



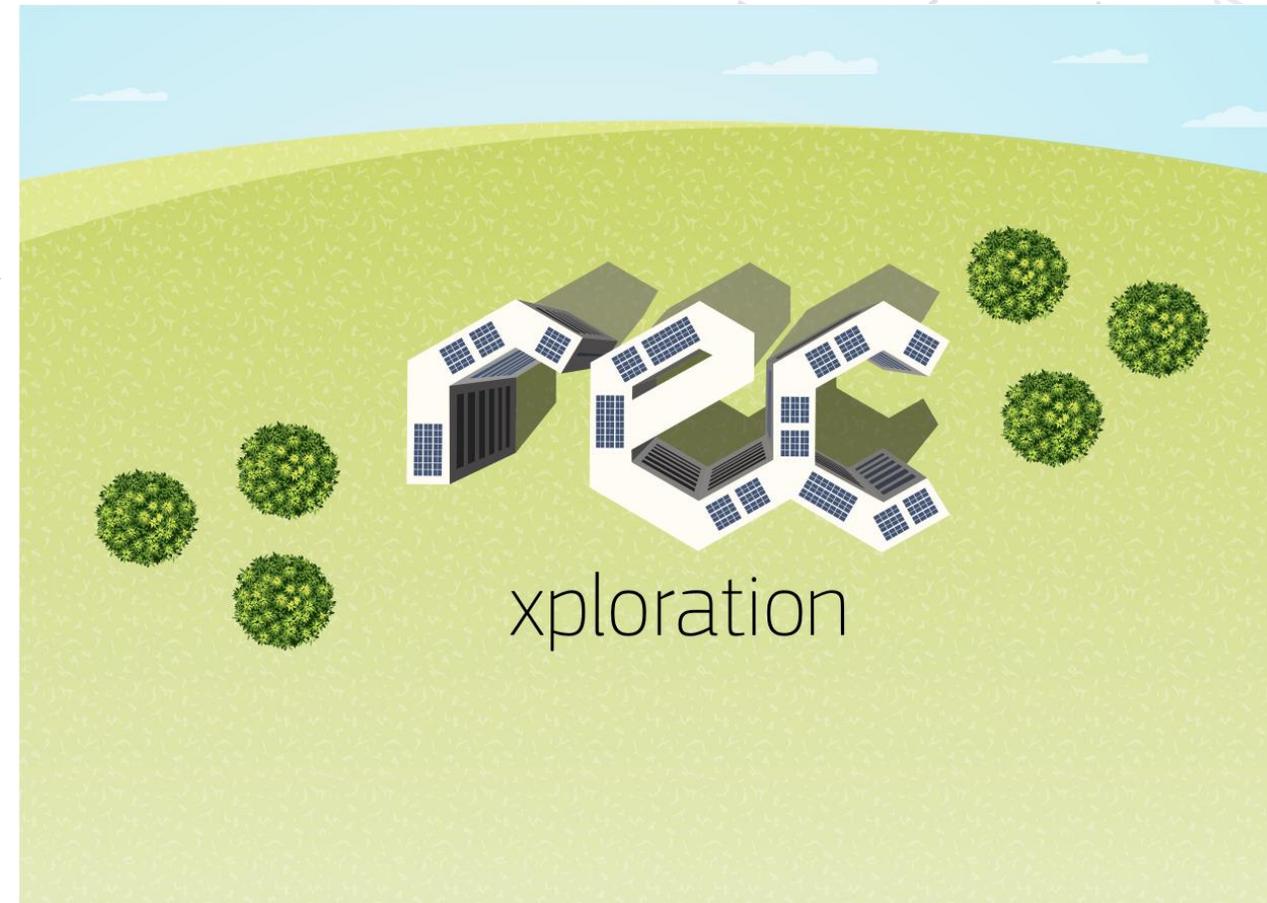
# REExploration: il nuovo gioco sulle CER



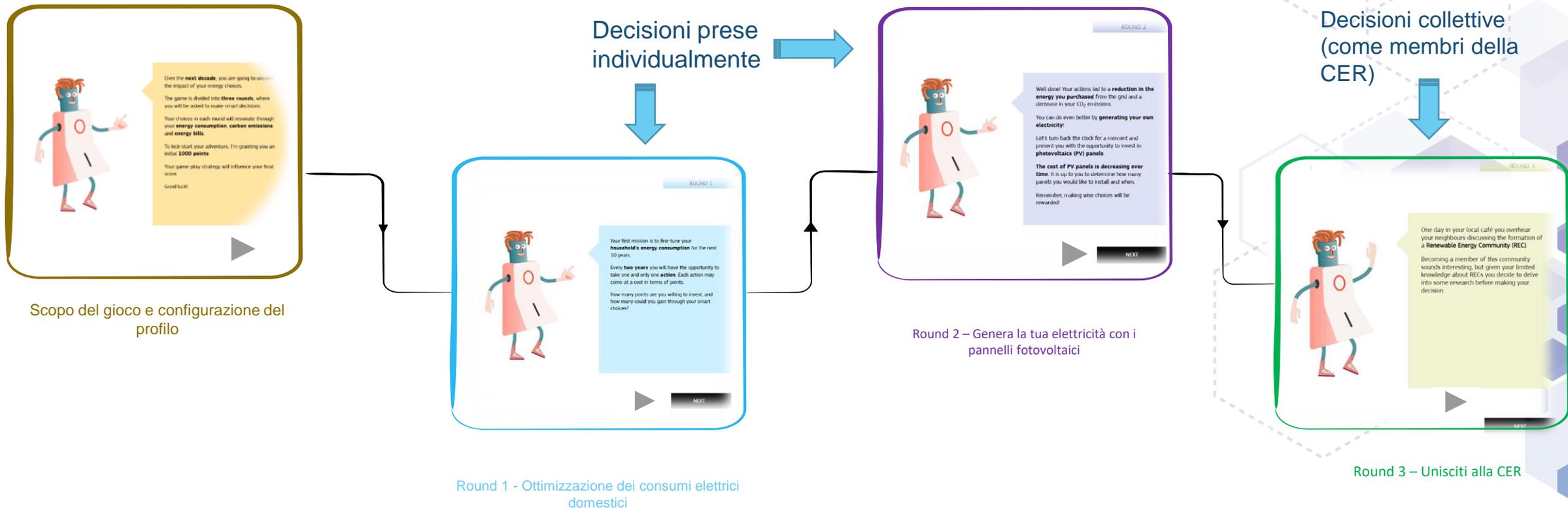
*Stefano Tarantola*  
*JRC Ispra*  
*10 Dicembre 2024*

# RECExploration: Il nuovo gioco sulle CER

- Un gioco sviluppato dal JRC per educare i cittadini europei sulle CER.
- **Strumento gratuito, utilizza dati reali per creare un'esperienza immersiva.**
- Gli utenti esploreranno le complessità e i vantaggi delle CER completando sfide e missioni, e acquisiranno informazioni sulle pratiche di energia sostenibile.



# REExploration: Struttura del gioco



2024

2034

# REExploration: Configurazione del profilo

## GAME INTRO



Greetings!

I'm Switch, your **REExploration** guide, your gateway to the world of **Renewable Energy Communities**.

This game is powered by **two simulation models** developed at the European Commission's Joint Research Centre.

Your initial step is to establish a profile, where you will select your location and specify your household size.

Ready? Let's dive in!

NEXT

## PROFILE SETUP



Choose your **household size**.



NEXT

## GAME PURPOSE



Over the **next decade**, you are going to uncover the impact of your energy choices.

The game is divided into **three rounds**, where you will be asked to make smart decisions.

Your choices in each round will resonate through your **energy consumption, carbon emissions and energy bills**.

To kick-start your adventure, I'm granting you an initial **1000 points**.

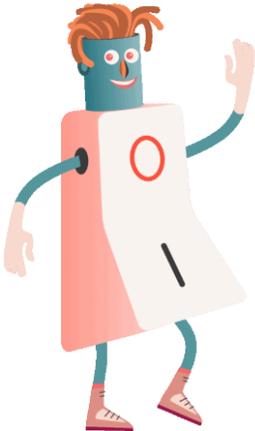
Your game-play strategy will influence your final score.

Good luck!

NEXT

# Round 1: Riduzione dei consumi elettrici domestici

ROUND 1



Your first mission is to fine-tune your **household's energy consumption** for the next 10 years.

Every **two years** you will have the opportunity to take one and only one **action**. Each action may come at a cost in terms of points.

How many points are you willing to invest, and how many could you gain through your smart choices?

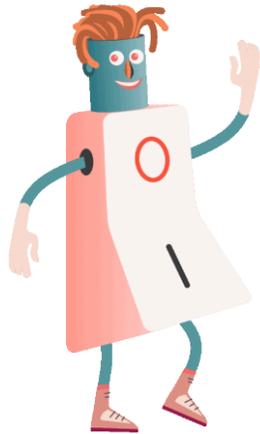
NEXT

 <p>Replace TV with more efficient one (energy class from G to B) <b>cost=600 Points</b></p> <p><input type="radio"/> Never <input type="radio"/> In 2024 <input checked="" type="radio"/> In 2026 <input type="radio"/> In 2028 <input type="radio"/> In 2030 <input type="radio"/> In 2032</p>	 <p>Replace washing machine with more efficient one (energy class from G to B) <b>cost=700 Points</b></p> <p><input type="radio"/> Never <input type="radio"/> In 2024 <input type="radio"/> In 2026 <input type="radio"/> In 2028 <input type="radio"/> In 2030 <input checked="" type="radio"/> In 2032</p>
 <p>Replace fridge with more efficient one (energy class from G to B) <b>cost=950 Points</b></p> <p><input type="radio"/> Never <input type="radio"/> In 2024 <input type="radio"/> In 2026 <input type="radio"/> In 2028 <input checked="" type="radio"/> In 2030 <input type="radio"/> In 2032</p>	 <p>Replace dishwasher with more efficient one (energy class from G to B) <b>cost=800 Points</b></p> <p><b>5 max actions limit reached</b></p> <p>To commit to this one please revert to "never" one of the chosen actions</p>

2 250 Points will be spent for your selected actions

CONFIRM

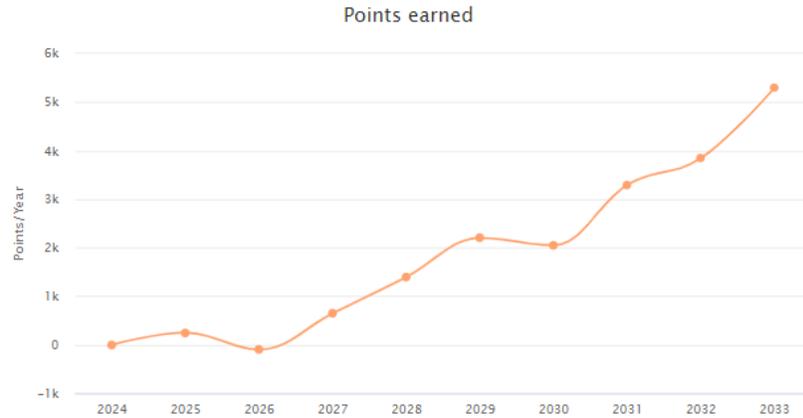
# Round 1: Riduzione dei consumi elettrici domestici



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Great!  
Let's see how you performed

ROUND 1



Previous score **1 000 Points**

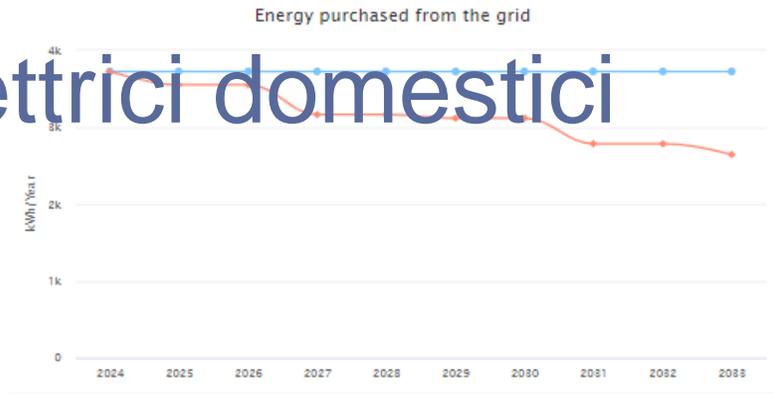
Points earned **+5 300 Points**

Current score **6 300 Points**

NEXT

Outcome in 2034

ROUND 1



	BASELINE <small>Status in 2024</small>	ROUND 1 <small>With household actions</small>		
Energy purchased	3 723 kWh	-15%		
CO <sub>2</sub> emissions	8 946 kg	-15%		
Income (in 10 years)	0 €	+668 €		
		<small>Saved from bills</small> +668 €		
Game points balance	1 000	+5 300		
Savings' potential exploited				

NEXT

# Round 2: Produci la tua elettricità con i pannelli fotovoltaici

ROUND 2



Well done! Your actions led to a **reduction in the energy you purchased** from the grid and a decrease in your CO<sub>2</sub> emissions.

You can do even better by **generating your own electricity!**

Let's turn back the clock for a moment and present you with the opportunity to invest in **photovoltaics (PV) panels**.

**The cost of PV panels is decreasing over time.** It is up to you to determine how many panels you would like to install and when.

Remember, making wise choices will be rewarded!

NEXT

ROUND 2

Install your PV plant within the next few years.  
Note that 1 kW produces on average 1.5 MWh/year.

**1) Select the power of the PV plant**

**2) Plan when to install them**

In 2024 Cost: **6 000 Points**

In 2026 Cost: **5 880 Points**

In 2028 Cost: **5 760 Points**

2 kW   3 kW   4 kW

5 kW   6 kW   7 kW

8 kW

NEXT

# Round 2: Produci la tua elettricità con i pannelli fotovoltaici



ROUND 2

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Remember, making wise choices will be rewarded!

NEXT

Great!  
Let us see how you performed

ROUND 2



Previous score **4 300 Points**

Points earned **+12 120 Points**

Current score **16 420 Points**

NEXT

	BASELINE Status in 2024	ROUND 1 With household actions	ROUND 2 With household actions + PV installation
Energy purchased	3 221 kWh	-11%	-48%
CO <sub>2</sub> emissions	774 kg	-11%	-48%
Income (in 10 years)	0 €	+431 € Saved from bills	+3 713 € Saved from bills +1 766 € Sales to grid +1 947 €
Game points balance	1 000 Points	+3 300 Points	+ 12 120 Points
Savings' potential exploited		LOW HIGH	LOW HIGH

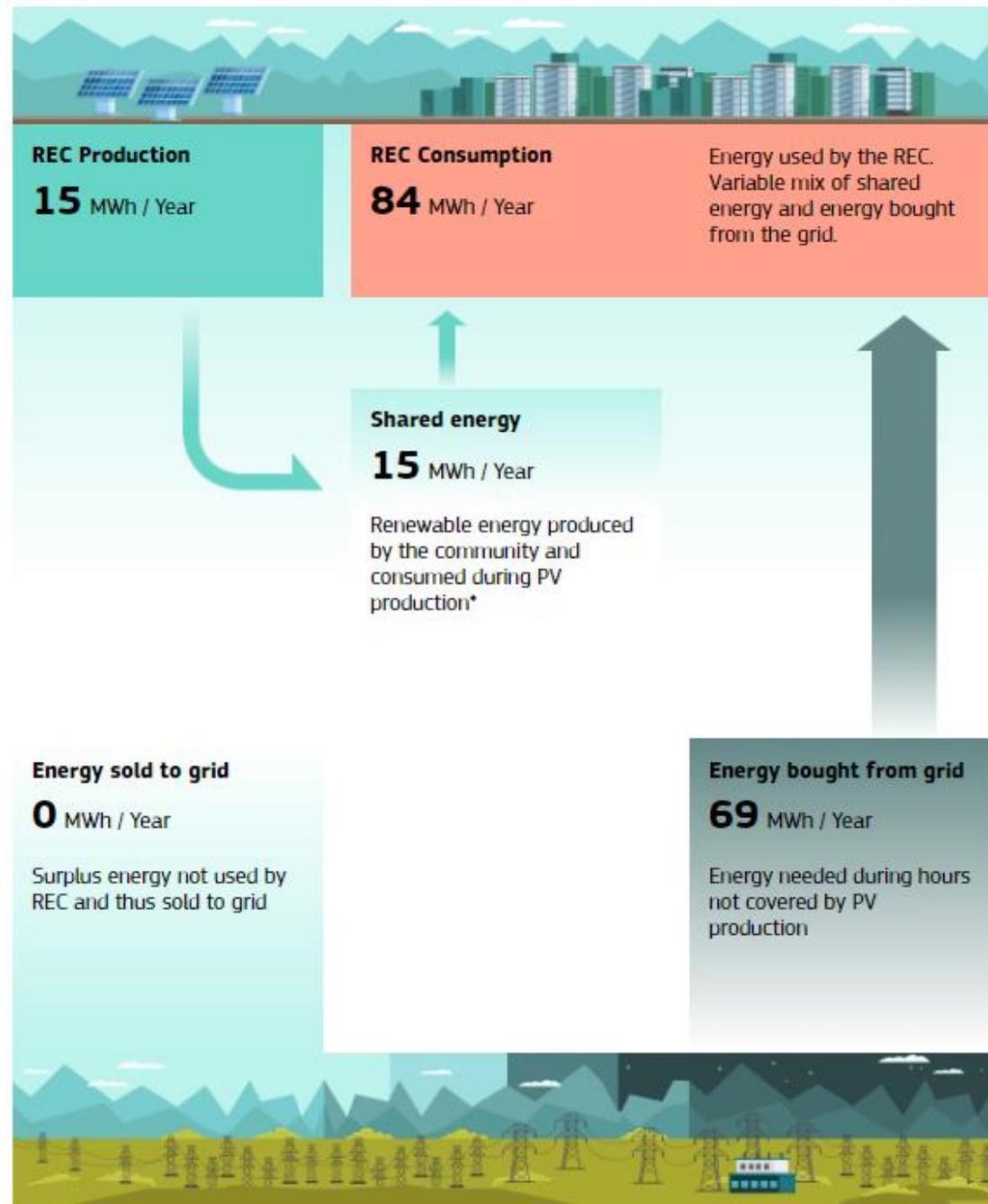
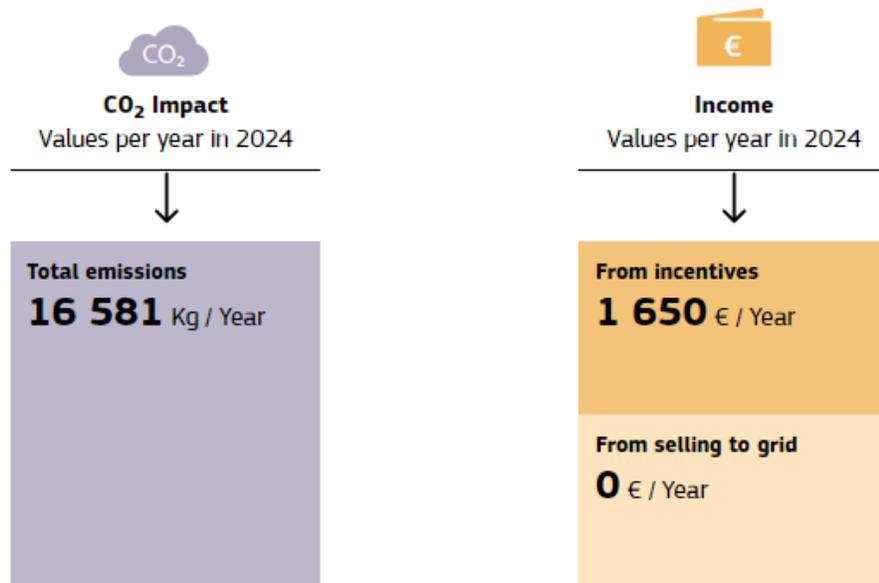
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## Round 3: Unisciti a una CER!

- Il giocatore decide di unirsi a una CER e partecipa all'assemblea inaugurale nel 2024.
- Ogni cinque anni, il giocatore parteciperà alle assemblee della CER per votare le azioni da intraprendere dalla comunità in merito a:
  - L'installazione di ulteriori pannelli fotovoltaici sul tetto della scuola (nel 2024);
  - L'investimento in batterie di accumulo per aumentare i livelli di energia condivisa all'interno della CER (nel 2029).

# Round 3: Stato della CER

Prima di qualsiasi decisione sull'installazione di ulteriori pannelli fotovoltaici, i giocatori devono esaminare lo stato iniziale della CER.



# Round 3a: Selezione pannelli fotovoltaici

## Which option do you support?

ROUND 3

Select the additional PV panels to be installed by the community.  
Note that 1 kW produces on average 1.6 MWh/year.

REC key numbers to keep in mind

Production	Sold to grid	Energy shared	Consumption
15 MWh in 2024	0 MWh in 2024	15 MWh in 2024	84 MWh in 2024

**10 kW**  
800 Points

**30 kW**  
2 400 Points

**50 kW**  
4 000 Points

**70 kW**  
5 600 Points

**90 kW**  
7 200 Points

**110 kW**  
8 800 Points

**CONFIRM**

## Voting results

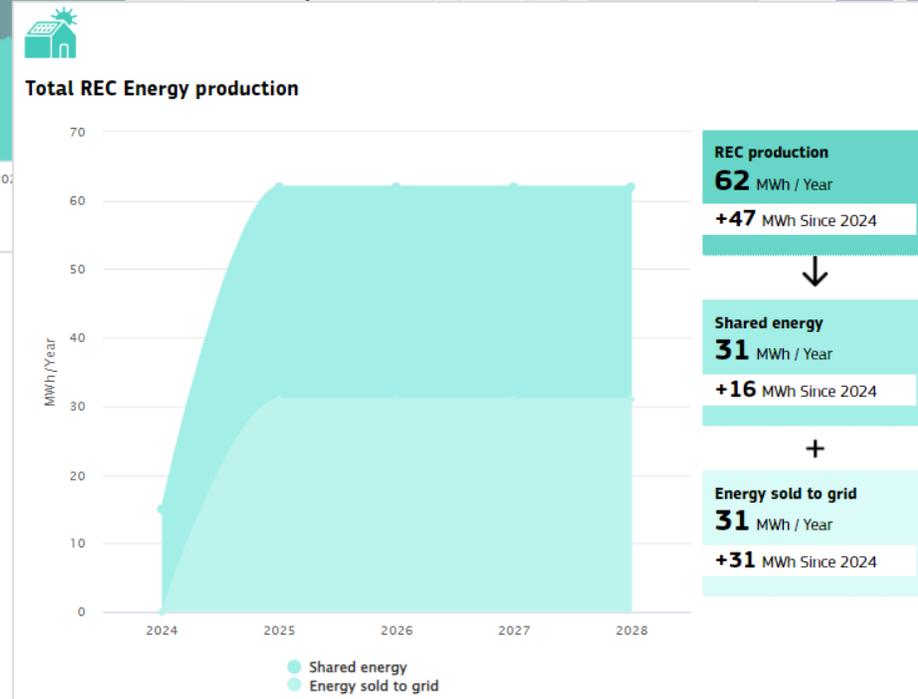
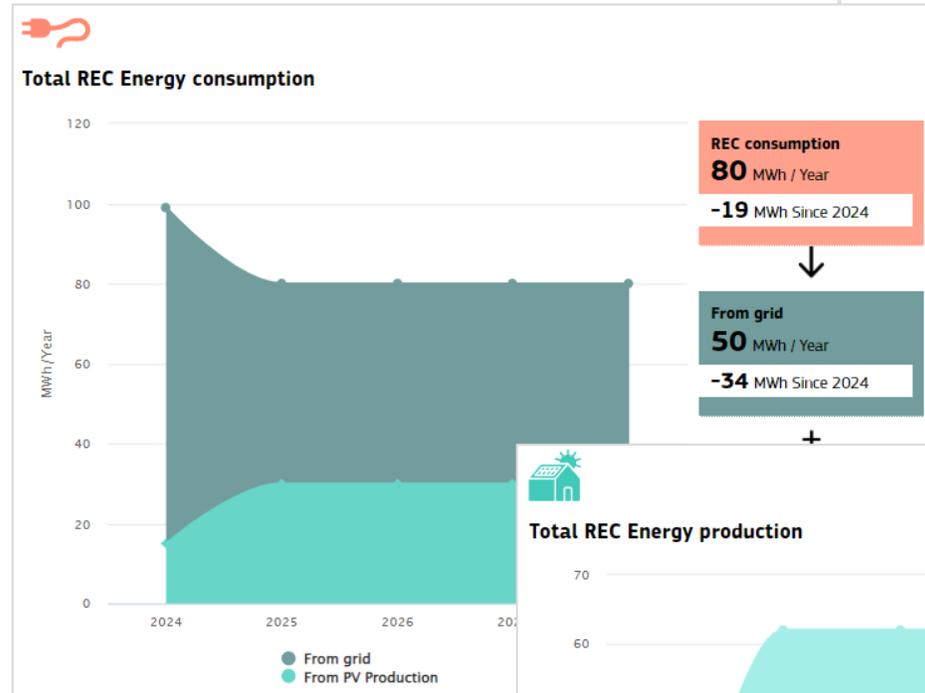
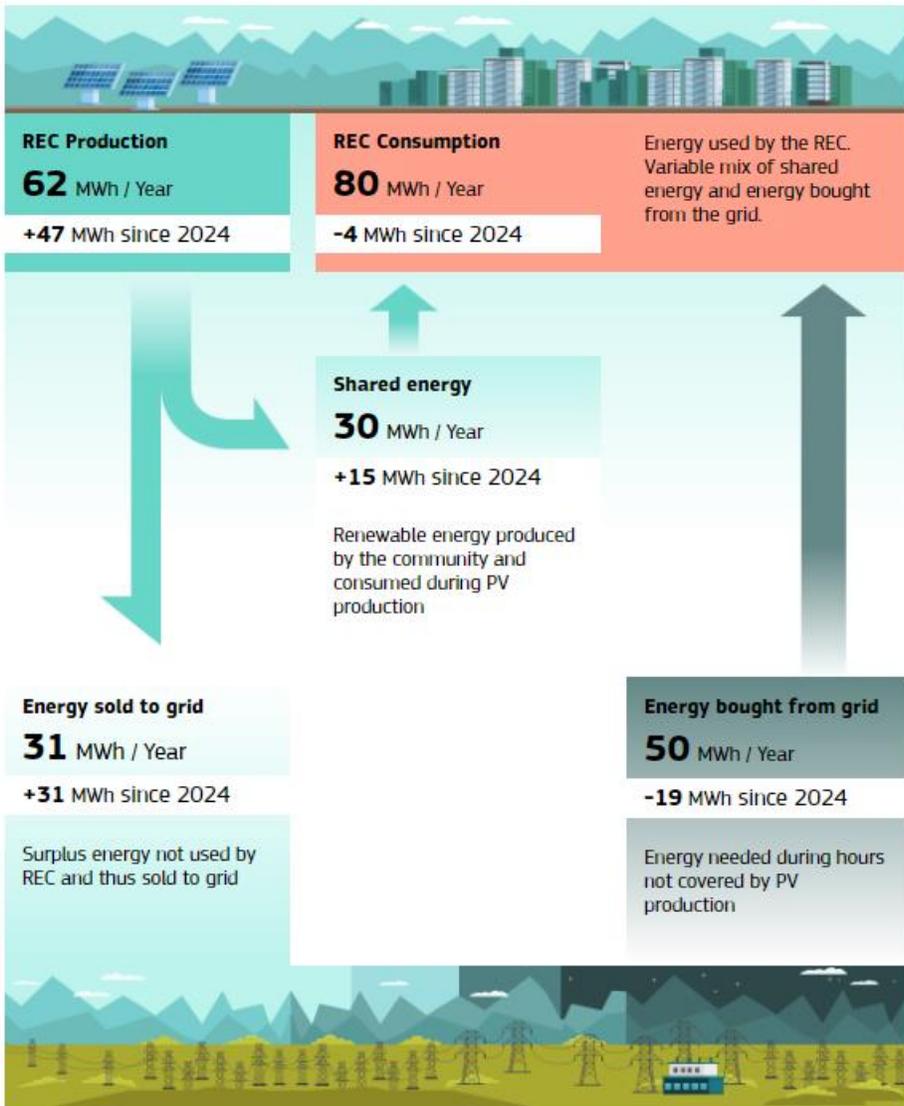
ROUND 3

We will implement the option with the most votes

Install 10 kW PV panels	4 / 25
Install 30 kW PV panels <b>WINNING PROPOSAL</b>	13 / 25
Install 50 kW PV panels	0 / 25
Install 70 kW PV panels	4 / 25
Install 90 kW PV panels	4 / 25
Install 110 kW PV panels	0 / 25

**NEXT**

# Round 3a: Selezione pannelli fotovoltaici - Risultati



# Round 3b: Selezione di batterie di accumulo

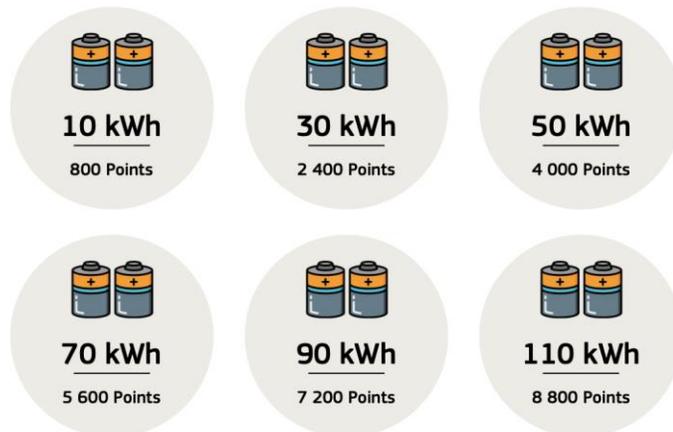
## Which option do you support?

ROUND 3

Keep in mind that we aim at minimising the energy sold to the grid and maximise the energy shared

REC key numbers to keep in mind

Production	Sold to grid	Energy shared	Consumption
45 MWh in 2024	21 MWh in 2024	24 MWh in 2024	80 MWh in 2024



CONFIRM

## Voting results

ROUND 3

Install REC battery storage capacity: 10kWh

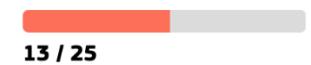


Install REC battery storage capacity: 30kWh



Install REC battery storage capacity: 50kWh

WINNING PROPOSAL



Install REC battery storage capacity: 70kWh



Install REC battery storage capacity: 90kWh

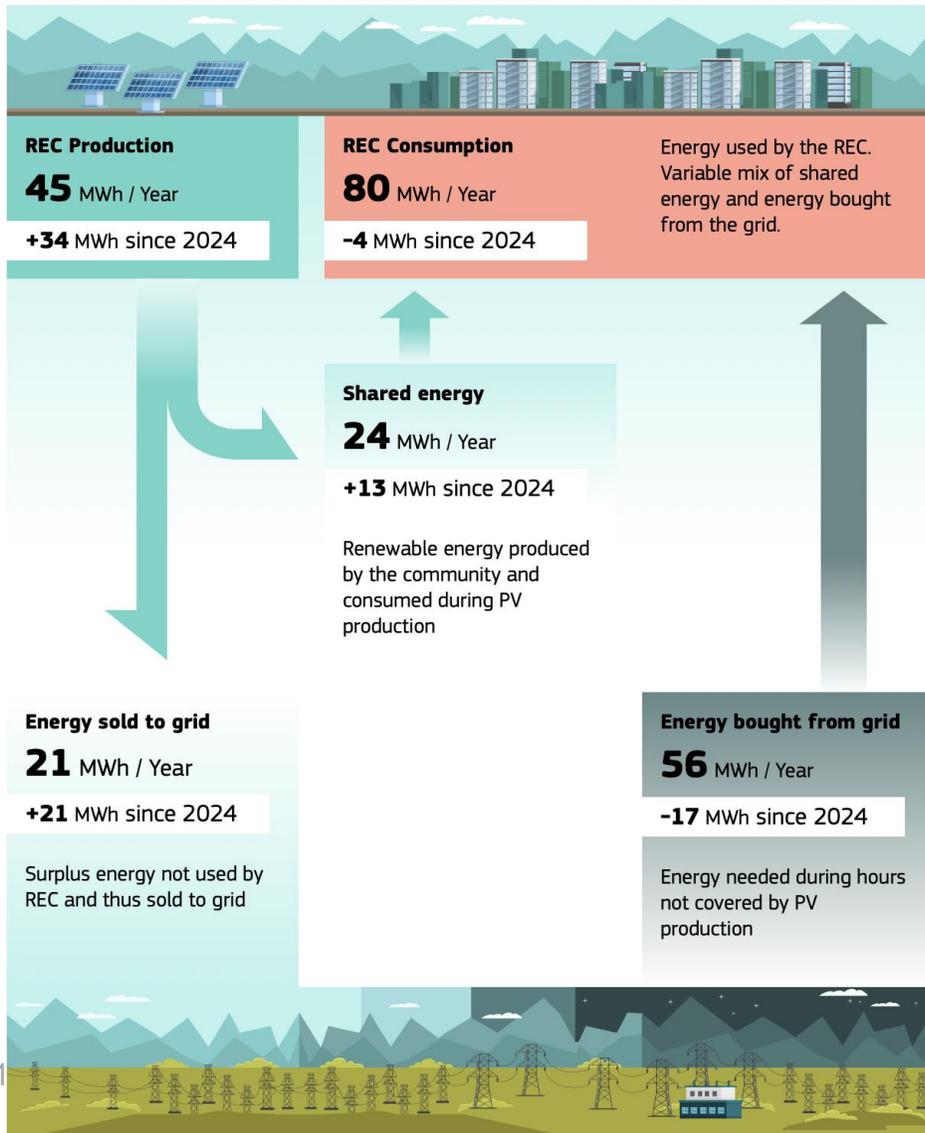


Install REC battery storage capacity: 110kWh

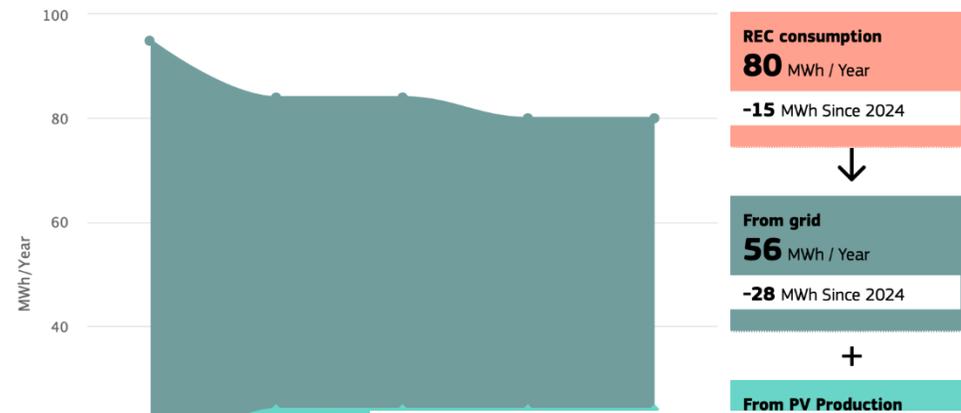


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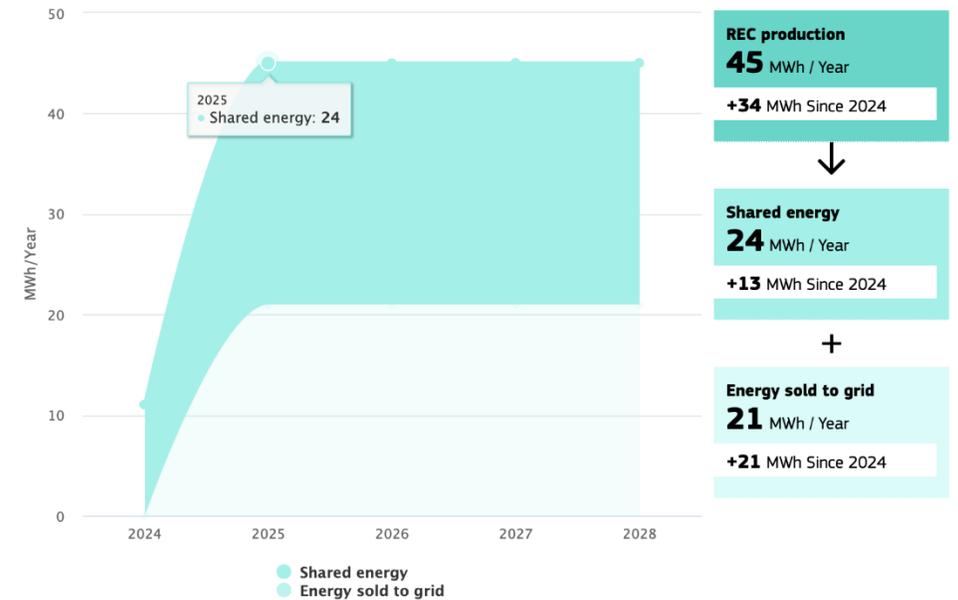
# Round 3b: Selezione Accumulo - Risultati



Total REC Energy consumption



Total REC Energy production



# Assegnazione degli incentivi

- Ultimo passaggio prima dei risultati finali – Nessun punto assegnato.
- Fai una scelta, individualmente, su come allocare il reddito della CER derivante dagli incentivi statali.

### Incentives allocation preference

ROUND 3

You have now the possibility, as an individual REC member, to decide how to allocate the REC income coming from state incentives. You can split the income across more than one option.

The interface displays four allocation options, each with a percentage in a central circle and minus/plus signs on either side:

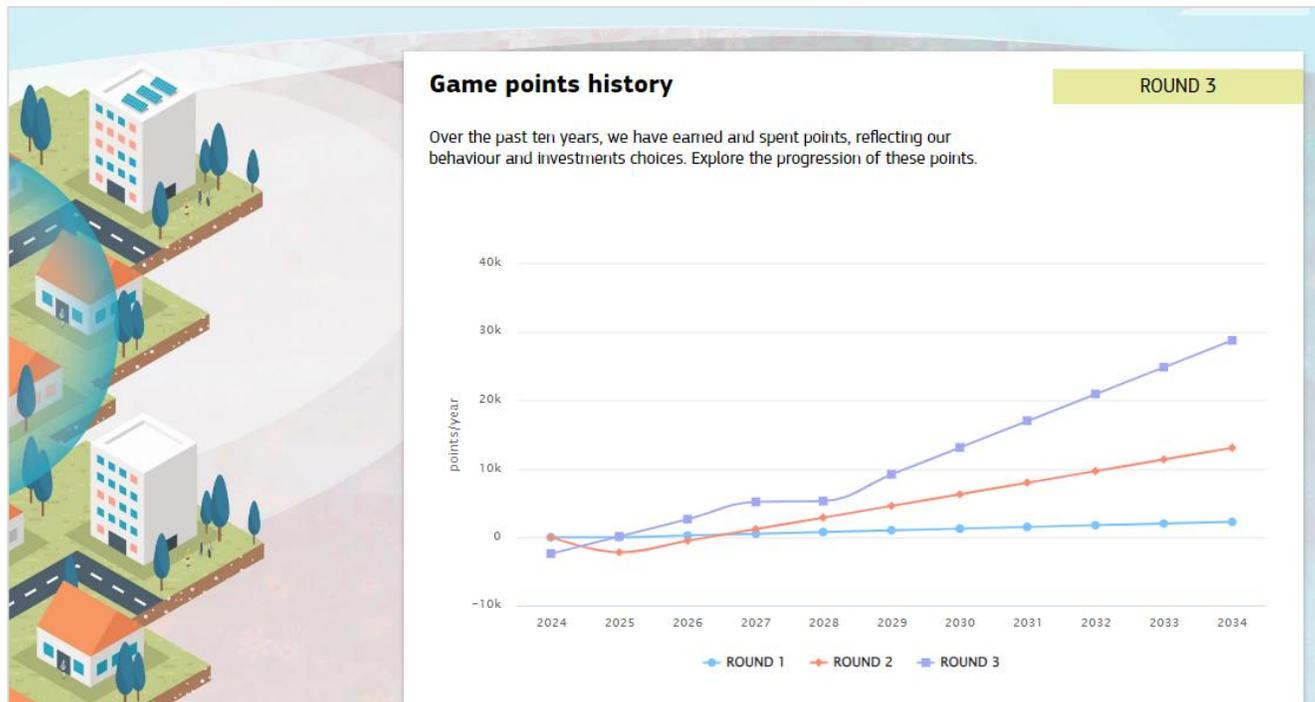
- Keep as a Return on Investment: 30%
- Allocate to energy poverty: 20%
- Reinvest in REC infrastructure: 10%
- Improve public infrastructures: 20%

Below the options, a progress bar labeled "Incentives still to be allocated" shows 70% remaining (7 out of 10 circles filled).

NEXT

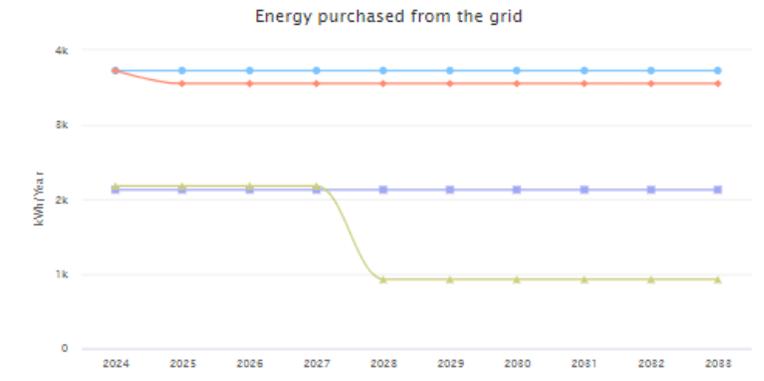
# Risultati finali

- Al termine del round 3, i giocatori saranno in grado di valutare sia le prestazioni della CER nell'arco di 10 anni, sia le proprie prestazioni (punteggio).



## Outcome in 2034

ROUND 3



	<b>BASELINE</b> <small>Status in 2024</small>	<b>ROUND 1</b> <small>With household actions</small>	<b>ROUND 2</b> <small>With household actions + PV installation</small>	<b>ROUND 3</b> <small>With household actions + PV installation + REC actions</small>
Energy purchased	3 723 kWh	-4%	-40%	-60%
CO <sub>2</sub> emissions	8 946 kg	-4%	-40%	-60%
Income (in 10 years)	0 €	+185 €	+2 681 €	+4 669 €
		Saved from bills +185 €	Saved from bills +1 683 € Sales to grid +998 €	Saved from bills +2 511 € Sales to grid +424 € Incentive +1 734 €
Game points balance	1 000 Points	+2 250 Points	+13 080 Points	+28 800 Points
Savings' potential exploited				

NEXT

# Prova RECxploration!

Google “RECxploration JRC”



**Contattaci a:**

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