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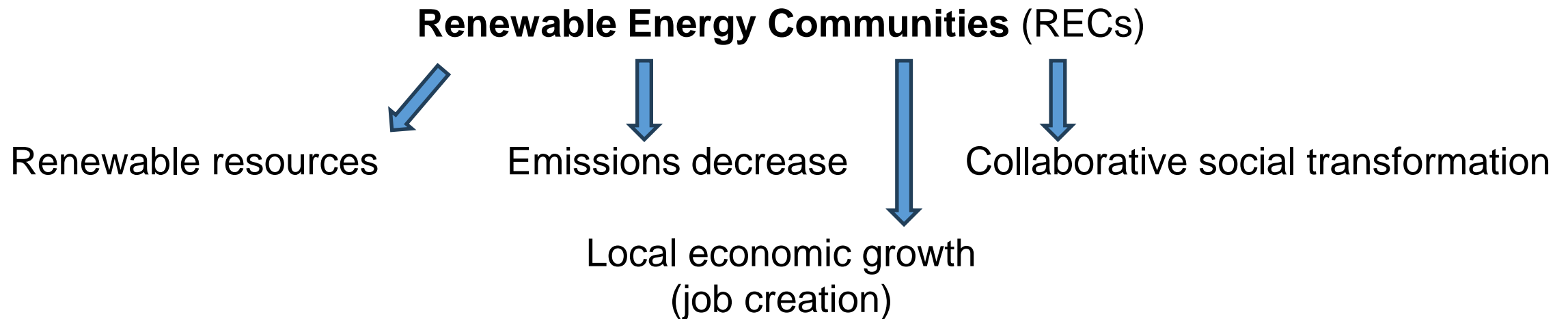
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# Renewable Energy Communities: First analyses on drivers and business models

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Targets by the European Union require that at least 75% of total energy comes from **renewable sources** and 16% of electricity generates in **collective projects** (EU, 2018).

Citizens should be involved in energy consumption, generation, trading and supply for reaching such targets and **energy transition**.



There are two currently legal definitions of Energy Communities in the EU:

- 1- **Citizen Energy Community** (Renewable Energy Directive: RED-II, 2018):  
A legal entity that is based on voluntary and open participation, effectively controlled by shareholders or members who are natural persons, local authorities, including municipalities, or small enterprises, and micro-enterprises.
- 2- **Renewable Energy Community** (Internal Electricity market Directive: IEMD, 2019):  
A legal entity that, in accordance with the applicable national law, is based on open and voluntary participation, autonomous, effectively controlled by shareholders or members that are **located in the proximity** of the renewable energy projects that are owned and developed by that legal entity; the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities.

In RECs contexts, an **innovative** business model should be elaborated because:

- high levels of technologies
- high presence of ICTs
- new market operators (in comparison with traditional ones)
- centred on an original agent: a **prosumer**

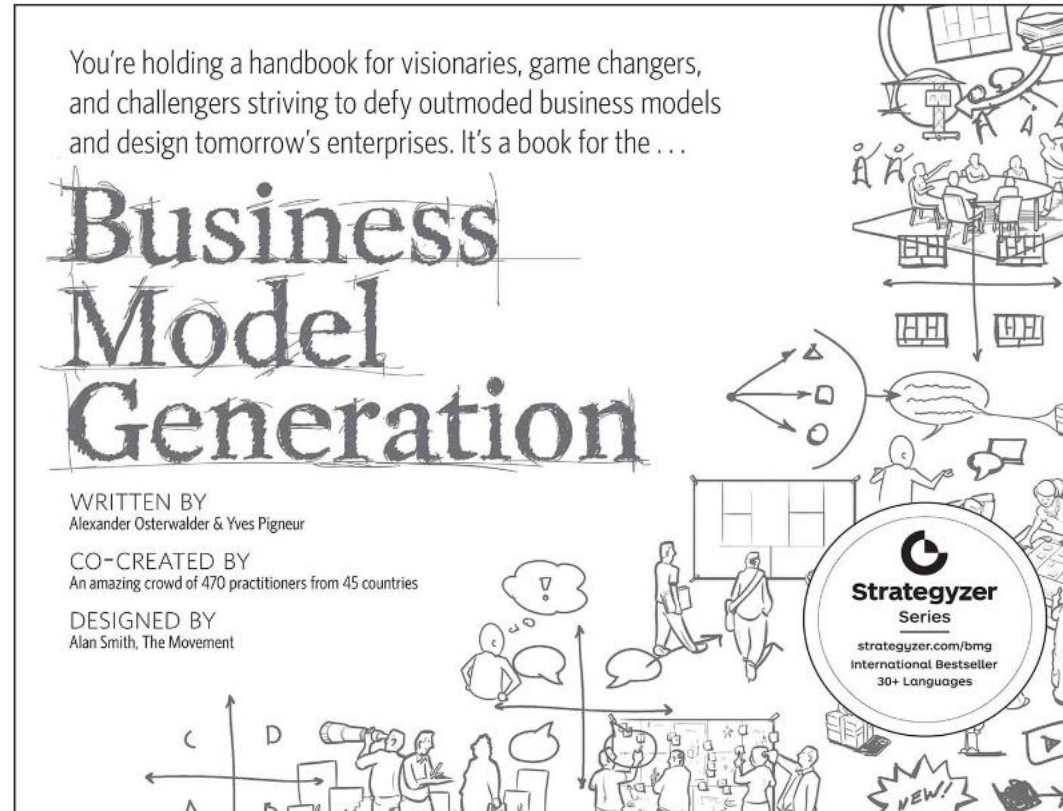
**Value** should be created for members at **different levels** (collective consumers, firms, third parties, etc.)

+ in the **renewable energy sector**, attention should be paid to social, environmental and economic sustainability (and specific material structures of the electricity system).

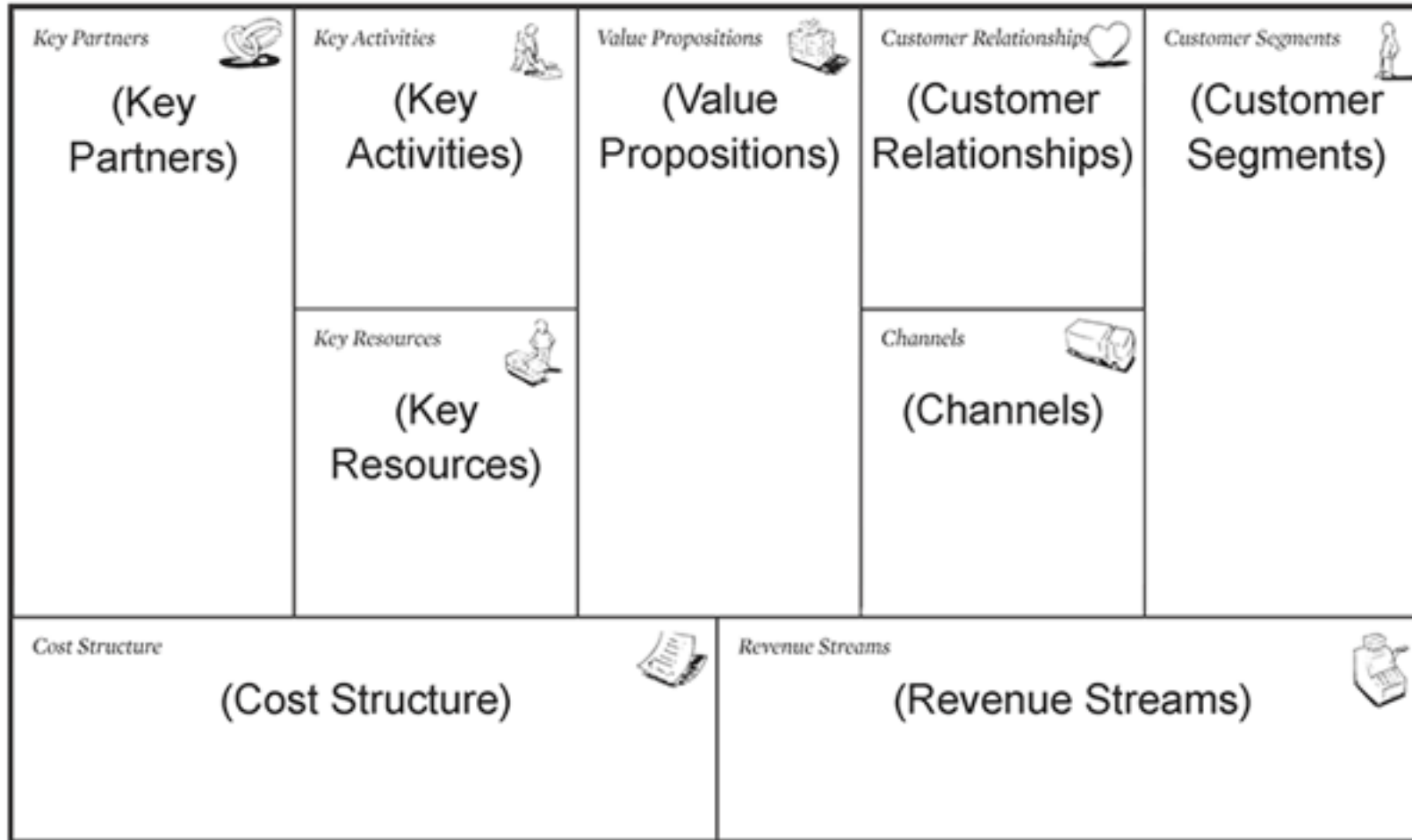


**Innovative and Sustainable Business Model**

Osterwalder and Pigneur (2010) proposed the **Business Model Canvas** to describe how organizations can create, deliver and capture **value**.



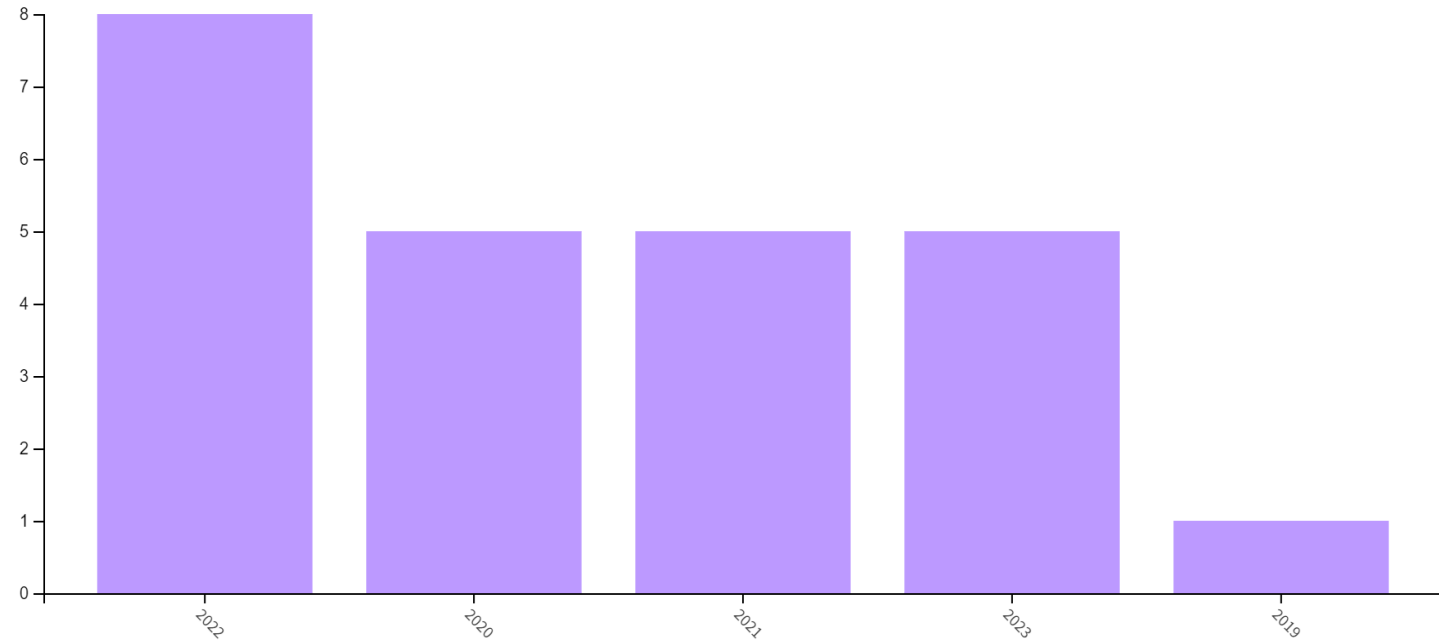
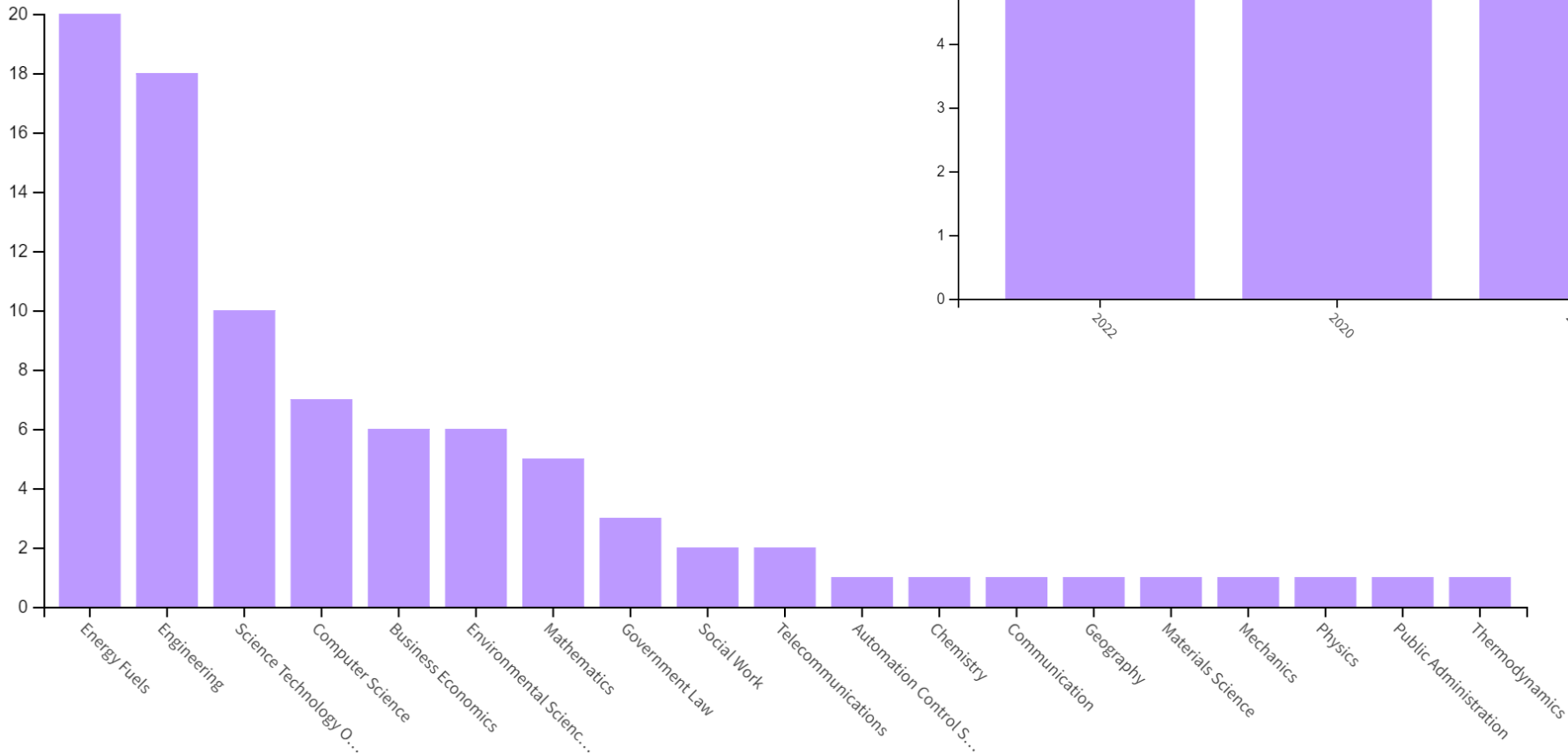
# Business Model Canvas



Source: Osterwalder and Pigneur (2010)

# Business Models + REC's

Search in Topic: Title, Abstract, Indexing  
"Renewable Energy Communit\*"  
+ "Business Model\*"



Source: ISI Web of Knowledge (2023)

- 1- Key Activities:** renewable energy generation and supply; community building; system creation and maintaining.
- 2- Key Resources:** community members; fundings from private/public investors; regulatory framework; material assets; networking skills (e.g., aggregators) and programs.
- 3- Key Partners:** community members; technical and technology providers; external investors; public entities; distribution systems operators; networking agents.
- 4- Cost Structures:** ex-ante feasibility studies; planning; licensing; assets supply and installing; public grid connection; transactions with external entities; system maintaining and training.



**5- Value Proposition:** environmental value; social value; economic value; energy self-sufficiency; cost and responsibilities sharing.

**6- Customer Relationships:** personal and direct contacts.

**7- Customer Segments:** households; firms (e.g., SMEs); public entities.

**8- Channels:** direct (e.g., face-to-face) and indirect (e.g., digital, written) channels; support platforms.

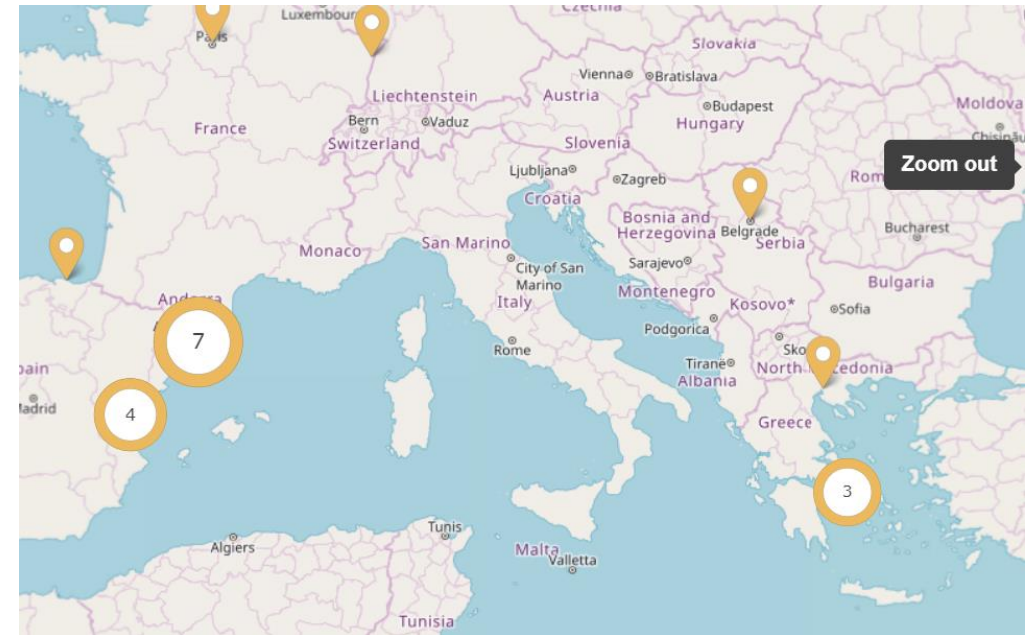
**9- Revenue Streams:** community members' shares; sales to other consumers; sales of energy surplus; fundings by public and private agents.

Testing RECs business models in the Italian case mainly by case study analysis and quantitative analysis (data collected with surveys) to identify business model archetypes... but...

## In Italia ancora i ritardi e ostacoli allo sviluppo delle comunità energetiche rinnovabili



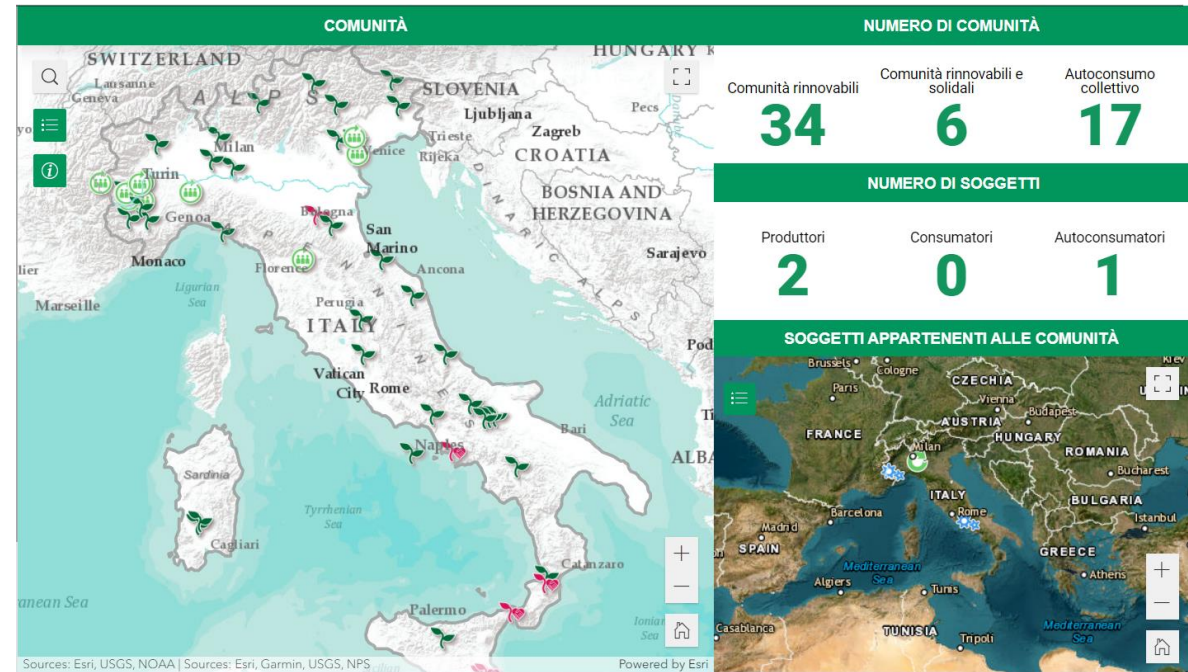
**Nella Penisola sulle 100 comunità energetiche mappate a giugno 2022, solo 16 sono riuscite ad arrivare a completare l'intero iter di attivazione presso il GSE e di queste solo 3 hanno ricevuto i primi incentivi statali.**



Source: Energy Community Repository (2023)

(Renewable) Energy Communities can be interpreted as **place- and interest-based models**, depending if members join due to **geographical proximity** – communities of place - or common interests, goals or passions - communities of interest (Bauwens, 2016),

We started investigating the socio-economic-territorial **determinants** of the emerging of RECs and their related categorization.



Source: Legambiente database (2023)

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