

SCORE

Co-own. Prosume. Renew.

Supporting **C**onsumer **O**wnership in **R**enewable **E**nergies

D 5.2. Catalogue of Prerequisites for a Transfer of CSOP Financing

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Executive Summary¹

This report identifies impact drivers and barriers of consumer co-ownership from the experience of the pilot projects and from CSOP like schemes worldwide to fine-tune prosumer financing and transfer the CSOP financing technique to other EU-Member States. In particular, it will point to similarities, differences and additional specific conditions that may facilitate or hinder a transfer. Taxation issues are not addressed in this report.

Based on the analysis of a dataset of 67 best-practice cases of consumer (co-) ownership from 18 countries it demonstrates the importance of flexibility of business models to include heterogeneous co-investors for meeting the requirements of the RED II and IEMD. It is shown that CSOPs – designed to facilitate scalable investments in utilities – do not require specific national legislation to be transferred to other settings or countries but that the modular approach of the CSOP financing is key for flexibility when transferred.

Providing three levels of co-investments to choose from while not relying on a specific legal form is the advantage of CSOPs making them compatible with a large array of co-investors' and stakeholders' interests and motivations.

¹ This report is based on a SCORE publication by the author entitled “Consumer Stock Ownership Plans (CSOPs)—the Prototype Business Model for Renewable Energy Communities” published open access in Energies volume 13 issue 1 on 25 December 2019 (<https://www.mdpi.com/1996-1073/13/1/118>).

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Abbreviations

| | |
|--------|---|
| CZK | Czech Crown |
| CSOP | Consumer Stock Ownership Plan |
| EE | Energy Efficiency |
| EUR | Euro |
| IEMD | Internal Electricity Market Directive |
| IEMR | Internal Electricity Market Regulation |
| IROP | Integrated Regional Operational Program |
| IRR | Internal Rate of Return |
| KPI | Key Performance Indicator |
| PLN | Polish Zloty |
| PV | Photovoltaic |
| RE | Renewable Energy |
| REC | Renewable Energy Communities |
| RED II | Recast of the Renewable Energy Directive 2018 |
| RES | Renewable Energy Sources |
| ROI | Return on Investment |
| SMEs | Small and Medium-sized Enterprises |

1 Introduction

A consumer stock ownership plan (CSOP) is a financing technique that employs an intermediary corporate vehicle and facilitates the involvement of individual investors through a trusteeship. It is a type of investment transaction that may use external financing, thereby achieving the benefit of financial leverage. The CSOP was applied for the first time in 1958 with spectacular success in the U.S. by its innovator, Louis O. Kelso, a business and financial lawyer turning 4,580 farmers into (co-)owners of the new fertilizer manufacturer Valley Nitrogen Producers, Inc. This involved an investment of USD 120 million which today inflation adjusted would equal around EUR 915 million. It is related to Kelso's best-known financial innovation, the employee stock ownership plan (ESOP), that enabled millions of American workers to become (co-)owners of their employer companies (NCEO 2019).²

Applied to the energy context as CSOP can buy into an existing or invest in a new renewable energy (RE) plant. Designed to facilitate scalable investments in utilities, it is open to co-investments by municipalities, plant engineers, energy suppliers or other strategic partners. Moreover, as a low-threshold financing method, it enables individuals to invest in RE projects (Lowitzsch 2019b). The renewable energy consumer stock ownership plan (RE-CSOP) as an alternative financing source for sustainable investments is of particular importance for municipalities that are charged with fulfilling energy efficiency (EE) and climate policy goals but have limited budgets and often lack the funding to make these investments. An objective of this contractual model is, above all, to facilitate single-source financing (i.e., employing one bank loan instead of many micro loans), thus reducing transaction costs. At the same time, individual liability of consumers is avoided, while participating consumers are able to acquire capital ownership, providing them with an additional source of income. Other important issues are easy tradability of shares, deferred taxation for consumer-shareholders and pooling of voting rights.

Especially, low-income households who usually do not dispose of savings necessary for conventional investment schemes are enabled to repay their share of the acquisition loan from the future earnings of the investment: A fiduciary entity that is set up by the local community and managed by an independent director is authorized to take on a bank loan to acquire shares in the RE plant on behalf of the consumers. The shares are allocated among the consumer-beneficiaries in proportion to their respective energy purchases. Monies saved by self-consumption and increased EE as well as revenues from the sale of the excess energy production are used to repay the acquisition loan. After amortisation of this debt, profits are distributed to the consumer-beneficiaries.

² Both plans repay the acquisition loan not from wages or savings but from the future earnings of the shares acquired. Today the ESOP is an integral part of American corporate finance with around 6,660 ESOPs and a little under 3,000 ESOP-like plans in the USA, about 14.2 million participating employees holding around USD 1.4 trillion in assets as of 2016.

In 2018 the European Union has introduced a legal framework for renewable energy communities (RECs) and citizen energy communities (CECs) that will have to prove its success in the years to come. A crucial element for the acceptance of RECs by the energy markets will be the underlying business model. This report analyses the requisites for the transfer of RE-CSOPs as the prototype business model for RECs to other settings or countries than those in the SCORE pilot projects. In the limited time since the entering into force of the new rules at EU level only very countries have actually transposed the Renewable Energy Directive 2018/2001/EU³ (hereafter, RED II) and of the revised Directive on common rules for the internal electricity market 2019/944/EU⁴ (hereafter, IEMD) and their new governance model into national legislation. Therefore, the focus of this report lies on the conceptual side of this business model omitting a discussion of compatibility with national law as it is expected to change significantly during the pending process of transposition.

And indeed, although the European legislator paved the way to a EU wide legal framework other than to be transposed into national law it needs subsequently to be filled with implementing provisions. Likewise, the flourishing movement of ECs, many of which emerged long before the passing of the Clean Energy Package⁵, show a broad variety of patterns involving different combinations of (innovative) organizational and contractual arrangements, (local) identities and (common) interests depending, amongst other factors, on geography (Lowitzsch 2019a). Ultimately, Member States will have to provide a supporting regulatory environment for RECs and CECs, creating a level playing field with other market participants, in addition to promoting and assisting in the development of energy communities and their effective integration in the energy system. In light of the role that energy communities will play in the energy transition, it is vital that they be supported, and their development encouraged by appropriate policy measures.

Against this background this report will show that CSOPs – designed to facilitate scalable investments in utilities – do not require specific national legislation to be transferred to other settings or countries but that the modular approach of the CSOP financing is key for flexibility when transferred. On the contrary, providing three levels of co-investments to choose from while not relying on a specific legal form make CSOPs compatible with a large array of co-investors' and stakeholders' interests and motivations across the EU. Taxation issues are not addressed in this report.

³ O.J. L 328/82 of 21 December 2018 to be transposed into national Law until 30 June 2021.

⁴ O.J. L 158/125 of 5 June 2019, to be transposed into national Law until 31 December 2020.

⁵ See https://ec.europa.eu/energy/topics/energy-strategy/clean-energy-all-europeans_en.

2 Conditions for consumer (co-)ownership that CSOPs need to comply with

2.1 The regulatory framework of RED II and IEMD

The RED II introduced RECs as a new Europe-wide governance model for RE projects and defined them in Art. 2 as a legal entity:

- *“which, according to applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects owned and developed by that community;*
- *whose shareholders or members are natural persons, local authorities, including municipalities, or SMEs;*
- *whose primary purpose is to provide environmental, economic or social community benefits for its members/the local areas where it operates rather than financial profits.”*

Tying the “effective control” – which should generally be understood as 51% of the shareholding but in cases of a disperse ownership structure might be a lower threshold⁶ – to the local members of a REC is a structural feature in governance stemming from the 32% target of renewables in the energy mix whose achievement depends to a large extent on the acceptance of RE projects by the local population.

The IEMD and the RED II have in common that an energy community is a legal person, able to act in its own name, to exercise rights and to be subject to obligations. Consequently, projects that are not incorporated and solely based on contractual arrangements between individuals or legal entities are not subject to this regulatory framework. **While CECs in principle are open to all types of entities the definition in Art 2 pt. 11 IEMD is very similar with three differences, i.e.,** (i) the absence of the notion of geographic proximity⁷, (ii) the lack of the requirement to be autonomous⁸ and (iii) a limitation for enterprises being included in the shareholders controlling the entity to those of small and micro size⁹. While the former two features are clearly rooted in the characteristics of REC’s distributed RE generation the latter aims at establishing a level playing field on which citizen led initiatives can compete with the incumbent

⁶ Since the notion of “effective control” is neither defined in RED II nor in IEMD its interpretation when transposing the directives will depend on the principles of national company, tax or contract law or other rules determining when a shareholder or member of a legal person is ultimately responsible for their decisions; see also M. Jasiak, loc. cit. p.32.

⁷ Proximity will have to be further defined by the Member States when transposing RED II through land use, zoning or similar national legislation; see also M. Jasiak, loc. cit. p.32.

⁸ “Autonomy” in this context should be understood as a 33% ceiling for ownership stakes of individual shareholders or members; more generally, recital 71 RED II stipulates that *“REC should be capable of remaining autonomous from individual members and other traditional market actors that participate in the community as members or shareholders, or who cooperate through other means such as investment”*.

⁹ For the definitions see Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, 2003/361/EC, OJ L 124.

commercial actors.¹⁰ A summary of the features of RECs vs. those of RECs is provided in Table 1.

Table. The new governance model for energy communities under RED II and IEMD.

| Criteria | Renewable Energy Communities (RECs) Pursuant to Arts. 2 (16), 22 RED II | Citizen Energy Communities (CECs) as Defined in Arts. 2 (11), 16 IEMD |
|--|--|--|
| Eligibility | <ul style="list-style-type: none"> Natural persons, Small and medium sized enterprises, <u>Local</u> authorities, incl. municipalities; | In principle open to all types of entities; |
| Primary Purpose | <i>“environmental, economic or social community benefits for its shareholders / members or for local areas where it operates, rather than financial profits”;</i> | |
| Membership | Voluntary participation open to all potential <u>local</u> members based on non-discriminatory criteria; | <u>Voluntary</u> participation open to all potential members based on non-discriminatory criteria; |
| Ownership and control | <ul style="list-style-type: none"> Effectively controlled by shareholders or members that are located in the <u>proximity</u> of the RE project; Is autonomous (no individual shareholder may own more than 33% of the stock). | <ul style="list-style-type: none"> Effectively controlled by shareholders or members of the project; limitation for firms included in shareholders Controlling entity to those of small/micro size (not medium); Shareholders engaged in large scale commercial activity and for which energy constitutes primary area of activity excluded from control. |
| Advantages to qualify as REC or CEC | <ul style="list-style-type: none"> Preferential conditions defined in the “Enabling framework” to promote and facilitate the development of RECs; Energy sharing within the REC. | <ul style="list-style-type: none"> Level playing field; Electricity sharing within the CEC. |

Source: Modified after Lowitzsch, Hoicka, van Tulder 2019.

2.2 The challenge to include heterogenous co-investors

Conventional business models for consumer ownership may not always allow for the combination of different types of co-investors. With regard to cooperatives [12], for example, the one-member one-vote principle is often an obstacle to partnering with SMEs and commercial investors, since these parties will prefer voting rights proportional to their shareholding. Furthermore, municipal co-investments are hindered by the necessity of representation on management and supervisory bodies, as cooperative law does not acknowledge a right of delegation similar to legislation applicable to joint stock companies. Cooperative projects often set up special purpose vehicles (usually a privately held corporation with limited liability) to avoid this problem (RESCoop 2019). The RE-CSOP involves such a standard special purpose vehicle, but with a defined governance structure allowing for the direct involvement of municipalities and strategic partners while safeguarding the interests of the local partners. Unlike cooperatives, where all management and board positions are reserved for members and representation by third parties is not permitted (Fici 2013),

¹⁰ This is confirmed by recital (44) IEMD stipulating that “Membership of citizen energy communities should be open to all categories of entities. However, the decision-making powers within a citizen energy community should be limited to those members or shareholders that are not engaged in large scale commercial activity and for which the energy sector does not constitute a primary area of economic activity. Citizen energy communities are considered to be a category of cooperation of citizens or local actors that should be subject to recognition and protection under the Union law. ...”

a CSOP may hire external management. Thus, it avoids obstacles related to the principle of self-governance and ensures the representation of municipalities on the board. At the same time members of an energy cooperative can participate in a RE-CSOP, together with strategic partners, when expanding an existing RE plant together with strategic partners.

With regard to energy communities, of course, European energy law does not rule out other private law citizens' or consumer-oriented initiatives facilitated by and implemented with the participation of the public administration in the Member States (Jasiak 2018). However, such initiatives would benefit neither from the possibility of electricity/energy sharing nor from the preferential conditions and incentives foreseen in the “enabling framework” to promote and facilitate the development of RECs under the RED II. Therefore, the new Europe-wide governance model for energy communities is a determining factor for the choice of business models applied (Lowitzsch 2019c). Both types of energy communities focus more on environmental, economic or social community benefits than on profits and both limit the effective control of the community to their beneficiaries; however, as mentioned above, whereas RECs do this by tying control to the criteria of locality and geographic proximity, CECs limit it by the size of the shareholders and their commercial activity, excluding those for which energy constitutes the primary area of activity.

Complying with the prerequisites for RECs, a corresponding business model needs to have the capability of involving heterogeneous co-investors, that is, local citizens, municipalities, SMEs but possibly also commercial investors in RE projects. Other than bringing together the interests of local citizens and their municipalities, this is an important prerequisite for preferential conditions under the “enabling framework” for RECs, as defined in Art. 22 RED II. This approach facilitates the involvement of municipalities who need to respect the typical prerequisites of municipal law for participation in RE projects, i.e., public purpose, capacities for the investment, subsidiarity, appropriate representation as pacemakers of the energy transition.

(Optional) minority stakes for commercial investors is itself nothing new, as citizens' energy models in the wind sector often include professional partners as members of limited partnerships (Holstenkamp 2019). Depending on the type of project and the underlying technology, it may be useful to include them as operation and maintenance of infrastructure in RE projects can be very complex; this concerns, for example, not only wind energy and bioenergy, but also energy cluster projects aiming at sector coupling that may involve electricity sharing, storage, e-mobility, cogeneration, and the like (Ramirez et al. 2019; Mancarella 2014).

2.3 Empirical findings that influence the setup of the RE-CSOP

To cast a light on available empirical information on the structure of renewable energy communities the results of an analysis (Lowitzsch, Hoicka, van Tulder 2019) of a dataset of 67 best-practice examples of consumer (co-)ownership reported in the

Palgrave Macmillan publication “Energy Transition: Financing Consumer Co-Ownership in Renewables” (Lowitzsch, van Tulder 2019) are briefly summarised in this section. The notion of (co-)ownership is used not in the technical sense of joint ownership but to indicate that there may be other owners next to the consumers amongst the shareholders such as municipalities or conventional investors. The cases are from 18 countries covering Europe, North and South America and Asia, that is, CZ, DK, FR, DE, IT, NL, PL, ENG, SCT, ES, CH, CAL, CAD, BR, CL, IND, PAK, JAP; these countries were analysed following a consistent pattern including the energy mix, policies supporting consumer (co-)ownership, energy poverty, the regulatory framework, best practice, financing conditions, obstacles and perspectives to enable a like-to-like comparison. In light of the potential for replication of the regulatory framework beyond Europe, and to confirm the existence of projects that fit the criteria elsewhere, the extra-European cases present in the dataset were included in the analysis. The definition of consumer (co-)ownership as “*participation schemes that (a) confer ownership rights in RE projects (b) to consumers (c) in a local or regional area*” (Lowitzsch 2019d, pp. 7–8) is followed in this report.

As mentioned, eligible members for RECs are natural persons, SMEs and local authorities, while CECs are, in principle, open to all entities. Both the IEMD and the RED II, thus, support heterogeneity of members, which follows from the purpose and guiding principle for both types of energy communities “*to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits*”. The resulting limitations for enterprises which are either not local, too large or dominant in the energy sector with regard to control and size of their shareholding in ECs may hamper their participation in RECs; together with those stemming from the business models prevalent to date risk to render RECs unattractive for these potential co-investors (Lowitzsch 2019c). While good legislative intentions can lead to over-complex regulations that may actually hinder project implementation, a lot depends on existing best practice (Lowitzsch, Hoicka, van Tulder 2019). Amongst other issues Lowitzsch, Hoicka and van Tulder investigated the diversity of co-investors and the prevalent governance structures, testing the dataset for two criteria: (a) Heterogeneity of members and (b) governance and ownership. The results can be summarised as follows:

- They show that in the evaluation of the 67 cases, 37 had co-investors as envisioned by the RED II for the future RECs. Although these numbers seem low they are nevertheless unsurprising as energy communities operating exclusively in RE are a recent phenomenon not yet widely implemented.
- What is more surprising is, that only 9 projects already meet RE cluster requirements while merely 22 have RE cluster potential. Many projects are of small size and do not or only to a limited extent involve flexibility, bi-directionality, interconnectivity and complementarity; but this is a condition to become fully fledged RECs that will also be able to benefit from energy sharing.

- Only in 20 of the 37 cases this involved genuinely heterogeneous co-investors although not all of them comply with the governance structure required by the RED II. Some projects are solely owned by one shareholder; other projects, although showing heterogeneous co-investors are dominated by commercial actors not based in the proximity of the RE installations; in yet other projects a large energy firm has a majority ownership stake violating the autonomy criterion.
- Of the remaining 17 cases that only formally comply with the heterogeneity criterion of the RED II some cases were either cooperatives exclusively with citizens as members or municipal projects without other co-investors.
- Furthermore, geographic and cultural diversity of RE projects even within a given country lead to complexities that do not permit “one size fits all” solutions. While identities and interests are often deeply rooted in geographies and cultures, organizational and contractual arrangements are a more flexible factor that can be adapted to the former two (Baigorrotegui and Lowitzsch 2019).

Against the background of these empirical findings the question of the adaptability of an appropriate business model becomes even more important. Only a sufficiently flexible business model like the RE-CSOP will be able to fulfil the necessary functions of RE clusters and allow truly heterogeneous partnerships for investment.

3 The features of the RE Consumer Stock Ownership Plan

The modular approach of the RE-CSOP (see Figure 1) and the structure for each level of co-investment as described in this section is conceived under the assumption of complying with the new RED II governance model in order to benefit from the preferential conditions or incentives foreseen “enabling framework” to facilitate setting up RECs and top benefit from the privilege of energy/electricity sharing.

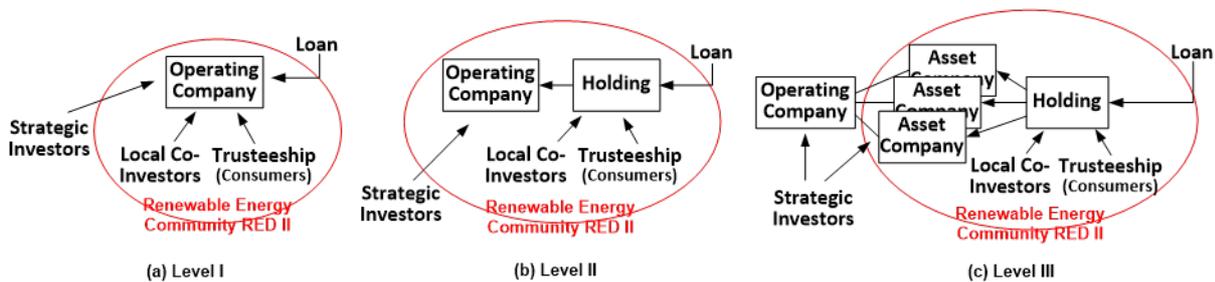


Figure 1. Co-investors in renewable energy communities (RECs). Source: Own elaboration.

Therefore, Figures 2–4 emphasise the role of the controlling members of RECs. As a rule, prosumers (households and non-energy small and medium sized enterprises) will hold between 33% and 51% of the shares in the corporation operating the RE-facility (Operating Company) and, together with the municipality, will have a majority interest. However, the CSOP conveys individual shareholding of the participating consumers through a trusteeship. Regarding the exercise of consumer’s voting rights, the model offers flexibility: The fiduciary arrangements stipulate which matters are to be decided

by the trustee or the managing director of the fiduciary entity (e.g., day-to-day business) and which will be voted on by CSOP-members (e.g., strategic decisions). It is; thus, the consumers themselves that determine the extent of their involvement, thus facilitating a process of apprenticeship. Finally, as the CSOP business model uses the borrowing power of a corporation, it enables the participation of vulnerable consumers that are underrepresented so far.

3.1 The modular CSOP approach

In practice, CSOP financing is based on a modular approach, starting with a “base model” and extending to higher levels, depending on the type of different co-investors involved, their investment horizons, needs and aims (see Figure 1a–c).

Level I: The base model is composed of two closely held corporations with limited liability, the fiduciary entity (Trusteeship) and the CSOP operating company (Operating Company). The fiduciary entity can also be a limited partnership or a RE-cooperative already in place which; however, this would have implications for the taxation of individual consumer (co-)owners and their corporate rights. This structure corresponds to a situation where a strategic co-investor has a local long-term interest (e.g., acceptance of a wind project) and does not mind burdening the Operating Company with a capital acquisition loan for consumers; all shareholders are proportionally liable for the debt.

Level II: A more complex structure results when the strategic investor, for example, has a short-term interest and will not engage in the project if his shareholding would be burdened with the acquisition loan that facilitates the consumer shareholding; in this situation the Operating Company stands next to a Holding (again a closely held corporation with limited liability) with only the latter being liable for the acquisition loan. Of course, the Operating Company will still provide security for the loan pledging part of the assets of the RE installation.

Level III: When upscaling and pooling more than one CSOP investment, the structure is still more complex: The Operating Company runs X number of RE projects, while separate Asset Companies own the RE installations of various RE-CSOPs. Strategic investors with differing short- or long-term interest (such as management, capital investment, electricity storage, aggregation and demand response) or a distribution system operator of a micro grid, for example, can invest at different levels accordingly.

To sum up, compatibility with conventional investments together with the potential of scalability, gives the RE-CSOP the advantage of avoiding concerns of market fragmentation (Lowitzsch 2019d). Sub-scale investments can be eschewed, local projects pooled and partnerships with municipalities set up, thus advancing to economies of scale while retaining the benefits of individual consumer participation. Other than qualifying as a RECs and thus benefitting from the RED II “enabling framework” the RE-CSOP at the same time provides a business model flexible enough

to allow for the cooperation with professional energy companies (see in particular Level III).

Against this background, RE-CSOPs can be an important “bridge technology” in financing citizen energy projects while extending the advantages of RE-cooperatives where projects involve heterogeneous co-investors, or where the cooperative model is not feasible for other reasons (Lowitzsch and Hanke 2019). This is especially the case in Eastern Europe where citizen energy projects are still rare and where the cooperative model is associated with the socialist past. Furthermore, the flexible governance structure of CSOPs offers the advantage of combining RE projects with active citizen participation, both in financial returns and in decision-making, while also allowing for the participation of commercial investors. Especially in RE clusters that target sector coupling and may involve electricity sharing, storage, e-mobility, cogeneration, etc., including professional operators will become increasingly important as the operation and maintenance of the infrastructure of RE projects becomes more complex (Lowitzsch, Hoicka, van Tulder 2019). Here the RE-CSOP provides a standard governance model that safeguards the interests of local partners vis-à-vis their co-investors.

3.2 Level I – Key elements of the base model (leveraged or not)

The first element of the RE-CSOP structure is the RE installation that is operated and managed by the Operating Company. The Operating Company is set up as a closely held limited liability corporation which is the best solution with regard to the functionality of the whole structure as well as with regard to the optimisation of taxation (for example, under Polish law a “spółka z ograniczoną odpowiedzialnością”, under Italian law a “società a responsabilità limitata”, under Czech law a “společnost s ručením omezeným” and under U.S. American law a “closely held corporation”).

Variante A—A new Operating Company is set up as a special purpose vehicle specifically for the new consumer co-investment: The consumers involved become (co-)owners of the RE installation by themselves or in partnership with other local public partners (e.g., a municipality, entity of local self-administration, public law corporation or a municipal enterprise) and possibly with local private investors such as SMEs.

Variante B—An existing Operating Company is running and managing an existing RE installation: It is taken over partly or entirely by another legal subject assuming control on behalf of the consumers and the other co-investors of the local RE community pursuant Art. 22 RED II.

As the ultimate goal of creating the overall structure is to grant corporate rights to the consumers, it is necessary to answer the question, how will they be included in this plan? This concerns in particular what kind of legal, corporate and property ties will connect the consumers of the RE installation with the Operational Company (independently of the contractual relationship for the supply of energy, of course). On

the one hand, consumers could be direct shareholders of the Operating Company, but from a functional perspective this is not a desirable solution. Another component of the RE-CSOP; therefore, is a fiduciary entity. It is this fiduciary entity that on behalf of the consumer-shareholders, together with the other local shareholders, effectively controls the Operating Company (running the RE plant). The legal form of the intermediary entity administering the CSOP shares in the CSOP model for continental Europe, is derived from the Anglo-American Common Law of trusts (Lowitzsch, Kudert and Neusel 2012). In the absence of genuine trust legislation, this requires a two-tier structure (i.e., a closely held corporation with limited liability as fiduciary entity (Trusteeship) that holds consumer shares in a closely held corporation with limited liability that operates the RE plant (Operating Company)). Figure 2 gives an overview of the financing structure and the key elements of the base model (Level I).

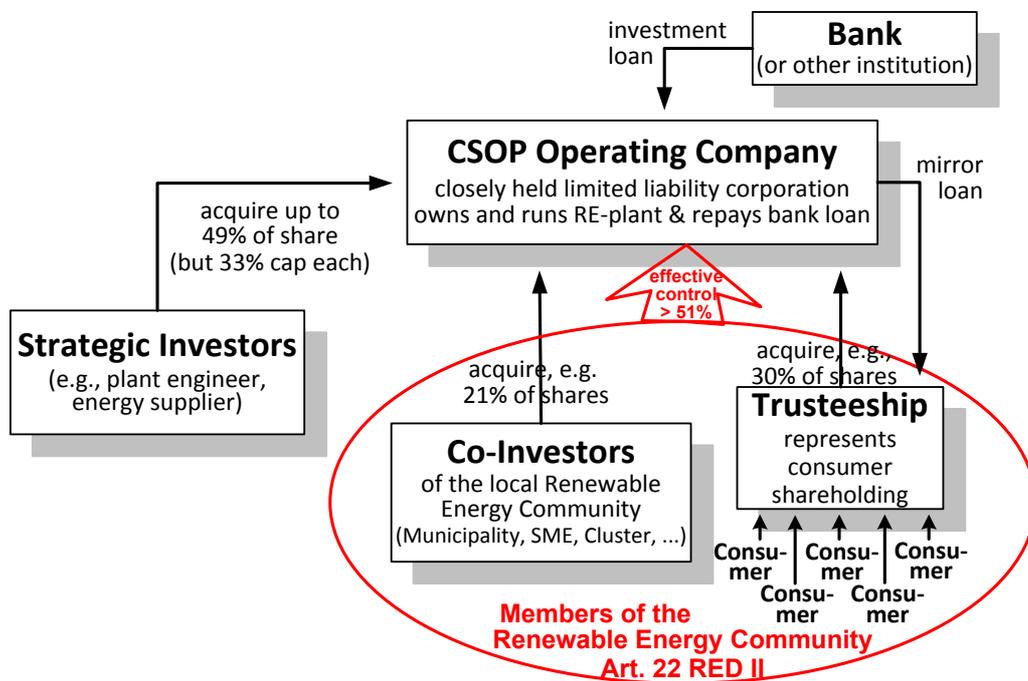


Figure 2. Key elements of the RE-CSOP financing structure in the base model for a REC. Source: Own elaboration.

As mentioned earlier, a RE-CSOP can use a bank loan to leverage the acquisition of shares in a RE project for consumers that have neither savings nor access to capital credit. National company and tax law permitting, using corporate credit to guarantee the loan that funds the acquisition of consumer shares by the CSOP, reduces the financing costs. If the Trusteeship borrows money to buy shares, the Operating Company repays the loan through periodic contributions (however, financing costs will not be tax-deductible) and dividends paid on the shares the fiduciary entity holds in trust for the consumer-shareholders. As the loan is retired, paid-up shares are allocated to individual consumer accounts, usually on the basis of relative energy consumption.

In a variation of the above described loan structure, the lender often prefers to make the loan directly to the Operating Company, followed by a second “mirror loan” from the Operating Company to the Trusteeship. The tax results will be better than in the case of a direct loan to the fiduciary entity. The interest repayments—national company and tax law permitting—will be a deductible expense from taxable corporate income as financing costs of the RE-investment. However, the Operating Company has to make annual contributions to the Trusteeship in amounts sufficient to amortise the internal loan from the Operating Company to the Trusteeship. The amounts paid by the fiduciary entity to the Operating Company to amortise the internal loan will as a rule constitute tax-free loan repayments and will be used by the Operating Company in turn to amortise the external loan. The “mirror loan” structure provides the lender with a stronger security interest in the assets pledged as collateral for the loan [26]. The lender will be in a better position to defend against claims of fraudulent conveyance in the case of default if collateral is taken directly from the borrower rather than from a guarantor of the loan. This should also lower the financing cost for the leveraged transaction significantly.

However, to use this structure the other shareholders of the Operating Company that do not directly benefit from the leveraged transaction must agree to assume the risk associated with financing the acquisition of shares by the Trusteeship with a bank loan. This may be acceptable if these shareholders are all members of the REC and share a genuine interest in involving the consumers. However, in situations where either the interests of the members of the REC are too heterogeneous or where external co-investors are involved, such co-investors may object to the mirror loan structure. In these situations, it may be necessary to set up a Holding Company, as described in the next section.

3.3 Level II – Leveraged RE-CSOP with external strategic investor

The following alternative structure of the RE-CSOP model employs a Holding Company which obtains external financing both for the consumers and for the other members of the local REC (i.e., taking on a loan or credit and then investing it in the Operating Company (Variant A); or acquiring the shares from the current owner(s) (Variant B)). The justification for this structure is the diversity of interests of the potential co-investors.

The Holding Company is again a closely held corporation with limited liability which, at the same time, may facilitate the functioning of the entire structure from the viewpoint of tax optimization. The investment or acquisition is financed from external sources, with the loan/credit being repaid from the future profits of the RE installation run by the Operating Company (with such profits coming from the sale of electricity to consumers or to the grid and from the difference in price of the energy provided to the prosumers). National tax law permitting, the Operating Company and the Holding Company may establish a capital tax group (Lowitzsch 2019e). In the case of such a

structure, profits, losses and, what is most important here, costs, are calculated for tax purposes jointly for the combined tax group. As a result, in practice, financing costs (especially interest) can be deducted from the tax base of the Operating Company. Such a solution has many advantages, including the following:

- Consumers are still not direct shareholders in the dominating Holding Company (in the case of a Holding Company whose direct shareholders are supplied by the dependent Operating Company, problems relating company law institutions could arise, such as actions to exclude a shareholder, the increase and decrease of share capital, organization of shareholders meetings, change of statutes, etc.).
- The division of the shareholding between the members of the REC (i.e., municipality, SMEs, and other local co-investors on the one hand, and the consumers represented by the fiduciary entity (Trusteeship) on the other hand) is flexible and reflects the respective contributions and roles, as long as they together have effective control of the operating company by keeping at least 51% of its shares.
- External strategic investors can buy into the project without being burdened by the leveraged transaction that enables consumers without significant savings to participate.

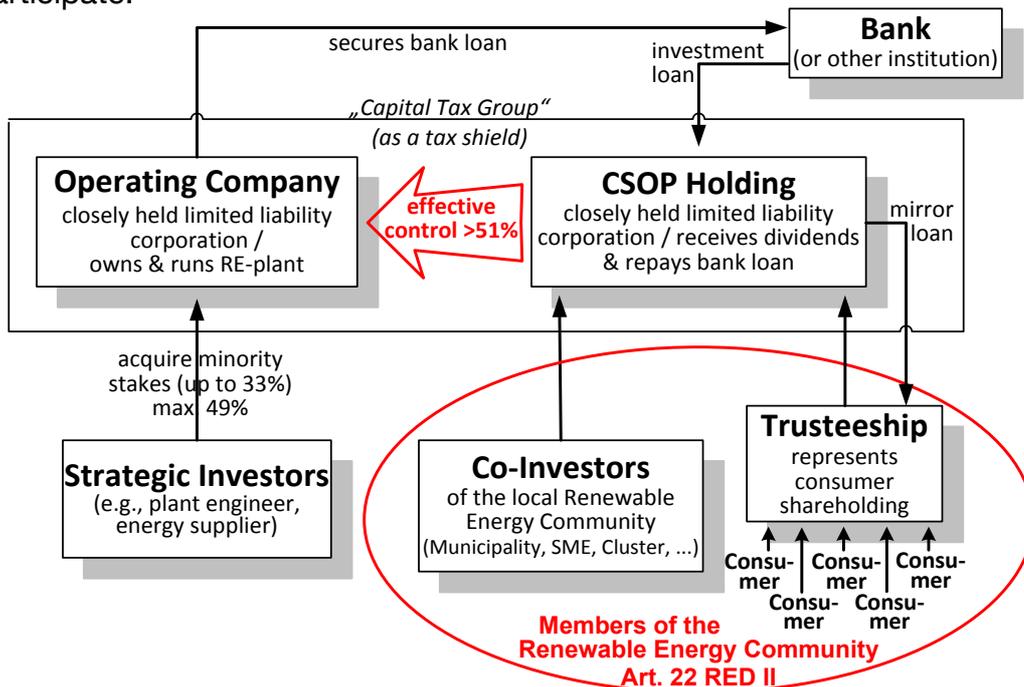


Figure 3. Key elements of the leveraged RE-CSOP with strategic investors for a REC at Level II. Source: Own elaboration.

In summary, this solution offers two opportunities for co-investments at Level II:

- (1) Leveraged investments financed by an investment loan taken on by the Holding Company. The target groups for this type of co-investment are, above all, local co-investors belonging to the REC pursuant to Art. 22 RED II as, for example, a municipality, a small or medium enterprise, members of a RE cluster, etc. They all

have in common that their investment horizon is long- to mid-term and that, as a rule, they will have difficulties in obtaining financing individually, or, at least will incur higher financing cost (Kahla 2019), than when benefitting from the borrowing power of the Holding that pledges its shares in the Operating Company to secure the repayment of the investment loan.

- (2) Non-leveraged investments financed by a strategic investor in the Operating Company. The target group for this type of co-investment is, generally speaking, external strategic investors that either do not qualify as members of a REC pursuant to Art. 22 RED II and/or have different motivations for their engagement in the project. They typically will have a short- or mid-term investment horizon with preferences for liquidity and a clear exit strategy. Examples are, on the one hand, shareholders engaged in large scale commercial activity for which energy constitutes a primary area of activity (e.g., an energy supplier), or, on the other hand, an external investor with a specific temporary investment interest, as, for example, a plant engineer that seeks acceptance for RE project (Tounquet et al. 2019).

3.4 Level III – Upscaling and pooling RE-CSOP investments

When RECs reach more complexity both with regard to the technical aspects of energy generation, use or transfer and with regard to the variety of heterogeneous co-investors involved, a need for upscaling and pooling of several RE-CSOP projects will arise. This is, in particular, the case with RE clusters emerging in the Energy Transition [15]. The needs that these RECs will depend on a number of factors that can be grouped into two categories:

3.4.1 Technical or engineering requirements (Ramirez et al. 2019; Mancarella 2014):

- The variety of renewable sources (wind, PV, biomass, etc. and their complementarity) or other energy sources (fossils as back-up but also those not easily to divest from);
- The specific combination of different energy sources where energy production is not the primary aim of economic activity (e.g., cogeneration, waste, biomass, etc.).

3.4.2 Management and governance requirements (CEER 2019):

- More than one RE-CSOP project organised in various asset companies with majority ownership stakes of the members of the REC but managed by one operating company in which a professional energy company may have a majority interest;
- The operating company is run by a third party with expertise in installation and operation, including metering and maintenance, but such third party remains subject to the RECs instructions.

In all the different combinations of scenarios resulting from the factors enumerated above, it will be important to have the possibility to separate the ownership of production assets from their management as illustrated in Figure 4 for Level III.

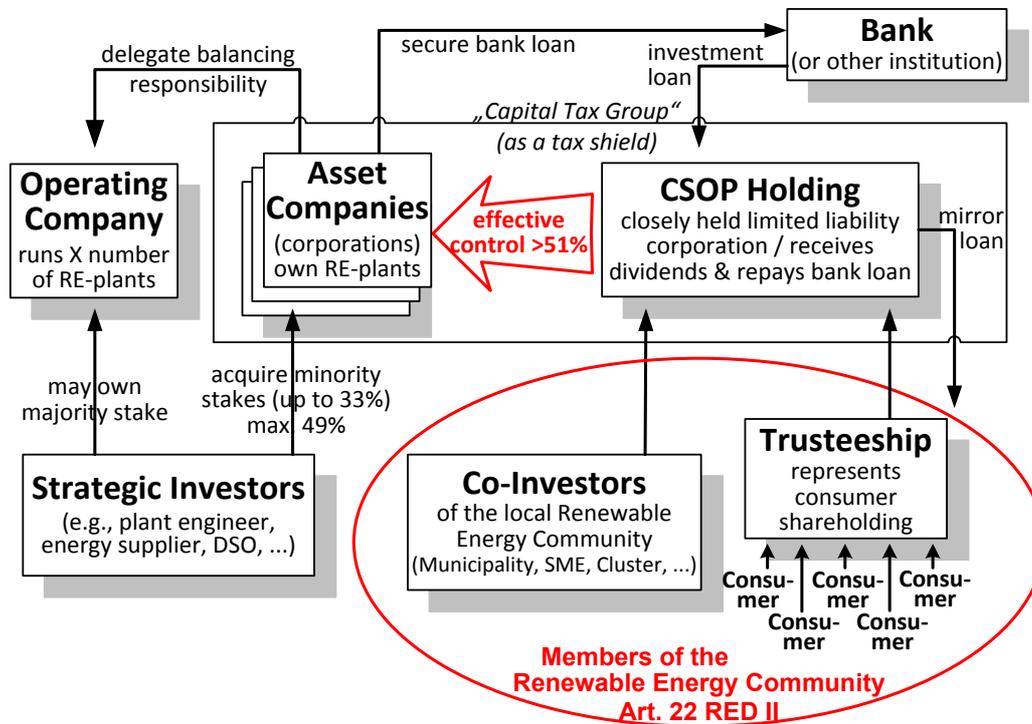


Figure 4. Key elements of pooled/upscaled RE-CSOP investments with strategic investors for a REC at Level III. Source: Own elaboration.

This is of particular importance, as it will also allow the involvement of strategic investors with majority interest in the Operating Company, which in this case may also be an already existing daughter of a professional energy company; such a strategic partner (CEER 2019) can be delegated by the REC to provide a variety of services, such as balancing responsibilities, coordination and settlement between REC participants or the implementation of a virtual power plant. Consequently, Art. 21 para 5 RED II foresees that Member States allow the possibility that prosumer installations are owned by a third party but remain under the direction of self-consumers as Art 16 IEMD permits that Member States allow CECs to own, establish, purchase or lease distribution networks and to manage them or delegate management to third parties. The fact that RECs will bundle functions ranging from generation to distribution and sale is de facto an exception from the unbundling rules for energy markets implemented over the last decades, and again may make them attractive to strategic investors with regard to aggregation, demand flexibility, etc.

4 Discussion of the key elements of the RE-CSOP (Levels I–III)

4.1 Indirect consumer shareholding in the capital of the Operating Company (or Holding)

(Co-)ownership resulting from consumer investment leads in practice to a situation where consumers have influence on the management of the company. From the point of view of co-investors—internal or external—such influence is problematic in terms of predictability and steering of the dynamics in decision-making processes [9]. First, it is highly undesirable that a co-investor would have to interact constantly with all consumer-shareholders, which easily can be hundreds in large CSOPs. Second, with regard to the question of how participating consumers vote their shares, it is undesirable that every consumer takes individual decisions without coordination with the others making it difficult for the remaining shareholders to understand and forecast their voting behaviour and interests. At the same time avoiding fragmentation of their ownership stake ensures that consumers voice has an appropriate weight vis-à-vis that of their co-investors (Jenkins 2019). Therefore, it is desirable that consumer-shareholders take a common position after an informed decision-making process.

4.1.1 Conveying individual share ownership through a trusteeship

Against this background, the CSOP model conveys individual shareholding of the participating consumers through a Trusteeship, which also—if desired—enables a cautious and gradual transfer of involvement in management decisions; the responsibility for day-to-day decisions of business operations stays with skilled management (Kelso and Hetter-Kelso 1991). The vehicle of a fiduciary entity is a tool for professionalization of decision-making processes on the part of consumers, which at the same time ensures that consumers vote their shares together (en block) after an internal consultation advised by an expert. The fiduciary entity typically takes the form of a closely held corporation with limited liability (however, it could also be, for example, a limited partnership) administered by a managing director (Lowitzsch, Kudert and Neusel 2012). The fiduciary entity has only one shareholder (i.e., its founder; usually the initiator of the RE-project), shown in the list of shareholders at the registry court, with its sole purpose to represent the shareholding of the consumer-shareholders in the operating company. The establishment of the trust follows the conclusion of fiduciary contracts between trustors and managing director representing the Trusteeship. From a tax point of view the fiduciary entity is transparent as it is the consumer-shareholders who are the economic owners of the shares.

Instead of direct shareholding in the operating company the RE-CSOP, thus, involves a fiduciary entity that conveys the capital participation of the consumer-shareholders. A (fiduciary, fully fledged) Trusteeship of a shareholding occurs when a shareholder (here the fiduciary entity = trustee) owns the shareholding for the account of one or more other entities (here individual consumer-shareholders = trustors) in the sense that she is entitled to the rights arising from the shareholding only in accordance with

a fiduciary contract concluded with the trustors (Criddle et al. 2019). Unlike in the case of an “authorisation trust” or the “power of attorney trust” in this case the separation of the trustee’s external legal competence from his internal fiduciary duty is purely accomplished. The trustee (fiduciary entity) has a dual role: in relation to the other shareholders (e.g., municipality, strategic investor) she is the holder of the shareholder rights and in relation to the settlors she is entitled and obliged to exercise these rights for the account of the settlors (i.e., the participating consumers). The settlors can be described as holders of shareholder rights merely in the economic sense of the term. The trustee is in every respect carrier of the membership (i.e., shareholder) and, consequently, it is the fiduciary entity that is shown in the list of shareholders of the operating company (here a closely held corporation with limited liability).

4.1.2 Core issues to be considered for all RE-CSOP models (Levels I–III)

In the context of enabling consumers to purchase shares, three key aspects need to be considered: (a) Securing the transferability of shares; (b) minimizing the cost of changes of ownership within the consumer-shareholders; and (c) granting corporate rights to the consumers.

Transferability of shares—The rules for changes of ownership among the consumer-shareholders represented by the managing director of the fiduciary entity are enshrined in the statutes of the Trusteeship (mirrored in the individual Investment Agreements that the consumer-shareholders conclude with the fiduciary entity):

- Exit of a consumer-shareholder with simultaneous transfer of the capital participation to a new CSOP participant only requiring a change of the party of the fiduciary contract (Investment Agreement).
- Exit of a consumer-shareholder with sale of the capital participation to the Operating Company which holds the share(s) until a new CSOP participant buys into the RE-CSOP. The Operating Company “warehouses” the shares, while at the same time creating a market place of these shares between the CSOP participants; this requires a definition of the legitimate motives to exit and of the period to announce this leave, as well as that of the instalment period for the cashing-out to avoid haemorrhaging of liquidity for CSOP.
- Exclusion of “bad leavers” (e.g., where consumer-shareholders obstruct decision-making within the fiduciary entity (Trusteeship), violate the supply contract substantially, etc). Here a cancellation of shares may occur with a subsequent transfer of monies from the Trusteeship.
- Exit following the death of a consumer-shareholder, which requires rules concerning the transfer by inheritance.

Minimizing the cost of changes amongst the consumer-shareholder—Pooling consumers’ ownership rights in a fiduciary entity reduces transaction cost of share transfers between participating individuals (e.g., when CSOP participants move away from the region and transfer their share to new residents). At the same time facilitating

consumer (co-)ownership through a fiduciary entity also ensures easy tradability of the shares. “Brokering” consumer shareholding in the Operating Company by the Trusteeship is sufficient to render consumer shares fungible and only requires a fiduciary contract (here Investment Agreement) between the consumers and the Trusteeship: It is the fiduciary entity represented by its managing director that—entering into the Investment Agreement with the consumer-trustors—now holds the shares of the Operating Company on behalf of the consumers. When consumer-shareholders change, the buyer or heir simply steps into the Investment Agreement in lieu of the former trustor. Changes of shareholders need not be registered—as would be the case for direct shareholding in the Operating Company—and the amount of participation held by the Trusteeship can fluctuate making administration easy. The basic mechanism is a fiduciary contract as is used in other investment settings.

This structure is a standard solution in Germany tested many times by so-called public companies (“Publikumsgesellschaften” (Schmidt 2012) in real estate investments, who face a similar problem: A very large number of investors is intended to participate in the equity of a company where every change in ownership, whether it be due to death, sale of shares, or seizure has to be signed into the commercial register following the relevant formal procedures. Whether or not the transfer of capital participation from one consumer to another requires notarisation depends on the type of trustee entity and national company law. For example, in Germany this would be the case for a closely held corporation with limited liability but not for a limited partnership, which in the latter case would have the advantage of lowering the transaction costs of transfers of capital participation from one consumer-shareholder to another. In contrast, the transfer of shares of an Italian closely held corporation with limited liability, following a 2019 reform of company law, does not require notarisation any longer. Depending on national tax and company law the advantages and disadvantages of the different legal design options, therefore, must be weighed against each other.

Granting corporate rights to consumer-shareholders—The statutes of the trustee entity, which as a rule will be a closely held corporation with limited liability, include a catalogue of decision that can be taken only after a vote among the consumer-shareholders. This leads to a two-tier structure for the decision-making process with regard to representation and control and esp. voting rights distinguishing between:

- Decisions concerning the day-to-day business of the Operating Company (or respectively of the CSOP Holding) that the Trusteeship represented by its managing director is authorized to take on behalf of the consumer-shareholders as trustors.
- Decisions of strategic importance (e.g., change of range of activity or business purpose, change of management, and those decisions involving financial commitments above a specific threshold; for example, EUR 50,000 requiring a vote of all trustors).

In this way, as mentioned above, the Trusteeship is also a tool for professionalization of the decision-making processes in the Operating Company while at the same time ensuring that:

- They have the possibility for an internal consultation advised by an expert (the managing director of the Trusteeship should have appropriate qualifications or access to expertise).

They vote their shares together (in a block proportional to the Trusteeship's share in the Operating Company's or CSOP Holding's capital).

4.2 Financing the consumer investment in the operating company

The CSOP is a type of leveraged investment (or buyout) transaction that uses external financing (debt), thereby achieving the benefit of financial leverage (Holstenkamp 2019). The cost of raising capital, as well as the repayment method, and, above all, the repayment period of the entire debt is all of key importance for the success and efficiency of this type of transaction. This section presents several legal and economic ways to shorten the debt repayment period or reduce the cost of financing and thus increase the effectiveness of financing RE-CSOP transactions.

The basic variable to be analysed is the debt repayment period. This is the period during which the CSOP Holding repays the debt using funds from the profits of the RE installation (the Operating Company). On the Holding or the Operating Company's balance sheet, liabilities from loans taken will gradually decrease in favour of equity. After the repayment period, the debt liabilities will be paid off, which means that external lenders no longer have any claims against the acquirer. In a simplified manner, it can be said that in such a situation the CSOP Holding (and indirectly the consumers) becomes the "full" economic owner of the RE installation (the Operating Company).

The repayment period is influenced by several factors. Determinants can be divided into two groups. The first group are economic factors of a more external nature, one being the size of the debt incurred, measured as the relation between equity and liabilities—the larger the percentage of the CSOP Holding's or Operating Company's assets financed from external funds, the longer the debt repayment period. Another factor is the profitability of the RE installation, that is, of the Operating Company measured by the return on equity ratio (ROE)—the higher the profit generated by the RE installation, the faster the repayment period. The second group of factors affecting the repayment period are legal and economic factors used in a specific transaction. This category includes, among others: (a) funds contributed by consumers; (b) tax optimization; or (c) a preferential loan granted by a public partner.

Contributions by the consumers—The application of CSOP financing in the context of Local Energy Communities according to Art. 22 RED II brings benefits to all parties, especially to the consumers. Therefore, it is justified that consumers make determined financial contributions to the RE-CSOP, which will help to increase its economic

efficiency. However, against the background of the principle of proportional participation of CSOP participants depending on consumption (and not on financial strength), a limit is the average income of citizens and their access to savings. The amount of consumer contributions and their importance for the overall project depends on the size of the projected RE installation and the number of consumers supplied, the average purchasing power parity and, above all, the part of the income allocated for contributions. From experience in the U.S., it seems right to limit individual consumer contributions to a maximum of 10% of their respective earnings to avoid risk concentration (Kelso and Hetter-Kelso 1991).

Furthermore, it has to be taken into account that there may be changes after the initial allocation of shares to the individuals proportional to the households' respective energy purchases. In order not to incentivise increased energy use by a strict coupling of the acquisition of shares to consumption, a correcting factor should reward increased EE measured by a decrease in consumption per household member. Rewarding consumer-shareholders for reducing their consumption is also justified by the accelerated amortisation of the bank loan, as this will result in an earlier point in time that dividends are paid out.

Capital Tax Group—An important solution may be the creation of a tax capital group (Oestreicher and Koch 2009), which includes the Operating Company (running the RE installation) and the Holding Company. In this way, financing costs (interest) can be deducted from the tax base, which translates into a higher net profit of the entire capital group and enables the use of the so-called tax shield effect. Repayment of debt using a capital tax group can be made using:

- **Fixed capital and interest instalments**—in certain periods additional financial resources will be generated that can be allocated to reserves to ensure timely repayment in the event of an economic downturn or the payment of funds to consumers due to resignation from the plan;
- **Or variable capital and interest instalments**—allocation of a fixed percentage of the net profit for this purpose in each period.

Thus, the setting up of a capital tax group is desirable and—provided that it is permissible under the relevant national taxation legislation—should be considered during the creation of CSOP structures. However, restrictions with regard to the effective control of the two entities may occur. For example, under Polish tax law creating a capital tax group requires that the Holding Company has a 75% majority interest, thus lowering the ceiling for strategic investors' share to 25%.

Preferential conditions, subsidies or loans—Some of the solutions aimed at shortening the debt repayment period and thus improving the efficiency of the entire undertaking, are preferential conditions for land use, public subsidies or, if available, preferential loans from a public partner who owns part of the infrastructure where the investments take place (Hunkin and Krell 2018). In the case of a municipality, these

may be buildings on which RE installations are constructed. Thus, a part of the funds for RE investments could come from one of the REC's partners according to Art. 22 RED II. This solution facilitates obtaining external financing and reducing the costs of the entire project. In addition, the public partner earns a higher interest rate than is earned on the funds invested in the capital market. Under this method, there are two options for debt repayment:

- **Deferment of the repayment to the public partner until the loan is repaid in relation to the bank:** The public partner agrees to subordinate its loan repayment to the investment loan, and agrees to postpone of its repayment period until other creditors, in particular those of the co-financing bank, have been repaid.
- **Parallel repayment of the bank and the public partner.**

5 Conclusions

5.1 Meeting the challenge

With regard to energy communities, European energy law does not rule out other private law citizens' or consumer-oriented initiatives than RECs which may be supported by and implemented with the participation of municipalities in the Member States (Jasiak 2018, p. 30). Such projects, while not complying with the RED II / IEMD governance model, would, of course, not benefit from the privilege of energy sharing of IEMD, and in particular the preferential conditions and incentives foreseen in the “enabling framework” under RED II. However, such initiatives could be led and controlled by professional actors on the energy markets who in RECs would be constraint to remain external investors or minority shareholders. The question whether such professional actors will accept the new governance model and decide to join RECs will depend on two factors:

- a) The attractiveness and coherence of the RED II “enabling framework”;
- b) The flexibility of the underlying business model allowing for an adequate division of responsibilities and benefits between the different co-investors according to their expertise and contributions.

The legislative instrument to advance RECs by tying the benefits of the “enabling framework” to the compliance with the governance model can be described as an opt-in mechanism (Heeter and McLaren 2012) aiming at creating peer-pressure: With a rising number of RECs operating successfully in European municipalities, this new business model will also become increasingly attractive to the incumbents; at the same time the underlying governance model, with its emphasis on the prosumer and the active consumer, will become more acceptable.

However, the number of RECs set up in turn will depend on their ability to involve heterogenous co-investors which, as the empirical evidence discussed in Section 2.3 shows, is key to the success of RE clusters. Here the RE-CSOP as a trusted investment model, described in Section 3 as a flexible low-threshold financing method, can play an important role as a bridge technology. Based on the analysis of a dataset of 67 best-practice cases of consumer (co-) ownership from 18 countries empirical findings demonstrate the importance of flexibility of business models to include heterogeneous co-investors for meeting the requirements of the RED II and IEMD. Therefore, concepts that are rooted in specific regulations of national company law that are not easily transferable to other Member States would pose an obstacle to delivering the required flexibility.

5.2 Catalogue of prerequisites for a transfer of CSOP financing

Against this background this report showed that CSOPs – designed to facilitate scalable investments in utilities – do not require specific national legislation to be transferred to other settings or countries but that the modular approach of the CSOP

financing is key for flexibility when transferred. Providing three levels of co-investments to choose from while not relying on a specific legal form is the advantage of CSOPs making them compatible with a large array of co-investors' and stakeholders' interests and motivations.

The resulting **catalogue of prerequisites for a transfer of CSOP financing** is thus as follows:

1) Providing three levels for co-investments:

- a. **Level I:** The base model is composed of two entities with limited liability, the fiduciary entity (Trusteeship) and the CSOP operating company (Operating Company). This structure corresponds to a situation where a strategic co-investor has a local long-term interest (e.g., acceptance of a wind project) and does not mind burdening the Operating Company with a capital acquisition loan for consumers; all shareholders are proportionally liable for the debt.
- b. **Level II:** A more complex structure results when the strategic investor, for example, has a short-term interest and will not engage in the project if his shareholding would be burdened with the acquisition loan that facilitates the consumer shareholding; in this situation the Operating Company stands next to a Holding with only the latter being liable for the acquisition loan.
- c. **Level III:** When upscaling and pooling more than one CSOP investment, the structure is still more complex: The Operating Company runs X number of RE projects, while separate Asset Companies own the RE installations of various RE-CSOPs. Strategic investors with differing short- or long-term interest (such as management, capital investment, electricity storage, aggregation and demand response) or a distribution system operator of a micro grid, for example, can invest at different levels accordingly.

2) Keeping national approaches for RE CSOP independent of a specific legal form of incorporation which applies to both:

- a. the Operating Company and
- b. the Trusteeship.

In this light, the capability to align the interests of municipal, individual and commercial investors, while mitigating the frictions stemming from inherent limitations of conventional approaches make the RE-CSOP the prototype business model for RECs.

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Imprint

SCORE facilitates consumers to become (co-)owners of RE in three pilot regions and in cities across Europe following these pilot projects. SCORE applies Consumer Stock Ownership Plans (CSOPs) utilising established best practice updated by inclusive financing techniques. Vulnerable groups affected by fuel poverty – as a rule excluded from RE investments – are in the focus of the project.

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