



CENTRO DI RICERCA
INTERDISCIPLINARE TERRITORIO
EDILIZIA RESTAURO AMBIENTE CITERA



SAPIENZA
UNIVERSITÀ DI ROMA

Rome Pilot

Scenarios for community and Business Model

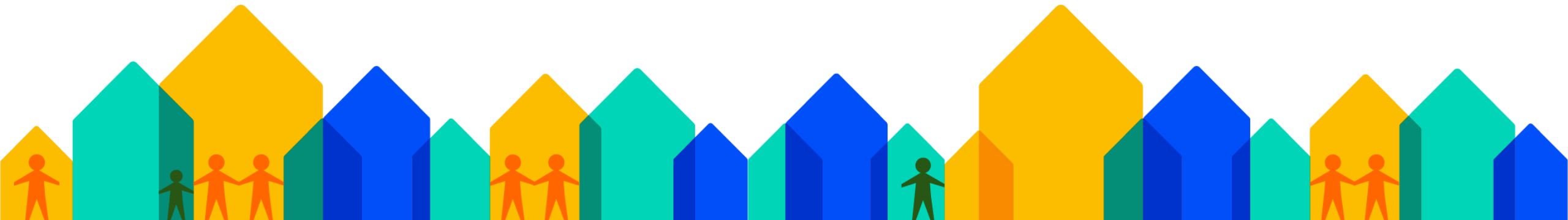
20.June.2023

Patrick Maurelli – Sapienza CITERA

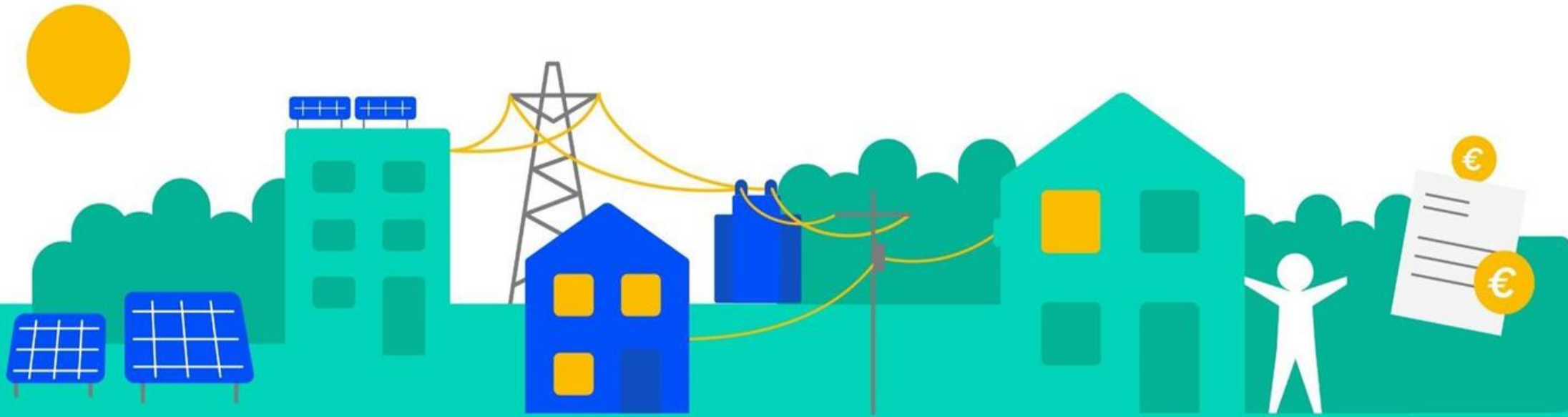
POWER UP exchange session



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Horizon 2020 research and
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The Sun4All support scheme



Solar energy is generated by local photovoltaic installations, owned by the municipality and located near to where eligible participants live

Depending on the pilot use case, the renewable solar energy is either provided for direct consumption by Sun4All beneficiaries or fed into the local power grid

Sun4All beneficiaries continue to get electricity as usual, with no need to install or maintain solar panels

Through the financial support scheme and its redistribution mechanism, Sun4All participants financially benefit from the renewable energy produced and its value

Scope of Rome Pilot

The Rome pilot intends to strengthen the model of **Renewable Energy Communities for Solidarity (RECS)** that can be inclusive of vulnerable and energy-poor households.

Selecting 200 beneficiaries households to engage in a **participatory process focusing:**

- **energy transitions concepts discussed in WORKSHOPS**
- **individual energy advices**
- **the benefits** coming from the energy sharing scheme of the RECS

is the starting point for breaking down the barriers to integrating them into the REC model.



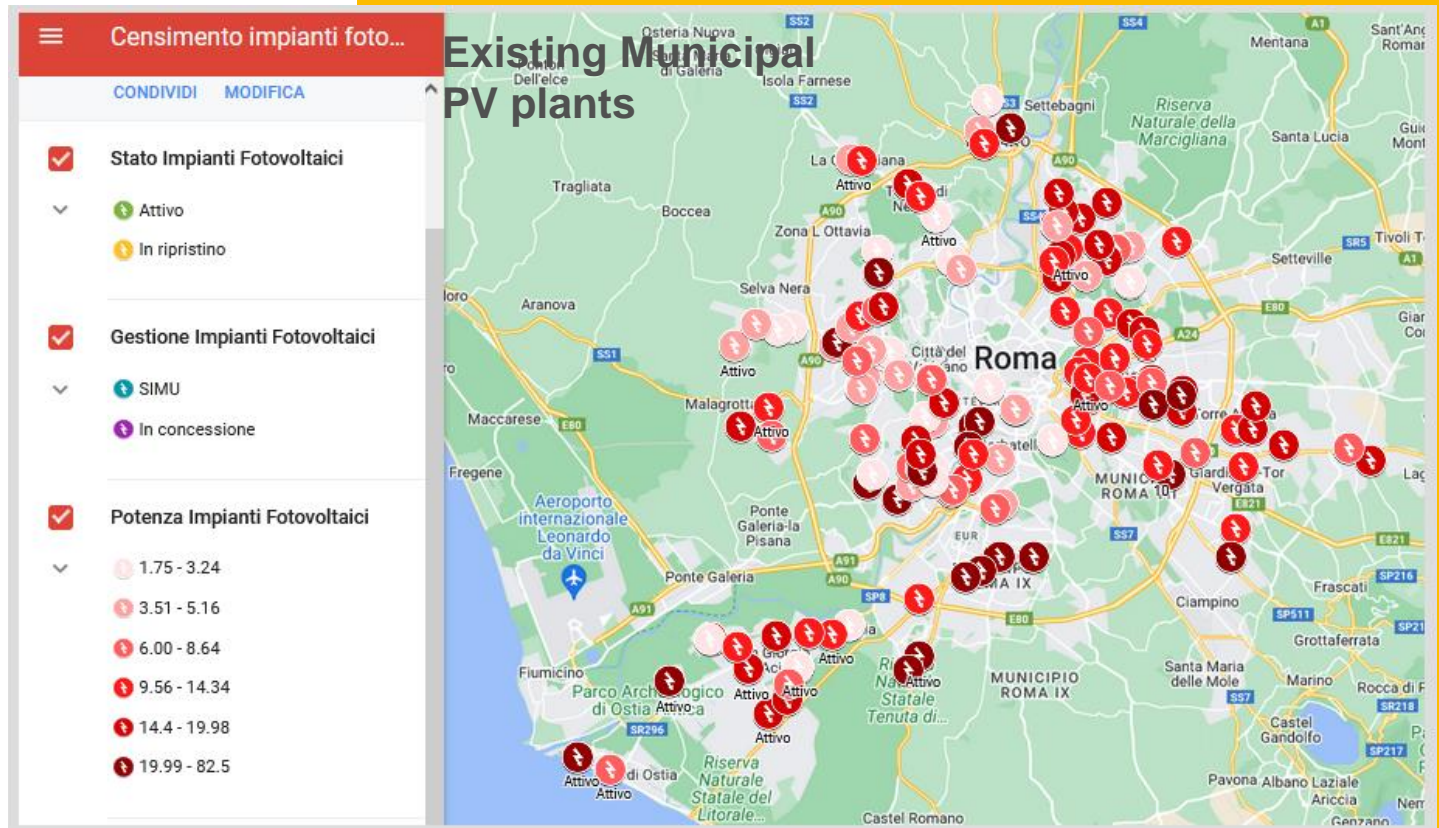
Scope of Rome Pilot

The Rome pilot will use the municipality owned PV plants already working on the many school roofs to simulate the innovative scheme of **Renewable Energy Communities for Solidarity (RECS)**.

The energy and the public incentives generated by these plants will be associated to the community-groups enabled in Sun4all.

Each community adopts one PV plant proportioned to the dimension of the group.

Both energy PV productions and families consumptions will be monitored.



Rome pilot overview – beneficiaries selection

Roma Capitale selected (September-November 2022) 267 households in energy poverty as beneficiaries of the Sun4All project.

→ the Engagement Target is 200 (100 + 100 in two phases)

Each beneficiary will receive a 200€ value benefit in 12 months of participation process.

They have been organized in clusters to form 12 RECS (Solidarity Renewable Energy Communities), each adopting the photovoltaic plants in proximity and already in operation on the schools to simulate RECS.

→ the Target is to launch 10 RECS by the end of the project

1st
Phase

The current phase of the pilot will finish by **30th November 2023** the engagement plan for 5(6) Communities involving 100 vulnerable families.

2nd
Phase

In the second phase other 5(6) Communities will be activated involving further 100 households. **2nd phase will start in July 2023 and finish by 30th June 2024.**

Energy Poverty GIS Based Analysis

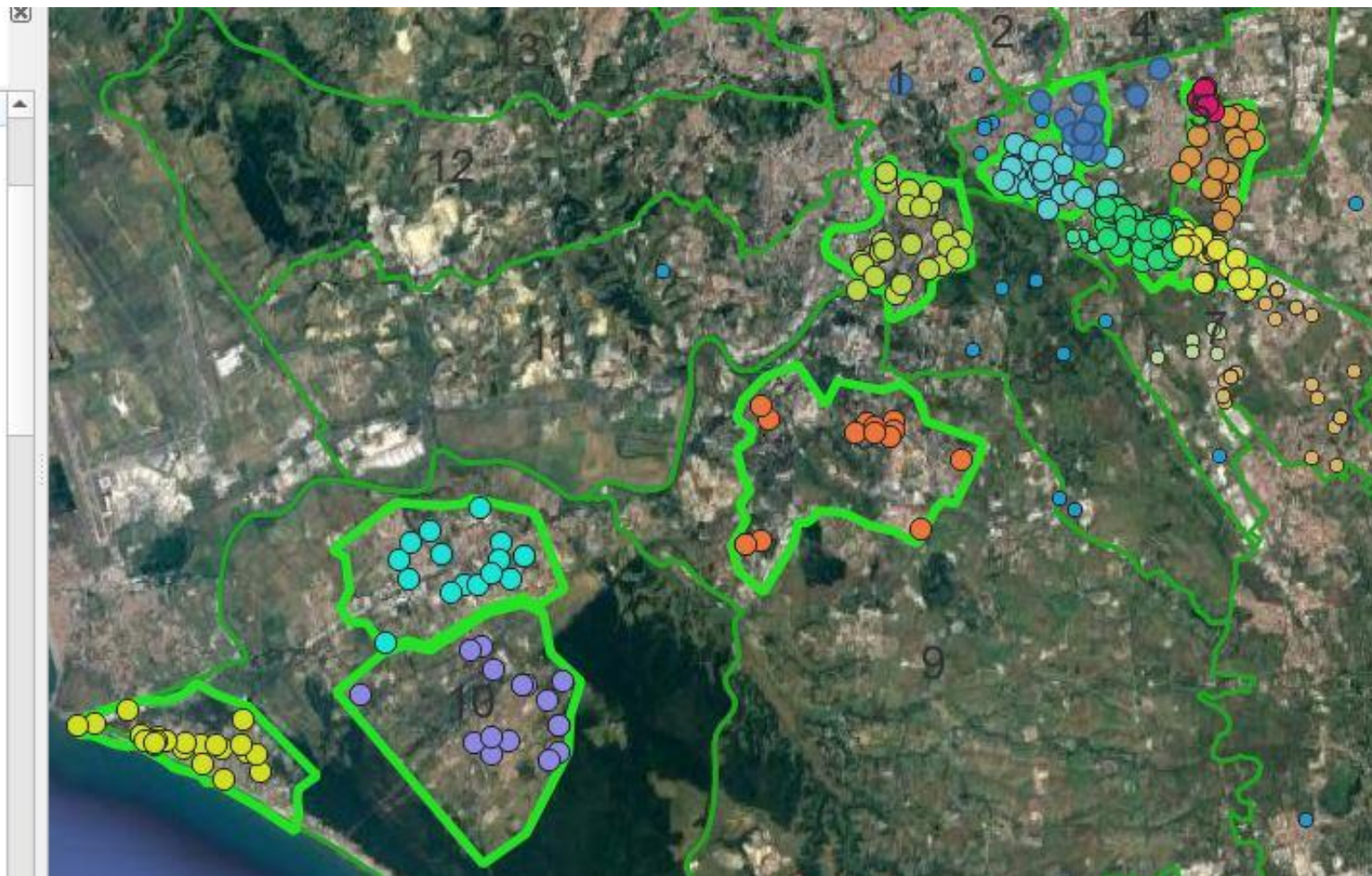


Selection process was preceded by a phase of GIS-based analysis of the phenomenon of energy poverty in the city. Mainly based on the spatial distribution of families already beneficiaries of the *Energy Bonus* state economic support, it gives the picture of the areas where to focus the Sun4All actions.

Rome pilot overview

From 14 clusters to 11 CERS perimeters

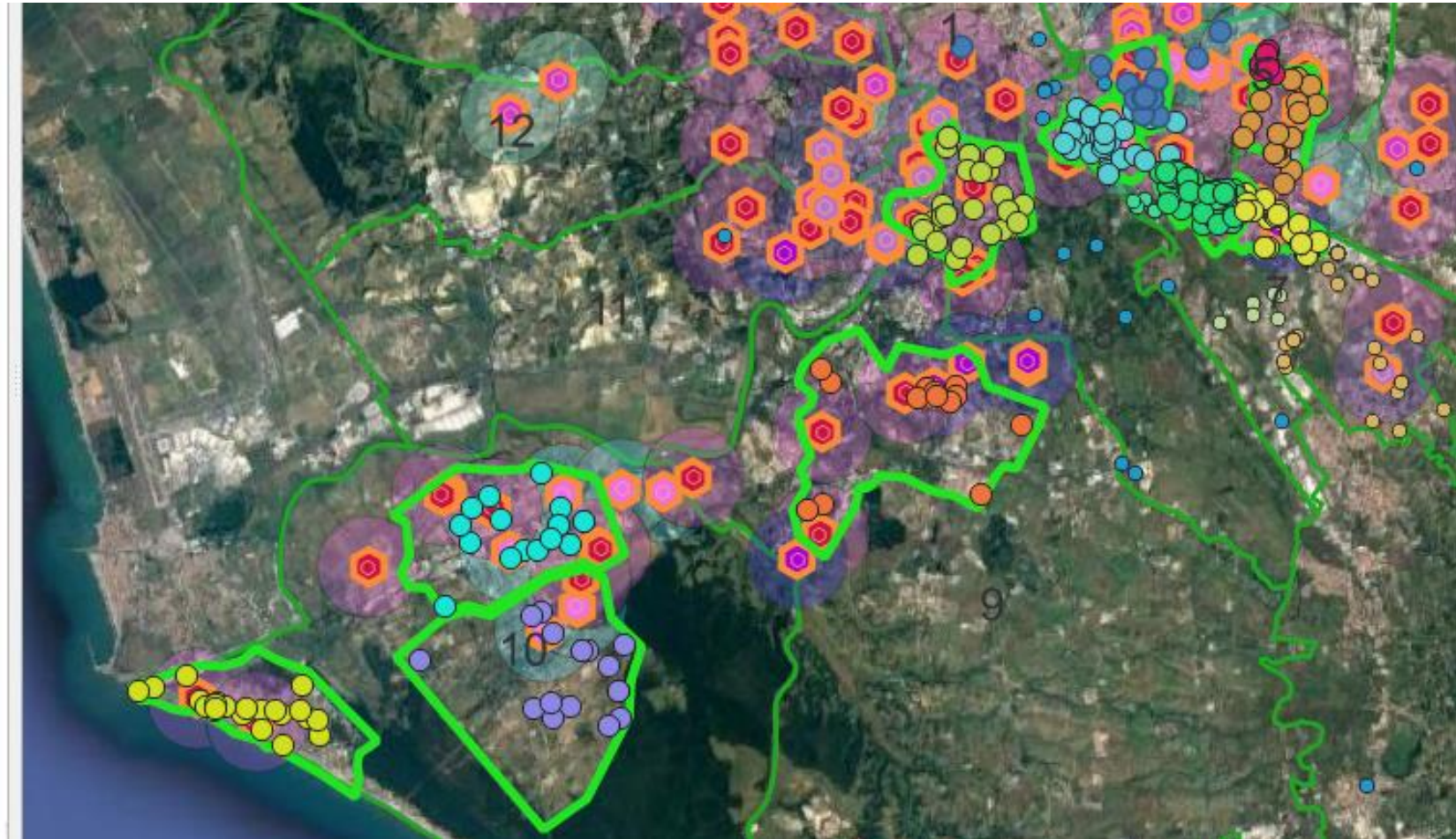
- Beneficiari_592_Aggiornato
- Beneficiari_662_aggiornato_18GENNAIO2023
 - ACILIA
 - ALTRE ZONE
 - CINECITTA
 - DON BOSCO - QUADRARO
 - FURIO CAMILLO - TOR PIGNATTARA
 - INFERNETTO
 - LAURENTINO - SPINACETO
 - MORENA - ROMANINA - GREGNA S.A.
 - MUNICIPIO 8 - GARBATELLA
 - OSTERIA DEL CURATO
 - OSTIA
 - QUARTICCIOLO
 - TOR FISCALE
 - TOR PIGNATTARA
 - TOR TRE TESTE
- Beneficiari_662_CERS-Name
- CERS_perimetri



The Selection process by **ROMA CAPITALE (Dept. Solcial Policy)**: From the initial 662 households in 14 clusters then to 267 households in 11 CERS perimeters, assessed in terms of feasibility. The target is to aggregate and engage 10 Groups x 20 vulnerable families, in two phases, 100 + 100.

Rome pilot overview

- CERS_perimetri
- Fotovoltaici_Roma_Capitale
- impianti_FV_Altri_Roma_PV-PLANTS*
- impianti_FV_154_export-PV-PLANTS*
 - BESOLAR
 - Cofely
 - Regione Lazio
 - SIMU
 - SIRAM
- BUFFER1300mt_impianti_FV_154_export
 - BESOLAR
 - Cofely
 - Regione Lazio
 - SIMU
 - SIRAM



The 154 PV plants owned by the municipality.

17 PV plants are associated to the S4A RECS. Criteria: Proximity, Peak Power / Energy, School roof, fully operational, accessible for visits, preference for O&M with concessionary

Work package/pilot overview

SCHOOL NAME	YEAR BUILT	ADDRESS	Municipio	Conto_Energia INCENTIVES	S4A Commu nities	potential beneficiaries (n households)	kWp	moduli	inverters	estimated yearly production (kWh)
Ist Compr Manzi	2013	Via Del Pigneto 301	5	4	c2	21	10,56	n. 44 da 240W	n. 2	13728
Scuola Via Torre Annunziata	2013	Via Torre Annunziata 12	5	4	c11	17	8,64	n. 36 da 240W	n. 2	11232
Ist Compr Via Anagni	2013	Via Anagni 48	5	4	c7	21	10,56	n. 44 da 240W	n. 2	13728
Ist Compr Via Pirotta	2013	Via P. Romualdo Pirotta 95/A	5	4	c1	29	14,4	n. 60 da 240W	n. 3	18720
Ist Compr Via Pirotta	2013	Via P. Romualdo Pirotta 95	5	4	c1	11	5,28	n. 22 da 240W	n. 1	6864
Ist Comp Via Casale Del Finocchio	2013	Via Del Casale Del Finocchio 56	6	4	c3	36	18,24	n. 76 da 240W	n. 3	23712
Scuola M. Amulio	2013	Via Amulio 4	7	4	c8	23	11,472	n. 48 da 239W	n. 1	14914
IC C. Battisti	2009	Piazza Damiano Sauli 1	8	2	c13	10	4,84	n.22 da 220W	n. 1	6292
Asilo Nido Monelli	2010	Via G. Casalinuovo 32	8	2	c13	8	4,025	n. 23 da 175W	n. 2	5233
Sede Municipio VIII	2011	Via Benedetto Croce 50	8	3	c13	11	5,32	n. 24 da 220W	n. 3	6916
Primary School	2009	Via Salvatore Pincherle, 142	8	2	c12	24	11,88	n. 64 da 185W	n. 6	15444
Plesso Renzini	2009	Via Augusto Renzini, 48	9	SSP	c10	40	20,13	n. 122 da 165W	n. 6	26169
Scuola E. Ghiglia	2013	Via Oscar Ghiglia	10	4	c4	38	19,12	n. 80 da 239W	n. 1	24856
Scuola Felce	2013	Via Della Felce 19	10	4	c5	38	19,12	n. 80 da 239W	n. 1	24856
Scuola Herzl	2013	Via Theodor Herzl 51	10	4	c6	38	19,12	n. 80 da 239W	n. 1	24856
Scuola E. Dragone	2013	Via Di Dragone 404	10	4	c9	38	19,12	n. 80 da 239W	n. 1	24856
Scuola M. Dragone	2013	Via Di Dragone 405	10	4	c9	38	19,12	n. 80 da 239W	n. 1	24856
					13	442	220,95			287231

The PV plants:

Within each cluster perimeters there are municipal owned PV plants.

REC simulation:

On the basis of the peak power and of the yearly energy production, PV plants are assigned to each RECS granting more than 0,5 kWp/househ.



Progress update

CASE 1

Selezione degli impianti:

FV_S4A_CER-TP

SCHOOL:

Istituto Comprensivo
via Torre Annunziata
District V

n.1 plants:
8,64 kWp

+ new PV
plant
S.Barnaba

built: 2013

RECS 01+02:

37 Engaged
beneficiaries

← Scuola Via Torre Annunziata

nome

Scuola Via Torre Annunziata

Anno

2013

Indirizzo

Via Torre Annunziata 12



Municipio

5.0

Codice_POD

IT002E3643600A

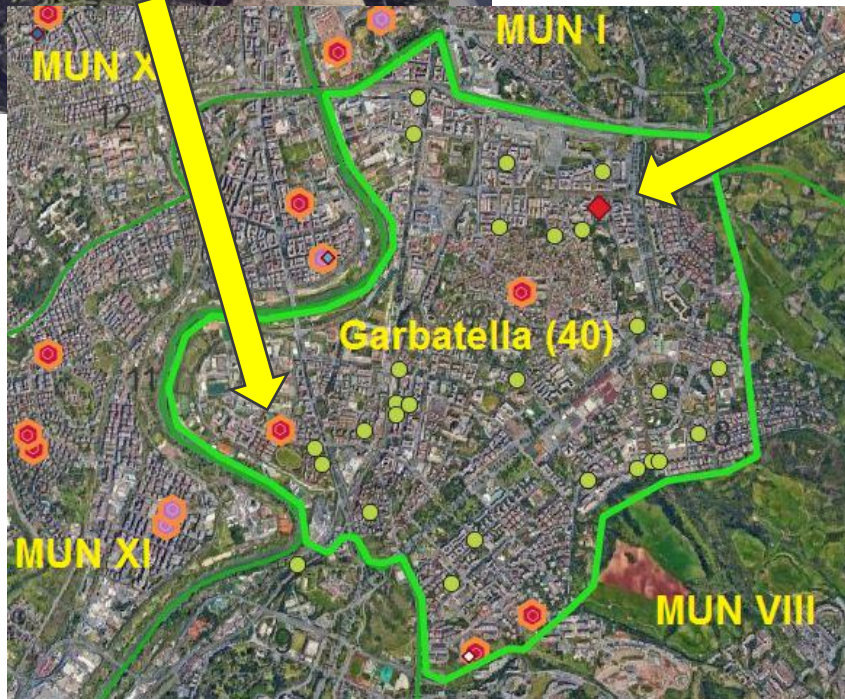


Nota: L'area di Tor Pignattara è oggi investita da una iniziativa di contrasto all'Energy Poverty che vede il coinvolgimento attivo di FEDERCONSUMATORI e di Banco dell'Energia, volta a supportare 37 famiglie vulnerabili nonché a promuovere un percorso di costruzione di una Comunità dell'Energia Rinnovabile (CER). **Local Church is investing in New PV plant.**



Progress update - CASE 2

RECS in Garbatella (District VIII) – District authority invests on a new PV plant



Local association and school support S4A initiative:

Beneficiaries and Other citizen (not in Energy Poverty) will share same the community.
Other local actors could invest to expand the RECS.

Progress update

CASE 3

Selezione degli impianti:

FV_S4A_RECS_03

SCHOOL:

Plesso scolastico

via R. Pirotta

District V - Quarticciolo

n.2 plants (19,7 kWp):

14,4 kWp

5,3 kWp

built: 2013

RECS 03:

40 potential beneficiaries



NOTA: L'edificio scolastico è investito anche da un altro progetto (Platoon – H2020) volto al monitoraggio dei flussi energetici dell'immobile. Ciò faciliterà la misurazione della produzione eccedente l'autoconsumo da destinare alla CER. Numerosi impianti FV sono già presenti sui tetti delle abitazioni limitrofe → **enlargement of the RECS.**



Progress update

The Rome Pilot REC(S) model

Monitoring:

PV energy production

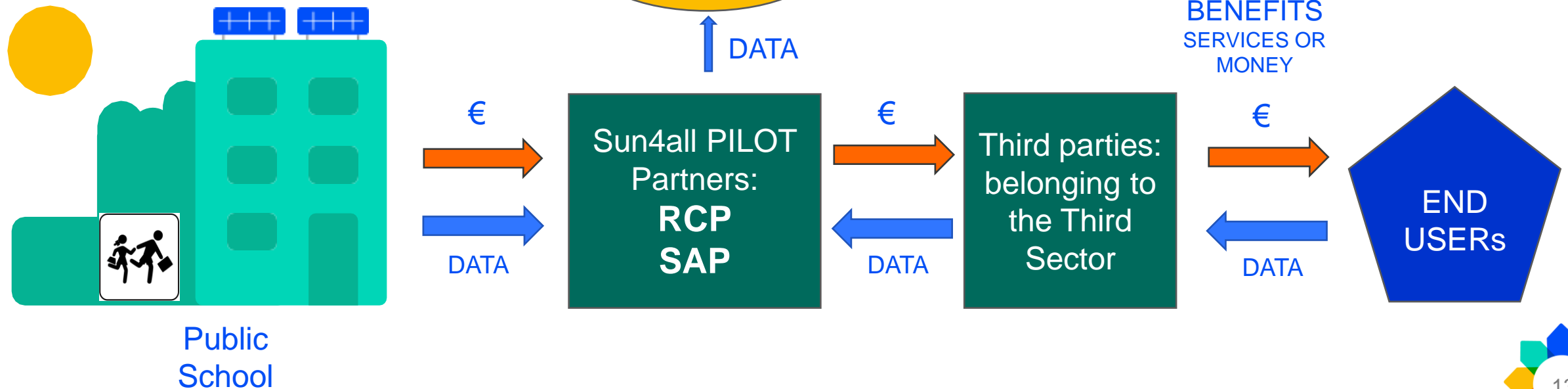
Households consumptions

1st pilot phase

100 benefits x 200 € = 20.000€

2nd pilot phase

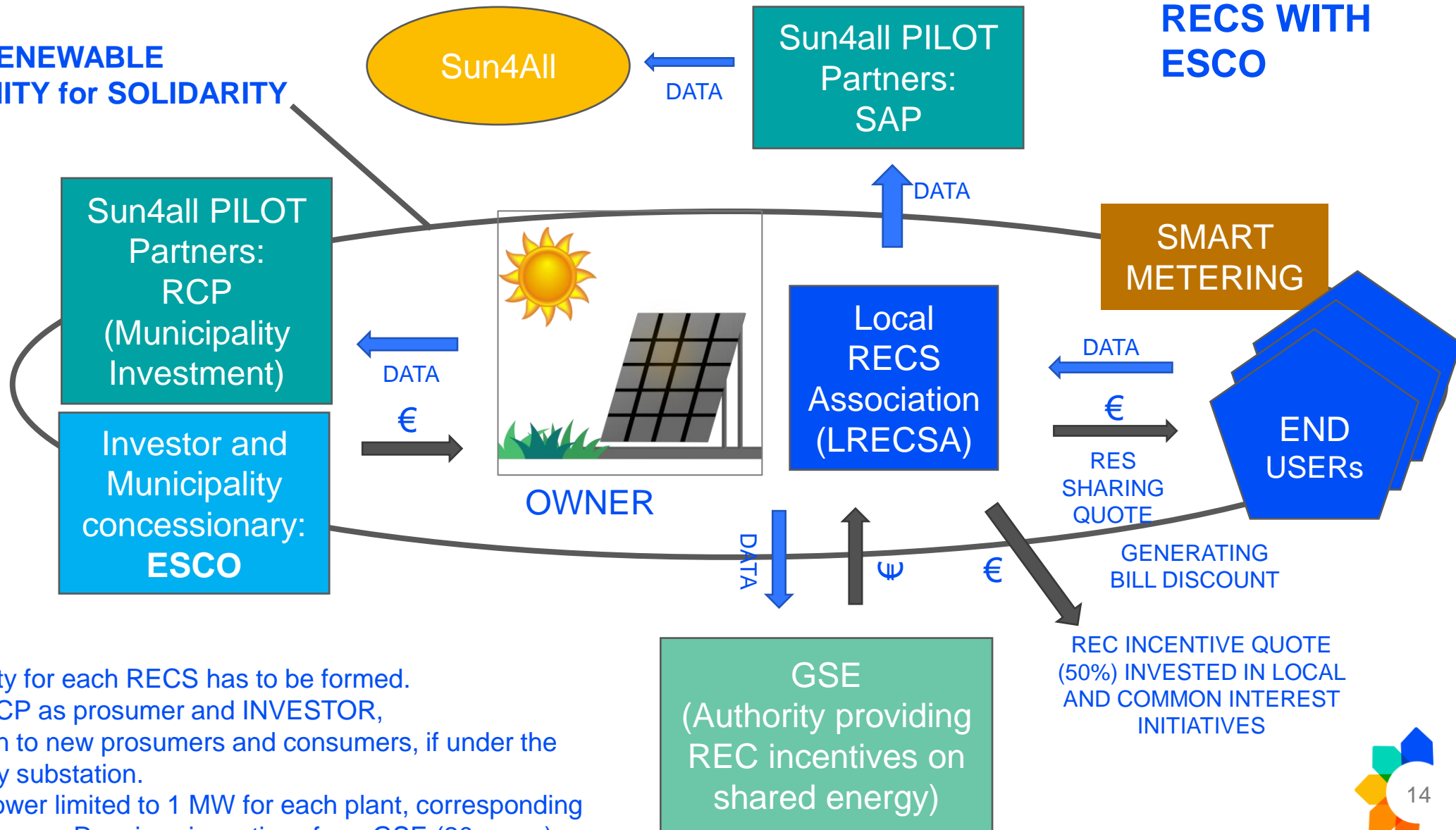
100 benefits x 200 € = 20.000€



Main challenge → innovative RECS scheme

2nd phase :
**FORMAL
RECS WITH
ESCO**

**RECS : RENEWABLE
ENERGY COMMUNITY for SOLIDARITY**



NOTA: LRECSA:
A formal entity for each RECS has to be formed.
It includes RCP as prosumer and INVESTOR,
Must be open to new prosumers and consumers, if under the
same primary substation.
RES peak power limited to 1 MW for each plant, corresponding
to 250 consumers. Receives incentives from GSE (20 years).

Final Considerations

- **REC for Solidarity** needs a public investment on PV plants or the involvement of a third party financing accepting the benefit purpose of the RECS. ESCOs can be interested to participate with a PBT of 10 years but the volume of the investment has to be large enough, therefore aggregating several RECS operations can be the solution to enforce and enlarge the model.
- **The Workshops, the Trainings, the Individual Energy Advices, the PV visits and all interactions within the community represent a crucial aspect** to be developed or supported in order to accelerate the enabling of the RECS and to integrate the energy transition topics: energy savings, renewables and energy justice.
- **Test beds are really important.** REC for Solidarity represent a social and technical innovation that need to be simulated with the beneficiaries. These participated simulations with real community-groups produce empowerment and awareness.
- The **grassroot associations** that already work in the city, near to the citizens, have a relevant role aggregating vulnerable families, integrating these groups with other local actors and citizens, building the trust that is the base of the local RECS.



Thank you!

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Learn more:

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 [Sun4All Project](#)

 [@Sun4All_EU](#)



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