



SCIENCE FOR ENVIRONMENT POLICY

Facilitating development of renewable energy communities: recommendations for developing legal frameworks



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The 2018 recast of the [Renewable Energy Directive \(RED II\)](#) includes obligations to facilitate renewable energy communities (RECs). These commitments are currently being transposed into legislation in several Member States (MSs). This study discusses key factors in the implementation of RECs to consider when developing these legislative instruments. Researchers provide recommendations on socio-technical issues relating to complementarity, proximity, incumbents (businesses with central responsibilities in existing energy systems) and inclusivity.

The [Renewable Energy Directive \(RED II\)](#), passed in December 2018 as part of the [European Clean Energy Package for all Europeans](#), currently under revision as part of the package 'Delivering on the European Green Deal', presented in July 2021, provides a definition of renewable energy communities (RECs) and requires each Member State (MS) to establish an 'enabling framework' for these communities, which follows certain basic principles. Details of this framework are not specified, however, and this study supports the effective implementation of RED II in this regard¹. The researchers consider recent published papers and experiences from MSs which have already developed legislation on RECs, to assess the benefits and challenges associated with four specific issues and two potential ownership models.

'Complementarity' in RECs refers to the use of a range of energy sources in order to minimise the peaks and troughs in supply associated with individual sources – thus stabilising supply and reducing storage costs. The researchers caution against stringent limitations on RECs relating to grid capacity or age of installations as these may restrict the opportunities for use of renewable-energy clusters to maximise complementarity. The researchers encourage policymakers to explicitly encourage complementarity of variable renewable-energy sources.



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RECs are intended to be local projects, however, the researchers suggest that inflexible requirements for physical proximity can effectively exclude cases where larger areas would offer substantial benefits. Such benefits might arise from including a varied profile of energy sources and consumption patterns and facilitating energy sharing, and these requirements will be different in urban and rural areas. The researchers recommend that the word ‘proximity’ is defined flexibly within the RED II criteria and contextualised to allow for the inclusion of appropriate RE clusters.

The researchers assert that the establishment of RECs deliberately disrupts the structure of energy markets, and, as such, is often resisted by incumbents. They therefore recommend that frameworks anticipate and mitigate this ‘pushback’, for instance by encouraging some involvement of incumbents while setting regulations to protect and empower RECs to defend their own interests and avoid potential takeover attempts.

According to the researchers, while RECs present good opportunities for advancing ‘energy justice’ (equitable energy access for all individuals) these can only be achieved with careful consideration through their planning and execution. The researchers suggest mechanisms that could assist with this, such as targeting incentives at vulnerable groups or exempting REC assets from means-testing processes. Social housing and co-owner associations can also be included as potential REC structures to include lower-income members.

The researchers consider two specific business models that could be suitable for RECs: co-operatives, which historically have been preferred, and consumer stock ownership plans (CSOPs)², designed to facilitate the involvement of low-income households. While co-operatives have often been successful REC structures, the researchers claim that they have some disadvantages, including being generally risk-averse, failing to accommodate the needs of public institutions, and restricting access by lower-income participants due to the requirement for significant up-front capital. The researchers argue that, by using an intermediary operating company and involving individual consumers through a trusteeship, CSOPs present an alternative model that may overcome some of these challenges.



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The researchers conclude with five key recommendations for the development of REC frameworks:

- Using incentives to encourage complementarity;
- ensuring proximity requirements allow projects to physically span urban and rural areas;
- supporting energy and electricity sharing under equitable rules;
- encouraging incumbents to cooperate, while creating strong protections for RECs;
- ensuring that business models facilitate inclusion of disadvantaged communities.

1. Without looking at the possible modifications included in the RED revision.

2. The paper's inclusion of consumer stock ownership plans is motivated by the H2020 project SCORE: <https://www.score-h2020.eu/> where the CSOPs are presented as a model that can help with the implementation of REDII.

