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How to trigger and manage community energy projects: practical examples from Italy

PROSPECT2030 | ènostra | Chiara Brogi

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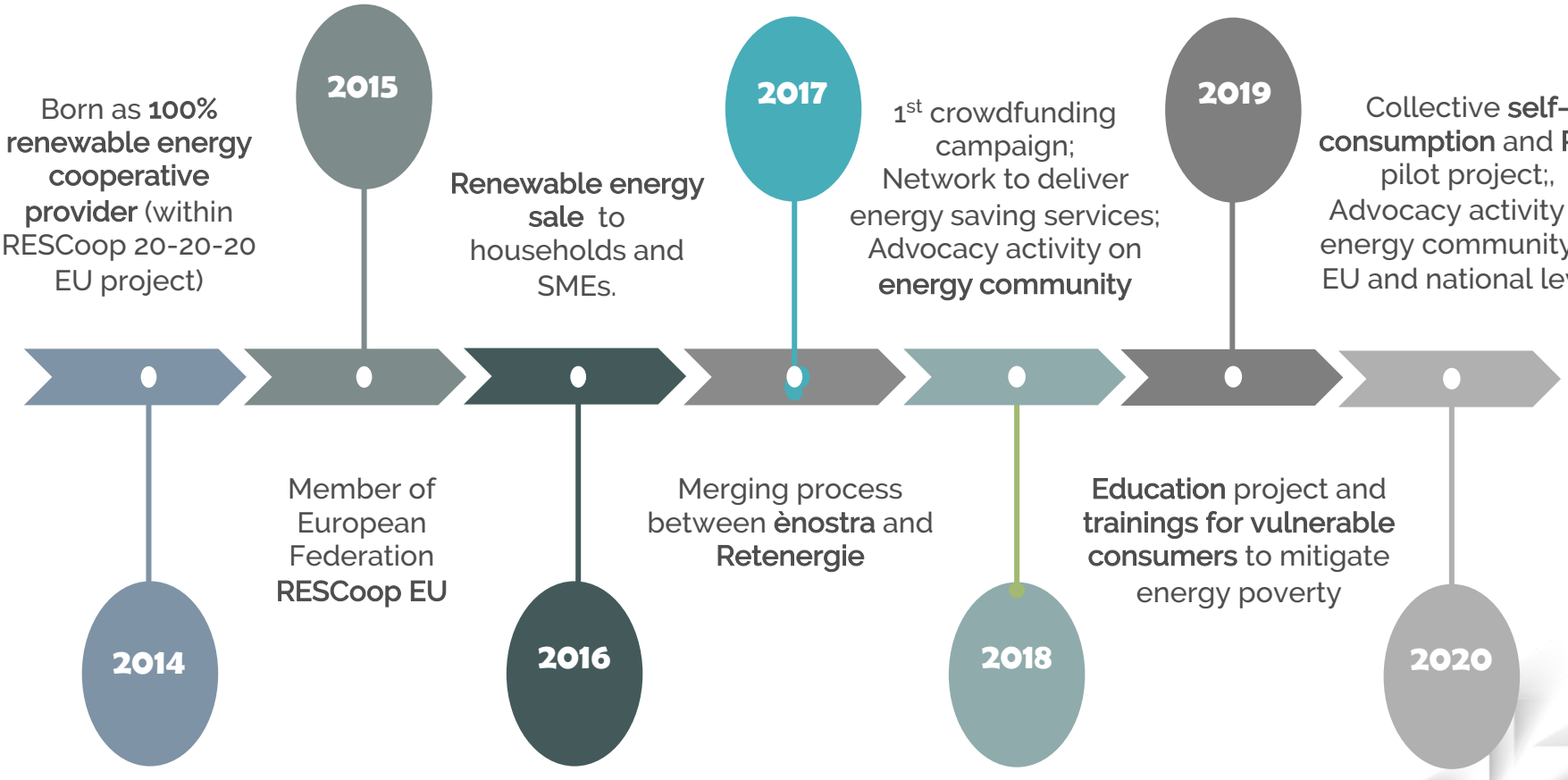
Ènostra's milestones



Ènostra's activities

We product and sale renewable, ethical and sustainable energy

Information service and training to improve awareness and tackling energy poverty

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We aim at increasing renewable energy quote in the national mix and contributing to energy transition involving energy citizen

We provide services and solutions for energy saving

We realize new collective renewable power plants thanks to our members' investments

We activate renewable energy community and collective self consumption configurations

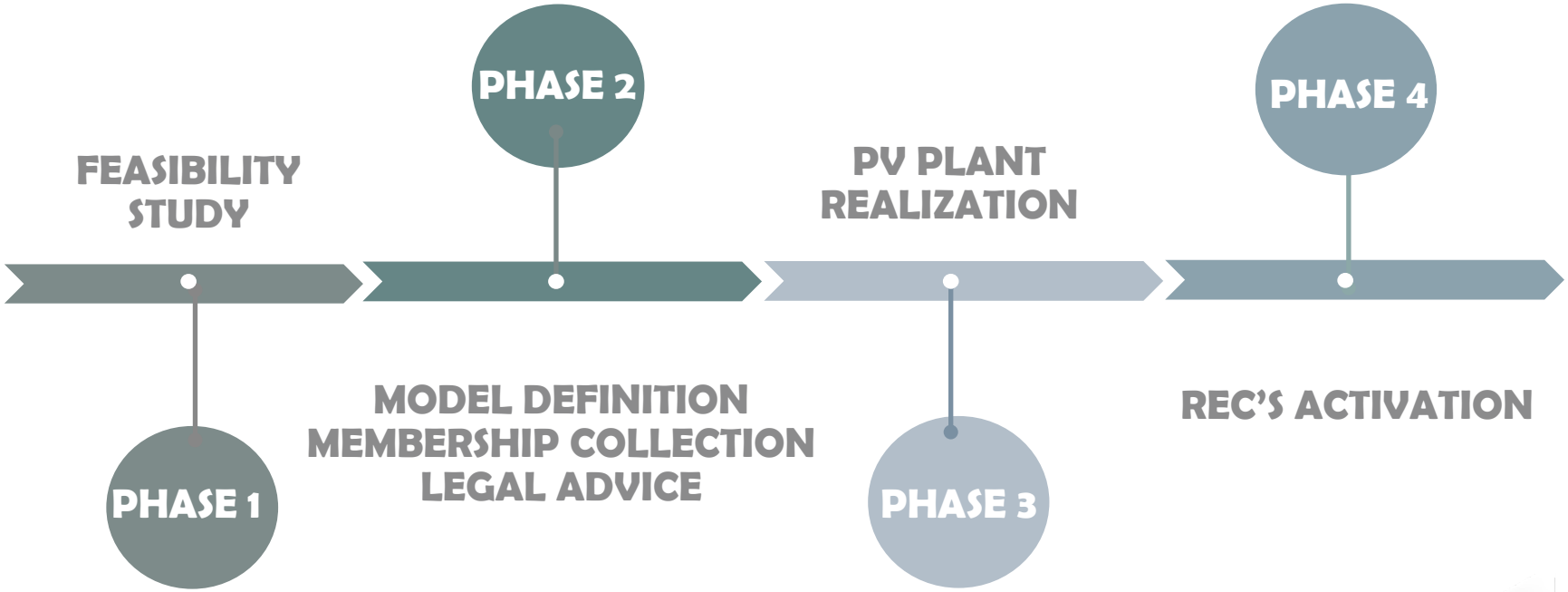
Renewable energy community's technical objectives

- **Promoting energy transition** and instant self-consumption at the local level, in order also to determine positive impacts on the distribution system;
- **Modelling** in-put and off-take of energy in the system, on the base of quarterly consumption data analysis, in order to maximise the instant self-consumption of the renewable energy produced by the PV plant.
- **Allocating costs and benefits** among the different members, on the base of the context and the rules established by the REC's members;
- Gathering real data referring to concrete cases to be shared with the bodies responsible (Arera, Mise, Terna, GSE, RSE, Acquirente Unico ecc.) in order to **support and foster a better REDII's transposition.**

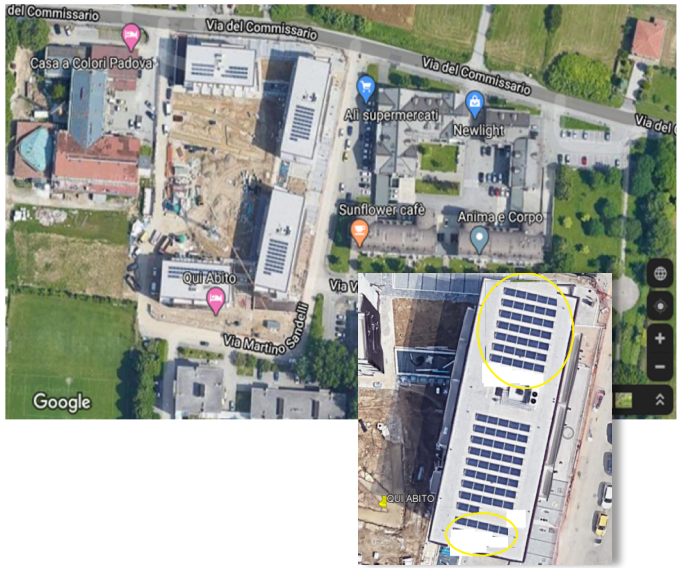
Renewable energy community's social objectives

- Making the energy transition **more desirable and accessible**;
- **Raising awareness** among the community's members on the rational use of energy with the aim to maximise the energy savings;
- Reducing families' energy expenditure, with particular attention to vulnerable consumers, in order to **mitigate energy poverty**;
- Realising a **decentralised production model** in which citizens, SME and local authorities are the **real protagonists** and that meet the need of the territory;
- Building **win-win relationships** among the different stakeholders (Municipality, families, community, etc.);
- Fostering local economy and forming local resources on the energy management in order to create **new working opportunities**;
- Scouting **innovative entrepreneurship models** that involve territories;
- Triggering **collective actions** on sustainable themes in order to revitalise local community and foster inclusions.

Renewable energy community's project phases



AUC's example: Qui Abito



- **Collective Self-consumption project**, selected by RSE
- **4 high efficiency buildings** (tot 84 apartments; centralised heating pump, no gas; owner Fondo immobiliare)
- Each building has a **PV plant** of about **10-12 kWp**
- Under evaluation an additional 19 kWp plant on the available surface of the building where inhabitants were more prone to participate to the collective self-consumption configuration
- We are going to install **devices** to monitor production and consumption

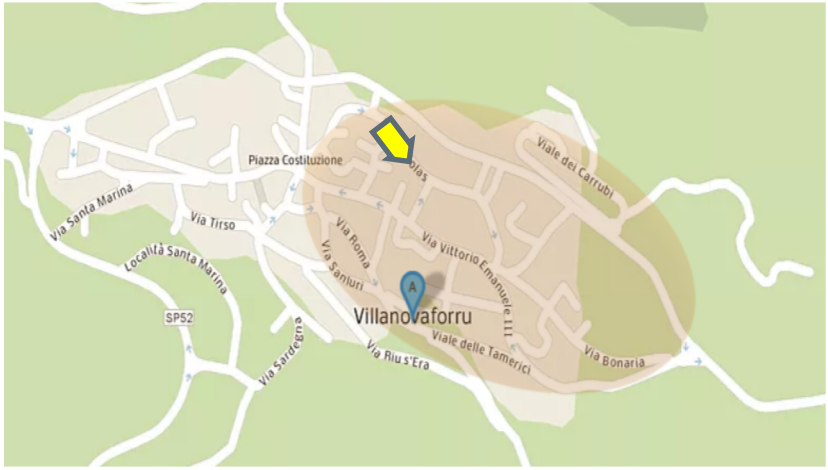
AUC's example: Qui Abito

- **January 2020**, we presented the project to the social housers and we collected around **60 expressions of interest.**
- **September 2020**, we organised a **launch event** in order to explain the objectives and the various phases of the project in which the social housers will be involved.
- In that occasion, we handed out a **questionnaire** in order to collect consumption and behavioural data, needed for RSE' study and analysis.
- Finally, at the end of this first engagement phase, we opened **information desks** in order to help the social housers to properly fill in the questionnaire and to answer to possible doubts and questions.

REC's example: Villanovaforru

- Small village (about 680 inhabitants) up on the hills of Medio Campidano, Sud Sardegna;
- The Municipality's objective: reducing families and SME's energy bills that participate to the REC by handling the investment

REC's example: Villanovaforru



- Chosen site for the PV plant: **the school gym**
- Energy transformation cabin serves about **160 POD**
- Average annual producibility (for 20 yrs): **1.265 kWh/kWp**
- REC's potential members: **about 50**
- Information desk: collected **45 pre-accessions**

REC's example: Villanovaforru

RIEPILOGO COSTI E RICAVI ANNUI	COMUNE DI VILLANOVAFORRU	MEMBRI CER
Risparmio autoconsumo POD allacciato	503 €	- €
Tariffa premio GSE	- €	7.176 €
RID	- €	3.151 €
Esenzione componenti ARERA		536 €
TOT RICAVI	**- €**	**10.864 €**
Costo impianto	**96.651 €**	
Opex	**- €**	**- €**
Tot benefici €/MWh di energia prodotta e condivisa	- €	**166,5 €**
Tot benefici medi stimati uso domestico	- €	149,5 €

RIEPILOGO COSTI E RICAVI ANNUI	COMUNE DI VILLANOVAFORRU	MEMBRI CER
Risparmio autoconsumo POD allacciato	503 €	- €
Tariffa premio GSE	- €	7.176 €
RID	- €	3.151 €
Esenzione componenti ARERA		536 €
TOT RICAVI	**- €**	**10.864 €**
Costo impianto	**96.651 €**	
Opex	**- €**	**2.273 €**
Tot benefici €/MWh di energia prodotta e condivisa	- €	**131,7 €**
Tot benefici medi stimati uso domestico	- €	118,2 €

- 94% available energy for virtual self-consumption (6% gym self-consumption)
- 160-130 €/MWh overall benefit meant for REC's members (net of estimated operational costs)

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Criticalities - things to improve

- The proximity criteria (L/MW energy transformation cabin) should be reconsider as it limits the expansion of RECs and it makes them inefficient;
- It is important to well define the flux of information among the different bodies responsible;
- It is important to include local entities that are so far excluded, in order to widen participation, as long as they are owner of the consumption unit that is participating to the configuration;
- New regional law are needed in order to facilitate RECs activations by providing economic resources without bureaucratic burdens.

Opportunities

- **Renewables Energy Communities** can be seen as a reliable mitigation strategy within the SEAPs
- They can increase awareness on the energy use in a local community
- They can also activate collective actions and interaction among its members, and in this way, the use of energy becomes a pretext to engage citizens on commons and to revitalise local communities;
- They help building up mutual benefit relationships among stakeholders through a win-win strategy.
- They can be implemented in order to mitigate energy poverty
- They help building up a new decentralised and democratised energy system

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