
- hour(s) of light.

Count the balls in the container below.  
It typically takes one hour to play a day.  
HOW MUCH DO YOU USE?



**Creative Solar Technology**

What will it go next?

Various solar technology images and a central lightbulb graphic.

**Solar Technology**

Various solar technology images.

Solar...  
WHAT?

Solar...  
WHERE?

Laptop on a desk.

Wooden house-shaped display.

Camera on a tripod and other equipment on a desk.

Table with various items, including a green container and papers.





**river**

**solar installations**

**ownership**

# What's next?

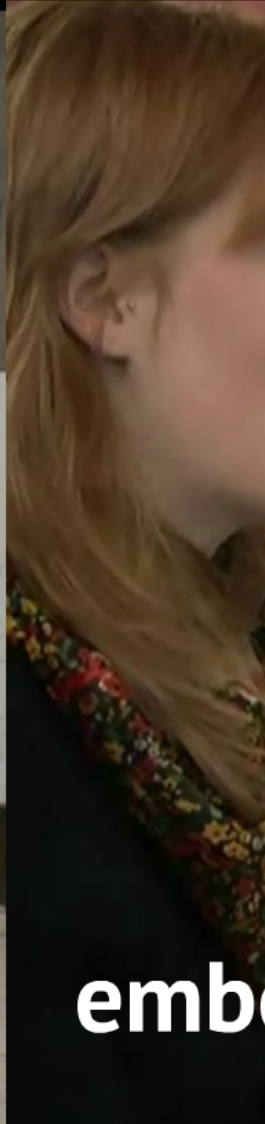
**Project continues till 2015**

**Involve other neighbourhoods in Sheffield (max 2 more)**

**Analytic-deliberative model**



**emplaced socio-technical futures**



**embod**



tures

**embodied and emplaced cognition**

# Rational epistemic agents?

judgements can be communicated

participants can be “objective”

capable of assent on the basis of understanding of  
different perspectives



*Van Oudheusen (2011)*

# But are we?



pre-existing power relations and discourses

group behavioural dynamics

consensus

*"objectivity [which] turns out to be about particular and specific embodiment" (Haraway, 1991, p. 190).*



Thanks for listening!