

A group of people are silhouetted against a bright sunset sky, holding up a large, dark wind turbine blade. The scene is set on a beach with waves visible in the background. The overall mood is one of collective effort and environmental advocacy.

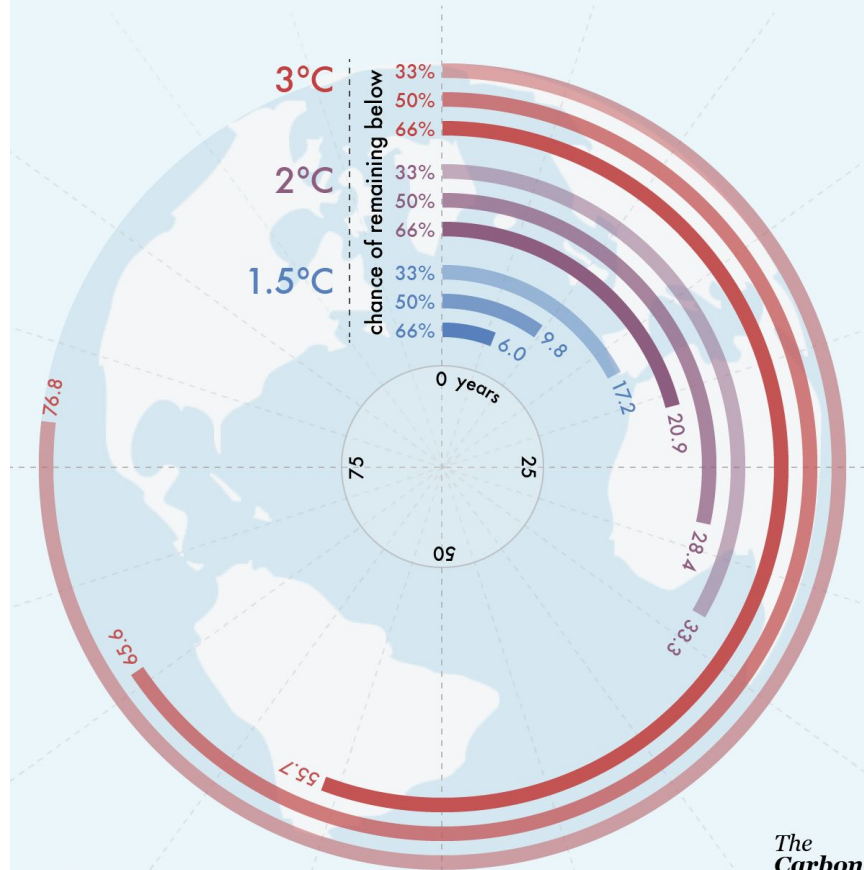
Setting the context for empowerment: opportunities,
fronts and challenges

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Sara Pizzinato
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Carbon Countdown

How many years of current emissions would use up the IPCC's carbon budgets for different levels of warming?



<http://bit.ly/carboncountdown>

The Carbon Brief

RESPONSIBILITY AND EMPOWERMENT

RESPONSIBILITY (The state or fact of being accountable or to blame for something)



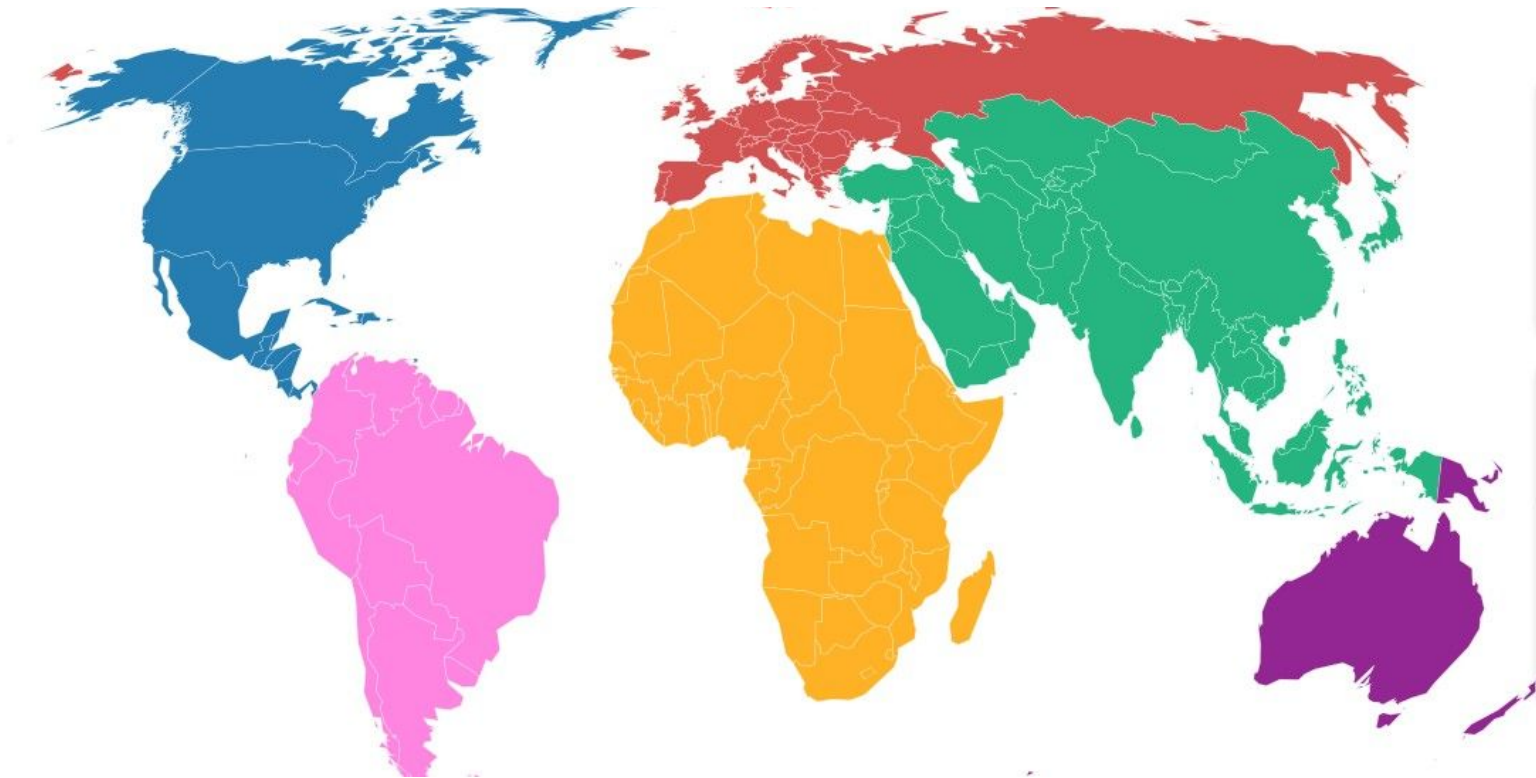
100 more powerful companies are together responsible of 71% of global GHG emissions from 1988



What if we look at countries?

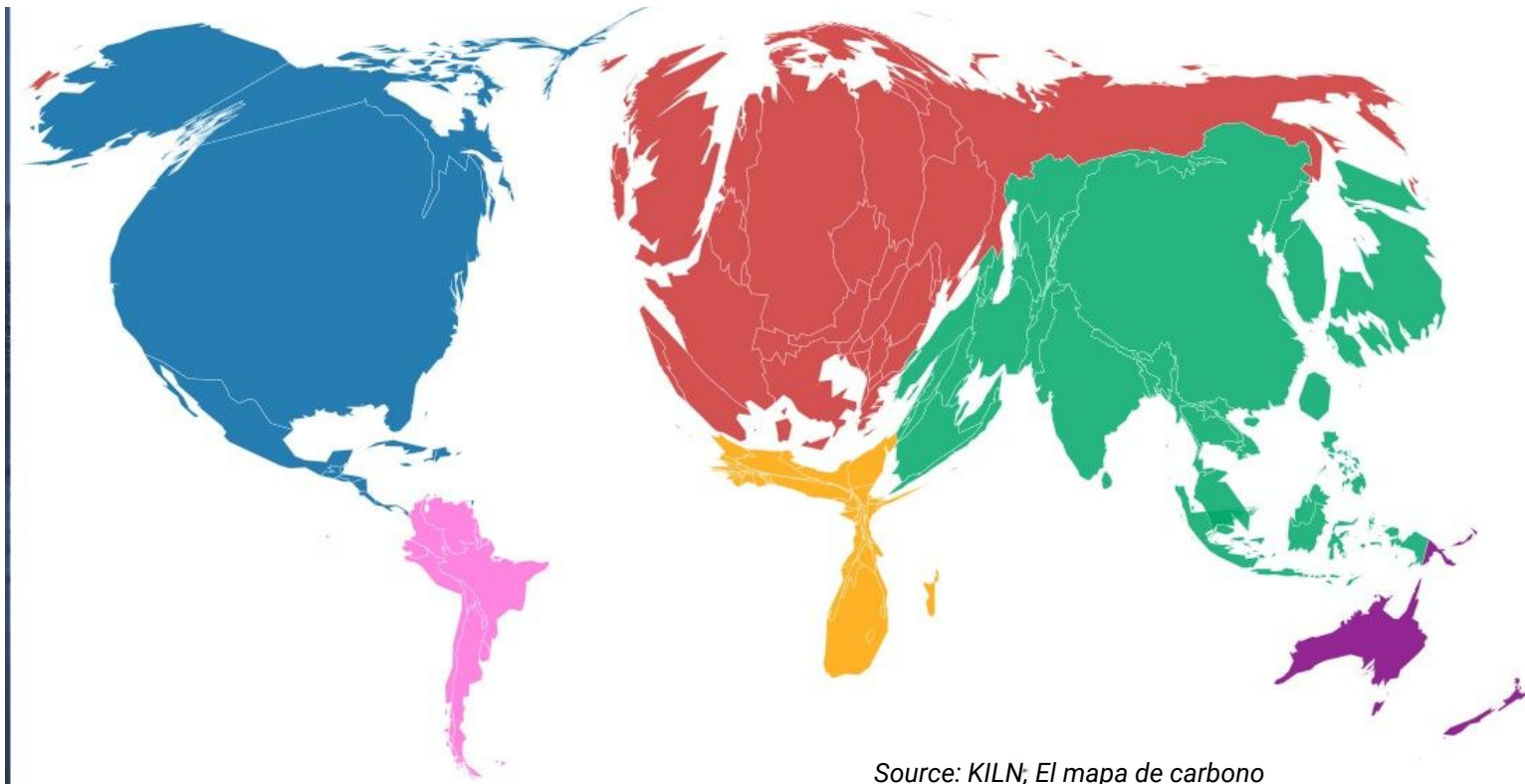
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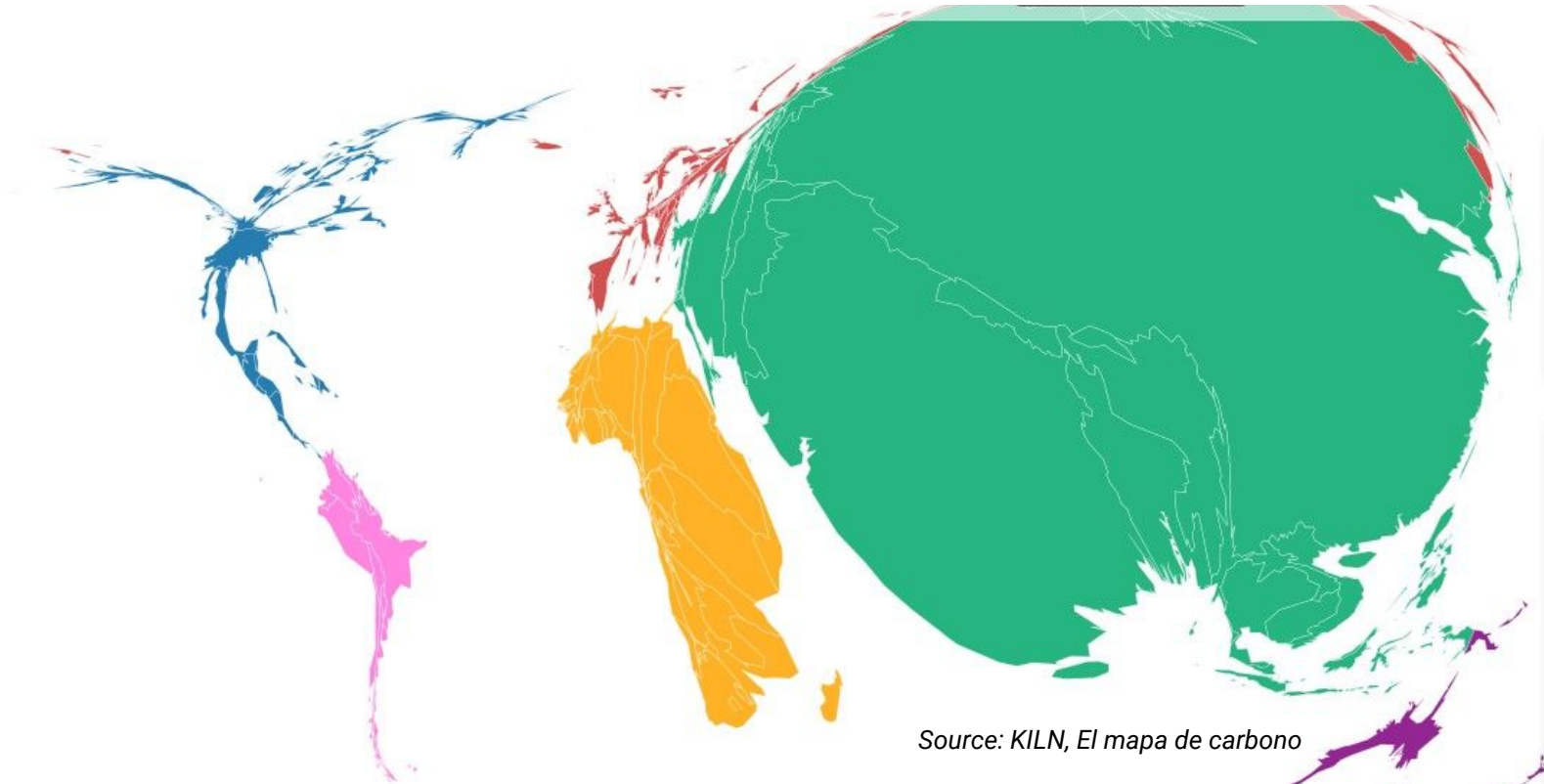
Historical GHG emissions



Source: KILN, *El mapa de carbono*

RESPONSIBILITY (The state or fact of being accountable or to blame for something)

Population at risk due to climate change impacts



Source: KILN, El mapa de carbono

RESPONSIBILITY

(The opportunity or ability to act independently and take decisions without authorization)



100% Renewable, efficient and smart power systems are already technologically feasible;



Disruptive innovation is coming although incumbents resist the change and set the rules;



What will make the change happen or not are social, political and institutional factors because it is a mind set and power shift.



**The POWER SHIFT needs
EMPOWERMENT**

EMPOWERMENT

The process of becoming stronger and more confident, especially in controlling one's life and claiming one's rights.

Source: English Oxford Living Dictionaries

“ *The impacts of climate change are a huge burden for farmers and fishermen. I am begging the big corporations to please fix their business practices, which would help protect the livelihoods of poor citizens like me.* **”**

Tarcila M. Lerum

Copra Industry Farmer, Alabat Island

STAND WITH US

PeopleVsBigPolluters.org



The energy transition towards an efficient, smart and 100% renewable system will require millions of people to get involved in multiple ways so that it happens quickly enough to save the climate

THE ENERGY TRANSITION MINDSET SHIFT

OWNERSHIP

PRODUCTION

CENTRALIZED

COMMODITY

EXPERTS ONLY

ACCESS

SERVICE

DISTRIBUTED

RIGHT

**PUBLIC INFORMED
DEBATE**

What is empowering? Something that give access to...

CONFIDENCE

A trustful environment and meaningful action - Rules adapted to the level of knowledge and expertise of citizens to do things that matter to people

CONTROL

Transparency, accountability, participation and inclusion

CLAIMING A RIGHT

Clean energy is a right that anybody should be able to exercise - legal entitlement



People empower themselves

What they need is a fair playground

LEGAL ENTITLEMENT TO BOOST THE POWER SHIFT

EU REs DIRECTIVE 2030

One of the most discussed issues was citizens right to participate in the Energy Transition. Especially the countries that dependent the most on centralized energy sources like coal.

SPANISH SUN TAX

No methodology to allocate system costs among consumers in the retail electricity tariff in Spain (according to the regulator). Debate on how tariff structure can help the energy transition. Prosumers were supposed to fix the problem as new entrants.

DATA ACCESS and OWNERSHIP

Real life access to electricity data in real time is almost fantasy. No way for small actors to make the most of those data to change their behaviour in most countries. And no legal obligation to provide that to consumers.



**CITIZENS EMPOWERMENT NEEDS LEGAL CHANGES.
MARKET ALONE IS NOT PROVIDING THE NEEDED DRIVERS - DISTORTIONS or EXCEPTIONS**

Market concentration

Environmental and social costs externalization

Natural monopolies

Do empowered energy citizens contribute to energy transition?

Are they willing to participate?

What do they need to participate?

Technological potential in the EU

BY 2050

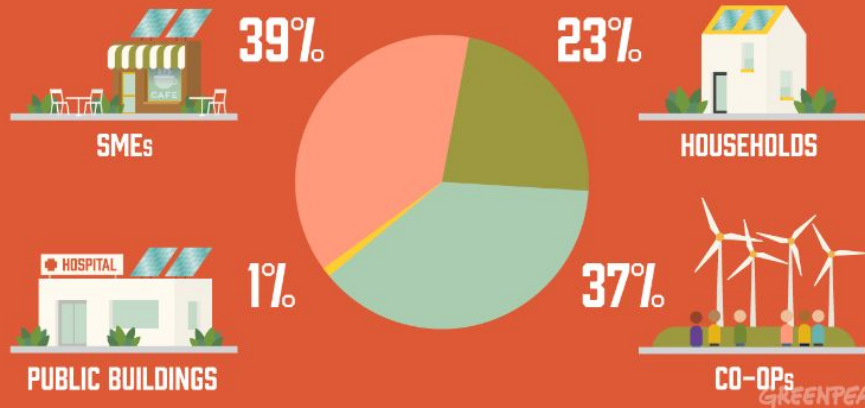
264

MILLION

PEOPLE IN THE EU
COULD BE PRODUCING
THEIR OWN ELECTRICITY



THE EU'S CITIZEN-OWNED ELECTRICITY IN 2050



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www.greenpeace.es

Source: CE Delft - The potential of energy citizens in the EU (2016)

Are citizens willing to participate in the energy transition?

30%

of the Spanish population want to “stop being robbed in their energy bills” and “deleted from any energy decision” and take part in a project of

ethical, renewable and citizen-led electricity

Source: Greenpeace - *Energía colaborativa. El poder de la ciudadanía de crear, compartir y gestionar renovables* (2017)

Major drivers for a higher citizens' participation

Guarantee that the action taken has a positive impact on environment and people.

Common fundamental values (citizens) that do not compete with economic viability (consumers).

- 1.- Guarantee they only produce and sell renewable power (trust);
- 2.- “Fair price” for electricity. Electricity is not a commodity is a right (transparency);
- 3.- No revolving doors (no power abuse);
- 4.- Better together (collaboration to face the risks of entering a sector thought for big players).

Energy: what for, who for? Alternative models of participation and ownership

Comparison between the concept of power sector and energy democracy ecosystem (ethical, renewable and citizens-led electricity)

	What kind of energy?	Who for?	What for?
Energy democracy ecosystem	Renewable power	Produced to satisfy a citizen	To re-socialise economic profits
Power sector	Renewable and non renewable power	Produced to satisfy a client	To maximise economic profits of a specific stakeholder
Electricity is not commodified and citizens collaboratively accelerate the energy transition by actively participating through participation channels other than incumbent utilities.		Big incumbent utilities evolve toward a more renewable based generation mix but without assuming that citizens can be more than just consumers . Even when promoting self-consumption still keep clients in a passive position acting just as distributed generation for the utility.	

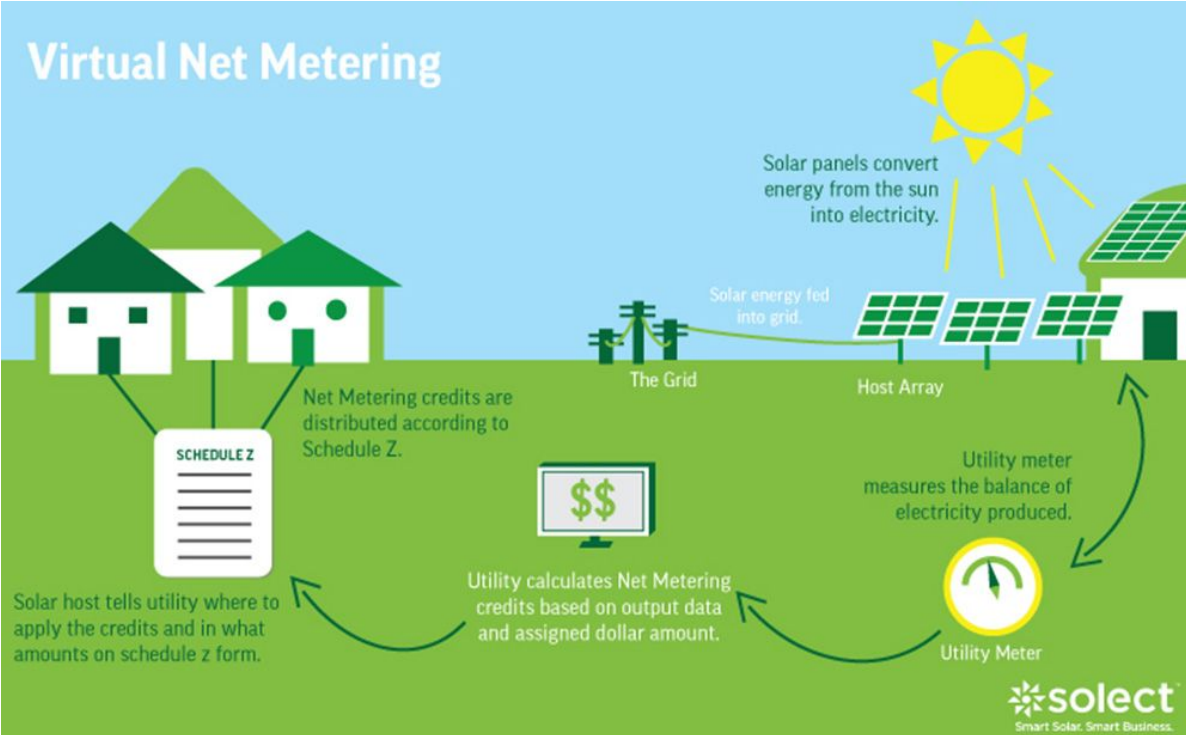
Source: Greenpeace - *Energía colaborativa. El poder de la ciudadanía de crear, compartir y gestionar renovables*

MORE THAN JUST CONSUMERS: ENERGY CITIZENS

VIRTUAL ELECTRICITY SHARING: ELECTRICITY AGAINST FUEL POVERTY

VIRTUAL ELECTRICITY SHARING

Virtual Net Metering



Virtual electricity sharing is a system that allows electricity generated in one location to be bought and sold or transferred to the electricity bill of another location. Thus applying this to social housing it can be used to alleviate fuel poverty through renewables installed in municipal building. GP experience with Thessaloniki.

ENERGY DEMOCRACY AND ENERGY CITIZENS EMPOWERMENT

1. Why? We need collective intelligence and action to save the climate;
2. Who? Unthinkable to exclude the majority of the world population; people already bear the consequences of climate change, thus to be fair they also need to be part of decisions;
3. How? Collaborating, sharing and being realistic in a finite world;
4. Mind shift: people and the planet first, we are not just depersonalized points of power connection;
5. Power shift: fair common playfield for new entrants, even non experts;
6. Technology shift: more decentralized, digital, efficient, 100% renewable electricity.

CONCLUSIONS

1. **Energy is a right, not just a commodity**; it's not all about money but also about values;
2. Empowerment needs confidence, control and recognize the right to energy:
 - a. **Confidence**: who for , what for is generated energy? Trustful environment with adapted and coherent rules for non expert new players;
 - b. **Control**: transparency, accountability, inclusion and participation;
 - c. **Right**: legal entitlement to exercise the right to clean energy;
3. Empowerment is quicker and more scalable when is **collaborative** (paradigm shift from competition);
4. Market alone is not delivering empowerment because citizens are more than **consumers**;
5. Empowerment is a **power shift in a strategic sector** actually controlled by a small group of people: it is encountering a lot of barriers.
6. Need to work on **social and institutional intelligence** to make the change happen without leaving anyone behind;
7. Innovation is not just technology. It is about giving **real and scalable solutions** to the energy transition **in a finite planet**.





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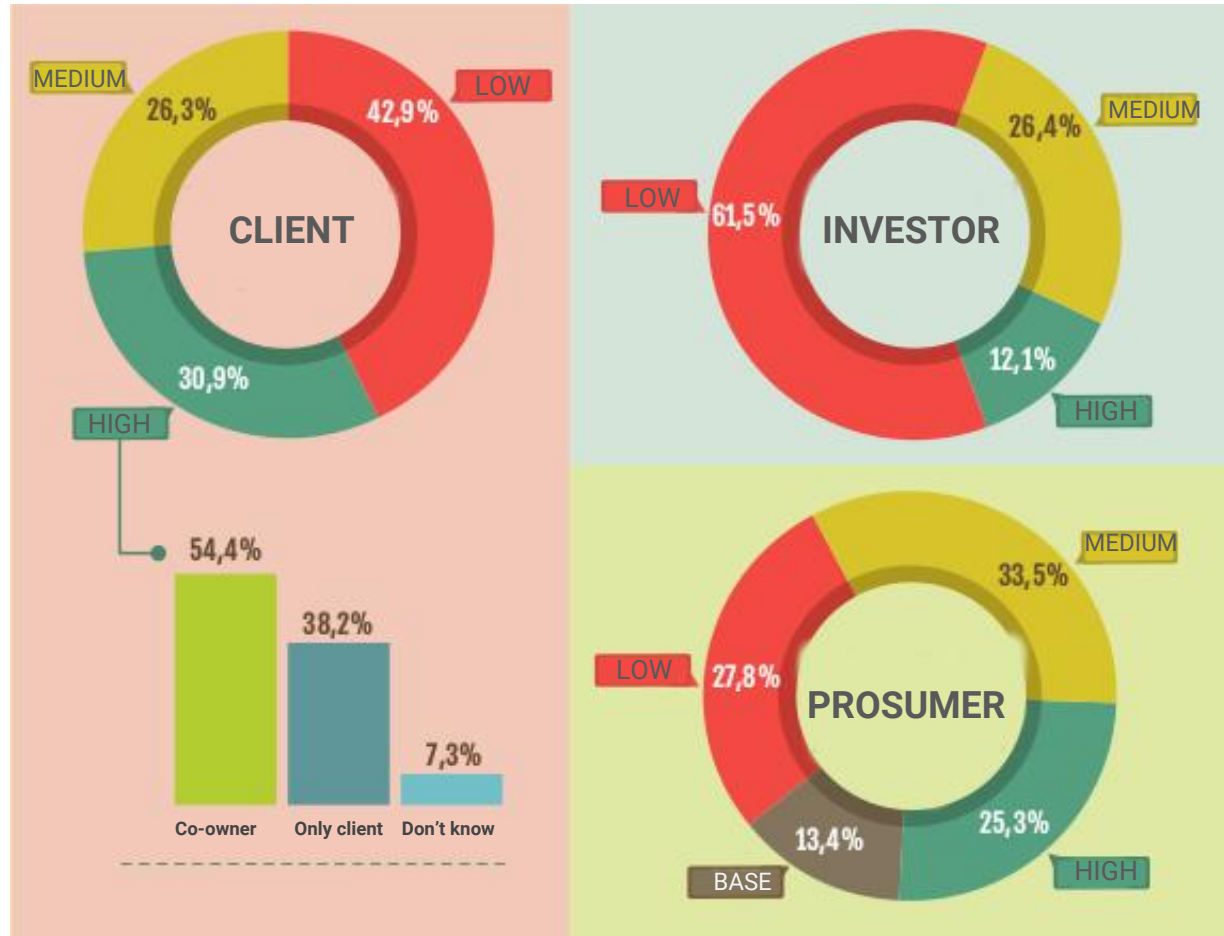
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ADDITIONAL INFORMATION

Spanish citizens disposition towards being active in energy transition

Public disposition to adopt one of the roles proposed in a ethical, renewable, citizens-led energy entity: only client (buyer), citizen investor, citizen co-owner or citizen prosumer



Source: Greenpeace - Energía colaborativa. El poder de la ciudadanía de crear, compartir y gestionar renovables (2017)

International case studies of collaborative P2P energy

P2P platforms applied to energy transition

Existing cases

Renewable power direct trade between consumers (individual and retailers) and small independent renewables producers promoting a wide community around it.

Greenpeace Energy, Vandebroon, Piclo, Goiener/Pylon

Distributed demand side management. Adds together a community of consumers that provides DSM services to the grid. The earnings can be invested in new REs installations

OhmConnect

Virtual self-consumption/production. A community of self-sufficient prosumers connected to virtual micro grids consume, generate, store and exchange at small scale renewable power.

SonnenCommunity, Brooklyn Microgrid

P2P financial models for REs. A lot of financial solutions are available among citizens who want to generate clean power and others who want to help impactful projects that can boost the energy transition reducing financial costs and risk.

Mosaic, Mongoose Crowd, SomEnergia/GenerationkWh, Ecrowd, Viure del Aire del Cel