Enabling consumer to learn, engage and adopt self-generation with renewables

H2020 project
Start: 01/09/2017
End: 28/02/2020

Partners:
BEUC –ICRT- DECO (Portugal)- OCU (Spain)- Altro Consumo (Italy), MIPOR (Slovenia), DTEST (Czech Republic), Test-Achats (Belgium)

Clear 2.0. It will **actively guide consumers through all the stages leading to the purchase of domestic renewable** and low-carbon energy technologies. It has the objective to enable consumers to become more aware, active players, to save money and to easily become "prosumers".

It builds on the foundation of IEE funded project CLEAR

The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402

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EE-RES- and consumer behaviour

Clear 2.0 wants to answer the following question:
how can we influence consumer and supporting consumers in changing their behaviour to achieve:

- Overall reduction of energy consumption (heating, cooling, electricity)
- Optimisation of systems (RES and not)
- Optimise and maximise self-consumption (prosumers)

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Approach

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- ✓ Defining the scope and the needs of each country
- ✓ Defining the families profiles most interesting for each country (this will assure the multiplying effect when we will generalise the communication)
- ✓ Testing in laboratories several EU monitoring systems to evaluate the performances and the capacity to answer our needs
- ✓ Recruiting families fitting within the predefined profiles
- ✓ Installing the monitoring systems (plus “audit” of families’ appliances)

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Approach

Done

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Next

- ➢ Defining baseline for each family (and each profile type)
- ➢ Interact with families to support their changing behaviour
- ➢ Continuous monitoring and alerts
- ➢ Extrapolate results
- ➢ Learning and generalisation
- ➢ Roll-out target communication campaigns to maximise results

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Monitoring systems

Cloogy	Go	139 €	PT	SP**
	Home			
	Renewable			
OWL	Intuition-e			
	OWL + USB			
	Intuition-PV			
	Intuition-c/h			
Efergy Engage	HUB KIT			
	E2 + USB			
Smappee	Energy			
	Plus			
Mirubee	Mono			
	Moti-1			
IPDOMO	smart met			
ENDESA	NEXO			
Wattio	marthome Energ			
Wibeee	Circutor			
Voltaide - SENTRY				
Wiser - Schneider Electric				
E-GOODLIFE ENEL Energia				
Edison				

- ✓ 300-600 € +installation costs (reasonable ROI difficult to achieve)
- ✓ Often do not have retailers or local suppliers/network of installers in all countries
- ✓ Basic start-kit usually below 200 € but not so much useful often need to invest in other devices as smart plugs (aggregated figures do not help consumers)
- ✓ Sufficient level of accuracy for Merubee, Smappy and Cloogy
- ✓ Are difficult to install (sometimes even impossible)
- ✓ Self-learning monitoring systems are improving their detection algorithms but they have still issues and needs dedicated costumers to set it out
- ✓ Needs extremely dedicated costumer to install, personalise it and use it.

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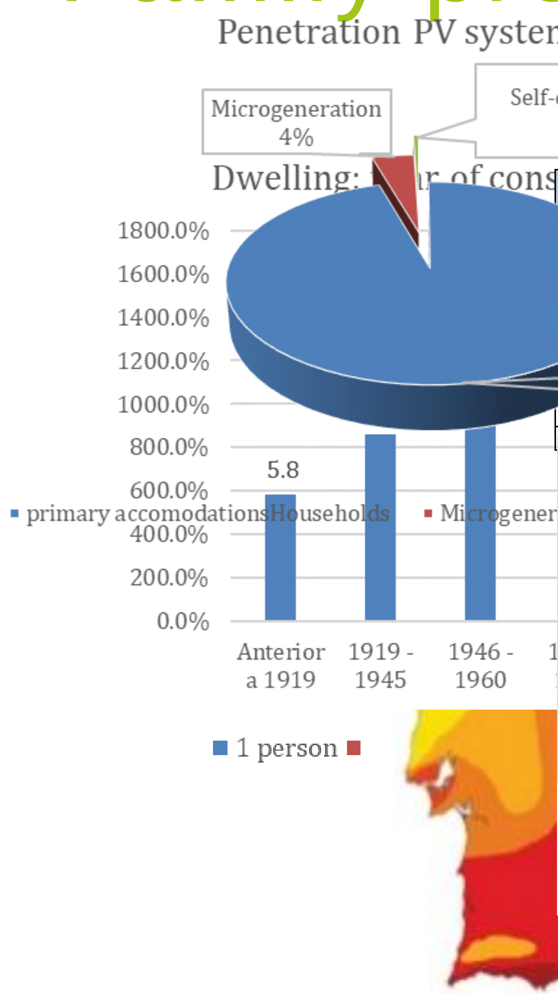
Family profiles

The study of the household's profiles has allowed the consortium to match the behaviour of the chosen families with the societal tvpology in BE-ES-IT-PT-CZ-SL



Geográfic Zone	Contract Power (kVa)												
	1,15	2,3	3,45	4,6	5,75	6,9	10,35	13,8	17,25	20,7	27,6	34,5	41,4
	6,2%	0,9%	46,3%	6,3%	3,0%	24,5%	5,7%	2,5%	0,9%	2,6%	0,4%	0,3%	0,4%
	4,3%	1,0%	44,8%	7,4%	3,3%	24,8%	6,6%	2,9%	1,0%	2,8%	0,4%	0,3%	0,4%
-Montes	10,6%	0,9%	49,9%	3,9%	2,1%	23,8%	3,7%	1,6%	0,5%	2,2%	0,3%	0,2%	0,3%
	3,3%	0,7%	29,2%	8,7%	4,1%	35,2%	9,9%	3,9%	1,3%	2,6%	0,4%	0,3%	0,5%
	6,1%	1,0%	45,4%	6,1%	2,8%	25,6%	6,3%	2,3%	0,7%	2,7%	0,3%	0,3%	0,4%
Litoral	5,0%	0,8%	43,0%	6,0%	2,9%	27,8%	7,2%	2,6%	0,8%	2,9%	0,3%	0,3%	0,4%
er Interior	8,7%	1,3%	50,8%	6,4%	2,8%	20,5%	4,2%	1,6%	0,5%	2,4%	0,3%	0,2%	0,3%
boa	5,8%	0,6%	49,7%	5,9%	2,9%	21,5%	6,1%	2,5%	0,9%	2,9%	0,4%	0,4%	0,3%
Alentejo	6,3%	0,8%	50,4%	5,3%	3,4%	21,9%	4,6%	2,3%	0,6%	3,1%	0,4%	0,3%	0,5%

geographical area	number of rooms in the house by %						
	Total	1	2	3	4	5	6+
Years	2011	2011	2011	2011	2011	2011	2011
North	34,6	27,6	31,7	31,5	30,6	35,9	38,6
Porto	16,9	16,6	19,1	19,9	17,7	16,0	16,1
Trás-os-Montes	1,2	0,9	0,9	0,7	0,7	1,3	1,9
Center	23,4	15,9	16,2	15,5	17,7	24,7	31,5
Lisboa	29,5	39,4	37,6	38,8	38,8	27,3	18,2
Alentejo	7,8	9,1	8,1	7,6	7,5	7,8	8,3
Algarve	4,7	7,9	6,4	6,6	5,4	4,3	3,5

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Family profiles in PT

Geografic Zones	Prim. Accom.	Profile A Without RES		
National	3 997 724	3 409 110	85%	77%*
Minho	422 669	329 682	79%	
Trás-os-Montes	250 828	203 720	81%	
Oporto	647 363	584 987	87%	
Center Litoral	663 386	530 709	80%	
Center Interior	231 928	187 862	80%	
Lisbon	1 129 789	1 002 966	89%	
Alentejo	299 764	252 322	84%	
South/Algarve	179 304	151 584	85%	
Açores	80 527	75 467	94%	
Madeira	92 166	89 813	97%	

		Profile A.1 (without heating) water boiler/ termoacumulator		Profile A.2 (Eletric portable heating / water boiler)			Profile A.3 (fireplace e LPG heater GPL/ water boiler)			Profile A.4 (Central heating boiler)		
Nacional	3997724	562730	14%	1696361	42%	38%*	680225	17%	15%*	469794	12%	11%*
Minho	422669	50720	12%	126 801	30%		76080	18%		76 080	18%	
Trás-os-Montes	250828	5017	2%	52 674	21%		88339	35%		57 690	23%	
Oporto	647363	99001	15%	343980	53%		41829	6%		100177	15%	
Center Litoral	663386	39803	6%	165 847	25%		232185	35%		92 874	14%	
Center Interior	231928	13916	6%	62 621	27%		81175	35%		30 151	13%	
Lisbon	1129789	172834	15%	677 873	60%		61875	5%		90 383	8%	
Alentejo	299764	16903	6%	149 882	50%		73546	25%		11 991	4%	
South/Algarve	179304	44686	25%	80658	45%		19068	11%		7 172	4%	
Açores	80527	47983	60%	21621	27%		4000	5%		1863	2%	
Madeira	92166	71867	78%	14405	16%		2128	2%		1413	2%	

A→non use of RES

A.1 Without boiler/accumulator

A.2 Electrical portable heating

A.3 fire place/LPG heater and GPL

A.4 central heating boiler

B → having RES (biomass, heat pumps, Photovoltaic, solar thermal..)

C→ optimised system with PV and EV cars

D → optimised system with PV and/or solar thermal with accumulator or batteries

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Recruiting families

Profi
BE
IT
PT
CZ
SL
SP

TEST ac

NEWS

WANTED : familles équipées de

09 avril 2018

09 avril 2018

Nous lançons une étude sur le profil de conson
électrique de différentes familles belges. Les fa
participantes se verront outillées d'un système
monitoring et bénéficieront d'un suivi personn
expert de Test Achats. L'objectif est d'évaluer l
avant, pendant et après notre intervention.

Dans le cadre du projet Clear 2.0 qui vise à favoriser l'u
renouvelables en Europe et à réduire la consommation
Achats s'engage et veut aider les consommateurs à réd
énergétiques.

Mieux utiliser ma production d'énergie renouv

Cuisinière, frigo, lave-vaisselle, lave-linge, sèche-linge,
... nos maisons sont remplies d'appareils électriques qu
ou moins d'électricité. Pour diminuer votre facture, vou
d'investir dans des panneaux photovoltaïques, mais vo
elle utilisée de manière optimale ?

CasaRinnovabile.it

Powered by Altroconsumo AC

CasaRinnovabile ti aspetta

Caro Membro della Community,

CasaRinnovabile rinnova la sua casa: dagli inizi di gi
Altroconsumo dove ci sarà una nuova sezione total

Per questo ti invitiamo a partecipare a questo semplic
informazioni per migliorare il progetto.
Inoltre potrai riservarti la possibilità, totalmente libera
selezione per alcune delle prossime attività di studio s
case italiane. Clicca QUI!

DECO PROTESTE DEFESA DO CONSUMIDOR | TESTES COMPARATIVOS | AÇÕES COLETIVAS | RECLAMAR | QUEM SOMOS O QUE FAZEMOS | DESCUBRA-NOS DURANTE 2 MESES POR APENAS 5€ Saiba Mais

DECO PROTESTE > Energias Renováveis > Produzir eletricidade >
Junte-se a nós! Processo de seleção de famílias para o projeto de monitorização e eficiência energética.

Bruno Miguel | Moderador
28/05/2018

Junte-se a nós! Processo de seleção de famílias...

Produzir eletricidade

Quer começar um novo tema? Não encontrou o que procura?

COMECE UMA NOVA CONVERSA

Procure por conversas relacionadas

Pesquise na comunidade

ESTUDIO
Proyecto Clear

Tres millones de árboles plantados

Es el equivalente a la reducción de emisiones de CO_2, si el 1% de las casas unifamiliares incluyeran tres sencillos sistemas de energía renovable.

renovamos.org

UNA CASA, 3 MEJORAS... 52 NUEVOS ÁRBOLES

Pequeño chalet de 100 m² en la Comunidad de Madrid		Árboles plantados (n°) (1)	Ahorro aproximado en la factura (euros/año)	Amortización del sistema (años)
PANELES FOTOVOLTAICOS (dos de 250 W cada uno)	Para electricidad propia en vez de comprarla a una compañía.	5	116	14
AIRE ACONDICIONADO con bomba de calor (2,5 KW)	Para aire frío frente a un aire sin bomba de calor	20	64	12
	Para calefacción frente a una caldera de gasoil	15	54	21
ESTUFA DE PELLETS (8 Kw)	Para calefacción frente a una caldera de gasoil	12	100	10

(1) Cada árbol plantado equivale a unos 40 kg de CO_2 que dejarían de emitirse a la atmósfera cada año.

ocu
¿Y usted, no se anima?, ¿desconfía de estos sistemas?, ¿cree que no sale rentable? Ayúdenos a identificar las trabas con una breve encuesta: www.renovamos.org/tu-opinas

www.ocu.org — octubre 2017 • OCU-Compra Maestra 429 31

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First learnings

Installation issues

- Family change Wi-fi Router connection
- Some problems with some internet operators to configure the router (gates and Hz)
- Family try to access the equipment and lost the connection between the system and the wi-fi.
- Plugs (monitoring in some parts of the house don’t get wi-fi covered) or stop working

Feedback from families

- Motivated till now
- Some of them are interested to adopt RES
- Half of them accepted being interviewed
- Sometimes they don’t act like we suggested (e.g. moving the monitoring plug or delivering or sending date/information on time)
- All-over openness on receiving advices by Consumer organisations but sometimes resistance in changing behaviour (e.g. temperature regulation, use of certain equipment, or the don’t like to use one or other appliance, …)

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First learnings

Measurements

- different energy consumptions per day for the some appliances (example: fridge)
- profile A in Portugal is apparently overheating: A.3,wood fireplace , and A.4, central heating gpl, gas
- it is common ambience heating at the evening/night of the working days (switching it off only for 2-3h) and continuous heating during the weekends (24h).
- Photovoltaic production often higher than consumed by the dwelling (20% on average tbc)
- For Portugal central heating profile with Gas source (Petrol - Profile A.4) proves to be the one with the highest consumptions.
- For Portugal the consumption of electric portable equipment has shown a reasonable consumption per day due to the smaller hours of use per day

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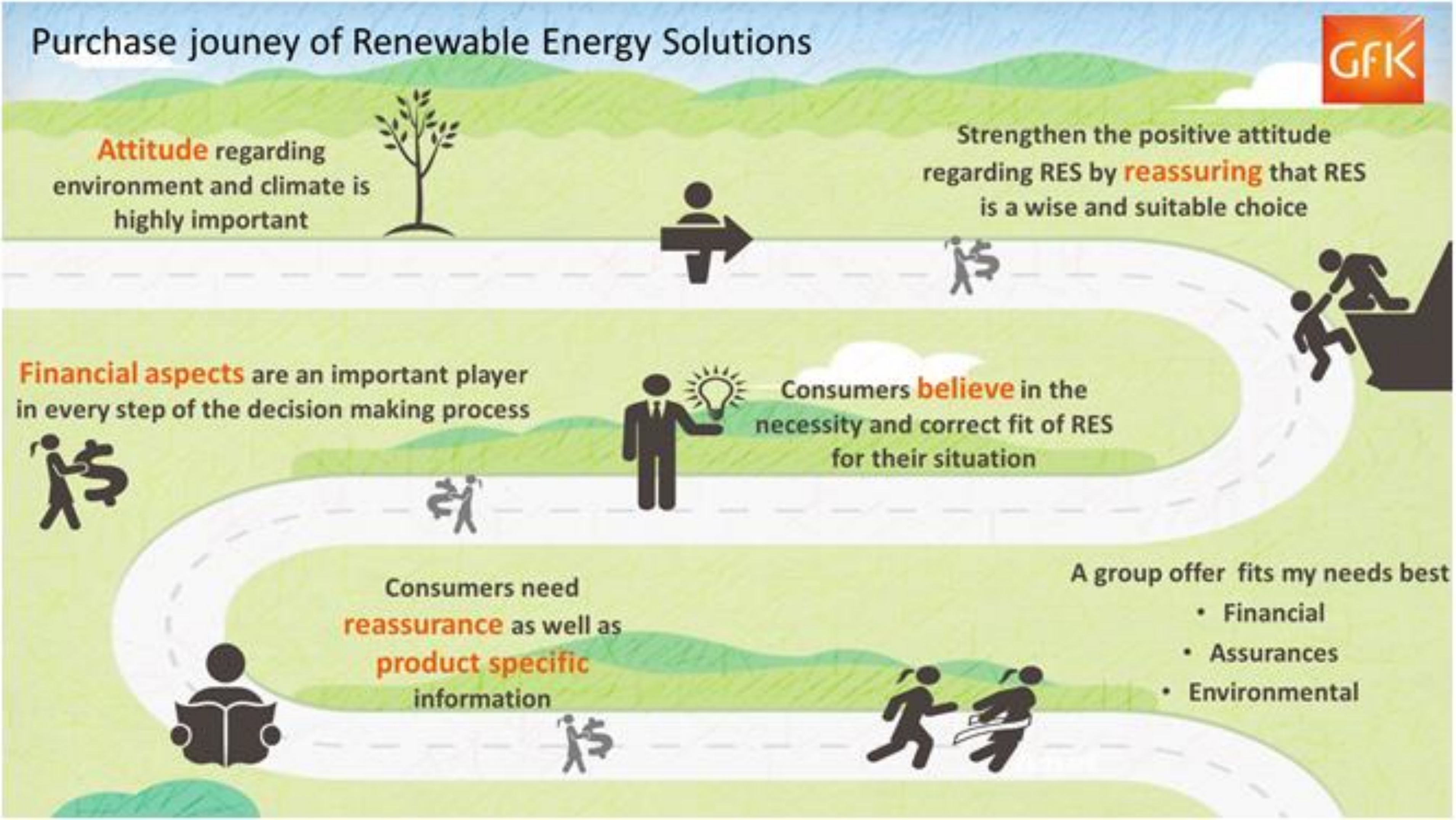

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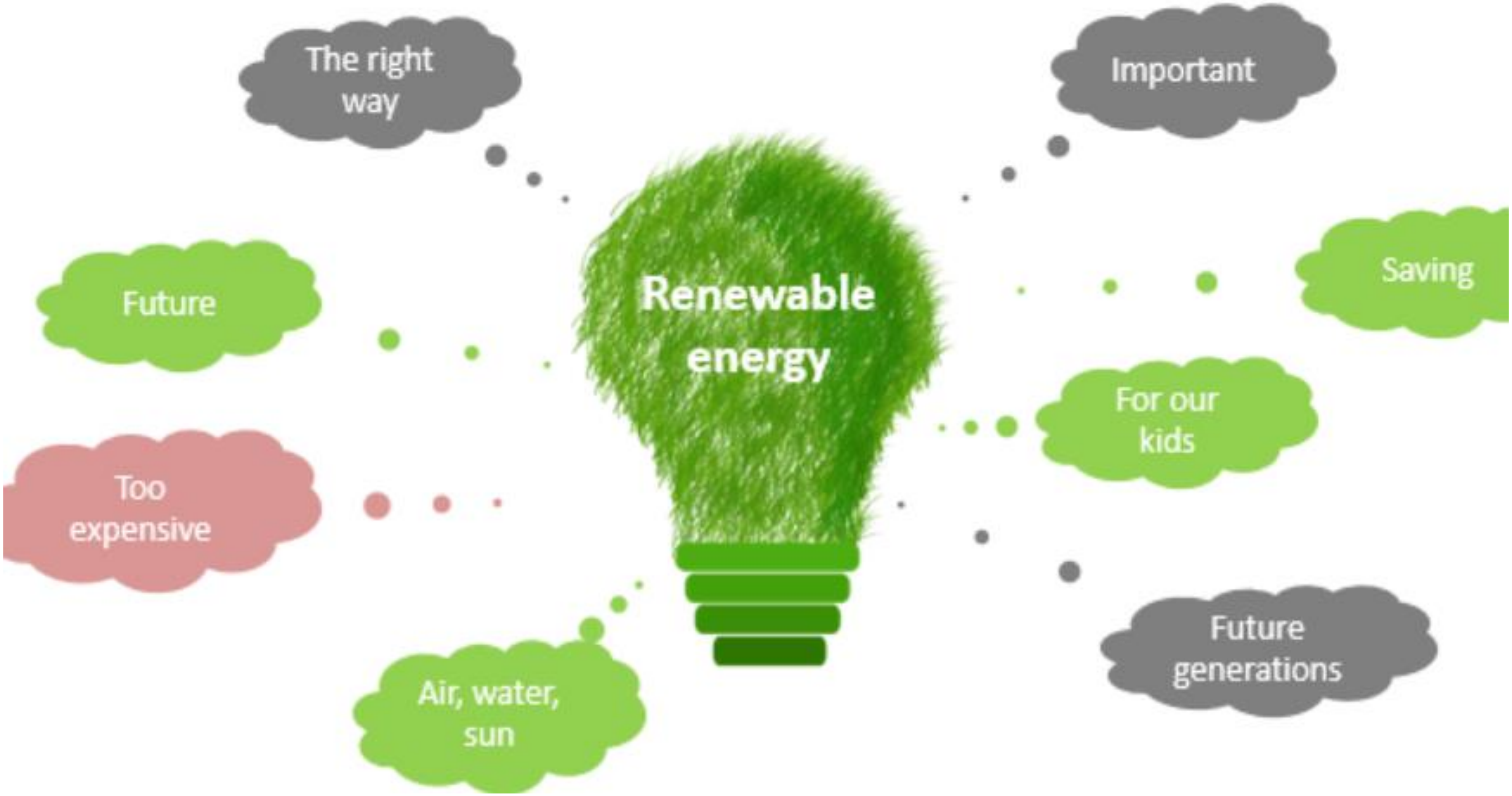

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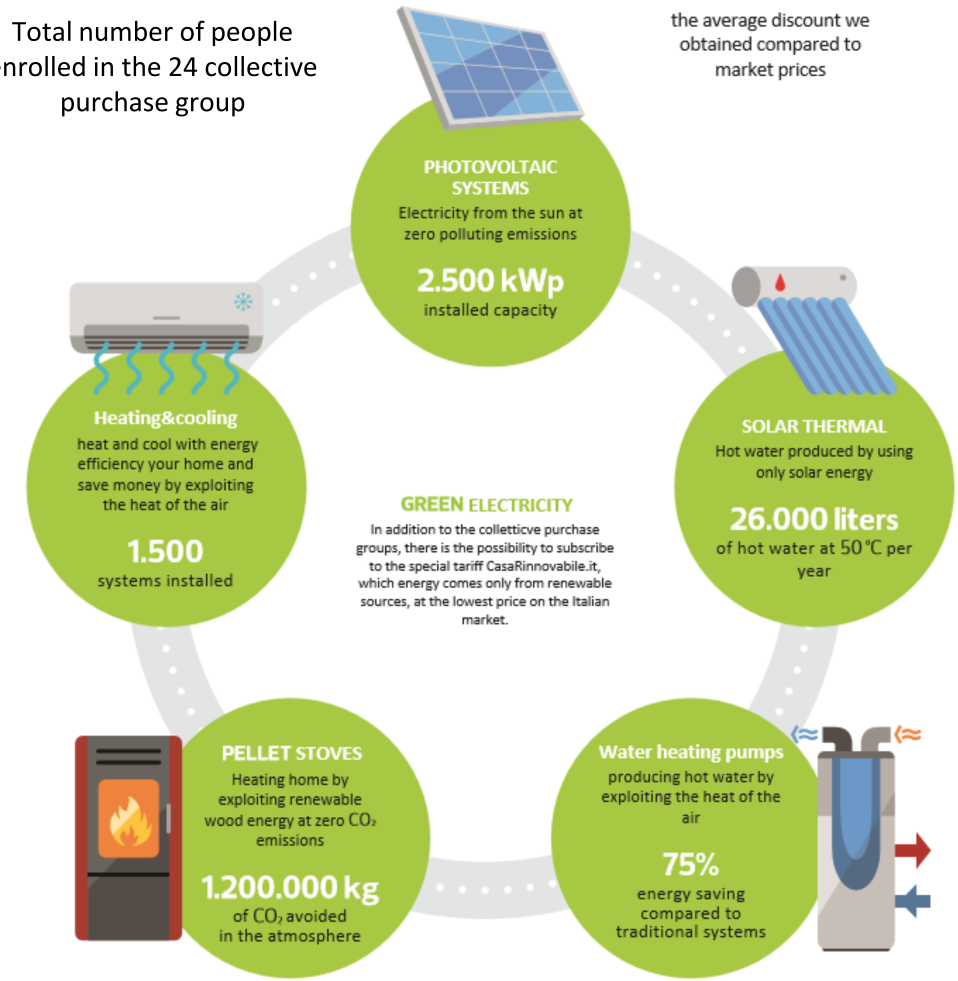
CLEAR Results

100.000

Total number of people enrolled in the 24 collective purchase group

–40%

the average discount we obtained compared to market prices



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Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables

CLEAR 2.0 Results*

Country	Technology	Planned	Status	Engagement	Users	Registration Conversion rate	Sessions	Total Installations
Italy	Photovoltaic	September 2018	Launched	3.571	23.387	15%	28.647	103
Italy	Airconditioning	June 2018	Closed	1.169	9.312	13%	11.192	312
Portugal	Photovoltaic	November 2018	Launched	742	6.103	12%	7.114	2
Spain	Photovoltaic	January 2018	Closed	1.983	9.361	21%	11.167	50
Spain	HPHC	Nov 2018	On going	487				37
Spain	Pellet	Dec 2018	On going	500				
Belgium	Photovoltaic	June 2018	Closed	4700				565
Slovenia	Airconditioning	January 2019	On the 2nd phase	6.102	18.107	34%	24.746	151
Czeck Republic	Photovoltaic	January 2019	Launched	13.957	37.649	37%	59.137	0
				33200	103.919	26,5%	142.003	1220

*** 28/02/2019**

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Consumers are open to invest in renewable energy solutions if they are aware of it and when it is financially viable and they are reassure by the stability of the regulatory framework

BARRIERS TO IMPLEMENT SUSTAINABLE ENERGY

- **Purchase price**
- **Limited knowledge**
- Needing to **change/renovate the house**
- **Uncertainty** about regulations and subsidies

WAYS TO OVERCOME BARRIERS

- Providing **information and knowledge** about each of these initiatives
- **Financial help, subsidization and collective buying** (of solar panels) will encourage people.
- **Personalized proposals**, tailored for people's house, habits and lifestyle, to gain insights in the profits.

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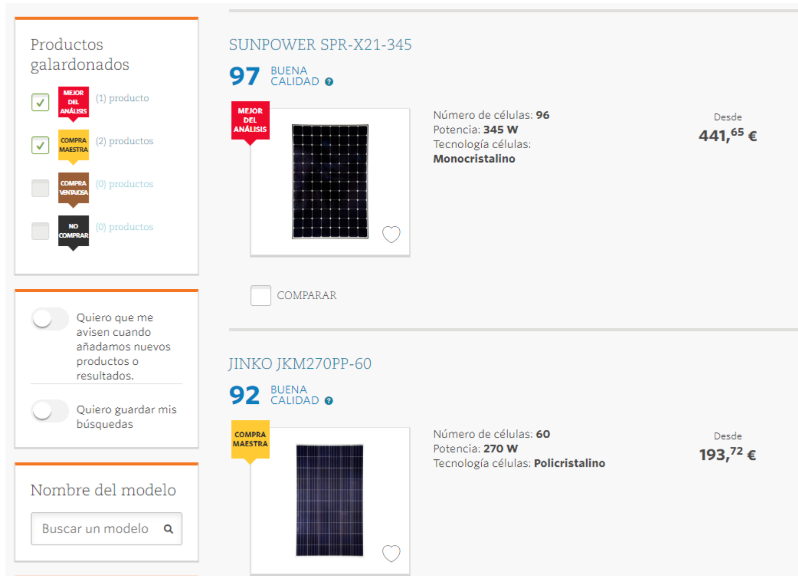
CLEAR 2.0

2018
COLLECTIVE PURCHASES

SPAIN PHOTOVOLTAIC

120 DAYS (25th Jan-24th May)	1.983 registrations	50	CLOSED
Duration	Engagement	Installations	

PV Kit
Link with the decision making tool
Negotiated advantage



Spain: often high interest and still difficult to pass at the real purchase. From CLEAR survey it appears ¼ of subscribers still purchase but later and /or with other providers

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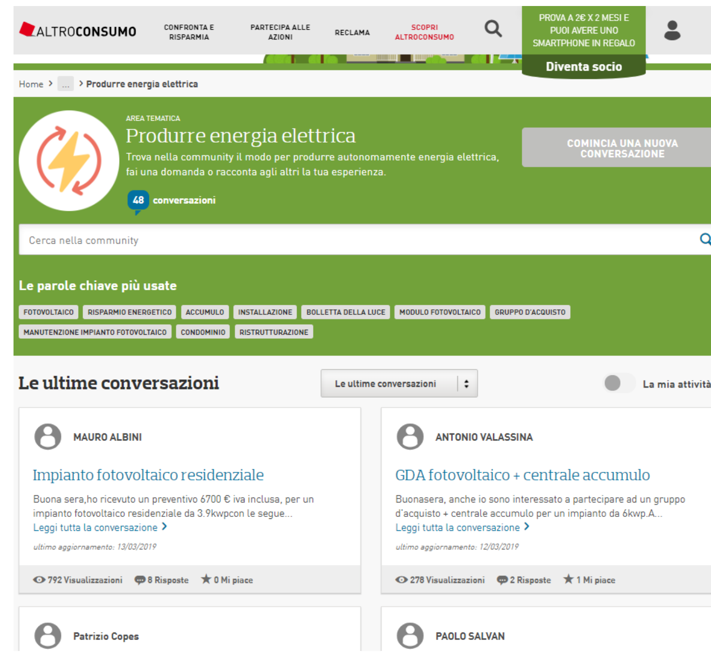
CLEAR 2.0

2018
COLLECTIVE PURCHASES

ITA PHOTOVOLTAIC

365 DAYS (Launched on 6th Jun)	3.734 registrations	103	ON GOING
Duration	Engagement	Installations	

PV installations
3 offers
Negotiated advantages



Italy: Mature market with regular interest year after year.
Previous year very good conversion to purchase above 12%

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Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables

CLEAR 2.0

2018
COLLECTIVE PURCHASES

BELGIUM PHOTOVOLTAIC

Duration	Engagement	Installations	
80DAYS (Launched on 6th Jun 2018)	4700 registrations	565	ON GOING

PV installations Up to 1200€ Discount
Negotiated advantages

Belgium: year after year Belgian consumers keep high their interest on the PV group purchase with more than 12% conversion rate+ other 10% purchase via other installers or late in the year. High competition in the market and in the three regions the rules and subsidies are different and change regularly

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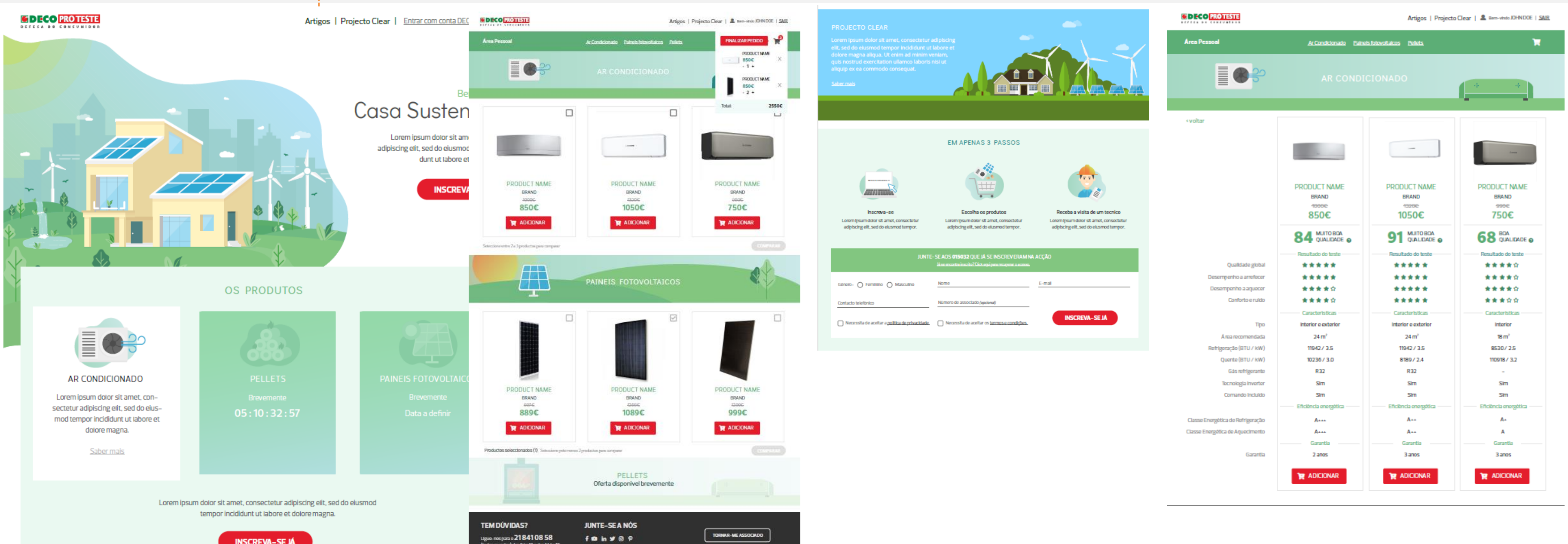
CLEAR 2.0

2018
COLLECTIVE PURCHASES

POR PHOTOVOLTAIC & HPHC

365 DAYS (Launched on 3rd Dec)	742 registrations	n.a.	ON GOING
Duration	Engagement	Installations	

Two actions at the same time. Open all the year Nnegotiated advantages



Portugal: difficult to negotiate with the Market compare to previous actions. Installers and producers to not offer high discount. Portugal has launched in one unique city wherein it has found a good deal for consumers via installers.

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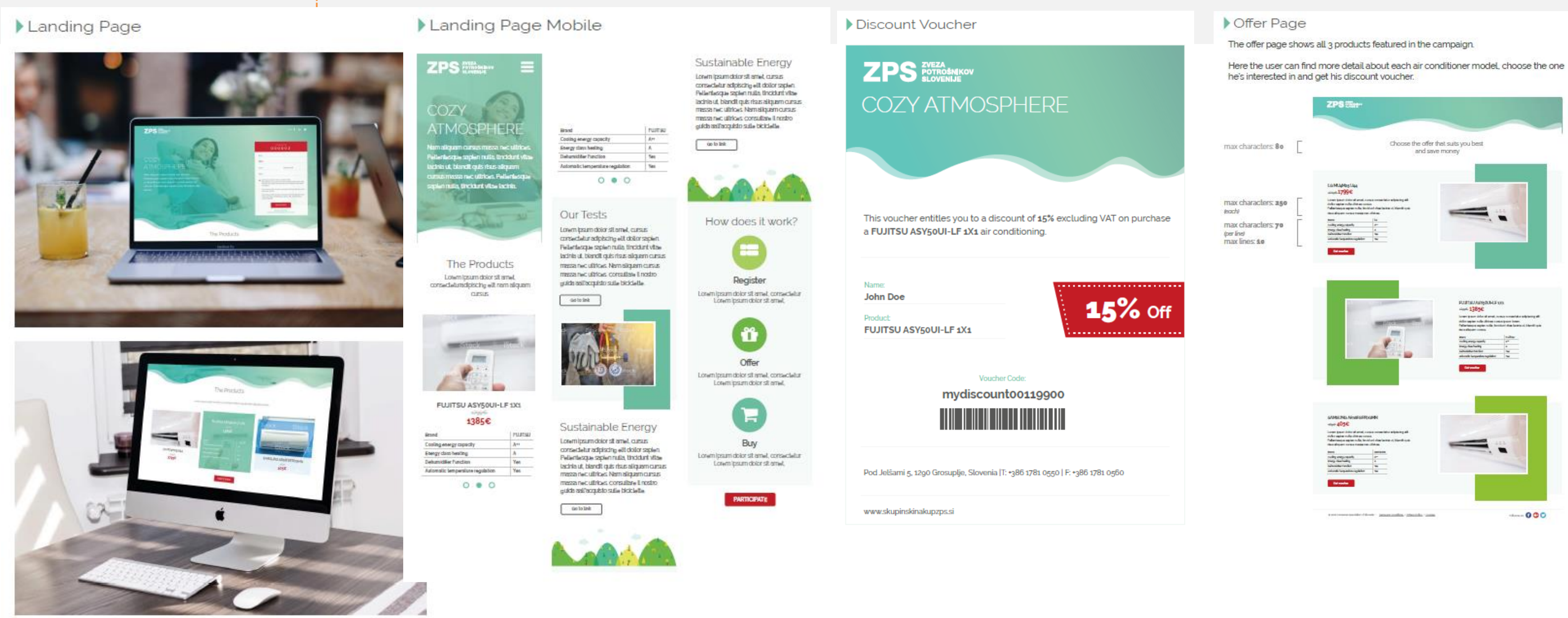
CLEAR 2.0

2019
COLLECTIVE PURCHASES

SLOVENIA HPHC

Duration	Engagement	Installations	
103 DAYS (Launched on 9th Jan 19)	6.102 registrations	151 On-going	ON GOING

First GP of technology in Slovenia. Great success



SLOVENIA: Good negotiation, very impressive results due to an optimal communication, high reputation of ZPS and an open market. ZPS itself is surprised of the welcome by consumers. Installers are afraid not to be able to match consumers'expectations due to such and high demand.

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Clear 2.0

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CLEAR 2.0

2019
COLLECTIVE PURCHASES

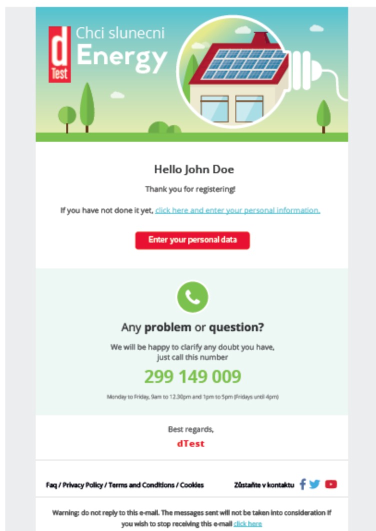
CZ REP PHOTOVOLTAIC

Duration	Engagement	Installations	
365 DAYS (Launched on 16th Jan 19)	13.957 registrations	Not in offer phase yet	ON GOING

First GP of technology in CZ. Astonishing and unexpected success

Landing Page

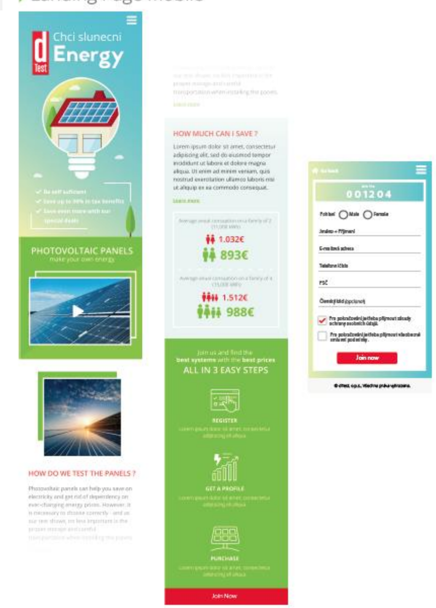
Thank You Email



Consumption Page

On this page, the user will fill in his data.

Landing Page Mobile



CZ: great success due to impressive communication plan with 6000 registrations in one single day, open mind of consumers and reputation of DTEST. PV installations are not so common in CZ and apparently there is good interest in the market.

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Take-aways

- ✓ CLEAR and CLEAR 2.0 showed us that stability of the regulatory and legal framework and financial viability in the short and long term are important when consumers should invest large amounts.
- ✓ Mature technologies as photovoltaic installations or HPHC found better predisposition in the market although more difficult negotiations with market players.
- ✓ Spain and Portugal are facing difficulties in negotiating with the market and in engaging with consumers
- ✓ CZ and SL have launched their first group purchase on RES with great success and very good welcome by consumers
- ✓ RES for tenants and apartment blocks is still difficult. Clear 2.0 has tried to reach this market but so far in all the countries CLEAR 2.0 attempts have failed.
- ✓ Clear, easy, accessible and complete information to consumers is necessary (including risk assessment).

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Questions?

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