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Mapping productivity, energy and wellbeing: interdisciplinary explorations of falling productivity growth, energy transitions and implications for wellbeing

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Mapping Productivity, Energy and Wellbeing

A participatory knowledge mapping research project for the Economic and Social Research Council, UK





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Systemic Design Models and Processes for Sustainment RSD8: Systems Change for Governance: Design + Networks + Activation 16 October 2019, IIT Institute of Design (ID), Chicago USA





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1. Background + Introduction

Autumn 2018



The ESRC published a call for research on the intersection of energy and productivity which recommended the inclusion of visualisation strategies.

Transforming productivity research: mapping

Invitation to apply for funding

Closing date for full applications: 16.00 on Monday 22 October 2018

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Call objectives

The ESRC wishes to move the UK's productivity research agenda forward in a more progressive, strategic and joined up way. To inform our future investment decisions, we would like to commission research to:

- a) Identify the current state of productivity research that focuses on the UK (Part I and Part 2 of the brief),
- b) Identify research on the range and characteristics of interventions used to improve productivity (Part 3), and,
- c) Summarise what is known about the performance of interventions (Part 3).

I had developed a relationship with CUSP (Centre for the Understanding of Sustainable Prosperity) with my participation in their "Economic Theory of the Anthropocene: Towards Heterodox Understandings of Sustainable Economies" symposium hosted at University of Surrey (July 3–4th, 2018). I had published a paper on based on my work presented at CUSP. Thanks to this relationship I was invited to develop a mapping method for this research proposal.

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Anthropocene Economics and Design: Heterodox Economics for Design Transitions

Keywords

Abstract Economics is a field under fierce contestation. In response to the intersecting challenges of the Anthropocene, scholars who take a broader and more critical view of current economic models have described the shortcomings of orthodox economic theory along with the severe consequences of its systemic discounting of the environment. Heterodox economists describe how the logic of neoclassical and neoliberal economics disregards the interests and needs of the natural world, women, workers, and other historically disadvantaged groups. Explorations of the household, the state, and the commons as alternative economies open space at the intersection of economics and design for incorporating and valuing the provisioning services provided by the ecological context and the undervalued work provided by certain groups of people. Design theorists, economists, social and cultural theorists, and anthropologists describe the relationship between value and values in ways that reveal how sustainable and socially just futures depend on the priorities (notions of value) embedded in the systems that determine what is designed. With these ideas, design can contribute to economic transitions with conceptualizing, modeling, mapping, framing, and other future making practices. Ecologically engaged, heterodox economics is a basis for societal responses to climate change on a scale that can make a difference.

Anthropocene Climate change Heterodox economics Ecological economics Value and values Design transitions for sustainability

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http://www.journals.elsevier.com/she-ji-the-journal-of-design-economics-and-innovation https://doi.org/10.1016/j.sheji.2018.10.002



Powering Productivity

Mapping the Role of Energy and Wellbeing in UK Productivity using Expert Elicitation and a Thematic Literature Review



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Philippe Vanderbroeck Consultant shiftN @shiftNGroup

Dr. Clement Renaud Digitial Designer @atlasofdata; @disnovation: @fabricatorz https://micromesomacro. com







Falling productivity growth is considered to be a problem.



Falling productivity growth is considered a crisis in many of the wealthiest economies (Jackson, 2019).

Economic historians argue that the productivity growth rates seen under most of the history of capitalism were made possible due to exploitation of high quality fossil fuel reserves (e.g. Wrigley, 2016; Malm, 2016). This research project uses system mapping methods to investigate the problem of falling productivity growth and its relationship to both energy and wellbeing. An explanation for the trend is linked to declining access to high quality energy. Two fundamental questions are evident:

1) With the transition to sustainable renewable energy driven societies, will falling productivity growth rates be the new normal?

2) If so, what does this mean for **wellbeing**, standards of living and general levels of prosperity?

In policy debates, productivity growth is often associated with higher living standards. We developed mapping strategies to explore whether this assumption by mapping knowledge at the intersection of productivity, energy and wellbeing.

- Is study provides an additional argument to support transition to renewables
 Need to integrate EROI into energy-economy modeline particularly if we are so close to the cliff edge!
 A declining EROI:
 - necessarily implies a constraint in the proportion of available en the productive economy.
 - is compatible with absolute increases in energy produced, but h long is this sustainable for? (climate change, resource availability)
 - Mean energy is more costly to extract and process, but how th translates into prices is dependent on many other factors.



2A

Participatory Knowledge Mapping:

Energy and Productivity

Energy

Productivity



























FINANCIAL ECONOMY - INVESTMENT FREAL ECONOMY OF PRODUCTION AND CONJUMPTION SYSTEMS

BIPHYSICAL ECONOMY













2. Giga Map Group One

HURRICAME NOVELTY ____ CONSUMMO EFAILLEMY Capitale MOTIS lucesturent -VERG MINIMEATEOR COSTI AD RODUJIN VER geographing TK of finare EM ENT REPLACING where you can Automation accumulate EAFERG LADOUR Capila WITH ENERGY Mane EMPLOYMENT -















3. Giga Map Group Two



































2B

Participatory Knowledge Mapping:

Wellbeing and Productivity

1. Physical health

Prosperity Social Value

4. Workplace factors & communication

Wellbeing Productivity

7. The roles of 9. social& human 3. Natural capital capital Work-related stress & 2. well-being Mental health

6. Information technology ICT

5. Workplace wellness programs

Workshop Plan



A plenary session is expected after each map is finished.

A. Visual code index









1. Individual maps





1. Individual maps







1. Individual maps





Overview of individual maps





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A com is used to mark areas or points on your map that need more research. It is the formation. The formation. The formation is a constrained on find the formation is a probability of the formation of find the formation is a probability of the formation of find the formation is a probability of the formation of find the formation is a probability of the formation of the formation is a probability of the formation of the formation is a probability of the formation of the formati

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3. Work in progress....

high wellbeing

high wellbeing

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