



SUNFLOWER PROJECT

“A GUIDE TO CREATE A START-UP COMPANY IN RENEWABLE ENERGY SOURCES”

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TABLE OF CONTENTS

FOREWORD	4
GLOSSARY.....	5
EXECUTIVE SUMMARY	6
INTRODUCTION	7
METHODOLOGY OF THE REPORT	8
HOW TO CREATE A START-UP AT THE EUROPEAN LEVEL.....	9
I.1. INTRODUCTION	9
I.2. BIRTH OF THE IDEA	10
FINDING THE IDEA.....	10
FROM THE IDEA TO THE PROJECT	10
I.3. PROJECT DEVELOPMENT.....	13
MARKET STUDY	14
SWOT ANALYSIS	16
MARKET STRATEGY	17
MARKETING MIX.....	18
MARKETING PLAN.....	19
BUSINESS PLAN.....	21
FINANCIAL PLAN.....	24
I.4. LAUNCHING THE OPERATION	24
LEGAL LAUNCHING	24
FINANCIAL LAUNCHING	25
TRADING LAUNCHING.....	25
I.5. STARTING ACTIVITY	26
SOME NATIONAL CASES	27
I.6. THE FRENCH EXAMPLE	28
I.6.1. NATIONAL PARTICULARITIES	28

I.6.2.	LOCAL PARTICULARITIES	34
I.7.	THE PORTUGUESE EXAMPLE	36
I.8.	THE SPANISH EXAMPLE	41
I.8.1.	NATIONAL PARTICULARITIES	41
I.8.2.	LOCAL PARTICULARITIES	44
I.9.	THE CZECH EXAMPLE	57
I.9.1.	NATIONAL PARTICULARITIES	57
I.10.	THE ITALIAN EXAMPLE	61
I.10.1.	NATIONAL PARTICULARITIES	61
I.11.	THE BULGARIAN EXAMPLE	64
I.11.1.	NATIONAL PARTICULARITIES	64
I.12.	THE BRITISH EXAMPLE	68
I.12.1.	NATIONAL PARTICULARITIES	68
I.12.2.	LOCAL PARTICULARITIES	70
	CONCLUSION AND OUTCOMES	71
	BIBLIOGRAPHY	72
	APPENDIX	74
I.13.	APPENDIX 1 LIST OF JOB PROFILES.....	74
I.14.	APPENDIX 2 MARKET TRENDS	83

FOREWORD

In December 2008 the Renewable Energy Directive¹ was agreed by the European Parliament and the European Council. This Directive sets ambitious targets for each Member State with the aim of achieving a 20% share of renewable energy in Europe's final energy consumption by 2020. In terms of employment this policy will provide a net effect of about 410,000 additional jobs and a 0.24% additional gross domestic product (GDP) according to the European Commission's Directorate-General Energy and Transport².

However, one of the main barriers to this successful development of renewable energy and achieving the targets set across Europe is the availability of trained and skilled persons to allow and drive the necessary industry expansion. With two-third³ of the job market, small and medium-sized enterprises (SMEs) have a significant role to play in this dynamic process, in particular with the emergence of new technological start-ups. According to the Renewable Energy Directive, "production of energy from renewable sources often depends on local or regional small and medium-sized enterprises."

Linked to the SUNFLOWER project which promotes good practices in Renewable Energy Sources, this guide aims to provide a tool for creating a Start-up company in RES at the European level. It will help anyone who would like to enter the renewable energy job market in Europe to develop his/her own Start-up company thanks to an overall methodology and some general guidelines as well as national specificities all over Europe.

¹ DIRECTIVE 2009/28/EC of the European Parliament and of the Council

² The impact of renewable energy policy in economic growth and employment in the European Union, summary of the results of the Employ-RES research project

³ IDEM

GLOSSARY

The following definitions are used in this report:

Renewable Energy Sources (RES)

According to the Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001⁴:

- "Renewable Energy Sources" shall mean renewable non-fossil energy sources (wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases);
- "Biomass" shall mean the biodegradable fraction of products, waste, and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste.

Start-up Company

A start-up company is a newly created company coming under the field of new technologies. This is generally a fast-growing company in phase of development and research for markets. Most of successful start-up companies usually turn into traditionally managed companies.

Business Incubator

A Business Incubator⁵ is an economic and social development entity designed to advise potential start-up companies, help them to establish, and accelerate their growth and success through a comprehensive business assistance program.

⁴ Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001

⁵ Science Park and Innovation Center Association's Directory

EXECUTIVE SUMMARY

With the ambitious targets set by the Renewable Energy Directive of the European Parliament and the European Council, each Member State has to develop its renewable energy sector to achieve a 20% share of renewable energy in the final energy consumption by 2020⁶. This will have a consistent impact on employment, notably on the number of jobs and new companies. Among these companies, start-up companies are the most suitable to this particular development and this guidebook shall help future entrepreneurs to find their way in the dynamic sector of company creation in renewable energy sources.

The guide is composed of two different parts that follow all the creating process.

In the first part, an overall method, which can be implemented all over Europe, is described from the first idea to the start-up of the activity. In this part, every step is developed in order to help the entrepreneur to structure the actions by providing a complete legal-financial-trading frame. The purpose is to entitle high-degree graduated students wishing to create start-up companies in renewable energy to be aware of the creating process. It could give some ideas of development as well.

In the second part of this guidebook, the main objectives will be to provide detailed information and to help the future entrepreneur to fine-tune the project. From this perspective, national particularities of the creation process will be analysed in various country and synthesised to guide the future entrepreneur in the choice of the structure of the company.

KEY-WORDS: Start-up company, Renewable energy sources, Creating process

⁶ DIRECTIVE 2009/.../EC of the European Parliament and of the Council

INTRODUCTION

European trends in Renewable Energy Sources show a net increase in job creation all around European Union Member States. In terms of company creation, a consequent share of the renewable energy market is then available for new entrepreneurs. Among the targeted companies, start-up ones can play an important role in this dynamic process. Indeed they particularly suit to the complex specifications of the renewable energy market, which is an undergoing rapid change market, specialized in new technologies and with a local relevance.

The SUNFLOWER project is in line with the promotion, diffusion and installation of best practices in European countries. A main task in this project is helping the development of local companies in renewable energy and this guidebook aims to be a support mostly for high-degree graduated people who would like to enterprise. After presenting the methodology, we will tackle several issues. On one hand, the main steps will be explained in order to guide the future entrepreneur in the creation process. On the other hand, punctual helps as well as local data will enable the entrepreneur to get enough knowledge to take a decision. Finally, some case studies will help to illustrate the creation process while giving feedback from entrepreneurs.

METHODOLOGY OF THE REPORT

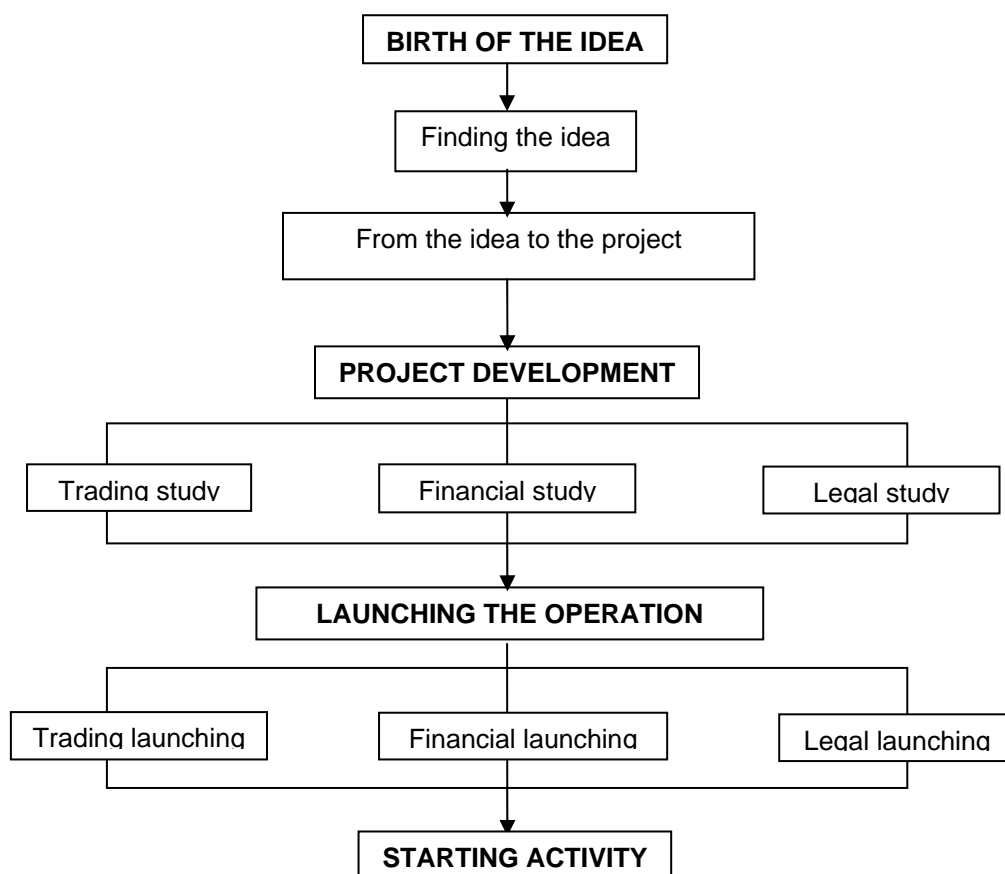
As far as it concerns renewable energy sources and the creation process a huge library work has been carried out in order to collect figures and data about market trends notably. It mainly deals with electronic documents since the targeted field is very dynamic and under constant evolution. Once data have been collected the next step was to synthesize and present them in a way that shall help the reader to easily find the information needed. In order to bring accurate examples another methodology has been used. Interviews with new entrepreneurs are indeed the best way to illustrate the methodology, providing a critical point of view, a realistic feedback and some useful advices. These ones are mentioned in the following report.

HOW TO CREATE A START-UP AT THE EUROPEAN LEVEL

I.1. INTRODUCTION

In this part the overall methodology to create a company at the European level will be described. All the process will be followed step by step from the birth of the idea to the beginning of the activity. Some steps are very different from one European country to another especially when it deals with financial and legal formalities. For that reason this particular steps will remain quite general in this first part and will be far more detailed in the second part which is about national cases and examples.

Organization chart



I.2. BIRTH OF THE IDEA

FINDING THE IDEA

- **PROFESSIONAL ENVIRONMENT**

In your professional environment you may have found some improvement of the products made by your company, of their production methods or their marketing. Creating your company will allow you to apply these ideas.

- **DAILY LIFE**

In your daily life you or your relationships may have felt some needs, or some difficulty to get such product or service close to your home. You may feel a lack of local service that you would be able to provide by creating a new company. This is particularly relevant when it deals with energy distribution which is a local issue by nature.

- **ECONOMIC TRENDS**

By reading economic or professional specialized press, by talking with people or by travelling you may discover new products, habits or trends that could be exploited at your own level. Innovation is deeply rooted in the renewable energy market but there are a lot of very simple ideas to implement from the production to the delivery.

FROM THE IDEA TO THE PROJECT

- **PRECISE YOUR IDEA**

You are then going to face your idea to its regulatory and economic environment to get a first draft of your project. You have to precisely define which products or services you are going to provide. To do that you can answer the following questions:

Which main products or services do you want to sell?

What needs are they satisfying?

What kind of supplementary products or services could you deliver?

What will be your difference from competitors?

Then make a list of your potential customers:

How have you identified them?

Why have you chosen those particular targets?

Where are they located?

Have you already tried out your idea on some of them?

To get a more accurate vision in terms of profession you can also have a look at the existing jobs you can find in renewable energy market (See APPENDIX 1⁷). This can help you to precise your idea and the type of company you want to create.

▪ CONSTRAINTS

- Product

Some constraints are directly linked to the product or the service you are going to deliver. As you are working in a field linked to sustainable development you may for instance take into account the ecological footprint of your activity. Or you have to be aware of the potential reluctance you might encounter by working with wind energy or biogas from landfill for instance.

- Market

Depending of the state of the market your action will be different. If the market is totally new you have to foresee important expenses for communicating and prospecting. On the contrary, if your market is already flooded you have to think about the way to make the difference from other competitors. If for instance the market is dominated by big companies, which could be the case when working with energy, you have to work on the way to compete them.

- Means

Depending of your activity you may face difficulties for recruiting competent workers because of a lack of adapted training. Even if the offer in renewable energy trainings is increasing, it is still very scattered and difficult to identify. If you are working with high-technology material you may face some supply difficulties as well.

⁷ Market trends: This appendix provides a synthesized overlook of the state and the trends of the employment market in the main renewable energy sources: wind, solar, hydropower and biomass.

▪ PERSONAL POINT

To check if you are ready to enterprise you must ask yourself if you have:

- The motivation?
- The personality?
- The ability?
- The time?
- The financial support?

Is your professional and personal environment positive toward your project?

In case that one or more questions would be negatively answered, try to wonder about the actions that could help you:

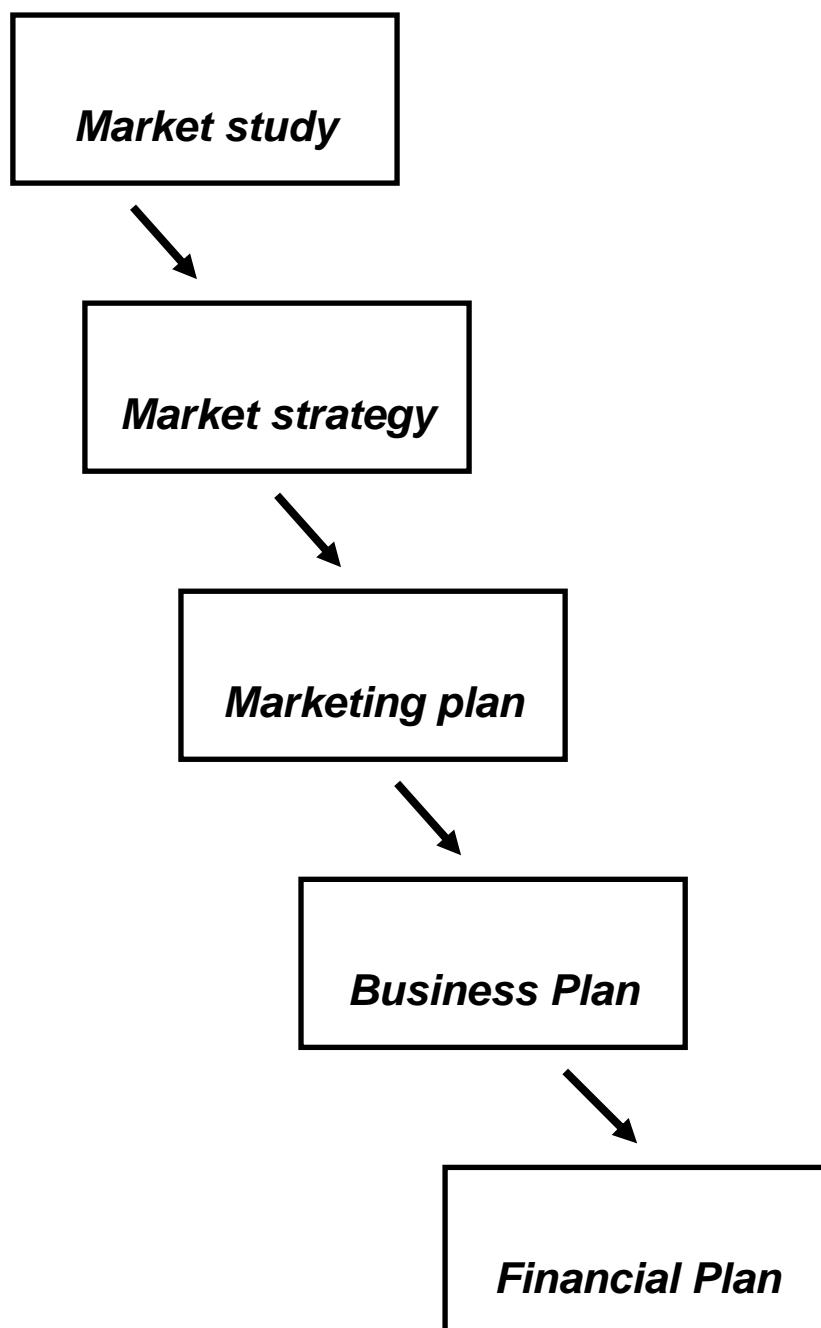
- To postpone or modify your project
- To get complementary training or experience.

Then, to be sure you are taking no chances you have to check if the following elements are coherent between themselves:

- The constraints peculiar to the project – they must remain manageable
- Your motivation
- Your goals
- Your know-how
- Your personal constraints.

I.3. PROJECT DEVELOPMENT

Project development includes 6 steps:



MARKET STUDY

1. Objective of the Research

One paragraph explanation of why the research is being done, what you hope to learn and for what purpose the information may be used

2. Description of the Market (See APPENDIX 2⁸)

- General Description - one paragraph

- Target Market(s)

Why this particular market(s) was chosen?

Who are they - complete profile (e.g., demographics, psychographics, behaviours)?

What benefits do they seek (i.e., what points-of-pain or problems are being solved)?

What factors can affect their purchase or use decision?

What attitudes do they have about the products/services currently or not currently offered?

How is the product used?

Products and Services that appeal to the target market?

In general terms (not particular brands) what is currently appealing to this market?

If there are no current providers, what types of products/services may appeal to this market (i.e., what is used now to solve the problem)?

3. Market Metrics

- Size estimates (current and future) for:

Overall market

Current size

Potential size

Actual penetration of current products/service within the total market

Market segments

Current size

Potential size

Actual penetration of current products/service within the total market

Usage rates

Frequency of product purchases

Growth estimates (current and future) for:

⁸ List of job profiles: This appendix will help you to get a quite exhaustive overview of the different professions you can exercise in each type of renewable energy source. Most of the profession listed require a high-degree diploma.

Overall market

4. Competitive Analysis

- Summary of Current Competitors

Listing by market share ranking (by each target market if possible)

Current Competitors - full analysis of top competitors including:

Products & Services (e.g., description, uniqueness, pricing, etc.)

Market share

Current customers

Positioning and promotion strategies

Partnerships/Alliances/Distributors

- Potential Competitors

Explanation (though not as detailed as Current Competitors) on who they are or maybe and why they are seen as potential competitors

5. Additional

- Extraneous Variables

Discuss factors that may affect this market (e.g., technological, social, governmental, competitive, etc.)

- Market Trends

What is expected to happen?

6. SWOT analysis

SWOT ANALYSIS

SWOT analysis is a **strategic planning** method used to evaluate the **Strengths**, **Weaknesses**, **Opportunities**, and **Threats** involved in a **project** or in a **business** venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective. The technique is credited to **Albert Humphrey**, who led a convention at Stanford University in the 1960s and 1970s using data from **Fortune 500** companies.

A SWOT analysis must first start with defining a desired end state or objective. A SWOT analysis may be incorporated into the strategic planning model. Strategic Planning has been the subject of much research.

- **Strengths:** characteristics of the business or team that give it an advantage over others in the industry.
- **Weaknesses:** are characteristics that place the firm at a disadvantage relative to others.
- **Opportunities:** *external* chances to make greater sales or profits in the environment.

A strength could be:

- Your specialist marketing expertise.
- A new, innovative product or service.
- Location of your business.
- Quality processes and procedures.
- Any other aspect of your business that adds value to your product or service.

A weakness could be:

- Lack of marketing expertise.
- Undifferentiated products or services (i.e. in relation to your competitors).
- Location of your business.
- Poor quality goods or services.
- Damaged reputation.

An opportunity could be:

- A developing market such as the Internet.
- Mergers, joint ventures or strategic alliances.
- Moving into new market segments that offer improved profits.
- A new international market.
- A market vacated by an ineffective competitor.

A threat could be:

- A new competitor in your home market.
- Price wars with competitors.
- A competitor has a new, innovative product or service.
- Competitors have superior access to channels of distribution.
- Taxation is introduced on your product or service.

MARKET STRATEGY

Market strategies may differ depending on the unique situation of the individual business. However there are a number of ways of categorizing some generic strategies. A brief description of the most common categorizing schemes is presented below:

- Strategies based on **market dominance** - In this scheme, firms are classified based on their market share or dominance of an industry. Typically there are four types of market dominance strategies:
 - Leader
 - Challenger
 - Follower
 - Nicher
- **Porter generic strategies** - strategy on the dimensions of strategic scope and strategic strength. Strategic scope refers to the market penetration while strategic strength refers to the firm's sustainable competitive advantage. The generic strategy framework (porter 1984) comprises two alternatives each with two alternative scopes.

These are *Differentiation* and *low-cost leadership* each with a dimension of *Focus*-broad or narrow.

- **Product differentiation** (broad)
- **Cost leadership** (broad)
- **Market segmentation** (narrow)
- Innovation strategies - This deals with the firm's rate of the new product development and **business model innovation**. It asks whether the company is on the cutting edge of technology and business innovation. There are three types:
 - **Pioneers**
 - Close followers
 - Late followers
- Growth strategies - In this scheme we ask the question, "How should the firm grow?" There are a number of different ways of answering that question, but the most common gives four answers:
 - Horizontal integration
 - Vertical integration
 - Diversification
 - Intensification

So what should my market strategy consist of?

- **The scope of the business:** the customer groups you serve, the benefits they are seeking and which you deliver, and the technology you use. This may provide you with

what some companies call a 'vision' or 'mission statement', a set of words explaining what your business is about and where it is going.

- **Marketing objectives:** eg market share, sales or market share growth, market entry, increase awareness, etc.
- **Target segments and positioning:** the specific customer groups or segments you are targeting and your business' position in those segments. For further information on segmenting and targeting customers see the Related Items section below for a link to the Factsheet: Segmentation, targeting and positioning.
- **Marketing mix:** the products, price, place (distribution) and promotion that you are using as 'marketing tools' to deliver benefits to your customers and beat competitors. Implementation: includes action plans, budgets, timescales and resources.

MARKETING MIX

Some commentators will increase the marketing mix to the **Five P's**, to include people. Others will increase the mix to **Seven P's**, to include **physical evidence** (such as uniforms, facilities, or livery) and **process** (i.e. the whole customer experience e.g. a visit the Disney World). The term was coined by Neil H. Borden in his article The Concept of the Marketing Mix in 1965.

Price

There are many ways to **price** a product. Let's have a look at some of them and try to understand the best policy/strategy in various situations.

Place

Another element of Neil H.Borden's Marketing Mix is **Place**. Place is also known as **channel, distribution, or intermediary**. It is the mechanism through which goods and/or services are moved from the manufacturer/ service provider to the user or consumer.

Product

- For many a **product** is simply the tangible, physical entity that they may be buying or selling. You buy a new car and that's the product - simple! Or maybe not. When you buy a car, is the product more complex than you first thought? **The Three Levels of a Product** . .
- **The Product Life Cycle (PLC)** is based upon the biological life cycle. For example, a seed is planted (introduction); it begins to sprout (growth); it shoots out leaves and puts down roots as it becomes an adult (maturity); after a long period as an adult the plant begins to shrink and die out (decline).
- **The Customer Life Cycle (CLC)** has obvious similarities with the Product Life Cycle (PLC). However, CLC focuses upon the creation of and delivery of lifetime value to the customer i.e. looks at the products or services that customers **NEED** throughout their lives.

Promotion

Another one of the 4P's is **promotion**. This includes all of the tools available to the marketer for 'marketing communication'. As with Neil H.Borden's marketing mix, marketing communications has its own 'promotions mix.' Think of it like a cake mix, the basic ingredients are always the same. However if you vary the amounts of one of the ingredients, the final outcome is different.

Physical Evidence

Physical Evidence is the material part of a service. Strictly speaking there are no physical attributes to a service, so a consumer tends to rely on material cues. There are many examples of physical evidence, including some of the following:

People

People are the most important element of any service or experience. Services tend to be produced and consumed at the same moment, and aspects of the customer experience are altered to meet the 'individual needs' of the person consuming it. .

Process

Process is another element of the extended marketing mix, or 7P's. There are a number of perceptions of the concept of process within the business and marketing literature. Some see processes as a means to achieve an outcome, for example - to achieve a 30% market share a company implements a marketing planning process.

MARKETING PLAN

In detail, a complete marketing plan typically includes:

1. Title page
2. **Executive Summary**
3. Current Situation - **Macroenvironment**
 - o economy
 - o legal
 - o government
 - o technology
 - o ecological
 - o sociocultural
 - o supply chain
4. Current Situation - **Market Analysis**
 - o market definition
 - o market size
 - o **market segmentation**
 - o industry structure and strategic groupings
 - o **Porter 5 forces analysis**

- competition and market share
- **competitors' strengths and weaknesses**
- market trends
- 5. Current Situation - Consumer Analysis ^[5]
 - nature of the buying decision
 - participants
 - **demographics**
 - psychographics
 - buyer motivation and expectations
 - loyalty segments
- 6. Current Situation - Internal
 - company resources
 - financial
 - people
 - time
 - skills
 - objectives
 - mission statement and vision statement
 - corporate objectives
 - financial objective
 - marketing objectives
 - long term objectives
 - description of the basic business philosophy
 - corporate culture
- 7. Summary of Situation Analysis
 - external threats
 - external opportunities
 - internal strengths
 - internal weaknesses
 - **Critical success factors** in the industry
 - our **sustainable competitive advantage**
- 8. **Marketing research**
 - information requirements
 - research methodology
 - research results
- 9. Marketing Strategy - **Product**
 - **product mix**
 - product strengths and weaknesses
 - **perceptual mapping**
 - **product life cycle management** and **new product development**
 - **Brand name**, brand image, and **brand equity**
 - the **augmented product**
 - product **portfolio** analysis
 - **B.C.G. Analysis**
 - **contribution margin analysis**
 - **G.E. Multi Factoral analysis**
 - **Quality Function Deployment**
- 10. Marketing Strategy - **segmented** marketing actions and **market share** objectives
 - by product,
 - by customer segment,
 - by geographical market,
 - by distribution channel.
- 11. Marketing Strategy - **Price**
 - **pricing objectives**
 - pricing method (e.g.: cost plus, demand based, or competitor indexing)

- pricing strategy (e.g.: skimming, or penetration)
- **discounts and allowances**
- **price elasticity** and customer sensitivity
- **price zoning**
- **break even analysis** at various prices
- 12. Marketing Strategy - **promotion**
 - promotional goals
 - **promotional mix**
 - **advertising** reach, frequency, flights, theme, and media
 - **sales force** requirements, techniques, and management
 - **sales promotion**
 - **publicity** and **public relations**
 - electronic promotion (e.g.: **Web**, or **telephone**)
 - **word of mouth marketing** (buzz)
 - **viral marketing**
- 13. Marketing Strategy - **Distribution**
 - geographical coverage
 - distribution channels
 - physical distribution and logistics
 - electronic distribution
- 14. Implementation
 - personnel requirements
 - assign responsibilities
 - give **incentives**
 - training on selling methods
 - financial requirements
 - **management information systems** requirements
 - month-by-month agenda
 - **PERT** or **critical path analysis**
 - monitoring results and benchmarks
 - adjustment mechanism
 - contingencies (What if's)
- 15. Financial Summary
 - assumptions
 - pro-forma monthly income statement
 - **contribution margin analysis**
 - breakeven analysis
 - **Monte Carlo method**
 - ISI: Internet Strategic Intelligence
- 16. Scenarios
 - Prediction of Future Scenarios
 - Plan of Action for each Scenario
- 17. Appendix
 - pictures and specifications of the new product
 - results from research already completed

BUSINESS PLAN

Title Page:

Table of Contents:

Executive Summary: The executive summary should be a one to two page overview of the information contained in the research report. It should give the reader an easy reference, in very brief form, to the important information contained in the report and explained in more detail in the body of the report. People attending a presentation of research or reading the report will use this section as a reference during presentations and as a synopsis of the research done.

Introduction:

The introduction should contain a brief overview of the problem being addressed and the background information needed for the reader to understand the work being done and the reasoning behind it. After reading the introduction, the reader should know exactly what the report is about, why the research was conducted, and how this research adds to the knowledge that the reader may have about the topic.

Secondary Research:

This section will contain all of the information that was collected through review of existing information. The importance of the secondary information as it pertains to the problem being researched must be made clear to the reader. Conclusions should be drawn in a logical fashion and insight into how these conclusions will be used throughout the rest of the research agenda should be provided.

Qualitative Research (if used):

- An overview of the issues that were included in this research
- Why these issues were salient
- How the discussion guide was developed
- A description (not identification) of the participants
- Discussion of the information collected (using quotes to highlight important points)
- Conclusions based on the collected information
- Clear explanation of how the conclusions are based on the research done
- How these conclusions will contribute to the rest of the research project

Experimentation (if used):

- Identification and description of the variables included in the experiment
- Clear statement of the hypothesized relationships between or among the variables
- Explanation of how the variables were measured
- Discussion of reliability and validity of the measurements
- Clear explanation of the treatment being used
- Conditions under which the experiment was conducted
- Description (not identification) of the subjects
- Description of data collection
- Analysis of data, including details of procedures used and statistical significance
- Conclusions clearly based on data analysis
- How these conclusions will contribute to the rest of the research project

Observation (if used):

If observation was a part of the research project, you will need to explain several things to the reader or attendee at your presentation starting with why this method is appropriate for your research goals. In addition, the following topics should all be part of the final report:

- Explanation of why observation was appropriate
- Location and conditions under which observation was conducted
- Description of the population observed
- The recording methods used
- Methods used to interpret observed behaviors
- Conclusions drawn from observation
- Explanation of bases for those conclusions
- How these conclusions will contribute to the rest of the research project

Survey Research: This is the section that should be pulling together all of the other issues that were identified in the research steps that were conducted previously. The connections to the issues and constructs identified earlier should be made again here so that they reader can easily see the foundations that are being used. Many issues will have to be addressed in this section regarding how the survey was developed and how it was administered. Topics discussed in this section should include:

- Identification of all issues included on the survey
- Explanation of the importance of the selected issues to project
- Development of the survey questions and wording
- Sources of survey questions (existing scales or newly created)
- Description of population of interest
- Explanation of target population appropriateness
- Determination of sample size needed
- Sampling procedures (random or convenience)
- Determination of the sample population
- Method of survey distribution

Data Analysis:

- Overview of analysis methods used
- Justification for methods chosen
- Outcomes of analysis
- Significance of results (statistical and otherwise)

Findings:

- Findings based only on results of the research not speculation
- In-depth explanation of all major findings
- Clear presentation of support for the findings

Limitations:**Conclusions and Recommendations:**

References:

Appendices:

FINANCIAL PLAN

In general usage, a **financial plan** can be :

a **budget**, a plan for spending and **saving** future **income**. This plan allocates future income to various types of **expenses**, such as rent or utilities, and also reserves some income for short-term and long-term savings.

an **investment** plan, which allocates savings to various **assets** or projects expected to produce future income, such as a new business or product line, **shares** in an existing business, or real estate.

the three primary **financial statements** : **balance sheet**, **income statement**, and **cash flow statement**

a **financial forecast** or an annual projection of income and expenses for a company, division or department.

An estimation of **cash flow needs** and a decision on how to raise the cash, such as through borrowing or issuing additional shares in a company.

estimating future income, expenses and assets,

the **financial tools** by which cash will be acquired to cover future expenses, for instance through earning, borrowing or using saved cash.

I.4. LAUNCHING THE OPERATION

This administrative step can differ from one country to another and will thus be detailed in the second part of this guidebook, for each country.

LEGAL LAUNCHING

Many formalities have to be filled in the legal step of the creation. Indeed you have to register your company to a company creation body. Diverse documents are needed depending of the type of company you have chosen and the country you are living in. The creation process costs may also differ according to the type of company and your activity.

FINANCIAL LAUNCHING

Insofar as your financial study has shown that you needed mid and long-term bank loans, you will have to start the financial process by opening a bank account and getting your loans. You thus have to give a presentation file to your banker in order to present the project to him and win his trust.

The following elements have to be included in the file:

- Presentation of the creator(s)
- Product/service's description
- Market study
- Financial forecasts
- Loan demand's subject
- Asked sum
- Proposed guarantee.

The same file can be useful to ask for company creation aids that will be presented, country by country, in the second part of this guidebook.

TRADING LAUNCHING

At this point, your goal is to materialize your customers' relationship as you have already thought about when developing your project. Your economic activity will be the driving force of the launching step. Your first contract will thus be the main event of this step by fastening the current procedures with psychological impact over your financial suppliers. It will also reinsure your credibility to get some helps.

I.5. STARTING ACTIVITY

Most of the companies that face difficulties in their first financial year have also management problems coming from:

- A lack of personal capital that weakens the company when its growth is faster than it was forecasted. It leads to a lack of working capital fund and longer payment delays.
- Fixed charges too high in comparison to the turnover.

In order to maintain the potential of the newly created business there are some management principles to respect. The reference basis must always remain the forecasting plan that has been carefully prepared and that allows to check the project's coherence.

The following principles have to be applied:

- Limit your fixed costs
- Master your factory costs
- Monitor your customers and suppliers' positions
- Control your quality
- Take care of your stock
- Monitor your commercial policy's implementation
- Control your investments

To be sure you are controlling your company's growth you have to set in place a constant monitoring of your actions in comparison to your forecasting plan. You can do it with the help of indicators that show the differences between actions and forecasts or the evolution.

You have to build indicators that will be:

- Simple: they have to be useful tools and not a supplementary burden.
- Significant: they have to be a controlling tool of your key points and your economic growth
- Coherent: you will have to compare your results between similar periods and use the same elements from one period to another.

SOME NATIONAL CASES

After having presented the overall method to create a start-up company in Europe, there are some national precisions to add. They are related either to the creation process itself or to local opportunities which can be assessed thanks to an opportunities' indicator.

The creation process has revealed some national particularities that cannot be developed at the European level. This is particularly true for financial helps, legal structures, the administrative step and business incubators. Indeed, since financial helps are mainly state ones they cannot be gathered at a higher level. The same problem occurs with company's legal structures which slightly differ from one country to another and do not have the same name even if they look quite similar. The administrative registration process can only be described at a national level because it is very specific to each country as well. Finally, even if business incubators exist in many countries, their functions are not exactly the same everywhere.

I.6. THE FRENCH EXAMPLE

I.6.1. NATIONAL PARTICULARITIES

In this chapter will be listed some particularities like national financial helps, French companies' legal structures and institutions to contact during the administrative step.

▪ FINANCIAL HELPS

There are numerous public helps for company creation. These plans are set in place by the state or by the local authorities and they have different forms:

- Financial helps
- Tax relief
- Social costs exemptions
- Consulting helps...

These helps depend of the type of the project. They may depend of the location or be linked to your current status. Below are listed the main financial helps⁹ according to the plan they are related to.

Help type	Plan	Nature	Contact
State helps	Compensated job-seekers	Enables the applicant either to receive a starting capital or to continue getting unemployment benefits while creating a company	Job centre (Pôle Emploi)
	Assistance for unemployed persons wishing to create, or takeover, a company (ACCRE)	1-or-3-years exemption of social costs according to the situation	Appropriate Business Formalities Centre (CFE)
	Plan for salaried creators	1-year exemption of social costs	Social security contribution collection office (URSSAF)

⁹ APCE, Guide pratique du créateur, 2009

			RSI Pension fund for the liberal professions (CNAVPL)
	Company settlement's incentive	Land settlement allowance Social costs exemption in Urban Regeneration Zones (ZRU) and Urban free trade zones (ZFU) Tax exemption on benefits in ZFU Local tax exemptions	Inter-ministerial delegate for the development and competitiveness of territories (DIACT)
	Tax relief	Tax cut Loan interests deduction	Tax Collective Office (SIE)
	Financial helps	NACRE: Company Creation Assistance Organization OSEO: Company Creation and Innovation Support Company Creation Loan (PCE)	Departmental work and employment office (DDTEFP) OSEO OSEO/Banks
Local helps (regional, departmental and municipal)	<p>Depending on the location you are establishing your company, financial helps may differ. You can ask helps from your region, department and city. They may be:</p> <ul style="list-style-type: none"> • Allocations • Interests' bonus • Business tax exemptions • Local tax exemptions 		

▪ LEGAL STRUCTURES

Setting up a company in France requires the drafting of by-laws and certain registration formalities. It also involves, in the first place, making a choice as to the type of company that will be created. The three main types of companies are shortly described below even if the first one is the most suitable to start-up companies.

The SARL (Limited Liability Company)

The SARL is the most common type of corporation for smaller businesses. It is a limited liability company, which means that the liability of its shareholders is limited to their contribution (except in certain limited circumstances). The minimum share capital amounts to one Euro (except for certain regulated activities), although it must be noted that an SARL with such a small share capital may find it difficult to conduct its business activities in France without further guarantees.

The SARL is managed by one or several managers appointed by the shareholders' meeting, with the broadest powers to represent the company. The shareholders decide over

- the appointment of the manager(s),
- the distribution of dividends,
- changes in the by-laws,
- yearly financial statements.

As a general rule, decisions of the shareholders require a simple majority vote, and a three quarter majority vote for amending the by-laws.

The assignment of SARL shares to a third party that is not already a shareholder requires the prior consent of a majority of shareholders representing at least the half of the company's capital. If such consent is denied, the assignment may be cancelled, the other shareholders of the company may acquire the shares or arrange for their acquisition by another person, or the company may purchase the shares itself and subsequently reduce its share capital.

The SA (Limited Liability Company)

The SA is more commonly used for significant businesses. Its minimum share capital amounts to Euro 37,000 (and Euro 225,000 for listed companies) and it must have a minimum of 7 shareholders.

As concerns the management of the company, two options are available:

- a board of directors of 3 to 18 members, who are shareholders designated by the shareholders, whereby the chairman of the board is the legal representative of the company (he may or may not combine this function with that of executive manager,
- a supervisory board of 3 to 18 members designated by the shareholders and a Directorate of 2 to 5 members designated by the supervisory board. In the latter case, the Directorate collectively manages the company.

Shareholder votes require, as a general rule, a simple majority (and a majority of two-thirds for amending the by-laws) and a quorum of one-fourth of the company's shareholders (one-third for extraordinary general meetings), but a second meeting may be called in case the quorum is not obtained.

Significant differences with the SARL are in particular:

- the possibility of listing the company on a stock exchange,
- the requirement of appointing a certified auditor,
- the fact that shares can be sold, as a general rule, without the consent of the other shareholders,
- the fact that the management can be very easily dismissed.

The SAS (Simplified Limited Liability Company)

The SAS is similar to the SA in certain ways. Its minimum share capital amounts to Euro 37,000. It is possible for an SAS to have only one shareholder. It cannot be listed on a stock exchange.

The main significant difference with the SA is that there is a great flexibility for the definition of powers within the SAS. The by-laws can organize any type of management structure (provided that there is a President with the function of legal representative of the company and the shareholders decide over certain specific issues listed in the law) and can contain specific provisions as to the modalities of share transfers and assignments, and even the exclusion of a shareholder.

▪ ADMINISTRATIVE STEP

There are two main steps in this process.

The first one consists in declaring your activity and asking for your registration at:

- The State Companies' Directory (Répertoire National des Entreprises or RNE)
- The Registry of Commerce and Companies (Registre du Commerce et des Sociétés or RCS)
- The Trade Directory (Répertoire des Métiers or RM) for traditional handcraft activities.

The law of modernization of economy (4th of august, 2008) established the exemption from registering the company at the Registry of Commerce and Companies and at the Trade Directory for micro-entrepreneurs who have a trading or traditional hand-craft activity and who have chosen the new micro-social system. From January 2009 auto-entrepreneurs only have to declare their activity at the appropriate Business Formalities Centre.

The second step consists in contacting the services necessary to your company, that is to say tax services social bodies in general.

There is a single office in charge of all these steps: the Business Formalities Centre (Centre des Formalités des Entreprises, CFE). Once your company registered you will get:

- A single SIREN number and one or more SIRET numbers
- A code of activity named APE (Company's main activity)
- A single identification number (from the SIREN number) for relationships with public bodies and services

The table below presents the main Business Formalities Centres related to renewable energy companies:

Business Formalities Centre	For who?
Chambre de commerce et d'industrie	Trading companies without any handcraft activity
Chambre de métiers et de l'artisanat	Traditional handcraft companies
Chambre d'agriculture	Farming companies

▪ BUSINESS INCUBATORS

A business incubator is a supporting structure for innovative companies' creation projects. It consists in an active process that validates and helps the development of emerging projects. This validation is realized by assessing the technological feasibility, the economic reality and the team's entrepreneurial qualities. The aim is to give birth to a long-term profitable and perennial company. There are three different types of business incubators in France:

- State incubators:¹⁰

They essentially refer to incubators supported by the ministry of research. Their goal is to favour the creation of innovative companies from results from the public research or in relation with it. As a consequence they only host projects from, or linked to, the public research and they are located in scientific sites or nearby in order to maintain narrow relationships with laboratories. They have been mainly created by higher education and research institutions within the framework of the research and innovation law of 1999 which enables academics and researchers to create a start-up company and to register a patent.

- Public or semi-public incubators:

- Student incubators¹¹

These incubators are open to students from every syllabus but reserved to last years' students. They are frequently used by outsiders and former students who have to apply with a prior project. The projects' accompaniment is realized by several categories of persons included professors and most of the time by outside partners (consultants, banks, public institutions...) as well.

- Research bodies' incubators
- Local development-related incubators (regional or departmental incubators)

- Corporate incubators

They are created at the initiative of big companies (industrials or service providers) in order to diversify their offer. Indeed they yearn to adapt their activities to the new economic world and to use new technologies and scientific discoveries. Favouring the emergence of start-up companies thus allow them to promote the natural development of their activities or to branch out in subsidiary activities.

¹⁰ <http://www.enseignementsup-recherche.gouv.fr/cid5739/les-incubateurs-d-entreprises-innovantes-lies-a-la-recherche-publique.html>

¹¹ CERAM, Les incubateurs étudiants dans les établissements d'enseignement supérieur en France, 2005

I.6.2. LOCAL PARTICULARITIES

In this chapter we will provide an example of a strategy developed by an urban community in France: the urban community of La Rochelle. On one hand, the overall strategy toward renewable energy related companies will be presented, and, on the other hand, a comparison between two examples of successful young start-up companies will be established.

▪ URBAN COMMUNITY OF LA ROCHELLE

The Urban Community of La Rochelle offers personalised consultancy to new entrepreneurs:

Goal: provide organised, active support on an ongoing basis. Bi-quarterly visits to discuss any financial or legal problems and training, recruitment or communications needs.

Originality: available at all times to find local players with the relevant answers. Proactive, thoroughly familiar with the local economic fabric, experienced in finding partners and recruiting staff.

Added benefits: active partnership with the local networks - players in economic development, Business Clubs, professionals in higher education courses of study.

Their action toward new companies in renewable energy fields is very structured and diverse as well:

Networking of local actors with thematic working groups to favour partnerships and transfer of skills and technologies:

- **Technological innovation:** Promotion of research works and calling up for other scientific abilities from higher educational institutions. The aim is to favour and accelerate the setting up of innovative solutions that allow a cut in energy consumption in housing, transportation and industry.
- **Quality:** Creation of a commitment charter in order to ensure the environmental quality of the works. This charter is to be proposed to local communities and to clients. The work, that is being done, consists in identifying the criteria and the levels of performance.
- **Training:** Identification of the training needs according to specific technical skills and setting up of relevant training curriculum, in concert with professional training actors.

Key resource in RES within the economic development to help companies' welcome, establishment and development on the territory:

- Coordination of working groups from the network of actors
- Diffusion of sectored information to local actors
- Canvassing, welcoming and networking of exogenous projects
- Companies' help and accompaniment

Organization of yearly professional meetings: During roundtable conferences, national and European experts present the regulatory and technological evolutions as well as exemplary projects, to a panel of companies from the field. These meetings contribute to the networking of actors and favour the collaborations.

Creation of specific sites of establishment to welcome companies of the field and companies that have an eco-building project.

The urban community of La Rochelle has identified local trends and needs that seem to follow a general scheme. Indeed, for one year and a half, local companies have reversed their offer from solar thermal panels to photovoltaics. This new trend is the result of a combination of many reasons: state helps for photovoltaics, 20-years guaranteed and attractive buy-back rate for electricity, dissuasive price of solar water-heaters, etc. But the Urban Community of La Rochelle is also warning the companies which do not diversify their offer; that the trend shall reverse one again, to eventually balance the market between photovoltaics and solar thermal. It also seems that there is a lack of companies that work with an environmentally global approach.

I.7. THE PORTUGUESE EXAMPLE

General Information

An introduction to, and explanation of the necessary steps to starting a business in Portugal. It includes information on the different types of business structure and the legal process involved in setting up a Portuguese business. The process of setting up a business in Portugal has recently been simplified, and in many cases may be done in a single day.

▪ WHO CAN SET UP A BUSINESS IN PORTUGAL?

Both Portuguese nationals and foreigners may set up a business through the intermediary of a lawyer, solicitor or notary in the possession of a digital certificate. There are no restrictions on foreigners setting up a company in Portugal, as long as they are legal residents and have the necessary work permits and minimum capital investment to do so.

They must have:

- A Residency Card (Cartão de Residência) issued by the Portuguese Immigration Service or SEF (Serviços de Estrangeiros e Fronteiras)
- A Tax Number (Numero Fiscal de Contribuinte), whether the process of starting up the business has begun or not, those intending to work need to be registered for tax purposes
- A Social Security Number (Cartão de Segurança Social): register at the Social Security Office (Repartição de Segurança Social). All foreign nationals intending to stay in Portugal over 180 days and work have to pay social security

▪ TYPES OF COMPANY

There are four types of company that may be set up in Portugal. The first two of these are the most common.

- **Private limited liability companies (Sociedade por Quotas, LDA):** require at least two partners, although there are Sociedade Unipessoal por Quotas, which have a single partner (either an individual or a collective entity). The corporate entity (and not the individual) is responsible for any company liabilities. There is a minimum capital investment of €5,000

- **Public limited companies (Sociedade Anónima SA Corporation):** requires at least five shareholders, unless one of the shareholders is the State, in which case only two shareholders are needed. The corporate entity (and not the individual) is responsible for any company liabilities
- **Limited co-partnership companies (Sociedade em Comandita, SC):** These businesses have two categories of partners: Dormant partners (Sócios Comanditárias) whose liability is limited to the amount of their shares and Full partners (Sócios Comanditados) who are liable for any company debts
- **General partnership companies (Sociedade em Nome Collectivo, SNC):** partners will bear unlimited liability for any company debts

Steps to Starting a Business

▪ PRELIMINARIES

There are many organisations that can offer advice or help with starting a business. These include local Municipal Councils, local Citizen's Shops (Loja do Cidadão) and local employment services. Some towns and cities have what are known as Business Formality Centres (Centros de Formalidades das Empresas, CFE), designed to facilitate the setting up of businesses. CFEs can inform entrepreneurs about exactly what documents are necessary, can advise on the best company structure, explain the complete set-up procedure and provide contacts with appropriate government bodies. While not legally essential it is useful to employ the services of a Portuguese business broker (Despachante) to help deal with administrative procedure. It may also be necessary to get an accountant (Contabilista) and a lawyer (Advogado). A business bank account (Conta Bancária) is required with clear indications as to who can issue and sign cheques.

▪ CHOOSE A NAME FOR THE COMPANY

Any proposed name can be checked against a computer database. If the name has not already been taken that name can be registered via a Validation Certificate (Certificado de Admissibilidade) issued by the National Registry of Companies (Registo Nacional de Pessoas Colectivas or RNPC).

▪ SETTING UP THE COMPANY

- Apply for a Validation Certificate (Certificado de Admissibilidade) and for a Provisional Company Identity Card (Cartão Provisorio de Pessoa Colectiva) from the Registo Nacional de Pessoas Colectivas, RNPC

- Sign the deed of incorporation at a notary
- Apply for a Start of Activity Declaration (Declaração de Início de Actividade para Efeitos Fiscais) at the Tax Office (Direcção-Geral dos Impostos - DGCI). This must be done within 90 days of the Provisional Company Identity Card being issued
- Apply for registration of the company at the local Commercial Registry (Conservatórias do Registo Comercial), the registry will then organise the company's publication in the Portuguese Official Journal (Diário da República).
- Register at the local Social Security regional centre
- Register with the Commercial or Industrial Records Office (Cadastro Comercial or Industrial) at the Directorate-General of Enterprise (DGE) or the local regional office of the Ministry of Economy within 30 days
- A person or collective, either national or foreign or a mixture of the two can create a business online or at any one of a number of One-Stop-Shops (Centros de Formalidades das Empresas) (Company Formalities Centres) or Conservatórias do Registo Comercial (Commercial Registries) in Lisbon and throughout the country in just one day.

▪ **ONLINE COMPANY REGISTRATION**

The special online regime allows the creation of a company through the Internet and can be used both by individuals or collectives with an appropriate electronic certificate. It will be necessary to have a Digital Certificate. This is a digital identification document, rather like the new digital passports and identity cards. It means that each of the partners (sócios) and solicitors involved can present their credentials in a digital format including a digital signature in order to prove their identities. The online company incorporation is made through the Empresa Online website. The National Registry of Companies (RNPC) is responsible for the process, regardless of where the company's head office is located.

Within this special regime applicants may choose a pre-approved and registered company by electronic means only or by sending a Certificate of Admissibility (Certificado de Admissibilidade) previously obtained from the RNPC by non-electronic means. Company registration is immediate if the applicants choose one of the pre-approved social pacts or deeds of incorporation. If the applicants decide to submit their own social pacts and deeds of incorporation registration takes two days.

▪ **CREATE A COMPANY IN AN HOUR**

Commercial and civil limited companies (unipersonal, anonymous, quotas, co-partnership) may use the Government's Create a Company in an Hour (Empresa na Hora)

scheme. This is done through the RNPC at any branch of a Centro de Formalidades das Empresas (CFE) or Conservatória de Registo Comercial. Ideally, all the partners should be present, with all their legal representatives and personal and collective documents. The CFE will take all the necessary information and inform the Employment & Social Security Office (Inspeção-Geral do Trabalho & Segurança Social), the Tax Authorities (Direcção-Geral das Finanças) and the Commercial or Industrial Records Office (Cadastro Comercial or Industrial). There are representatives from all these departments in the CFE offices and they have all the necessary forms. A fee is charged, plus 0.4 percent stamp duty (Imposto de Selo).

▪ **COMPANY DEEDS**

In many cases company partners no longer have to obtain in advance a Certificate of Company Admissibility from the Registry of Companies (RNPC) or sign public deeds (Escrituras). The Deeds of Incorporation or Association (Escritura Publica) can be signed in the presence of a notary (Notário). A copy of the company's articles of association and contract (Pacto Social e Certidão do Registo Comercial) can be submitted for evaluation and archiving. If there are deeds they should include the following information:

- Identification of the partners/shareholders
- Name and type of company (Limitada, etc)
- Activities of the company
- Head office of the company
- Share capital of the company
- Each shareholder's/partner's capital share in the company
- All assets that form the share capital in kind and cash

Once the company deeds are signed and all other procedures have been carried out (tax and social security), the deeds are sent to the local Conservatória do Registo Comercial in the area where the business is located. It is their responsibility to ensure the final registration of the company with the RNPC and its publication in the Diário da Republica.

▪ **AFTER REGISTRATION**

- Inform the IDICT (Supervisory Entity for Working Matters) about the number of employees and managers at the company and the places where they work and timetable of working hours.

- The company must get two sets of company account ledgers: an inventory and balance book (Inventário/Balanço) and a diary/ledger book (Diário/Razão)
- Register the Shareholders Meeting Book (Company Minutes) at the Conservatória do Registo Comercial in order to get a document called a Termo de Abertura e Encerramento (Opening and Closing statements)
- Take out compulsory employees' accident insurance at a private insurer. This covers all salaried workers and managers

References

<http://lisbon.angloinfo.com/countries/portugal/business.asp>

I.8. THE SPANISH EXAMPLE

I.8.1. NATIONAL PARTICULARITIES

▪ CHOOSE A NAME FOR YOUR BUSINESS

A good business name is your business's first asset in Spain. You can choose to register your business name with Spain's Business Name Registry (Registro del Nombre Comercial), which in theory gives the name holder the exclusive right to use that name for commercial purposes. Business name registration is optional and is handled by the Industrial Property Registry (Registro de la Propiedad Industrial). When you register a business name, you will need to provide proof of registration for IAE tax (Impuesto de Actividades Económicas).

The various societies can have a brand or commercial name different from their official business name. (See Companies in Spain: The Types of Business Entities for Companies in Spain for more information on societies.)

▪ CHOOSE A LEGAL BUSINESS STRUCTURE

Spain offers several legal business structures, also known as business entities, to suit a variety of needs, each one with a different set of legal and fiscal responsibilities. Choosing the right one is important to accommodate your business-to-business present and future goals. The legal business structures in Spain are:

- Sole Trader or Sole Proprietor (Empresario Individual or Autónomo)
- Comunidad de Bienes (C.B.)
- Partnership (Sociedad Civil)
- Public Limited Company, or Corporation (Sociedad Anónima or S.A.)
- Limited Liability Company (Sociedad de Responsabilidad Limitada, S.R.L., or S.L.)
- New Enterprise Limited Company (Sociedad Limitada Nueva Empresa)
- Worker-Owned Company (Sociedad Laboral)
- General Partnership (Sociedad Colectiva)
- Limited Partnership (Sociedad Comanditaria)
- Cooperative (Sociedad Cooperativa)

▪ FIND FINANCING

- Personal Financing

Especially for low-capital intensive small businesses, dipping into your savings (or asking friends or family for gifts or loans) might possibly be the shortest and best route to getting your business started.

- Loans

Available for residents and non-residents alike, loan conditions vary according to the size of the loan needed (or if it's considered a microloan), the amount of collateral, the financial institution and other factors. You may be required to pay the loan back in as little as three years or in some cases as many as fifteen. Payments could be required monthly, quarterly or semester. Check with Spain's ICO (Instituto de Crédito Oficial, in English and Spanish) or any major bank (banco) or savings bank (caja de ahorros). Just be sure to shop around.

- Grants

Grants are available to new and existing businesses on the municipal, provincial, regional, national and European Union level. Grant conditions vary widely, but grants are commonly available for businesses in certain industries or sectors, creating employment in particular areas or employing certain disadvantaged populations. Check with your municipal, provincial and regional government, or your local Chamber of Commerce, for available grants. Check DGPYME (Dirección General de Política de la Pequeña y Mediana Empresa) for Spanish grants and Guide for European Union grants.

- Angel Investors or Business Angels

Angel investors are private investors who invest in new or existing businesses for a variety of personal or financial reasons. But angel or not, angel investors expect a good return on their investment like any financial institution would. The advantage of an angel investor is that investment conditions, and the amount of risk they are willing to assume, vary widely. Sometimes when a bank turns you down for a loan, an angel investor might just come to your rescue. Check with the Spanish Business Angels Network (Red Española de Business Angels).

- Lines of credit (Cuenta de crédito or póliza de crédito)

A line of credit during the start-up phase can be considered a peace of mind loan for those extra unanticipated costs (which there will be and you should plan for, by the way). You pay interest on the borrowed money when you need it, and a commission for the privilege of having a line of credit when you don't. Interest rates can be fixed or variable and terms are often for one year.

▪ **SECURE LICENSES AND PERMITS**

You'll need licenses and permits from your respective municipal and regional governments. Check with your local municipality for the latest requirements. To get an idea of what may be required, in the city of Madrid for example, a license (licencia urbanística) must be obtained if you intend to build, change, renovate or demolish anything (interior or exterior) where you will conduct your business. License fees vary depending on what exactly you're doing and how many square meters you're doing it in. Current fees in Madrid range from €50 to upwards of €1,500.

Then there's the opening license (licencia de apertura), which may include the submission of floor plans indicating all installations OR an official Technical Project that details such things as what the market rate for the equipment you're going to use is, and other such documents. If you've bought the location where you're going to set up your business, then Madrid also requires you to register at the "Registro de la Propiedad Inmobiliaria". On a regional level in Madrid Municipality, certain business activities are required to obtain activity-specific licenses, such as travel agencies, tattoo parlours, auto body repair shops, etc. Some licenses you will have to pay a fee for.

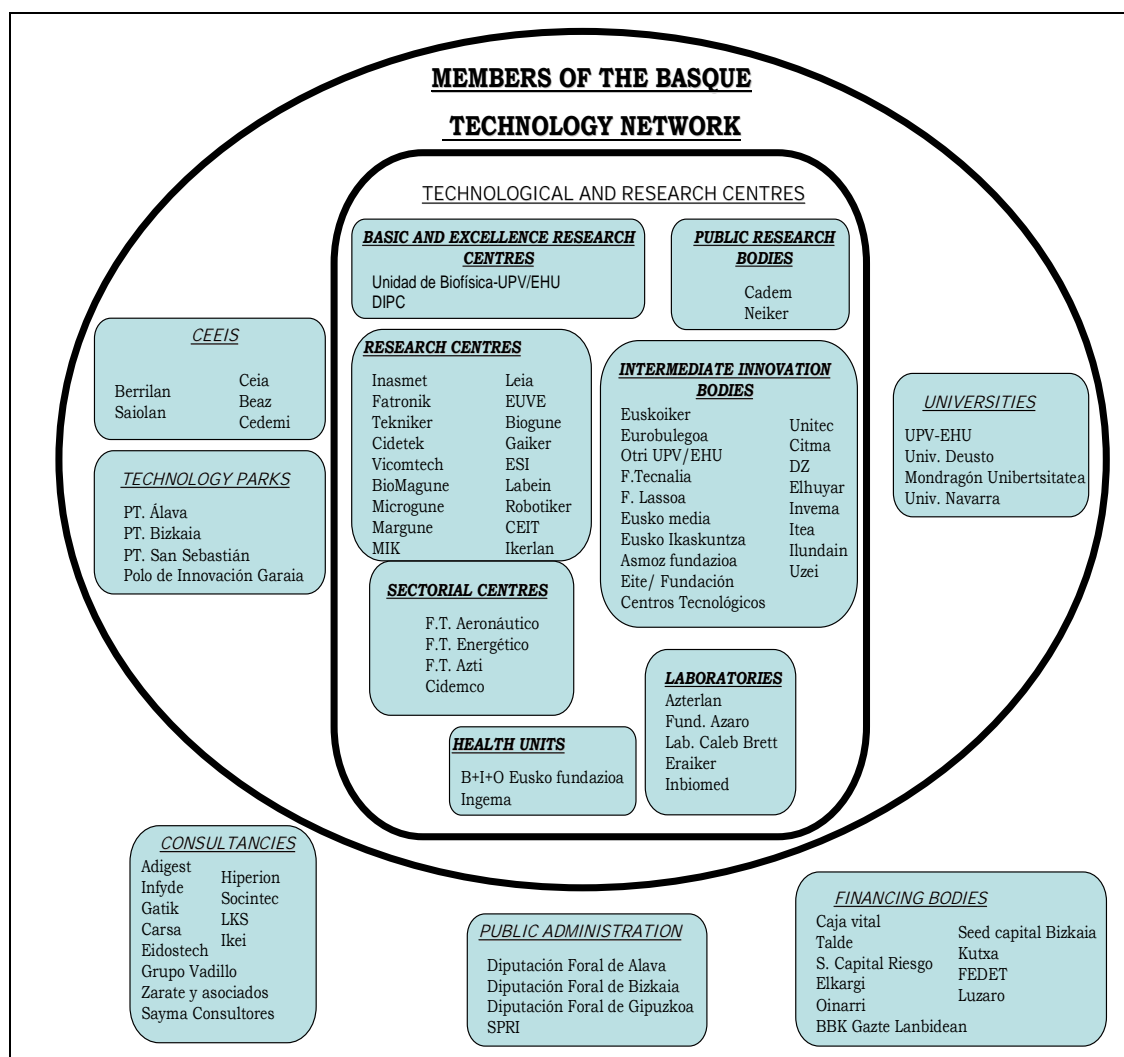
Depending on what your proposed business is, other types of licenses may be required as well.

Not a license per se, you should also be prepared to charge Value Added Tax on goods and services (Impuesto sobre el Valor Añadido, IVA), which ranges from 4-16%. The tax rules are governed by different plans (regímenes) depending on what your business is. Check with the national Tributaries Agencies and your tax or financial advisor regarding your tax and reporting obligations. Your business will also need a "Visitors Book" (Libro de Visita). You must acquire it from your province's (Dirección Provincial del Ministerio de Trabajo y Asuntos Sociales) and have it available at all times for labour and Social Security inspectors.

I.8.2. LOCAL PARTICULARITIES

There is a large NTBC support network in the Basque Country with a wide variety of specialized agents (see Fig 1). Yet, until recently, their rapid growth and the scope and variety of existing programmes, implied a certain complexity in the offer, and some overlapping of services offered.

Fig 1: NTBC start-ups and development support agents

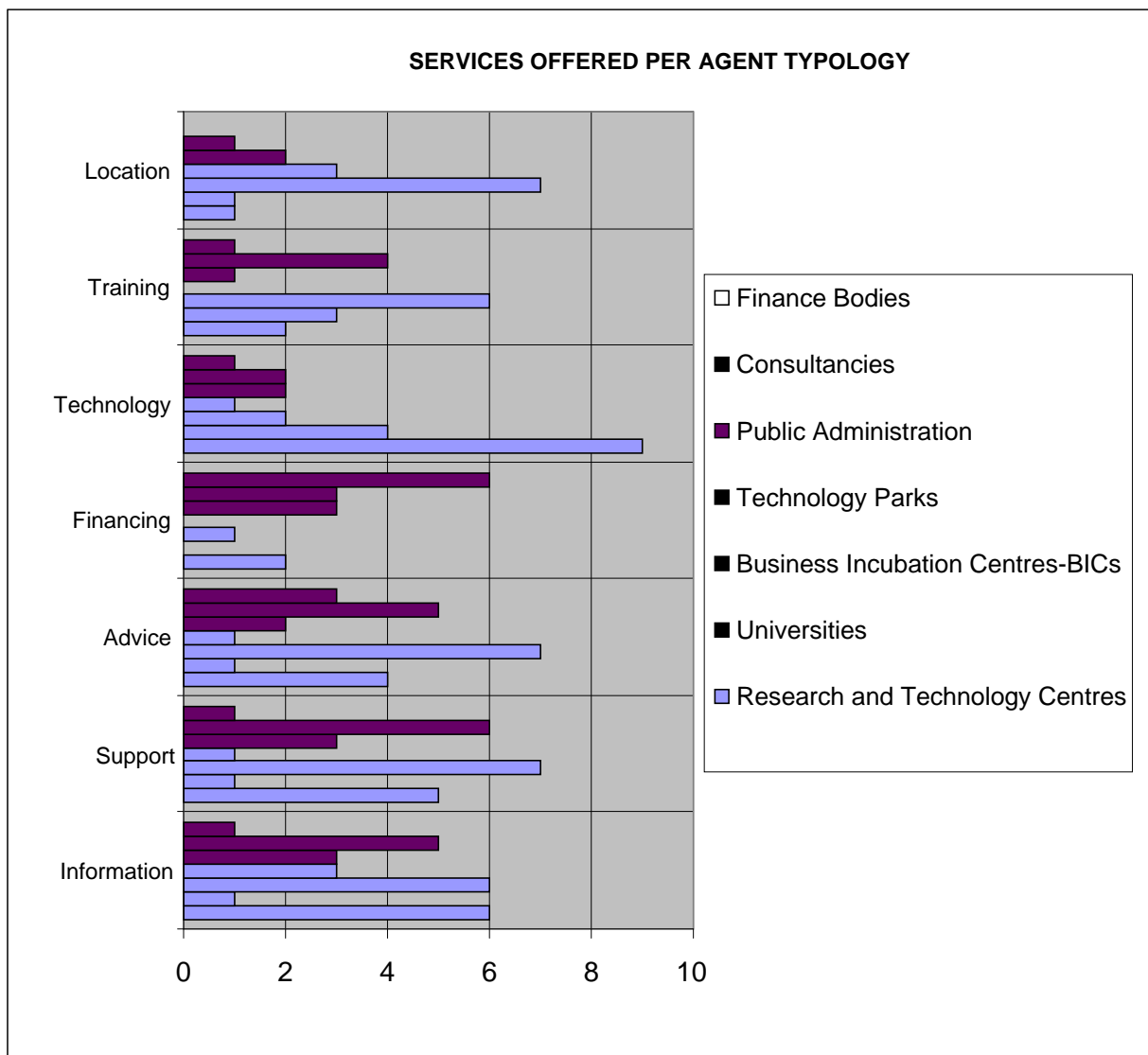


Despite some overlapping, each agent offers a different type of support to NTBCs, as Figure 2 shows:

- **Information, guidance:** The Administration, together with the Business Innovation Centres and the Technology and Research Centres provided most services in this area.
- **Supporting project development:** This involves taking the steps required to obtain support and funds for project development. All agents contribute here except the Universities, Technology Parks and financial institutions. The Business Incubation Centres (BICs) are particularly active.

- Business plan advice: This activity involves the Business Incubation Centres (BICs), and consultancies.
- Financing: Logically, this section is handled mainly by Public/Private Finance Institutions and the Public Administrations.
- Technology: Research and Technology Centres such as the University have the most significant roles.
- Training dynamic executives: the BICs take the lead in this area, followed at a certain distance by Consultancies and Universities.
- Location of spaces and premises: Technology Parks and BICs are the main providers of this service.

Figure 2: Services offered per agent type



1.1 MAIN SUPPORTING AGENTS

In order to encourage industrial development, institutions in the Autonomous Community of the Basque Country have access to a wide range of aids. These include support for investment in the form of repayable advances, low interest loans with advantageous terms of payment, favourable rental contracts in certain

locations, tax incentives, professional training, support for companies in the creation of jobs, grants for research and development (R&D) projects, setting up of companies at the Technology Parks, etc.

1.1. Business Incubation Centres /CEEIS

The main business incubation centres in the Basque Country are accredited as BICs (Business Innovation Centres) by the European Union. They provide a strategic tool for promoting entrepreneurship and innovation within the regional system of innovation, serving as a link between agents.

The main function of the incubator centre is to offer support and assistance in the form of: legal, economic and financial advice, trade and marketing, specific training in the different areas according to the needs of the company, provision of common resources, programmes for the protection of intellectual property, promotion and training of entrepreneurs, and business management. This is provided within the maximum compulsory time limits established by an assessment committee according to the nature of the project.

The system used for the incubation of businesses is divided into three stages: Pre-incubation (presentation of the idea-project to be developed in the business plan), incubation (start-up of the business plan) and post-incubation (consolidation and growth of the company).

The key factors for the success of an incubator are listed below:

- Partners: responsible for establishing the degree of participation of the public-private shareholders on the committee of partners; and the legal status of the incubator.
- Location: this clearly reflects the objective: metropolitan, universities and campus, Technology Parks.
- Strategy: definition of the mission: to promote innovation, competitiveness, the transfer of technology and other public policy objectives to encourage businesses in the Regional Innovation system.
- Clients: definition of target clients according to:
 - Sectorial or multisectorial orientation.
 - Phases in development of businesses.
 - Desired relation with clients.
 - Clients' requirements for financing.
- Financing:
 - Establishment of needs for the start-up and operation of the incubator.
 - Financing system using public or private funds for rental and services provided.
 - Analysis of the equilibrium point.

1.2 Institutions with financial aids

CDTI (Ministry of Science and Innovation)

The purpose of the INICIATIVA NEOTEC, managed through the **Centre for the Development of Industrial Technology (CDTI)**, is to provide support for the creation and consolidation of new technology-based businesses in Spain.

The initiative uses certain tools to make the path easier for technology entrepreneurs from the moment the business idea is conceived until it becomes a viable business.

These tools have been defined according to each of the two initial phases in the life cycle of a technology-based business.

- A. "Creation of business" phase: The CDTI provides seed credit, called Ayuda NEOTEC, which is usually for a maximum of €350,000 (at zero interest rates and less than 70% of the project cost estimate).
- B. "Consolidation of the business" phase. Repayable aid of up to €1,000,000. If the business has previously received the "Ayuda Neotec" for the creation of the business, this initial grant will be deducted from this quantity. The grant will be repaid in annual sums, amounting to 20% of the business cash-flow when this is positive.
- C. "Venture capital" phase: This phase aims to offer technological businesses the option for financing through venture capital tools with the European Investment Fund (EIF), which has broad experience in the European venture capital industry

The Basque Government

Aid for the creation of new businesses:

- The Ekintzaile Programme: supports the entrepreneur as the idea is matured and the Business Plan drawn up until the start-up of the business, even providing access to finance for the plan, through Luzaro, an aid programme using soft credit for the start-up of business projects.
- The Barnekintzaile Programme: supports entrepreneurial activity within the business itself, in order to create new innovative business projects.

And to help existing businesses grow:

- Gauzatu industry: programme to encourage the development of technology-based and innovative SMEs with the potential to create employment and which are located in the most disadvantaged geographical zones.
- Financial aid for investment, AFI: these are financial aids for investment in fixed assets in the industrial sector, providing support through interest rate subsidies.

- Adaptation of the financial structure of industrial businesses, ADEFIN: programme offering support to the refinancing of liabilities, calculating for this purpose the liabilities relating to bank loans, due to expire in the application year or in the two years after the announcement year.

Provincial Council

- Sustatu Bideberri/Sustatu Kide: the purpose of both programmes is to support the study and analysis of innovative business projects. Priority is given to advanced and/or knowledge-intensive technology-based projects. Business projects which involve products, processes or services with a large capacity for generating wealth are also considered.
- Bizkaiberri Produktuak: programme offering support for the development and introduction of innovative projects to the business, encouraging the innovative capacity and potential of the business.
- Bizkaiberri Zerbitzuak: the objective is to develop and introduce tools and methodologies which enhance the quantity and quality of innovative projects, as well as encouraging the potential, capacity and number of innovative businesses.
- Ekinberri: programme offering support for the development of projects to improve innovation and business competitiveness.

Town and City Councils

Of all the programmes offering support for the creation of new business, the Lan Ekintza is of particular interest. This programme helps entrepreneurs at all stages of development, offering training, advice, facilities and financial aid, analysing the business project from the start, and providing support throughout the process with a specialist advisory service, totally free of charge, together with economic aids for the start-up of the business project, from a practical and realistic perspective:

- providing techniques and tools to encourage creativity and innovation
- defining the key factors of the idea or business project, detecting business opportunities, etc.
- analysing the profitability of each project, possible lines of finance, new markets, possible competitors, etc.

Chamber of Commerce:

The mission of the chambers of commerce is to represent, promote and defend the general interests of industrial and maritime trade, to offer services to businesses, technical, legal or financial advice and to carry out the activities required to promote the economy.

More specifically, the Bideratzen service has been set up from the department of economic promotion at the Provincial Council of Bizkaia and the Bilbao chamber of commerce, with the aim of streamlining the procedures involved in the creation of businesses in Bizkaia.

In a transparent and personalised manner, this service permits each business:

- to find out what administrative procedures are required to start a new economic activity.
- To access all relevant information regarding the administrative procedures required to set up a business.
- To monitor the procedure for registered individuals.

In addition to the above entities which offer programmes aimed at making it easier to create a business, there is another series of support agents, specialising in energy. Their work is directed more towards businesses which are already up and running.

With all of these, and in addition to the above aid for the development of new projects, both the Basque Government and the Regional Council offer other facilities relating to the initial location of business projects through:

Venture capital and reciprocal guarantee companies with public support

- Elkargi, reciprocal guarantee company: the financial line of the Basque Government designed to meet working capital needs, aimed at SMEs, individual businesses and self-employed professionals.
- The Basque Country Venture Capital Management Society. With this management, the SPRI (the Association for the Promotion of Industry) holds a small and temporary share in the capital of new or expanding businesses with a viable project for the future, thus offering a true resource to help in the foundation of the project.
- Seed Capital Bizkaia is a Regional Public company, attached to the Department of Innovation and Economic Promotion of the Bizkaia Regional Council. The objective is to promote and develop new or existing businesses wishing to develop new products, markets or productive processes, improvements to management, organisation, stability or continuity, vision for the future, creation of stable employment and generation of wealth. This is a company.

2. LEGAL STRUCTURES: LEGAL FORMATS AND COMPARATIVE ANALYSIS

As every business project is different, there is no ideal legal structure. The pros and cons of each legal structure should be analysed for each project and the structure that best fits the project selected.

However, the analysis of these aspects is the same for all the projects in the decision-making process:

- Business activity, and regulations governing the activity.
- Number of developers.
- Developers' responsibility.
- Economic scale of the project, in addition to the existence, where applicable, of a payment of the minimum capital depending on the selected legal structure.
- Relation between partners: an option is available to restrict entrance to new partners or to merely value the economic contribution.
- Fiscal matters: The tax status varies depending on the legal status of the business. Individuals pay taxes through the IRPF (personal income tax system), while legal entities pay through the company tax system.

Almost 5000 trading companies are founded each year in the CAPV. The majority of these are traditional, especially in their legal structure of Limited Company. However it should be noted that the number of companies choosing to adopt legal structures of a Social Economy nature (co-operatives and employee-owned companies) is increasing. In these companies, the legal factor takes precedence over the capital factor, favouring self-employment, and concern for concepts such as Corporate Social Responsibility (CSR), Sustainability, the Environment, Respect of workers and interest groups, etc. The introduction of CSR-based models as a new strategic line is backed from the institutions.

Commercial law regarding the creation of a business in the CAPV is the same as for the rest of the country, except for legislation concerning co-operatives; Created companies may be either civil or trading.

a) **Principal Leading Structures in the creation of a business**

1. Individual Business

An individual business is formed when a single individual is the sole holder of the activity and this activity is considered for the purposes of the Economic Activities Tax as a “business activity”.

Without a minimum obligatory social capital, consisting of a sole partner with unlimited responsibility

Advantages:

- Highly suited to very small business
- Fewer procedures required to found business with this structure.
- No minimum legal capital required to found business.

Disadvantages:

- The entrepreneur is liable for the general debts of the business with his/her own equity.
- Risk of creating the business falls on one person.

2. Limited Company

This is a trading company in which the capital cannot be less than €60,121.21 and at least 25% of the capital must be paid up when the business is founded. The capital is divided into transferable shares, the holder is a partner who is not personally liable for the company’s debts.

Advantages:

- Shareholders’ liability limited to the capital put into the company.
- Decisions are made democratically.
- The company may have sole proprietorship, that is, it can be formed with only one person.
- The condition of partner is freely transferable.
- Professional administration, shareholders appoint a board of management to administer the society.
- Facilities for financing and therefore growth.

Disadvantages:

- Requires a minimum capital of €60,101.21, of which at least 25% must be paid up when the company is founded.
- Subject to greater control (Annual Accounts must be deposited in the Trade Registry) and greater formal and organisational rigour (the board of shareholders must meet at least one a year).
- As it pays taxes through the Company Tax System, it may face fiscal disadvantages in comparison to those paying through the IRPF

3. Limited Liability Company

A trading company with a minimum capital of €3,005.06 which must be paid up in full. The capital is divided into equal, accruable and indivisible shares which cannot be represented by share certificates. Partners are not personally liable for debts. This type of company is governed by the majority principal. such that decisions are made democratically by all partners.

Advantages:

- Shareholders' liability limited to the capital put into the company.
- Decisions are made democratically with equilibrium between the risk and the power of decision.
- The company may have sole proprietorship, that is it may be formed of only one person.

Disadvantages:

- Requires a minimum capital of €3,005.06, which must be paid up in full when the company is founded.
- The approval of all the partners is required to resign from the company.

4. Employee-owned company

The special nature of this type of company stems from the fact that the majority of the capital must be the property of the employees providing paid services, directly and personally, in the company. No one of the partners may hold more than one third of the capital.

All partners take part in the management and decision-making of the company. Therefore, partners are committed to the project as entrepreneurs and as workers, leading to higher probabilities of success.

Advantages:

- Shareholders' liability limited to the capital put into the company.
- A percentage of the profits obtained must be allocated to the reserve funds as a guarantee for the future.
- Given its social nature, it has access to different aid programmes.
- Eligible for tax exemptions and reductions.
- Democratic management.

Disadvantages:

- Shares cannot be freely formed.
- Requires a minimum number of people to set up.
- In the case of the joint-stock company, annual accounts must be deposited in the Trade Registry.
- As it pays taxes through the Company Tax System, it may face fiscal disadvantages in comparison to those paying through the IRPF

5. Community Property

The community property system is a system in which several individuals share the ownership of a particular property or right. No obligatory minimum capital, formed with a minimum of 2 partners, with limited liability.

Advantages:

- It is relatively simple and low-cost to set up a community property.
- No minimum legal capital required to set up business.
- Any of the participants may, at any time, request the division of the common property.

Disadvantages:

- The participants may be held liable with their equity for debts with third parties in the event that the assets of the community property are inadequate.
- Moreover, the partners, are jointly and severally liable for the debts.

6. Cooperative

This is a variable capital company which takes individuals into partnership to carry out common interest economic or social activities of a business nature. Membership and resignation is voluntary and partners are not liable for social debts.

Each partner has the right to vote, however the statutes may require the vote to be proportional to the cooperatives activity in the company and complementary services.

Advantages:

- No minimum capital required.
- Partners can join or leave company voluntarily.
- Democratic management.
- A percentage of the profits obtained must be allocated to the reserve fund as a guarantee for the future of the company.
- Given its social nature, it has access to different aid programmes.
- The classification of fiscally protected cooperative can be obtained, thus significantly reducing a number of taxes.

Disadvantages:

- Participation of all partners in decisions. Failure to reach an agreement may block the activities of a cooperative.
- A minimum number of individuals required to set up.
- Accounts must be deposited in the Trade Registry.
- As it pays taxes through the Company Tax System, it may face fiscal disadvantages in comparison to those paying through the IRPF
- Risk of decapitalisation.

b) A comparative summary of the principal legal structures

	Concept	No of partners	Capital	Liability	Fiscal policy
Individual Business	A single individual is the sole holder of the business activity	1	No legal minimum	Unlimited	IRPF
Limited Company	Trading company with at least 25% of capital paid up when company is founded. This capital is divided into transferable shares, shareholders are partners in the company.	Minimum 1	Minimum €60,101.21	Limited	Company Tax System
Limited Liability Company	Trading company with fully paid-up capital, divided into equal, accruable and indivisible shares which cannot be represented by share certificates.	Minimum 1	Minimum €3,005.06	Limited	Company Tax System
Employee-owned company	The majority of the social capital is the property of the employees, no shareholder holds more than one third of capital. All partners participate in the management and decision-making of the company.	Minimum 3	Minimum €60,101.21 (SAL) Minimum €3,005.06 (SLL)	Limited to capital provided	Company Tax System
Community Property	Various individuals share the ownership of a particular property or right	Minimum 2	No legal minimum	Unlimited	IRPF
Co-operative	This is a variable capital company which takes individuals into partnership to carry out common interest economic or social activities of a business nature. Partners may join or leave the company voluntarily, and always have the right to vote.	Minimum 5 (1st degree) Minimum 3 (workers coop.) Minimum 2 (2nd degree)	Minimum established in the statutes	Limited to capital provided	Company Tax System

3. EUROCRATIC PROCEDURE FOR CREATING A BUSINESS

When the legal structure of the business to be created has been selected, the statutes which will govern the business must be drafted, with consideration for the following aspects:

- Name: should be descriptive, identifiable and attractive.
- Social objective: may be concise and short or more extensive and unlimited.
- Company address
- Contributions from partners
- Control and management of the company
- Distribution of profits
- Termination of company
- Arbitration in the event of disputes over the interpretation of the Statutes.

When the technical and financial feasibility of the project has been confirmed, and prior to the founding of the business, the following bureaucratic proceedings are necessary:

- Procedure for constitution: First, visit the Trade Registry to confirm that there is no other company registered under the same name. Next, go to the Notary to sign the deeds of constitution, with the other partners once the statutes have been approved.

When the company has been formed, it must be registered in the Trade Registry for the company to obtain its own legal standing. To form a company, the Property Conveyance and Documentation of Legal Documents Tax must be paid at the tax office.

- Labour procedure: Registration of the company at the Social Security Office, in order to obtain employer number. All workers must be enrolled with the Social Security before commencing work. The Ministry of Work must also be notified of the opening of the new work centre.
- Fiscal procedure: The fiscal identification number must be obtained from the Tax Office, and the company registered with the Economic Activities Tax (I.A.E.) and in the census.

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- Municipal procedure: the licence to open must be obtained from the Town Hall. This confirms that the work centre is in accordance with the standards established in the town planning documents.
- Registry: when any real estate property is obtained or transferred, or when opening or cancelling a mortgage on a property, the Real Estate Registry must be notified. Patents, commercial names, etc. can be registered at the Spanish Patent and Trademark Office.
- Acquisition and legalisation of books: the Accounting Books must be legalised and stamped, together with the Inspection Log. The Inspectors of Employment record any proceedings following visits to the company.

References

[http://www.mpt.es/publicaciones/Agencia_estatal_de_evaluacion_de_las_politicas_publicas/monografias/parrafo/0116/text_es_files/file/E06-2007%20\(Inglés\).pdf](http://www.mpt.es/publicaciones/Agencia_estatal_de_evaluacion_de_las_politicas_publicas/monografias/parrafo/0116/text_es_files/file/E06-2007%20(Inglés).pdf)

http://www.spainexpat.com/spain/information/start_a_business_in_spain/

I.9. THE CZECH EXAMPLE

I.9.1. NATIONAL PARTICULARITIES

It concerns the possibilities of financial support and also legal conditions and administrative steps that are a necessary precondition for a start of business in the field of renewable energy resources utilisation.

▪ POSSIBILITIES OF FINANCIAL SUPPORT

In the CR there are many ways of how to obtain various forms of financial support for a start of enterprise. Special-purpose support (in dependence on the character of a particular project) is possible to obtain from state or regional resources, but also from the European Union resources.

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Type of Support	Support Beneficiary	Characteristics	Responsible Institution
State Support ¹²	Unemployed persons	Support to beginning entrepreneurs, educational programmes, retraining	Employment Bureau (EB)
	Entrepreneurs	EFEKT Programme (subsidy in the amount of 100%, however, limited by the maximum of 500 thousand CZK) for projects that implement energy saving measures and greater share of renewable energy resources use.	CZ Ministry of Industry and Trade
EU Support ¹³ (for the period of 2007 - 2013)		<ul style="list-style-type: none"> • Operation Programme of Enterprise and Innovation - supports the creation of new and development of existing companies, their innovation potential, utilisation of renewable energy resources; the Programme is coordinated by CZ ministry of Industry and Trade, alternatively by CzechInvest Agency; the important parts of the Operation Programme, usable for a start of enterprise in the field of renewable energy resources, are for instance as follows: <ul style="list-style-type: none"> ○ Programme ECO-energy - utilisation of renewable energy resources and all types of energy savings, ○ Programme GUARANTEE - advantaged guarantees that maintain the entrepreneurs' access to bank loans (up to 20 mil. CZK) for financing of operational services, ○ Programme START - optimisation of all activities as a competitiveness tool, • Environmental Operational Programme - focused on the improvement of environment quality, deals with the issue of wastes and industrial pollution, supports the use of renewable energy resources, the Programme is coordinated by the CZ Ministry of Environment, • Operational Programme Research and Development for Innovations - focused on reinforcement of research, development and pro-innovation potential of the CR, the Programme is coordinated by Ministry of Education, Youth and Sports, 	
Local Support		<ul style="list-style-type: none"> • In dependence on the location of enterprise, it is also possible to draw support from regional and municipal resources in dependence on a particular project or business plan. 	

In addition to the above mentioned financial support, it is also possible to use **advisory services** of specialised offices and agencies (e.g. CZ Chamber of Commerce, Agency CzechTrade, Agency CzechInvest).

¹² <http://www.mpo.cz/cz/energetika-a-suroviny/programy-podpory-v-energetice/>

¹³ <http://www.strukturalni-fondy.cz/>

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Business incubators that may provide financial resources as well as quality areas and background for new enterprise are also a suitable possibility for enterprise start. Incubators may function in the CR under the auspices of the state and its institutions, private companies or universities.

▪ LEGAL CONDITIONS

Establishment of new enterprise requires fulfilment of many legal, financial and administrative conditions and formalities. Registration of trade is the basic and necessary precondition. Another possible step is the establishment of some of allowed forms of business companies, as stated below.

Trade is a systematic activity conducted individually, under own name, on one's own responsibility, for the purpose of realising profit and under conditions specified by the Trade Law. Trade can be conducted by natural person (man, citizen) or by legal person (legal entity established by people).

General conditions for conduction of trade: 18 years, legal capacity, clean record (according to copy of the criminal record, not older than 3 months), presentation of a document proving that the legal person has no arrears of taxes towards the state, presentation of a document proving that the legal person has no arrears of taxes towards the Regional Social Security Administration (RSSA).

Other options of establishing a trade: newly, the filing to Trade Office is also possible through contact points of public administration (so called Czech POINT) that fulfils the function of intermediary. These are for instance notaries, regional and municipal offices or holders of post licences.

Limited Liability Company (Ltd.)

It is the most common type of legal form for conduction of business by legal persons. The registered capital comprises of partners' investments that stand security for companies' obligations until the moment of investment payment registration in the Business Register. Company can be founded by a single person, however, it can have a maximum of 50 partners, and company is liable for breach of its duties by its whole property.

The value of registered capital is min. CZK 200,000, the investment of individual partners is at least CZK 20,000. Profit divides among the partners according to the amount of their ownership interest.

Company bodies:

- general meeting - the highest body, approves the company's articles, balancing of the books and division of profits, decides on the amount of registered capital, appoints and removes the executive head and supervisory board members,

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- executive heads - statutory body, company can have one or more executive heads, these are in charge of company management,
- supervisory board - supervises the activities of executive heads, reviews the balancing of the books, reports to the general meeting, must have at least 3 members.

Public Limited company (PLC)

PLC is a suitable legal form for enterprise in a greater scale. Company is liable for breach of its duties by its whole property, however, shareholder is not responsible for breach of companies duties. According to the amount of registered capital, divided to a certain number of shares of a certain nominal value, there are two types of PLC companies: without public offer of shares (the partners pay the amount of registered capital, a minimum of 2 mil. CZK themselves), with public offer of shares (the registered capital is at least 20 mil. CZK).

Company can be founded by one legal person or two and more legal persons, whereas their maximum number is not limited. PLC is obliged to create a reserve fund in the course of its functioning, its value depends on the amount of company profits. The basic shareholders' rights include the right to take part in company management and also participate in company profits through payment of dividends.

Company bodies:

- general meeting - the supreme body, must be held at least 1 x per year, general meeting is assembled by the managing board, decisions are made by the majority of votes,
- managing board - is voted by the general meeting, manages the company activity and acts on its behalf, must have at least 3 members who vote the chairman,
- supervisory board - must be appointed compulsorily (at least 3 members), supervises the managing board, reviews the balance of the books and plan for division of profits.

Non-governmental Non-profit Organisations

Charitable Trust (CT), whose purpose is to provide beneficent services stated in the foundation charter. CT founders can be both natural and legal persons.

Another possibility of non-governmental non-profit organisation is also **civic association**, which is founded on the principle of sharing common interests or performing of socially useful work.

▪ ADMINISTRATIVE STEPS

The basis for establishment of new enterprise lies in obtaining of trade certificate and consequent registration in the trade or business register. Immediately afterwards it is necessary to register at the relevant revenue office. Then it is necessary to visit institutions that deal with legal insurance, i.e. Czech Social Security Administration (CSSA) and relevant health insurance company.

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Trade Register - an overview of trades in a given administrative district, the register in particular includes the denomination of person (in case of natural person the name, residence, birth certificate number, in case of legal person the business company, company seat, ID), line of business, type of trade, places of business etc.

Business Register - a public list that registers information on business subject as stipulated by the state (the registration is obligatory for legal persons). The service is charged. The register that also includes the book of documents is open for reference, copies and excerpts are also allowed to be made.

I.10. THE ITALIAN EXAMPLE

I.10.1. NATIONAL PARTICULARITIES

Introduction

Support and consulting for start-ups in Italy is managed to the regional/county level, where people interested can find specific offices dedicated. In particular, all counties have a local Chamber of Commerce with offices specialized in supporting the birth of new enterprises.

Types of legal business structures

Italian civil code distinguishes enterprises from the "autonomous work", characterized by the absence of an entrepreneurial organization and a lower commitment of capital.

Different kinds of business are possible:

- Big commercial enterprises
- Agricultural enterprises
- Small enterprise, based on the work of the businessman and his familiars
- Artisan enterprise, a particular Italian type of small enterprise which can access to specific facilitations

Enterprises can adopt two type of juridical form:

- Individual enterprise, conducted by a single person with the eventual co-operation of his own family. This is the simplest form of enterprise, fit for activities with limited risk and investments
- Company, when two or more people agree and share capitals to manage an economic activity

Companies are classified as follows:

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- Peoples' companies, whose features are:
 - All partners are personally responsible of the company, in unlimited way, with their personal properties and assets
 - Each partner is usually administrator of the company
- Capitals' companies, whose features are:
 - The partners have a limited responsibility, proportional to the capital invested in the company by each one
 - The partners choose the manager of the company through their vote
- Cooperative companies, featured by a minimum of 3 members with mutual purposes

Main types of peoples' companies

- Limited partnership company (Sas)
- General partnership company (Snc)

Main types of capitals' companies

- Limited liability company (Srl)
- Join-stock company (Spa)

Financial support

Start ups can take advantage of both regional and national services of accompaniment and financial support.

At the local level the support and financing is mainly connected to European funds dedicated to the regional development, while at the national level it's possible to identify some specific financial instruments for start ups, with a particular focus on women-initiative and innovative fields.

National financial instruments and contributory laws

- 1) L 95/95
Dedicated to **companies** (not individual enterprises), the law finances, on the basis of the enterprise project, the 1-2% of the feasibility study costs and a wide range of investment and management costs
- 2) L 215/92
Dedicated to **women initiatives**, the law finances both costs for material investments and services for the implementation of the activity
- 3) L 185/2000

A tool to create a start-up company in RES

Dedicated to the facilitation of **self-employment**: autonomous work, micro-enterprises and franchising

4) L 236/93

Dedicated to young companies in the field of **services**, environment is one of the field of application of the instrument

5) Venture capitals

Venture capitals – an example of private equity – represents the main alternative to traditional funding for the financing of start-ups. Venture capitals are private funds provided by private companies or dedicated funds, which intend to inject capital in enterprises with high growth potential, as a kind of investment.

The early-stage financing of new enterprises can be classified as:

- seed financing: participation in the experimentation phase
- start-up financing: participation in the beginning of the activity
- first stage financing: participation in the first phase of development

6) Italian Business Angels Network (www.iban.it)

Association of informal venture capitalists, active from '80s in Holland and Great Britain, aimed at the development of investment activities from abroad. The association is also active in the field of green technologies.

7) Confidi

Confidi is an Italian system of mutualistic societies, present in all regions, aimed at the supply of guarantees for small and medium enterprises which need to stipulate loans for the beginning of the activity.

8) Invitalia (www.invitalia.it)

National Agency for business attraction and development, Invitalia acts to increase the competitiveness of country, in particular the southern regions.

9) Business Incubators

Incubators are special programs born to accelerate the development of local start-ups offering dedicated physical spaces and/or resources and a multitude of material and non-material services directly or through a network of contacts. Incubators differ from technological parks – which sometimes also hosts business incubation programs - because of their typical assistance services, only reserved to small companies.

Administrative procedures

The process to constitute a new enterprise can differ on the kind of legal structure.

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Here we describe the typical process for the establishment of an individual artisan enterprise, one of the favourite business structure for new start-ups in Italy.

The steps are described in chronological order starting from the beginning of the activity

- 1) Inscription to INAIL (National Institute for insurance against accidents and professional illnesses)
- 2) Declaration of Beginning of activity, with the attribution of VAT number
- 3) Inscription of the enterprise to the Register of Artisan Enterprises, at the local Chamber of Commerce, with the attribution of the REA code
- 4) Inscription to INPS (National Institute for welfare and social security)

I.11. THE BULGARIAN EXAMPLE

I.11.1. NATIONAL PARTICULARITIES

Introduction

Support and consulting for start ups in Bulgaria is managed to the regional level, where people who interested in it can find special offices in this field – solicitor offices, business centres, Chamber of Commerce, etc. that are specialized in registration and supporting of new build companies.

For starting a small business (for example with capital not more than 50 000 BGL) we would recommend you to register your company as LTD.

1. Types of legal business structures

According to the Trade law, there are two company types – capital companies (Holding, Consortium, etc.) and labour companies.

Companies that can be registered have the following two juridical forms:

- Individual enterprise, conducted by one person and eventually cooperation with his family. This is the simplest type with limited risk and investments – these are Privately-owned company and Privately-owned company with limited responsibility
- Company, where two or more people manage and share the capital for managing the economic activity – these are LTD and Joint company.

How to register a company?

After you have a clear idea for your business and you carefully planned your activity and costs, you should make legal your company i.e. to register it.

Steps for company registration:

When you register your company, you must inscribe it in:

1. Registration in the Court – city of Sliven

The following types of company registration are possible:

1.1 Registration of a Private-owned company

1.2 Registration of Joint company

1.3 Registration of Company with limited responsibility

1.4 Registration of Private owned-company with limited responsibility

1.5 Certificate for actual statement for the commercial object

Other documents:

2. Registration of BULSTAT number in the Territorial Statistic Desk – city of Sliven

3. Registration of the commercial object in the "State Insurance" – city of Sliven

4. Tax registration in the Tax Office – city of Sliven

5. Registration by the Tax Law in the Tax office – city of Sliven

6. Registration by the Law for excise in the Tax office – city of Sliven

7. To present a declaration for safety labour conditions according to Article 15 from of the Law in the Labour Inspection – city of Sliven

8. Registration of electronic cash machine with fiscal memory in the Territorial Tax Office – city of Sliven

9. Opening a company account

2. Energy sector in Bulgaria – Renewable energy

A tool to create a start-up company in RES

Priorities in the energy sector in Bulgaria are mentioned in the National plan for economic development and Energy strategy of the country and they are in compliance with the requirements of the European Directives and market mechanisms.

An important aspect in the energy sector is to encourage the usage of renewable energy sources (RES). The optimal usage of the energy sources from RES is a way to create a stability energy development and minimizing the bad influence on the environment from the activities in the energy sector.

Market of Renewable Energy Sources (RES) in Bulgaria:

- In the energy balance of Bulgaria, the RES share is less than the average one for the countries from European Union;
- 11 % from the Gross Internal Product of electric energy to 2010 in Bulgaria must be produced by RES, according to the Agreement for joining to the European Union;
- Production of RES energy must reach 20 % from the used energy from each country that is a member of the European Union until 2020;
- The European Commission defined for Bulgaria the total final energy consumption in the country in 2020 – 16 % must be from RES.

Public benefits for companies working in RES field:

To stimulate the production of electric energy from RES, every year on the 31st of March the Public Commission for energy and water regulation (PCEWR) defines preference prices for selling of electric energy. On the 30th of March 2009 with [Decision № Л-04](#), the PCEWR defined the prices for the electric energy produced by RES from April, 1st, 2009, as following:

- For wind generators with full effective yearly working hours to 2250 hours – 189 BGL/MWh;
- For wind generators with full effective yearly working hours over 2250 hours – 172 BGL/MWh;
- For photovoltaic installations with power to 5kWp – 823 BGL/MWh;
- For photovoltaic installations with power over 5kWp – 755 BGL/MWh.

With the last changes made in the Law for RES and bio fuels, the following amendments had been accepted regarding the terms for selling electric energy:

- For electric energy, produced by geothermal and solar energy – 25 years;
- For electric energy, produced by water plants with installed power to 10 MW – 15 years;
- For electric energy, produced by other kinds of RES – 15 years.

Terms for obligatory buying starts:

For existing producers of electric energy from RES, without water plants with installed power over 10 MW – after negotiation but not later than 31st of March 2009;

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For new producers of electric energy from RES, without water plants with installed power over 10 MW – not late than 31st of December 2015.

Financial support for RES companies

Companies starting work in this field can benefit on the regional and national level, to receive financial support.

On the regional level, supporting and financing are mainly connected with the European funds for development of rural regions, while on national level it is possible to be used some of financial tools when starting a company. The focus must be on companies, created in rural regions and programmes for competitiveness.

Bulgarian legislation for RES

Normative certificates

- The Law for RES and bio fuels
- The Law for the energy efficiency
- The Law for amendments of the Law for encouraging the investments
- Decree № 16 - 27 / 22.01.2008 regarding the conditions for evaluation of the resource potential for energy producing from RES
- Decree № 16 - 28 / 22.01.2008 for the content, conditions and the way to get information for the produced, bought and sold energy from RES and bio fuels
- National long-term programme to encourage biomass fuels for the period 2008 – 2020
- National long-term programme to encourage the usage of RES – 2005 – 2015
- National long-term programme to encourage the consumption of biomass fuels in the transport sector – 2008 – 2020
- National short-term programme to encourage and use the RES – 2007

3. Some steps in creating a Photovoltaic plant:

- To find a suitable plot of land or analyzing of the energy potential of the plant;
- Prepare the land for building the Photovoltaic plant;
- To ensure an advance and final contract to joint to the electric net;
- Technical design and building permission;
- To prepare a project to candidate for European programmes or specialized credits in order to receive free financing;
- Logistic and equipment;
- To build the Photovoltaic plant;
- A contract for selling the energy produced;

Put the installation into operation.

I.12. THE BRITISH EXAMPLE

I.12.1. NATIONAL PARTICULARITIES

Legislation

In the UK alterations to buildings are required to conform to the Building Regulations. These include elements around built structures, electrical and plumbing installations. Certain forms of certification are required before an individual is able to install equipment of a pressurised nature or involving an electrical installation. As such the installers of any equipment must ensure that they are fully certified for the installation which they are undertaking.

Certification

Notwithstanding the above legislation, in the UK certification of renewable energy products came about through the Governments Clear Skies grant scheme rather than the Building Regulations. This was a small capital initiative to encourage the take up of technology. Certification has subsequently become more formal with both equipment and installers being required to go through a complicated certification system in order that installed equipment qualifies for grant support. This is managed by the MCS or Micro-generation Certification Scheme. The MCS will become responsible for the certification of installations under the recently launched Feed In Tariff for Renewable Electricity. This is a payment based on energy produced from installations as opposed to capital support for installations. A second scheme for renewable heat generation is currently being consulted on. This scheme is active for installations over the next three years. As such there is a great pressure on accredited installers at present and a lack of demand for non-accredited equipment and installers. Due to the short time period for the Feed In Tariff, new players in the market have been slow to go through the accreditation process and instead have concentrated on their core trade. Other European certification schemes are not generally acceptable.

Assistance

People looking to set up companies in our locality can draw on help from Business Link. This is an advisory service which is able to help in business start up including business planning and development. Additionally business start up and development grants are available through the local authority. These are justified on the basis of demonstrating business start up and expansion. In terms of renewable energy help can be sought from the Energy Saving Trust, Carbon Trust, Buildings Research Establishment and a number of other locally based

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organisations who are able to offer technical and training needs based assistance often at no cost to the end user.

Case Study – Ridge Blade

The Power Collective is a new company set up to produce and market the Ridge Blade wind turbine. This is a small, roof mounted device. This is a new product to market which is currently going through a rigorous testing programme with two UK universities. Although the testing will give third party confirmation of the efficiency and durability of the device this is not sufficient for the MCS accreditation. Further testing will be required which will cost approximately £80,000 on top of the current testing. In this case and due to the current proposal for a 3 year time frame for installations under the feed-in tariff the developers have decided not to go ahead with the accreditation and will wait to see what happens when the feed in tariff period ends. At present due to the feed in tariff the value of renewable electricity is artificially low (about 3p) this results in accredited equipment being more financially viable in the UK during the 3 years of the feed-in tariff.

Case Study – Ruswarp Hydro Power

The community company model has become a popular one in UK renewable energy. This model allows a not for profit company to be formed to develop energy installations for the benefit of local communities.

In this case study a local group of volunteers has set up an Industrial and Provident Society (for the benefit of the community). This is a not for profit organisation whose structure allows income from the scheme to be used for other beneficial energy related schemes in the area.

The project is the development of a community hydro scheme of 55kw maximum output. The scheme will generate about 200,000 kwh per year and an income of about £30,000. The capital cost of the scheme is £400,000. The company has been set up to give the group a robust and transparent legal and financial basis in which to work. This gives both the funder of the scheme and the volunteers in the group legal and financial protection should something go wrong as well as providing a generally more transparent vehicle for the development.

Barriers to getting the scheme off the ground have revolved around state aid rules and environmental legislation.

Conclusions

There are currently many barriers to the start up of new companies in this area of the UK. The market mechanism is not yet sufficiently robust to fully support the start up of new companies. As such on-going government support is required both in terms of facilitating the

A tool to create a start-up company in RES

market through schemes such as the feed-in tariff and renewable heat incentive, but also in terms of ensuring that accreditation and certification schemes are simple, robust and accessible. At present the schemes are biased towards certain technologies due to their simplicity and not readily able to support more complicated schemes involving hydro power or anaerobic digestion. In protected landscapes such as the National Park the community model is a good one as it relates energy demand and use to the energy resource and allows for the development of energy sustainable communities as opposed to the wholesale exploitation of the resource at the detriment of the landscape character of the Park.

I.12.2. LOCAL PARTICULARITIES

Background and motivation

The population of the National Park is very small (approximately 25,000) with a correspondingly small number of households. In the evolving field of energy efficiency and renewable energy this has resulted in very limited development of companies working in these fields in the immediate area. Company development to date in the UK has focused on large UK settlements. The demand for installations in the area has generally not been sufficient to encourage the development of new companies. Instead we have seen some degree of diversification of existing operations. In particular local plumbing and electrical engineering companies have added renewable energy to their repertoire and undertaken the certification and accreditation processes as a matter of course. One example of this is a local plumber who having gone to the time and expense of accreditation has only had two installations as a result. This has only barely covered the costs of the accreditation. Projects like the National Park's Community Renewable Energy Project and the National work of the Energy Saving Trust have resulted in an increasing demand for installations.

This is still a rapidly changing field and the introduction of the feed in tariffs and renewable heat incentive will rapidly increase demand for installations.

Scale

Within the National Park large scale renewable energy installations would not be acceptable due to the landscape impact of development. As such the focus is on the domestic and community scale. This includes all forms of domestic energy efficiency and renewable energy installations.

CONCLUSION AND OUTCOMES

This guidebook has been developed in order to help young people, entrepreneurs or post-graduate students to build up their own start-up companies in renewable energy sources. As said before, the overall process does not strongly differ from another type of company creation, but there are local particularities to take into account. Indeed, one of the particularities of renewable energy companies is that they are strongly linked to the local context, in particular to local resources. Consequently, the choice of the location is related to the choice of energy you want to work with and creating a company in renewable energy sources will not be the same all over Europe.

This guidebook shall be used as part of the WP4 of the Sunflower project. It represents in itself one main task of this work package and one of the goals is to prepare the training sessions of February and July 2010. Indeed, this guidebook is to be delivered to selected trainees so that they can prepare to the oral training. However, it is strongly recommended that all partners of the Sunflower project contribute to its enhancement, by providing their own experience in terms of company creation management in renewable energy source.

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APPENDIX

I.13. APPENDIX 1 LIST OF JOB PROFILES¹⁴

This list is mainly based on high-degree diploma jobs such as engineers, consultants...

WIND

Project Development and Consultancy

From contract research and development (R&D) and land acquisition to turn-key delivery. It includes feasibility and scoping studies, field surveys including wind resource assessment, expert evidence, design, development, numerical/physical models, visualisation, regulatory compliance, procurement, commissioning and operation, transmission & distribution of energy, inspection, management and integration with other renewable technologies.

Occupation	Description
Project Manager	A project manager is responsible for general project coordination and management and will often have their role linked with other disciplines.
Planning Consultant	A planning consultant will be concerned with wind farm site selection and other aspects of importance in initial stages of a development such as feasibility studies, surveys and coordination with regulatory bodies. They will investigate overall viability identifying key obstacles to the development and propose solutions. They will liaise with local planners and may be involved in Environmental Impact Assessments.
Risk Analyst	A risk analyst will perform technical reviews of contracts, specifications, method statements and designs. They will identify any technical risks and also strategies for their mitigation. They will also provide monitoring and certification of milestones during design and construction, and operational audits. They may provide due diligence services to banks and other project sponsors.
Environmental	The environmental engineer will be to provide expert evidence on how a

¹⁴ EARTHCARE, Employment in the renewable energy sector, 2006

A tool to create a start-up company in RES

Engineer	proposed development may affect the environment. This will include, for example, assessing the impact of noise, blade shadow/flickering and electromagnetic interference to ensure a development does not interfere with broadcasts. The environment engineer will often undertake visual impact assessments – wireframe views, photomontages, Zones of Visual Influence (ZVI's). They will have a major role in drawing up the Environmental Impact Statements.
Micrositing Engineer	Micrositing involves designing the detailed layout of individual turbines within a proposed wind farm to make the most of the local climate and topology. It will involve using software packages to arrive at the optimal wind turbine layout and ensure that the wake of one turbine does not adversely affect the performance of another.
Energy Consultant	An energy consultant will be responsible for a wide range of tasks including the integration of wind energy with other technologies and the negotiation of grid connection with utilities.
Electrical Engineer	The electrical engineer will complete the overall design of the electrical system including specification of components and selection of suppliers. Electrical engineers working for turbine manufactures may also devise advanced control algorithms for the alleviation of turbine structural loads and optimisation of energy capture. They will also specify measurement systems and test programmes. They supply, install and calibrate instrumentation and data acquisition system in order to perform data collection, analysis and reporting for wind turbine design verification.
Mechanical Engineer	Mechanical engineers will design components such as: rotor hub, pitch system and nacelle structure. Blade Element Momentum (BEM) codes are commonly used for aerodynamic design with Finite element analysis (FEM) software often used to analyse stress and fatigue as part of aeroelastic analysis.
Civil Engineer	Civil engineers deal with wind farm infrastructure such as turbine foundation design, utility buildings and road layouts.
Structural Engineer	Structural engineers will design towers which often may reach in excess of 120m. They may also assess soil samples and design the turbine foundations in conjunction with civil engineers.
Resident Engineer	Resident engineers are sent on site to provide monitoring and ensure the proper delivery of all wind farm works – wind turbines, civil engineering, electrical engineering, operations and maintenance.

Offshore Wind

Management of marine surveys, health & safety, submarine power cabling, and foundation design & construction. Also specialist contractors related to the marine environment.

Occupation	Description
Offshore Wind Consultant	Specialist in offshore wind farm design. Geoscience Consultant This will include reporting on geophysical and geotechnical aspects, wave and current measurement, carrying out meteocean modelling and wind monitoring.
Offshore Service Provider or Electrical Engineering Consultant.	Designing connection to shore and negotiating with DNO (Distribution. Network Operator) where appropriate. Connecting offshore wind farm to the electricity distribution system or the transmission system (national grid) depending on size and location.
Specialist Sub Contractor	Deals with aspects marine development such as shipping and underwater operations.

Weather and Environmental Offices

Wind data and monitoring, Environmental Impact Assessments, and scientific experts such as meteorologists, communications specialist, geologists, biologist, and ornithologists.

Occupation	Description
Wind Resource Analyst	The wind resource analyst must understand the wind regime of a site and thus be able to accurately predict the energy output of a proposed wind farm. The available energy is a cubic function of the wind speed so the analyst plays particular attention to the accuracy of the wind resource assessment. Wind monitoring and assessment via a comprehensive range of validated analytical approaches such as Measure Correlate Predict (MCP) is a key aspect of this job.
Environmental & Scientific Advisor	Specialist in various scientific and environmental aspects of the impact of any proposed development.

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Manufacturing

From turbines and associated components to structures and cabling.

Occupation	Description
Manufacturing Manager	General project management and day to day running of manufacturing operations.
Manufacturing Developer / Engineer	This encompasses a wide range engineering fields relating to manufacturing e.g. Electrical and Power Systems Engineer, Mechanical Engineer, Applications Engineer, Requisition Engineer, Offshore Application/Requisition Engineer, Converter Engineer, Production Engineer, Control Engineer, Electrical machines specialists, Protection Engineer, Switchgear and ancillary plant Technician, Site Technician, Aerodynamicist, Communications/IT Engineer, Materials Specialist, Metallurgist, Signal Processing Specialist (and other research engineers).

Construction and Operation and Maintenance (O&M)

Management, structural fabrication, installation & erection, O&M, monitoring, structural inspection. Also specialist contractors related to e.g. cranes for turbine erection.

Occupation	Description
Construction Manager	General project management and day to day running of construction operations.
Construction Engineers	Covers a wide range of discipline including: Civil Engineers, Structural Engineers, O&M (Operations and Maintenance) Manager, O&M Engineers, Technician and Specialist Subcontractors.

Public Relations and Marketing

Occupation	Description
Public Relations Officer	Political/community profiling, site assessment, local authority and community consultation, planning PR support, stakeholder relations, national government/interest group public affairs, communication strategy implementation and media training.
Marketing Executive	Marketing of wind turbine products and services.

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Associated Occupations:

- Electricity Utilities Coordinator
- Financial advisor
- Legal Officer
- Insurer
- Health and Safety Consultant
- Certification provider

PHOTOVOLTAICS

Occupation	Possible Areas of Occupation in the PV Sector
Electronic Engineer	Ingot/cell production, module production & marketing, PV system designers, Electronics industry (inverters, chargers etc.), Battery industry, Software development, Codes and standards, Energy market development.
Mechanical Engineer	Ingot/cell production, module production & marketing, PV system designers, PV system installers, PV system marketing, Metal constructions industry, Software development, Energy market development, legislation.
Production Engineer	Ingot/cell and module production, Electronics industry (inverters, chargers etc.), Battery or Wiring industry.
Electrical Engineer	Electronics industry (inverters, chargers etc.), Software development. PV system installers, PV system marketing, Wiring industry.
Physicist	PV materials and cell development and characterisation, ingot/cell production, PV system designers (meteorology), Battery industry, Software development.
Material Scientist	PV materials, ingot/cell production, Battery industry, Wiring industry, Metal constructions industry.
Architect	PV system and façade designers (built sector).
Civil Engineer	PV system installers, Software development.
Technician – Electrical	PV installation, Electronics industry (inverters, chargers etc.), Battery industry.
Technician – Mechanical	PV installation, Electronics industry (inverters, chargers etc.), Battery industry, Metal constructions industry.
Economist	Module production & marketing, PV system marketing. Energy market development, legislation.
Lawyer	Energy market development, legislation.

GEOTHERMAL ENERGY

Jobs in geothermal energy are mainly located on site, i.e. where the heat resource is located (contrary to other competitive fossil fuel energies). Geothermal energy requires an increased supply of experts in the field of soil mechanics and aquifer modelling. To a certain extent, activities are similar to those carried out to the oil extraction industry.

Several other associated occupations are not specific to geothermal energy. Some are related to civil engineering, mechanical engineering, electrical engineering (if the project is a geothermal electricity power plant), project management and business development.

Occupation	Description
Civil engineer	Civil engineers deal with construction and infrastructure
Electrical engineer	Electrical engineers are responsible for energy production, distribution, development and maintenance of energy installations, and automatic control instruments.
Project manager	A project manager is responsible for general project coordination and management.

However, some occupations are specific to geothermal industry. These are:

Occupation	Description
Hydro-geologist	The hydro-geologist specialises in resource prospecting and assessment, and manages water exploitation.
Drilling engineer	Drilling engineers are responsible for the design, development and maintenance of efficient and sustainable wells in order to access underground water.
Drilling technician	The drilling technician carries out the drilling works in order to extract groundwater reserves.

Other occupations such as heat technician or heat engineer are also emerging.

BIOMASS**Biomass Plant Design**

Occupation	Specialisation
Chemical Engineer	Process design and waste treatment
Civil Engineer	Waste disposal structures and infrastructure
Mechanical Engineer	Turbine engine / Endothermic engine design
Thermo-hydraulic Engineer	Thermal plant / Hydraulic plant design

Biomass Plant Operation

Occupation	Description
Plant Manager	Has overall management responsibility for the plant, and for management of resources, work organisation and budget reporting to the Board of Directors.
Administrative Manager	Administrative and human resource management of the company.
Marketing and Energy Sales Manager	Promotion and dealing with energy buyers.
Environmental Engineer	Responsible for minimising the environmental impact of production and handles relations with control authorities.
Safety Manager	Will be given responsibility, exercised at different levels, for the general safety of the plant.
Energy Manager	Responsible for energy production and creating value from innovating plant design.
Waste treatment expert	Deals with waste treatment and processes upstream from energy production.
Plant Operator	Responsible for the technical operation of the plant and monitoring of the various phases of energy production.
Technician	Responsible for maintenance and troubleshooting within the plant.
Energy Distribution	Expert Responsible for the distribution of the energy produced (in all its forms) to the customer.

In addition agronomists, plant breeders and farm managers have an important role to play on the biomass crop production.

HYDROPOWER

The employment generated by small hydropower is in mechanical and electrical engineering, in environmental sciences and in technical operators.

Occupation	Description
Civil Engineer	Civil engineer deals with construction of associated infrastructure such as dams, penstocks and pipework.
Electrical Engineer	Electrical engineers are responsible for energy production, distribution, development and the maintenance of energy installations, automatic control instruments and grid connection.
Mechanical Engineer	Mechanical engineer will design, develop and maintain mechanical equipment and components.
Technician	A technician will be involved in different tasks related to the operation and maintenance of installations and monitoring of processes.
Resource Manager	A resource manager is responsible for water resources management.
Environmental Specialists	Biologists, hydrologists, ecologists, wildlife habitat specialists. Environmental specials will monitor and assess potential impacts on the environment and wildlife habitats.
Landscape Architect	Landscape architects will minimise the impacts of new large scale hydropower stations on the surrounding taking into account ecological conservation and sustainability.

SOLAR THERMAL

The professions linked to these posts are the engineers and plumbers with some knowledge of electrical wiring and welding. The occupations involved in solar thermal labour market are:

Occupation	Description
Technician specialised in Renewable Energy Applied to Buildings	Technicians are involved in installation and maintenance of solar thermal systems.
Sales Technician	Specialized in selling solar thermal installations and collectors
Project Engineer	A project engineer may design hot water and heating systems, as well as cooling systems using absorption chillers powered by solar thermal energy.
Architect	Architects may integrate renewable energy into conventional building design.
Draughtsman	Along with conventional projects a draughtsman may draw plans on projects that implement renewed energy.
Renewable Energy Installations Assessor	Responsible for checking solar collector installations to ensure they meet the technical design specifications and compliance with official regulations.

I.14. APPENDIX 2 MARKET TRENDS

When realising a market study it is very relevant to gather a large amount of information about the sector you are going to enter or work in. This appendix will help you understanding the main market trends in the field you are interested in. Employment trends will thus be developed for most renewable energy sources. The most dynamic fields seem to be the wind and solar sectors even if the biomass sector is not outdone. When it comes to hydropower, even if the number of jobs is quite important, there won't be a big increase in the following years and start-up companies are not really targeted. As for geothermal, wave and tidal energy, there is not much information about their market but it can be said that it is not the main employment sector in renewable energy sources.

▪ WIND¹⁵

The EU wind energy sector directly employed approximately 108,600 people in 2007. Including indirect employment, the wind energy sector employs 154,000 people in the EU. On average, 12,047 new direct wind energy jobs have been created per year in the five-year period 2002-2007. Wind turbine and component manufacturers are responsible for the biggest share of direct wind energy employment (59%).

A significant proportion of direct wind energy employment (around 75%) is based in three countries: Denmark, Germany and Spain. Nonetheless the sector is less concentrated now than it was in 2003, when these three countries accounted for 88% of EU employment. This is due to the opening of manufacturing and operation centres in new markets and to the local nature of many wind-related activities, such as project development, operation and maintenance (O&M), engineering, legal services and so on.

According to EWEA's reference scenario (EWEA, 2008), 180GW of wind energy will be operating in the EU in 2020 and 300GW by the end of 2030. Using this scenario future EU employment in wind energy will more than double from 154,000 in 2007 to almost 330,000 in 2020. onshore wind energy will continue to be the largest contributor to employment throughout the period but by 20025, offshore wind energy employment will exceed onshore

¹⁵ The European Wind Energy Association (EWEA)

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employment. By 2030, more than 375,000 people will be employed in the European wind energy sector – 160,000 onshore and 215,000 offshore.

In the last two years, wind energy companies have repeatedly reported an acute shortage of workers in certain fields that require a high degree of experience and responsibility:

- Manufacturers report a shortage in two types of jobs: firstly engineers and secondly, O&M and site management activities
- Wind energy promoters need more project managers – those responsible for obtaining the building permits in the country where the wind farm is going to be installed. The role requires a specific knowledge both of the country in question and of wind energy, along with negotiating skills.
- Other profiles, such as financiers or sales managers can occasionally be hard to find, but are usually less of a problem for wind energy companies, maybe because the qualification that they require are less specialized.

▪ PHOTOVOLTAICS¹⁶

Today Europe is leading the way with more than 9GW representing over 65% of the Global cumulative PV installed capacity. In 2008, with more than 5.6GW, the Global PV market has more than doubled compared to 2.4GW in 2007. The impressive progression in 2008 is mainly due to the development of the Spanish market which almost quintupled in one year from 560MW in 2007 to more than 2,511MW in 2008, representing more than 45% of the Global PV market and 56% of the EU market. Besides the development in Spain, other countries continued their progression, such as Germany which installed around 1.5GW in 2008. Major developments were seen in other countries like Italy (258MW) as well as the emergence of new PV markets such as France (105MW were installed, 46MW of which were connected in 2008), the Czech Republic (51MW), Portugal (50MW) and Belgium (48MW).

Considering the regional distribution of the Global Market Outlook under the Policy-Driven scenario, EPIA foresees the EU PV market to grow from 4.5GW in 2008 to 11GW by 2013. In its Policy-Driven forecast for Europe, EPIA expects Germany to remain as the major PV market in Europe with increasing roles from France and Italy. If the cap is removed in Spain, EPIA expects these 4 countries to represent more than 75% of the European market by 2013. The photovoltaic sector is becoming a decisive employer in Europe and worldwide.

¹⁶ European Photovoltaic Industry Association (EPIA)

A tool to create a start-up company in RES

The photovoltaic sector is particularly promising in terms of job and local wealth creation. The sector invests heavily in research and technological innovation and generates employment, which to a very high degree means skilled, high quality jobs. Moreover, the PV sector has a decentralized structure, which leads to employment in the less industrialized areas. The PV industry has created more than 75.000 jobs in Europe in the last few years the following countries have been leading this trend:

- In Germany (the largest PV market worldwide), employment in the PV sector rose from 1.500 (1999) to over 40.000 (2007)
- In Spain, until 2007, more than 23.000 jobs were created
- In Italy, until 2007, 1.700 jobs were created
- In France over 2.100 persons are today directly employed by the photovoltaic sector

The European Photovoltaic Technology Platform estimates that the PV industry has the potential to create more than 200.000 jobs in the European Union by 2020.

▪ **SOLAR THERMAL**¹⁷

Recent research in this field shows that, by around 2020, around 300,000 new direct and indirect jobs related to the use of renewable energies will be a result of an increase in the use of solar resources.

According to this data, and considering the weight of thermal solar energy compared to photovoltaic power, it is estimated that around 200,000 of those new jobs will be within the solar thermal energy sector.

Many of the professionals who participate in this sector (architects, engineers, installation and maintenance technicians, draughtsmen, dealers etc) do not work exclusively in this field. However, it is quite clear that the increase of job offers related to this technology will also benefit the related professions. Other research shows that policies and public programmes are needed to encourage energy efficiency and therefore encourage private investments for renewable energy technology.

In the E.U., Germany (the largest user of solar thermal energy) has 11% of its specialized technicians, engineers and operators in the solar thermal sector. The increase of jobs related to thermal solar energy has considerably increased with respect to 2004. The most jobs in greatest demand in this sector are: installation and maintenance technicians, technical sales professionals, installation designers and trainers. The professions linked to these posts are the engineers and plumbers with some knowledge of electrical wiring and welding.

¹⁷ European Solar Thermal Industry Federation (ESTIF)

▪ **HYDROPOWER¹⁸**

The European hydropower manufacturing industry dominates the world market. The majority of the market share is held by a small number of well established international companies which mainly deals with large projects or in collaboration with local subcontractors for small hydropower projects.

The market of very small projects is dominated by the presence of small manufacturing companies that are working in national or regional level. According to SCPTH (Syndicat des constructeurs de petites turbines hydrauliques), the hydropower manufacturing industry employs about 4000 people.

Small and medium sized enterprises constitute the majority of goods and services suppliers in the field of the European small hydro industry. Small and Medium renewable energy enterprises create employment at much higher rates than many other energy technologies. There are economic opportunities for new industries and new industrial and craft jobs through production, installation and maintenance of renewable energy systems.

The construction and maintenance of a SHP plant needs a multidisciplinary team of enterprises encompassing civil engineers, and electricity specialists, turbine manufacturers; suppliers etc. SHP plants create local jobs for the monitoring of the running phase of the plant.

ESHA estimates turnover of between €150 and €180 million, with the sector employing nearly 20 000 people.

▪ **BIOMASS¹⁹**

According to the RAEL (Renewable and Appropriate Energy Laboratory) research centre at Berkeley University, the use of renewable energy sources generates an increase in jobs above that produced by similar investment in traditional energy sources.

¹⁸ European Small Hydropower Association (ESHIA)

¹⁹ European Biomass Industry Association (EUBIA) and European Biomass Association (AEBIOM)

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The use of renewable energy represents the start of a cycle of innovation, investment and employment that could in particular benefit economically depressed rural areas. By way of example, a nuclear plant creates little employment, and for generally highly qualified staff; an energy plant based on the use of biomass creates greater employment for every Megawatt produced and requires less qualified workers.

Biomass creates new and stable jobs, can assist in rural regeneration and contributes to a balanced growth of agriculture. High demand for biomass conversion and utilisation technologies can be expected in the future in both industrialised and developing countries. This may give rise to export opportunities for European technologies and services, particularly for small and medium capacity plants.

The Biomass Action Plan of the European Commission sets out measures to increase the development of biomass energy. The implementation of this plan would involve the creation of 182.000 additional jobs in the EU.

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