



# EUROPEAN POLICY BRIEF

## SOCIAL INNOVATION IN ENERGY SUPPLY



This policy brief on Social Innovation in Energy Supply is based on the results of the first empirical phase of the EU funded project “Social Innovation: Driving Force of Social Change” (SI-DRIVE). It takes stock of challenges and practice fields of social innovations gathered in the SI-DRIVE policy field report on energy supply. Policy foresight and recommendations are derived from the first Policy and Foresight Workshop on Energy Supply which took place in the autumn of 2015. This policy brief will be updated after the final empirical phase at the end of the project in 2017.

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### INTRODUCTION

Expectations are that the worldwide need for energy will multiply significantly, and that a continuation of the current dominance of fossil fuels will be unable to meet these growing demands without risking major destabilizing economic effects and devastating environmental consequences. Therefore, a thorough revision of the current energy supply mix is deemed necessary, in which preference is given to renewable sources. This challenge has been recognized by the European Commission, and a profound European energy policy has been set up. So far, EU policy has been focused on incentives to stimulate market uptake and awareness and actions by the national governments of the Member States. However, due to the financial and economic crisis of 2008 many public authorities were forced to retrench and downsize their policy programs and public services. Partly as a result of that many of the Member States seem to be (too far) behind on their initial targets.

Social innovation, by way of the empowerment and enhanced involvement of private stakeholders and civil society, might be key to speed up the progress needed to reach the 20-20-20 objectives. However, from a European perspective, no policy measures are taken that specifically address civil society, and no difference seems to be made between civic initiatives for renewable energy or market initiatives (EC, 2009). This makes social innovations, which are often civic-led, or at least dominated by civic actors (though public and business actors have a role too), all the more relevant.

Even within this tightly regulated and controlled domain of energy, we can see that consumers, communities and SME's try to develop their own solutions to fit the goals of a sustainable energy future. In Europe, not only conventional actors in the energy sector but also farmers and private homeowners initiate wind and solar energy projects, and the number of energy cooperatives is growing significantly. Still, challenges remain in the areas of customer engagement, social preferences towards direct energy consumption, perceived uncertainty in investments in renewable energy, and the social acceptance of behavioural innovations that aim to promote energy efficiency and conservation on the consumer side.

The challenge for (European) public policy is to find ways to stimulate social innovation in the domain of energy supply. There is a great need to stimulate local initiatives in new technology development, new business models, services, demand response systems and pricing. Such innovations have the potential to improve the security of energy supply in Europe by proliferating the sources of supply and provide additional benefits such as increased local liveability. Then, the question to European and national policymakers is to create a level playing field for major energy suppliers and local initiatives, without losing grip on the societal goals. That is why in this project the question is addressed what social innovation practices can be found in the policy field of energy supply, what main drivers and barriers exist for those practices and how policy can stimulate the development of social innovation.

## EVIDENCE AND ANALYSIS

The policy field experts of SI-DRIVE constructed a list of *social innovation practices* or practice fields to combine single social innovation initiatives as a kind of typology. This typology is used throughout the rest of the project to identify specific drivers and barriers or policy options to stimulate a specific type of social innovation. The following practices were distinguished:

- **Energy collectives:** entails the collective consumption and/or self-production of energy. Such collectives are often new combinations or figurations of social constellations, often including 'new' actors in new governance arrangements. Some examples are collective purchasing, energy cooperatives, business collectives and energy efficient housing collectives.
- **Local (domestic) production of energy:** regards the local production of renewable energy. This can be done by individual households, businesses, industries, farmers, etc. and showcases a significantly different kind of behaviour than those who are mere consumers of energy supplied centrally (which is still mostly fossil or nuclear). Such individuals can, for instance, be totally 'off the grid' and self-sufficient, or act as 'prosumers' who are feeding-in energy back to the network, and many times receive a financial reward for it. Local production therefore also implies different interactions with, and a new role for, grid administrators, local/regional/national governments, energy suppliers, etc. Some examples of local production are: domestic energy production, local production of biofuels or biogas, local production of heat.
- **Working with smart meters:** relates to the introduction of smart meters in various European countries. Smart meters are connected to a network, collect data and amongst other things show consumers how much energy they are using. It is more a technology than social innovation in itself, however, their application by energy consumers can induce new behaviour and relations and makes it possible to address the 'energy problem' in a new way.
- **Energy services:** includes all initiatives that provide energy-related services to citizens, companies or governments. They are called social innovations when they use this in a new way to tackle the challenges of renewable energy and energy efficiency.
- **Providing examples and inspiration:** relates to public authorities, businesses, NGOs or others setting up campaigns or models that can inspire others to take action
- **District and neighbourhood energy systems:** includes initiatives from citizens, companies or governments to set up and operate district heating projects or other neighbourhood energy systems. Examples are: district heating projects or neighbourhood energy systems.

- **Energy efficient mobility:** includes social innovations which result in energy efficient transport solutions for human mobility. This could be in the form of multi-modal approaches to transport or, in principle, any social innovation that shifts transportation to modes that use less energy and emit less carbon than traditional modes. Examples are: bike sharing or electrical cars systems.

The dominant practice of social innovation in the energy sector turned out to be energy collectives, often in the shape of local energy cooperation in different shapes and sizes.

During the Foresight and Policy Workshop several *barriers and drivers* for the uptake of Social Innovation (SI) were discussed. SI in the energy sector is prominent at the local level, where energy cooperatives, neighbourhood initiatives and citizens organize new forms of local production and distribution and new ways to promote energy efficiency. The following aspects can either stimulate or hinder the development of these initiatives:

- Contributing to a sustainable system, the wish to be independent of energy supply companies, the wish to improve livability in their environment or to join a neighbourhood community are drivers for citizens and organisations to participate.
- Regulation can be a driver in the case of stimulating local energy initiatives, but it can also be a barrier because existing regulations are often based on the traditional energy system and thus hinder disruptive initiatives.
- Knowledge and awareness of the importance of sustainability and the new technological, regulatory or governance possibilities can stimulate SI.
- Technology is a key enabler as it allows other forms of production of energy and energy efficiency than before, such as solar panels on your own roof. The way the technology is designed determines the possibilities for social innovation to a large extent.
- Funding can be a significant driver or barrier. Many initiatives are still (partly) funded by a government. Other financial drivers are the aim to reduce energy poverty by lowering energy bills and by fostering potential returns on investments for investors in green energy. This also means however that SI is very vulnerable to subsidies drying up, or business cases changing due to fluctuating prices of energy and/or materials.

The interesting thing about the transition towards a renewable energy system from the perspective of SI-DRIVE is that it can either be reached with or without social innovation. Without (much) social innovation, the transition can be accomplished dominantly by governments and businesses setting up large, central production facilities such as large-scale wind parks or solar power stations. Energy savings can be reached by implementing energy efficient measures top-down for example by policies dictating owners of buildings to implement measures. The current centrally organised, top-down system would not have to change much and still the basic goal of a renewable system with less energy demand and 100% renewable production can be achieved. We think it is important to keep away from moral standing points about social innovation as something that should happen. Unquestionably our future energy supply needs to be more sustainable. But whether or not, and to what extent social innovation is needed to accomplish that future is something that is interesting to investigate. Therefore in the Foresight & Policy Workshop attention was paid to two future scenarios. One 'load road' scenario of a future renewable energy system without (much) social innovation – so more or less the current system in most countries – and one 'high road' scenario with significant social innovation.

The high road scenario shows the added value of social innovation. In this scenario, the amount of social innovation will grow so much that it leads to systemic change. The dominantly central system will change to a more decentral system. The largest added value of social innovation is that broader goals can be achieved than just a renewable energy system. Many citizens will become prosumers, thus feeling empowered and independent. The liveability in rural and other areas is increased because of better access to energy, lower energy bills and reinvestment of savings into the local economy, which can also decrease poverty. Together, the quality of people's lives can improve in different aspects by social innovation. The expectation is that the disruptions of social innovation will normalise into business and government logic when this will become dominant. New collaborations between sectors and governments will come up. An increased cooperation between governments, business and citizens can stimulate trust in each other, especially in countries with currently low trust. If these benefits mentioned are not reached by social innovation (in the 'low

road' scenario) they need to be realised in different ways, possibly needing much more effort from governments.

## POLICY IMPLICATIONS AND RECOMMENDATIONS

During the workshop, several *policy issues* that affect the upscaling of SI were discussed, being: Several issues are distinguished so far that need to be addressed by policy makers in order to smoothen the development of social innovation and a sustainable energy system. Since these developments are so intertwined in the energy sector the issues named will partly apply to both.

One major issue that remains a big future challenge is the integration of renewable energy and energy efficiency in the current energy system and in the building stock. Challenges lie for example in combining the stable supply of fossil fuels and the often unstable supply renewable sources, combining the central and local, small scale production of energy, adapting the energy grid to future demands and convincing building owners and builders to invest in energy efficiency.

Another issue is that government subsidies for renewable energy and energy efficiency can on the one hand be a huge stimulation for social innovation, but can also be a block to think about other solutions and prevent spending on other important issues. Also, initiatives can become very dependent on subsidies and stable policy, so when subsidies stop this affects the development of SI greatly.

In terms of awareness, the growth of social innovation in the energy sector is dependent on more people caring enough about a sustainable future, or otherwise be attracted by other kind of incentives. Currently there is no real incentive for citizens and businesses to care so much since the negative effects are not felt deeply. This would change if people would for instance not have energy available at certain times.

A part of the social innovation initiatives are currently lacking the professionalism that is needed to be a steady partner for governments and businesses. Initiatives need to have a certain degree of stability to be a trustworthy partner. But in reality they are often dependent on a small group of people or an initiator, a policy incentive or lack capacity and knowledge which makes them an unstable partner. An issue on the business side is that in some cases the business case of an initiative is not sharp and does not work so the initiative goes bankrupt.

Considering the size of social innovation initiatives, there is a tension that initiatives should not be too small because then they are vulnerable, but also not too big since that might affect their flexibility and local embeddedness. Next to that there is some ambivalence surrounding the role of private companies in the energy sector. They could operate as a social innovator but they also often have vested interests in fossil fuels.

Especially in the less prosperous European countries, unintended negative side effects such as social or economic inequalities can grow because of social innovation if it is mainly something for the societal elite. This could be an implication of social innovation that should be taken into account. Also, there can be moral competition or conflicts between social innovation initiatives, one being more 'socially innovative' than the other. There could for instance be competition and conflicts of interest between wind farms, nature preservation initiatives and the tourism sector. Even though the development of a wind farm contributes to a sustainable energy supply it might damage the esthetical and environmental aspects of a landscape.

A tension that should be addressed by policy makers lies with the role of data and information in social innovation in the energy sector. With the introduction of smart meters there is more information available about for example energy use. However, this information should be used discreetly and should not fall into the wrong hands. Also it should be clear who is the owner of this information since there is potentially a lot of power and economic benefit to gain from this data.

Based on the current results the following *policy recommendations* are formulated:

### **Improve the energy system**

Pay attention to the development of the electricity grid and integration of local, renewable energy, as an important pre-condition for this transition and the possibility of social innovation in the energy sector.

### **Recognise the value of social innovation**

Recognise of the value of social innovation, capture it and put policy in place to stimulate it. Monetize the non-financial benefits of social innovation for society to increase awareness for the value of social innovation.

#### **Strengthen social innovation initiatives**

Stimulate capacity building and education for social innovation so that initiatives increase in professionalism. Establish platforms for sharing experiences between social innovators. Share good practices, also between countries.

#### **Focus on existing collectives**

Focus on already existing collectives in society (family, villages, associations, religious groups, housing cooperatives etc. etc.) and on how to engage these groups into the transition towards renewable energy and energy efficiency. In that way social innovation is integrated in existing structures and less vulnerable.

#### **Really engage citizens**

Truly engage citizens and other stakeholders in planning processes around renewable energy and energy efficiency from the beginning and stimulate a common agenda. This will increase the support for the measures and stimulate social innovation.

#### **Provide funding for social innovation**

Fund social innovation processes and strategies where many stakeholders are involved. Use process managers to guide the process to increase professionalism and address issues of size and the appropriate business model. Also fund and support regional agencies for networking and advice.

Up until now the project delivered useful insights in social innovation in energy supply. Showing different practices of social innovation and stating that though it is possible to reach a future with renewable production of energy and energy efficiency without social innovation, societies would miss many extra benefits that social innovation offers, such as the increased quality of people's lives in many aspects. Important issues are addressed that hopefully provide food for thought for policy makers and recommendations are made concerning possible directions for solutions that could stimulate the development of social innovation in energy supply.

## RESEARCH PARAMETERS

**Social Innovation – Driving Force of Social Change**", in short **SI-DRIVE**, is a research project aimed at extending knowledge about social innovation (SI) in three major directions:

- Integrating theories and research methodologies to advance understanding of social innovation leading to a comprehensive new paradigm of innovation.
- Undertaking European and global mapping of social innovation, thereby addressing different social, economic, cultural, historical and religious contexts in eight major world regions.
- Ensuring relevance for policy makers and practitioners through in-depth analyses and case studies in seven policy fields, with cross European and world region comparisons, foresight and policy round tables.

SI-DRIVE involves 15 partners from 12 EU Member States and 10 partners from all continents, accompanied by 13 advisory board members, all in all covering 30 countries all over the world.

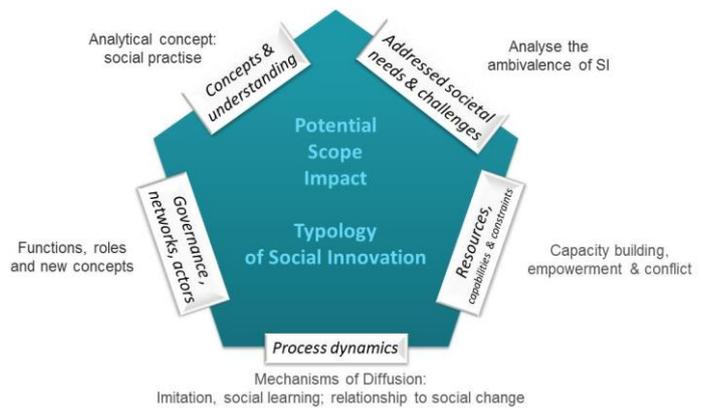
Research is dedicated to seven major policy fields: (1) Education (2) Employment (3) Environment and climate change (4) Energy (5) Transport and mobility (6) Health and social care (7) Poverty reduction and sustainable development.

The approach adopted ensures cyclical iteration between theory development, methodological improvements, and policy recommendations. Two mapping exercises at the European and the global level are carried out in the frame of SI-DRIVE: Initial mapping captures basic information of about 1000+ actual social innovations from a wide variety of sources worldwide, leading to a typology of social innovation. Subsequent mapping will use the typology to focus on well documented social innovation, leading to the selection of 70 cases for in-depth analysis in the seven SI-DRIVE policy areas. These case studies will be further analysed, used in stakeholder dialogues in seven policy field platforms and in analysis of cross-cutting dimensions (e.g. gender,

diversity, ICT), carefully taking into account cross-sector relevance (private, public, civil sectors), and future impact.

Up to now five key dimensions (summarised in the following figure) are mainly structuring the theoretical and empirical work:

The outcomes of SI-DRIVE will cover a broad range of research dimensions, impacting particularly in terms of changing society and empowerment, and contributing to the objectives of the Europe 2020 Strategy.



## PROJECT IDENTITY

<b>PROJECT NAME</b>	Social Innovation: Driving Force of Social Change (SI-DRIVE)
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<b>WEBSITE</b>	<a href="http://www.si-drive.eu">www.si-drive.eu</a> .
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<b>FURTHER READING</b>	SI-DRIVE Policy Briefs on Social Innovation in Employment, Environment, Energy Supply, Transport and Mobility, Health and Social Care, and Poverty Reduction and Sustainable Development <a href="http://www.si-drive.eu/?p=1934">http://www.si-drive.eu/?p=1934</a> Scoppetta, Anette: Compilation of State of the Art Reports on Policy Fields, SI-DRIVE Deliverable 3. ( <a href="http://www.si-drive.eu/wp-content/uploads/2015/06/D3.4_Compilation-report_policy-fields_30062015.pdf">http://www.si-drive.eu/wp-content/uploads/2015/06/D3.4_Compilation-report_policy-fields_30062015.pdf</a> ) SI-DRIVE Newsletter ( <a href="http://www.si-drive.eu/?page_id=333">http://www.si-drive.eu/?page_id=333</a> )