

# Renewable energy supplying cooperatives, citizen-led initiatives and their involvement in the governance of sustainable energy systems (2)

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## Chairs

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## Presentation 1

### **Local Energy Initiatives in the Sustainable Urban Energy Transformation: the case of Vogelwijk Energie(k)**

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Citizen-led local energy initiatives and renewable energy cooperatives are of growing importance in urban energy transformations. Both their number and their renewable electricity production is increasing, while many energy initiatives also contribute to climate neutral neighbourhoods and engagement of citizens in the renewable energy transition. This paper will provide (i) a concise overview of the developments around local energy initiatives in the Netherlands in combination with (ii) an in-depth case study of the Vogelwijk Energie(k) initiative in the Bird district of The Hague. Vogelwijk Energie(k) presents itself as an association of 250 enthusiastic people in the Vogelwijk district that pursue sustainability in daily life in general and of achieving a climate neutral district in 2040, which is in line with ambitions set by the city of the Hague. This initiative consists of (i) a society of people living in the neighbourhood aiming at greening and reducing their energy use, and (ii) an energy cooperative having 2 solar roofs on schools in the district, which consists of members of the society that have invested in the solar roofs. The two legal entities have the same board, in order to align both activities.

The results on the initiative includes an analysis of (i) the sociotechnical aspects, (ii) social innovation aspects, and (iii) their civic engagement aspects, which are all needed to explain their role and meaning as well as what their influence is on the existing system and socio-technical regime through so-called translations. It provides: (i) an in-depth understanding of the nature and developments of the initiatives, (ii) their challenges and how they deal and can deal with these in the contexts of a large city and multiple other local actors and organisations, and (iii) a discussion

on what role the initiatives can play in the transformation towards sustainable urban energy systems.

Results for this case have been generated as part of the FP7 funded GLAMURS (Green Lifestyles, Alternative Models, and Upscaling Regional Sustainability) project, which focuses on transitions to sustainable lifestyles. In the GLAMURS project empirical work is conducted in seven regions across Europe consisting of (i) research at the regional level as part of and (ii) of in-depth collaborative research with citizen sustainability initiatives in the seven region. For the Netherlands this was the Metropolitan region of Rotterdam-Delft The Hague and Vogelwijk Energie(k) was selected as one of the local initiatives in the region. Field work included site visits, attending meetings, exploratory and in-depth interviews with members and board, a participatory network analysis and a focus group with members. The results show that the initiative is vivid and shows continuity, while major issues include (i) mobilising a second wave of members, (ii) the long-term transition to a climate-neutral district, and (iii) how to collaborate with other initiatives, the municipality, utilities and other relevant actors.

**Keywords:** Social innovation; Local Energy Initiative, urban energy transformation, socio-technical analysis, civic engagement

## Presentation 2

### Renewable Energy Cooperatives as prosumers - Results from the REScoop Plus project

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The REScoop Plus H2020 project aims to achieve a better insight into the main aspects of the citizens' involvement in Renewable Energy cooperatives (REScoops) and promote best practices supporting the accomplishment of the goal of energy efficiency and autonomy in Europe.

So, it was critical, to carry out a meticulous recording of the energy data that was collected and stored by the REScoops and then to perform a thorough statistical analysis on them, in order to realize their correlation to energy efficiency. In this paper, the exact steps of the REScoop Plus data gathering process are going to be presented; the main pillars of the common data format and the main scheme for the statistical analysis intended.

Gathering REScoops data and analysing the energy consumption of their members is a highly complex task, but one which is nevertheless required in order to assess the impact of a variety of Energy Efficiency interventions. Such interventions are key for leading crucial changes in the consumption behaviour of European citizens, in order to reach the much coveted near-zero emissions targets.

Furthermore, all the consumption partners will be included, in depth, of all REScoops participating in the project; and a number of Energy Efficiency interventions will be evaluated. The results of the analysis allow enhancing the existing suggestions' toolkit regarding Energy Efficiency, which will be

handed therefore to the existing and newly formed RES cooperatives. This will aid their members to assume or improve their behaviours towards an energy efficiency and environmentally friendly perspective. Last but not least, it is going to be demonstrated a summary of the accumulated data, an extensive report regarding the statistical analysis process utilized and the results of the current analysis compared to those of the previous which has been conducted, depicted into thorough diagrams and tables.

**Keywords:** Energy Efficiency, Renewable Energy, Cooperatives, Sustainability

### **Presentation 3**

#### **Community Energy in the Baltic Sea Region**

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The term *community energy* refers broadly to the active participation of civil society members in energy production and conservation. Community energy is a growing phenomenon across Europe that is attracting the attention of both policy makers and researchers for the role it may play in accelerating the energy transition. However, the extant literature dealing with the participation of civil society actors in renewable energy production has two important limitations. First, it consists of studies that have their focus on a limited number of countries and, in particular, on a UK context. Second, little attention has been devoted to the contextual factors that make this approach successful and to the question of what elements of such favorable contexts can be transferred to other countries. Therefore, this paper aims at exploring through the lens of neo-institutional theory the wider societal forces, cultural rules and regulative elements that determine the success and diffusion of citizen-driven renewable energy initiatives. Methodologically the study relies on 10 case studies from the Baltic Sea Region in which in-depth interviews are conducted with project leaders, politicians and representatives of local authorities. The study contributes both to the ongoing discussion on how to increase the participation of citizens in the transformation of the energy system and our understanding of the related challenges and opportunities.

Keywords: community energy; Baltic Sea region; renewable energy, success factors, broadening

The study is being carried out within the Co2mmunity project funded by Intereg Baltic Sea Region

### **Presentation 4**

#### **Renewable energy supplying cooperatives as a stimulating factor to household energy conservation; Results from surveys in France and Belgium.**

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Little is known about how renewable energy supplying cooperatives try to influence energy conservation among households, in particular those who have obtained cooperative's membership, and the impact it has. In this paper the main research question is: What is the impact of renewable energy supplying cooperatives on householder energy conservation by their members? A survey was conducted to answer this question. Data analysis involved a T-test, multivariate and binary logistic regression on data from two cooperatives (Ecopower; Belgium; and Enercoop; France). Results show that on top of the general psychological and socio-demographic variables, REScoop items modestly contribute to the explained variation of household energy conservation. Moreover, at Enercoop 32% of the respondents reports to consume less energy since obtaining membership; at Ecopower this is nearly 65%. At Enercoop 18% indicates that the cooperative contributed to this, and at Ecopower nearly 37%. A T-test at Enercoop between members and non-members reveals significant difference in number of energy saving measures households engage in. Finally, the paper explores interventions cooperatives implement to encourage their members to conserve energy.

**Keywords:** renewable energy supplying cooperative, grassroots initiative; community energy; energy efficiency; energy conservation; energy consumer behaviour; energy savings.