

APPENDIX

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Exhibit 1 – Electricity Prices for Domestic Costumers in Portugal (in real terms) – 2011-2016

**SOURCE: Eurostat,
2016**

Electricity prices for domestic consumers - bi-annual data (2011-2016)										
Currency: Purchasing Power Standard										
Portugal	2011S2	2012S1	2012S2	2013S1	2013S2	2014S1	2014S2	2015S1	2015S2	2016S1
All taxes included	0,2291	0,2501	0,2589	0,2669	0,2733	0,2796	0,2868	0,293	0,2932	0,3018
Growth Rate		9,17%	3,52%	3,09%	2,40%	2,31%	2,58%	2,16%	0,07%	2,9%

Exhibit 2 – Revenue of Electricity trade

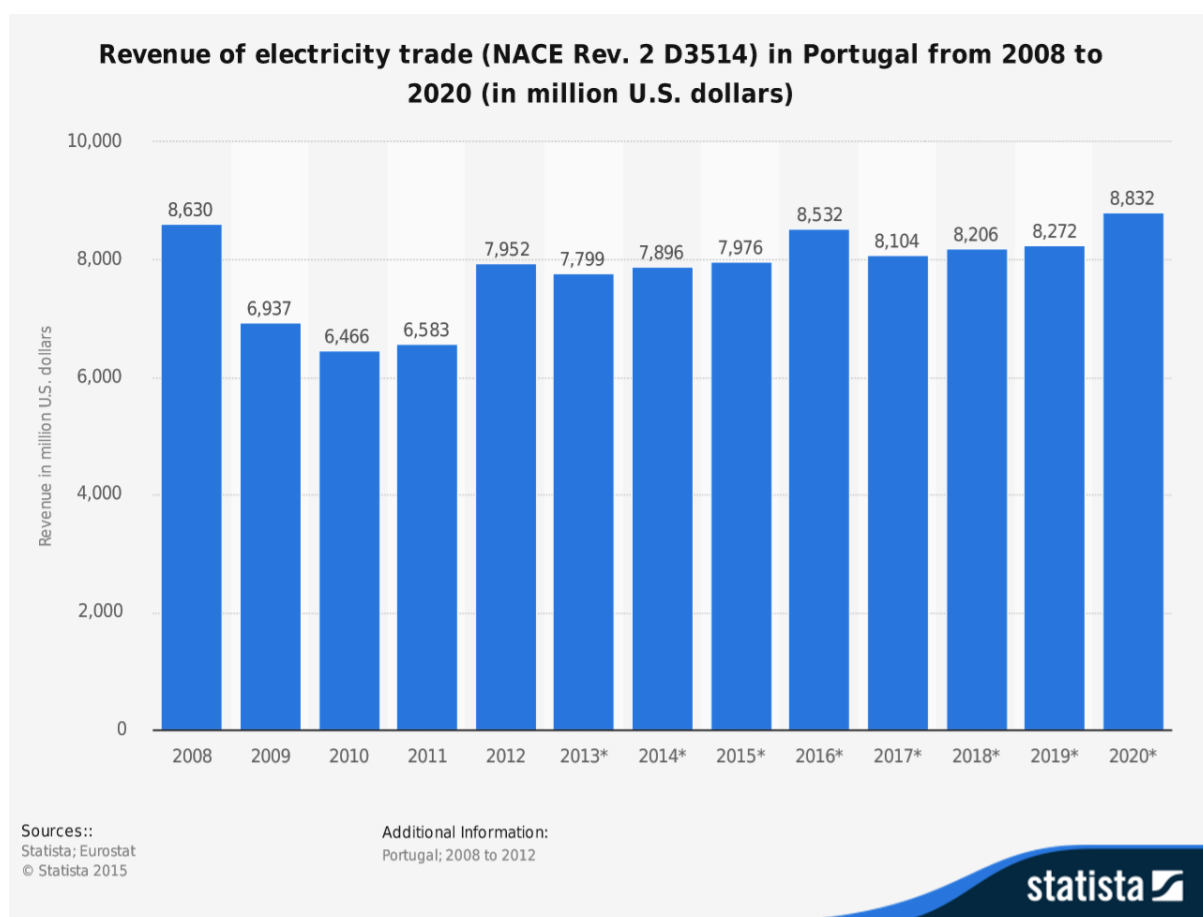


Exhibit 3 – Share of Energy from Renewable Sources in Portugal

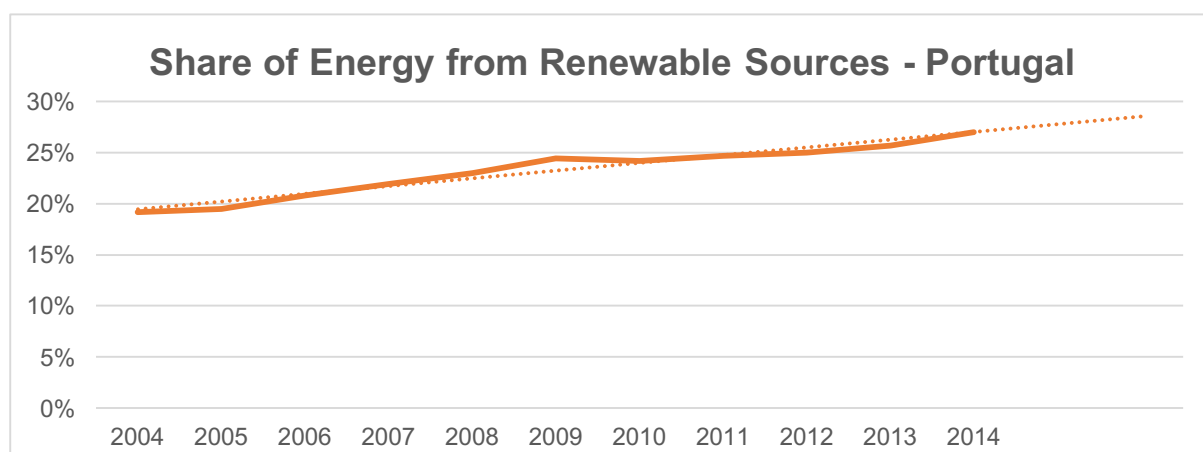


Exhibit 4 – Liberalized Market Growth vs EDP Comercial's Growth in the Domestic Market

Liberalised Market					
	2011	2012	2013	2014	2015
# Total Clients	365 776	1 063 883	2 269 115	3 562 638	4 376 604
% of Domestic Clients	91%	96%	98%	98.5%	98.8%
# Domestic Clients	332 856	1 021 327	2 223 732	3 562 638	4 376 604
Domestic Customers - Market Growth		207%	118%	60%	23%
% EDP Comercial - Domestic Clients	83,50%	82,30%	82,00%	81,30%	81,00%
# Domestic Clients - EDP Comercial	277 935	840 552	1 823 460	2 896 425	3 545 049
Growth of EDP Comercial in the Liberalised Market within the Domestic Clients segment		202%	117%	59%	22%

Notes:

(1) Computation based on data extracted directly from ERSE monthly reports on the electricity liberalised market (from December 2011 to December 2015)

(2) Assumption: As Domestic Customers register lower levels of electricity consumption, we assume that the market shares in terms of number of clients and consumption are the same for this segment.

Exhibit 5 – Category attractiveness Energy Business Models

Business Model	Key Strengths	Benefits for EDP
EDP Roofsharing	• The owner of the roof or land would have the advantage of seeing his electricity bill reduced in a given %. • The buyer of the solar panel would have the opportunity of using solar energy despite the fact that he did not have enough space to install one, plus the advantage of cost reduction in electricity bill. • Increase the use of clean energy sources, betting on efficiency and having positive impact on the environment. • Opportunity to have solar energy without having solar panels installed on the roof.	• Sell more solar panels (opportunity to increase margins); • Integrate this platform in the Re:dy app, increasing the incentives to purchase the service. • Increase customer loyalty
EDP Energy Community	• Convenience for the users, that would only depend on a common source of energy, in what concerns electricity, benefiting from a reduction on the electricity bill. • Increase customer loyalty and tracking of customer behaviour from the supplier. • Reinforcement of the “community/sharing” trend.	• Selling a new innovative option for solar panels • Cross-selling of services like maintenance and repair
EDP Solar Fund	• Providing financing to homeowners for the leasing/renting of solar systems. • Increase the number of customers that will adopt solar solutions, despite the impossibility of financing themselves. • Increase customer loyalty. • Opens up solar financially to a much broader swath of people.	• EDP will make the solar panels technology available at an affordable and competitive price through the new financing options. • This model will enable a boost in the selling of solar panels • Cross-selling of complementary services that would integrate into the new EDP solar ecosystem.

EDP Home Windmill	• Provide an innovative solution for generating in-house electricity • Opportunity to actively reduce the bill for a given percentage • Give to customers an instrument in order to have a positive impact on the environment • Possibility to personalize and to create different models of the device, in order to achieve a greater market penetration • Wind energy also has the most efficient cost to energy production ratio	• Selling an innovative product • Creating a new whole market for home electricity generation • Cross-selling of accessories or improvements of the device • Possibility of integration with EDP Re:dy
EDP SolarFarm.com	• EDP customers will have the concrete possibility to reduce their energy bills even if they don't concretely have solar panels installed in their houses • <i>Solarfarm</i> will boost EDP brand image through positive associations between EDP and the issue of sustainable energy • Deeper customer engagement through a new one-to-one relationship between households and EDP	• EDP will provide this service in exchange of a subscription fee based on the amount of energy required by every single customer • Cross-selling of complementary services related to home energy management
EDP Crowdfunding	• Reinforcement of “community/sharing” trend • Incentive to “go green” • Does not require customers to bare the entire investment to buy their own solar panels • Possible appeal to the millennial generation	• EDP would make money by selling the solar panels • Increase of customer loyalty • Cross-sell of products
EDP Cool Waste	• Increase of Social Responsibility Image • Population offers the raw material for energy production - decreased costs • Production of new products related to recycling	• Possible cross-selling with recycling related products • Increase of brand loyalty • Possible government funds for helping with Fire prevention

H₂E	• Disruptive technology for in-house electricity production • It takes advantage of another utility (water), by maximizing its value proposition • Opportunity to actively reduce the energy bill • Give to customers an instrument in order to have a positive impact on the environment • Possibility to patent the technology	• EDP will sell the taps and water pipes providing other complementary services like installation • Cross-sell of other solutions • Increase of brand loyalty
River Turbines	• Innovative • Creates energy through clean sources • Increases brand loyalty • Opportunity to reduce energy bill	• Sales of turbines • Cross selling of related products • Possibility of integration with EDP Re:dy • Creation of new market for home energy production
	• Another product to be sold with EDP's solar solutions • Opportunity to cross sell to customers that already have EDP's solar solutions • Makes customers less dependent on the grid and therefore removes the amount of strain put on it • Customers feel less dependable on electricity provider which can boost customer satisfaction • Possible partnership with renowned brands (for example Tesla Motors)	• Possibility of integration with EDP Re:dy • Reduction of costs for not needing to pay for the energy that goes into the grid • Cross-selling with other EDP products • Sales of innovative new product - batteries

Exhibit 6 – Criteria for Risk Potential Assessment

POTENTIAL		Models										Weight (%)
Indicators	Criteria	EDP Roofsharing	EDP Energy Community	EDP SolarFund	EDP Home Windmill	EDP SolarFarm.com	EDP Crowdfunding	EDP CoolWaste	H2E	River Turbines	EDP Energy Storage	
Time to market (for EDP)	Less 0,5y = 5; 0,5-1y = 4; 1-1,5y = 3; 1,5-2y = 2; more than 2 = 1	3	3	4	1	2	5	Out of scope	1	Out of scope	Already in development	8
Ease of use (from consumers)	Low complexity for users = 5; Medium 3; High complexity for users = 1	4	5	5	3	5	3		1			16
Market Potential - Market Penetration (for EDP)	>80% penetration: 5; 80%-60%: 4; 60%-40%: 3; 40%-20%: 2; <20%: 1	4	3	4	1	2	1		5			16
Payback period (for EDP)	> 7 years: 1; 7 to 5 years: 2; 5 to 3 years: 3; 3 to 1 year: 4; < 1 year: 5	4	4	2	2	2	5		1			6
Aligned with Market Trends	High alignment = 5; Low alignment = 1	5	5	4	2	5	3		2			9
Scalability (for EDP)	Applicable to other markets = 5; Only applicable in Portugal = 1	5	4	5	5	5	5		5			9
Cross-Selling opportunities (for EDP)	High potential to sell other services = 5; Medium = 3; Low = 1	4	5	3	3	4	1		2			18
Innovation Degree (for EDP)	Very Innovative = 5; Not very innovative = 1	5	3	3	5	3	2		5			18

Exhibit 6 – Criteria for Risk Potential Assessment

RISK		Models										Weight (%)
Indicators	Criteria	EDP Roofsharing	EDP Energy Community	EDP SolarFund	EDP Home Windmill	EDP SolarFarm.com	EDP Crowdfunding	EDP CoolWaste	H2E	River Turbines	EDP Energy Storage	
Investment (for EDP)	<1M€ = 1; 1-2,5M€ = 2; 2,5-3,5M€ =3; 3,5-5M€ =4; >5M€ = 5	2	2	4	4	5	1	Out of scope	5	Out of scope	Already in development	10
Competitive reaction - including other industries (for EDP)	High market concentration in the future 1; Medium 3; Low 5	3	3	5	1	2	4		2			14
Technology materialization (from EDP)	Ready for Execution = 1; Need to completely develop technology = 5	2	2	1	4	2	1		5			16
Easy to Copy (for competitors)	Very Easy = 5; Very Difficult = 1	4	4	5	2	3	4		2			20
Feasibility (for EDP)	Can adapt to existing processes = 1; Need new processes = 5	4	2	4	5	4	3		5			15
Adoption Potential (from consumers)	High willingness from consumers to adopt 1; Medium 3; Low 5	2	3	2	5	4	4		4			20
Degree of Regulation (for market)	Strict Regulation 5; Liberalized 1	3	3	4	4	4	4		4			5

Exhibit 7 – Category attractiveness Energy Business Models

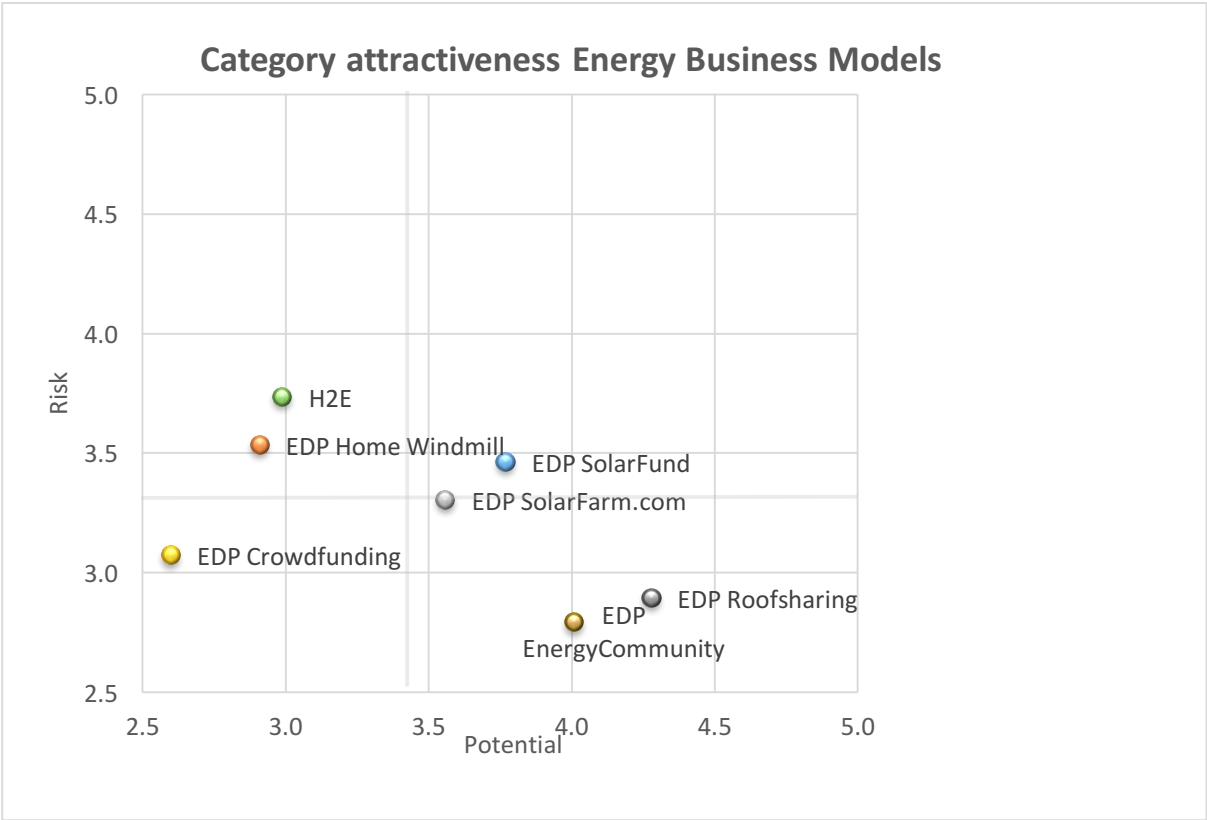
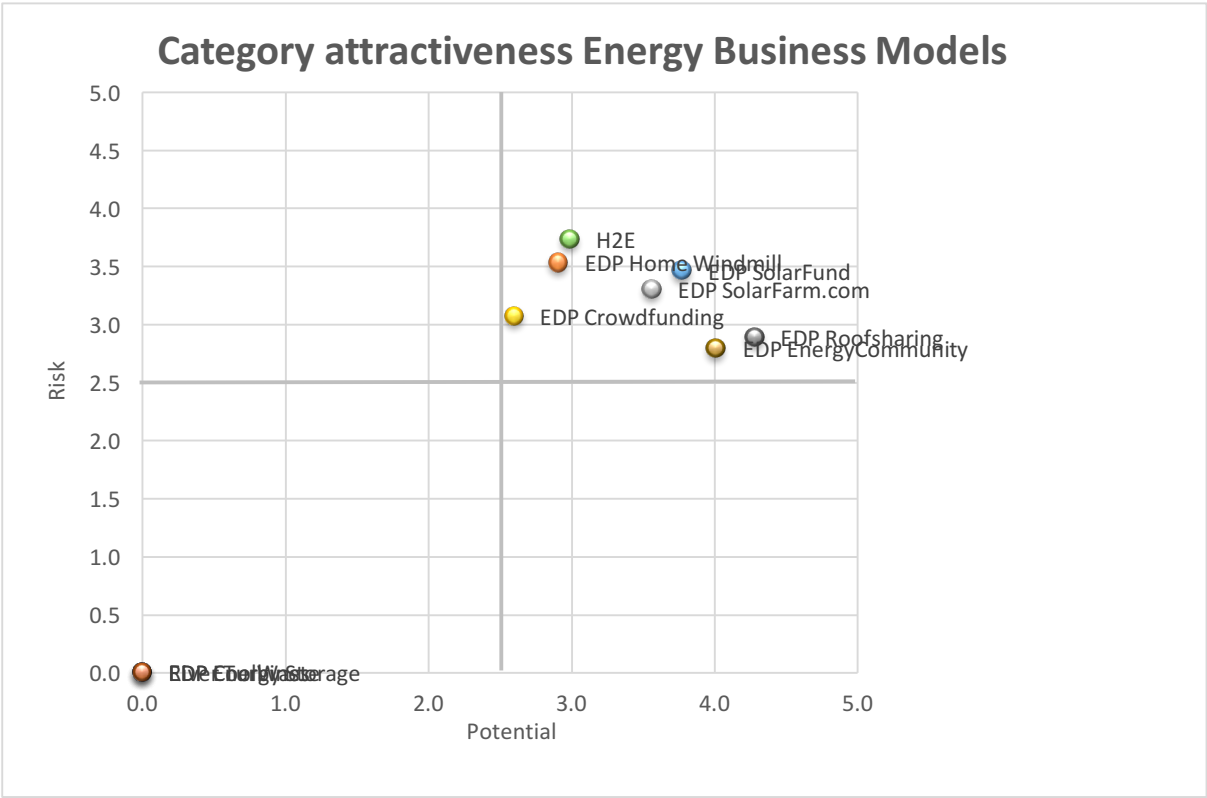


Exhibit 8 – Qualitative Research Interview Guide

Pre-recruiting questionnaire:

Filter 1:

Have you lived in Portugal for at least 3 years?

Yes [Go to filter 2]

No [Thank you for your time]

Filter 2:

Do you currently use sources of renewable energy to power your home?

Yes [Go to interview guide 1]

No [Go to interview guide 2]

Interview Guide 1 (Users of RSE):

Good afternoon, my name is _____ and I am a Masters student at NOVA SBE and I am currently on the process of writing my thesis. The topic of this thesis is related to the energy sector in Portugal and we are conducting some research among consumers to answer some questions.

To do so, I would like to interview you for 45 minutes approximately by conducting an in-depth interview, which means I will let you speak freely and ask very few questions. This means there are no right or wrong answers and you are free to say whatever thoughts you have on the subjects presented.

In order to later analyse this interview I would like to record it, if it is okay with you. The interview is completely anonymous and you will not be contacted any further.

Block 1

Broad question: Can you tell me about your experience with renewable energy?

Renewable adoption process

- Type of renewable
- Choice of provider
- Evaluation phase and criteria
- Installation process
- Prices and financing options
- Drivers for adopting renewable energy
- Products/services bought regarding renewable energy sources
- Decision-making unit (Purchaser, Influencers etc.)
- Attitude towards renewable (preferred type, opinion on it, etc...)

Energy consumption patterns

- Average bill - change from before renewable to after
- Bigger care in energy spending
- Times of day when energy is more consumed
- Energy efficiency systems (smart meters etc.)

Block 2

Broad question: If it would be possible for you to share some of the energy you produce with others would you be willing to? Why/Why not?

Sharing economy

- Willingness to share your energy with other people
- What are the incentives (if any) that you would need to share your energy?
- Usage of sharing economy apps in general (Airbnb, Uber etc.)

Block 3

Brand perception: Projective technique - Word Association

Of the following brands, which do you know at least the name?

_ Coopérnico

_ EDP Comercial

_ eLusa

_ Enat - Energias Naturais

_ Endesa -

_ Ylse (Enforresco)

_ Galp Energia

_ Gold Energy

_ HEN - Serviços Energéticos

_ Iberdrola

_ Logica Energy

_ Luzboa

_ Simples Energia (PH Energia)

_ Rolear

_ Fenosa

[For each of the brands recognized]

Can you tell me three words that come to mind when you think of _____?

Interview Guide 2 (Non-Users of RSE):

Good afternoon, my name is _____ and I am a Masters student at NOVA SBE and I am currently on the process of writing my thesis. The topic of this thesis is related to the energy sector in Portugal and we are conducting some research among consumers to answer some questions.

To do so, I would like to interview you for 45 minutes approximately by conducting an in-depth interview, which means I will let you speak freely and ask very few questions. This means there are no right or wrong answers and you are free to say whatever thoughts you have on the subjects presented.

In order to later analyse this interview I would like to record it, if it is okay with you. The interview is completely anonymous and you will not be contacted any further.

Block 1

Broad question: Have you ever thought of investing in sustainable sources of energy for your own house?

Renewable energy consideration

- Type of renewable
- Knowledge of providers
- Knowledge of prices and financing options
- Drivers for adopting renewable energy
- Motivations behind not adopting thus far
- Decision-making unit (Purchaser, Influencers etc.)
- Attitude towards renewable (preferred type, opinion on it, etc...)

Energy consumption patterns

- Average bill
- Bigger care in energy spending
- Times of day when energy is more consumed
- Energy efficiency systems (smart meters etc.)
- Other products and services from the electricity

Block 2

Broad question: If it would be possible for you to get some of your energy from another consumer who has renewable sources of energy would you be willing to? Why/Why not?

Sharing economy

- Willingness to share your energy with other people
- What are the incentives (if any) that you would need to share your energy?
- Usage of sharing economy apps in general (Airbnb, Uber etc.)

Block 3

Brand perception: Projective technique - Word Association

Of the following brands, which do you know at least the name?

_ Coopérnico

_ EDP Comercial

_ eLusa

_ Enat - Energias Naturais

_ Endesa

_ Ylse (Enforresco)

_ Galp Energia

_ Gold Energy

_ HEN - Serviços Energéticos

_ Iberdrola

_ Logica Energy

_ Luzboa

_ Simples Energia (PH Energia)

_ Rolear

_ Fenosa

[For each of the brands recognized]

Can you tell me three words that come to mind when you think of _____?

“Green” Projective Technique

How would you describe a person that has renewable sources of energy in the home?

- Personality traits
- Habits
- Lifestyle - likes and dislikes
- Physical characteristics
- Job
- Transportation Means

Interviewee Profile

- Age (in years)
- Marital Status _____
- Gender _____
- Profession
 - ☐ Middle and Top Management | Quadros Médios e Superiores
 - ☐ Specialized Technicians and Small Business Owners | Técnicos Especializados e Pequenos
 - ☐ Employees of Tertiary Sector | Empregados dos Serviços / Comércio / Administrativos
 - ☐ Qualified / Skilled Workers | Trabalhadores Qualificados / Especializados
 - ☐ Unqualified / Unskilled Workers | Trabalhadores não Qualificados / não Especializados
 - ☐ Retired / Unemployed | Reformados / Pensionistas / Desempregados / A viver de rendimentos
 - ☐ Students| Estudantes
 - ☐ Housewives | Domésticas
- Education degree
 - ☐ Can't read / write | Não sabe ler nem escrever/Analfabeto
 - ☐ Less than 4th grade | Primária incompleta / Sabe ler/escrever sem ter completado a primária
 - ☐ 4th grade | Primária Completa
 - ☐ 6th grade | Ciclo Preparatório (completo)
 - ☐ 9th grade | 9o Ano unificado ou antigo 5o ano dos liceus (completo)
 - ☐ 11th /12th grades | 11o / 12o unificados ou antigo 7o ano dos liceus (completo)
 - ☐ Professional or Arts Degree | Curso profissional / artístico
 - ☐ Incomplete undergrad | Curso médio / frequência universitária / bacharelato
 - ☐ Undergrad in Nursing, Social Services, Childcare, Primary Schooling, Tourism, Secretariat, Accounting,
 - ☐ Archiving | Licenciatura em Enfermagem, Serviço Social, Educador(a) de Infância, Ensino Primário,
 - ☐ Turismo, Secretariado, Contabilidade e Documentação
 - ☐ Other undergrad programs | Restantes Licenciaturas
 - ☐ Post-grad or Masters | Mestrados/Pós Graduações
 - ☐ PhD | Doutoramento
- Number of people in the household:
- What are your living arrangements?

- ☐ Rented house
- ☐ Rented room
- ☐ Own house
 - How many homes do you own?
- Where is your primary home? (District)
- What type of accommodation do you live in?
 - ☐ Apartment
 - ☐ Single house
- Number of rooms within the home, excluding kitchen and bathrooms: 9
- Does your home have exterior spaces?
 - ☐ No exterior space
 - ☐ Balcony (or balconies)
 - ☐ Small Yard
 - ☐ Garden
 - ☐ Empty lot (Terreno baldio)
- Current electricity provider:

Exhibit 9 – Word Association Cloud



EDP Comercial's Word Cloud Association

Exhibit 9 – Word Association Cloud



Galp's Word Cloud Association



Endesa's Word Cloud Association



Iberdrola's Word Cloud Association

Exhibit 10 – Quantitative Questionnaire Structure

Filter Questions

Have you lived in Portugal for the past three years?

- ☐ Yes
- ☐ No

If you answered “*No*”, please skip to the end of the questionnaire.

Are you, at least, 18 years old?

- ☐ Yes
- ☐ No

If you answered “*No*”, please skip to the end of the questionnaire.

Who is the person responsible for the decisions regarding electricity in your current house?
(Consider as current house the one where you live most of the time during the year)

- ☐ Myself
- ☐ Myself, with another person
- ☐ Someone else

Do you use renewable sources of energy in your house?

- ☐ Sim
- ☐ Não

SECTION 1: Directed only to users of renewable sources of energy

What type of renewable source of energy do you currently have in your house?

- ☐ Thermoelectric (solar panels for heating water)
- ☐ Photovoltaic (solar panels for electricity production)
- ☐ Wind power
- ☐ Other _____

What was the main reason for you to adopt renewable sources of energy in your house?

- ☐ Environmental responsibility
- ☐ Energy bill reduction (gas or electricity)
- ☐ Obligated by law
- ☐ Other _____

For how long have you had renewable sources of energy in your house?

- ☐ Less than 1 year
- ☐ 1 to 5 years
- ☐ 5 to 10 years
- ☐ More than 10 years

On a scale from 1 to 5, how satisfied are you with your current renewable source(s) of energy, with 1 being “Not Satisfied” and 5 being “Very Satisfied”?

Not Satisfied	☐	☐	☐	☐	☐	Very Satisfied
---------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	----------------

***If you chose any option besides “Photovoltaic” in the first question of the section, please proceed to
SECTION 2***

SECTION 1.1 : Directed only to users of photovoltaic solar panels

Introduction: Imagine that your current solar panel(s) produce in-excess electricity and that there is the possibility of sharing that electricity with other people. This means that instead of selling or canalising that excess electricity back to the grid, it would be possible to share it with other people. [NOTE: For

all the scenarios presented henceforward, consider that the service would be guaranteed by your electricity provider]

Would you be willing to share that in-excess electricity with other people?

- ☐ Yes, no matter the conditions
- ☐ Yes, with specific conditions
- ☐ No, not at all

If you answered 'Yes, with specific conditions':

What would be the necessary conditions for you to be willing to share your in-excess energy?

(Please distribute 100 points among the following reasons. If you only consider one of the reasons as valid, set 100 points for that one; if you do not consider some of the reasons as valid, set 0 points to those.)

____ Monetary compensation. I should receive more than I would by selling to the grid.

____ Monetary compensation. I should receive the same as I would by selling to the grid.

____ Further reduction in the electricity bill.

____ I would need to know the people with whom I would be sharing the energy (friends/family/neighbours).

____ I would need to be sure that if I shared, less pollutant energy would be produced.

If you answered 'No, not at all':

From the following conditions, which one would make you change your mind?

- ☐ Monetary compensation. I should receive more than I would by selling to the grid
- ☐ Monetary compensation. I should receive the same as I would by selling to the grid.
- ☐ Further reduction in the electricity bill.
- ☐ I would need to know the people with whom I would be sharing the energy (friends/family/neighbours).
- ☐ I would need to be sure that if I shared, less pollutant energy would be produced.
- ☐ Other _____
- ☐ I am not interested in sharing my energy.

PLEASE, PROCEED TO SECTION 3

SECTION 1.2 : Directed to non-users of renewable sources of energy

Have you ever considered using renewable sources of energy in your house?

- ☐ Yes
- ☐ No

If you answered 'Yes':

Please rank – from 1 to 7 - the reasons behind not having adopted renewable sources of energy in your house. (Being 1 the most important and 7 the least important reason)

_____ I do not have the space

_____ I live in an apartment

_____ It is too expensive

_____ I cannot afford it

_____ I do not own the house where I currently live

_____ I would need the approval from the condominium

_____ I think the adoption process is too demanding/complex

If you answered "No":

What is the main reason for you not to have considered renewable sources of energy for your house?

- ☐ I do not have the space
- ☐ I live in an apartment
- ☐ It is too expensive
- ☐ I cannot afford it
- ☐ I do not own the house where I currently live
- ☐ I have never thought about it

SECTION 2: Directed to non-users of renewable sources of energy/users of renewable sources of energy that is not photovoltaic

Introduction: Imagine you wanted to start using renewable energies in your house. However, your living arrangements do not meet the necessary conditions for the installation of solar panels to generate your own electricity (i.e. lack of space, living in a rented house or in a building). [NOTE: For all the scenarios presented henceforward, consider that the service would be guaranteed by your electricity provider]

Scenario 1

Assume that you have the necessary amount of money to invest in the panels on your own, and that you could rent someone else's roof to install them. The rent payment would be a percentage of the electricity produced.

Would you be willing to do it?

- ☐ Yes, no matter the conditions
- ☐ Yes, with specific conditions
- ☐ No, not at all

If you answered "Yes, with specific conditions":

What would be the necessary conditions in order for you to rent someone else's roof? (Please distribute 100 points among the following reasons. If you only consider one of the reasons as valid, set 100 points for that one; if you do not consider some of the reasons as valid, set 0 points to those.)

_____ Panel(s)'s protection should be guaranteed

_____ I would need to know the roof owner in order to rent it (friends/family/neighbours)

_____ Guaranteed access to the renewable energy produced

_____ Guarantee of no power cuts

If you answered “No, not at all”:

From the following conditions, which one would make you change your mind?

- ☐ Panel(s)’s protection should be guaranteed
- ☐ I would need to know the roof owner in order to rent it (friends/family/neighbours)
- ☐ Guaranteed access to the renewable energy produced
- ☐ Guarantee of no power cuts
- ☐ Other _____
- ☐ I do not want to rent someone else’s roof.

If you did not answer “I do not want to rent someone else’s roof”:

What is the percentage of energy you would be willing to give in order to install the panel(s) on that roof?

- ☐ Less than 10% of the energy produced
- ☐ Between 10% and 20% of the energy produced
- ☐ Between 20% and 30% of the energy produced
- ☐ Between 30% and 40% of the energy produced
- ☐ More than 40% of the energy produced

If, instead of investing on your own, would be possible to do it with other people, by sharing the investment and the generated energy in equal parts, would you be willing to do it?

- ☐ Yes, but only with family/friends
- ☐ Yes, with family, friends or acquaintances.
- ☐ Yes, no matter with whom.
- ☐ No, not at all.

What if the people with whom you would share the investment and the generated electricity would be your neighbours living in the same building, would you be willing to participate in the investment? Note: It would not be necessary for all the building residents to take part on the proposed solution.

- ☐ Yes
- ☐ No

Scenario 2

Imagine now the reverse situation: you own a roof and you would have the possibility of renting it to a person/group of people that intend to install solar panels for electricity production. As rent payment you would receive a percentage of the electricity produced by those panels for your own consumption, therefore benefiting from a reduction on your electricity bill.

Would you be willing to do it?

- ☐ Yes, no matter the conditions
- ☐ Yes, with specific conditions
- ☐ No, not at all

If you answered “Yes, with specific conditions”:

What would be the necessary conditions for you to rent your roof to other people? (Please distribute 100 points among the following reasons. If you only consider one of the reasons as valid, set 100 points for that one; if you do not consider some of the reasons as valid, set 0 points to those.)

_____ Not to be responsible for the panel(s)' maintenance nor need to be careful with it/them

_____ I would need to know the people to whom I would be renting the roof (friends/family/neighbours)

_____ Guarantee that the electric system of my house would not be overloaded

_____ Receive a monetary payment (as rent form) instead of a percentage of the electricity produced

_____ Not to have any extra cost

If you answered “No, not at all”:

From the following conditions, which one would make you change your mind?

- ☐ Not to be responsible for the panel(s)' maintenance nor need to be careful with it/them
- ☐ I would need to know the people to whom I would be renting the roof (friends/family/neighbours)
- ☐ Guarantee that the electric system of my house would not be overloaded
- ☐ Receive a monetary payment (as rent form) instead of a percentage of the electricity produced
- ☐ Not to have any extra cost
- ☐ Other _____
- ☐ I do not want to rent my roof to other people.

If you did not answer “I do not want to rent my roof to other people”:

What would be the percentage of energy considered as acceptable for you to receive in order to allow the panel(s) installation in your roof?

- ☐ Less than 10% of the energy produced
- ☐ Between 10% and 20% of the energy produced
- ☐ Between 20% and 30% of the energy produced
- ☐ Between 30% and 40% of the energy produced
- ☐ More than 40% of the energy produced

Scenario 3

Now imagine there is someone who owns solar panels (for electricity production) and that you would have the possibility of using the excess energy generated from them.

Would you be willing to do it?

- ☐ Yes, no matter the conditions.
- ☐ Yes, with specific conditions
- ☐ No, not at all

If you answered “Yes, with specific conditions”:

What would be the necessary conditions for you to use another person’s excess electricity? (Please distribute 100 points among the following reasons. If you only consider one of the reasons as valid, set 100 points for that one; if you do not consider some of the reasons as valid, set 0 points to those)

_____ Monetary compensation. I should receive a monthly reduction in my electricity bill.

_____ I should be informed from where my energy comes from. (Paying the same usual value on the electricity bill).

_____ I would need to know the people with whom I am sharing my energy (friends/family/neighbours).

_____ I would need to be sure that if I shared, less pollutant energy would be produced.

_____ Guarantee that I would have no power cuts (the supply will always be guaranteed).

If you answered “No, not at all”:

From the following conditions, which one would make you change your mind?

- ☐ Monetary compensation. I should receive a monthly reduction in my electricity bill.
- ☐ I should be informed regarding the origin of my energy (paying the same usual value on the electricity bill).
- ☐ I would need to know the people with whom I am sharing energy (friends/family/neighbours).
- ☐ I would need to be sure that if I shared, less pollutant energy would be produced.
- ☐ There should be a guarantee that I would have no power cuts (the supply will always be secured)
- ☐ Other _____
- ☐ I would not be willing to, at all.

Comparison

From the aforementioned options, which one would you prefer?

- ☐ Install my own my panel(s) in someone else’s roof.
- ☐ Install with a group my panel(s) in someone else’s roof.
- ☐ Participate in a solution that would involve my building and neighbours.
- ☐ Use the excess energy of someone else.
- ☐ None of the above.

Introduction: Imagine now that you would want to start using renewable energies in your house, and that you meet all the necessary conditions to do so, except the sufficient financial resources to pay – at once – the presented energetic solution.

Scenario 1

Assume you have three financing options:

- ***Loan:*** your energy supplier would give you the solar panel(s) in exchange for monthly instalments that would be added to your monthly bill. At the end of the contract, the panels would be yours without any additional cost.
- ***Leasing:*** your energy supplier would give you the solar panel(s) in exchange for monthly instalments, lower than in the ‘Loan’ option, which would be added to your monthly bill. At the end of the contract, the panel(s) could be yours by paying a fee, agreed upon by both parties,

or you could renewal the contract. In case of contract breach, you would not have any ownership rights.

- **Renting:** *your energy supplier would give you the solar panel(s) in exchange for a monthly rent that would be added to your monthly bill. The monthly savings would be superior to the monthly rent value. It would be possible for you to use the panel(s) for as long as you wish, but you would not have any ownership rights over them.*

Which option would you prefer?

- ☐ Loan
- ☐ Leasing
- ☐ Renting
- ☐ Not having the money to invest, I would not use any financing option.

Scenario 2

Assume now that you would invest in the solar panel(s) together with other people, therefore sharing benefits and costs of the solution. For this purpose, you would have the same three financing options aforementioned.

Which of the options would you prefer?

- ☐ Shared loan
- ☐ Shared leasing
- ☐ Shared renting
- ☐ Not having the money to invest, I would not use any financing option.
- ☐ In case I needed to use a financing option, I would never do it with other people.

Comparison

Which one of the aforementioned options would you prefer?

- ☐ Invest on my own.
- ☐ Invest with other people.
- ☐ I would not use any financing option.

PLEASE, PROCEED TO SECTION 3

SECTION 3: Directed to all the respondents

When you think about electricity what is the first brand that comes to your mind?

Of the brands presented below which do you know, at least the name? (select all that apply)

- ☐ Coopérnico
- ☐ EDP Comercial
- ☐ eLusa
- ☐ Enat - Energias Naturais
- ☐ Endesa
- ☐ Ylse (Enforresco)
- ☐ Galp Energia
- ☐ Gold Energy
- ☐ HEN - Serviços Energéticos
- ☐ Iberdrola
- ☐ Logica Energy
- ☐ Luzboa
- ☐ Simples Energia (PH Energia)
- ☐ Rolear
- ☐ Fenosa

If you selected 'Endesa':

How would you describe Endesa, within the following intervals?

Transparent	☐	☐	☐	☐	☐	☐	☐	Corrupt
Trustworthy	☐	☐	☐	☐	☐	☐	☐	Unreliable
Innovative	☐	☐	☐	☐	☐	☐	☐	Outdated
National	☐	☐	☐	☐	☐	☐	☐	Foreigner
Green	☐	☐	☐	☐	☐	☐	☐	Pollutant
Affordable	☐	☐	☐	☐	☐	☐	☐	Expensive
Free Market	☐	☐	☐	☐	☐	☐	☐	Monopoly

If you selected 'EDP Comercial':

How would you describe EDP Comercial, within the following intervals?

Transparent	☐	☐	☐	☐	☐	☐	☐	Corrupt
Trustworthy	☐	☐	☐	☐	☐	☐	☐	Unreliable
Innovative	☐	☐	☐	☐	☐	☐	☐	Outdated
National	☐	☐	☐	☐	☐	☐	☐	Foreigner
Green	☐	☐	☐	☐	☐	☐	☐	Pollutant
Affordable	☐	☐	☐	☐	☐	☐	☐	Expensive
Free Market	☐	☐	☐	☐	☐	☐	☐	Monopoly

If you selected 'Galp Energia':

How would you describe Galp Energia, within the following intervals?

Transparent	☐	☐	☐	☐	☐	☐	☐	Corrupt
Trustworthy	☐	☐	☐	☐	☐	☐	☐	Unreliable
Innovative	☐	☐	☐	☐	☐	☐	☐	Outdated
National	☐	☐	☐	☐	☐	☐	☐	Foreigner
Green	☐	☐	☐	☐	☐	☐	☐	Pollutant
Affordable	☐	☐	☐	☐	☐	☐	☐	Expensive
Free Market	☐	☐	☐	☐	☐	☐	☐	Monopoly

ELECTRICITY CONSUMPTION

How much do you spend monthly on the electricity bill, on average?

- ☐ <25€
- ☐ [25€ - 50€]
- ☐ [51€ - 100€]
- ☐ [101€ - 150€]
- ☐ [151€ - 200€]
- ☐ >200€
- ☐ I don't know

Of the following products, which one(s) do you currently own? (select all that apply)

- ☐ LED light bulbs
- ☐ 'A rated' household appliances (A, A+, A++, A+++)
- ☐ Extension plugs with switch on/switch off button
- ☐ Smart Meter
- ☐ Re:dy
- ☐ Smart Plugs
- ☐ Timers in appliances
- ☐ I do not own any of these products
- ☐ I don't know if I have any of these products

How much do you think one photovoltaic solar panel (that produces electricity) costs? (Please select the value estimate that seems to be the most adequate, even if you don't know the real value)

- ☐ <500€
- ☐ [500€ - 1000€]
- ☐ [1001€ - 1500€]
- ☐ [1501€ - 2000€]
- ☐ [2001€ - 2500€]
- ☐ [2501€ - 3000€]
- ☐ >3000€

Which time frame do you consider reasonable as a payback period for the investment in one photovoltaic solar panel (that produces electricity)?

- ☐ Less than 1 year
- ☐ Between 1 and 5 years
- ☐ Between 5 and 10 years
- ☐ Between 10 and 15 years
- ☐ More than 15 years

PROFILE

Age_____

Gender

- ☐ Male
- ☐ Female

Living Arrangements

- ☐ Own "Single House"
- ☐ Own Apartment
- ☐ Rented "Single House"
- ☐ Rented Apartment
- ☐ Room

District where you currently live:

- ☐ Aveiro
- ☐ Aveiro
- ☐ Beja
- ☐ Braga
- ☐ Bragança

- ☐ Castelo Branco
- ☐ Coimbra
- ☐ Évora
- ☐ Faro
- ☐ Guarda
- ☐ Leiria
- ☐ Lisboa
- ☐ Madeira
- ☐ Portalegre
- ☐ Porto
- ☐ Santarém
- ☐ Setúbal
- ☐ Viana do Castelo
- ☐ Vila Real
- ☐ Viseu

Do you consider yourself as financially dependent of others?

- ☐ Yes
- ☐ No

Number of people in the household_____

Household monthly income:

- ☐ Less than 1000€
- ☐ [1000€ - 2000€]
- ☐ [2001€ - 3000€]
- ☐ [3001€ - 4000€]
- ☐ [4001€ - 5000€]
- ☐ More than 5000€

Occupation

- ☐ Self-employed
- ☐ Employed by a third party
- ☐ Student
- ☐ Retired
- ☐ Domestic or unemployed

Education Level (completed until now):

- ☐ Primary School
- ☐ Middle School
- ☐ High School
- ☐ Bachelor degree
- ☐ Undergraduate degree
- ☐ Postgraduate education
- ☐ Master degree
- ☐ PhD

Current electricity provider:

- ☐ EDP Comercial
- ☐ EDP Serviço Universal
- ☐ Endesa
- ☐ Iberdrola
- ☐ Ylse
- ☐ Não sei
- ☐ Other _____

If you want to be qualified to receive this survey's participation award, please leave us your e-mail. (This information will not be used or disclosed after the completion of the draw)

Exhibit 11 – Quantitative Research Sample

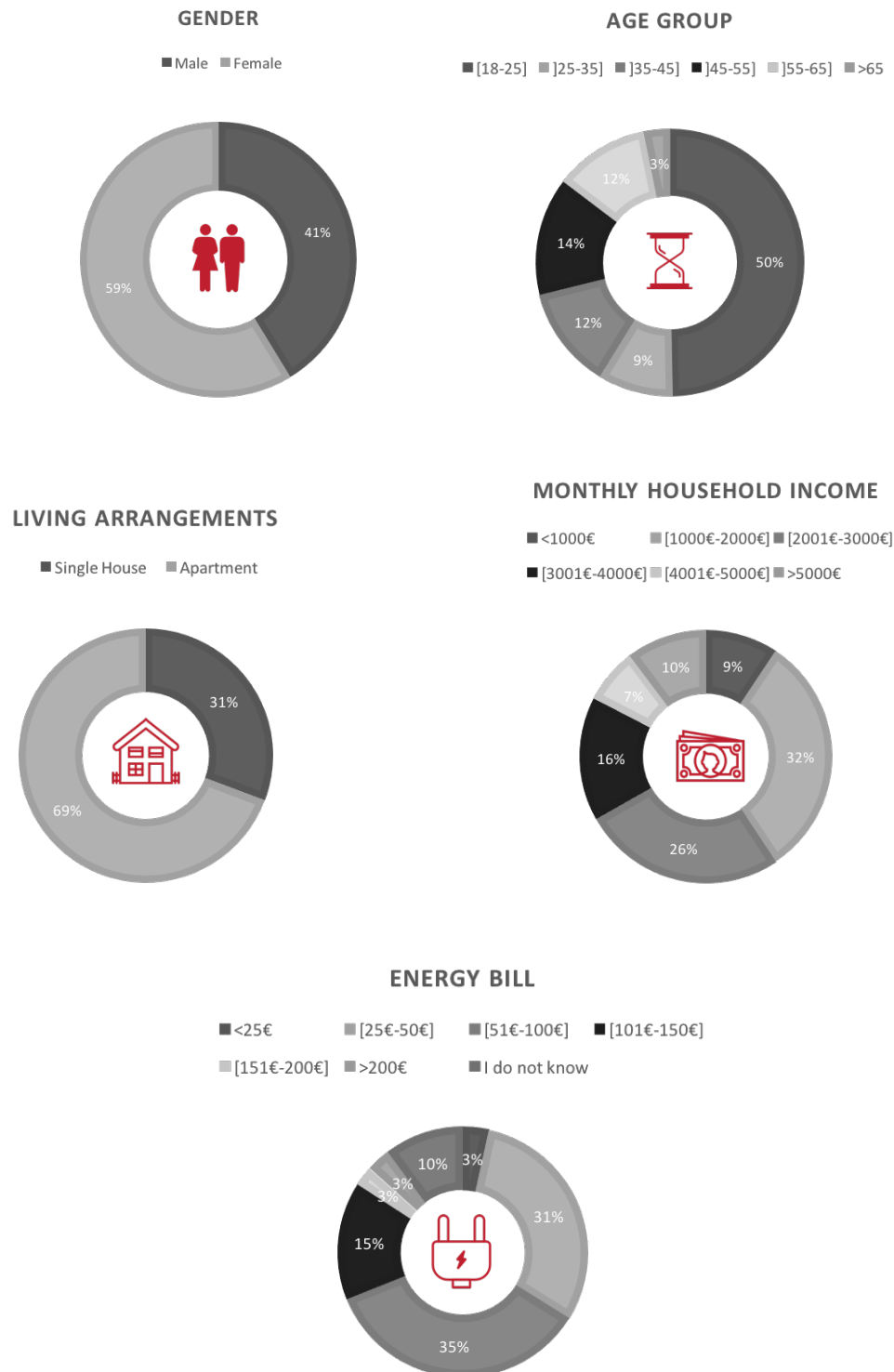


Exhibit 12 - Number of respondents of Quantitative Research that have or at least have considered adopting Renewable Sources of Energy and per their household composition

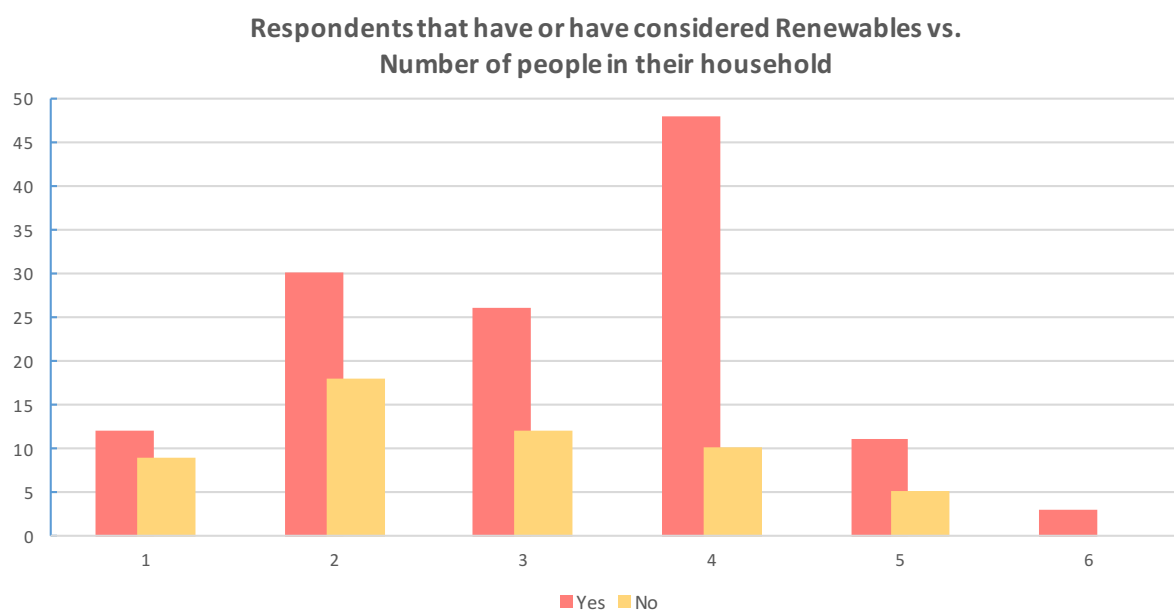


Exhibit 13 - Brand Awareness of Electricity Providers in Portugal

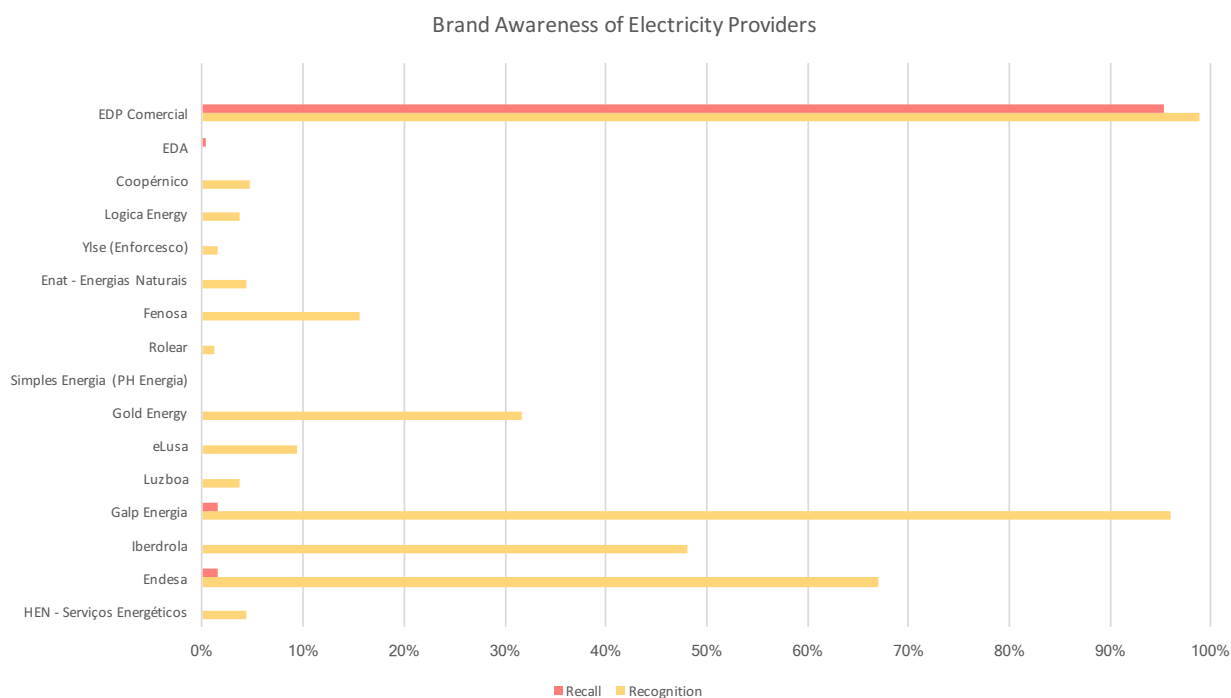


Exhibit 14 - EDP Comercial Brand Perception

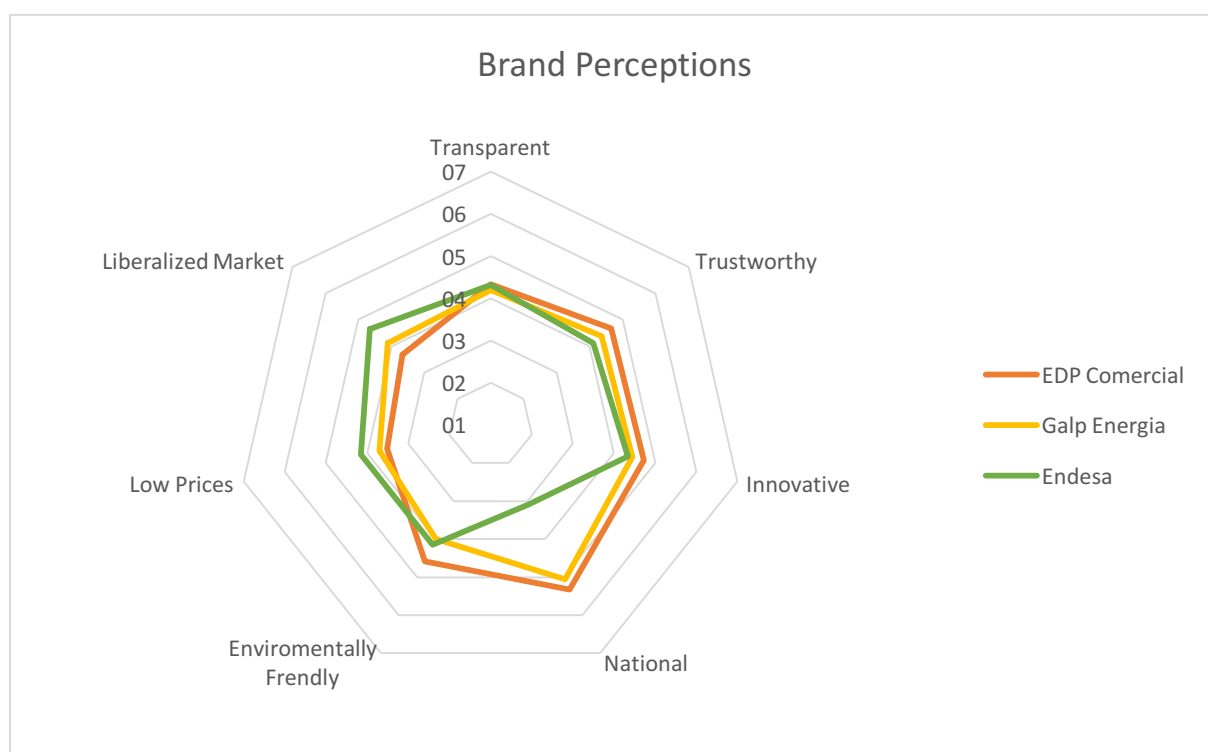


Exhibit 15 – Attractiveness Scores of the Segments

	Profitability Potential	Expected Market Penetration	Cross-Sell Opportunities	Total
Skyscrapers	5	5	5	15
Residentials	2	2	4	8
Mansionists	4	4	3	11
Bungalowers	1	2	2	5

Exhibit 16 – *edp + solar* and EDP’ Brand Identity Prism

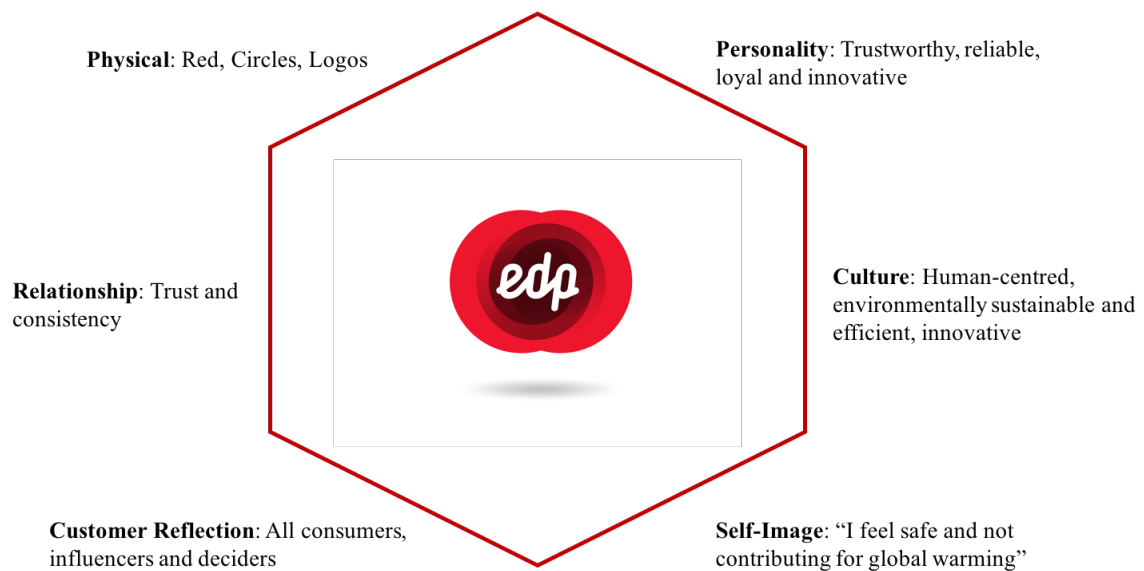
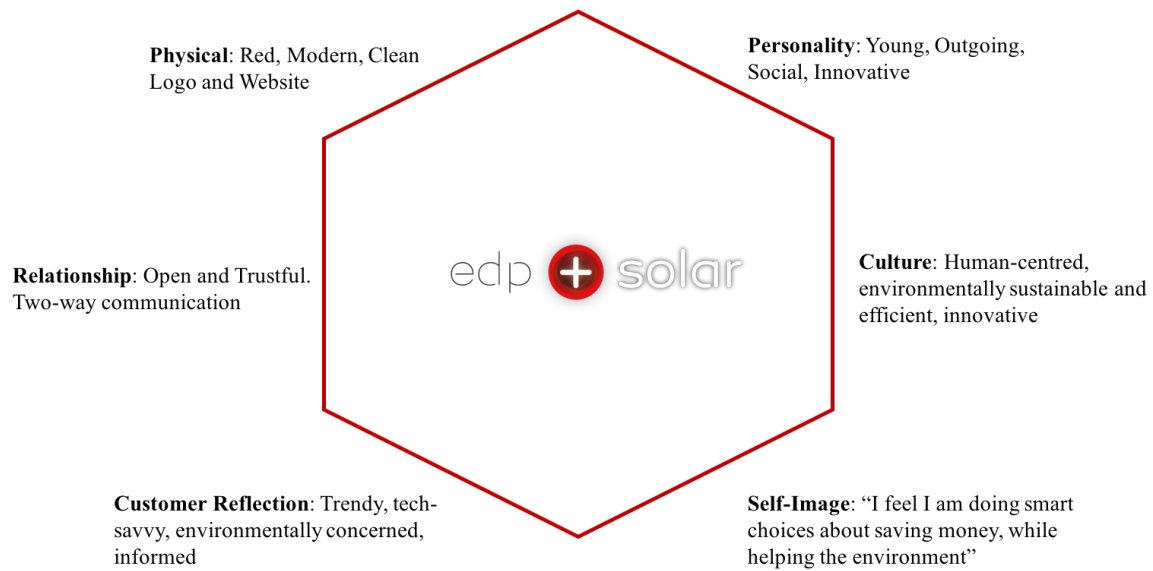


Exhibit 17 – *edp + solar* logo



Exhibit 18 – *edp + solar* brand architecture

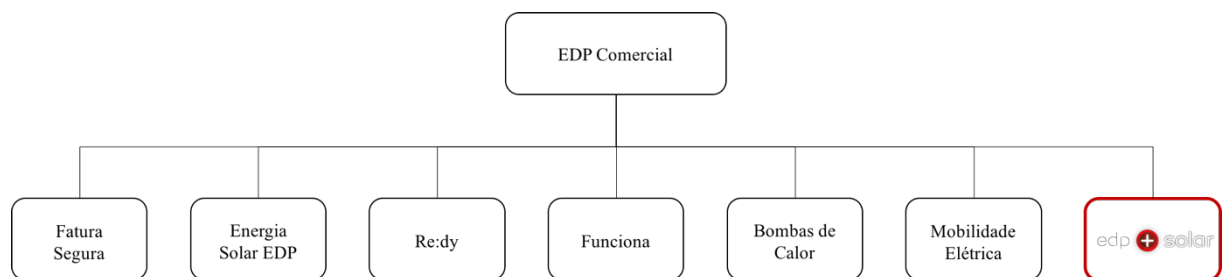


Exhibit 19 - Flowcharts for different processes on both Villas and Building Solutions

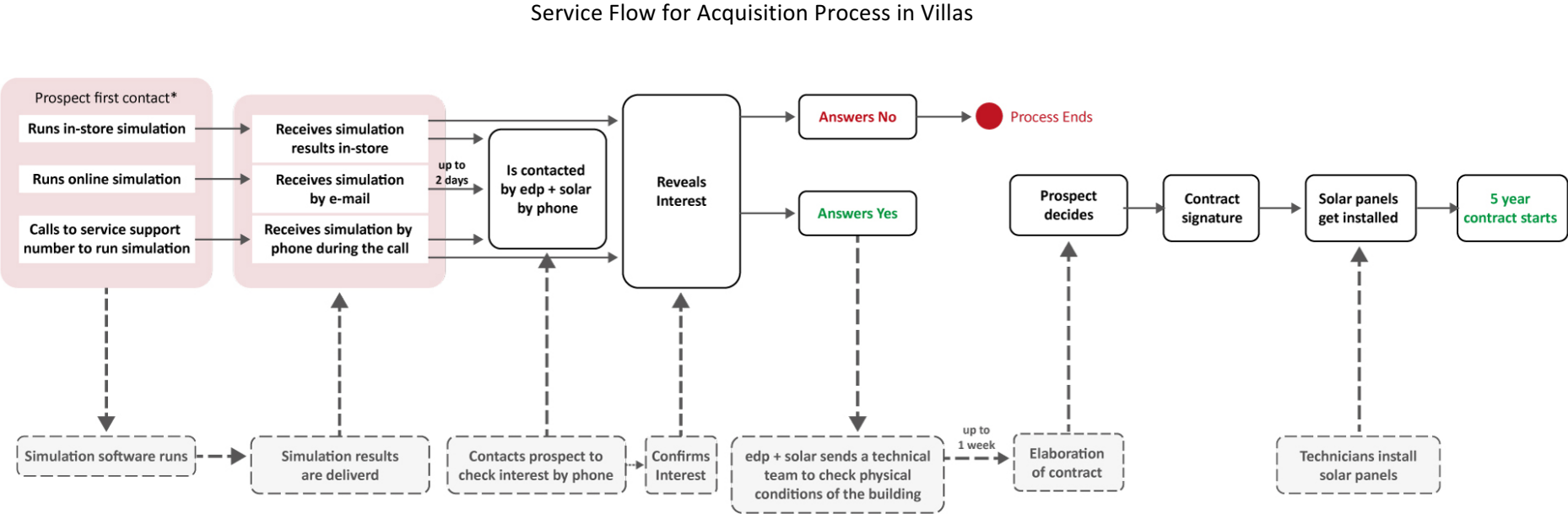
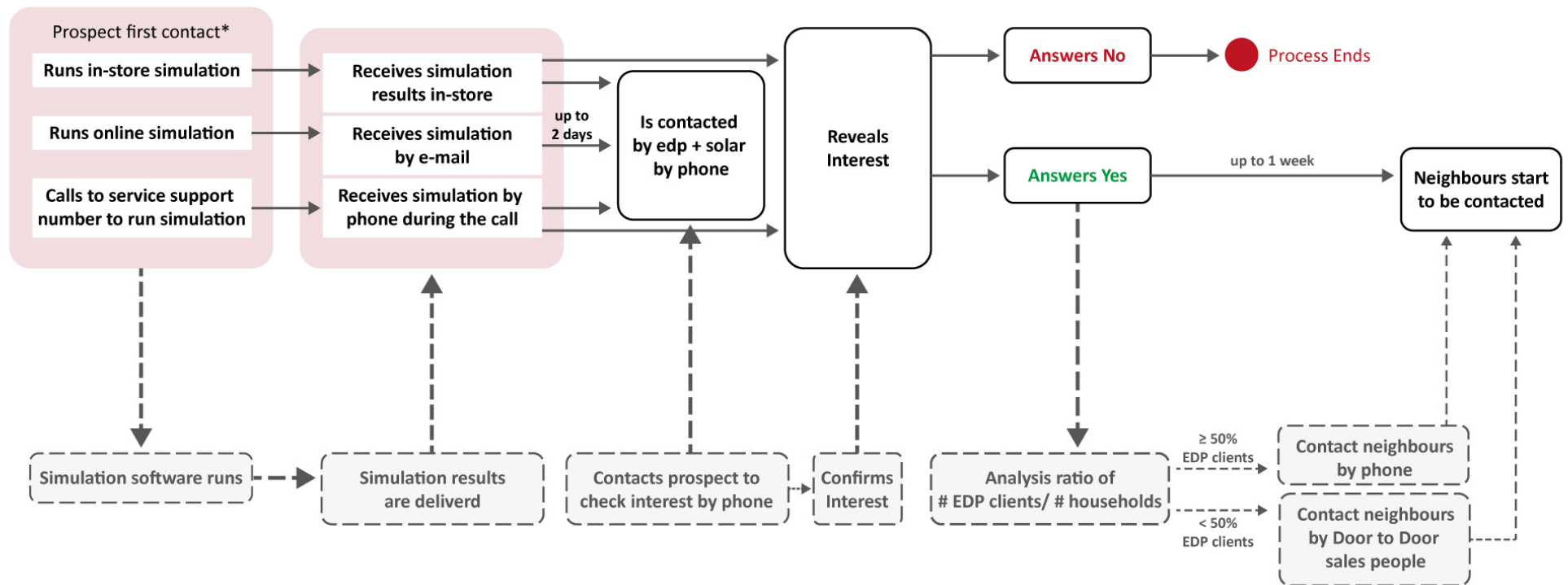


Exhibit 19 – Flowcharts for different processes on both Villas and Building Solutions

Service Flow for Acquisition Process in Buildings (continued in next page)



*First prospect interest in a certain building

Exhibit 19 – Flowcharts for different processes on both Villas and Building Solutions

Service Flow for Acquisition Process in Buildings (continuation)

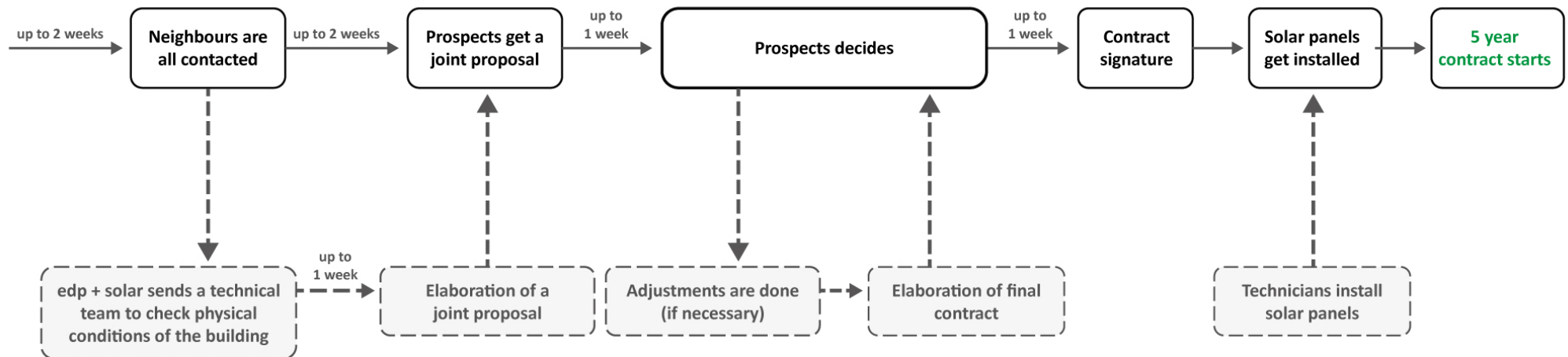


Exhibit 19 – Flowcharts for different processes on both Villas and Building Solutions

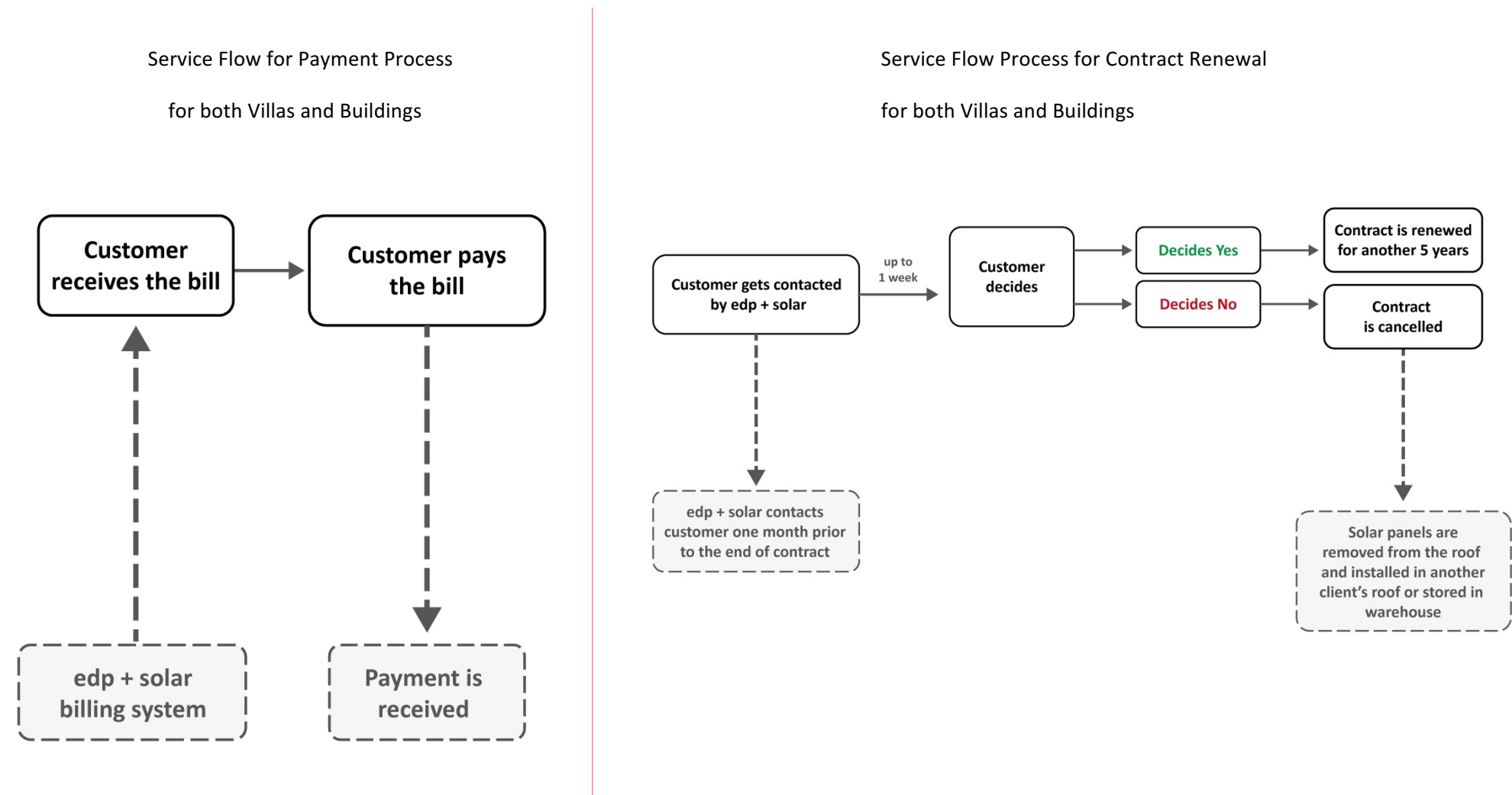


Exhibit 19 – Flowcharts for different processes on both Villas and Building Solutions

Service Flow for Acquisition Process in Buildings (continuation)

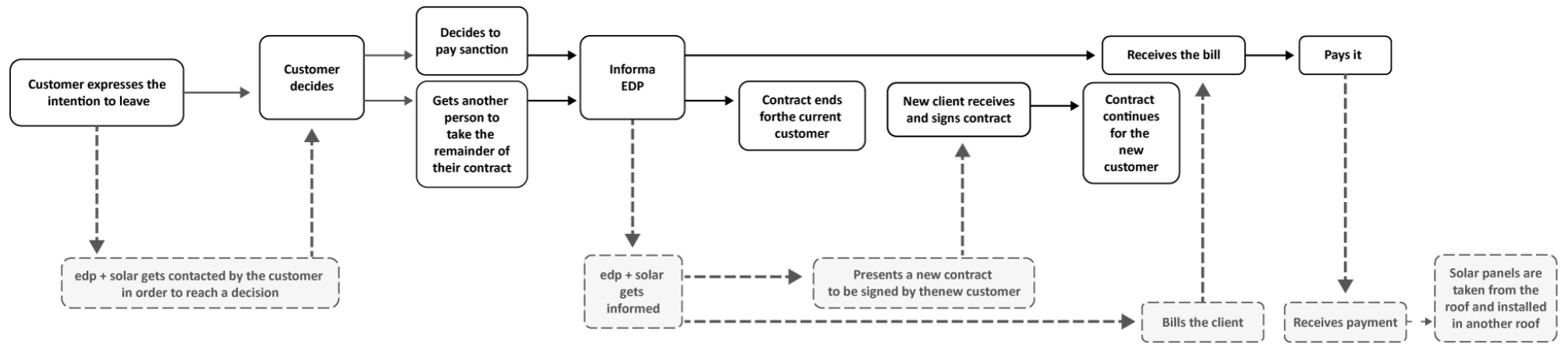


Exhibit 20 – Service Blueprint

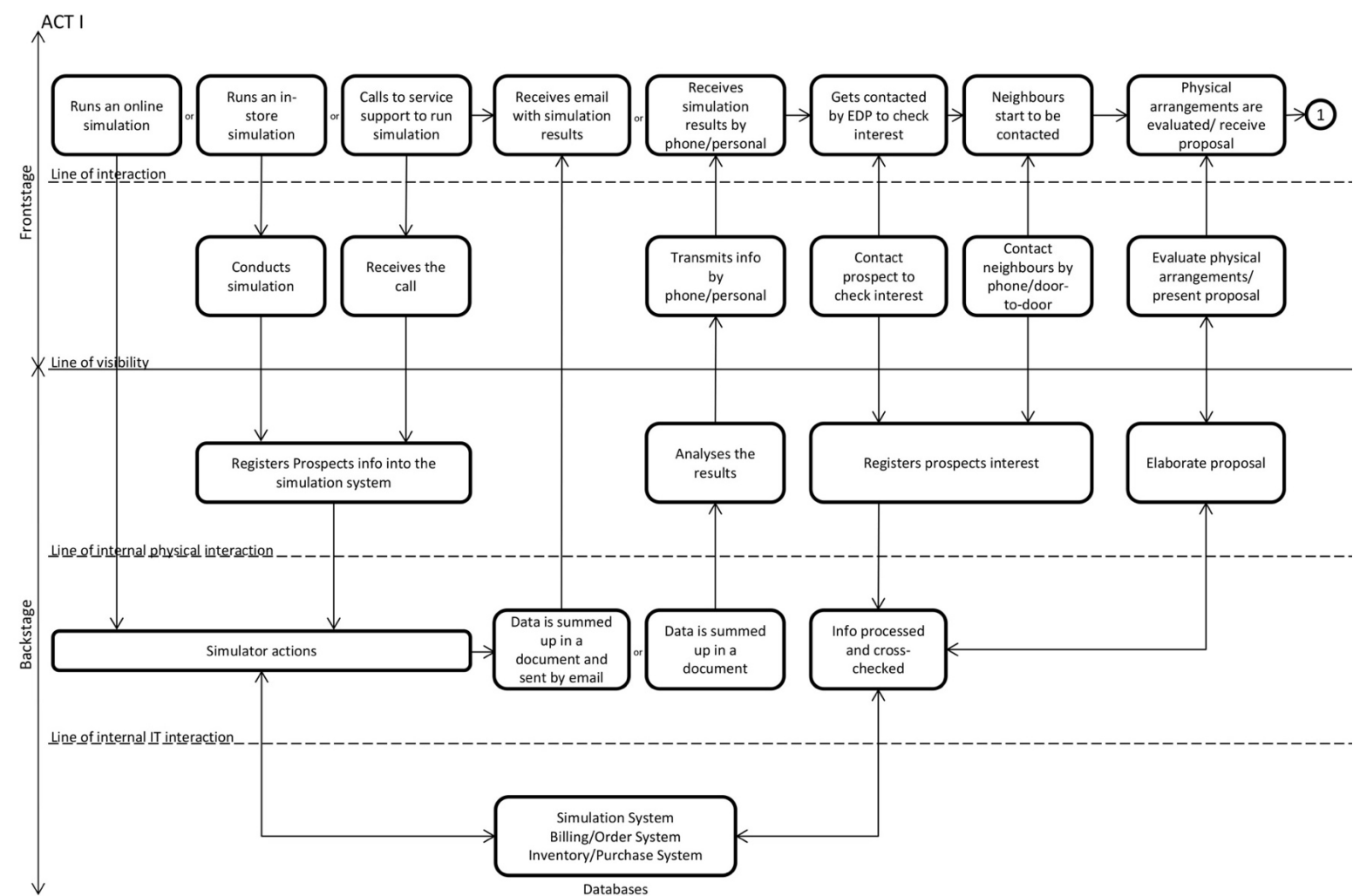
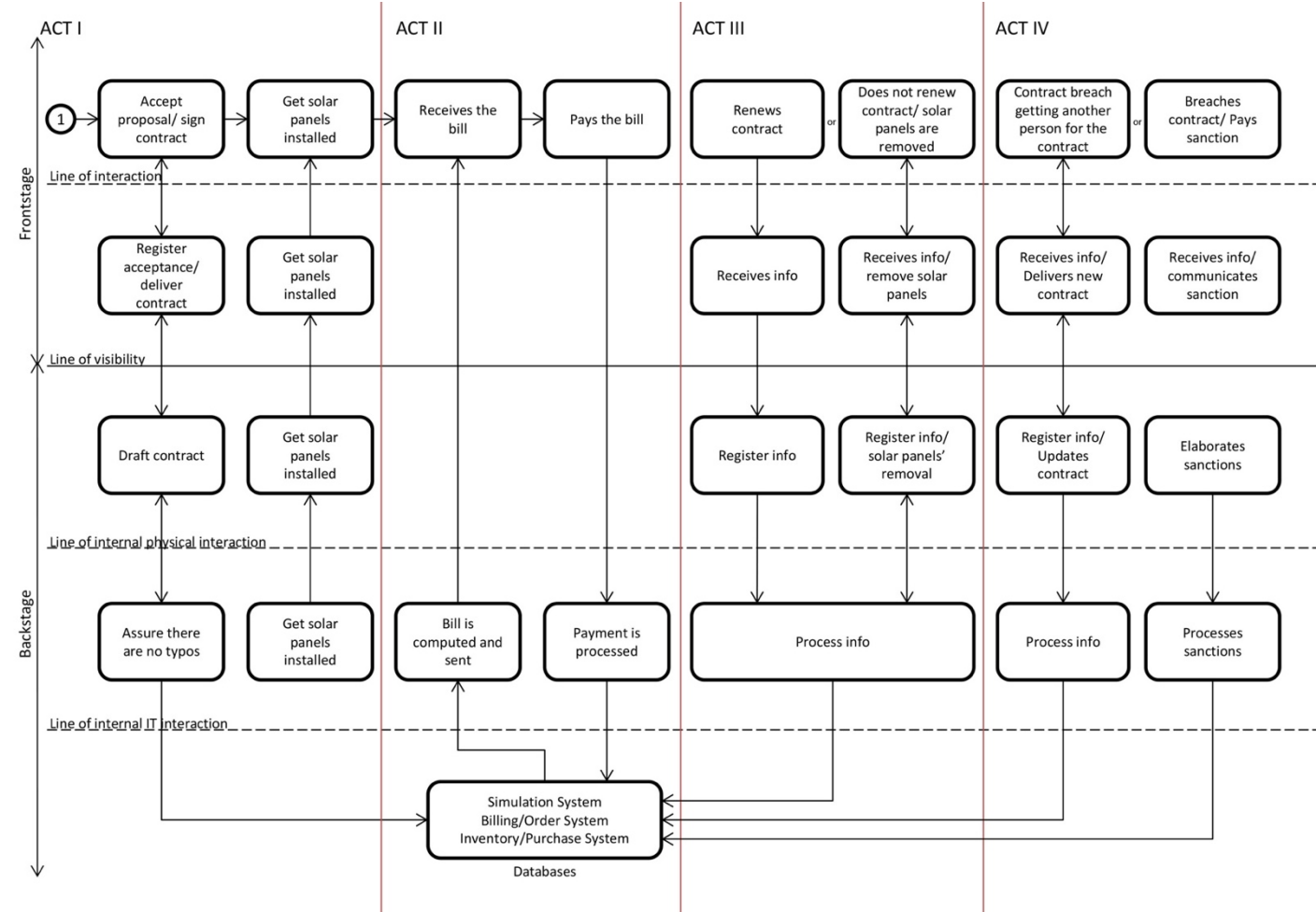


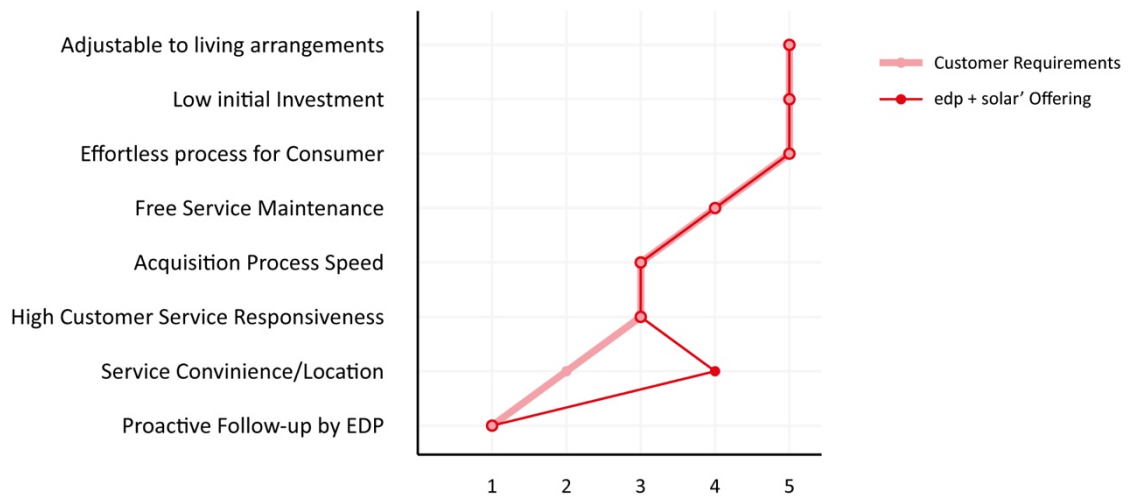
Exhibit 20 – Service Blueprint (continuation)



*The only difference for Villas’ Service Blueprint is the removal of any steps or actions that relate to neighbo

Exhibit 21 – Attributes Map for both Villa and Building

Attribute Map for edp + solar Building Solution



Attribute Map for edp + solar Villa Solution

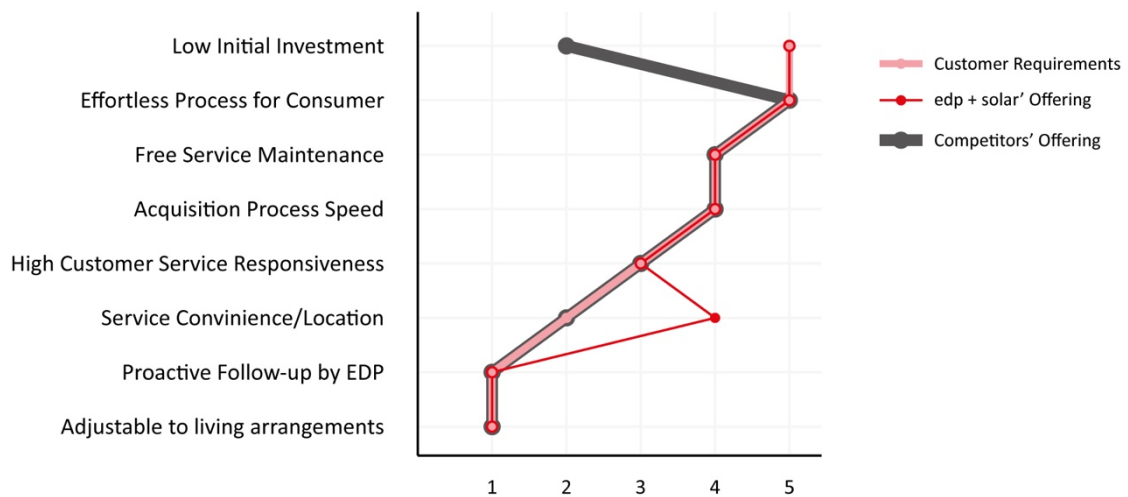


Exhibit 22 - Cost of acquisition per solar panel

Solar panels			
Supplier Discount			
Price per Wp*	0,40 €	20%	€ 0,50
Installed Power (W)*	Cost for EDP	Installation break down**	
		250 W panel	1000 W panel
250	100 €	1	
500	200 €	2	
750	300 €	3	
1000	400 €		1
1250	500 €	1	1
1500	600 €	2	1
1750	700 €	3	1
2000	800 €		2
2250	900 €	1	2
2500	1.000 €	2	2
2750	1.100 €	3	2
3000	1.200 €		3
3250	1.300 €	1	3
3500	1.400 €	2	3
3750	1.500 €	3	3
4000	1.600 €		4
4250	1.700 €	1	4
4500	1.800 €	2	4
4750	1.900 €	3	4
5000	2.000 €		5
* Wp: Watt peak; W: Watt			
** Optimized for least amount of roof space occupied			

Exhibit 23 – Cost of the inverters

Inverters							
Category	Name	Power Capacity (W)	Retail Price	VAT		Quantity Discount	COGS
Microinverter	Enphase M250	250	140 €	23%	114 €	20%	91 €
Isolated/Hybrid Inverter*	Effecta 1000VA	1000	390 €	23%	317 €	20%	254 €
	Effecta AX Series 3000VA	3000	500 €	23%	407 €	20%	325 €
	Effecta AX Series 5000VA	5000	900 €	23%	732 €	20%	585 €
Grid Inverter	SMA Sunny Boy	1500	650 €	23%	528 €	20%	423 €
	Kostal Piko 3.0	3000	1.096 €	23%	891 €	20%	713 €
* These inverters are prepared to be connected to batteries							

Exhibit 24 – Cost Of Goods Sold summary - villa solution

Cost of Hardware = Cost of solar panels + cost of inverter

Ownership costs = estimated as 30% of total COGS

Installed Power (W)	Cost of Hardware	Cost of Installation	Cost of Maintenance	Total COGS	Total COGS without ownership cost	Monthly COGS inputted onto the consumer
250	191,06 €	125 €	0 €	316,06 €	221,24 €	3,97 €
500	382,11 €	125 €	0 €	507,11 €	354,98 €	6,37 €
750	553,66 €	125 €	0 €	678,66 €	475,06 €	8,53 €
1000	653,66 €	125 €	0 €	778,66 €	545,06 €	9,78 €
1250	825,20 €	125 €	0 €	950,20 €	665,14 €	11,94 €
1500	925,20 €	125 €	0 €	1 050,20 €	735,14 €	13,20 €

Exhibit 25 – Parabola Function for the building solution

$$\text{Level of Potential Savings (\%)} = 7\% + 5\% * (s - 1) + 3\% * c + 3\% * d + 2\% * e$$

7% = average level of annual savings achievable with the installation of one singular solar panel

s = number of solar panels installed after the first one

c = binary variable regarding being at home during the day (yes = 1; no = 0)

d = binary variable regarding being home during weekends (yes = 1; no = 0)

e = *Potência Contratada* variable (3.45kVa = -1; 6.9kVa = 0; 13.2kVa = 1; 20.7kVa = 2)

*Establishment of binary variables resulted from average criteria sensitiveness and were assumed as 0 for the nationwide most common scenario

Exhibit 26 – Pricing set ups and margins for the villa solution

Monthly COGS inputted on the consumer	COGS w/VAT	Monthly Savings	Price w/VAT per panel	PVP without VAT	Margin (€)	Margin (%)
3,97 €	4,88 €	8 €	5,90 €	4,80 €	4,80 €	17%
6,37 €	7,84 €	12 €	2,90 €	2,36 €	2,36 €	11%
8,53 €	10,49 €	16 €	2,90 €	2,36 €	2,36 €	10%
9,78 €	12,03 €	20 €	2,90 €	2,36 €	2,36 €	18%
11,94 €	14,69 €	24 €	2,90 €	2,36 €	2,36 €	16%
13,20 €	16,23 €	28 €	2,90 €	2,36 €	2,36 €	20%

Exhibit 27 – Cost of the additional meter needed for the building solution

Additional meter	
Retail price	400 €
VAT	23%
Price without VAT	€325,20
Margin	20%
COGS	€271,00
Discount	10%
Final Price to EDP C	€243,90

Exhibit 28 – Cost Of Goods Sold summary - building solution

Cost of Hardware = Cost of solar panels + cost of inverter + cost of extra meter

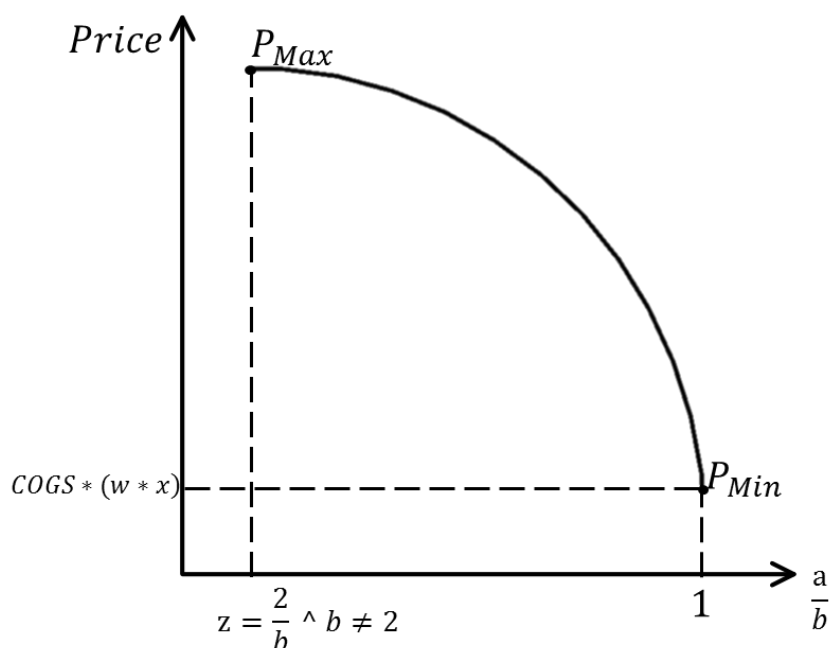
Ownership costs = estimated as 30% of total COGS

Installed Power (W)	Cost of Hardware	Cost of Installation	Cost of Maintenance	Total COGS	Total COGS without ownership cost	Monthly COGS inputted onto the consumer
250	250,00 €	200 €	0 €	450,00 €	315,00 €	5,65 €
500	500,00 €	200 €	0 €	700,00 €	490,00 €	8,80 €
750	750,00 €	200 €	0 €	950,00 €	665,00 €	11,94 €
1000	1 000,00 €	200 €	0 €	1 200,00 €	840,00 €	15,08 €
1250	1 250,00 €	200 €	0 €	1 450,00 €	1 015,00 €	18,22 €
1500	1 500,00 €	200 €	0 €	1 700,00 €	1 190,00 €	21,36 €
1750	1 750,00 €	200 €	0 €	1 950,00 €	1 365,00 €	24,50 €
2000	2 000,00 €	200 €	0 €	2 200,00 €	1 540,00 €	27,64 €
2250	2 250,00 €	200 €	0 €	2 450,00 €	1 715,00 €	30,79 €
2500	2 500,00 €	200 €	0 €	2 700,00 €	1 890,00 €	33,93 €
2750	2 750,00 €	200 €	0 €	2 950,00 €	2 065,00 €	37,07 €
3000	3 000,00 €	200 €	0 €	3 200,00 €	2 240,00 €	40,21 €
3250	3 250,00 €	200 €	0 €	3 450,00 €	2 415,00 €	43,35 €
3500	3 500,00 €	200 €	0 €	3 700,00 €	2 590,00 €	46,49 €
3750	3 750,00 €	200 €	0 €	3 950,00 €	2 765,00 €	49,63 €
4000	4 000,00 €	200 €	0 €	4 200,00 €	2 940,00 €	52,78 €
4250	4 250,00 €	200 €	0 €	4 450,00 €	3 115,00 €	55,92 €
4500	4 500,00 €	200 €	0 €	4 700,00 €	3 290,00 €	59,06 €
4750	4 750,00 €	200 €	0 €	4 950,00 €	3 465,00 €	62,20 €
5000	5 000,00 €	200 €	0 €	5 200,00 €	3 640,00 €	65,34 €
5250	5 250,00 €	200 €	0 €	5 450,00 €	3 815,00 €	68,48 €
5500	5 500,00 €	200 €	0 €	5 700,00 €	3 990,00 €	71,62 €
5750	5 750,00 €	200 €	0 €	5 950,00 €	4 165,00 €	74,76 €
6000	6 000,00 €	200 €	0 €	6 200,00 €	4 340,00 €	77,91 €

6250	6 250,00 €	200 €	0 €	6 450,00 €	4 515,00 €	81,05 €
6500	6 500,00 €	200 €	0 €	6 700,00 €	4 690,00 €	84,19 €
6750	6 750,00 €	200 €	0 €	6 950,00 €	4 865,00 €	87,33 €
7000	7 000,00 €	200 €	0 €	7 200,00 €	5 040,00 €	90,47 €
7250	7 250,00 €	200 €	0 €	7 450,00 €	5 215,00 €	93,61 €
7500	7 500,00 €	200 €	0 €	7 700,00 €	5 390,00 €	96,75 €
7750	7 750,00 €	200 €	0 €	7 950,00 €	5 565,00 €	99,90 €
8000	8 000,00 €	200 €	0 €	8 200,00 €	5 740,00 €	103,04 €
8250	8 250,00 €	200 €	0 €	8 450,00 €	5 915,00 €	106,18 €
8500	8 500,00 €	200 €	0 €	8 700,00 €	6 090,00 €	109,32 €
8750	8 750,00 €	200 €	0 €	8 950,00 €	6 265,00 €	112,46 €
9000	9 000,00 €	200 €	0 €	9 200,00 €	6 440,00 €	115,60 €
9250	9 250,00 €	200 €	0 €	9 450,00 €	6 615,00 €	118,74 €
9500	9 500,00 €	200 €	0 €	9 700,00 €	6 790,00 €	121,89 €
9750	9 750,00 €	200 €	0 €	9 950,00 €	6 965,00 €	125,03 €
10000	10 000,00 €	200 €	0 €	10 200,00 €	7 140,00 €	128,17 €
10250	10 250,00 €	200 €	0 €	10 450,00 €	7 315,00 €	131,31 €
10500	10 500,00 €	200 €	0 €	10 700,00 €	7 490,00 €	134,45 €
10750	10 750,00 €	200 €	0 €	10 950,00 €	7 665,00 €	137,59 €
11000	11 000,00 €	200 €	0 €	11 200,00 €	7 840,00 €	140,73 €
11250	11 250,00 €	200 €	0 €	11 450,00 €	8 015,00 €	143,87 €
11500	11 500,00 €	200 €	0 €	11 700,00 €	8 190,00 €	147,02 €
11750	11 750,00 €	200 €	0 €	11 950,00 €	8 365,00 €	150,16 €
12000	12 000,00 €	200 €	0 €	12 200,00 €	8 540,00 €	153,30 €
12250	12 250,00 €	200 €	0 €	12 450,00 €	8 715,00 €	156,44 €
12500	12 500,00 €	200 €	0 €	12 700,00 €	8 890,00 €	159,58 €
12750	12 750,00 €	200 €	0 €	12 950,00 €	9 065,00 €	162,72 €
13000	13 000,00 €	200 €	0 €	13 200,00 €	9 240,00 €	165,86 €
13250	13 250,00 €	200 €	0 €	13 450,00 €	9 415,00 €	169,01 €

13500	13 500,00 €	200 €	0 €	13 700,00 €	9 590,00 €	172,15 €
13750	13 750,00 €	200 €	0 €	13 950,00 €	9 765,00 €	175,29 €
14000	14 000,00 €	200 €	0 €	14 200,00 €	9 940,00 €	178,43 €
14250	14 250,00 €	200 €	0 €	14 450,00 €	10 115,00 €	181,57 €
14500	14 500,00 €	200 €	0 €	14 700,00 €	10 290,00 €	184,71 €
14750	14 750,00 €	200 €	0 €	14 950,00 €	10 465,00 €	187,85 €
15000	15 000,00 €	200 €	0 €	15 200,00 €	10 640,00 €	191,00 €

Exhibit 29 – Parabola Function for the building solution



$z = a/b$; a = number of households within the same building solution;
 b = total number of households within the same building; $w * n$ = potential savings

Exhibit 30 – Formulas for the minimum and maximum prices of the building solution

$$P_{Max} = (1 - 25\%) * (w * n) = 75\% * (w * n)$$

$a = 2$

1 – Total Savings

25% - Minimum amount of savings guaranteed

$w * n$ – Potential savings (€)

$$P_{Min} = COGS * (1 + VAT)$$

VAT = 23%

COGS – depends on a and y ; a – number of panels ; y – number of people in the solution

Exhibit 31 – Building Solution Margins

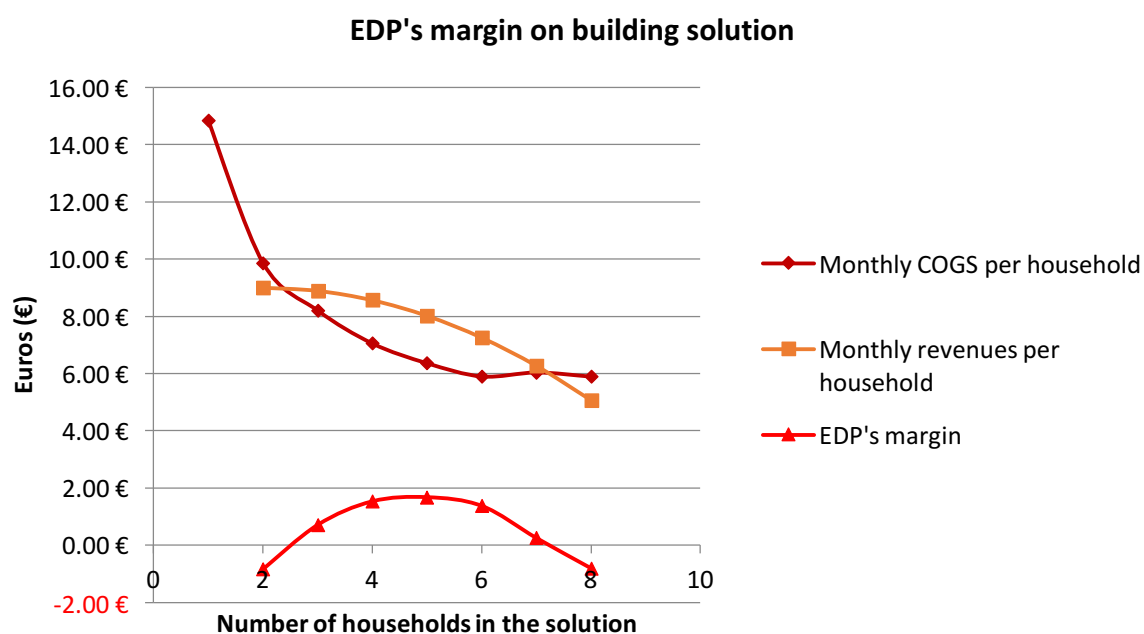
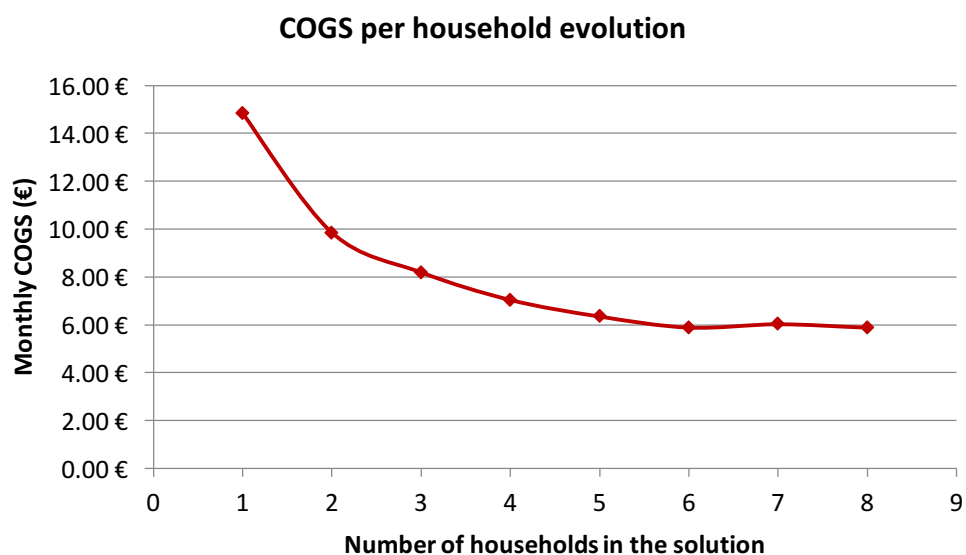


Exhibit 32 – COGS: a Logarithmic function for the building solution



Note: case of sample building of eight households.

Exhibit 33 - Behavioural Sequence Model for the Need to purchase *edp* + *solar*

	Need Arousal		Evaluation		Decision		Purchase		Use	
	Bulgings	Villas	Bulgings	Villas	Bulgings	Villas	Bulgings	Villas	Bulgings	Villas
Individual involved and decision roles	- Household members (Initiators) ; - Friends/Family/Neighbours (Influencers/Initiators); - Electricity expert (Influencer)		- Household members (Initiators) ; - Friends/Family/Neighbours (Influencers/Initiators); - Electricity expert (Influencer)		- Household decision unit (decider)		- Group of clients that are neighbours (purchasers)	- Electricity client (purchaser)	- Household member (users)	
	- Condominium (Influencer)		- Condominium Manager (Influencer)							
Where stage is likely to occur	- Home; others' homes; - Where you get your bill; - Store		- Home; - Store		- Home		- Home; - Store		- Home	
	- Condominium meetings;	- Within common areas of the building								
Timing of stage	- When you receive your bill; - When discussing with others; - When you pay your bill		- Immediately after Need Arousal		- 2-4 weeks after evaluation phase		- Up to 2 months after the decision	- Immediately after decision	- Always (constant)	
	- When condominium meets									
How stage is likely to occur	- Sees related content; - Realizes electricity spendings; - Conversations with others		- Online research; - Analysis at materials gathered; - Conversation with expert; - Simulation		- Assessing findings with financial availability		- Contacting supplier; - Buying solution at the store		- Using electricity	
	- With condominium discussions									

Exhibit 34 - Summary of Communication Objectives for the Campaign

Communication Objective	Communication Objective Effect
Category Need	Must be “Sold” to consumers
Category and Brand Awareness	Promote Recall
Category and Brand Attitude	Create Positive Attitude
Brand Purchase Intention	Generate Purchase Intention
Brand Purchase Facilitation	Incorporate Purchase Facilitation

Exhibit 35 - Jingle lyrics for campaign (song ‘Os maridos das outras’ from Miguel Araújo adaptation

Toda a gente sabe qu’o fim do mês está a chegar

E há contas por pagar

As luzes não quero desligar...

Quero poupar, quero poupar,

Toda a gente sabe qu’o fim do mês está a chegar!

Mas nas outras casas não,

Devia haver uma solução

Pr’a qualquer tipo d’habitação,

Sem pagar mais um tostão...

Nós temos a solução,

Nós temos a solução!

Exhibit 36 - Creative Brief for Communications Campaign of *edp + solar*

1. Consumer Perspective (See exhibit 2)

Source of Business: New Category Users of Solar Energy Solutions for household use

Consumer Insight: “I have high expenses on my electricity bill every month and I want new ways to save on that expenditure”

Key Consumer Insight: Even though consumers always want economic return and savings on their monthly bills of electricity they never want it at the expense of the comfort they aim to have in their own homes everyday

Target Market: Everyone (from every age group and gender) that lives in an apartment building or villa and has the financial stability to incur in a contract to save on their monthly electricity bill

Creative Target Audience: Families whose parents are between the age of 30 and 55 years old, that want to take the next step on their electricity saving efforts

Media Usage: Multiple channels of media including Television, Internet, Radio, Newspapers, Magazines, Out-Of-Home and Cinemas

2. Marketing Objectives and Action Objectives

Marketing Objective: Reach a 3% penetration of the potential market for Solar Energy Solutions for household use

Action Objective: Generate Trial for Category and Brand with the first step of engagement of the product which is the service' simulation and ultimately for the service itself with the first contract

3. Communications Objectives

Category Need: "Sell" to consumer; Focus

Brand Awareness: Recall

Brand Attitude: Generate positive attitude towards Brand and overall Category

Brand Purchase Intention: Generate

Brand Purchase Facilitation: Incorporate

4. Positioning Statement for Campaign

To families with parents between 30-50 years old, looking for taking the next step in savings on the electricity bill (new category users), edp + solar is a differentiated brand of solar energy solutions (where the product is the hero) that offers a turn-key solution that allows people to save money on their electricity bill (problem avoidance) independently of their living arrangements (problem removal) while also offering consumers the possibility of engaging in their own community and contributing for a more sustainable environment (social approval) because EDP is a well-established and reliable company with 40 years of expertise, that is driven by sustainable innovation and a high dedication in serving the consumers with the highest of standard.

The campaign should:

- Emphasize that the brand solves a problem by allowing consumers to save money while enjoying the comfort of their homes (from negative emotion to benefit to positive emotion: $e^- \rightarrow b \rightarrow e^+$ in the attribute-benefit-emotion model)

- Mention that it can serve consumers in all types of living arrangements and mention effortless subscription as entry ticket
- Omit price and technical aspects of the service

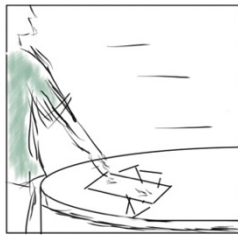
5. Desired Consumer Response

Consumers will begin to understand the benefits of the Category of Solar Energy Solutions for household use, in direct relation to the brand *edp + solar* and start implementing its service to save money on a regular basis

6. Mandatory Content

The main components of the campaign must portray families as well as both types of living arrangements served (apartments and villas); Brand's logo as well as phone number and micro website's URL must be displayed for at least 2 seconds (to promote Brand Recall and emphasize Brand Purchase Facilitation); Media that is fit for it should always use sound and an immediate call to action to do the simulation or go to the store and get more information.

Exhibit 37 - Storyboard (envisioned by the team)



Person arrives home
and drops bills on the table



Turns on the light



Sits on couch next to wife



Wife calls a friend of hers



Friend answers the phone
(kids are running and a yard can be seen outside)



They talk



They talk



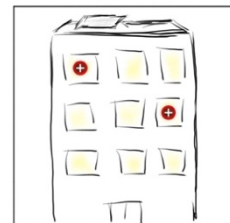
At the same time, edp + solar
was there to install the solution



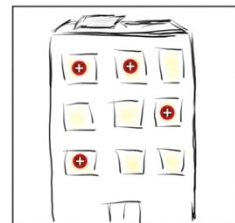
After talking to her friend,
she goes to edp + solar's site



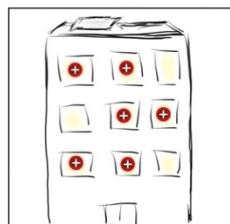
Wide shot of the front of
an apartment building



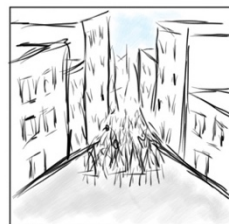
The first two apartments adopt
edp + solar



Another two also join



And another two apartments
also adopt



edp + solar workers going
down a street
(buildings have on the window the + solar logo)



Aerial view of roofs with
solar panels



Ligue 808 91 43 72

ou vá a maissolar.edp.pt

e faça a sua
simulação!

Contact information
and call to action

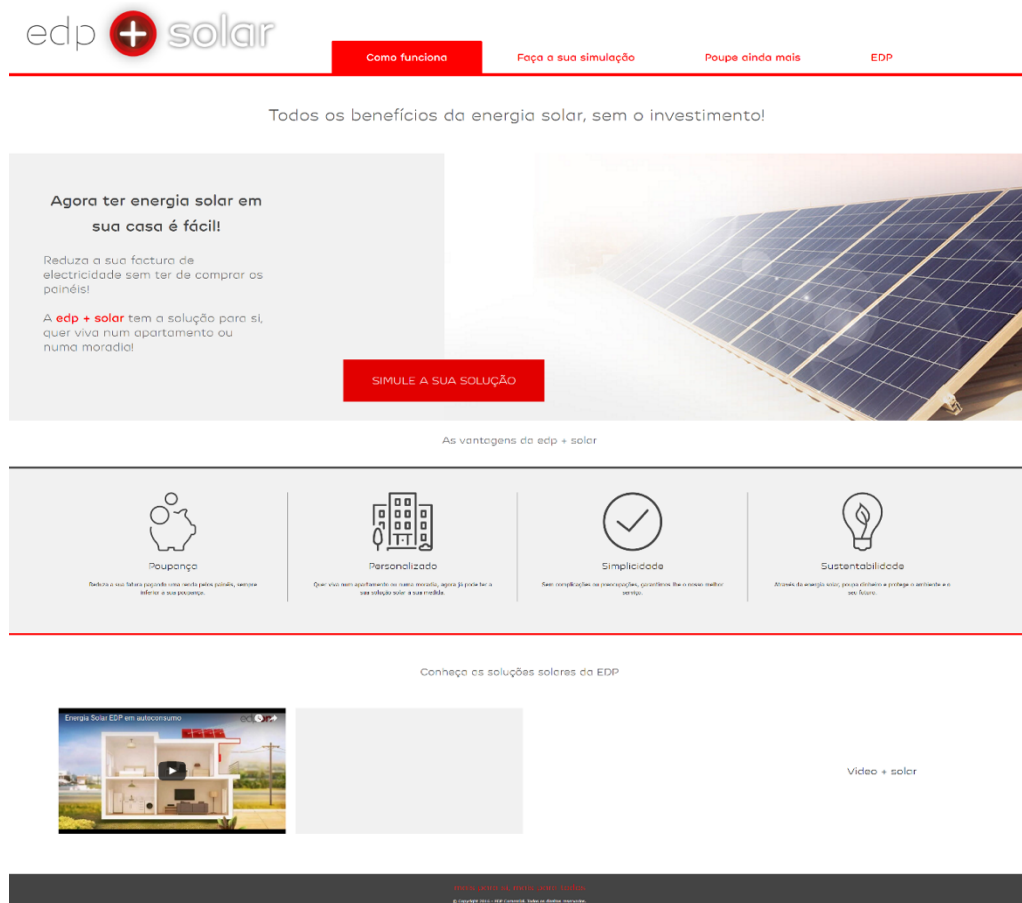


Exposure of logo and slogan
(2/3 secs)

Exhibit 38 - *edp + solar* micro website: webpage and functions' description



Como funciona: section where the user can find information about *edp + solar* solution – characteristics, process and benefits.



“Faça a sua simulação”: section where the user can make the simulation in order to assess the conditions under which the system can be installed. The user should choose his living arrangement conditions, current electricity provider and give some personal information.

edp

+

solar

Como funciona

Faça a sua simulação

Poupe ainda mais

EDP

Simule a sua solução e descubra quanto e como pode começar a poupar!

Em que tipo de alojamento vive?

Apartamento

Moradia

edp

+

solar

Como funciona

Faça a sua simulação

Poupe ainda mais

EDP

Simule a sua solução e descubra quanto e como pode começar a poupar!

Qual é o seu actual fornecedor de electricidade?

EDP Comercial

Outro/Não sei

edp

+

solar

Como funciona

Faça a sua simulação

Poupe ainda mais

EDP

Simule a sua solução e descubra quanto e como pode começar a poupar!

Precisamos só de mais umas informações para lhe dar a sua simulação

Nome do titular da conta

Insira o nome

Data de nascimento do titular

(dd/mm/yyyy)

Costuma ter pessoas durante o dia em casa durante a semana?

Escolha

Costuma passar o fim-de-semana em casa?

Escolha

Quantos apartamentos tem o seu prédio?

Insira o número

O seu e-mail

Insira o seu e-mail

O seu telefone

Insira o telefone

SIMULAR

edp

+

solar

Como funciona

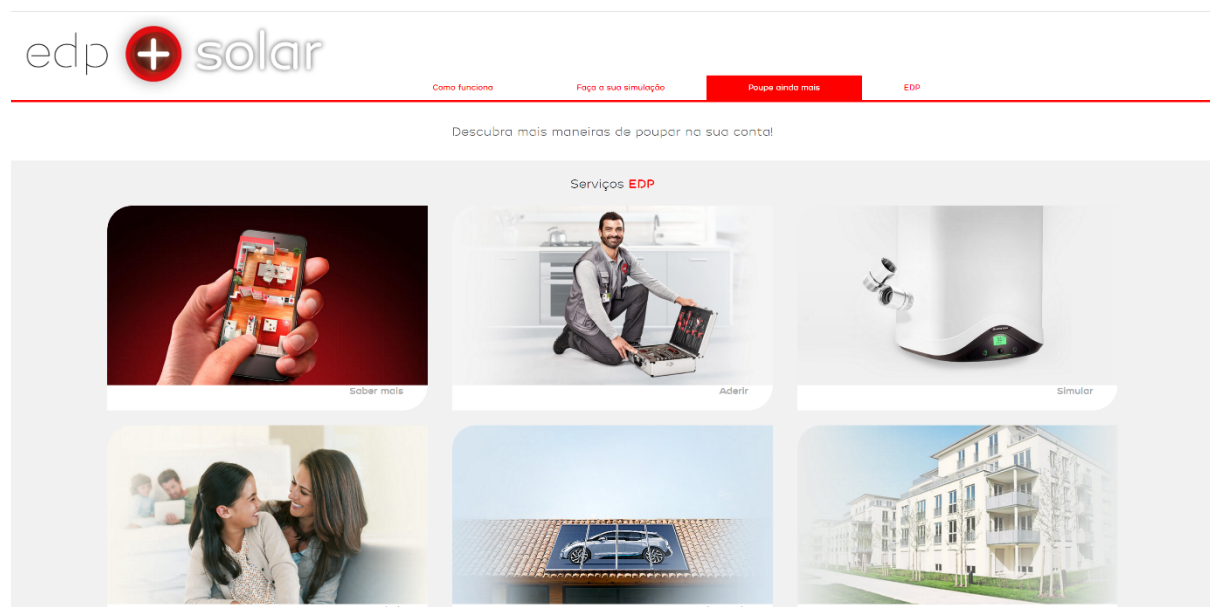
Faça a sua simulação

Poupe ainda mais

EDP

Simule a sua solução e descubra quanto e como pode começar a poupar!

“Poupe ainda mais”: section where other products and services of EDP Comercial are shown in order to better inform the user.

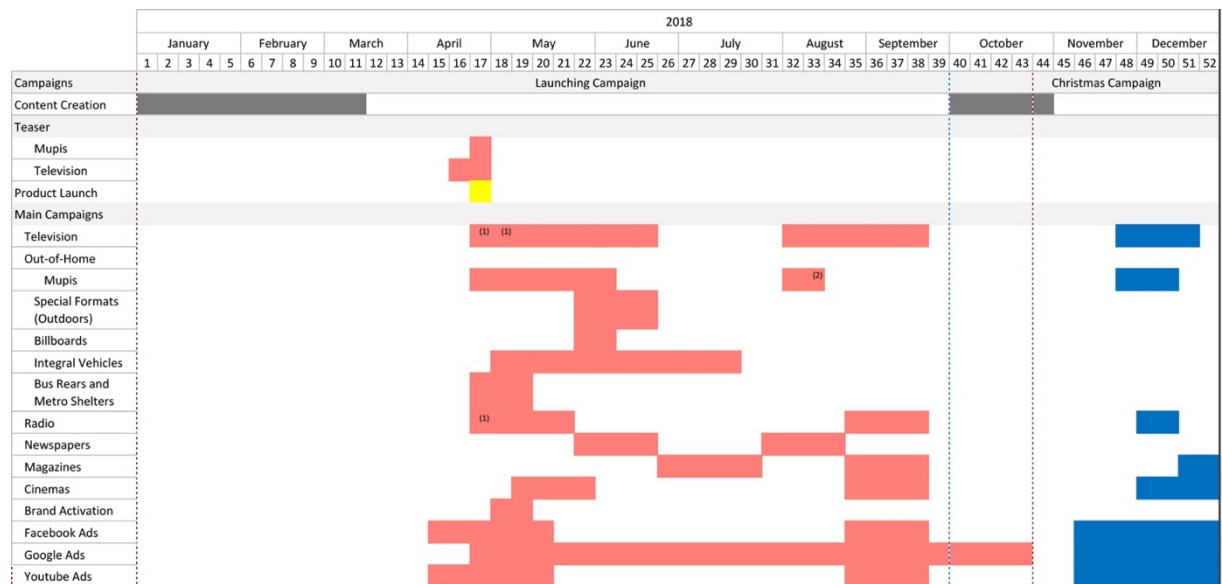


“EDP” section: direct link to the company’s website.

Exhibit 39 - Budget Break Down for Campaign

Total Campaign Budget	Total	€2 000 665,76	100%
Content Creation Costs	Total	€200 000,00	10%
Media	Total	€1 800 665,76	90%
	Television	€1 007 619,46	50,4%
	Out-of-Home	€571 482,93	28,6%
	Radio	€27 477,68	1,4%
	Newspapers	€46 075,61	2,3%
	Magazines	€91 585,37	4,6%
	Cinema	€22 677,80	1,1%
	Brand Activation	€28 140,00	1,4%
	Online	€5 606,91	0,3%

Exhibit 40 - Schedule for Campaign



(1) Full lenght ad will only be broadcast during these weeks. After that, the ad will be edited to a shorter but still logical lenght

(2) Special localized Mupis with internal counter showing how many people are already using 'edp + solar'

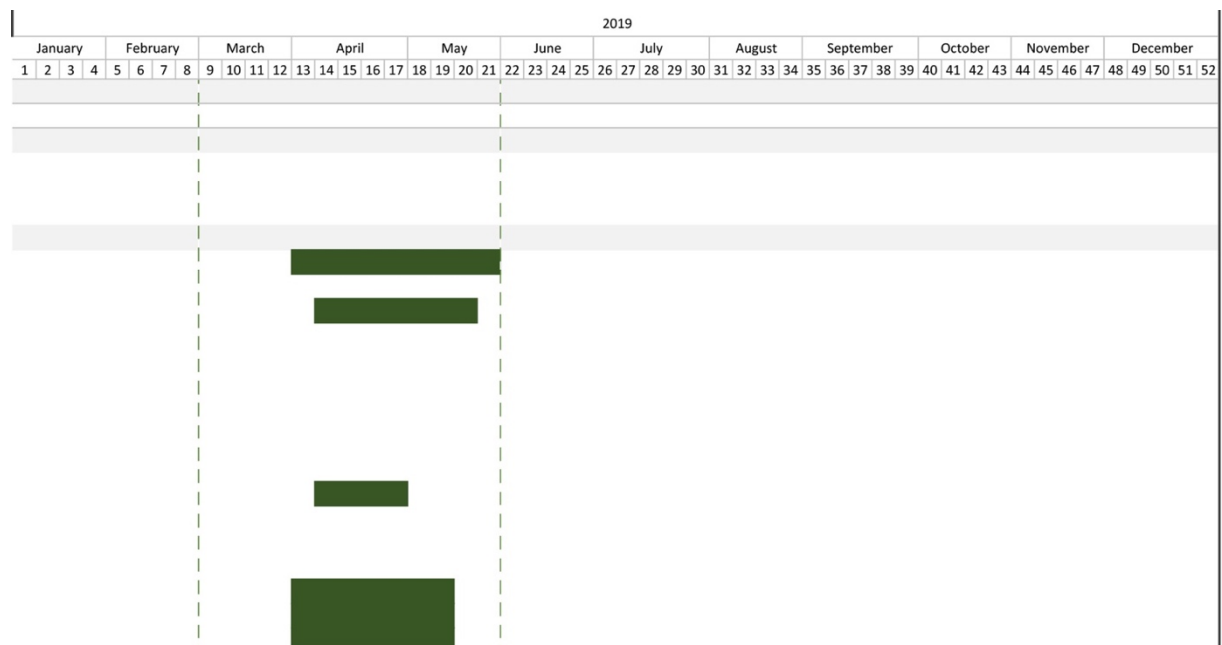


Exhibit 41 - *edp + solar* Channel Structure: Distribution Scheme

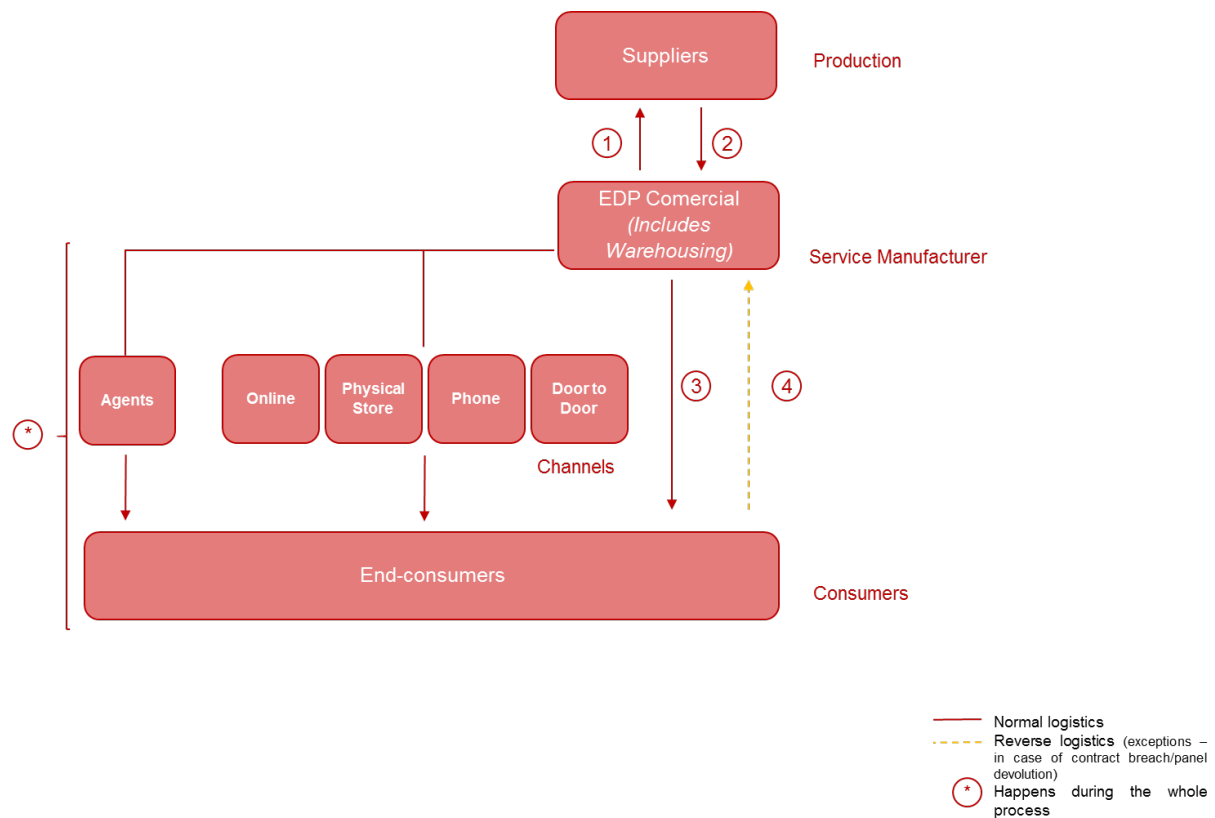


Exhibit 42 - Detailed Definition of Service Outputs

Bulk Breaking	End-user's ability to buy a desired (possibly small) number of units, even if the product or service originally was produced in large, batch-production lot sizes. The higher it is, the smaller the lot size and the higher the service output.
Spatial Convenience	Increases end-user's satisfaction by reducing transportation requirements and search costs.
Waiting Time	Time the end-user must wait between ordering and receiving the goods or post- sales service (can be different for original purchase and post-sale services).
Product Variety and Assortment	Variety describes different classes of goods that constitute the product offering (breadth/width of product lines) and assortment refers to the depth of product brands or models offered within each generic product category.

	The higher the both are, the higher the output and the overall distribution costs.
Customer Service	Refers to all aspects of easing the shopping and purchase process for end-users (including post-sales) as they interact with commercial suppliers or retailers.
Information Provision	Education provided to end-users about product attributes or usage capabilities, as well as pre- and post-purchase services.

Adapted from: Robert W. Palmatier et al., Marketing Channel Strategy, 8th Ed. (2015), Pearson Prentice Hall

Exhibit 43 - Service Outputs Supplied by *edp + solar*

Bulk-breaking and Product Variety and Assortment: Out of scope.

Spatial Convenience: Taking into account the end-consumers' widely different needs and preferences about *where* and *how* they intend to purchase the service, *edp + solar* would be present in EDP's physical stores (currently 65 operating stores), in the agent stores (*Agentes de Atendimento*, that account for 177 entities) and at the *edp + solar* micro website. Additionally, consumers would be able to engage in the process by phone, through the exclusive number dedicated to EDP solar solutions and the telemarketing channel, that despite being outsourced, is oriented and supervised by EDP Comercial.

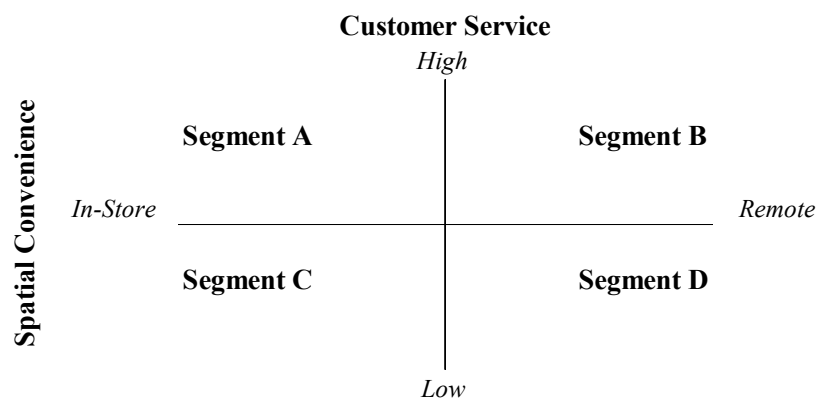
Waiting Time: Given the complexity of the process and its high involvement component, the consumer might need to wait up to three months between the first contact (simulation) and the installation in the building solution case, as the number of people involved is higher as well as the whole process complexity. This period would logically be shortened for the villa solution as it only involves one customer (household) at a time, being the decision-making period certainly shorter.

Customer Service: Given the asymmetries regarding the levels of customer service required by consumers, *edp + solar* would adapt its customer service supply, ranging from high to low within all the channels used. In physical stores, customers can be guided by in-store collaborators – that would present the service specificities and do the simulation for them - or use the do-it-yourself monitor to do the simulation. In the second case, there would be an assigned collaborator to assist them in case they need help with the process. The same guidance would be done by agents, that need to be effectively trained in order to provide complete

information about the service. Regarding the online channels (website), the user is completely autonomous in searching for information and conducting the simulation by himself. Additional direct sales channels, in the form of door-to-door sales force and telemarketing, reach the consumer directly and therefore provide a high level of customer service, suiting some customers' preferences.

Information Provision: Information about *edp + solar* reaches the customers in the most diverse forms: informational advertising and merchandising materials (more detailed in the communications plan), the micro website, information personally provided by in-store collaborators and through the exclusive phone line dedicated to EDP's solar solutions.

Exhibit 44 - Types of Channel per Segment



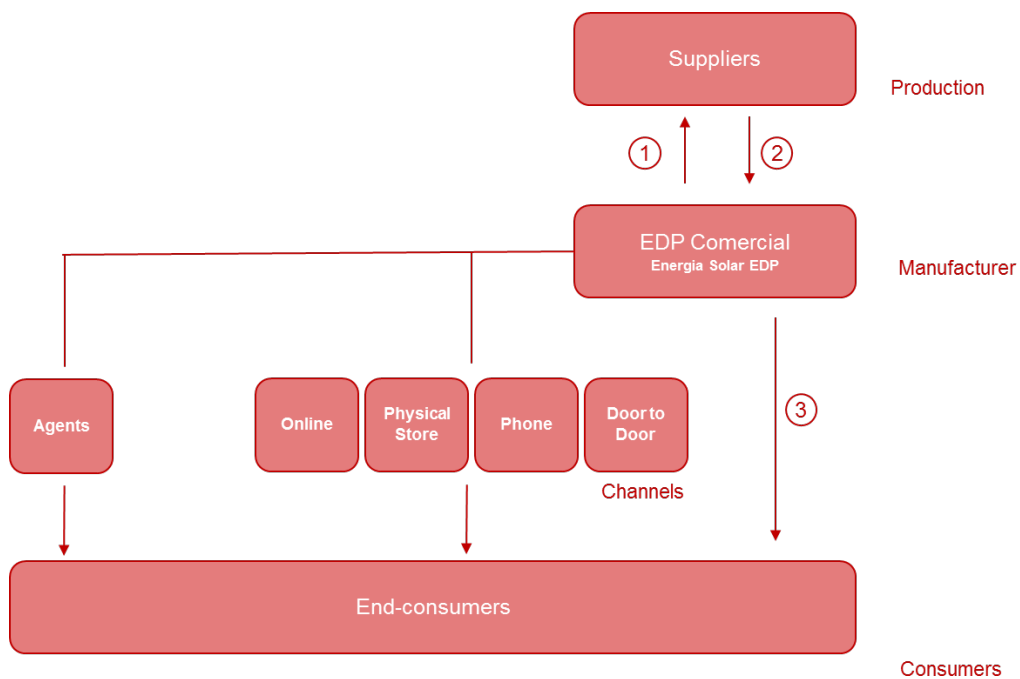
- **Segment A** demands high customer service and has preference for in-store service. Therefore, the physical store channel, together with the agents, would be the most adequate channels to reach this type of customers.
- **Segment B** demands high customer service and has preference for service supplied remotely (meaning that the consumer does not need to go to a physical point of purchase). Therefore, direct sales' channels, specifically door-to-door sales team and Telemarketing, together with the exclusive EDP solar solutions phone number channel, would be the most adequate channels to reach these consumers.
- **Segment C** demands low customer service and prefers in-store service. Through the *do-it-yourself* simulation monitor, a customer can be completely autonomous in the process while having an in-store experience, having in mind that, if needed, in-store collaborators can help throughout the whole process.

- **Segment D** demands low customer service and has preference for a remote kind of service. Therefore, the online route is the most adequate channel to serve this segment's preferences, as the consumer has a completely autonomous experience.

Exhibit 45 - Physical Store: *do-it-yourself* simulation monitor



Exhibit 46 - EDP Comercial Distribution Channel Structure and Process: Energia Solar EDP

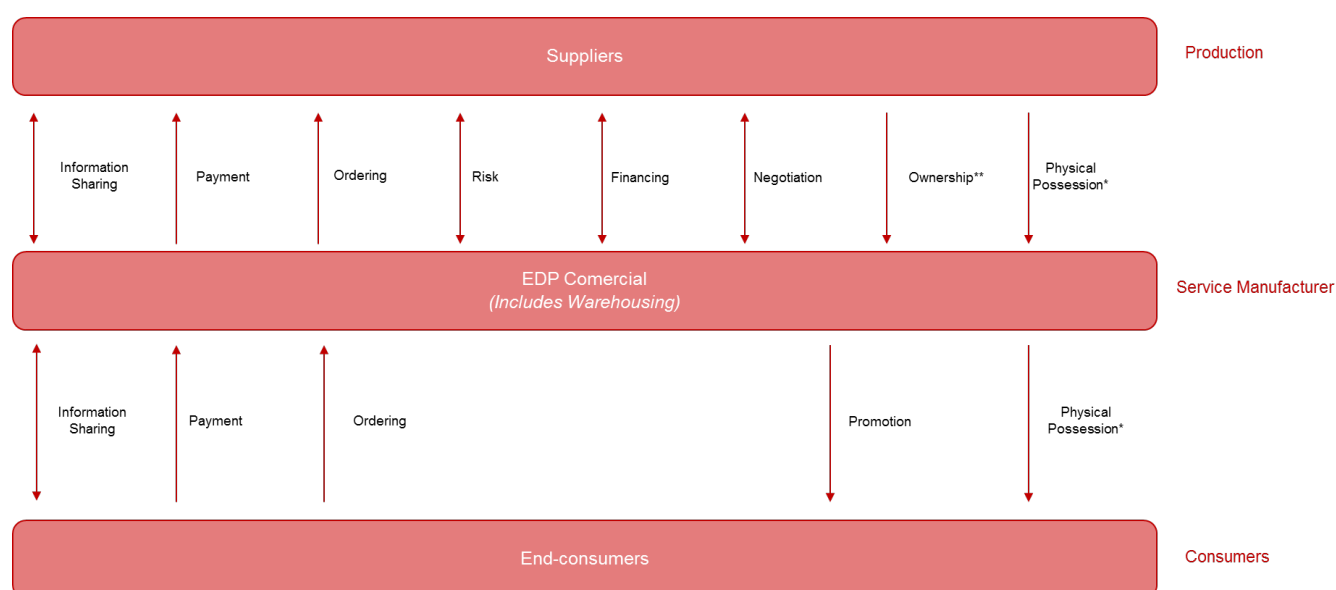


Channel members and responsibilities:

- **Suppliers:** are the producers of the solar panels and sell them to EDP Comercial.
- **EDP Comercial:** is the manufacturer of the service Energia Solar EDP and the *channel captain* - acting as the prime mover in establishing and maintaining channel links.
- **Agents:** refer to *Agentes de Atendimento* only (the only agent type that is able to sell products and services); are detached from the other channels as they are not totally controlled by EDP.
- **Online:** refers to the company's Website, through which the consumer is informed about all products/services available, having a special section for *Energia Solar EDP*.
- **Physical Store:** refers to the official EDP stores where, among other functions, all the products and services of EDP Comercial are available for 'purchase', including Energia Solar EDP.
- **Phone:** refers to the Telemarketing channel, outsourced from specialized entities (oriented and supervised by EDP), mainly in charge of sales and information sharing.
- **Door to Door:** refers to the direct sales (door-to-door) team.

* further detail about channel flow processes in Place and Physical Evidence Report

Exhibit 47 - *edp + solar* Channel Flows and Responsibilities



*Service Tangible Items Possession
 ** Ownership of the Service Tangible Items

Exhibit 48 - Service Output Demand Gap Analysis

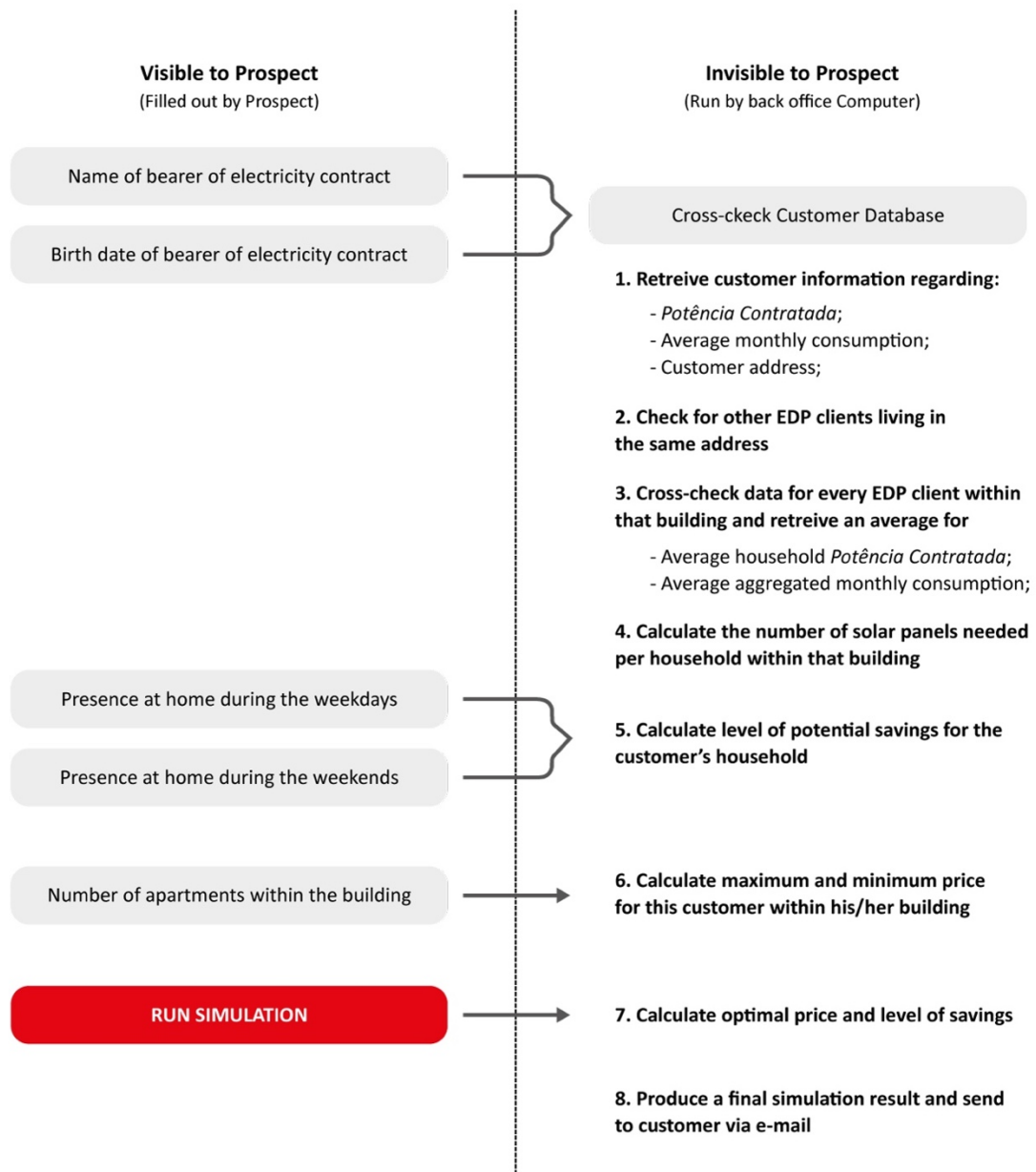
Segment	Service Outputs				Distribution Channel Segment Type
	Spatial Convenience	Waiting Time	Customer Service	Information Provision	
Skyscrappers	SOD = SOS	SOD > SOS Process-wise and in-store experience	SOD = SOS	SOD = SOS	A
Skyscrappers	SOD = SOS	SOD > SOS Process-wise	SOD = SOS	SOD = SOS	B
Skyscrappers	SOD = SOS	SOD > SOS Process-wise and in-store experience	SOS > SOD	SOD = SOS	C
Skyscrappers	SOD = SOS	SOD = SOS Process-wise	SOD = SOS	SOD = SOS	D
Mansionists	SOD = SOS	SOD > SOS In-store experience	SOD = SOS	SOD = SOS	A
Mansionists	SOD = SOS	SOD = SOS	SOD = SOS	SOD = SOS	B
Mansionists	SOD = SOS	SOD > SOS In-store experience	SOS > SOD	SOD = SOS	C
Mansionists	SOD = SOS	SOD = SOS	SOD = SOS	SOD = SOS	D

Notes:

▪ **Service Outputs:** bulk-breaking and product variety and assortment were not included in the gap analysis as these two components are out of scope given the characteristics of the service (therefore not demanded by end-users nor supplied by service provider: one can state that there is no gap regarding both service outputs).

▪ **Distribution Channel Segments:** Segment A - *In-Store*, High Customer Service; Segment B – *Remote*, High Customer Service; Segment C – *In-Store*, Low Customer Service; and Segment D – *Remote*, Low Customer Service.

Exhibit 49 – Simulation Questions



*If Prospect is not an EDP client, the simulation must ask for address (instead of date of birth), *Potência Contratada* and average monthly spendings in electricity bill (since there is no record on EDP database to estimate these numbers);

**If Prospect is living in a Villa, there is no need to ask for address or number of people living in the building (because there is no need to contact neighbours or cross-check databases with other customers).

Exhibit 50 – Customer Acquisition Scrpts

A. In-store assistants: step procedure

1. Welcome the consumer as soon as he/she arrives at the store.
2. Reach out to the consumer and ask if he/she has some time and if he/She already knows the new *edp + solar* service.
3. Provide information about the service and the process.
4. If the consumer seems interested, ask if he/she would like to run the simulation in-store (either at the counter or through the *do-it-yourself* monitor), referring that results would be sent by e-mail and that he/she will receive call.
5. Clarify any doubts and be available to help throughout the process.

B. Telemarketing: neighbours contact (same building)

Call-Center Collaborator: Hello Mr. X, my name is Y, from EDP Comercial, and I am contacting as one of your neighbours requested some information about a new service, *edp + solar*, that might be suitable to your building in order for all of you to save money on electricity by using solar energy. Do you have some minutes to answer a couple of quick questions?

If the customer answers:

[no] Call-Center Collaborator should call again later.

[yes] Call-Center Collaborator: Are you familiar with this service?

If the customer answers:

[no] Call-Center Collaborator should explain service specificities (and then move to the next [yes])

[yes] Call-Center Collaborator: Would you be willing to know the conditions for you to join this solution for your building? You just need to answer a set of quick questions and we will send you the results by e-mail.

If the customer answers:

[no] Call-Center Collaborator: Ok sir, thank you very much for your attention! Have a nice day!

[yes] Call-Center Collaborator should ask the information required on the online form, available at the micro website.

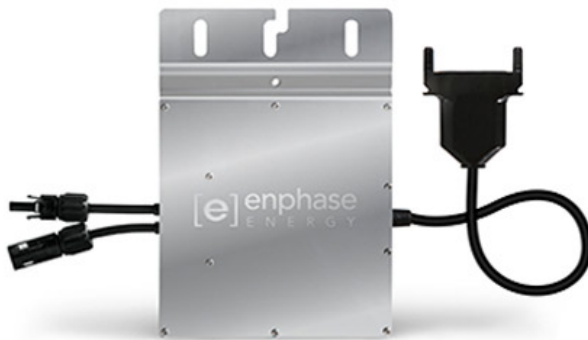
Call-Center Collaborator: Thank you very much for your attention and availability! You will receive the results by e-mail as soon as we contact the rest of your neighbours.

Exhibit 51 – Solar Panel



250W Tianwei Poly Solar Panels (Sample Solar Panel)

Exhibit 52 - Inverters



Emphase M250 Micro Inverter



Effekta Isolated/Hybrid Inverter

Exhibit 53 - Meter



Sample Meter - ISKRA Smart Meter

Exhibit 54 - Experience at Shopping Centre



Exhibit 55 – Profit and Loss (Part 1)

EDP + Solar P&L *	2017	2018	2019	2020	2021	2022
Sales Revenue	- €	2.617.752,36 €	21.059.746,35 €	42.408.961,06 €	56.374.247,52 €	66.923.743,26 €
Building Solution	- €	1.181.389,96 €	9.504.155,76 €	19.138.845,14 €	25.441.517,10 €	30.202.434,76 €
Villas Solution	- €	1.436.362,40 €	11.555.590,59 €	23.270.115,91 €	30.932.730,42 €	36.721.308,49 €
Costs of Goods Sold	- €	3.537.377,14 €	28.458.102,59 €	57.293.322,90 €	75.910.753,53 €	89.884.425,35 €
Building Solution	- €	1.596.416,03 €	12.842.996,07 €	25.862.382,64 €	34.283.810,93 €	40.589.984,92 €
Villas Solution	- €	1.940.961,10 €	15.615.106,52 €	31.430.940,26 €	41.626.942,60 €	49.294.440,43 €
Gross Revenue	- € -	919.624,78 € -	7.398.356,24 € -	14.884.361,85 € -	19.536.506,00 € -	22.960.682,09 €
Gross Margin	-	-35%	-35%	-35%	-35%	-34%
Marketing Costs	- €	2.000.665,76 €	800.000,00 €	400.000,00 €	350.000,00 €	400.000,00 €
Media Costs	- €	1.800.665,76 €	700.000,00 €	350.000,00 €	350.000,00 €	350.000,00 €
Content Creation (Creative Agency costs)	- €	200.000,00 €	100.000,00 €	50.000,00 €	- €	50.000,00 €
Cannibalization Effects	- € -	5.105.056,54 € -	9.001.956,13 € -	9.744.640,35 € -	9.647.279,33 € -	10.826.904,77 €
Operating Costs	- €	370.423,87 €	348.147,20 €	328.098,20 €	310.054,10 €	293.814,41 €
Training expenses	- €	222.766,67 €	200.490,00 €	180.441,00 €	162.396,90 €	146.157,21 €
Warehouse expenses	- €	19.705,87 €	19.705,87 €	19.705,87 €	19.705,87 €	19.705,87 €
Personnel expenses	- €	127.951,33 €	127.951,33 €	127.951,33 €	127.951,33 €	127.951,33 €
Total Operating Expenses	- € -	2.733.966,91 € -	7.853.808,93 € -	9.016.542,15 € -	8.987.225,23 € -	10.133.090,35 €
EBITDA	- €	1.814.342,13 €	455.452,69 € -	5.867.819,70 € -	10.549.280,77 € -	12.827.591,74 €
Depreciation	- €	- €	- €	- €	- €	- €
EBT	- €	1.814.342,13 €	455.452,69 € -	5.867.819,70 € -	10.549.280,77 € -	12.827.591,74 €
Taxes paid	- €	381.011,85 €	95.645,07 €	- €	- €	- €
Taxes to pay	- €	381.011,85 €	95.645,07 € -	1.232.242,14 € -	2.215.348,96 € -	2.693.794,27 €
Tax forward	- €	- €	- €	1.232.242,14 €	3.447.591,10 €	6.141.385,37 €
Profit After Taxes (NOPAT)	- €	1.433.330,28 €	359.807,63 € -	5.867.819,70 € -	10.549.280,77 € -	12.827.591,74 €
Depreciation	- €	- €	- €	- €	- €	- €
Operating Cash-Flow	- €	1.433.330,28 €	359.807,63 € -	5.867.819,70 € -	10.549.280,77 € -	12.827.591,74 €
CAPEX/Working Capital Requirements	6.000.000,00 €	- €	- €	- €	- €	- €
Development costs	1.000.000,00 €					
Inventory	5.000.000,00 €					
Net Income (FCF)	-	6.000.000,00 €	1.433.330,28 €	359.807,63 € -	5.867.819,70 € -	10.549.280,77 € -
Discounted Cash-Flows	-	6.000.000,00 €	1.391.582,80 €	339.153,20 € -	5.369.886,26 € -	9.372.899,33 € -
Accumulated Discount Cash-Flows	-	6.000.000,00 € -	4.608.417,20 € -	4.269.264,00 € -	9.639.150,26 € -	19.012.049,59 € -

Exhibit 55 – Profit and Loss (Part 2)

EDP + Solar P&L *	2023	2024	2025	2026	2027
Sales Revenue	76.984.147,36 €	83.592.193,25 €	89.107.442,19 €	94.868.991,29 €	100.143.738,50 €
Building Solution	34.742.546,92 €	37.724.855,66 €	40.213.941,15 €	42.813.655,51 €	45.194.113,68 €
Villas Solution	42.241.600,44 €	45.867.337,59 €	48.893.501,04 €	52.055.335,79 €	54.949.624,82 €
Costs of Goods Sold	99.788.297,95 €	84.290.165,82 €	63.745.150,71 €	53.486.328,87 €	44.987.071,11 €
Building Solution	45.046.987,12 €	38.053.063,42 €	28.787.477,36 €	24.169.548,74 €	20.318.285,57 €
Villas Solution	54.741.310,84 €	46.237.102,40 €	34.957.673,35 €	29.316.780,13 €	24.668.785,53 €
Gross Revenue	- 22.804.150,60 € -	697.972,57 €	25.362.291,48 €	41.382.662,42 €	55.156.667,40 €
Gross Margin	-30%	-1%	28%	44%	55%
Marketing Costs	350.000,00 €	400.000,00 €	350.000,00 €	400.000,00 €	350.000,00 €
Media Costs	350.000,00 €	350.000,00 €	350.000,00 €	350.000,00 €	350.000,00 €
Content Creation (Creative Agency costs)	- €	50.000,00 €	- €	50.000,00 €	- €
Cannibalization Effects	- 15.990.900,24 € -	17.533.493,25 € -	16.570.757,01 € -	15.682.036,35 € -	13.684.229,85 €
Operating Costs	279.198,69 €	266.044,54 €	254.205,81 €	243.550,95 €	233.961,58 €
Training expenses	131.541,49 €	118.387,34 €	106.548,61 €	95.893,75 €	86.304,37 €
Warehouse expenses	19.705,87 €	19.705,87 €	19.705,87 €	19.705,87 €	19.705,87 €
Personnel expenses	127.951,33 €	127.951,33 €	127.951,33 €	127.951,33 €	127.951,33 €
Total Operating Expenses	- 15.361.701,55 € -	16.867.448,71 € -	15.966.551,20 € -	15.038.485,40 € -	13.100.268,27 €
EBITDA	- 7.442.449,05 €	16.169.476,13 €	41.328.842,68 €	56.421.147,82 €	68.256.935,67 €
Depreciation	- €	- €	- €	- €	- €
EBT	- 7.442.449,05 €	16.169.476,13 €	41.328.842,68 €	56.421.147,82 €	68.256.935,67 €
Taxes paid	- €	- €	8.679.056,96 €	16.218.788,33 €	14.333.956,49 €
Taxes to pay	- 1.562.914,30 €	3.395.589,99 €	8.679.056,96 €	11.848.441,04 €	14.333.956,49 €
Tax forward	7.704.299,66 €	4.308.709,68 €	- 4.370.347,29 €	- €	- €
Profit After Taxes (NOPAT)	- 7.442.449,05 €	16.169.476,13 €	32.649.785,72 €	40.202.359,49 €	53.922.979,18 €
Depreciation	- €	- €	- €	- €	- €
Operating Cash-Flow	- 7.442.449,05 €	16.169.476,13 €	32.649.785,72 €	40.202.359,49 €	53.922.979,18 €
CAPEX/Working Capital Requirements	- €	- €	- €	- €	- €
Development costs					
Inventory					
Net Income (FCF)	- 7.442.449,05 €	16.169.476,13 €	32.649.785,72 €	40.202.359,49 €	53.922.979,18 €
Discounted Cash-Flows	- 6.232.933,91 €	13.147.263,79 €	25.774.042,34 €	30.811.760,99 €	40.123.760,68 €
Accumulated Discount Cash-Flows	- 36.310.176,82 € -	23.162.913,03 €	2.611.129,31 €	33.422.890,30 €	73.546.650,98 €

Exhibit 56 – Sales Channels’ Allocation

Sales through phone + internet	50%
Sales through Door-to-door and in-store	45%
Sales through agents	5%

Exhibit 57 – Online Ad for Warehousing Facilities



Está aqui: Negócios > Armazéns > Arrenda-se > Lisboa > Amadora > Falagueira-Venda Nova

← Voltar à lista

↻ Alterar pesquisa

Armazém 360 m2 - Amadora/Venda Nova

Renda

1.620€

Área útil

360 m²



<

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80

Exhibit 58 – Operating Expenses

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Warehousing	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87	€ 19.705,87
Training Expenses	€ 222.766,67	€ 200.490,00	€ 180.441,00	€ 162.396,90	€ 146.157,21	€ 131.541,49	€ 118.387,34	€ 106.548,61	€ 95.893,75	€ 86.304,37	€ 77.673,93
Personnel Expenses	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33	€ 127.951,33
Total	€ 370.423,87	€ 348.147,20	€ 328.098,20	€ 310.054,10	€ 293.814,41	€ 279.198,69	€ 266.044,54	€ 254.205,81	€ 243.550,95	€ 233.961,58	€ 225.331,14

Exhibit 59 – Cannibalization Effects

	2018	2019	2020	2021	2022
Positive Cannibalization	€ 7.318.171,82	€ 11.960.113,29	€ 11.983.376,59	€ 11.185.508,26	€ 12.365.133,70
Deficit Tarifário	€ 132.100,88	€ 2.354.862,55	€ 4.714.113,41	€ 6.190.819,42	€ 7.370.444,85
Re:dy Sales	€ 546.725,09	€ 730.779,26	€ 553.054,46	€ 380.002,06	€ 380.002,06
Existing Solar Solution	€ 6.639.345,85	€ 8.874.471,49	€ 6.716.208,72	€ 4.614.686,79	€ 4.614.686,79
Negative Cannibalization	€ 2.213.115,28	€ 2.958.157,16	€ 2.238.736,24	€ 1.538.228,93	€ 1.538.228,93
Existing Solar Solution	€ 2.213.115,28	€ 2.958.157,16	€ 2.238.736,24	€ 1.538.228,93	€ 1.538.228,93
TOTAL COSTS	-€ 5.105.056,54	-€ 9.001.956,13	-€ 9.744.640,35	-€ 9.647.279,33	-€ 10.826.904,77

	2023	2024	2025	2026	2027
Positive Cannibalization	€ 19.302.294,03	€ 21.202.800,30	€ 19.549.132,97	€ 18.002.420,32	€ 14.853.045,
Deficit Tarifário	€ 8.550.070,28	€ 9.288.418,35	€ 9.878.230,99	€ 10.468.043,78	€ 11.057.856,
Re:dy Sales	€ 818.042,38	€ 906.460,80	€ 735.774,09	€ 573.224,61	€ 288.742,
Existing Solar Solution	€ 9.934.181,38	€ 11.007.921,16	€ 8.935.127,90	€ 6.961.151,93	€ 3.506.446,
Negative Cannibalization	€ 3.311.393,79	€ 3.669.307,05	€ 2.978.375,97	€ 2.320.383,98	€ 1.168.815,
Existing Solar Solution	€ 3.311.393,79	€ 3.669.307,05	€ 2.978.375,97	€ 2.320.383,98	€ 1.168.815,
TOTAL COSTS	-€ 15.990.900,24	-€ 17.533.493,25	-€ 16.570.757,01	-€ 15.682.036,35	-€ 13.684.229,

Exhibit 59 – Cannibalization Effects

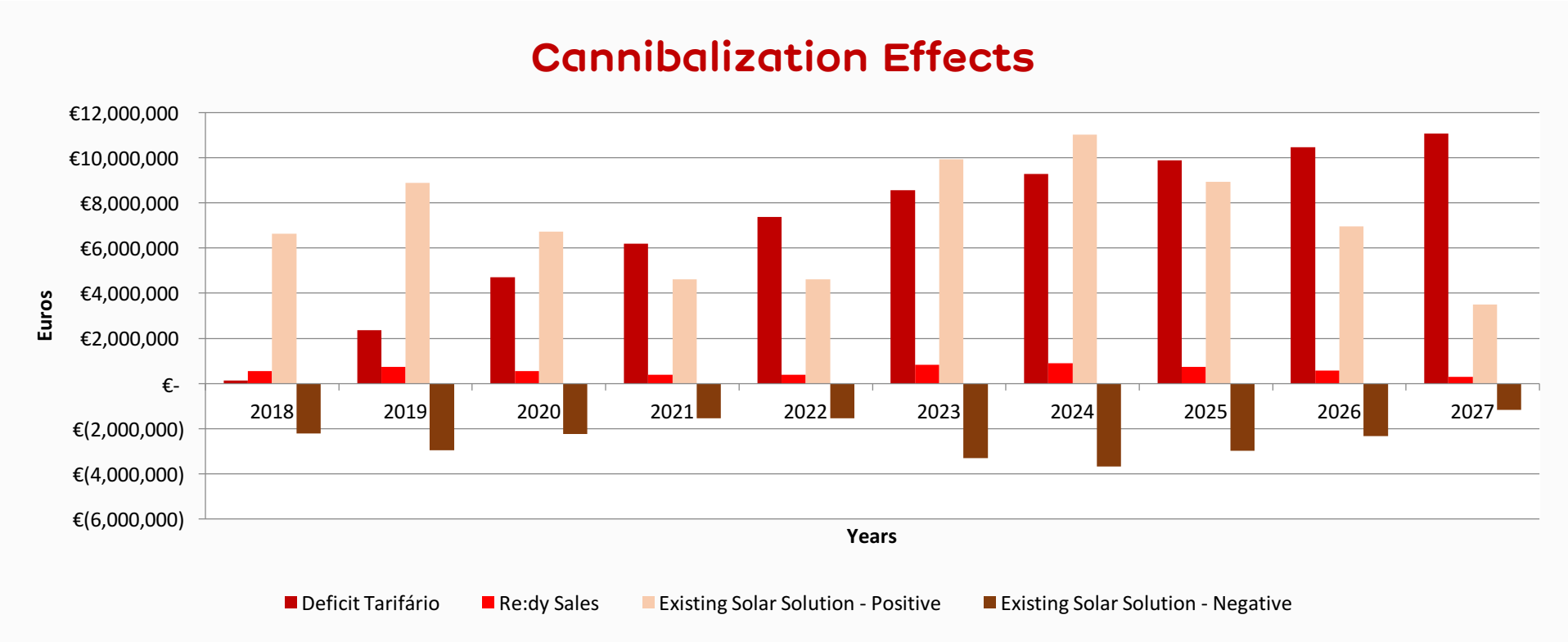


Exhibit 60 – Marketing Expenses

	2018		2019		2020		2021		2022		2023	
Content Costs	€	200.000,00	€	100.000,00	€	50.000,00			€	50.000,00		
Media Costs	€	1.800.665,76	€	700.000,00	€	350.000,00	€	350.000,00	€	350.000,00	€	350.000,00
Total	€	2.000.665,76	€	800.000,00	€	400.000,00	€	350.000,00	€	400.000,00	€	350.000,00

	2024		2025		2026		2027		2028	
Content Costs	€	50.000,00			€	50.000,00			€	50.000,00
Media Costs	€	350.000,00	€	350.000,00	€	350.000,00	€	350.000,00	€	350.000,00
Total	€	400.000,00	€	350.000,00	€	400.000,00	€	350.000,00	€	400.000,00

Exhibit 61 – Development Costs

Billing system	350.000,00 €
Technical hardware development	400.000,00 €
Database development	200.000,00 €
Software tools development (adjustments on app and simulator)	50.000,00 €
The same R&D team from EDP Comercial is used	- €

Exhibit 62 – Revenues/ COGS Summary for the building solution

	2018	2019	2020	2021	2022	2023
Revenues	€ 1.181.389,96	€ 9.504.155,76	€ 19.138.845,14	€ 25.441.517,10	€ 30.202.434,76	€ 34.742.546,92
Sales	€ 1.181.389,96	€ 9.504.155,76	€ 19.025.991,08	€ 24.985.888,61	€ 29.746.806,27	€ 34.507.723,93
Contract Breach	€ -	€ -	€ 112.854,06	€ 455.628,49	€ 455.628,49	€ 234.822,99
COGS	€ 1.596.416,03	€ 12.842.996,07	€ 25.862.382,64	€ 34.283.810,93	€ 40.589.984,92	€ 45.046.987,12
Comissions on Agents	€ 5.906,95	€ 47.520,78	€ 95.694,23	€ 127.207,59	€ 151.012,17	€ 173.712,73
COGS (rough)	€ 1.590.509,08	€ 12.795.475,29	€ 25.614.752,63	€ 33.638.581,73	€ 40.048.220,40	€ 46.457.859,07
COGS (breach costs)	€ -	€ -	€ 151.935,78	€ 613.414,10	€ 613.414,10	€ 316.142,94
COGS (breach gains)	€ -	€ -	€ -	€ 95.392,48	€ 222.661,76	€ 318.767,90
COGS (renew gains)	€ -	€ -	€ -	€ -	€ -	€ 1.581.959,73

	2024	2025	2026	2027
Revenues	€ 37.724.855,66	€ 40.213.941,15	€ 42.813.655,51	€ 45.194.113,68
Sales	€ 37.487.673,35	€ 39.868.131,52	€ 42.248.591,01	€ 44.629.049,18
Contract Breach	€ 237.182,31	€ 345.809,63	€ 565.064,50	€ 565.064,50
COGS	€ 38.053.063,42	€ 28.787.477,36	€ 24.169.548,74	€ 20.318.285,57
Comissions on Agents	€ 188.624,28	€ 201.069,71	€ 214.068,28	€ 225.970,57
COGS (rough)	€ 50.469.774,51	€ 53.674.592,96	€ 56.879.413,18	€ 60.084.231,63
COGS (breach costs)	€ 319.319,30	€ 465.564,61	€ 760.748,14	€ 383.184,87
COGS (breach gains)	€ 385.019,29	€ 451.270,67	€ 593.883,63	€ 751.721,31
COGS (renew gains)	€ 12.539.635,37	€ 25.102.479,24	€ 33.090.797,23	€ 39.623.380,18

Exhibit 63 – Revenues/ COGS Summary for the villa solution

	2018	2019	2020	2021	2022
Revenues	€ 1.436.362,40	€ 11.555.590,59	€ 23.270.115,91	€ 30.932.730,42	€ 36.721.308,49
Sales	€ 1.436.362,40	€ 11.555.590,59	€ 23.132.746,73	€ 30.379.163,09	€ 36.167.741,16
Contract Breach	€ -	€ -	€ 137.369,18	€ 553.567,33	€ 553.567,33
COGS	€ 1.940.961,10	€ 15.615.106,52	€ 31.430.940,26	€ 41.626.942,60	€ 49.294.440,43
Comissions on Agents	€ 7.181,81	€ 57.777,95	€ 116.350,58	€ 154.663,65	€ 183.606,54
COGS (rough)	€ 1.933.779,29	€ 15.557.328,56	€ 31.143.690,90	€ 40.899.564,42	€ 48.692.745,58
COGS (breach costs)	€ -	€ -	€ 170.898,78	€ 688.684,19	€ 688.684,19
COGS (breach gains)	€ -	€ -	€ -	€ 115.969,66	€ 270.595,88
COGS (renew gains)	€ -	€ -	€ -	€ -	€ -

	2023	2024	2025	2026	2027
Revenues	€ 42.241.600,44	€ 45.867.337,59	€ 48.893.501,04	€ 52.055.335,79	€ 54.949.624,82
Sales	€ 41.956.319,24	€ 45.579.482,58	€ 48.473.771,62	€ 51.368.060,65	€ 54.262.349,69
Contract Breach	€ 285.281,21	€ 287.855,01	€ 419.729,42	€ 687.275,13	€ 687.275,13
COGS	€ 54.741.310,84	€ 46.237.102,40	€ 34.957.673,35	€ 29.316.780,13	€ 24.668.785,53
Comissions on Agents	€ 211.208,00	€ 229.336,69	€ 244.467,51	€ 260.276,68	€ 274.748,12
COGS (rough)	€ 56.485.926,75	€ 61.363.803,15	€ 65.260.393,74	€ 69.156.984,32	€ 73.053.574,90
COGS (breach costs)	€ 354.913,75	€ 358.115,78	€ 522.178,61	€ 855.027,91	€ 430.673,10
COGS (breach gains)	€ 387.398,15	€ 467.803,79	€ 548.209,42	€ 721.509,73	€ 913.484,13
COGS (renew gains)	€ 1.923.339,52	€ 15.246.349,43	€ 30.521.157,08	€ 40.233.999,05	€ 48.176.726,47

Exhibit 64 – Gross Revenue Evolution

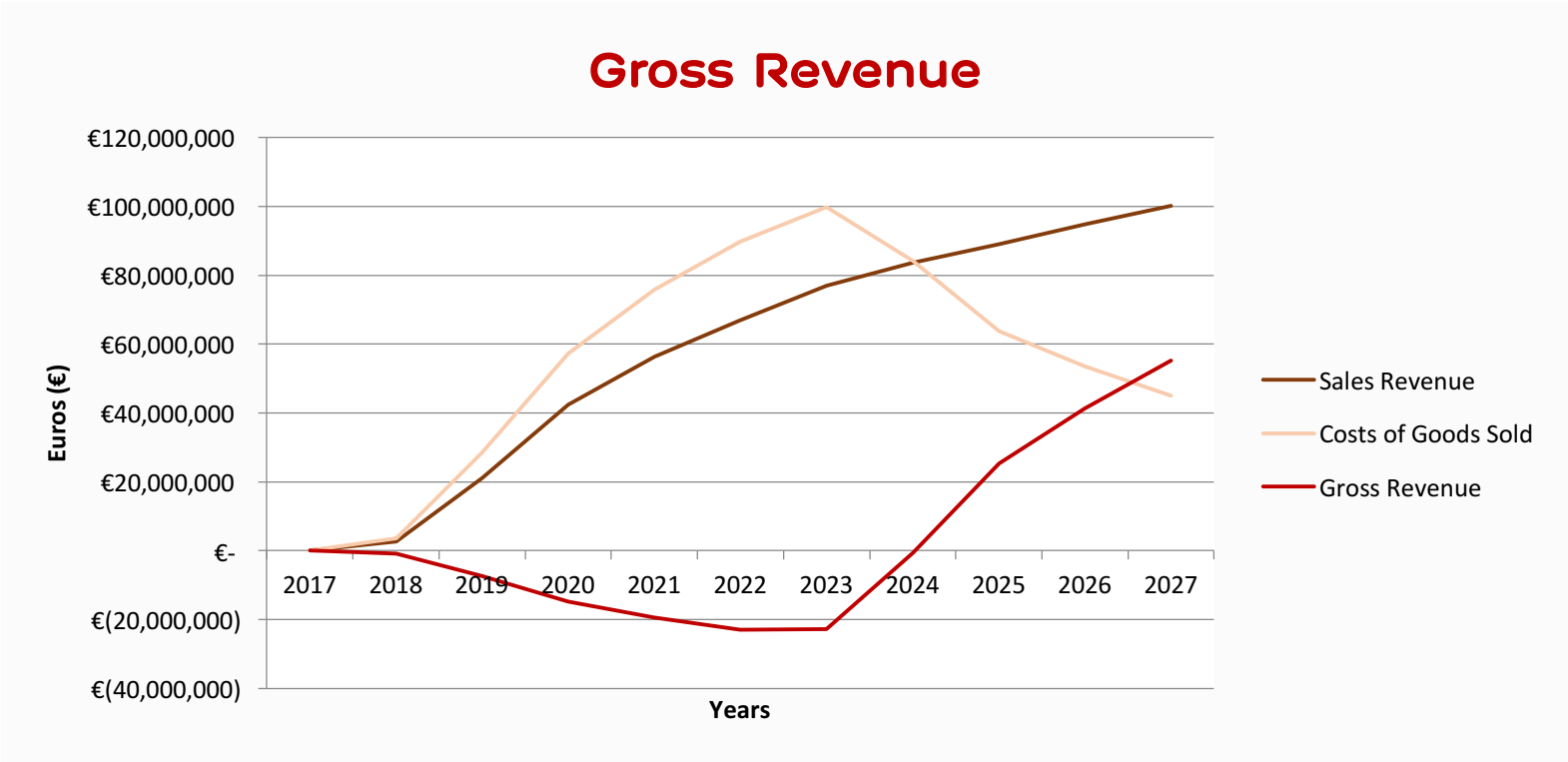


Exhibit 65 – Evolution of Number of Contracts in the Building Solution (Part 1)

2018		2019		2020		2021		2022	
1	2	1	2	1	2	1	2	1	2
	26744	26744	26744	26744	26744	26210	26210	26210	26210
		53490	53490	53490	53490	53490	52420	52420	52420
			53490	53490	53490	53490	53490	52420	52420
				53490	53490	53490	53490	53490	52420
					53490	53490	53490	53490	53490
						27278	27278	27278	27278
							27816	27816	27816
								27814	27814
									27816
Total number of contracts	26744	80234	133724	187214	240704	267448	294194	320938	347684
Goal	26744	80234	133724	187214	240704	267448	294194	320938	347684
Penetration considered	1,0%	3,0%	5,0%	7,0%	9,0%	10,0%	11,0%	12,0%	13,0%

Exhibit 65 – Evolution of Number of Contracts in the Building Solution (Part 2)

2023		2024		2025		2026		2027	
1	2	1	2	1	2	1	2	1	2
26210									
52420	52420								
52420	52420	52420							
52420	52420	52420	52420						
52420	52420	52420	52420	52420					
27278	26732	26732	26732	26732	26732				
27816	27816	27259	27259	27259	27259	27259			
27814	27814	27814	27257	27257	27257	27257	27257		
27816	27816	27816	27816	27259	27259	27259	27259	27259	
27814	27814	27814	27814	27814	27257	27257	27257	27257	27257
	53502	53502	53502	53502	53502	52431	52431	52431	52431
		66349	66349	66349	66349	66349	65022	65022	65022
			66349	66349	66349	66349	66349	65022	65022
				66349	66349	66349	66349	66349	65022
					66351	66351	66351	66351	66351
						41175	41175	41175	41175
							41958	41958	41958
								41956	41956
									41960
374428	401174	414546	427918	441290	454664	468036	481408	494780	508154
374428	401174	414546	427918	441290	454664	468036	481408	494780	508154
14,0%	15,0%	15,5%	16,0%	16,5%	17,0%	17,5%	18,0%	18,5%	19,0%

Exhibit 66 – Evolution of Number of Contracts in the Villa Solution (Part 1)

2018		2019		2020		2021		2022	
1	2	1	2	1	2	1	2	1	2
	32516	32516	32516	32516	32516	31866	31866	31866	31866
		65036	65036	65036	65036	65036	63736	63736	63736
			65036	65036	65036	65036	65036	63736	63736
				65036	65036	65036	65036	65036	63736
					65036	65036	65036	65036	65036
						33168	33168	33168	33168
							33818	33818	33818
								33818	33818
									33818
Total number of contracts	32516	97552	162588	227624	292660	325178	357696	390214	422732
Goal	32516	97552	162588	227624	292660	325178	357696	390214	422732
Penetration considered	1,0%	3,0%	5,0%	7,0%	9,0%	10,0%	11,0%	12,0%	13,0%

Exhibit 66 – Evolution of Number of Contracts in the Villa Solution (Part 2)

2023		2024		2025		2026		2027	
1	2	1	2	1	2	1	2	1	2
31866									
63736	63736								
63736	63736	63736							
63736	63736	63736	63736						
63736	63736	63736	63736	63736					
33168	32504	32504	32504	32504	32504				
33818	33818	33142	33142	33142	33142	33142			
33818	33818	33818	33142	33142	33142	33142	33142		
33818	33818	33818	33818	33142	33142	33142	33142	33142	
33818	33818	33818	33818	33818	33142	33142	33142	33142	33142
	65048	65048	65048	65048	65048	63748	63748	63748	63748
		80670	80670	80670	80670	80670	79056	79056	79056
			80672	80672	80672	80672	80672	79058	79058
				80670	80670	80670	80670	80670	79056
					80672	80672	80672	80672	80672
						50062	50062	50062	50062
							51016	51016	51016
								51014	51014
									51016
455250	487768	504026	520286	536544	552804	569062	585322	601580	617840
455250	487768	504026	520286	536544	552804	569062	585322	601580	617840
14,0%	15,0%	15,5%	16,0%	16,5%	17,0%	17,5%	18,0%	18,5%	19,0%

Exhibit 67 – Scenario Analysis Comparison

Indicators	Scenarios		
	Pessimistic	Expected	Optimistic
NPV	21.256.717,65 €	73.546.650,98 €	135.876.678,69 €
ROI	354%	1226%	2265%
Payback Period	8,98	7,92	7,25
Maximum Market Penetration	10%	20%	30%
Market Growth 2019, 2020	2%	4%	6%
Market Growth 2021 - 2023	1%	2%	3%
Market Growth 2024 onwards	0,50%	1%	1,50%
Negative Cannibalization - <i>Energia Solar EDP</i>	5%	5%	5%
Positive Cannibalization - <i>Energia Solar EDP</i>	5%	15%	20%
Positive Cannibalization - <i>Re:dy subscription</i>	15%	30%	45%