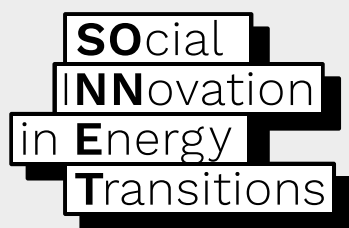SONNET

Social Innovation as Transformative

Insights from six countries on the contributions and effects of social innovations in energy transitions

The **So**cial **I**nnovation in **E**nergy Transitions (**SONNET**) project SONNET brings diverse groups together to make sense of how social innovation can bring about a more sustainable energy system in Europe. Through a diversity of methods, it explores how social innovation has contributed to making our energy sources, use, and production cleaner, as well as how social change help reduce our carbon footprint in the future. For more information, visit **sonnet-energy.eu.**

April 2022

About this Energy Read

Throughout the project, SONNET is producing a series of so-called 'Energy Reads' that summarise the key points from its diverse catalogue of research into concise, accessible, evidence-based publications. This Energy Read provides an overview of the contributions and effects that SIE make to legal, normative and cultural changes in energy systems and what local governments can learn from the findings.

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Introduction

How social innovations change energy systems

How does social innovation – i.e. new or revived ways of doing, organising, or thinking – change sustainable energy transitions? SONNET has spent the last several years researching the ways it can help us push forward just and sustainable energy transitions. **This Energy Read presents results of that work.**

First, we lay out all of the concepts that we used to dig into the question of *how social innovations change energy systems* (➜ 1. The concepts).

Then, we get into the results, outlining what we learned about how six different types of social innovations in energy change social relations, and *how they work to shift energy regulations, norms and cultures* (➜ 2. Transforming energy systems).

Lastly, we present reflections and recommendations for local governments to help them harness the full potential of social innovations as they *work towards a more just and sustainable energy future* (➜ 3. Reflections).

Downloads

➜ Energy Read #1 – introducing key concepts

➜ Energy Read #2 – insights from in-depth case studies of SIEs across Europe

➜ Energy Read #3 – diving into City Labs

1.   The concepts

This Energy Read overviews insights from SONNET research on the ways that "social innovations in energy" (SIEs) contribute to achieving European energy policy objectives (see Figure 1), and what kinds of European support – in the forms of knowledge, funding and legislation – they need to do this successfully. What's more, the coming sections compare SIEs' contributions and effects on changes in social relations and institutions in six European countries: France, Germany, the Netherlands, Switzerland, Poland, and the United Kingdom.

The Commission's main objectives throughout implementation of the European Green Deal are to:

- **build interconnected energy systems** and better-integrated grids to support renewable energy sources;
- **promote innovative technologies** and modern infrastructure;
- **boost energy efficiency** and eco-design of products;

- **decarbonise the gas sector** and promote smart integration across sectors;
- **empower consumers** and help EU countries tackle energy poverty;
- **promote EU energy standards** and technologies at a global level; and
- **develop the full potential** of Europe's offshore wind energy.

Figure 1: The European Commission's main energy policy objectives, as laid out in their "Energy and the Green Deal" webpage, accessed February 2022.

Before looking into SONNET's findings, let's define a few core concepts:

SIE refers to social innovations in energy. In SONNET, we think of social innovation when actors change relations, and a new type of doing, thinking or organising is proposed. For example, "energy cooperatives" shift actor roles (citizens become investors), change social relations (from individual citizens to cooperative communities) and propose new ways of doing, thinking and organising (collaborative investment in solar/ wind).

SIE-initiative refers to a specific initiative or project that is socially innovative. For example, "energy cooperatives" are social innovations in energy (SIE), while the specific cooperative Tegenstroom in the Netherlands is an example of an SIE-initiative.

SIE-field actors are all the individuals and organisations that actively work on an SIE. These actors can come from every sphere of society, spanning community members, businesses, government actors, and more. Some common SIE-field actors are cooperatives, energy companies, start-ups, local governments, and NGOs.

An **SIE-field** is an overarching arena or space that includes a specific SIE-initiative, its SIE-field actors, as well as other actors that do not directly work on the SIE-initiative, but nonetheless enable or impede its work. Actors within an overarching SIE-field take one another into account. They have shared norms, beliefs and rules – although they do not necessarily agree or share the same aims. For example, the UK's cooperative energy field (an SIE-field) includes SIE-field actors (like Brighton Energy Co-op, Community Energy England, etc.) as well as other actors (e.g. the national and city governments) who do not directly work on cooperative energy initiatives, but who exist in the same overall field and whose actions impact SIE-initiatives.

To better understand how SIE-initiatives change energy systems, SONNET has made use of the concepts of "institutions" and "institutional work".

In sum, decarbonising energy systems involves changing existing **institutions**, which is defined broadly to include regulations, norms, values, and belief systems that keep existing systems stable over time:

Institutions are rules that enable or impede activities, and include:

• Regulative institutions: laws, rules, standards, policies;

• Normative institutions: norms and value systems; and

• Cultural-cognitive institutions: shared conceptions of reality, shared expectations, common beliefs.
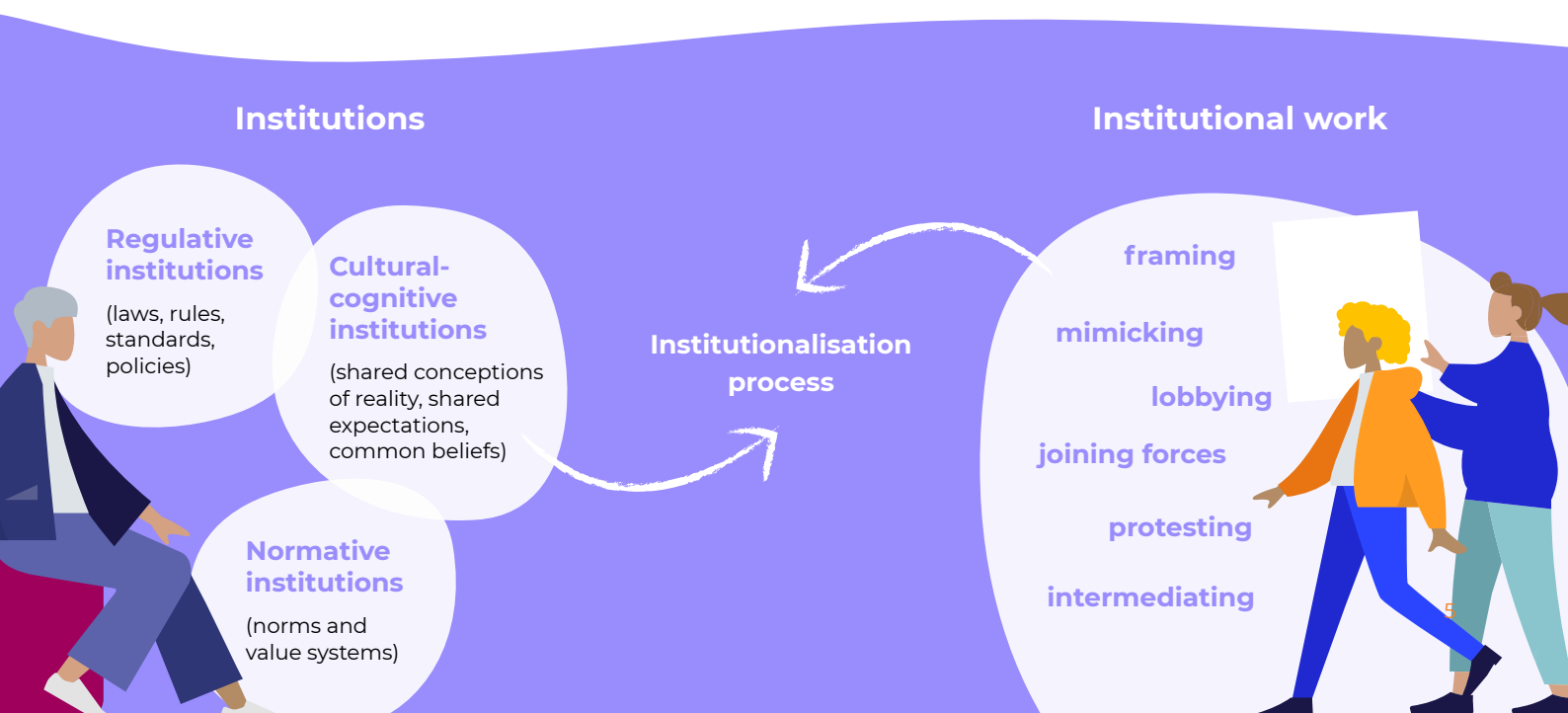
Institutionalisation is a process during which time activities become so "taken for granted", that they become regulative, normative or cultural-cognitive "institutions". For example, energy cooperatives are now a part of European energy policies, i.e. they are undergoing a regulative institutionalisation in the field. In order to be acknowledged, the concept first needed to be made known, acknowledged and supported - processes that link to the concept of institutional work (see below).

Institutional work refers to SIE-field actors' work that aims to create, maintain or transform institutions. This includes: attempts to influence policy makers and the general public through direct lobbying, research reports, position papers, advertising, and setting technical standards; as well as attempts to influence more informal things like values, norms, expectations, common beliefs, habits and routines among the wider public (Lawrence and Suddaby, 2006; Arenas, 2017). One example of institutional work is lobbying by SIE-field actors for regulations that are friendlier to local, small-scale energy producers.

This Energy Read describes an array of types of institutional work, including: framing, mimicking, joining forces, intermediating, lobbying, and protesting. Each of these acts can be used to create, maintain, or transform energy regulations, norms, and cultures.

So why talk about "institutions" anyway? To transition to more just and sustainable energy systems, our regulations, norms and cultural ideas of energy will have to shift dramatically. SONNET sets out to see whether (and how) SIEs play a role in creating, transforming, and maintaining these institutions, to better understand how SIEs can drive energy transitions.

Institutions

Regulative institutions
(laws, rules, standards, policies)

Cultural-cognitive institutions
(shared conceptions of reality, shared expectations, common beliefs)

Normative institutions
(norms and value systems)

Institutionalisation process

Institutional work

framing

mimicking

lobbying

joining forces

protesting

intermediating

2.　Transforming energy systems: "institutional work" in practice

There is a vast diversity of SIEs, each with different organisational structures, ranging from informal social movements to formal businesses. These structures will impact the ways that a given SIE can "create, maintain or transform" energy-related institutions. Plus, SIEs often contribute to transforming energy systems by showing at a smaller scale how institutions can be changed to be made more sustainable, in the hopes that these pilots are scaled-up and become mainstream.

Throughout our work, SONNET has zoomed in on six SIE-fields, most notably through a series of in-depth Case Studies. This Energy Read presents what we have learned about those same six SIE-fields (see Table 1) with respect to how each attempts to shift institutions. The rest of this chapter will go through the six fields one by one, laying out what SONNET research has revealed about how each one **changes social relations;** creates, maintains or **transforms institutions**; and thereby c**ontributes to sustainable energy systems.**

Table 1: The six SIE-fields examined most closely by SONNET, as described in **Energy Read #2.**

SIE-field name	Short description of SIE-field
City-level competitions	Local competitions that aim to change energy behaviour; they often involve ranking, gaining, and/or winning.
Cooperative energy production and consumption	Organisations in which citizens jointly produce – and/or own the means of production of – renewable energy.
Financing and subsidies for renewable energy	Subsidies and financial mechanisms that help convene diverse actor groups in support of renewable energy.
Framings against fossil fuel energy pathways	The creation of framings against fossil fuel energy pathways that describe the problem with fossil fuels, and envision alternative futures.
Local electricity exchange	Producing, consuming, distributing and trading energy locally (i.e. close to its point of generation).
Participatory incubation and experimentation	Collaborations among diverse actors who together create (often physical) arenas that allow participants to experiment with new energy solutions.

☁ **Download**
Energy Read#2 (PDF)

City-level competitions for sustainable energy

Changing social relations

Key Actor: local administrations

The local administrations can play two different roles in city-level competitions. They can organise competitions for their citizens (i.e. within-city competition), or can participate in competitions "against" other cities (i.e. between-city competitions).

While local administrations are the key actors here, regional, national and international associations and governments also play an important role in defining the framework conditions and rules as well as funding of competitions.

When SIE-initiatives in this field have competitive elements – like ranking, comparing, and winning – they seem to *strengthen cooperation between and within municipalities*.

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

Re-framing the roles of local administrations has meant that cities are now often expected to play an active role in local energy and climate change issues.

SIE-field actors are also *mimicking* one another and *joining forces*. Local governments are participating in networks and opportunities like the European Energy Awards and the Covenant of Mayors for Climate and Energy, in order to build networks, learn from each other, but also to build legitimacy and means of communication internally and/or with stakeholders. This leads, over time, to city-level competitions becoming increasingly standardised.

Contributions to sustainable energy systems

City-level competitions have been supported by the wider policy environment. There has been a recognition across governance levels of the role cities can play in energy transitions, which has helped the SIE-field to develop. This field illustrates how the process of institutionalisation can work rather smoothly for SIEs if they fit into the broader institutional environment.

SIE-field actors have contributed to the success of city-level competitions by joining forces and developing common standards. The European Energy Award is an example of the field's spread across EU countries.

Cooperative organisation models for renewable energy

Changing social relations

👤 **Key Actor:** renewable energy cooperatives

Local governments can initiate and/or support renewable energy cooperatives, while national and European levels have a crucial role in enabling or impeding the development of cooperative organisation models. Funding, knowledge exchange, regulations and support schemes at the national and EU levels can be hugely impactful.

Individuals involved in this SIE-field take on a new and more active type of citizenship when they engage in "prosumerism" (i.e. both producing and consuming energy). On a collective level, the relationships between energy cooperatives are often collaborative, which is a marked shift when compared to the competitive relationships between private energy producers.

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

SIE-field actors often act as *intermediaries* between SIE-initiatives and broader audiences (e.g. policy makers). This helps share learnings, can create new common approaches, and helps lobby for regulatory changes.

Lobbying has also always played a role in cooperative energy models. This has become particularly important in the past few years, as subsidies for renewable energy have become harder to access. Lobbying has made policy-makers aware of this SIE-field, its role in energy transitions, and its need for ongoing support.

Finally, this SIE-field makes use of *displaying and demonstrating* – mainly using channels like social media to show how it can meet ambitious goals (e.g. democratising energy systems) to gain support for future developments in the field.

Contributions to sustainable energy systems

Cooperative organisation models for renewable energy have become more institutionalised than many other SIE-fields. It is, for example, the only SIE-field that is explicitly mentioned in the European Commission's Fit for 55 package (see SONNET deliverable 2.4). This is, in part, because the field builds on a long history of cooperative models – especially in Germany and Switzerland – including in other sectors like housing.

There is, however, a catch. Many of the financial models linked to the field's success have been extremely vulnerable over the past decade, due to their reliance on state policies and subsidies. Unsteadiness of legal frameworks, as well as high dependency on volunteer workforces, make this SIE-field vulnerable.

Financing and subsidies for renewable energy

Changing social relations

👤 Key Actors: financial institutions, governments, citizen initiatives

There is an array of key actors in this field, ranging from banks to crowdfunding platforms, government regulators, and energy cooperatives. New financing models engage actors in new ways, *changing their social roles* – citizens become prosumers, or investors in energy infrastructure.

National governments have had a huge role in shaping this SIE-field, including via mechanisms like feed-in tariffs, net-metering, tax relief, and renewable energy subsidies. Over time, local governments have increasingly provided financing, subsidies or investments for renewable projects, particularly in the Netherlands and the UK. Sources of finance are often from citizens via crowdfunding or cooperatives.

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

Different national regulations have led to varied institutional work in different countries. In Poland, *lobbying* has been a core activity. Policy-makers have "lobbied from within" for policy changes that support renewable energy projects. Energy cooperatives have successfully lobbied to amend Polish energy laws to be more favourable to collective prosumerism and to energy cooperatives in cities.

In countries including the Netherlands and the UK, a loss of subsidies has led to the use of crowdfunding for renewables, organised using *intermediaries*, *lobbying*, and *gaining authorisation* to legalise such activities.

Contributions to sustainable energy systems

National policies have, in large part, controlled the spread of innovative financing for renewables. As financing regulations have changed and subsidies have stopped, local governments and citizens have begun to play an increasing role in supporting renewable energy projects, thereby broadening the idea of who and how to finance renewables.

Framings against fossil fuel energy pathways

Changing social relations

👤 Key Actor: civil society organisations (CSOs)

Generally speaking, the SIE-field aims to target and change the relationships between the government, public and the fossil fuel industry. This work tends to be led by CSOs – whether formal NGOs or groups of community members – and directly targets policy makers, fossil fuel industries or investors, such as in the case of the divestment movement, which pushes investors to get rid of "stocks, bonds, or investments" in fossil fuel companies.

Local governments sit between the national governments and the CSOs pushing for change. They can be supportive of the SIE-field (see e.g. many local governments in the Netherlands), can be powerless to make decisions (e.g. in the UK, shale gas approval circumvents local authorities), or can be at odds with SIE-initiatives (e.g. in pro-coal municipalities in Poland).

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

SIE-field actors use *framing* to develop counter-narratives to fossil fuels, and physically protest at, for example, extraction and exploration sites. Anti-fossil fuel groups and organisations across local, national and international borders *join forces* to increase their perceived legitimacy, pool resources, and generate momentum. And, using the courts to *challenge the lawfulness* of fossil fuel-related decisions has become increasingly used to shift energy regulations, norms and cultures.

In response, regulating and legislating has been used to contain SIE-field work (e.g. protests) to maintain existing institutions that keep the fossil fuel industry going.

Contributions to sustainable energy systems

By working toward new energy pathways, SIE-field actors both: (1) create new regulations, norms and cultures (i.e. "institutions"); and (2) "deinstitutionalise" (i.e. change) existing energy regulations, norms and cultures.

Many national governments have shown decreasing support for fossil fuel energy pathways for societal or economic reasons, or to reach climate targets.

Local electricity exchange

Changing social relations

👤 **Key Actor:** energy utility companies (though highly variable)

This field is still in early stages of development. It is led by non-governmental legal entities, such as the *Personne Morale Organisatrice* in France, and the *Zusammenschluss zum Eigenverbrauch* in Switzerland. These are terms that denote an organised legal entity or group that takes on the role of producing and consuming its own energy. This, in and of itself, changes social relations towards a "prosumerism" model.

Local governments can play a supportive role, collaborating with these legal entities. National regulations are critically important and directly impact the feasibility of local electricity exchange, and even of experimenting or testing such an exchange.

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

This SIE-field is still emerging, so insights into how the field shifts norms will change too. For now, *lobbying* has been important to change regulations in order to make local electricity exchange possible. *Demonstrating* that local electricity exchange is possible and can work has been used to lend legitimacy to the field.

Contributions to sustainable energy systems

Due to the newness of this field, its impacts on larger energy systems varies from place to place. There are some cases in which governments have lifted select regulations to make it possible to test out local electricity exchange and identify their key impeding and enabling factors. However, while these cases may have vast impacts on the energy system, they remain temporary for now.

Larger, incumbent energy providers (utilities) continue to frequently contest the functioning or efficiency of local electricity exchanges, as well as their roles in the energy system, what qualifies as "local" in such arrangements, and how they impact regulation of the distribution grid with respect to access, use, and financing.

Participatory incubation and experimentation

Changing social relations

👤 **Key Actors:** governments, knowledge institutes

This SIE-field uses tools like City Labs, Living Labs, pilot energy communities (e.g. Energy Clusters in Poland) to bring more – and more diverse – actors into the search for new energy solutions. This changes social relations by *challenging the dominance* of large companies and national policymakers in these processes.

Local governments are increasingly supporting and setting up these experimentation "labs" for citizens, which often make use of European-level funding.

Institutional work: creating, maintaining or transforming energy regulations, norms and cultures

These participatory experiments are, by definition, *demonstrating* what sustainable energy solutions are possible. In addition, *labelling* (or *standardisation*) has helped create common approaches and methodologies for such experimentation – often under a common name (e.g. *Reallabore* in Germany) – in order to support its spread.

Contributions to sustainable energy systems

This SIE-field is about experimentation, and SIE-initiatives are often time-bound (i.e. short-term). Long-term impacts of the field are created by developing common best practices, formats, how-to guides, and interlinkages between different such experiments.

Ultimately, this field aims to mainstream both the process of participatory experimentation, as well as the successful solutions that arise from such experiments.

3.   Reflections for Local Governments

The big picture

National governments are releasing more climate-friendly policies, often with repercussions on their relationships with the fossil fuel industries. For their parts, local governments are taking on more and more diverse roles in energy systems; they are becoming involved in investing in renewable energy, establishing experimentation and incubation, and driving city-level competitions.

In other words, the relationships between actors are changing. Citizens are being governed under new logics with new – more climate-focused and diversified – norms and values. This provides an opening for some SIE-field actors to push for more community-based and enabling conditions to develop SIE.

Of course, there is still a long way to go to change prevailing systems. Traditional market logic is still dominant, and SIE-initiatives like energy cooperatives and local electricity exchanges are thus often using market-based logic to encourage their own spread.

In order for policy makers to harness the full potential of social innovation to advance energy transition, they first must enhance their understanding of social innovation, and its interplay with technological innovation. For now, social innovation seems to be generally viewed positively by governments, but is not yet fully grasped or integrated into policy making.

Against this backdrop, we reflect and where possible propose recommendations for how local governments can best harness the potential of the six SIE-fields explored in this research.

City-level competitions

Local governments are encouraged to engage in competitions that: motivate cross-departmental cooperation on energy transition, and/or create opportunities to experiment and support local actors and their ideas.

Learning from other cities can be an effective way to stimulate bolder and more successful local level energy policies, and to learn how to roll-out impactful city-level competitions.

Cooperative organisation models for renewable energy

Predictable national energy policies are of utmost importance to support cooperative energy production and consumption, as this consistency provides long-term investment security. There is cross-country evidence that local governments are often willing – and partly able – to compensate for policy changes at the national level that impede SIE field development.

Financing and subsidies for renewable energy

Local governments are increasingly becoming investors – or supporting local investment – in renewable energy projects. There is potential for governments to learn from each other's work in this field.

EU-level policies seem to be becoming more favourable to the development of innovative financing and subsidy mechanisms. This is promising, as EU policies tend to drive national-level energy decisions. However, lobbying from incumbent energy players is strong when it comes to national implementation of EU policies.

Framings against fossil fuel energy pathways

Much of the work in this field amounts to protesting, lobbying and fighting legal cases when governments' actions do not align with their climate strategies. Local governments can support such reframing, and work together to amplify these voices.

Local electricity exchange

Existing regulations tend to impede the development of this new field, in particular to mitigate its disruptive potential. EU policies lack clarity, or regulatory guidance, exacerbating uncertainty in the field.

Cities can support local efforts to push back on these unsupportive regulations, such as the efforts to pass a Local Electricity Bill in the United Kingdom.

Participatory incubation and experimentation

Local governments are encouraged to look out for funding opportunities at the national- and EU-levels that would enable experimentation locally. Cities must also have strategies in place to scale-up successful experiments, as this will have to be locally-driven.
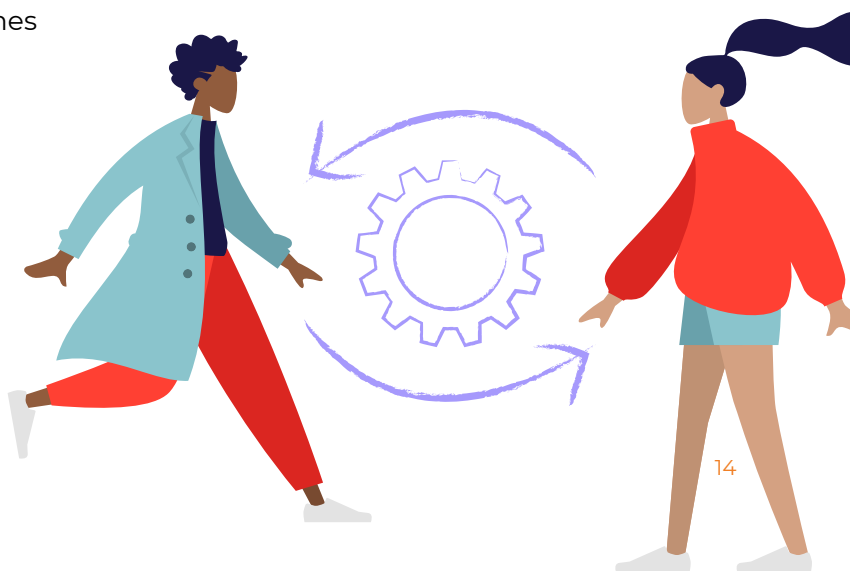
SONNET Energy Read #4

The "Social Innovation Meets Energy" series – in short, the SONNET Energy Reads – aims at communicating the project's research results and distilling key insights as practical recommendations. Through these reads, we aim to reach out to researchers and social innovation practitioners alike to support critical reflection and capacity building. To follow our work, please sign up for email updates on our website and check out our twitter account:

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Partners

The SONNET project brings diverse groups together to make sense of how social innovation can bring about a more sustainable energy system in Europe. How has social innovation contributed to making our energy sources cleaner? How can social change help reduce our carbon footprint in the future? SONNET cities and academic partners are working together to get to the bottom of these questions and more.