Social Innovation in the Energy Transition

Webinar

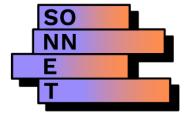
Social Innovation in the Energy Transition Platform TU Delft

Delft University of Technology,

Friday 19 June 2020

https://www.tudelft.nl/en/socialinnovation/









Schedule

- 15:00 15:05 Introduction.
- 15:05 15:10 What does social innovation entail, and what does it mean in the energy domain?
- 15:10 15:40 Presentation by Dr. Julia Wittmayer (Drift, Erasmus University Rotterdam, The Netherlands) about meaning and classification of social innovation in the energy transition.
- 15:40 15:50 Q&A.
- 15:50 16:10 Presentation by Dr. Anatol Itten (Faculty of Technology, Policy and Management, Delft University of Technology, The Netherlands) about social innovation and co-creation.
- 16:10 16:20 Q&A.
- 16:20 16:30 Key takes form the webinar and conclusion.



Introduction

- Welcome
- Platform on Social Innovation in the Energy Transition at Delft University of Technology.

 Explanation to the series of events and webinars for 2020 and 2021.

Renewable Energy Cooperatives

#CoopsDay

lead the Energy Transition to Energy Democracy



Platform Social Innovation in the Energy Transition

- Started in 2017 by Dr. Thomas Hoppe and Dr. Gerdien de Vries on behalf of the Delft Energy Initiative.
- Goals were:
 - To generate more attention to social and other human (i.e. "non-technical") aspects that matter in energy transitions.
 - To mobilise researchers at Delft University of Technology who are working on the social dimension of energy transitions, and encourage them to collaborate.
 - To reach out to the wider academic community working on the social dimension of energy transitions.



Social innovation??

- At the time, however, little attention was actually paid to the very meaning of 'social innovation' within the domain of energy transitions.
- It was mostly used as a popular buzzword.







Symposium 2017

- 3-4 April 2017
- Widely attended by both academics and practitioners (and even members from the Dutch royal family!).
- With Special Issue of best papers:
 - "Social Innovations in the energy transition" in academic journal:
 https://www.mdpi.com/journal/sustainability/special_issues/Social_innovations_energy_transition





Movie:

https://www.youtube.co m/watch?time_continu e=22&v=dwpxft9jxqw&f eature=emb_title



What does social innovation entail, and what does it mean in the energy domain?

- The 2017 symposium laid the foundation to attaching more meaning and defining social innovation in energy transitions.
- A literature study was conducted.
- Working definition:
 - "Innovations that are social in their means and contribute to low carbon energy transition, civic empowerment and social goals pertaining to the general wellbeing of communities." (Hoppe and De Vries, 2019:4).



Social innovation in a wider academic setting

- At the same attention to the topic also rose elsewhere across academic communities.
- Currently more definitions exists, and the one we developed (previous slide) was criticized for being instrumentalist.
- We became involved in debates about the topic in larger academic settings, starting to cooperate with other universities and projects.
 - Including Drift's H2020 projects PROSEU and SONNET.



Platform Social Innovation 2.0

- In January 2020 the Platform received new funding (from the Delft Urban Energy Platform) and could be extended for the 2020-2021 period.
 - Team: Anatol Itten, Gerdien de Vries, Thomas Hoppe, Twan Kramer.
- Revised approach:
 - Goal is to generate more exposure and to increase cohesion between researchers within Delft University of Technology, and with the wider academic community.
 - Furthering the research agenda.



Activities by SI Platform

- Activities for 2020-2021:
 - Organizing webinars and other knowledge events
 - Symposium in 2021.
 - Updating website and more.
 - Open to "bottom up" / grassroots suggestions.
- Close connection to the "Energy Transition Lab" at Faculty of TPM, Delft University of technology.





Closing of the webinar

- Many thanks for attending our webinar!
- We welcome you to our next webinar on Friday 18
 September about the impact of Covid-19 on energy transition.
- Feel free to contact us at: <u>sociale-innovatie@tudelft.nl</u>.
- Or visit our website: https://www.tudelft.nl/en/socialinnovation/









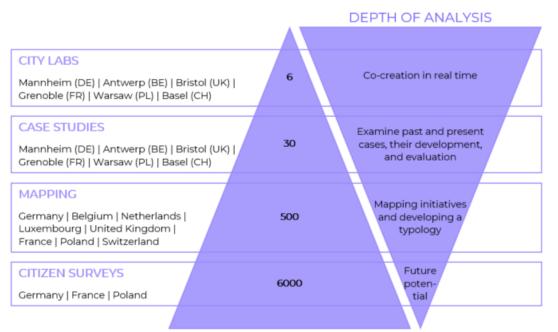
Social Innovation in Energy Transitions

More than cooperation?

Diversity of Social Innovations in Energy

Dr. Julia Wittmayer
DRIFT, Erasmus Universiteit Rotterdam

June 19th, 2020



SAMPLE SIZE

SONNET's overall aim is
to generate novel understandings of the
diversity, processes and contributions of social
innovation in the energy sector,
and critically evaluate and assess their success
and future potential towards supporting
sustainable transitions of energy systems.









transformative social innovation theory



www.citiesoftomorrow.eu #citiesoftomorrow

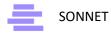


These projects receive funding from the European Union's Horizon 2020 research and innovation programme.

















Editorial

Social Innovation and the Energy Transition

Thomas Hoppe * and Gerdien de Vries

Organization and Governance (OG), Department of Multi-Actor Systems (MAS), Faculty of Technology, Policy and Management (TPM), Delft University of Technology, Jaffalaan 5, 2628 BX Delft, The Netherlands; G.deVries-2@tudelft.nl

* Correspondence: T.Hoppe@tudelft.nl

Received: 20 December 2018; Accepted: 21 December 2018; Published: 28 December 2018



Abstract: The transition to low carbon energy systems cannot solely rely on technological innovation. It also requires social innovation. In the context of energy transition social innovation can be defined as innovation that is social in its means and which contributes to low carbon energy transition, civic

empowerment and social goals pertaining to the general presents the editorial comment of the special issue "Social It seeks to answer the questions, "what does social innovation and what are its implications?" This special issue yields 2 different academic disciplines within the behavioral and so key topics relevant to social innovation emerge, pertaining to new market models, actor configurations, and institut innovation; (ii) new governance arrangements; (iii) command social incentives and policy to empower it; (iv) new part learn from livings labs and best practices; (v) 'green nudges' serious energy games. The editorial ends with suggestions if

Keywords: social innovation; energy transition; green no empowerment; renewable energy; energy governance; clima



Article

Collective Action and Social Innovation in the Energy Sector: A Mobilization Model Perspective

Jay Sterling Gregg ^{1,*}, Sophie Nyborg ², Meiken Hansen ², Valeria Jana Schwanitz ³, August Wierling ³, Jan Pedro Zeiss ³, Sarah Delvaux ⁴, Victor Saenz ⁴, Lucia Polo-Alvarez ⁵, Chiara Candelise ⁶, Winston Gilcrease ⁷, Osman Arrobbio ⁷, Alessandro Sciullo ⁷ and Dario Padovan ⁷

- Department of Technology, Management and Economics, Technology Transitions and System Innovation Division, UNEP-DTU Partnership, UN City, Marmorvej 51, 2100 Copenhagen Ø, Denmark
- Department of Technology, Management and Economics, Innovation Division, DTU-Technical University of Denmark, Akademivej Building 358, 2800 Kongens Lyngby, Denmark; sonyb@dtu.dk (S.N.); meih@dtu.dk (M.H.)
 - Department of Environmental Sciences, HVL-Western Norway University of Applied Sciences, Postbox 7030, 5020 Bergen, Norway; Valeria. Jana. Schwanitz@hvl.no (V.J.S.); August. Hubert. Wierling@hvl.no (A.W.); Jan. Pedro. Zeiss@hvl.no (J.P.Z.)

Social Innovation in Community Energy in Europe: A Review of the Evidence

Richard J. Hewitt^{1*}, Nicholas Bradley², Andrea Baggio Compagnucci¹, Carla Barlagne², Andrzej Ceglarz^{3,4}, Roger Cremades⁵, Margaret McKeen¹, Ilona M. Otto⁶ and Bill Slee⁷

Information and Computational Sciences (ICS), The James Hutton Institute, Aberdeen, United Kingdom, Social, Economic and Geographical Sciences (SEGS), The James Hutton Institute, Aberdeen, United Kingdom, Bavarian School of Public Policy, Technical University Munich, Munich, Germany, Renewables Grid Initiative, Berlin, Germany, Climate Service Center Germany (GERICS), Hamburg, Germany, Potsdam Institute for Climate Impact Research (PIK), Member of the Leibniz Association, Potsdam, Germany, The Rural Development Company Alford, Aberdeenshire, United Kingdom

Citizen-driven Renewable Energy (RE) projects of va community energy (CE), have an important part to





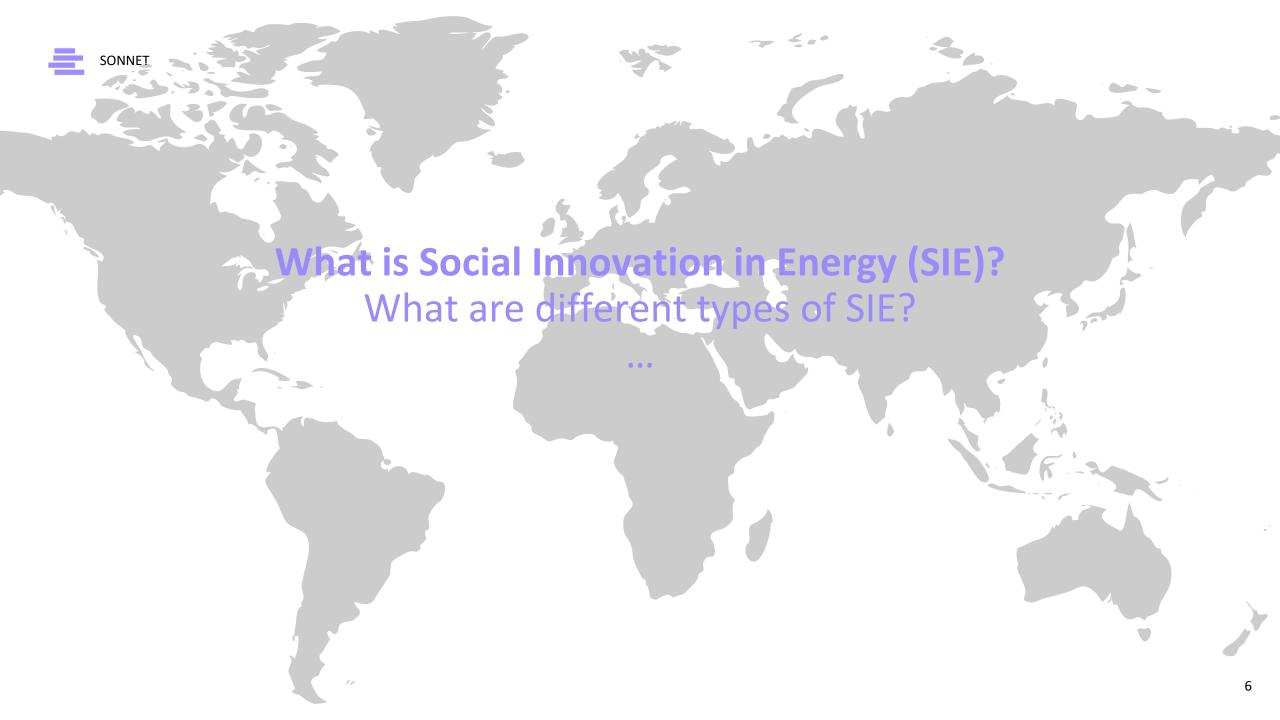
NEWCOMERS



ransitions



SocialRES





What is social innovation?



Example: Community Energy

Social innovation in energy (SIE) is a combination of ideas, objects and/or actions that changes social relations and involves new ways of doing, thinking and/or organising energy.

(Wittmayer et al. 2020)



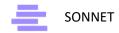
Doing

renewable

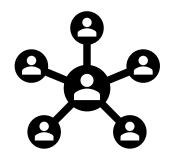


http://www.westmillsolar.coop

Haxeltine et al. 2017, Avelino et al. 2019 Chilvers & Longhurst 2016



Understanding SIE also includes...



SIE can originate in and involves multiple societal spheres.

Innovation hero's from 'outside' the system (often community/third sector)...

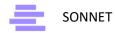
But public sector innovation, business model innovation and distributed agency



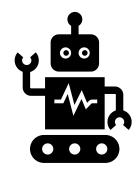
SIE is multi-directional and involves normative complexity

Positive normative connotation 'improvement' ... but: not 'inherently good'

Structural change, trade-offs, ambiguities, unintended consequences



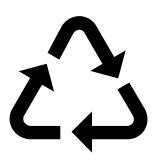
Understanding SIE also includes...



SIE is about socio-material intertwinement

Secondary form of innovation or 'bolt-on'...

But: changes in socio-material relations, as unintended side-effect, or technological change as bolt-on



SIE is about renewed phenomena

Re-discovering, re-inventing, re-using, revitalizing and translating forgotten, lost or abandoned ways of doing, thinking and organising of the past;

new combinations of old things integration of new things into existing contexts





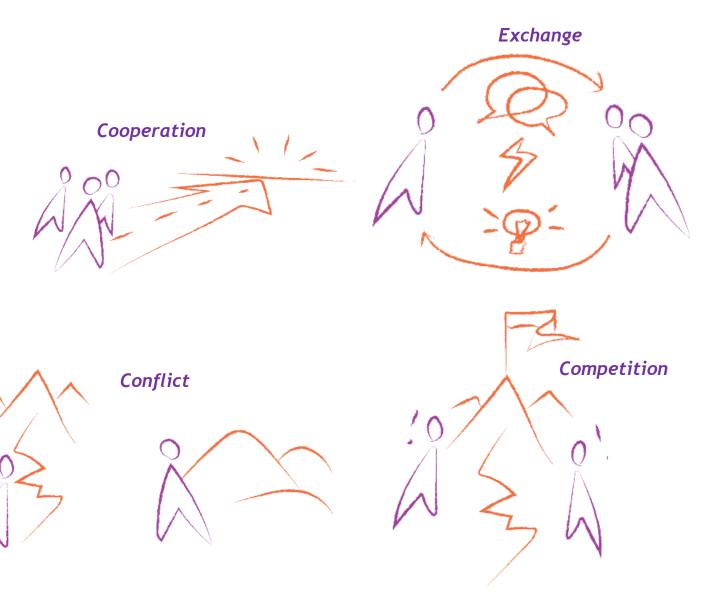
A typology?

- There is no comprehensive (that not only covers specific phenomena (e.g. prosumerism, energy cooperatives)) typology of SIE
- Systematic classification allows for a differentiated analysis of patterns, relations and links between types, the different enabling and impeding conditions and distinct contributions.
- Provide guidance for systematic analysis, support and advocacy





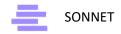
SIE as changes in social relations ...



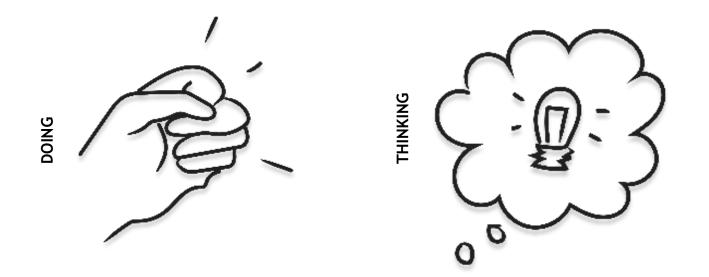


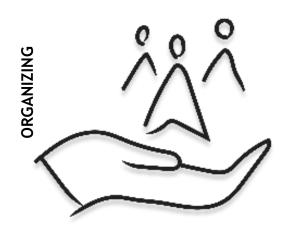
Type of social interaction	Definition based on <i>Brinkerhoff et al. (2008, 98–100)</i>
Exchange	"Exchange is the voluntary interaction from which all parties expect some reward"
Cooperation	"Cooperation is interaction that occurs when people work together to achieve shared goals"
Competition	"Competition is a struggle over scarce resources that is regulated by shared rules"
Conflict	"Conflict is a struggle over scarce resources that is not regulated by shared rules, it may include attempts to destroy, injure, or neutralize one's rivals"

Different types of social interactions between actors occur in social relations (Brinkerhoff et al. 2008; Simmel 1971)



... involving 'new' ways of doing, thinking and organizing energy



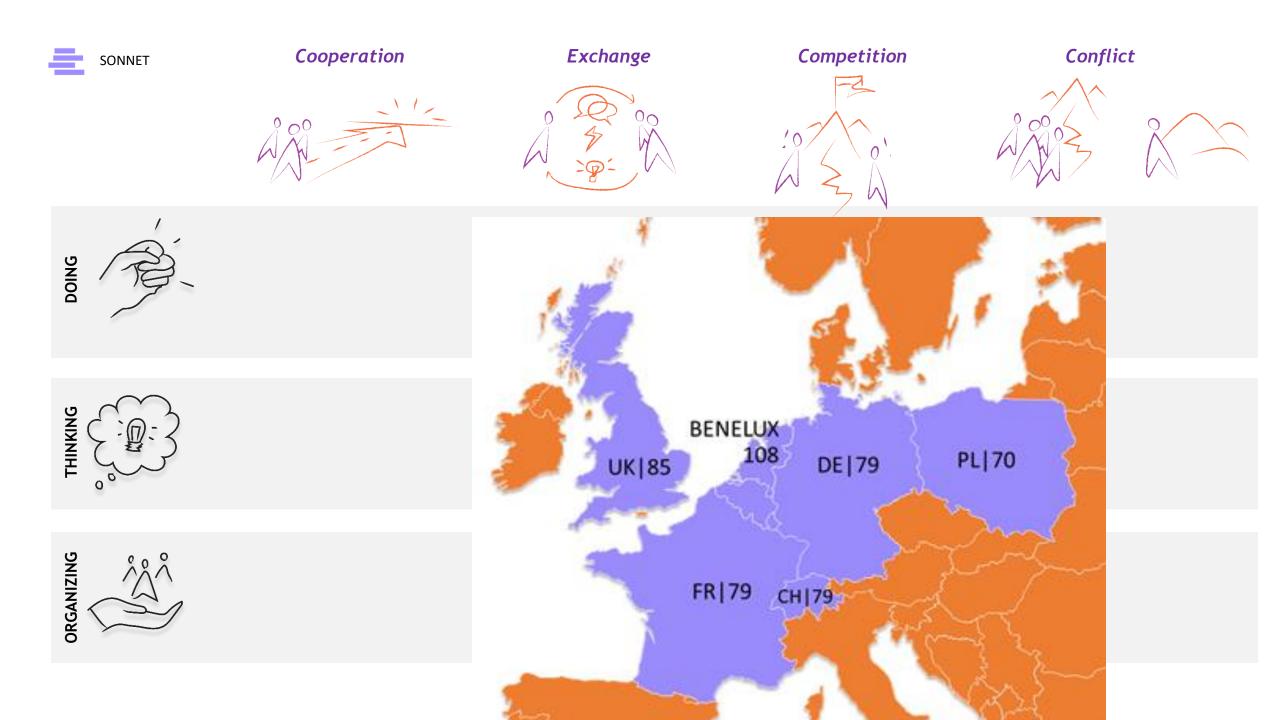




Different ways in which SIE manifest in the energy system (doing, thinking, organising)

Definition Operationalisation for the energy sector		
Doing	Practices related to energy technologies and the physical composition of the energy system	Generating electricity/heat (efficiently)
		Supplying electricity/heat
		Using electricity/heat (efficiently)
		Exchange electricity peer-to-peer
		Storing electricity/heat
		Implementing technology-based energy
		services
		Installing energy technology
		Action against political agendas
Organising	Governance and organisational structures within initiatives and within the energy system (i.e. institutions in terms of forms of social organisation or standard operating procedures that shape behaviour and find expression through rules, practices and narratives)	(Facilitating) Networking
		Providing services
		Offer/facilitate financing
		Constructing a dialogue
		Incubating ideas and solutions
		Facilitating supply/demand exchanges
		Nudging and facilitating behaviour change
Thinking	Forms of knowledge and normative framings including values and perceptions	"Raising awareness" about energy
		Campaigning against political agendas
		Pushing a framing, discourse or narrative
		Providing advice
		Transferring knowledge & skills
		Wittmayer et al. 2020

Wittmayer et al. 2020





Exchange

Competition

Conflict











DOING



Cooperative action

1: Local energy production & consumption

2: Cooperative energy production & consumption

3: Collaborative eco-efficient housing

Energy exchange

4: Local peer-to-peer electricity exchange

Competitive action

5: For profit services and technologies

Action as conflict

6: Action against specific energy pathway



Cooperative frames

7: Advocacy for specific energy pathways

Knowledge exchange

8: Energy education

9: Non-profit consulting

10: Peer to peer learning

Competitive narratives

11: For-profit consulting

Conflicting frames

12: Campaigns against specific energy pathways

Organized cooperative action

13: Participatory energy dialogues

14: Participatory experimentation and incubation

Organized exchange

15: Platforms for direct energy transactions

16: Investment and finance mechanisms

Organized competitive action

17: Energy gamification & nudges

Organized conflict



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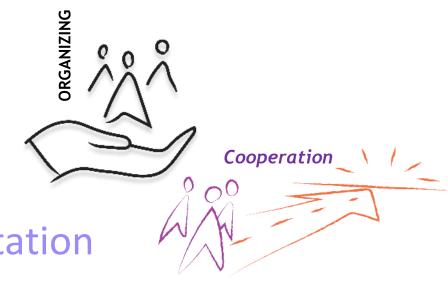
16: Investment and finance mechanisms

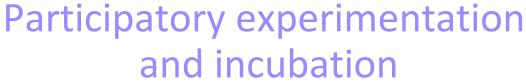
Organized competitive action

17: Energy gamification & nudges

Organized conflict









- Multi-actor, collaborative formats that aim to experiment with and/or try out novel energy solutions in specific local settings.
- Solutions include (the development of) ideas, projects, solutions, technologies, services – are driven by technological (e.g. smart grid installations) and/or social (e.g. novel business models) developments
- Dedicated to specific energy pathways
- Bound in time and place
- Examples: Living labs, urban labs, transdisciplinary collaborations, triple helix, ...





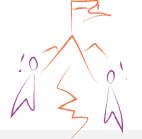
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Fokke & Sukke

FOKKE & SUKKE





- Frames against specific energy pathways, e.g. centered on fossil fuels
- Creation and development of these framings (specifically through problem descriptions and possibly through envisioned alternative futures)
- Protest, peaceful opposition and campaigns against specific energy pathways
- Driven by NGOs, grassroots, multi-stakeholder collaboration
- Examples: platform against smart meters, nuclear, coal; but also against inactivity of political elite





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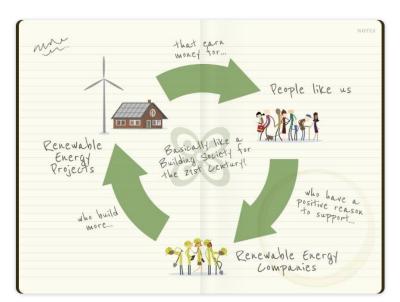
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17: Energy gamification & nudges

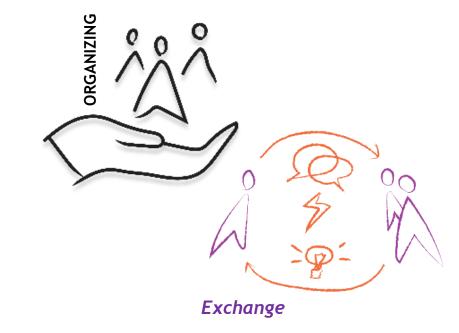
Organized conflict







Investment and Finance mechanisms



- Financial mechanisms through which funding or investment is made available to facilitate the activities of novel actor constellations related to the advancement of certain energy pathways.
- Schemes for accessing money
- Public, community, private investment in support of certain energy solutions
- need to require or enable novel combinations of actors (e.g. cooperation between traditional utility and local community) or allow actors to assume novel roles in the energy system (e.g. energy community turns DSO)
- Examples: national subsidies, community funds, crowdfunding, ...



samen duurzaam

DÉBAT

Cooperation



Competition

Conflict











Cooperative action

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11: For-profit consulting

12: Campaigns against

9: Non-pro
This was only a glimpse...
10: Peer to

(and only the start)

Organized cooperative action

13: Participatory energy dialogues

14: Participatory experimentation and incubation

Organize

15: Platfol energy tra

For more information: www.sonnet-energy.eu/typology

16: Investi mechanisms

www.sonnet-energy.eu/typolo





Case Study work

Cooperation



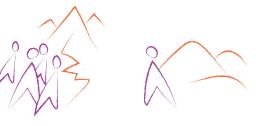
Exchange



Competition



Conflict



DOING



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17: Energy gamification & nudges

Organized conflict

18: Networks against specific energy pathways

Energy read #1



SOCIAL INNOVATION MEETS ENERGY



About the social dimension of energy transitions

https://sonnet-energy.eu/project-outputs/



Thank you and stay in touch

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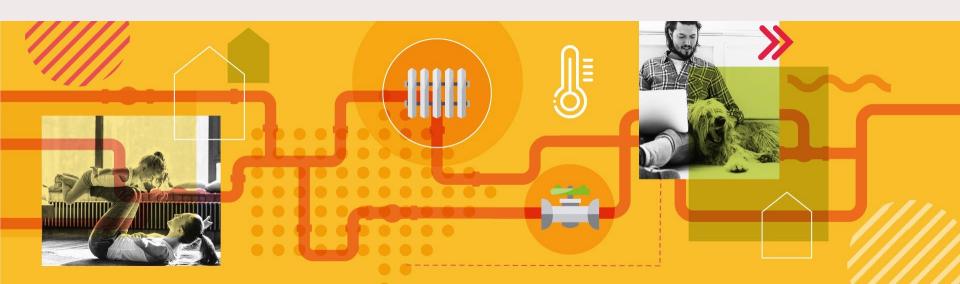
@SONNET_energy
 @drifteur
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SOCIAL INNOVATION THROUGH CO-CREATION

Examples from the sustainable heat transition

Dr. Anatol Itten





Co-creation: main concepts



- Co-creation starts from a different place than 'decideannounce-defend'.
- Citizens and professionals sharing power and responsibility to work together in equal, reciprocal, and caring relationships.
- Voorberg et al. (2014) see it as necessary that citizens are present at co-creation.
- Citizens as co-initiators, co-designers or co-producers of public services.
- We are interested in what happens when 'ordinary' citizens take over public tasks, and when public officials take over new civic roles.



State-of-the-art report for co-creation approaches and practices with a special focus on the sustainable heating transition Sustainable Heating

Technical Report (PDF Available) - April 2020 with 96 Reads (1)

DOI: 10.13140/RG.2.2.22835.17440 Affiliation: Delft University of Technology





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Patrick Devine-Wright

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Sustainable heating is challenging

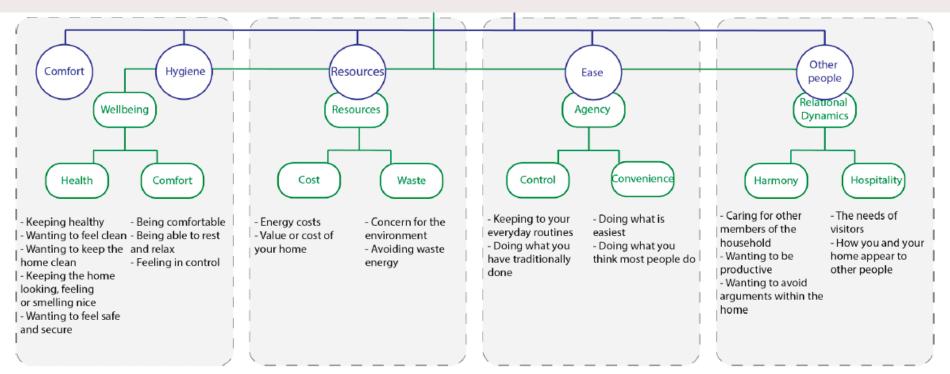


Fig. 2. Needs identified by the qualitative and quantitative studies.

Source: Mallaband and Lipson (2020)

Six co-creation pilots SHIFFT project (2019-2022)









Norwich



Hauts-de-France



Bruges



Fourmies



Middelburg



Social innovations in practice – what have we learned so far

Mechelen

- Facilitating group purchases
- Building the work of a local citizen community and energy cooperative.
- Using online platforms to consult and discuss perspectives

Norwich

- Housing association seeks to be a role model for the City council
- Seeking better knowledge about stakeholders and tenants needs
- Co-creation can to fit into a business case, as innovations become more user centered.

Hauts-de-France

- Using heat transition as a means to reduce energy poverty (providing jobs, lowering bills, providing training sessions)
- Putting Social Housing Association at the center of the transition
- Innovate learning and uptake systems

Bruges

- User centered approach, co-creating inspiration and then action
- Building neighbourhood coalitions
- Using online platforms to consult and discuss perspectives
- Focusing on mutual gains and self-responsibility

Fourmies

- Co-creation is part of the culture, but it is done with a humble attitude
- Invitation of citizens via a network of third parties
- Take over different roles (private/professional) in the cocreation

Middelburg

- Ambition to involve non-Dutch speaking residents into the cocreation process
- Building social coalitions with highly motivated neighbourhoods
- Using online platforms to consult and discuss perspectives

"There is a gap of 3 months where it wasn't possible organise other brainstorm evenings, lessons in schools, information evenings.

But it gave me the chance to really think about how we can trigger citizens to take some actions regarding to reducing their CO₂ emission and implementing sustainable heating solutions. It changed our plans of co-creation.

Our process of co-creation will be more intense than before, the process won't only be communication and participation, the citizens will have to take up the challenge and be more responsible for their neighbourhood."

TUDelft

Interreg

2 Seas Mers Zeeën

SHIFFT

Lucyen Regional Development Fund

Lies Debbaut, Project Coordinator, City of Bruges

How a pandemic and the digital transformation accelerate change

The heating challenge cities must solve to fight global warming

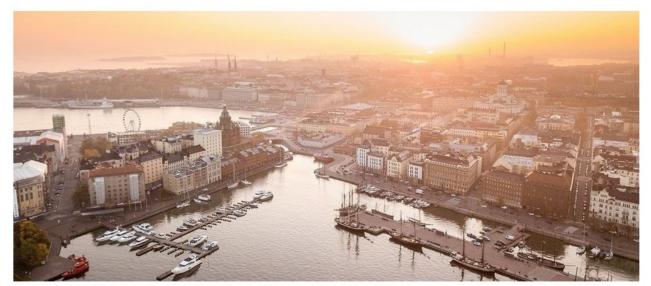




Image: Pixabay





Timing: Synchronous or asynchronous co-creation?

- TUDelft
 Interreg QUECENTION
 2 Seas Mers Zeeën
 SHIFFT
 European Regional Development Fund
- 1. A trade-off between a more **'real-life' experience** and a more **reflective**, **inclusive**, **egalitarian or accessible** process.
- 2. Real-time is more **spontaneous and dynamic** and helps build rapport between participants.
- Asynchronous co-creation, allows more time for selfreflection, removes location or time restrictions.
- 4. It is a way to "level the playing field" between the more and less informed public.

Privacy: Identification or anonymity?



- 1. With anonymity, people feel more **freedom to express** their honest, even if unpopular, point of view.
- Anonymity can also allow people with neutrality obligations to participate.
- However, anonymity can imply a loss of accountability and the risk of uncivil behaviour.
- 4. Reducing anonymity has a **positive effect on respectfulness**, thoughtfulness and transparency.
- 5. But has a **negative effect on engagement** people tend to contribute less when they are identifiable.

Co-creation formats: conversation or visualisation?



- There is a trade-off between user accessibility and the usability of the outcomes in the policy cycle.
- Most online discussions happen on easy-to-use conversation-based platforms like forums, but their ability to promote equal co-creation is debatable.
- New platforms visualize scenarios, trade-offs and map out arguments, helping participants to clarify their thinking and better connect information.
- Nevertheless, for complex problems with a broad range of perspectives, rigid pro/con structures may not be appropriate. A better options is to include systems maps.

Stay in touch

- https://www.tudelft.nl/socialinnovation/
- https://www.tudelft.nl/energy/

- https://shifftproject.eu/
- https://www.linkedin.com/company/shifft-project/

