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University of
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Exploring Pathways for Progressing Renewable Energy Communities in Poland: Insights from Comprehensive Interviews

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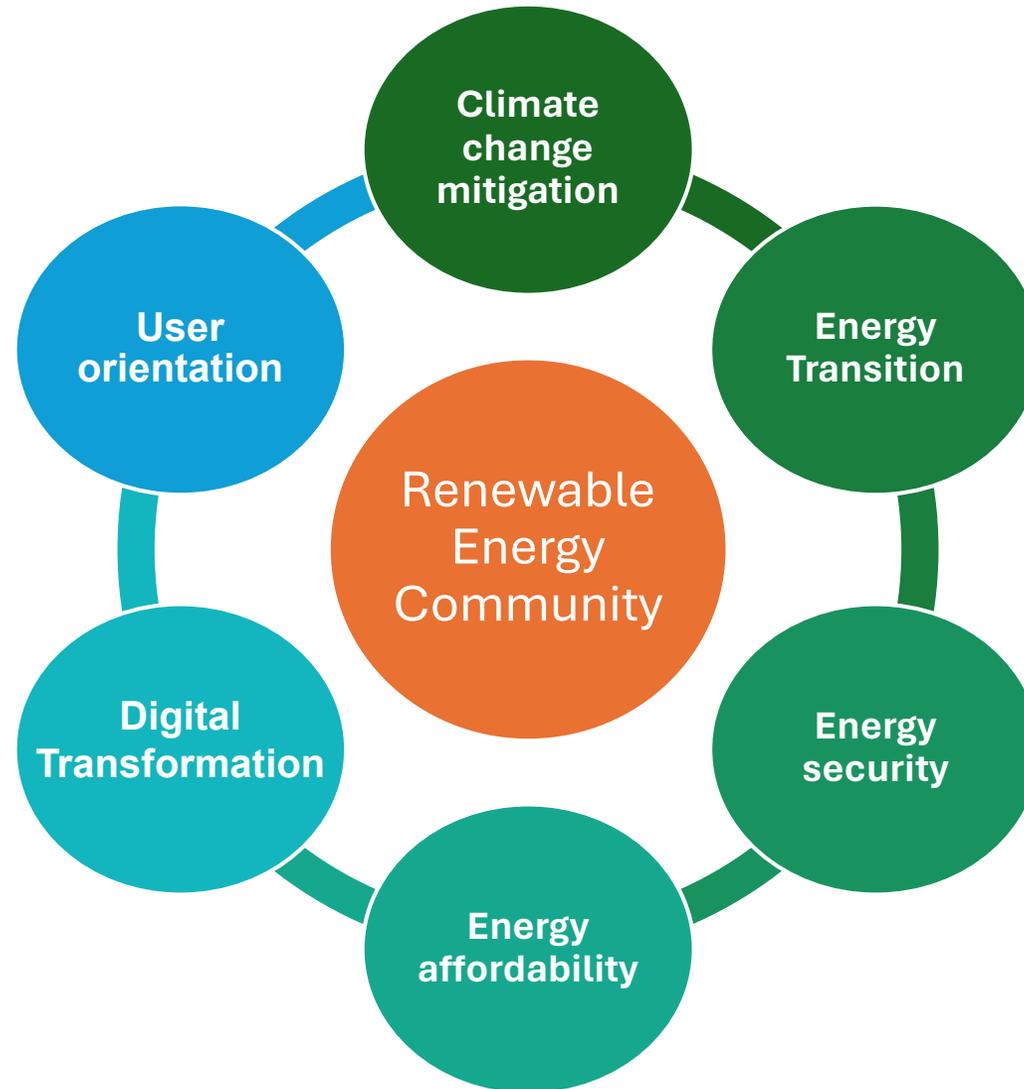
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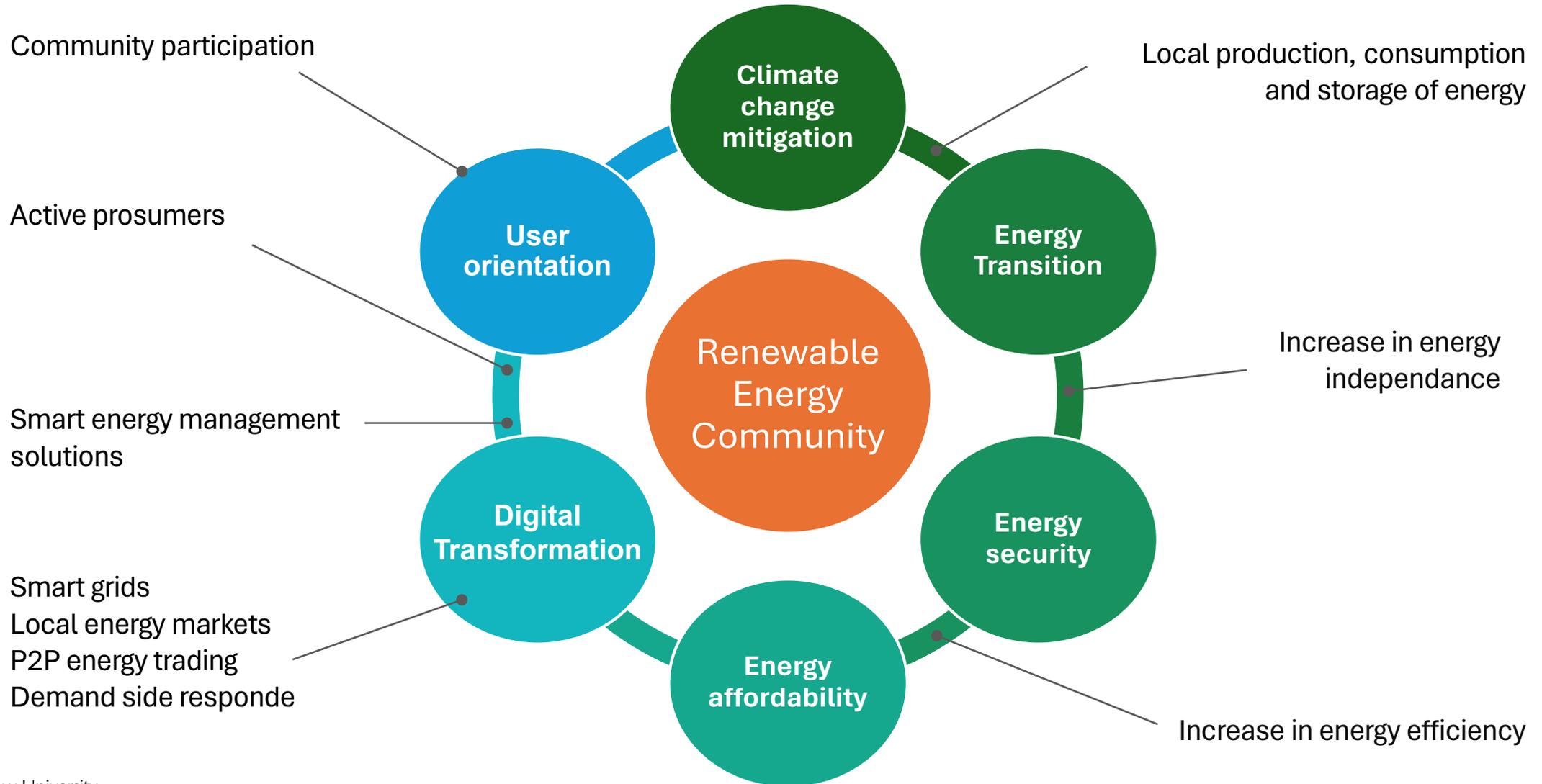
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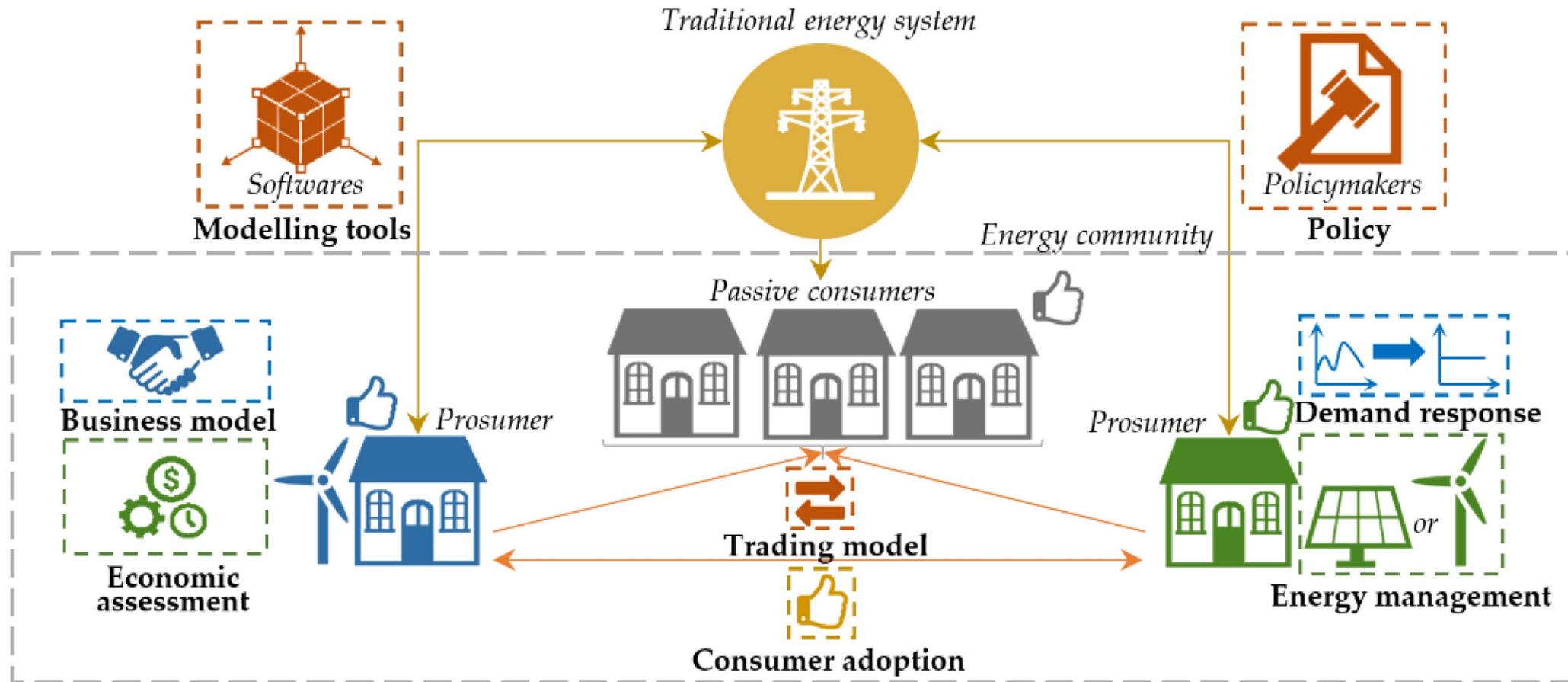
REC's triggers



REC concept



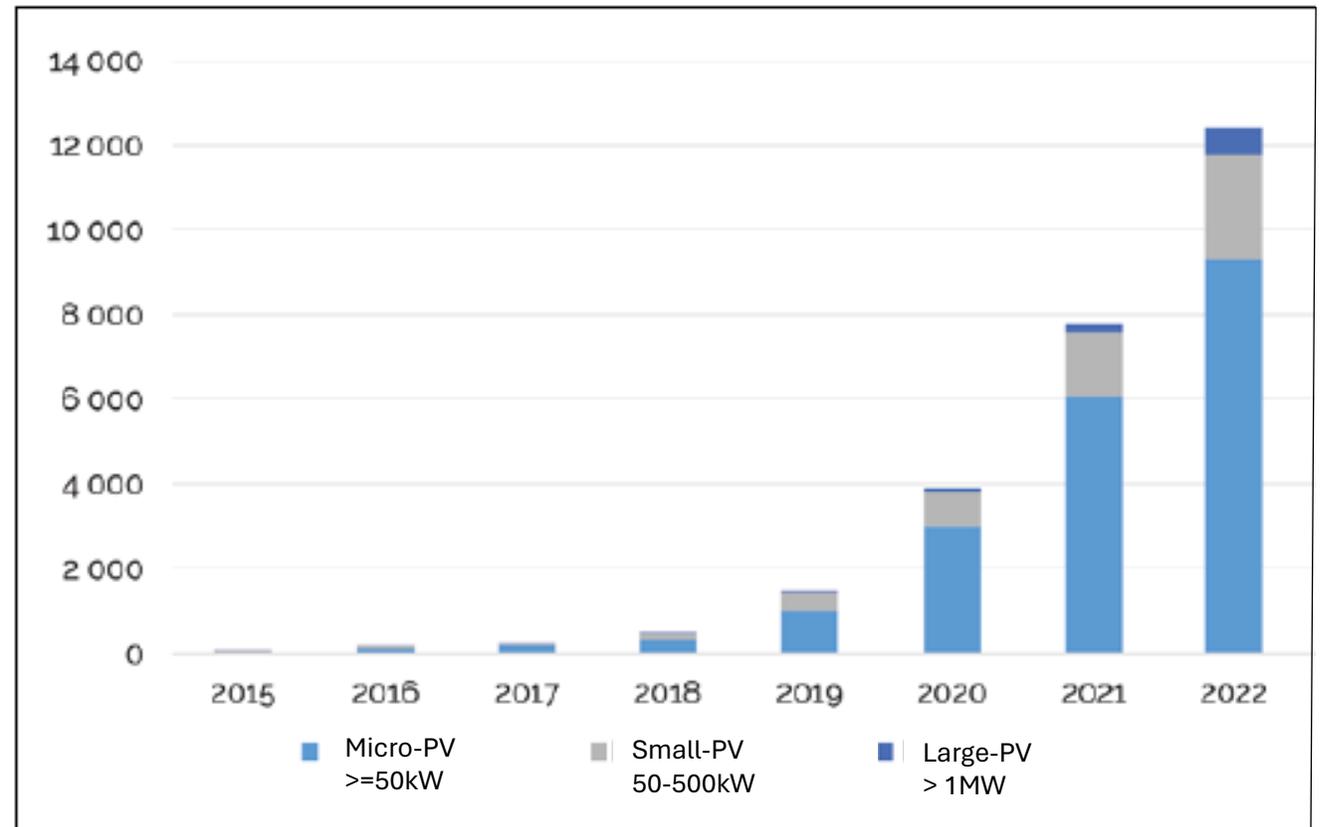
REC concept



Source: Lazdins, R.; Mutule, A.; Zalostiba, D. PV Energy Communities—Challenges and Barriers from a Consumer Perspective: A Literature Review. *Energies* 2021, 14, 4873. <https://doi.org/10.3390/en14164873>

Why Poland?

- Unprecedented growth rate of PV micro-installations
- Regulated electricity prices for households
- Low level of smart metering rollout
- Low social trust



Source: <https://portalkomunalny.pl/plus/artyku/rynek-fotowoltaiki-w-polsce-w-2023-r/>

Aim and methodology

CHASE Project

Chances and directions for the **d**evelopment of **s**mart **e**nergy communities in Poland based on empirical and simulation research (CHASE)

Aim of this research

Assessing prosumers' and experts insights into Renewable Energy Community and incentives and barriers impacting their participation

Methodology

- Literature review
- Semi-structured in-depth interviews:
 - 16 with current or prospective prosumers
 - 14 with experts
- Bronfenbrenner's socio-ecological model
- PESTEL Analysis
- Thematic analysis in MAXQDA Software

Prosumers and potential prosumers - sample description

Subgroup	Label	Gender	Age	Education	Occupation	Residence	House
Long-term Prosumers	L1	M	56	S	Production Manager	ST	DH
	L2	F	54	H	Teacher	V	DH
	L3	F	30	H	Farmer	V	DH
	L4	F	42	S	Medical Services	T	SdH
	L5	M	58	S	Transport Services	V	DH
Short-term Prosumers	S1	M	35	H	Manager in Mining Industry	ST	DH
	S2	M	42	H	Teacher	T	DH
	S3	M	55	H	IT Specialist	V	DH
	S4	M	38	H	Production Manager	ST	SdH
	S5	M	34	H	Lab Technician	T	DH
Potential Prosumers	P1	M	32	S	Catering Activity	T	SdH
	P2	M	33	H	Physiotherapist	ST	SdH
	P3	M	49	H	Business Analyst	V	SdH
	P4	M	39	S	IT Specialist	LC	DH
	P5	F	42	S	Clerk	V	DH
	P6	M	40	H	Logitics	ST	DH

Gender:
M - male,
F - female,

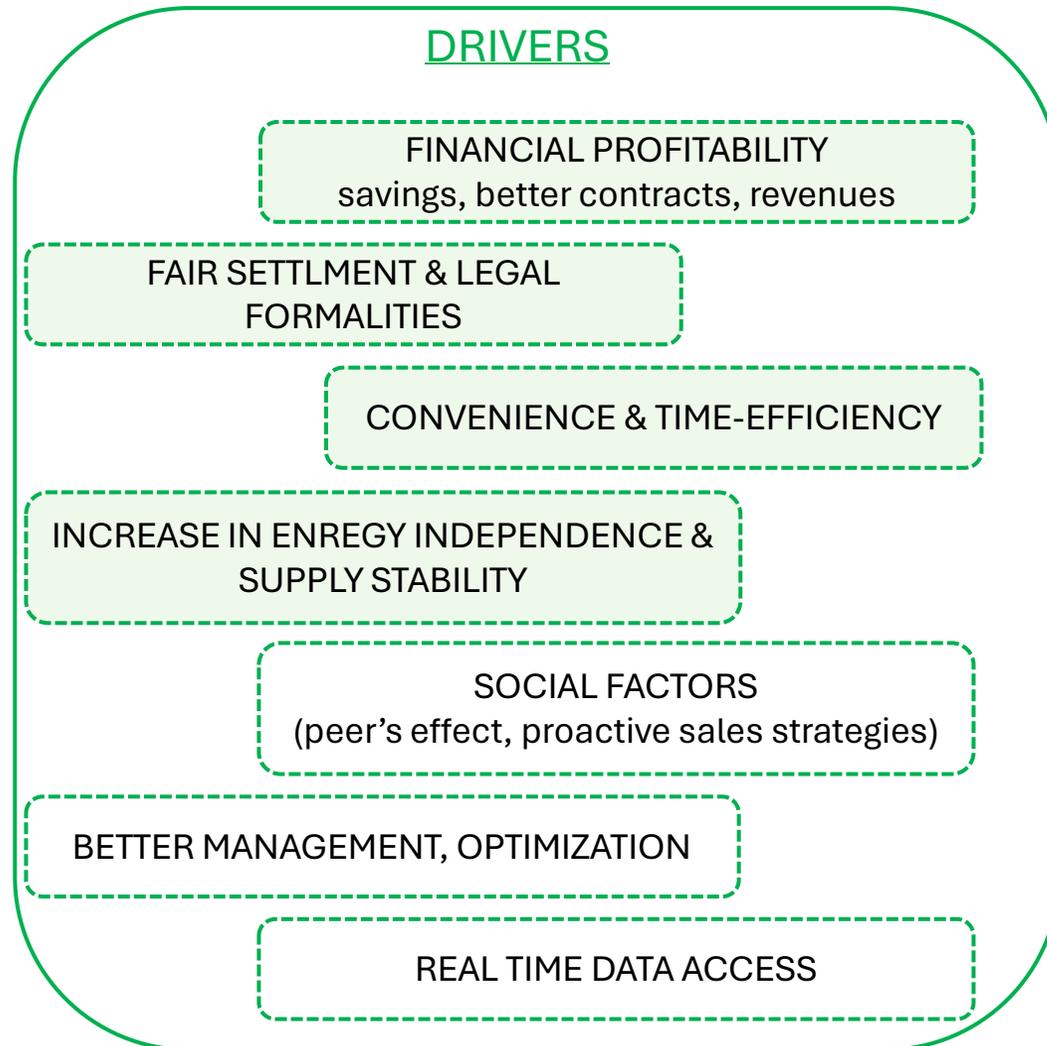
Education:
H - higher education,
S - secondary education;

Residence:
V - a village;
ST - a small town (< 30,000 inh.)
T - a town (30,000 - 100,000 inh.)
LC - a large city (>100,000 inh.)

House:
DH - a detached house,
SdH - a semi-detached house



Results - Key drivers to participation in REC for prosumers



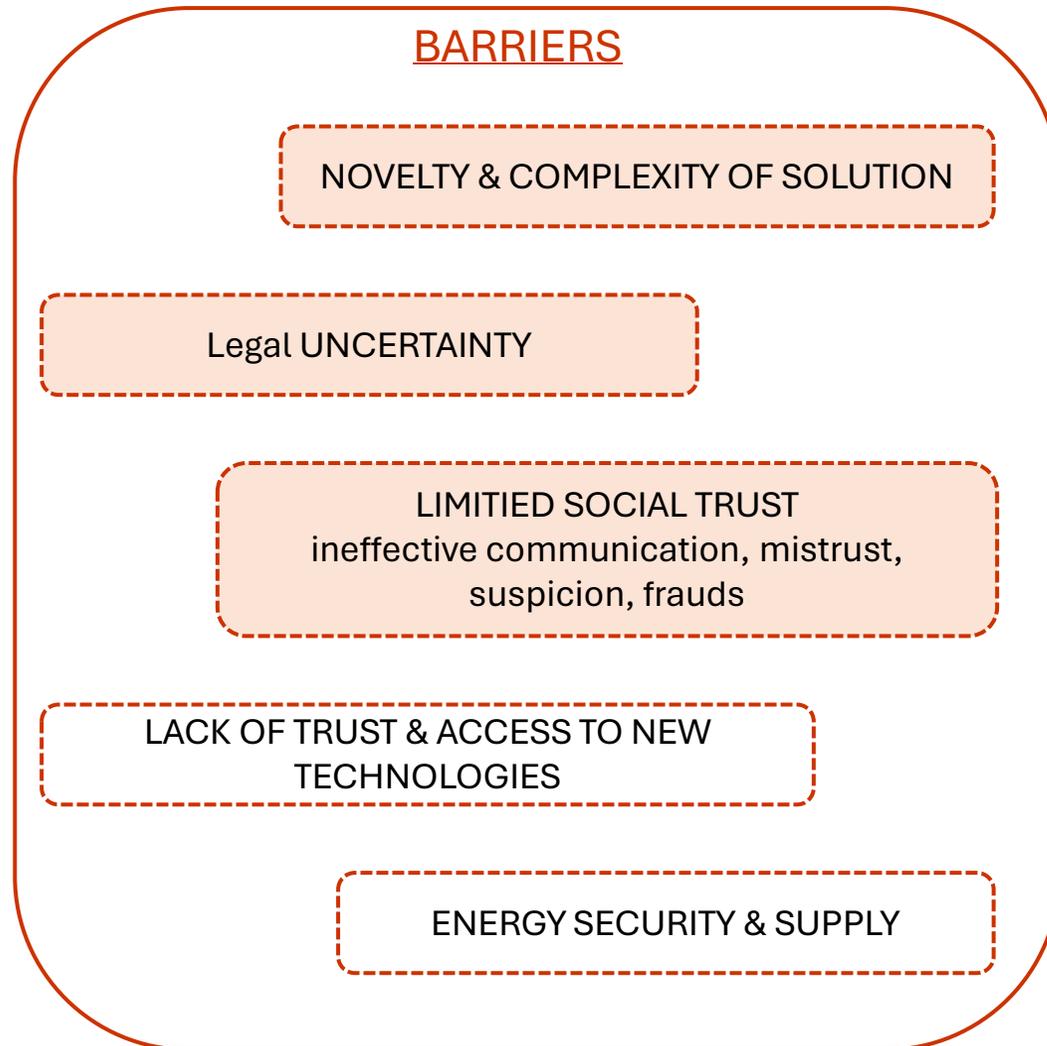
„If participating in REC is cheaper than selling excess energy to the grid, it would be appealing” (P2)

*„Well thought out, so that one does not benefit more while the other benefit less” (L1)
„Clear rules and regulations for the donation and collection of energy” (S3)*

„That would be ok, so that this app controls itself” (L5)

„Greater independence of a community, coverage of demand even in case of power system failure” (S5)

Results – Key barriers to participation in REC for prosumers

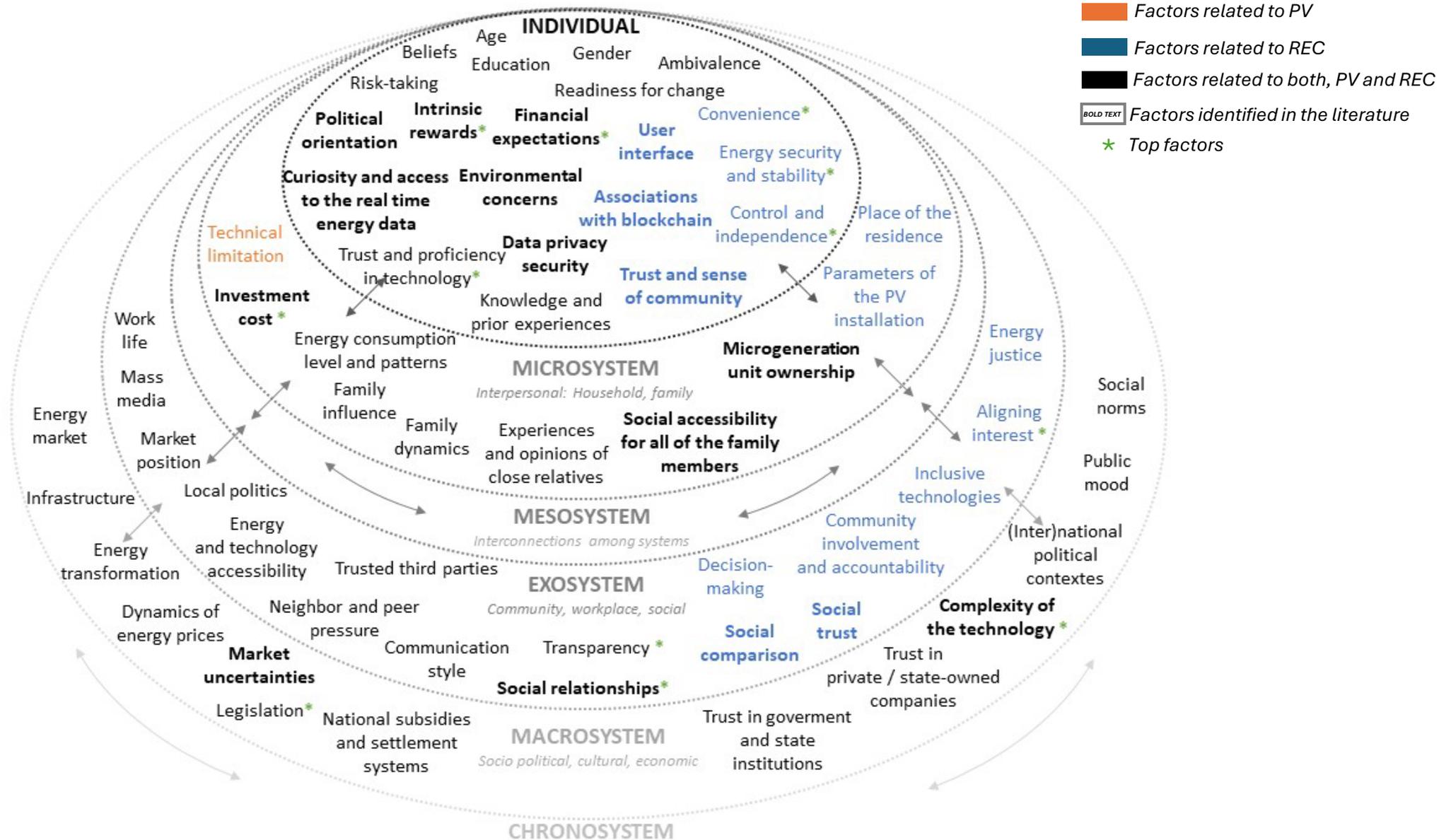


„I feel uncertain because it is something that does not exist at the moment” (S4)

„Regulations should be simple. Our regulations are so complex that we look for holes in the whole thing and look for workarounds to get around the regulation” (P5)

„How to divide this electricity so that it is enough for everyone, and no one has complaints?” (P5)

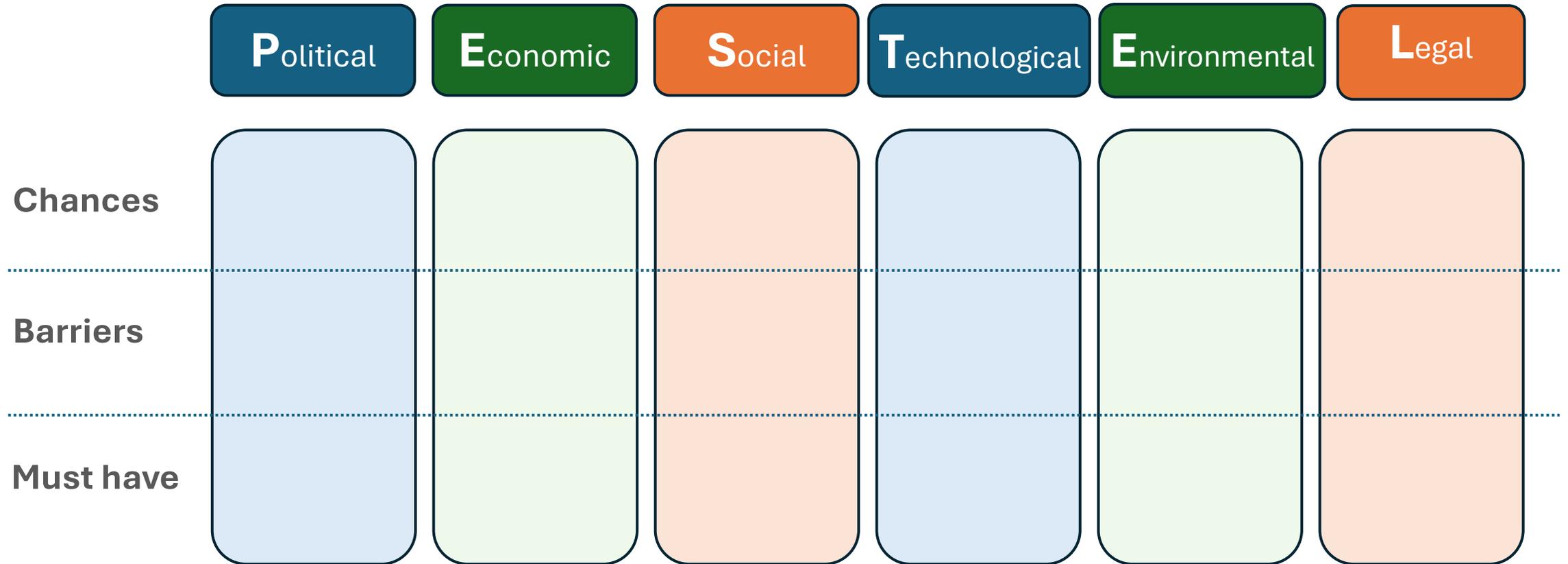
Bronfenbrenner's socio-ecological model



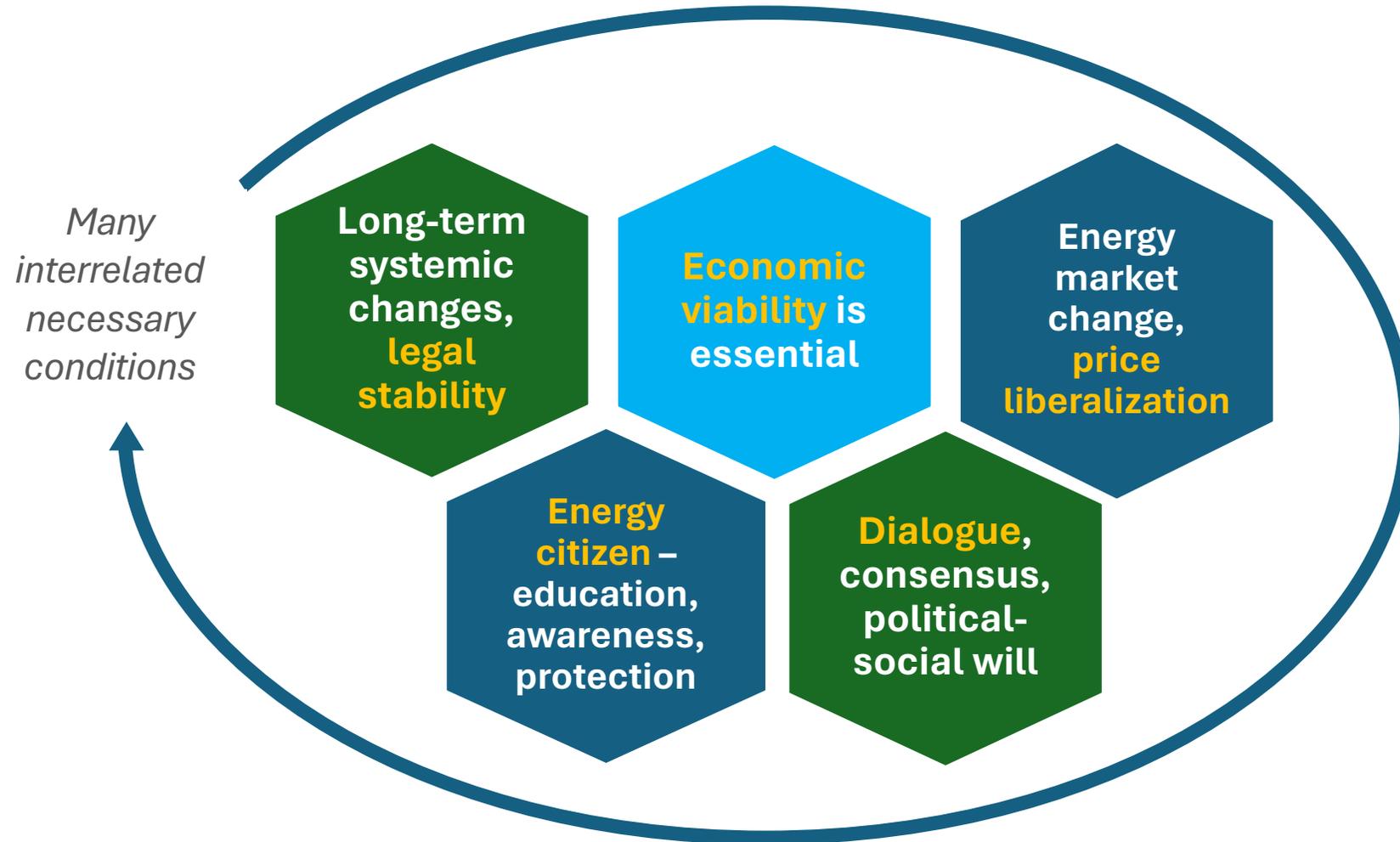
Experts - sample description

	Policy creation, implementation & examination	Managing a company in the energy sector	Energy cooperatives & clusters	R&D in industry / Academia	IT solutions/ technology innovation	Environmental & climate protection	Social aspects / energy poverty
E1	x						
E2				x		x	x
E3		x	x				
E4					x		x
E5				x	x	x	
E6		x					
E7	x			x			
E8		x					
E9		x			x		
E10		x			x		
E11			x				x
E12				x			
E13		x	x				
E14	x	x					

PESTEL Analysis



PESTEL Analysis



Key takeaways



Operational REC model should be flexible and individually tailored to the characteristics of the REC stakeholders and local conditions



Economic viability of REC is essential



Effective REC management is crucial



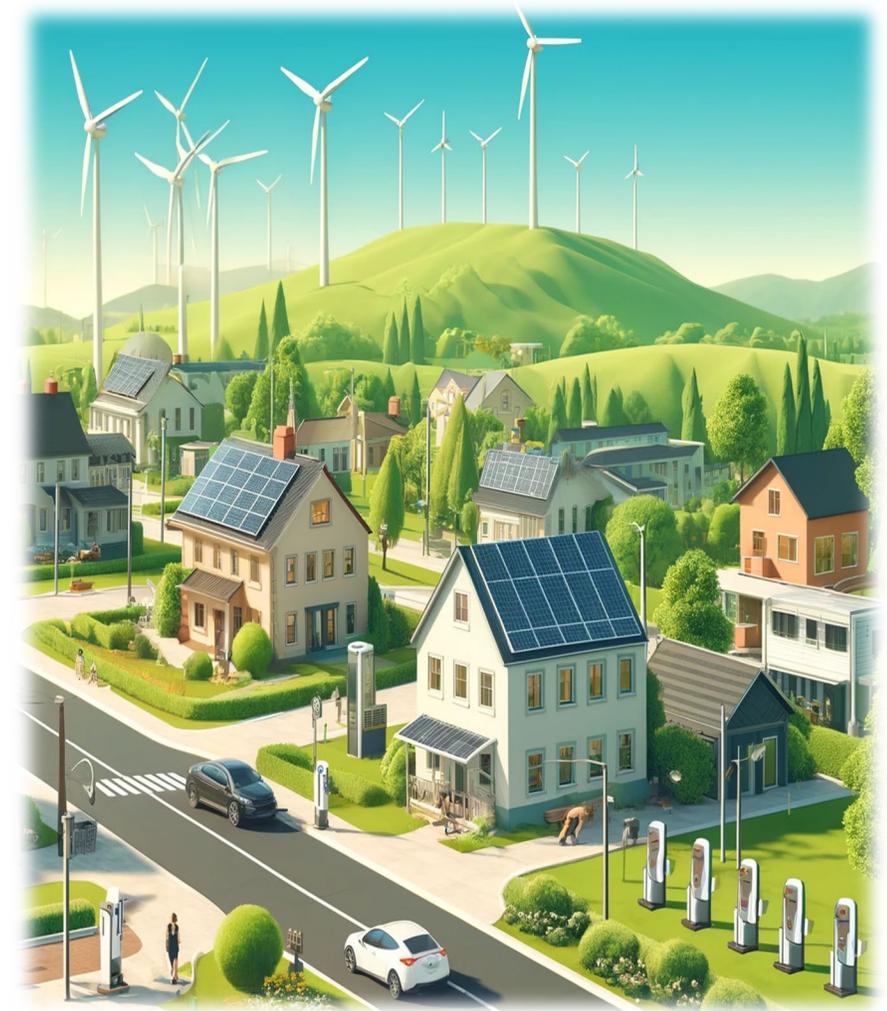
Need for appropriate communication strategies (i.e. cohort effect, generational differences) and pilot projects



Similarity of drivers & barriers for PV and REC adoption

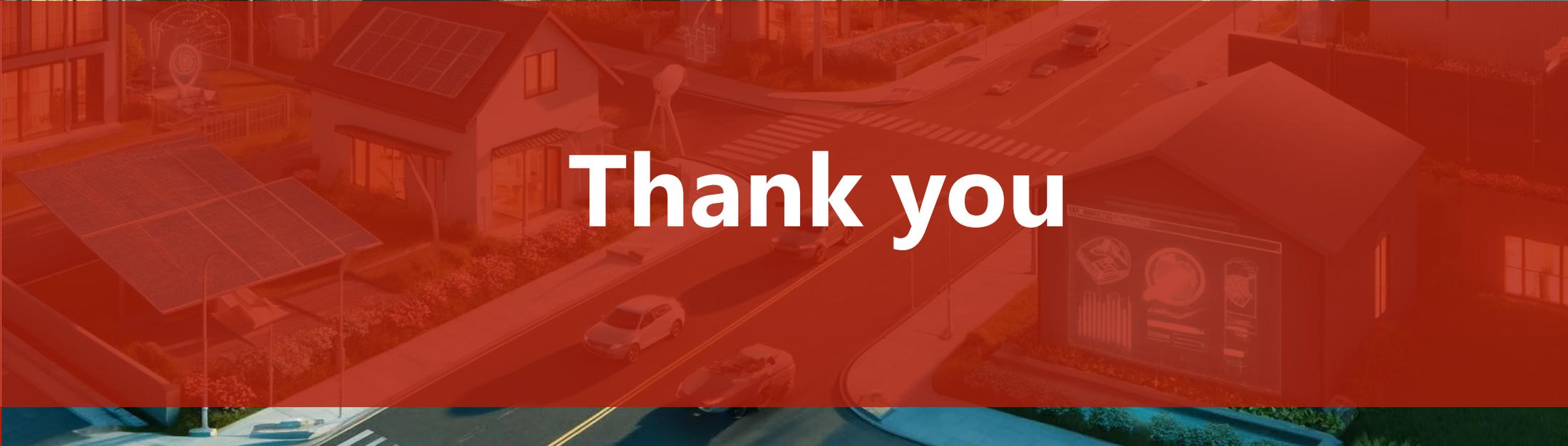


Prosumers as advocates of REC solutions





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Thank you



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