

Consumer Stock Ownership Plans (CSOPs) – Prototype Business Model for Renewable Energy Communities

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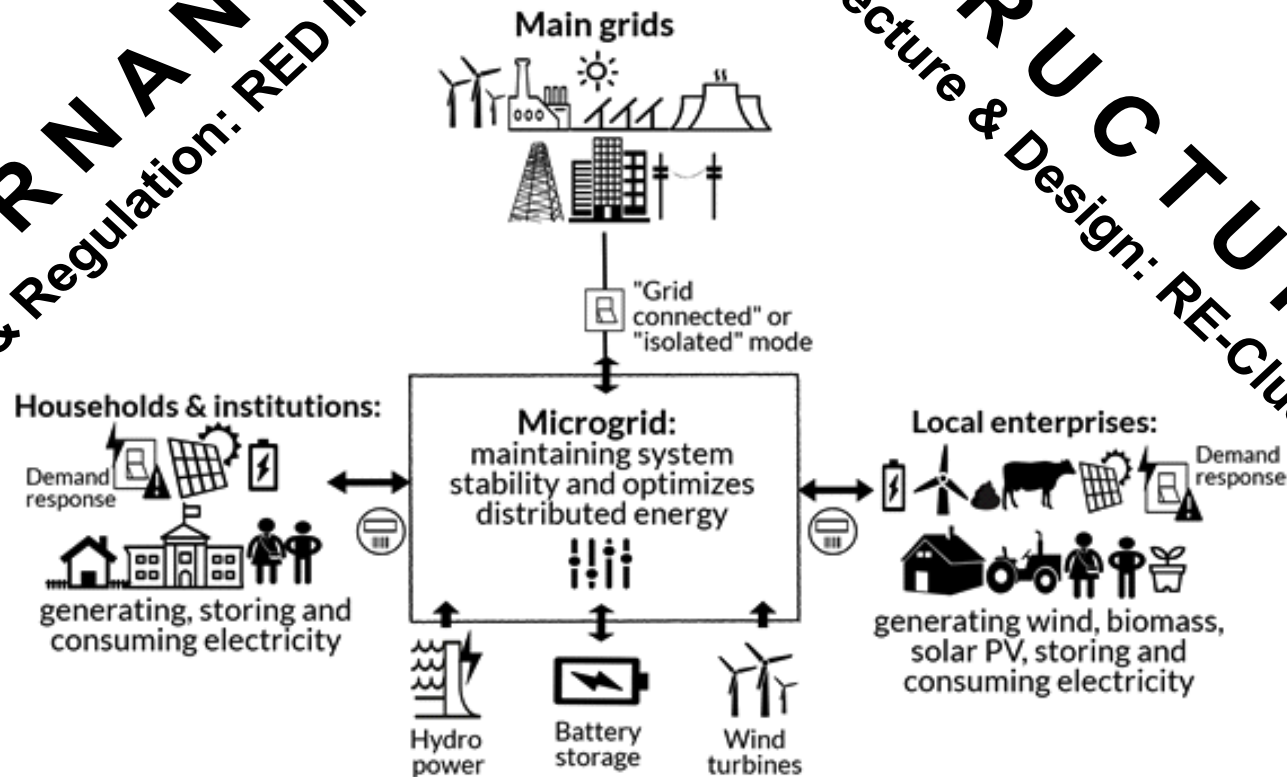
Horizon 2020
European Union funding
for Research & Innovation

SCORE
Co-own. Prosume. Renew.
Supporting Consumer Ownership in Renewable Energies

Energy Systems of Tomorrow

GOVERNANCE
Rules & Regulation: RED II

STRUCTURE
Architecture & Design: RE-Clusters



TRANSACTION

Contractual Arrangements: Business Model

Background: The EU “Clean Energy Package”

-> Re-launch of the Energy Union

New EU Regulatory Framework

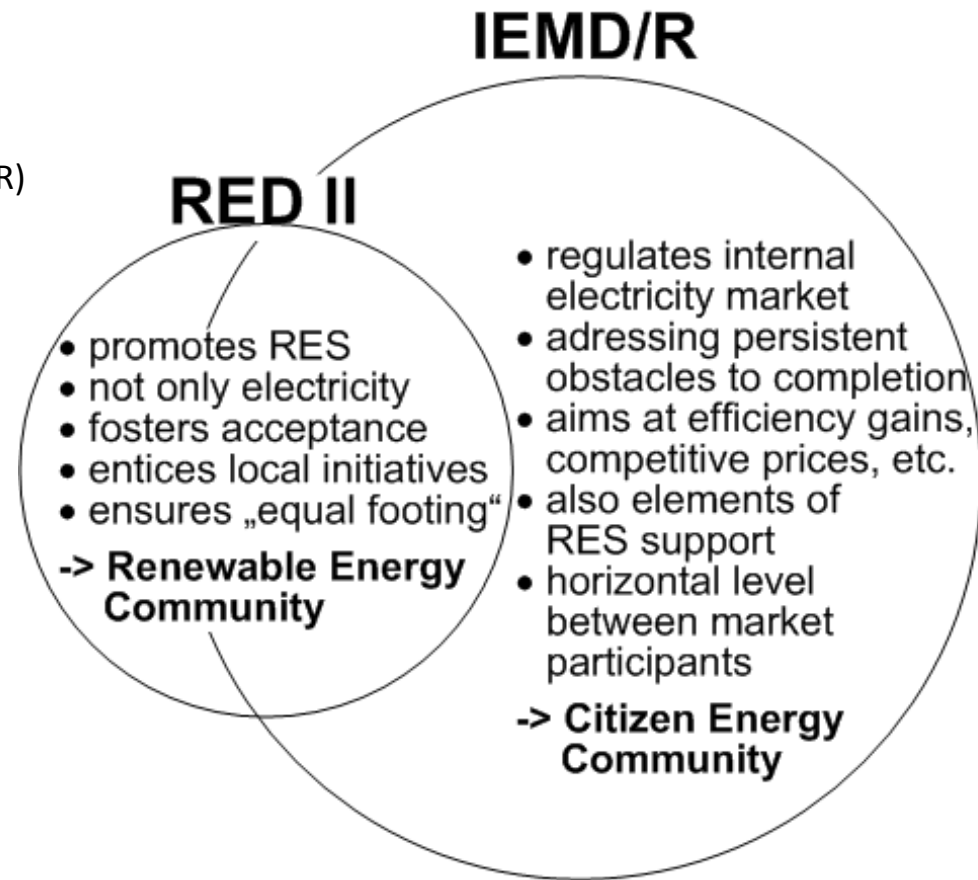
Overall 8 legislative acts, most importantly:

- Renewable Energy Directive (RED II)
- Internal Electricity Market Dir/Reg (IEMD/R)
- Energy Efficiency Directive (EED II)
- Energy Performance Buildings Dir. (EPBD)
- ...

-> concept for the lawful control over and administration of (local) energy generation, supply & management

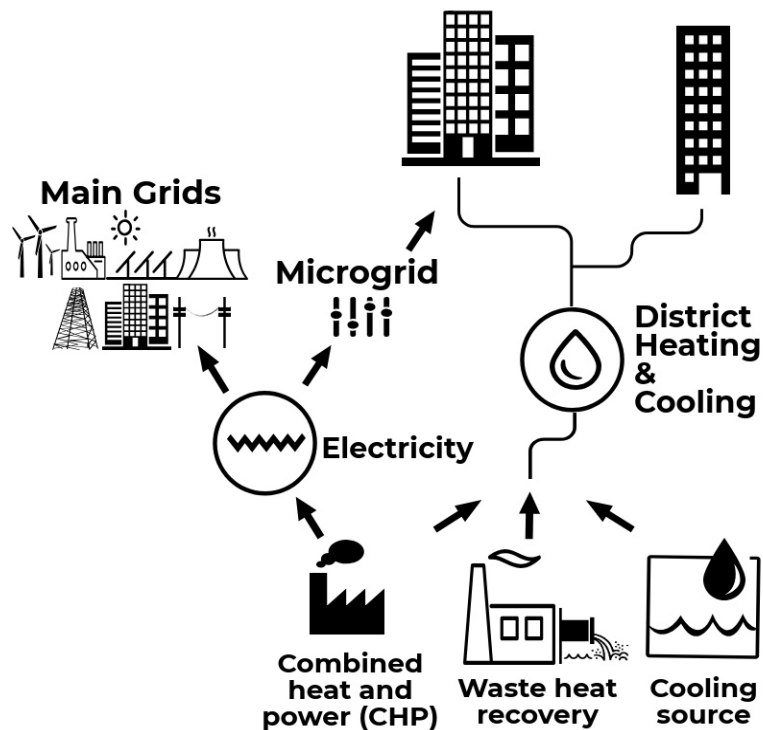
= the mirror image of the technical / engineering concept for RE clusters

RED II introduces Renewable Energy Communities (RECs)



Introduction: RECs and RE Clusters – Socio-Technical Mirrors of the same Concept

Renewable Energy Clusters – Characteristics of the new structures:



- **Complementarity of different RES** (to cope with volatility of RE generation; not sufficiently acknowledged in RED II & IEMD)
- **Grid flexibility options** (storage, demand response, and active grid management)
- **Interconnectivity of different actors** (heterogeneity of members of RECs fostering complementarity of load profiles)
- **Bi-directionality of energy flows** (allowing energy sharing of a portfolio of RES, peer-to-peer marketing and sale to the grid)

“Consumers at the Heart of the Energy Markets” **-> Slogan or programme?**

Small revolution -> RED II & IEMD/R (RE -> electricity + energy)

-> **History teaches us that changes are possible;** expl. social security system -> 150 years ago „Science Fiction“ / today mainstream

RED II: “Equal Footing” for Renewable Energy Communities

-> enabling framework to promote and facilitate their development

Preferential Conditions = more than a level playing field (IEMD)

Most important innovations:

1. Definition of new categories of actors

- Individuals & Jointly Acting Self-Consumers (Art. 21 RED II)
- Renewable Energy Communities (Art. 22 RED II)
- Citizen Energy Communities (Art. 16 IEMD)

“Energy / Electricity sharing” (RED II & IEMD)

2. Virtual Net Metering within Energy Communities (as long as the community own two metering points)

Fossil & Nuclear Energy World:

- Large, centralized generation
- Unidirectional producer-consumer duality

Energy Transition RE Clusters:

- Complementarity of different energy sources,
- Flexibility & Interconnectivity
- require Bi-Directionality of energy flows

3. New model for control & ownership (however not compulsory)

-> “effectively controlled” by local members > 51% (RED II & IEMD)

-> “autonomous” = cap for single shareholder of < 33% (RED II)

What needs to be delivered?

Allocation of Benefits & Responsibilities

-> Ensure provision of Critical Functions

Reach Energy Efficiency Aims

-> Building Stock (public and private)

Inclusion & Energy Justice

-> Energy Efficiency = Behavioural Changes
(no one left behind?)

Reciprocity of 3 Crucial Layers of New Energy Systems

-> Structure: Technical solution = RE-Clusters

-> Governance: RED II (effective control / autonomy)

-> Transaction: Business models (CSOPs / Coops)

Comparison of Control and Ownership in Energy Communities

| Criteria | Renewable Energy Communities pursuant to RED II | Citizen Energy Communities as defined in 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> | |
| Member-ship | 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 per cent 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. |

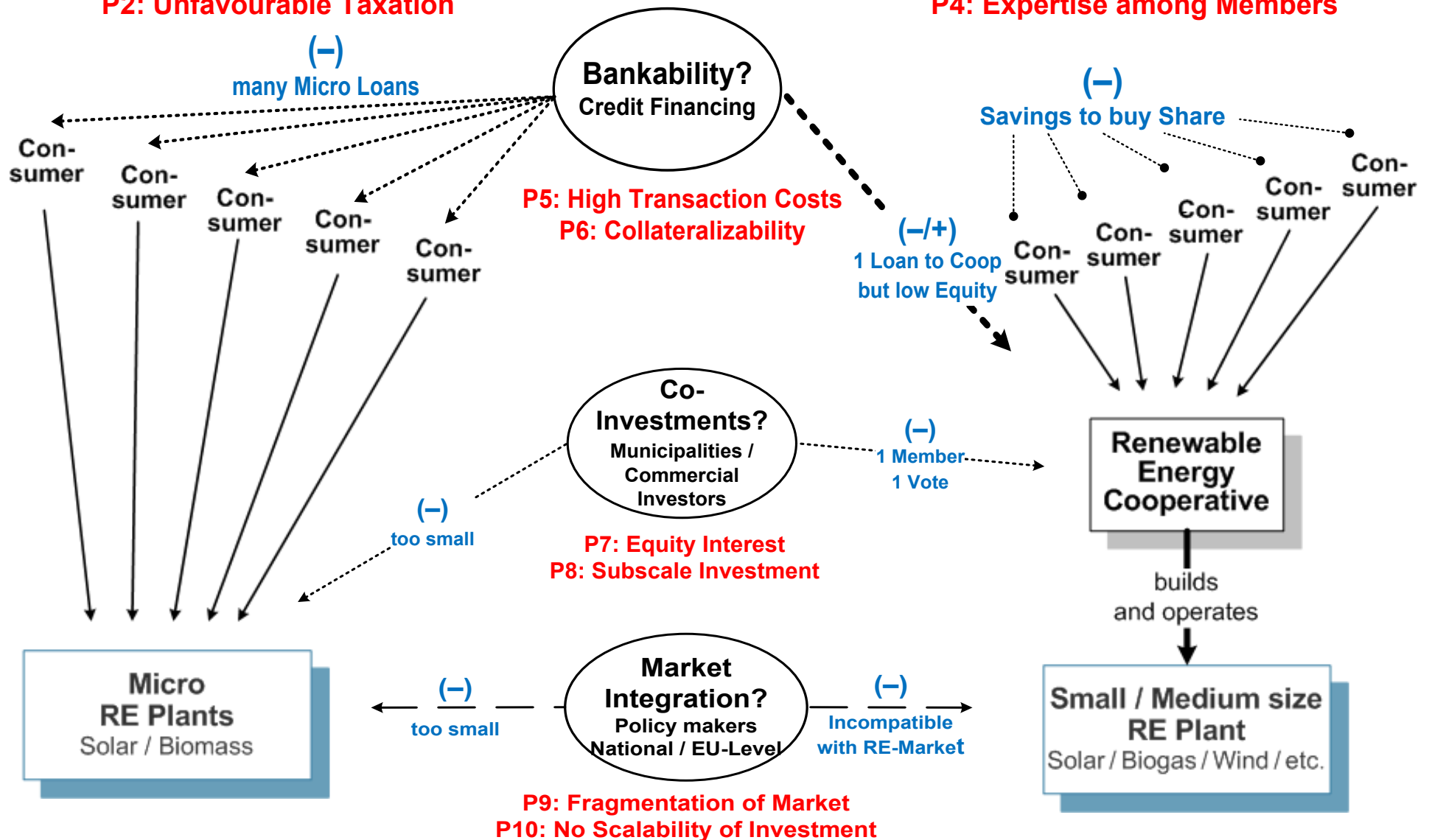
Conventional Business Models – Problem Description

Individual Ownership

- P1: Personal Unlimited Liability**
- P2: Unfavourable Taxation**

Collective ownership

- P3: Initial Capital to join Coop**
- P4: Expertise among Members**



The challenge: Including Heterogeneous Co-Investors under the Roof of a REC

European energy law does not rule out other private law citizens' or consumer-oriented initiatives than RECs:

- Advancing RECs by tying benefits of “enabling framework” to compliance with the governance model is an **Opt-in Mechanism**;
- The number of RECs set up will depend on their ability to involve heterogeneous co-investors, key to the success of RE clusters.

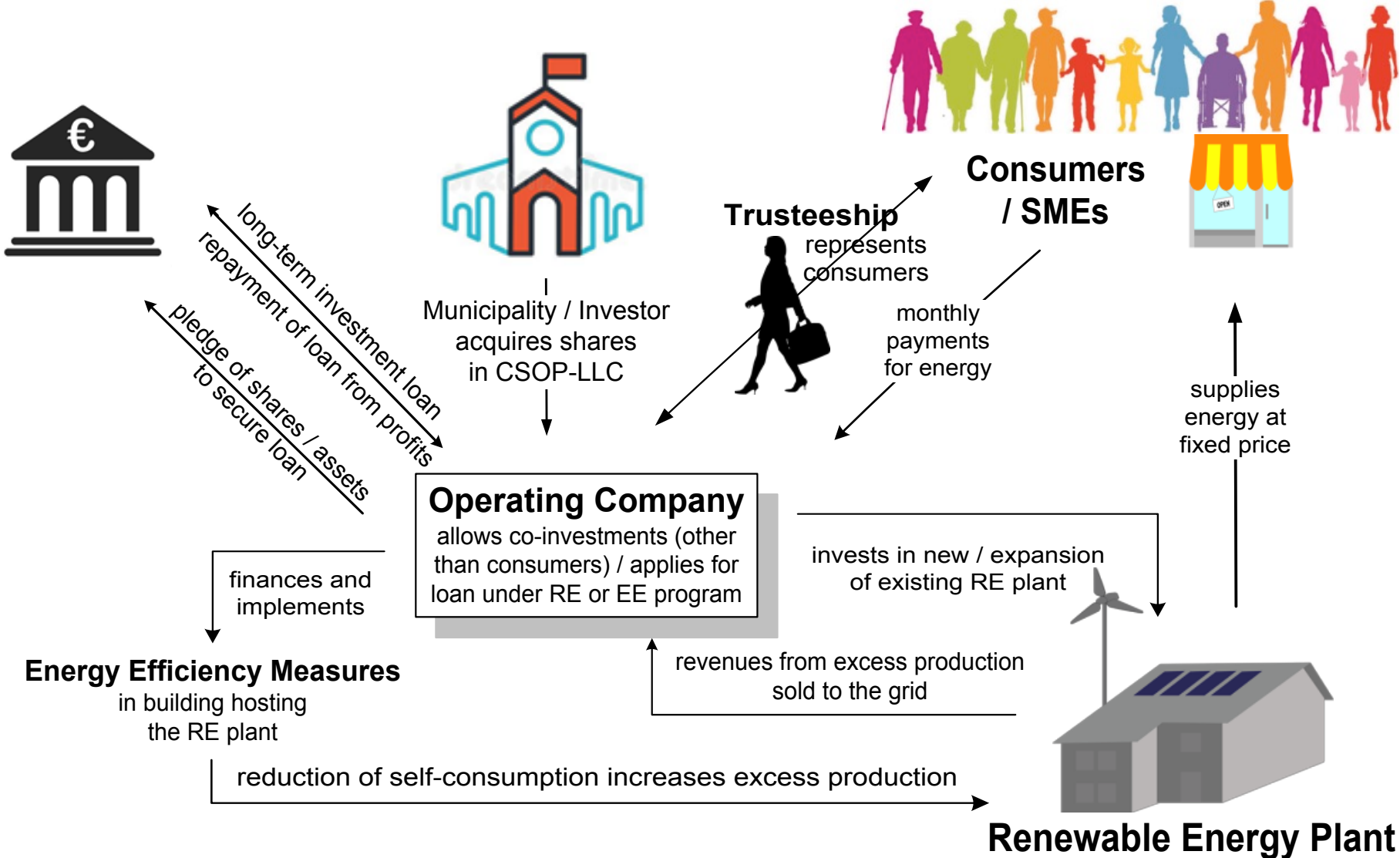
Conventional business models for consumer ownership as a rule do not allow for the combination of different types of co-investors:

- To what extent does the RED II governance model for RECs actually meet the needs of practice?
- Can RE-CSOPs provide attractive conditions respecting both, the RED II prerequisites and the individual needs of different co-investors?

-> **Trusted models as the CSOP** providing flexible low-threshold financing can play an important role as a bridge technology

Consumer Stock Ownership Plans (CSOPs)

= extension of Coop model based on trusteeship



Unique Selling Points of the CSOP

Low-threshold investment, no individual liability & 2nd income source

-> Access to capital credit by pooling individual investments in intermediary entity using leverage to scale up the investment; no expensive micro loans

Low entry and exit costs for consumers

-> easy to transfer shares: only party of trusteeship agreement changes; no need for additional registration with register court or notary public.

Protecting consumers while professionalising decision-making

-> Streamlining decision-making via trusteeship, avoiding fragmentation of voting rights while protecting & advising consumer shareholders

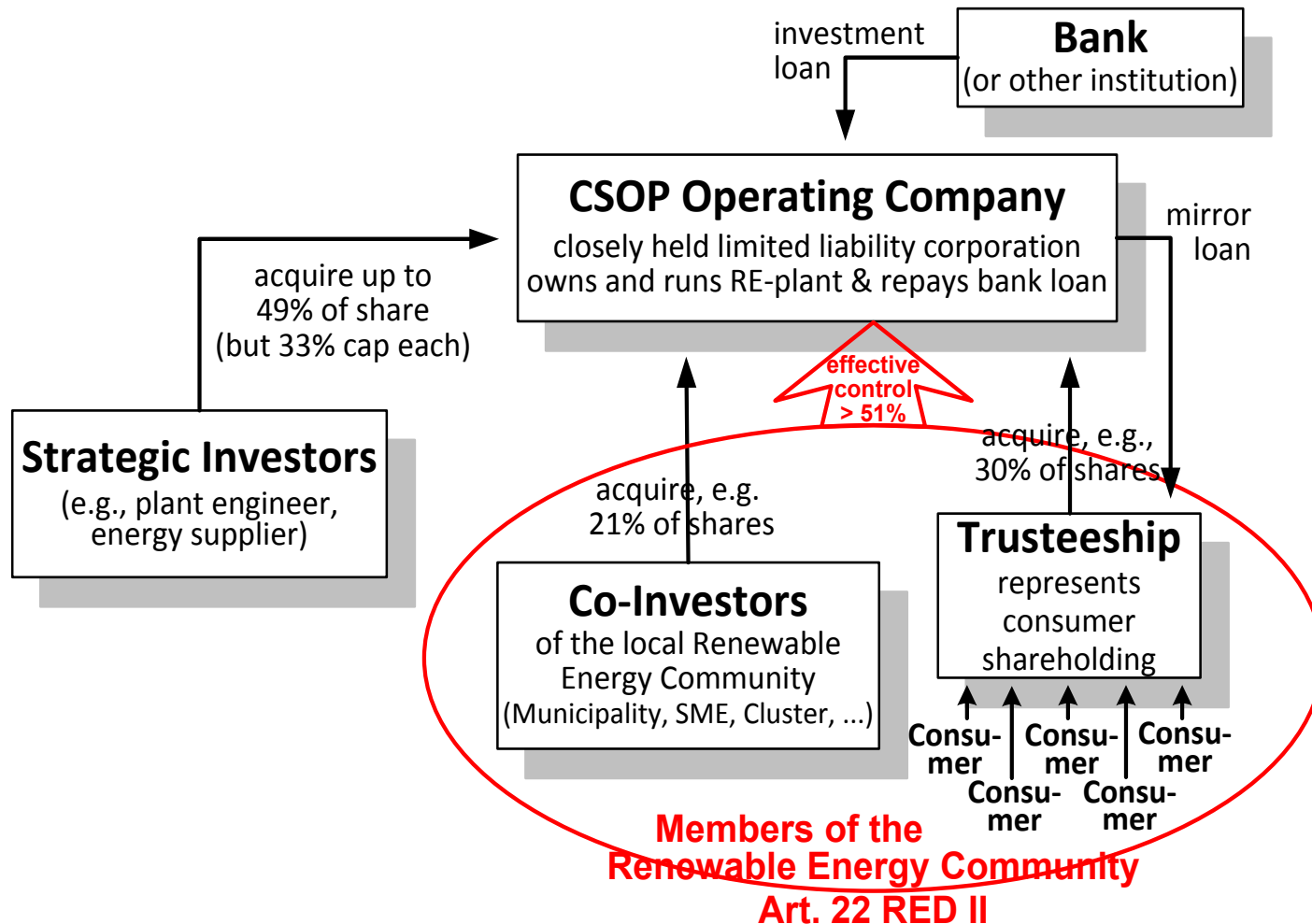
-> Trust agreement defines decisions voted by consumers & those delegated to trustee; day-to-day operations left to trustee (and other co-investors)

-> Simplified communication for co-investors (municipalities / SMEs): One interlocutor, one phone number; board representation guaranteed.

Investments are also attractive for co-investors

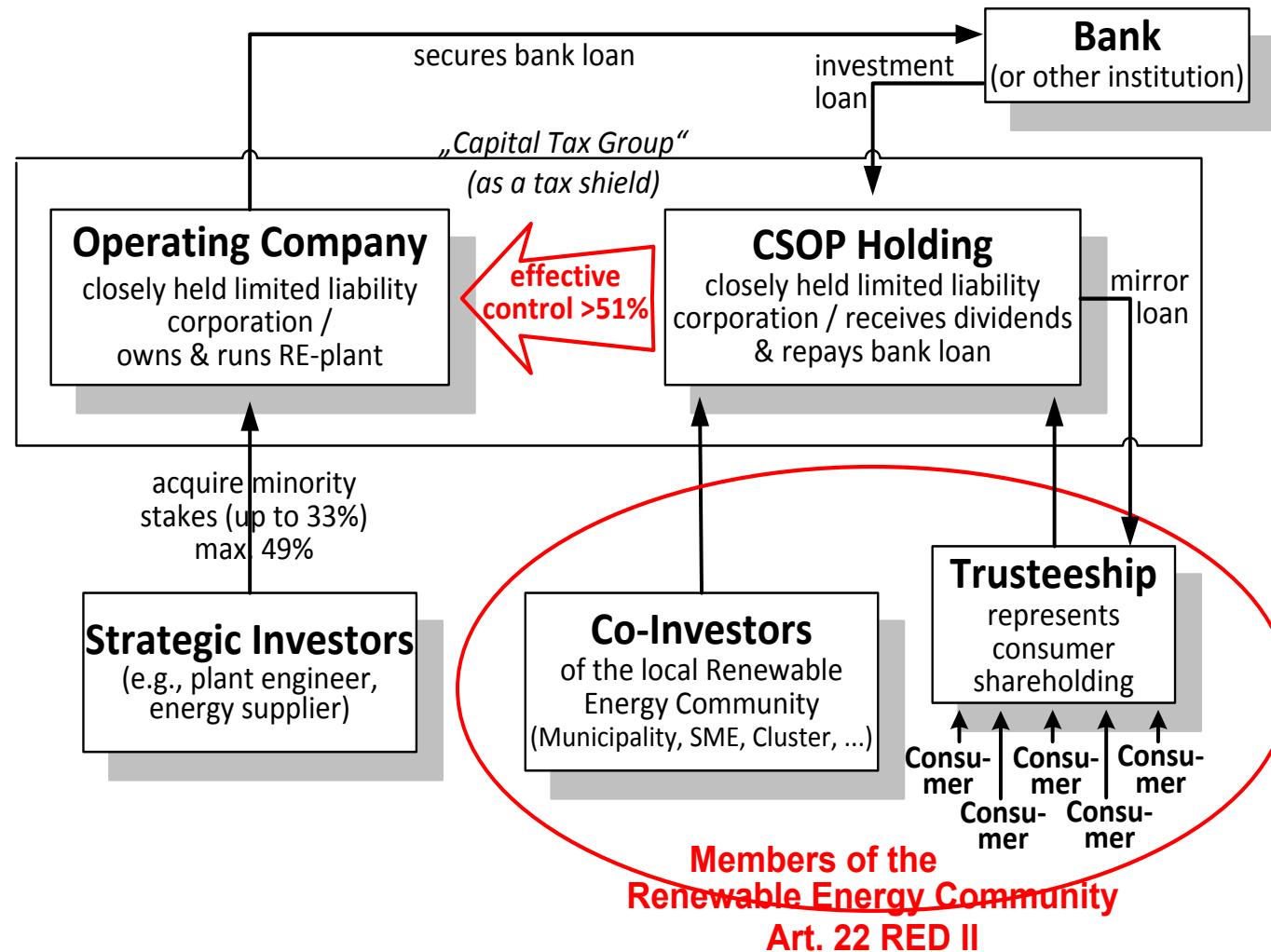
-> Voting rights proportional to shareholding; fluctuation among consumer shareholders does not impact overall shareholder structure in CSOP-LLC

I. CSOP Options under Company Law “Base model”



- ▶ Strategic investor has local long-term interest (e.g., acceptance of wind park project)
- ▶ Does not mind burdening Operating Company by capital acquisition loan for consumers
- ▶ All shareholders are proportionally liable for debt of Operating Company

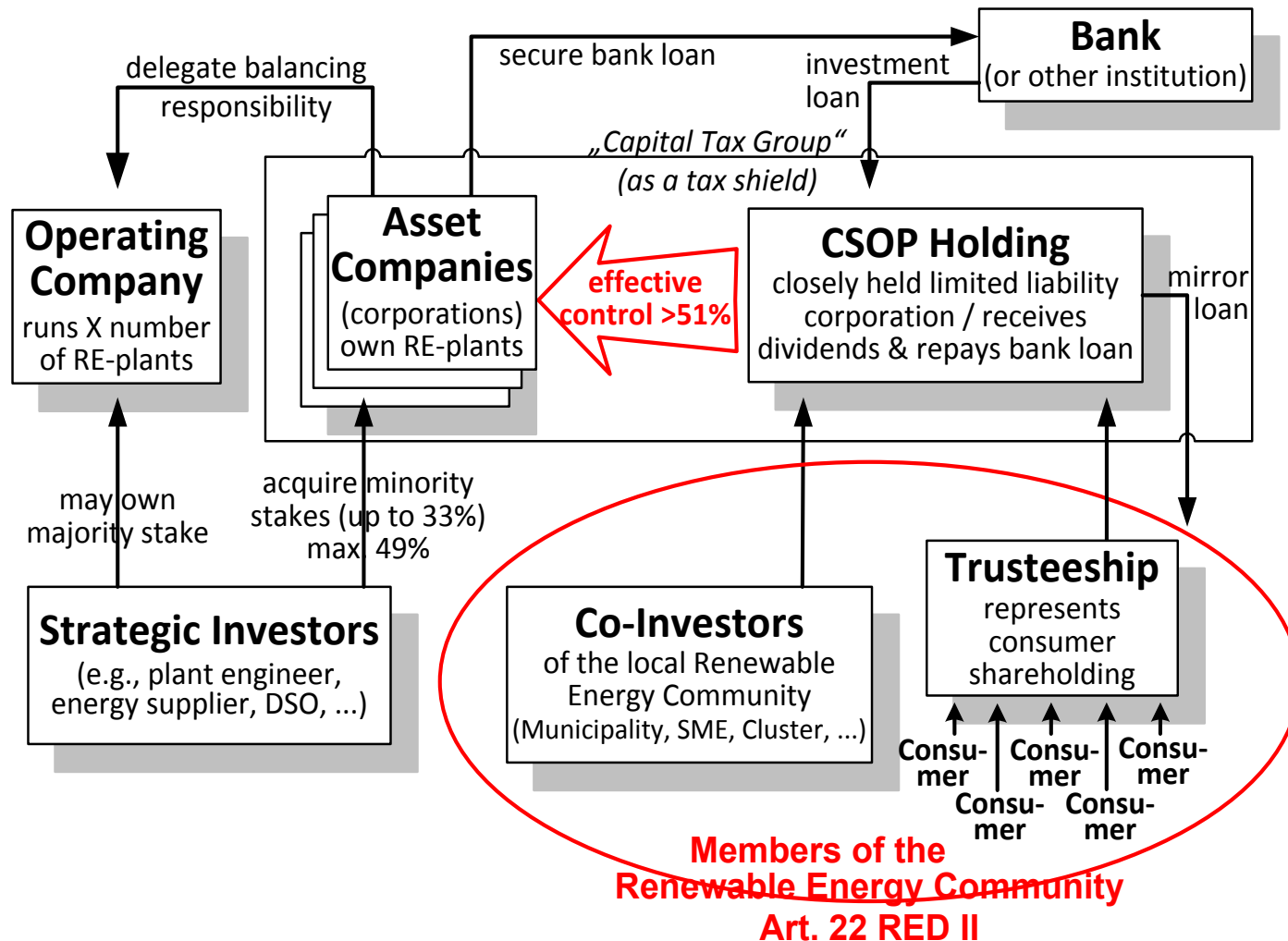
II. CSOP Options under Company Law “Integrating strategic Investor”



- ▶ Strategic investor has short-term interest (only Holding Ltd. liable for acquisition loan)
- ▶ Operating Company & Holding Ltd. may form “Cap.Tax Group” (national tax law permitting)
-> Financing cost of loan lower profits of RE-Plant (repayment of loan with pre-tax money)

III. CSOP Options under Company Law

“Upscaling / Pooling CSOPs”



- ▶ Operating Company runs x RE-CSOP projects / Asset Company owns RE-plant of CSOP
- ▶ Strategic investor(s) with differing short-/long-term interest (management / capital investment / electricity storage / demand response / DSO operating micro grid / etc.)

Recommendations to National Legislators for RED II Transposition

Recognising the Challenges of RE Clusters in New Energy Systems

- > With decreasing storage cost & increasing demand for local flexibility, community energy storage systems will become increasingly important;
- > The new European regulatory framework does not sufficiently encourage, or in places even inadvertently discourages, complementarity of RES;
- > The question of operating & managing electricity networks, esp. grid ownership of energy communities both RECs and CECs remains a thorny issue;
- > We observe a lack of concrete proposals in view to facilitate participation of low-income households and vulnerable consumers.

Spelling out the “Enabling Framework” for RECs

- > Elasticity with regard to eligibility requirements of proximity of shareholders;
- > When delegating balancing responsibility to professionals or pooling it for RECs the “enabling framework” should account for increased costs of pioneering RE clusters;
- > For Energy Sharing in RECs network fees should be reduced in proportion to the actual distances in order to maintain the benefits of prosumership in RECs;
- > “Regulatory Sandboxes” (time limited real-world testing environments) needed.

18 Country Studies & a comparative analysis

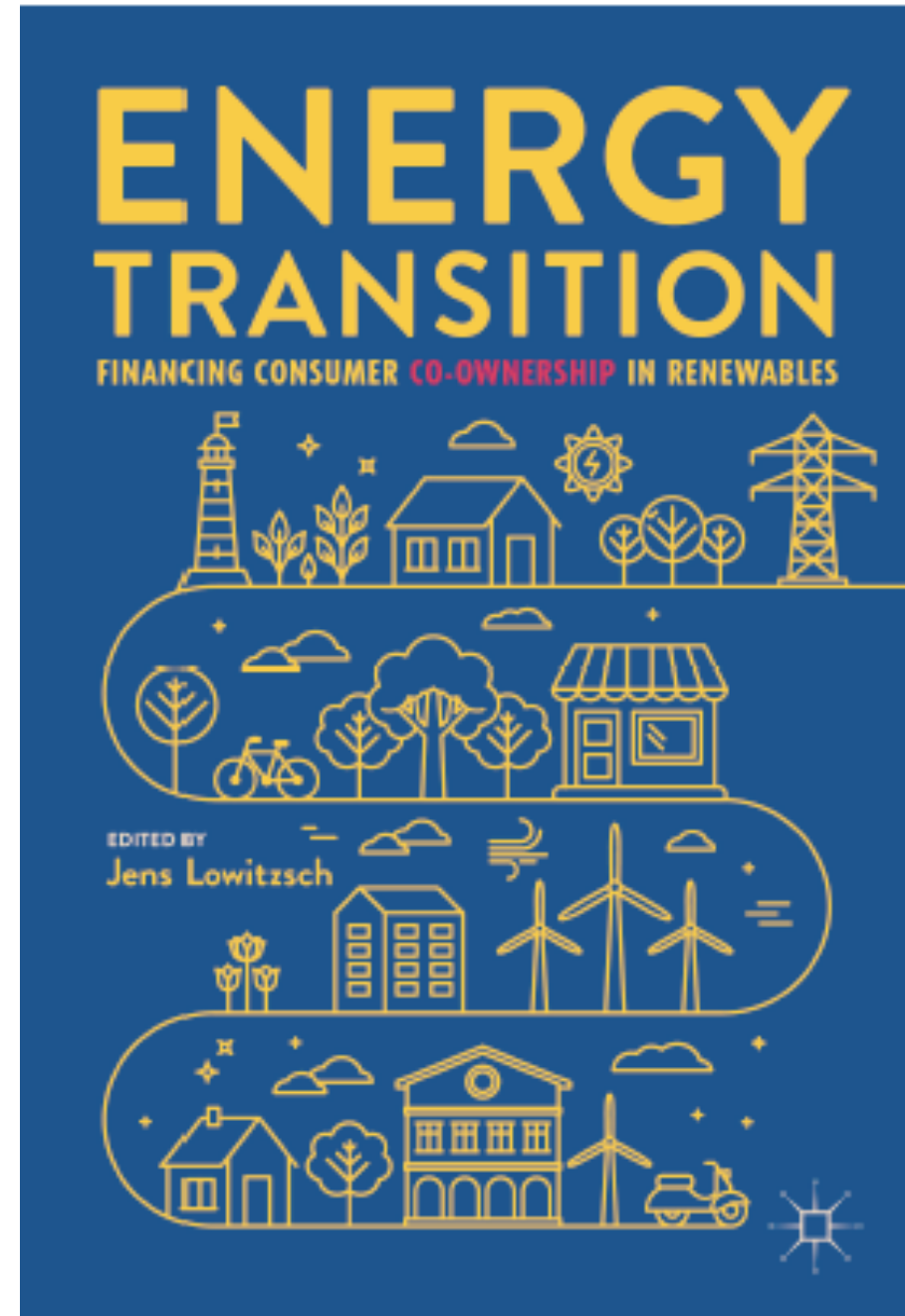
Palgrave/McMillan 2019

Part I. Rationale for consumer ownership in renewable energies

Part II. Consumer (co-)ownership – Conventional models and Consumer Stock Ownership Plans

Part III. Consumer (co-)ownership in renewable energies in 18 selected countries

Part IV. Summary of the results and their implications for policy-making



Structure of country reports:

- **Introduction**
Energy mix / Challenges, targets, policy goals / RE Ownership structure
- **The consumer at the heart of the energy market?**
Consumer (co-)ownership in RE as policy goal / Energy poverty
- **Regulatory framework for renewable energy**
Connecting to grid / Support policies / Self-consumption & sale to grid
- **Concepts for consumer (co-)ownership in practice**
Corporate vehicles used / Financing conditions / Best practice examples
- **Factors affecting RE financing & barriers to (co-)ownership**
- **Possible future developments and trends**

Disclaimer

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