



SOLARUS

«solar energy, made easy »

Master Thesis Project

Manuela Thanos
Jorge López Lanzuela
Daniel Quesada Dopazo
Dominic Johnson-Kerr
Ines Vicente Ferran
Alejandro Redondo Negrete

INDEX

1. Introduction	3
1.1. Presentation of the project	3
1.2. Presentation of the team	4
2. Business Model	6
2.1. Market study	6
2.1.1. Political	6
2.1.2. Economical	6
2.1.3. Social	6
2.1.4. Technological	7
2.1.5. Environment	7
2.1.6. Legislation	7
2.2. Empathy Map	8
2.3. Value Proposition	9
2.4. Business Model Canvas	10
3. Planning	11
3.1. Hypothesis testing (surveys and interviews)	11
3.1.1. Structured Interviews and customer surveys	11
3.1.2. Interviews to Installers	12
3.1.3. Interviews with Customers	14
3.2. Website	15
3.3. Solar calculator	15
3.4. Basic Photovoltaic Solar Engineering Design	16
3.4.1. Reading and Extraction of Electric Bill Information	16
3.4.2. Obtaining Historical Data on Electric Consumption	17
3.4.3. Solar Analysis and Basic Engineering Definition	17
3.5. Offer of Photovoltaic Installers	17
3.6. Financing Offer	18
3.7. O&M	18

3.8. Blockchain	18
3.9. Green Labels	19
4. Marketing Plan	20
Place	21
Promotion	21
Publicity	21
Advertising	21
4.1. Brand Positioning	22
4.2. Pricing policy	22
4.3. Promotion & Communication	23
4.4. Sales planning & Sales justification	24
5. Finance Plan	24
5.1. Business Financial Model	24
5.2. Incomes and Expenses Evolution	24
5.3. Investments and Financiation	25
5.4. Cash-flow and Balance	25
5.5. Risk Register	26
5.6. Conclusion	26
6. Bibliography and Web References	29
Appendix 1: Detailed Cost Plan	30
Appendix 2: Risk Register	39
Appendix 3 - Programme of current and Future Plans	41
Appendix 4: Leaflet	43

1. Introduction

1.1. Presentation of the project

SOLARUS is the result of a multi-disciplinary approach, involving experts in the Renewable Energy, Management of Natural Resources, Big Data and Sustainable Development fields.

As a global vision, our company aims to support Spain's energy transition, by connecting all the actors of the self-production and consumption Photovoltaic (PV) solar energy sector : The PV system Installers, PV energy consumers and sustainable companies aiming to get the "Green Label" and support the low carbon economy.

Indeed, our team identified the following issue at the beginning of our ideation process: the self-consumption market is still at its early stages, and the previous renewable energy planning of Spain left people uncertain and distrustful towards the use of renewable energy. However, thanks to the new Spanish regulation a huge opportunity in self-consumption has been created, Solarus will be developed on this fundamental premise to help developing Spanish renewable transition. In addition, trend issues such as electrification, Smart Cities, prosumers and digitalization of the sector are tackled in this study and adopted by our business plan. Solarus aims to solve a wide range of problems currently existent within the emerging fields of renewable energy and sustainable development included in the global Sustainable Development Goals.

Energy consumption indicators continue to maintain an upward trend globally. Global warming and the depletion of fossil fuels have led advanced countries to develop renewable energy technologies. Solar power is the way forward for our environment, and in many cases, is financially beneficial for households and businesses. Our company strives towards a 100% renewable energy future by educating users about the environmental and financial benefits of solar power and facilitating the process of energy exchange through blockchain.

To achieve that, we designed tools such as the solar calculator, the blockchain platform to exchange solar energy between prosumers and companies, helping design the smart city of tomorrow. Our Solar Power Calculator assists people in making an informed decision about solar rooftop panels and batteries by providing them with a financial plan and connecting them with our trustworthy solar installers. We offer a holistic management of Solar energy production, our "smart package" that includes O&M, monitoring and use of our blockchain system.

In this report we will detail our business model, then guide the reader through our ideation process, starting with the market hypothesis being raised and validated, as well as the lessons learned in order to adapt our offer perfectly to our two main targets. Then we will describe the different actions included in our marketing strategy. Finally, our financial plan we will be exposed.

Interviews and surveys were performed in order to better understand the situation of the solar PV market. This project is focused in the country of Spain and its solar PV self-consumption sector within the whole renewable energy sector. In order to identify market opportunities, we directed qualitative interviews both with PV installers and households living in Madrid. Conclusions were drawn from all factors that were studied and that are detailed in this report along with the actions taken accordingly in terms of business model idea and marketing strategies.

Blockchain was introduced in the project due to many of the conclusions drawn through the research process and represents the core idea of this project's business plan. We facilitate the process of energy exchange from prosumers to companies willing to use renewable energy and cannot produce it by themselves, but still want to support the low carbon economy, through digitalization. According to the new law, the conventional payback for the excess of energy is being perceived through a discount on the consumer energy bill, thus limited. With our blockchain system, the potential earnings are unlimited. This ground-breaking technology will allow us to attract both target clients while offering them great benefits in terms of promoting a free PV solar market backed with a reliable and provenly good performing tool. Factors such as traceability, monitoring, performance optimisation of solar energy exchanges are discussed in this report.

In the financial section, our funding options will be exposed. The evolution of both our income and expenses will be detailed as well as our fixed and variable costs. In order to do this, an economic model has been built considering the evolution of the number of prospects and the related scalability of our costs. Said model will allow us to predict the evolution of our revenues and thus, the viability of our business model.

To put it in a nutshell, the Solarus project aims to target the three biggest trends identified on the market: green, social, and innovative through technology.

1.2. Presentation of the team

As aforementioned before, we have incorporated a multidisciplinary team consisting of 6 members from the different master's programmes at E.O.I Business School. This has allowed us to not only attain different viewpoints and perspectives but have access to a wider wealth of knowledge pertaining to each of our respective professions.

Our team have an equal share of SolaRus through a General Partnership. We are extremely passionate about SolaRus, as we are providing both social and commercial benefits as well as creating a profitable organisation whilst keeping in-line with each of our core values and desires.

- **Alejandro** – Achieved his Undergraduate in Mechanical Engineering and has additionally completed a Masters in Renewable Energy and is now on track to complete his second Masters in Big Data and Business Analytics. He has played a huge part in developing and incorporating blockchain into our business practices.

- **Daniel** – Has formally studied Mining, Energy and Materials Engineering for his undergraduate and is on track to complete his Masters in Renewable Energy and Energy Market. Due to his background, Daniel has been co-responsible for developing the algorithm for the Solar Calculator and has played an integral part in formulating our final business idea. He has also helped complete our financial plan allowing us to understand whether our Business is feasible or not.
- **Dominic** – Previously studied Cost Efficiency and is currently aiming to complete his Masters in Sustainable development. Due to his background Dominic played a crucial role determining Solarus pricing and financial possibilities. At the same time, he helped determine via hypothesis and surveys the real possibilities of our project.
- **Inés** – Having completed her undergraduate in Environmental Engineering and currently on course to complete her master's in engineering and Environmental Management, Inés has been extremely valuable in perfecting our business model whilst providing important awareness into the environmental impacts of installing PV panels.
- **Manuela** – formally studied her undergraduate in Communication and is currently on track to complete her Masters in Sustainable development. Manuela has provided invaluable insight and guidance into how as a company, we can communicate with our clients in an effective manner, addressing who we are and what we are striving to accomplish, as well as building a multi-stakeholder strategy in order to bring differentiation to our offer.
- **Jorge** – Previously studied engineering for his undergraduate and later on track to complete his Masters in Renewable Energy and Energy Market, has been one of the practitioners in providing and developing the algorithm for the solar calculator. Ensuring that it works seamlessly and provide accurate figures to the clients that use our platform. He has also helped develop MVP of our financial plan

Due to the diverse nature of our team, we have allocated the necessary time in understanding where each of our strengths and personality lie. This has allowed us to understand which aspects of the Business best suit our individual strengths. This presented continual engagement and ensuring that as a team, we were working to each of our strengths resulting in a more efficient and effective approach. Coupled with continual support from our advisor Francisco Garcia Lorenzo and EOI staff, we have been able to understand and narrow down our business plan and target market, with the hopes of disrupting the Energy sector in its entirety.

2. Business Model

2.1. Market study

The Energy Sector is clearly and rapidly evolving towards renewable energy. This global transition gave birth to new governmental policy changes in Spain, making our project more essential and valid than ever before. In order to develop an effective strategy, our team studied the situation surrounding the solar energy market taking into account political, legal, economic, technological and socio-cultural factors.

The main objective of the study, at the current and future level, is to find both the opportunities and the threats that will impact our business proposal. In order to achieve this, we have used the PESTEL analysis to carry out (Political, Economic, Social, Technological, Environment, Legislation). This has enabled us to summarize the most relevant data that will influence the development of our company.

2.1.1. Political

There are objectives set by the European Union in terms of emissions and energy efficiency. Spain also promotes policies encouraging the use of renewable energies such as the withdrawal of the sun tax, the modification of laws or the closure of nuclear power plants.

2.1.2. Economical

The big electric companies are our greatest competitors, with means against which we cannot compete. However, this competition could be positive, as we have the possibility to collaborate with them (for example, Iberdrola offered to finance our blockchain platform within their accelerator program for startups).

The initial investment required for the installation of photovoltaic panels is high. Taking into account that renewable energy is increasingly used (subsidies by municipalities, the Autonomous Communities, the State and European funds), the situation will gradually change, with energy becoming more and more available every day. In addition, one of the objectives of this platform is to increase competition among installers so that prices become more competitive, and demand grows.

2.1.3. Social

Climate Change, Sustainability, Global Warming, Plastic Mitigation and Smart Cities have become increasingly crucial in today's society. With local governments still remaining reactive rather than proactive, resulting in a detrimental process in combating Climate change. In order to become more proactive with tackling climate change, the use of renewable energy is one possibility that will help in

the goal of caring for the planet. Considering that the social aspect is another strong point of this project, a training area has been incorporated in our website to help educate our clients on transitioning to renewable energy. This is intended to help not only our clients to become informed but to allow Spain to gain the correct information on Solar Power.

2.1.4. Technological

The digital world is at its growing constantly and our daily life depends greatly on technology. New digital technologies are the main engine of social and economic transformation and therefore, for this project, the use of a web platform, technological tools and blockchain is considered the best way to reach consumers.

On the other hand, it can also be a threat as presented in the Digital Plan 2020 of the Spanish Government of 2016, in the last decade have disappeared worldwide, 50% of large companies. It is not easy to achieve longevity due to the increase of competitiveness and in the case of SMEs, this becomes even more true. However, it is considered to be more of an advantage than a threat since our platform reaches a greater number of people and the initial investment to be made is lower.

Finally, two major technological innovations of the company are the solar calculator, which by means of an algorithm will allow potential consumers of renewable energy to be informed about their installation options and the price that this entails. On the other hand, the Blockchain technology allows the exchange of energy between the users of the platform, prosumers and consumers.

2.1.5. Environment

As mentioned in the social part, we live in an unsustainable situation and it is necessary to take measures to mitigate climate change. This platform main aim is to help increase the use of zero-emission energy.

In addition, with the new Spanish law on non-financial information and diversity (Law 11/2018), companies must report on issues such as pollution (emissions), the promotion of the circular economy, the fight against climate change or the use of responsible for the resources. In this area, a business opportunity related to companies is discovered: they have the possibility of acquiring subsidies from autonomous communities.

2.1.6. Legislation

Considered as our strongest asset, the withdrawal of the sun tax in 2018 and, the Royal Decree 244/2019 of April 5 2019, which regulates the administrative, technical and economic conditions of self-consumption of energy electrical, will support the development of our company, helping us to acquire a larger target market, and thus become more profitable.

This Royal Decree allows, in addition to reducing administrative procedures, shared self-consumption and compensation of deficits and surpluses (compensation in kilowatt hours and monthly), supporting our idea of introducing Blockchain technology for the exchange of excess energy produced by connecting producers of energy such as communities to consumers such as businesses willing to be powered at 100% by renewable energy.

Within this new law, self-consumption energy exchanged with the grid can be refunded to prosumers through their energy bill in an easy and administratively unconsuming way. However, other ways are contemplated within the law, specifically the collective consumption which allows associated producers and consumer to exchange energy by creating bilateral contracts. This opened the possibility of using the blockchain platform as a new and free market available for both consumers and producers.

2.2. Empathy Map

To gain a deeper insight into our potential clients, an empathy map has been used to represent a group of users.

Our two key profiles have been developed below:

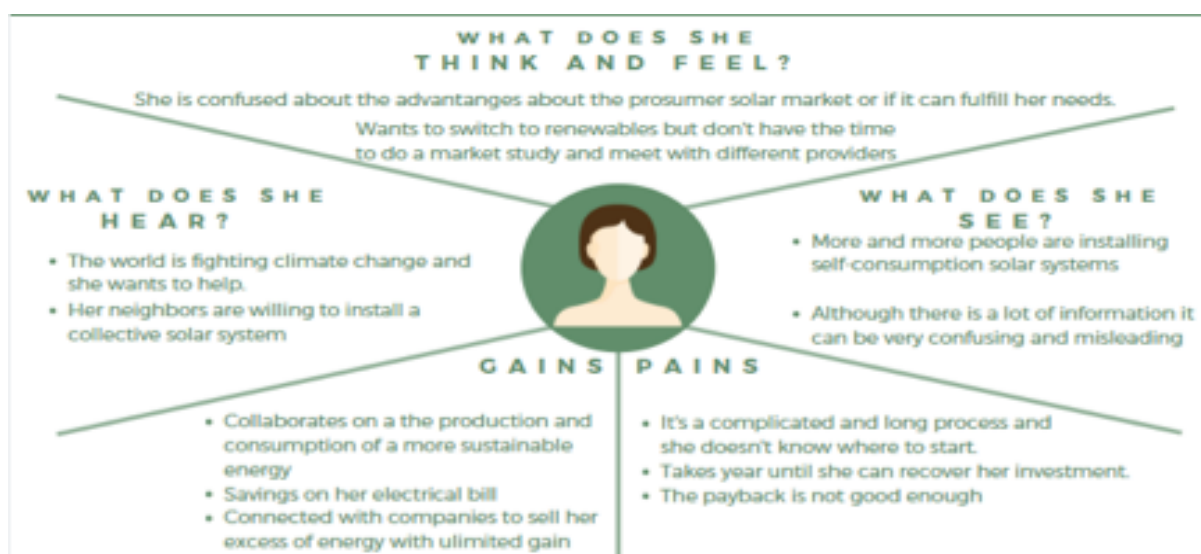


Figure 1 Empathy map 1

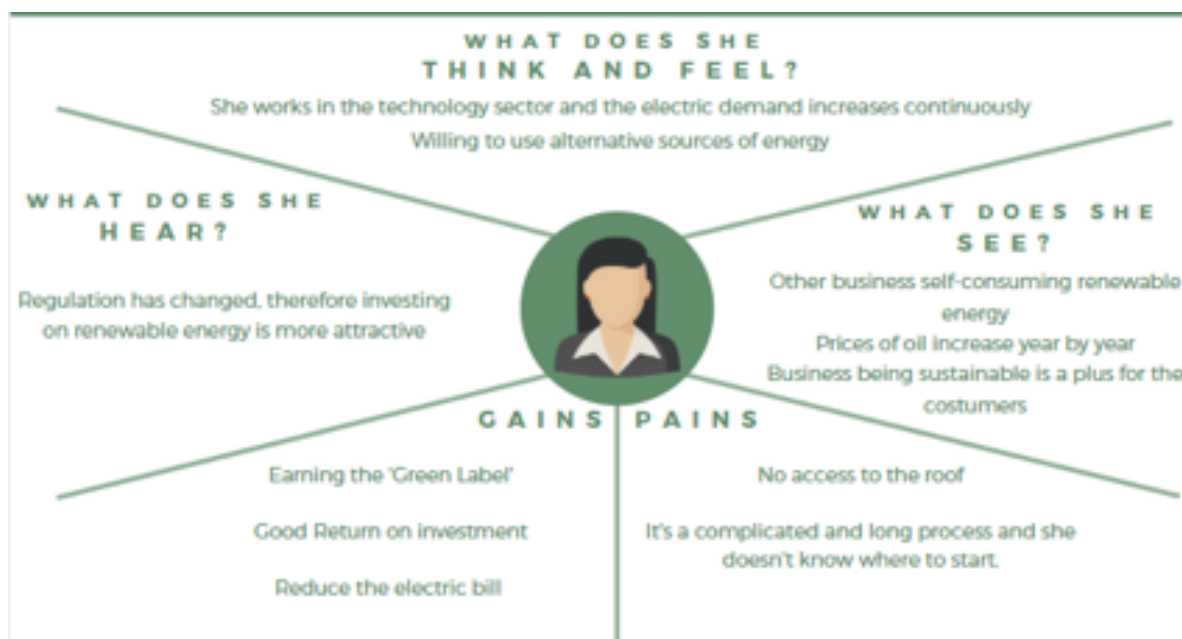


Figure 2: Empathy map 2

2.3. Value Proposition

In relation to the current context in which the company arises, which creates threats and opportunities, and considering the high competition that exists and which is increasing every day, we sought a value proposal that differentiated Solarus from the rest of companies in the solar PV market.

In the first place, Solarus is an innovative idea in a market that is beginning to gain strength due to the promotion of the transition to renewable energy. In this sense, the value proposition is the facilitation of this change in society. This platform not only facilitates the process but will save time for the consumer and the installer. The Solar Calculator is an algorithm with which only by entering the address, the electricity bill and other simple house related factors, in just 24 hours, consumers will obtain a financial and operation plan adjusted to their needs. In addition, Solarus acompaigns the client from the installation phase of the panels until the end of its useful life and even administering the recycling of these,

In addition, with the aim of always staying at the forefront, Solarus incorporates Blockchain technology, an innovative way to make transactions without intermediaries. In this sense, the consumer will not only be able to use his surplus energy for his benefit, but that it will be done in the shortest possible time.

Finally, another of our value propositions is information. Being solar PV energy a new issue within society, in which legislation is currently being modified and also the installers are not in the scope and people do not even consider it from the beginning, education is one of the most important tasks for the company. In Solarus' website you can find all the necessary information about the transition that

is taking place at a legislative, political and social level. In addition, this platform aims to educate the population to achieve a cleaner planet so that we promote solar energy. Given the conclusions above, Solarus' service is a platform that will allow user to become solar energy users in an easy, intuitive and encouraging way.

2.4. Business Model Canvas



3. Planning

3.1. Hypothesis testing (surveys and interviews)

In order to look holistically at the renewable energy sector and the current market, we have aimed to conduct a mixture of qualitative and quantitative data analysis. The use of qualitative research has allowed us to conduct thorough investigations through the use of interviews. Through this process, we have interviewed 13 individuals consisting of tenants, landlords, engineers, blockchain specialists and local PV installers. This has allowed us to both validate and or alter our original hypotheses. However, in order to use this approach, it was essential that both the research and questions proposed complemented each other during the analysis to gain the most reliable results.

The qualitative approach is recognised as a process to gather data commonly from spoken and written words from direct fieldwork observations (Yin,2015). This will allow for a stronger hypothesis for later quantitative investigation.

3.1.1. Structured Interviews and customer surveys

The structured interviews have allowed for further inspection of the Energy Sector in Madrid. We have combined the use of secondary information through the use of literature to formulate our initial questions. Additionally, it has provided validity to our Business Model.

Identified areas for questions:

Background questions

The aim of these questions is designed to target the interviewee's knowledge on the advancements of renewable energy, the new policies being implemented by the government and whether or not they knew where to go if they wanted to transition to solar energy. This process has showcased the necessity to not only provide an educational part to our platform but also be a platform that establishes a one point stop for the community of Madrid to switch to renewable energy.

Statutory and Regulatory Bodies

This set of questions will target the Interviewee's knowledge of whether the involvement of separate bodies such as banks and governments to subsidise an allowance to pay for the installation of Solar panels would prove beneficial to the clients. Additionally, the questions will probe the interviewees knowledge on new technologies such as blockchains and the advantages and disadvantages of Solar Panels:

Commercial Drivers for Uptake

The interview questions aimed to understand the drivers as to why it's beneficial for local companies to invest in solar panels in a neighbourhood setting. We successfully identified why they would be interested in this proposal and the drawbacks they would need to consider before adopting.

3.1.2. Interviews to Installers

In order to understand the present situation of the self-consumption energy market, fifteen interviews were performed to various companies. Such companies were all dedicated to the installation and maintenance of photovoltaic solar systems for self-consumption. This is a market where a small number of actors are required for it to run. Usually, it is small contracts related to single installations that are performed and these only require a customer and an installer to do so. This is the reason why it was decided that interviews to installers in the Spanish territory -but mostly in the region of Madrid and its outskirts, given that this is where our project was meant to be developed- were the most adequate and reliable to do.

A list of questions was prepared in order to extract as much information as possible from the installers. However, the main objective was to prove the hypothesis detailed below. In this sense, the query was followed while extent and complex conversations went on alone. Interesting and useful conclusions which are explained below each hypothesis were deduced from such interviews.

Hypothesis 1: The PV solar self-consumption market is a growing market in Spain. There is an increasing demand as well as a high supply and big utilities companies are now interested in participating.

It was confirmed that the demand of PV solar system installations had been increasing constantly during the last year approximately. In addition, installers declared that competition is high and that, due to a pre-existing union of electricians well prepared in the national territory added to the experience acquired in PV technology during the years before the economic crisis -related to the PV and renewable energies industry crisis in Spain- , the evolution to PV installers had been easy and there exists a wide range of prepared professionals within the market.

Installers said that big utilities are increasingly gaining a share in the market and they are offering very competitive prices. Furthermore, they declared, and it was later confirmed, that they are offering financial solutions for the PV installations. This was a crucial point to develop our business model later on. By offering financial solutions, backed by banks, big companies had a much more attractive offer for the target customer and competing at a higher level than conventional PV installers. However, these stated that many of their union colleagues, as well as some of themselves, were being subcontracted by big companies to do the installation works.

This fact made us convinced that competition between PV installers had to be promoted and that a fair competitive market was the most feasible future scenario. We would therefore work in this path to become a crucial actor in the growing PV market and benefit of such privileged position.

Hypothesis 2: Solar Photovoltaic technology has the lowest costs in history and the market is more competitive than ever.

This fact was unanimously agreed on by the interviewed installer, who declared that costs were low and that margins had fallen drastically. This makes the market more competitive and creates the necessity of a higher demand to be able to run a small business. On the other hand, traditional utilities in the energy sector find it easier to participate in the PV growing market.

The previously described situation has a severe effect on the impression that a higher budget offered by small PV installer companies has on customers, added to the previously mentioned fact that utilities offer financing plans in addition.

Hypothesis 3 – New government policies will encourage solar PV installing.

Installers confirmed that the last legal framework had severely affected the sector, bringing business levels to the lowest levels since the start of it. The popularly named in Spanish “impuesto al sol” had a critical effect not only on legal and economical possibilities to develop the solar PV market, but also on the social perception of such market. For years, mostly after 2011 and until most recently, the population was discouraged to invest in solar PV systems due to these factors.

However, several regions of Spain had started to derogate the national law and the new socialist government had started to announce determining measures for the renewable energy industry. After the creation of the Ministry for the Ecological Transition, but mostly after the announcement of a new law that would dictate and administer more liberally the PV sector. Installers said to be optimistic in relation to the change of mentality that customers had towards the industry.

All this brought us to the conclusion that it was critically important to incorporate in our image the values of green energy and the clean energies transition, as well as dedicating a section to the education on new government policies related to self-consumption and its intuitive and creative divulgation.

The last but not least impact of the previously mentioned change in legislation is the apparition of a new type of customer: the prosumer. With the possibility of connecting PV systems to the electricity grid and of being repaid for the excess production of energy injected in it, customers start to think of the possibility of making their installations profitable sooner. This is a game changing factor that Solarus is convinced must be potentiated within our business.

Hypothesis 4 – The budget is a critical point after which customers frequently take the decision to reject a PV installation offer.

PV installers confirmed that they spend time and resources in order to avoid clients misunderstanding the cost of a solar PV system. They declared that administrative profiles were in charge of explaining costs to new customers that called for information, keeping them from working on other tasks. In

occasions even reunions were scheduled to obtain information after which customers would decline the offer after discussing expenses.

Society's knowledge about the sector is poor and more specifically regarding average price for panels, inverters and the rest of the components needed to complete a PV system. This made our team decide that, marketing-wise, it was critical that we could deliver as much information as possible through our front-end platform (web page), as well as reinforcing the idea of making the solar calculator easy and intuitive. All this had the objective of making customers overcome the budget critical point as soon as possible and with an automatized method that avoid constantly spending time and resources.

3.1.3. Interviews with Customers

In order to either justify our original hypothesis, we conducted interviews with our potential customers. From the interviews we were able to deduce the following hypothesis and our revised hypothesis. They are as follows:

Hypothesis 1: Customers hold insufficient knowledge on the topic of solar Panels and the new changes in Law in Madrid.

From this Hypothesis, we reviewed and created both an educational part within our website and a personal helpline within the website. This will allow our potential customers a clear understanding of the process, the impact and the result of switching to renewable energy. Coupled with the customer being able to see how many people within the areas is switching to renewable energy should provide a certain level of comfort.

Hypothesis 2: The customer preferred to speak to someone when requesting information about a purchase of high value:

Due to this we now understand that 1 to 1 or personal phone calls would be beneficial to add to our platform that's why we have include a helpline desk so our customer and phone, ask questions on our website. This is imperative to spreading our company through word of mouth via providing excellent customer service.

Hypothesis 3: Most were comfortable with their current electrical provider but were open to save money wherever possible

One the hardest hypothesis we have to solve was to compete with the bigger companies within the sector. We established through the interview that customers are more than willing to save on their energy bills due to this conclusion we decided to incorporate blockchain to help prosumers to sell on their surplus energy within a community setting. This has allowed for an incentive for customer not only switch to renewable energy but to do so whilst using our platform and blockchain system.

Hypothesis 4: High initial Cost

Another topic that was extremely important was the high initial cost of installing PV panels. In order to combat this issue, we have targeted social banking that are willing to provide loans to cover half of the initial cost of installing PV panels additionally, we have addressed local companies that are willing to use impact investing with the renewable energy sector, as it will benefit the companies not only in financial return, but also reductions to their energy bill.

3.2. Website

The main tool Solarus will rely on for both, information and attracting new customers will be our website (<https://manuelathanos6.wixsite.com/website>).

It has been designed to be minimalistic, user friendly and exhaustive on the information provided.

The website structure is divided into the following parts: “About us”, “Solar calculator”, “Communities”, “Companies”, “Blockchain” and “Learn more about solar power”.

In about us our goals as company as well our mission and vision is provided. A simplified explanation of our services is also given.

The solar calculator will allow our potential customers to determine the savings and advantages our product would grant them just by introducing some very basic information such as consumption, electric bill or their allocation.

As for the “Communities” and “Companies” sections we designed them starting with key information to guide them through the process of getting solar panels, our different offers (Smart Package), and how to start exchanging energy through blockchain. Communities will also be provided with the possibility of downloading our pdf guide on “How to convince your community to transition to solar”. Our blockchain page is design as a map, geolocalisation the different producers and consumers of energy around you in a 500m perimeter and connecting you with them in order to start transactions.

3.3. Solar calculator

One of the main blocks in the creation and development of Solarus is the solar calculator. The solar calculator is a tool that, through the use of the latest Big Data technologies and the most prestigious Solar Energy software on the market, allows prosumers to know the possibilities that Photovoltaic Solar Energy can offer them.

The exhaustive analysis offered by the Solar Calculator includes:

- Basic Solar Engineering design necessary to define the Photovoltaic Solar Installation.
- List of possible Photovoltaic Solar Installers available in their geographic location.
- Attractive financing from our financial partners.

In addition, all the prosumers can benefit from the O&M service, which will allow them to know at all times the status of their Photovoltaic Solar Installation and their maintenance needs, receiving technical support in an interactive way whenever necessary.

Finally, both prosumers and consumers can benefit from our flagship product, a Blockchain Platform that allows the exchange of 100% renewable Photovoltaic Solar Energy between both parties, safely and with superior economic conditions compared to conventional marketers.

All the services selected by the prosumers will result in a business plan that will allow to know the profitability of the investment made for a period of approximately 25 years. In order to know in detail all the services offered by the solar calculator, the blocks of which this software consists will be detailed below.

3.4. Basic Photovoltaic Solar Engineering Design

The objective of the Design of the Solar Photovoltaic Engineering is to determine the possibilities that the prosumer, based on its geographical location and physical characteristics of his house, has in terms of production of Photovoltaic Solar Energy.

Said study will be carried out using the most prestigious Solar Engineering software on the market and with the most advanced mass data analysis or Big Data techniques, with the aim of automating as much as possible the definition of the Business Plan and obtaining a result that generates confidence from our financial partners.

The Photovoltaic Solar Engineering Design includes the following blocks:

3.4.1. Reading and Extraction of Electric Bill Information

The first point to take into account for the definition of the Solar Engineering design is to obtain the customer's starting data, either Prosumer or Consumer. For the Solar Photovoltaic Study it is necessary to know:

- Location and Physical Characteristics of the home
- Technical-economic data of the Electric Rate of the Electric Supply point or Contracted Rate
- Price per kWh
- Electric Consumption Load Curve

All the necessary information for the Design of Solar Photovoltaic Engineering is included in the Electric Invoice provided by the client through the trading company.

Given that there are currently around 767 registered Electrical Distributors according to sources of the CNMC (National Commission of Markets and Competition) and the current Royal Decree of Photovoltaic Self-Consumption 244/2019 allows any Photovoltaic Solar Facility to supply electricity to several Supply Points Electrical, it is possible that the Reading and Extraction of information from the Electric Invoice produces an excessive volume of work. For this reason, the first point to develop within the Solar Calculator will be the automation of the Reading and Extraction of Information from the Electric Invoice.

As each format of Electric Invoice is different depending on the Electrical Distributor that supplies each client, it is necessary to standardize the Reading and Extraction of Information of the Electric Invoice. In this case, Artificial Intelligence Techniques will be used, specifically through Neuro Linguistic Programming.

The natural language processing, abbreviated PLN, or NLP of the English language Natural Language Processing is a field of computer science, Artificial Intelligence and Linguistics that studies the interactions between computers and human language. Programming languages such as Python include open source libraries that allow the search of key fields automatically.

3.4.2. Obtaining Historical Data on Electric Consumption

For an adequate long-term analysis of the customer's Electric Consumption needs, it is necessary to know the Historical Data of Electric Consumption. Services such as the Consumer Databases and Supply Points (SIPS) of Gas and Electricity provided by the CNMC (National Commission of Markets and Competition) allow knowing the Historical Data of Electric Consumption completely free of charge.

3.4.3. Solar Analysis and Basic Engineering Definition

Once the initial data have been obtained, the next objective will be the definition of the Basic Engineering of the Photovoltaic Solar Installation. For this we will use the SolarGIS API, an internationally renowned solar software that provides long-term averages of solar and meteorological parameters with the generation of simulated photovoltaic electricity for a given Photovoltaic Solar Installation. The reason for its use is the generalization of the Final Report issued by SolarGIS, which allows credit institutions to obtain a guarantee on the financial product.

In addition to the SolarGIS software, the CYPELEC software will be used, specifically its CYPELEC REBT module. Photovoltaic installations, which calculates solar photovoltaic installations in low voltage according to the Electrotechnical Regulation for Low Voltage. This software provides a complete report with the necessary calculations of all the elements that make up the Solar Photovoltaic Installation.

Once all the information has been analysed, the Business Project Plan will be carried out, including a detailed budget of the Photovoltaic Solar Installation to be made.

3.5. Offer of Photovoltaic Installers

With the budget made, the prosumer will receive a list of possible Photovoltaic Installers near his location, with its corresponding installation budget. To ensure that the execution of the project is carried out properly, every Installer Company must comply with the quality standards established by the company.

3.6. Financing Offer

To facilitate the acceptance of the Business Plan by the client, the client will be offered an attractive financing offer. The work done with financial partners allows the client to receive an offer with better conditions than that obtained for a conventional loan. This fact is, in part, due to the methodology used for the design of the Solar Photovoltaic Installation through international warranty software.

3.7. O&M

The boom of monitoring and control of all electronic devices allows the user to have a real-time visibility of the Photovoltaic Solar Installation. The objective of the monitoring and control of the Solar Photovoltaic Installation is to guarantee a correct operation of the installation and, if not, to determine the actions to be carried out by means of predictive maintenance. The prosumer, therefore, can know the status of his installation at any time through an interactive dashboard that will allow him to contact both Solarus and the maintenance company, which is generally the same company that has been responsible for the installation.

In order to improve the maintenance service of the Photovoltaic Solar Installation in the medium and long term, an analysis of the information received will be carried out using Machine Learning techniques that will allow predictive maintenance to avoid future problems, thereby improving the performance of the Photovoltaic Solar Installation.

3.8. Blockchain

The most important block and, therefore, the Core Business of the company will be the creation of a blockchain collaborative platform that allows Prosumers and Consumers to exchange energy with full independence from traditional marketers.

This platform will allow, on the one hand, the prosumers to buy and sell surplus electricity from their installation and on the other hand, consumers will be able to buy energy with 100% renewable origin, thus improving their Corporate Social Image.

Before making a more detailed description of the blockchain platform, we will proceed to detail what the blockchain technology consists of.

The Blockchain (or chain of blocks) is a shared database that works like a book for the registry of transactions of purchase-sale or any other transaction. It is the technological basis of the operation of bitcoin, for example. It consists of a set of notes that are in a shared database on-line in which operations, quantities, dates and participants are registered by codes. When using cryptographic keys and being distributed by many computers (people), it has advantages in terms of security against manipulation and fraud. A change in one of the copies would be useless, but you have to make the change in all copies because the base is open and public.

All the blocks that make up the chain, have a hash (numeric password) of the previous block, the blocks are ordered in the chain in chronological order thanks to that hash all blocks are referenced by the

block that created them, so only blocks containing a valid hash are introduced in the chain and replicated to all nodes. Thanks to this system it is practically impossible to modify a block that has been during the chain for a certain time.

The "mining" nodes are responsible for creating the blocks that make up the chain, adding to each of them the corresponding hash and all the new transactions that have been introduced in the network. In this way we can say that the blockchain allows us to keep an "accounting" published in a totally transparent way of all the transactions of the network, with almost no possibility of fraud, congestion or loss of data and totally traceable.

The blockchain is a method to record data, a kind of Excel file. But it is shared: there are copies on the Web and on the computers of each participant in the creation and modification of that file, which cannot be accessed by anyone without permission and in which information cannot be deleted, only adding new records. This allows the community to take charge of protecting the data it contains, warning of possible mismatches derived from each update. Thanks to this, the integrity of the document is protected.

The way the blockchain works allows all participants to know the movements and changes that have been made in the document, as well as its author. By being based on mathematical operations, the blockchain is one of the safest methods available to create, modify, share and store information, so it could be applied to any field that needs to perform any of these actions, especially if in them they have multiple users involved.

The blockchain technology will therefore allow the exchange of energy between the users of the platform, prosumers and consumers. All users of the platform, thanks to having instrumentation and control in their electrical installations, together with market data in real time to know the prices of electricity and knowing their consumption needs, will be able to make the appropriate decisions in the purchase and sale of electricity.

Even so, and given that it is possible that there is a large number of customers who do not want to perform an active management of the purchase and sale of electricity, solarus will offer the possibility for the client to perform a passive management, using Artificial Intelligence techniques such as many of them. Financial Management companies or Fintech, for energy transactions, either as a prosumer or as a consumer.

The Start-up company BlockImpulse has offered to supply Solarus with the necessary blockchain platform as well as its maintenance.

3.9. Green Labels

Green labels, more technically Guarantees of Origin (GOs), are a tool used by the EU to encourage clean energy production and consumption. A guarantee of origin is an electronic document that proves to the final customer that a quantified amount of electricity originates from a specific

renewable energy or is produced by cogeneration. Guarantees of origin track green energy from the producer to the final consumer, ensuring a full transparency for these consumers.

Consumer commitment is key to the energy transition. European and national regulations have put consumers at the core of the energy policy by giving them the means to choose the source of the electricity they consume. This transparency is ensured with the guarantees of origin mechanism. This is the reason why Solarus' marketing plan takes into account the fact that companies start to demand this product and the company is not only a facilitator for such benefits but also a creator of such value. GOs are a new market and Solarus intends to exploit this market not only by taking part in it but being a fundamental part of it and becoming a reference within the PV solar market.

The price of GOs in Europe has been around 0,50 and 0,60 cents€/MWh lately and follow an increasing tendency since they were created. This value has not been taken into account in the financial plan or our revenues expectations but is considered one of the main values, both in a monetary and an intangible manner, that the company pursues.

4. Marketing Plan

For an organisation to gain competitive advantage over rivals in the market, a good marketing plan is essential (Burns, 2016). We worked out innovative approaches and invested our marketing budget reasonably to reach customers, as we are a small business.

In order to achieve our bootstrap marketing plan's objectives, we needed to firstly identify the target market, and then determine customer needs, wants and characteristics through market research (Scarborough and Cornwall, 2015). After doing market research on the renewable energy sector, with primary and secondary research, we found out that two of the main problems customers faced were regarding pricing and knowledge. Therefore, we decided to market our product focusing mainly on those two pain points. The third objective in our bootstrap marketing plan was to explore our business' competitive advantage in order to shape an efficient and cost-effective marketing strategy around our value proposition. The final step was to create our marketing mix that meet the criteria mentioned above.

We made use of the four P's of marketing effectively into a coherent strategy, in order to maximise Solarus impact (Scarborough and Cornwall, 2015). The following marketing plan will elaborate on these objectives related to the marketing mix.

Price

We are promoting an accurate price that will allow our customers to accurately measure and accept the price set out through our algorithm. Our pricing strategy is therefore penetration strategy. In order to make the product more attractive to customers, we offer two options.

We propose a premium package and a standard package. The standard package option is for the customers that don't wish to get real time data of the performance of the solar panel, whereas the customers that want the premium package can choose the option that guarantees their SP is working efficiently and they can request for maintenance when needed.

Place

Due to us being a digital company our main source of contact is through the internet, however we have made allowance to hold a contract with local co sharing spaces to work and hold meetings with clients, installers and companies.

Promotion

Our Unique Selling Point can be identified as providing a 1 point 1 location stop to switch to renewable energy through our online platform

Publicity

We will produce leaflets, brochures and use of social media that explain Solarus and what we are trying to achieve through our Unique Selling Points. We will also provide information on what to do in order to prevent damages, misquotations and misinformation for our clients. The leaflets will therefore not only promote Solarus, but also create awareness. The leaflets will be handed out to all our customers –through door to door- as well as in all the community events we are involved with.

Advertising

As it is not expensive, we believe word-of-mouth advertising would be a great way to start. However, considering that it is not necessarily the most efficient way of advertising, we would like to promote our company to the influencers in the market. We will partner up with local companies within the areas of Madrid. Therefore, both our customers and local companies will gain awareness of Solarus.

Creating a website is our main tool that we find beneficial for our business. We would like to promote our business through our website and will copy the link of the site on our leaflets. We will use www.Solarus.com to start with a low-cost alternative and we will pay £15 each month for our own website.

Yet, we believe that making sure to constantly keep our customer relationship on a good level is the most important way to market our products; as our distribution channel is not directly from our business to consumers.

4.1. Brand Positioning

We decided to differentiate our brand by positioning ourselves as the platform to refer to on the market of “autoconsumo solar”. To that end we will provide our customers with every information and tools needed in order to access the self-consumption and production solar market in Spain:

- Informational and trustworthy content to make an informed choice about “going solar”.
- The “community pack” (to be detailed later)
- The solar calculator which provides you with an operation and financial in a fast and easy way as well as the best option of PV installer
- A “smartpackage” offer, previously introduced, specifically design for them not to have to worry about a thing concerning the management of their PV panels, and last but not least;
- A blockchain platform allowing our consumers to sell and buy excess of energy produced on the market.

Put together, all those tools attract and retain the customer as our holistic platform gives them everything, they need to become key players on the solar energy market. All this is synthesized in our slogan “Solar Energy, made easy.” Because it is specifically the easy use of SOLARUS, and the wide range of tools and services are the variables that will make the difference and make the potential customers choose this service instead of others provided by big groups.

4.2. Pricing policy

When a competitive price wants to be determined, taking into account the ones established by the competition, it is important to have certain differentiation always trying to maintain a benefit margin that would allow the company to grow in a constant pace and improve its services. As solarus is the first player in the sector of “Smart Package” for energy, we still decided to adjust it to the other “Streaming” offers families pay every month (such as music or entertainment), with the aim to make it less expensive than the potential profits a family can make every month selling their excess of energy. The choice of making the solar calculator free is for the reason that it is a marketing tool designed to attract and retain customers 9, help them making the decision to install solar panels in their home.

A full description of our pricing policy has been detailed on the business plan. In order to develop this we have considered the different incomes from both communities and companies, expenses and marketing strategies.

4.3. Promotion & Communication

The objectives that are intended to be communicated to customers with communication activities are clear: we are an easy, efficient, holistic approach of solar energy. As mentioned before, both the name and the website minimalistic design and fluidity want to symbolize a holistic and simple like never before way to enter the PV energy market.

We aim to target people that, in one way or another, are concerned about the environment, climate change, or simply want to save money on their energy bill. Regarding information and communication, as we have a special focus on communities living in a shared building in Madrid, we will be developed what we called “a community guideline”.

Through our qualitative interviews we realized two main things: our end customer lacks information concerning the solar energy market, and they are reluctant to making such an important investment alone for the PV panels. We also observed that shared buildings in Madrid have potentially enough families to split the price of the initial investment between all households (approximately 20 households living in a building) to purchase an installation that would provide enough energy for all of the households, making it affordable as it would be divided by 20.

Analysing all those variables and order to facilitate this kind of community investment, we decided to develop the “community package”, inspired from “The Transition Network” Guidelines; a guide helping households to start a renewable energy transition in their building, by convincing the rest of their neighbors to install solar panels in the community roof, in a few steps. The guide offers them trustworthy key information, simplified to be efficiently understood (pricing, savings, low carbon, economy, global warming, blockchain) and a set of soft skills so their argumentation is convincing.

Regarding promotion different actions are encompassed in our strategy:

- Stands in conventions about green-living, renewable energy.
- The solar calculator is used as a marketing tool to attract customers and help them in the decision making of going solar.
- Our webpage with exhaustive information about solar energy.
- Targeted advertising on social media.
- Buying the keywords “energía solar madrid”, “paneles fotovoltaicos madrid”, “comprar paneles fotovoltaicos” in order for our websites to appear in the first results on google. This coupled with our “informational” content where those keywords will appear over and over will guarantee us a good referencing, thus positioning us as a reference on the internet in terms of solar energy in Madrid.
- An important presence on social media: Instagram, Facebook and Twitter.
- we will also provide door to door leaflets for the community of madrid as a way of promoting our company and showcasing what we aim to achieve through our platform.

4.4. Sales planning & Sales justification

Customer support, incidents and complaints resolution will be carried out through an email address, phone call or assistance window on the website, that will be made available once the platform will be out in the market.

The satisfaction of the users regarding the service will be measured through comments and score received after a transaction with blockchain or a connection with a PV installer, and the calls and emails received with incidents, complaints and, also, improvement suggestions and greeting.

5. Finance Plan

5.1. Business Financial Model

Solarus is a company that offers both product and service to customers. The first is the offer of PV system installations. In this sense, the company will have the role of a facilitator, connecting clients to installers who our business partner. The second is the blockchain energy exchange service for both producers of PV energy and consumer willing companies.

In order to perform this study, various hypotheses have been taken into account. Firstly, and given that our business works with projects of groups of solar energy willing producers and one or more consumer companies, such projects have been determined as an average with the following ratio: 20 producers for 1 consumer. Under this premise prices and sales volumes have been determined to be able to refer our business performance as to how many projects were run.

The rest of hypothesis are explained below. Anexus 1 is a detailed business analysis intended to extract conclusions, estimate future performance and present to early investors.

Prices for the blockchain platform, O&M and PV installation have been validated with actors from the market. Specially blockchain maintenance costs and initial investment have been validated by entering a negotiation process with the company *BlockImpulse* which offered to develop the platform, maintain it and campaign us as business partners through the Start-up process.

5.2. Incomes and Expenses Evolution

Solarus will have two types of income: variable and recurrent. The first is due to the process of installation of PV systems and Solarus' role in it. The second will be the recurrent incomes generated by the blockchain platform.

The Installation variable income comes from a 5% charged to customers of PV systems for the facilitation of the service (connecting with installers, facilitating and taking care of bureaucracy, giving valuable information and advice and ensuring the correct performance of the process).

The Blockchain fixed income has two different sources: the subscription to the blockchain platform for exchange of energy (10 €/year/user) and the charge for exchange of energy using our blockchain platform (0,5% of the Pool Market Price equivalent cost of the energy exchanged). The quantity of

energy exchanged has been calculated by estimating the energy production of an average householder in the region of Madrid, their typical consumption and assuming all excess energy will be consumed by companies with the ratio determined before.

The last type of recurring revenues is the O&M service with a cost of 6 €/month/client. This value has been determined through marketing and market study.

Concerning expenses, Solarus is both a facilitator and a software type of business. In a similar way as revenues do, expenses are divided into three separate activities: installations of PV systems, the blockchain platform and the O&M service. These suppose both fixed and variable costs.

Installation activities have a low variable cost for Solarus given that the work and acquisition of PV solar panels, inverters and other components is a responsibility of our business partners. Expenses calculated are due to bureaucracy costs and administration of contracts adding up to 550 €/project.

The rest of costs for the company's activity are fixed. All fixed costs are detailed in the annex's, but it must be mentioned that the most relevant are the maintenance of the blockchain platform (1200 €/month) and the workers' salaries (in this case associates).

Another relevant expense is the marketing campaign costs. These are 200 €/month for the continuous activity, but three major campaign will take place: start of activity in January 2020 (1.000€), mid-year campaign (2.000€) and start of second year (1.000€). These expenses aim to attract customers and can be supported by a financial plan that tries to attract recurrent clients that will maintain their solar exchange activity for around 25 years. The market analysis and financial study gave values of Customer Acquisition Cost (CAC) of 25 which compared to the 22,3 for an Average Ticket gives us a brute margin of 91%. However, due to the longevity of clients, our Life Time Value (LTV) per customer is 508 (20,31 times the CAC value). The CAC value is reduced, and the LTV is increased during the second year of activity of the company.

5.3. Investments and Financiation

The main initial investments include: the blockchain platform (20.000€), the software licenses (4.000€) and work equipment (2.000€). In addition, the company intends to create a bank deposit with 5.000€ for unexpected expenses and liquidity.

These investments will be financed with the following sources of capital: Associate contribution of 9.000€ (four Associates), Equity, Angel Investors or Accelerators (25.000€) and EU subsidies and grants (5.000 from blockchain and clean energy business creation).

5.4. Cash-flow and Balance

Due to the elevated investment needed to start the company (mainly blockchain platform and software licenses acquisition), and also due to the profile of client which is a recurrent one that will delay their real value through years of energy exchange transactions and platform subscriptions, the first year the company will have a negative cash-flow and balance.

However, as explained before, financing has been planned to support this situation and recover during the second year, during which cash-flow and profit and loss balance will become positive. The company will grow gradually creating a portfolio of clients that will sustain the economy of the company.

The point of equilibrium for the first year is estimated in 58.850€ and the company is expected to have a result of 49.070€. However, this values for the second year are 90.870€ and 81.620€ which shows that the situation is reversed by the second year.

5.5. Risk Register

In order to comprehend the risks our company will face; we have produced a risk register. Through the Risk Register, we have identified 14 main risks which is shown in the (Appendix). Additionally, for each of the identified risks we have established the consequence of not addressing the risk and the uncontrolled probability that the risk will be realised. Furthermore, we have calculated a risk score which has derived from the uncontrolled probability and the impact of the risk, which will give a score out of 15, with 15 being the most imminent risk. We have also ranked each risk from low probability of happening to a high probability of happening.

5.6. Conclusion

The following table shows relevant economic indicators for the result of our business study. It must be mentioned that the payback time for the project is around 3,8 years and that the ROE is around 20%.

Investment - Financing

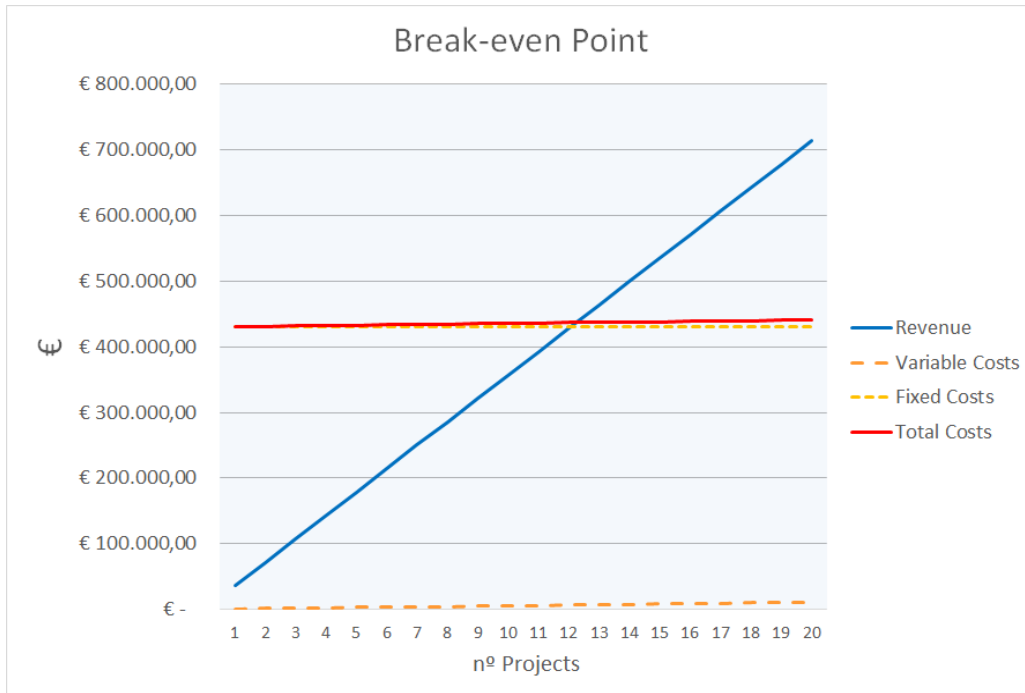
	Opening 1st Balance 2020	Closure 1st Balance 2020	Closure 2nd Balance 2021
Fixed Capital Investment (Non-current liability)	79,5%	84,7%	51,8%
Working Capital Investment (Current Assets)	20,5%	15,3%	48,2%
TOTAL INVESTMENT (Fixed assets + Circulating)	100%	100%	100%
II total euros	39.000	30.099	38.623
TOTAL FINANCING (Own + External)	100,0%	100,0%	100,0%
Own resources (Net worth)	100,0%	100,0%	94,5%
External resources (Non-current liability + Current liabilities)	0,0%	0,0%	5,5%
Working capital (Permanent asset - Non-current asset)	8.000,0 21%	4.598,8 15%	16.492,1 43%

Sales - Margins - Profit - Cash Flow

	Closure 1st Balance 2020		Closure 2nd Balance 2021	
Expected sales (incomes)	49.078,8 €	100%	90.874,4 €	100%
Sales growth			85,2%	
Gross Margin	44.678,8 €	91%	83.724,4 €	92%
EBITDA	-3.401,2 €	-7%	14.024,4 €	15%
EBIT (or BAII)	-8.901,2 €	-18%	8.524,4 €	9%
Net Profit	-8.901,2 €	-18%	6.393,3 €	7%
Cash-Flow	-3.401,2 €	NS	11.893,3 €	13%

Profitability - Liquidity - Indebtedness - Safety

	Closure 1st Balance 2020	Closure 2nd Balance 2021
ROE (Return On Equity) Financial Profitability	NS	20,3%
ROI (Return On Investment) Economical Profitability	NS	22,1%
Treasury (Acid Test) (Realisable + Available / Current liability)	NS	8,7
Debt (Total Liabilities / Total Liabilities + Net Worth)	0,0%	5,5%
Financial Capacity to Repay Debt (Net Profit + Amortisation / Financial Creditor)	NS	NS
Break Even Point	58.856,6 €	81.622,0 €
Safety Coefficient	0,83	1,11
Pay-Back	3,83 years	



6. Bibliography and Web References

- <https://transitionnetwork.org/>
- <https://contigoenergia.com/calculadora-autoconsumo-solar/>
- <https://deltavolt.pe/calculo-solar>
- <https://gesternova.com/contigo-energia-lanza-una-potente-calculadora-de-autoconsumo-solar-para-hogares/>
- <https://www.triodos.es/es>
- <https://hackernoon.com/>
- <https://elperiodicodelaenergia.com/>
- <https://unef.es/>
- <https://www.idae.es/tecnologias/energias-renovables/autoconsumo>
- <https://www.energias-renovables.com/fotovoltaica/el-real-decreto-de-autoconsumo-al-detalle-20190409>
- <http://www.ecolabelindex.com/ecolabels/>
- <http://www.thesouthoracle.com/autoconsumo-y-energia-solar/>
- <https://www.boe.es/boe/dias/2019/04/06/pdfs/BOE-A-2019-5089.pdf>

Appendix 1: Detailed Cost Plan

Concepto	Precio de Venta Unitario	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Totales	% sobre Total de Ventas
Installation service	262,5	20,0	20,0	20,0	0,0	20,0	40,0	0,0	40,0	0,0	60,0	0,0	40,0	260,0	75,1%
	Total venta	5.250,0	5.250,0	5.250,0	0,0	5.250,0	10.500,0	0,0	10.500,0	0,0	15.750,0	0,0	10.500,0	68.250,0	
Blockchain platform	0,9	180,0	200,0	220,0	220,0	240,0	280,0	280,0	320,0	320,0	380,0	380,0	420,0	3.440,0	3,4%
	Total mes	0,0	188,0	206,8	206,8	225,6	263,2	263,2	300,8	300,8	357,2	357,2	394,8	3.064,4	
O&M	6,0	180,0	200,0	220,0	220,0	240,0	280,0	280,0	320,0	320,0	380,0	380,0	420,0	3.440,0	21,5%
	Total mes	0,0	1.200,0	1.320,0	1.320,0	1.440,0	1.680,0	1.680,0	1.920,0	1.920,0	2.280,0	2.280,0	2.520,0	19.560,0	
Total Ventas		5.250,0	6.638,0	6.776,8	1.526,8	6.915,6	#####	1.943,2	#####	2.220,8	#####	2.637,2	#####	90.874,4	100%

PUNTO DE EQUILIBRIO:
81.622,0

INVERSIONES Iniciales				TOTAL ACTIVOS Iniciales	AMORTIZACIÓN
Conceptos	Valor de las que APORTAMOS	Importe de las que ADQUIRIMOS	% IVA Soportado de las que ADQUIRIMOS		Años de Vida Útil
INMOVILIZADO				31.000,0	
Terrenos y Bienes Naturales			21%	0,0	0
Construcciones			21%	0,0	33
Instalaciones/Acondicionamiento			21%	0,0	5
Maquinaria			21%	0,0	10
Utillaje, Herramientas, Menaje,...			21%	0,0	5
Mobiliario y Enseres			21%	0,0	10
Elementos de Transporte			21%	0,0	5
Equipos Informáticos y de las Comunicaciones		2.000,0	21%	2.000,0	4
Otro Inmovilizado Material			21%	0,0	4
1 Total Inmovilizado Material	0,0	2.000,0		2.000,0	
Gastos de I+D (Propiedad de la Innovación)			21%	0,0	4
Programas Informáticos y Páginas Web		4.000,0	21%	4.000,0	4
Propiedad Industrial e Intelectual			21%	0,0	4
Otro Inmovilizado Intangible		20.000,0	21%	20.000,0	5
2 Total Inmovilizado Intangible	0,0	24.000,0		24.000,0	
Fianzas y Depósitos y Garantías		5.000,0		5.000,0	
3 Inmovilizado Financiero	0,0	5.000,0		5.000,0	
Gastos de Puesta en Marcha y Constitución			21%	0,0	
4 Gastos para Puesta en Marcha	0,0	0,0		0,0	
Activo CORRIENTE				8.000,0	
Materias Primas, Mercaderías, etc			21%	0,0	
5 Existencias Iniciales	0,0	0,0		0,0	
6 IVA Soportado por Adquisición Inversiones				5.460,0	
7a. TESORERÍA Necesaria para pagar las Inversiones Adquiridas				0,0	
7b. TESORERÍA Sobrante después de pagar las Inversiones Adquiridas				2.540,0	
TOTAL ACTIVO				39.000,0	

FINANCIACION Inicial	
Conceptos	Importe de la FINANCIACIÓN
PATRIMONIO NETO 39.000,0	
Dinero Aportado por el/los socios	9.000,0
Equity Crowdfunding y/u Otros Inversores Externos	25.000,0
1 Total Capital en Dinero	34.000,0
Bienes y Derechos Aportados por el/los socios	0,0
2 Total Capital en forma de Bienes y Derechos	0,0
Subvenciones y Donaciones	5.000,0
3 Total Subvenciones y Donaciones	5.000,0
Crowdfunding Recompensa	
Gastos de la Campaña Crowdfunding	
4 Crowdfunding	0,0
Préstamos Participativos	
5 Préstamos Participativos	0,0
Resultado Primeros Números	
6 Resultados Primeros Números	0,0
DEUDAS (Pasivo) 0,0	
Préstamos Financieros y Crowdlending	
Préstamos de Socios, Familiares y Amigos	
7 Total Préstamos	0,0
8. IVA Repercutido por el Crowdfunding de Recompensa	0,0
TOTAL PATRIMONIO NETO + PASIVO	39.000,0

Plan de Tesorería													
Los Tesorería Inversión - Financiación													
Concepto	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Total
Saldo Inicial (1)	2.540,0	3.978,6	2.100,6	4.975,1	2.531,8	4.840,9	387,6	-5.989,1	4.659,5	1.554,6	4.821,3	719,0	
Cobro de Ventas + IVA Repetitivo	5.417,9	167,9	5.585,9	335,9	5.753,8	503,8	503,8	16.757,7	1.007,7	11.843,6	1.343,6	1.343,6	50.565,3
Cobro Deudas Ptas (de Clientes y Otros Deudores)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Disposiciones de Crédito a CP	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Retenciones IRPF	0,0	0,0	0,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	5.400,0
Total Entradas (2)	5.417,9	167,9	5.585,9	935,9	6.353,8	1.103,8	1.103,8	17.357,7	1.607,7	12.443,6	1.943,6	1.943,6	55.965,3
Pago de Compras y Otros Costes Variables + IVA	665,5	0,0	665,5	0,0	665,5	0,0	0,0	1.996,5	0,0	1.331,0	0,0	0,0	5.324,0
Sueldos y Salarios de Socios	0,0	0,0	0,0	1.333,3	1.333,3	1.333,3	2.666,7	2.666,7	2.666,7	4.000,0	4.000,0	4.000,0	24.000,0
Sueldos y Salarios de Empleados	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Cargas Sociales (IRTA y Seg Soc a Cargo Emp)	43,3	43,3	43,3	43,3	43,3	43,3	43,3	43,3	43,3	43,3	43,3	43,3	520,0
Suministros (Luz, Agua, Teléfono, Gas)	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	240,0
Gastoría, Asesoría y Auditorías (Servicios Profes)	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	360,0
Materiales de Oficina, Limpieza y Otros	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Marketing (on y off)	1.000,0	200,0	200,0	200,0	200,0	2.000,0	1.000,0	200,0	200,0	200,0	200,0	200,0	5.800,0
Primas de Seguros	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Trabajos Realizados por Otras Empresas	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	14.400,0
Reparaciones, Mantenimiento y Conservación	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Arendamientos y Cánones	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	2.400,0
Transportes y Mensajería	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	60,0
Gastos de Formalización de los Préstamos	300,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	300,0
Gastos financieros	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Devolución del Capital de los Préstamos	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Reembolsos de Créditos a CP	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
IVA Soportado Inversiones y Gastos de Explotación	515,6	347,6	347,6	347,6	347,6	725,6	515,6	347,6	347,6	347,6	347,6	347,6	4.884,6
Total Salidas (3)	3.979,4	2.045,9	2.711,4	3.379,2	4.044,7	5.557,2	5.680,6	6.709,1	4.712,6	7.376,9	6.045,9	6.045,9	58.288,6
Liquidación Trimestral del I.V.A. (4)				-6.785,1			-8.088,0			-9.208,0			
Liquidación IRPF (5)				0,0			1.800,0			1.800,0			
Tesorería del Periodo - Burn Rate Mensual	1.438,6	-1.877,9	2.874,5	-2.443,3	2.309,1	-4.453,4	-6.376,7	10.648,6	-3.104,9	3.266,7	-4.102,3	-4.102,3	
SALDO FINAL	3.978,6	2.100,6	4.975,1	2.531,8	4.840,9	387,6	-5.989,1	4.659,5	1.554,6	4.821,3	719,0	-3.383,3	
Buenas Restantes de Liquidación - Cash Burn	1,1	1,1	1,0	0,1	0,9	0,5	0,2	0,8					

(*) Salidas de dinero para pagar las Inversiones												(**) Entradas de dinero procedente de Financiación												
0.0												0.0												
Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	
-3.383,3	-7.056,0	-6.281,2	-5.338,5	-10.780,3	-9.669,6	-3.638,6	-8.576,5	-2.209,6	-5.011,6	4.643,7	2.345,5	5.250,0	6.929,5	7.097,4	1.847,4	7.265,4	12.851,3	2.351,3	13.187,2	2.687,2	18.941,0	3.191,0	14.026,9	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0
5.850,0	7.529,5	7.697,4	2.447,4	7.865,4	13.451,3	2.951,3	13.787,2	3.287,2	19.541,0	3.791,0	14.626,9	665,5	665,5	665,5	0,0	665,5	1.331,0	0,0	1.331,0	0,0	1.996,5	0,0	1.331,0	
4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	0,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	4.000,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	86,7	
20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	
30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
1.000,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	1.200,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	
5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
515,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	347,6	
7.722,7	6.754,7	6.754,7	6.089,2	6.754,7	7.420,2	6.089,2	7.420,2	6.089,2	8.085,7	6.089,2	7.420,2	6.089,2	6.754,7	6.089,2	6.089,2	6.754,7	7.420,2	6.089,2	7.420,2	6.089,2	8.085,7	6.089,2	7.420,2	
-9.782,1			-10.727,1			-11.037,8			-10.970,6															
1.800,0			1.800,0			1.800,0			1.800,0															
-3.672,7	774,8	942,7	-5.441,8	1.110,7	6.031,1	-4.937,9	6.367,0	-2.802,0	9.655,3	-2.298,2	7.206,7	-7.056,0	-6.281,2	-5.338,5	-10.780,3	-9.669,6	-3.638,6	-8.576,5	-2.209,6	-5.011,6	4.643,7	2.345,5	14.026,9	
1,9			2,0			1,7			1,8															

Plan de Tesorería
les Tesorería Inversión - Financiación
Concepto
Saldo Inicial (1)
Cobro de Ventas + IVA Repercutido
Cobro Deudas Pdtes (de Clientes y Otros Deudores)
Disposiciones de Crédito a CP
Retenciones IRPF
Total Entradas (2)
Pago de Compras y Otros Costes Variables + IVA
Sueldos y Salarios de Socios
Sueldos y Salarios de Empleados
Cargas Sociales (RETA y Seg Soc a Cargo Emp)
Suministros (Luz, Agua, Teléfono, Gas)
Gestoría, Asesoría y Auditoras (Servicios Profesionales)
Material de Oficina, Limpieza y Otros
Marketing (on y off)
Primas de Seguros
Trabajos Realizados por Otras Empresas
Reparaciones, Mantenimiento y Conservación
Arrendamientos y Cánones
Transportes y Mensajería
Gastos de Formalización de los Préstamos
Gastos financieros
Devolución del Capital de los Préstamos
Reembolsos de Créditos a CP
IVA Soportado Inversiones y Gastos de Explotación
Total Salidas (3)
Liquidación Trimestral del I.V.A. (4)
Liquidación IRPF (5)
Tesorería del Periodo - Burn Rate Mensual
SALDO FINAL
Meses Restantes de Liquidez - Cash Runwa

	Apertura 1º Ejerc. 2020		Cierre 1º Ejerc. 2020		Cierre 2º Ejerc. 2021	
	Euros	%	Euros	%	Euros	%
Activo No Corriente ("Inmovilizado")	31.000,0	79,5%	25.500,0	84,7%	20.000,0	51,8%
Activo Corriente ("Circulante")	8.000,0	20,5%	4.598,8	15,3%	18.623,2	48,2%
TOTAL ACTIVO	39.000,0	100,0%	30.098,8	100,0%	38.623,2	100,0%
Patrimonio Neto - Recursos Propios	39.000,0	100,0%	30.098,8	100,0%	36.492,1	94,5%
Pasivo No Corriente ("Exigible a LP")	0,0	0,0%	0,0	0,0%	0,0	0,0%
Pasivo Corriente ("Exigible a CP")	0,0	0,0%	0,0	0,0%	2.131,1	5,5%
TOTAL PATRIMONIO NETO + PASIVO	39.000,0	100,0%	30.098,8	100,0%	38.623,2	100,0%
Saldo de Tesorería (Disponible)	2.500,0	7%	-3.383,3	-11%	9.552,2	25%
Recursos Permanentes	39.000,0	100%	30.098,8	100%	36.492,1	94%

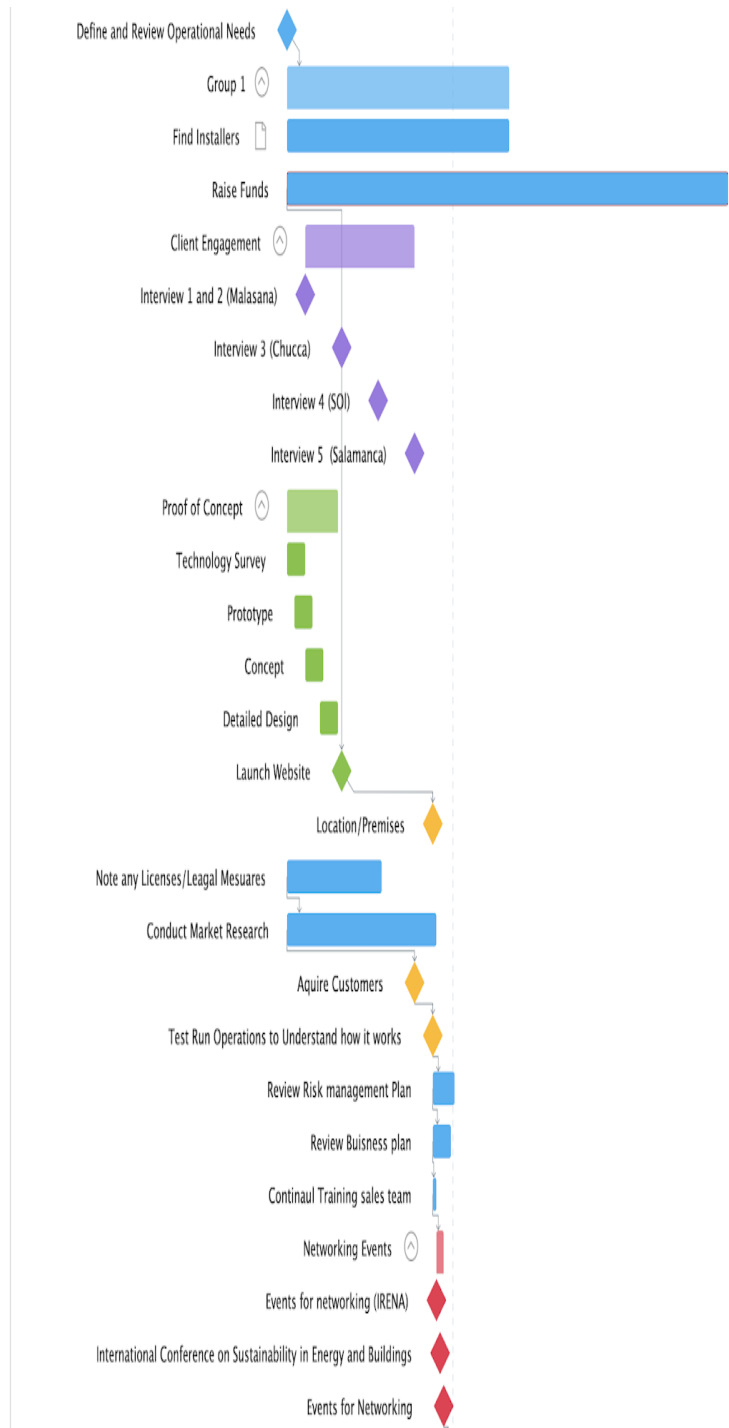
	Cierre 1º Ejerc. 2020		Cierre 2º Ejerc. 2021	
	Euros	%	Euros	%
INGRESOS (Ventas)	49.078,8	100,0%	90.874,4	100,0%
Costes Directos Variables (a)	4.400,0	9,0%	7.150,0	7,9%
Otros Costes Variables (b)	0,0	0,0%	0,0	0,0%
Total COSTES de VENTAS (Costes Variables)	4.400,0	9,0%	7.150,0	7,9%
(1) MARGEN BRUTO S/ VENTAS	44.678,8	91,0%	83.724,4	92,1%
Gastos de Personal (Gastos de Estructura)	24.520,0	50,0%	49.040,0	54,0%
Otros Gastos de Estructura (incluido Mk)	23.560,0	48,0%	20.660,0	22,7%
Total GASTOS de ESTRUCTURA (Costes Fijos)	48.080,0	98,0%	69.700,0	76,7%
(2) EBITDA (Beneficio Antes de Int., Imp., y Amortizaciones)	-3.401,2	-6,9%	14.024,4	15,4%
Dotación a la Amortización (Contable)	5.500,0	11,2%	5.500,0	6,1%
(3) EBIT (Beneficio Antes de Intereses e Impuestos)	-8.901,2	-18,1%	8.524,4	9,4%
Gastos Financieros	0,0	0,0%	0,0	0,0%
RESULTADO FINANCIERO	0,0	0,0%	0,0	0,0%
+ Ingresos / -Gastos Excepcionales	0,0	0,0%	0,0	0,0%
(4) EBT (Beneficio Antes de Impuestos)	-8.901,2	-18,1%	8.524,4	9,4%
Provisión Impuesto s/ Beneficios	0,0	0,0%	2.131,1	2,3%
(5) Resultado Neto	-8.901,2	-18,1%	6.393,3	7,0%
Costes de Marketing	5.800,0	11,8%	3.200,0	3,5%

Appendix 2: Risk Register

Solar us Risk	Risk (Cause)	Consequence (Effect)	Uncontrolled Probability	Impact		Risk Score (uncontrolled) (cost impact score x probability)
				Risk	Risk	
R1	Not Obtaining Funding	Delayed start time and making company tangible	50%	5	2	10
R2	Not finding clients	Without clients we don't have a business	80%	4	1	4
R3	Policy Complications	Spain's policys chainging due to the elections	35%	3	1	3
R4	Installers not Adapting to our Platform	Delayed start time and making company tangible	50%	3	1	3
R5	Competition from competitors	Growing competiton from our compentitors may siphon off some of our clients and installers using the platform	60%	3	4	12
R6	Loan from banks	May need to find other sources of revenue	50%	3	2	6
R7	Website crashing/ Hacked	Lack of innovation and protection	10%	2	2	4
R8	E-Makrketng Being Unsuccessful	Lack of early adopters knowing about our platform	50%	3	2	6
R9	Website not being user friendly	Potential customers and Installers not using our Platfrom	20%	2	1	2
R10	Finding Innovative solutions to keep the competative edge	Competitors may copy our business stratergy	40%	3	4	12
R11	Growing too Fast	Unable to cope with the growing demand - Platfrom needs adapting	20%	2	3	6
R12	Lack of Customor Support	Customers may be reliant on our support and if they're not getting any they may leave - or lack of trsut	20%	1	3	3
R13	Buisness Partners	Business Partners may leave	15%	2	2	4
R14	Installers don't deliver on time	once Installers have been put into contact with Clients - they may give obscual time frames that arnt practical	75%	4	2	8

Appendix 3 - Programme of current and Future Plans

Define and Review Operational Needs	29/04/2019, 08:00	
▼ Group 1	29/04/2019, 08:00	
Find Installers	29/04/2019, 08:00	
Raise Funds	29/04/2019, 08:00	
▼ Client Engagement	06/05/2019, 08:00	
Interview 1 and 2 (Malasana)	06/05/2019, 08:00	
Interview 3 (Chucca)	20/05/2019, 08:00	
Interview 4 (SOL)	03/06/2019, 08:00	
Interview 5 (Salamanca)	17/06/2019, 08:00	
▼ Proof of Concept	29/04/2019, 08:00	
Technology Survey	29/04/2019, 08:00	
Prototype	01/05/2019, 08:00	
Concept	06/05/2019, 08:00	
Detailed Design	10/05/2019, 08:00	
Launch Website	20/05/2019, 08:00	
Location/Premises	24/06/2019, 08:00	
Note any Licenses/Leagal Mesuares	29/04/2019, 08:00	
Conduct Market Research	29/04/2019, 08:00	
Aquire Customers	17/06/2019, 08:00	
Test Run Operations to Understand h...	24/06/2019, 08:00	
Review Risk management Plan	24/06/2019, 08:00	
Review Buisness plan	24/06/2019, 08:00	
Continaul Training sales team	24/06/2019, 08:00	
▼ Networking Events	25/06/2019, 08:00	
Events for networking (IRENA)	25/06/2019, 08:00	
International Conference on Susta...	26/06/2019, 08:00	
Events for Networking	27/06/2019, 08:00	



Appendix 4: Leaflet

SOLARUS

COMMUNITY GUIDELINE

HOW TO
CONVINCE YOUR
COMMUNITY TO
GO SOLAR?



An exhaustive guide for solar ambassadors

www.solarus.com

SOLARUS

transitioning to renewable energy, made easy



At Solarus, we aim for a 100% renewable energy future through community collaboration and synergy, by unleashing our collective power to have a greater impact together than we can as individuals.

So, you live in a shared building, you've heard of solar power, you're convinced: it's the future of energy, and you want to be able to produce your own. The thing is, you live in a shared building, and this is not a decision you can make on your own.

That's why this little guide comes handy: We designed it to help solar ambassadors to spread the word in their community. Using this few tips and arguments, finding balance between "the head, the heart and the hands" you might be able to make a big change in your community. So, let's get started shall we :

"We should invest in solar panels as a community because"

Convincing the Head

Actions taken on the basis of the best information and evidence available and apply our collective intelligence to find better ways of living. In this case, it will mainly be about numbers through money, savings, potential profits.



Argument 1/ The initial investment for solar panels is quite high yes. But we can split the costs of the installation between each household of this neighborhood/building, and just pay for a fraction of it while being sure of using 100% of green energy every day for the next 40 years. Plus, installing solar panels adds value to our property.

Argument 2/ We can save a lot of money through reduced energy bills. After the initial investment of purchasing and installing solar photovoltaic panels, you will be able to start seeing returns on your investment – in the form of reduced energy bills – without needing to spend more money. Plus, through the new law, when we are producing more energy than needed, all the extra solar electricity is reinjected into the grid, and paid back as a discount on our electricity bill. We can also decide to sell our energy through blockchain to local businesses; we can even make an unlimited amount of money by selling it to the market price.

Argument 3/ Solar panels can help to fight climate change by reducing greenhouse gases. Recent studies indicate that a single solar module takes just about one year to generate more electricity than was used to manufacture it. So, that is one-year energy payback, and since photovoltaic solar panels last up to 40 years, they save 39 years of emissions that would have come from gas or coal.

www.solarus.com

SOLARUS

transitioning to renewable energy, made easy



Convincing the Heart

We decide with compassion, valuing and paying attention to the emotional, psychological, relational and health aspects.



Argument 1/ To help fight climate change, respect resource limits and create resilience: the urgent need to reduce carbon dioxide emissions, greatly reduce our reliance on fossil fuels and make wise use of precious resources is at the forefront of everything we should do. Compared with coal electricity, solar electricity uses 86% to 89% less water; it also uses 80% less land and is 95% lower in toxicity to humans.

Argument 2/ Solar energy does not pollute the air we breathe. It reduces the air pollution of the city we live in. If we all adopt solar energy, we could significantly reduce pollutants (such as sulphur dioxide) and particulate matter, all of which cause environmental and health problems (bronchitis, respiratory and cardiovascular).

Convincing with Hands

turn your vision and ideas into a tangible reality, showing them how simple it will be to start to build a new, sustainable energy system in the place we live.



Argument 1/ Installing solar power technologies is easy and possible thanks to SOLARUS. There is just need to join all the electricity bills, put the info in the Solar Calculator and in 24h we will have an operation and financial plan. Then, if we decide to invest, they'll send us the best option of PV installer for us. So installing them is just an email away!

And don't forget...

"Truth is like the sun. You can shut it out for a moment, but it ain't going away." - **Elvis Presley**

GOOD LUCK



www.solarus.com

