

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Economics**



**Diploma Thesis**

**Case Study of Selected Business plan Development in  
Renewable Energy**

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# 1 Introduction

I always want to make own business and with this are connected thoughts in what industry is good to do business. And there came the idea of why not to do business in the energy industry. Energy resources accompanied mankind since time immemorial. As development of technology continues are discovering new, better and more efficient way of producing energy, on which humanity is increasingly dependent. So it could be said that the energy will be needed always and this is one of the best reasons why to do this type of business. Also the one of the ways how to produce energy is possibility use of renewables. That means using of inexhaustible assets like wind, water, biomass, sun. There is no doubt that the use of these resources in itself offers great potential and efforts of humanity will be in the future. And due to that the renewables are clear sources of energy there is possibility do something good for our environment.

All above mentioned is the reason why I want and in same time choose to do business in the field of renewables.

In diploma thesis I will deal with creation of business plans for solar energy and wind energy, which has in my opinion, best potential at the territory of Czech Republic. The thesis will provide information about planning and realization of project, including economic evaluation of solar and wind energy.

The thesis was written for addressing of potential investor and this is why there you could find two separate projects with the aim to be able find optimum solution for real business.

## 2 Keywords

Solar energy, Wind energy, Renewable energy, Business in renewable energy, Case Study, Business plan, Renewables, Solar power plant, Wind farms , Financial plan

## 3 Objectives of thesis

Diploma thesis has many aims. First aim is about providing basic information about renewable energies. Second aim is to teach readers how to build business plan. And last aim, which is also the main aim of this thesis, is to create business plan for the purpose of addressing potential investor and due to addressing of investor transfer this project into future realization.

## 4 Methodology

The diploma thesis is divided in to two parts; it means that is divided on theoretical and practical part.

Detailed view on selected important parts could be found in theoretical part of this diploma thesis. These important parts contain definitions and history of renewables like is energies from sun, water, wind and bio fuels. In the theoretical part are also described in detail economics aspects of solar and wind energy on which this thesis is focused. These aspects include for example solar radiation, price of collectors also it includes annual air flow and so on. In a nutshell all factors influencing electricity production and return of power plants.

In the practical part or in the results is inscribed how to create business plan and how to start business with the explanation what is needed for start this type of business. Also there is described legislation connected with the production of electricity from renewable sources, which correspond with the chapter what is needed to start this type of business.

Further thesis describes business plan development in renewables with possibility to do this business in real life. The development is divided on two specific business plans, specifically on the business plan in the field of solar energy and the second one is in the field of wind energy. The author of this thesis had to familiarize with the various laws in terms of entrepreneurship and also in terms of legislation renewables.

The information about costs, revenues, profit and return of investment are clearly listed in the business plans.

Also there has been used analysis of competition and for helping to achieve the success of projects was elaborated SWOT and PEST analysis. The positives, negatives, opportunities and threats are discussed in SWOT analysis and in the PEST analysis could be found factors influencing the whole development of projects.

For the feeling of security during business is recommended to elaborate project analysis for risk reduction. The information obtained during different phases of the projects helps to get financial aspect about anticipated costs and profit.

## **5 Main Findings**

The main aim why this project was created is the future possibility to find a real potential investor, which will be interested in project and would fund the project with entire amount. There is a condition that future annual net profit will be partitioned between author and investor. Author should take 70% of net profit and investor 30% of net profit. It is divided by this ratio because whole work like ensuring maintenance and whole management operation of power plants will be responsibility of the author also the know how is intellectual property of author, the investor just provide money.

Author of thesis expected that the business in solar energy will be much better than in wind energy. But as it turned out, during the writing a thesis, that the business in wind energy is really much better than in solar energy. And why is it so? Firstly it is due to that nowadays is not possibility to join distribution network with newly built solar power plant and second reason are results in profit after 20 years of commissioning.

Meanwhile in solar energy, if we take in consideration to buy already existing solar power plant are initial costs 15 million Czech crowns and profit is 25,008,655 CZK after 13 years of commissioning (previous owner used solar power plant for 7 years and lifecycle is 20 years) and the result of return on investment is approximately 7 years. For potential realization of project in real business must be bought existing solar power plant due to no subsidies and no possibility to join network. So, in wind energy are although initial costs almost once way more expensive than in solar energy but even profit is several times higher than in solar energy. Initial costs for wind farm are 23,234,900 CZK and the profit after 20 years of commissioning is 91,571,157.3 CZK. The wind farm has also a faster return on investment which is less than 6 years.

From above mentioned we can conclude one single result and it is that the build and do business in the field of wind energy is very profitable, really preferable than solar energy and the Author of this project should address the potential investor by project on wind energy.

## **6 Conclusion**

Renewable energy sources are currently very hot discussed topic and it is for many reasons. It is due to that now is taken into consideration that renewables will be in future really important sources of energy, which helps to solve ecological problems and also simultaneously increase energy self-sufficiency of each state. The idea of renewable energy gives the impression of options to cheaply obtain energy from sources that are accessible to all free of charge and are not subject to any restrictions or inflation.

Without doubt the greatest portion in the development of energy production from renewable sources in the Czech Republic was due to the European Union, which interferes with energy policy of all Member States through indicative targets for the share of energy from renewable energy sources to gross electricity consumption. Czech Republic was able to meet the targets set by the European Union, which set the share of energy consumption from renewables for Czech Republic to 13% from total gross electricity consumption.

Czech Republic reached this condition in 2013. Reaching of energy consumption from renewables at 13% was due to boom in building of solar power plants, which was caused by generous subsidies. After subsidy fiasco with solar power plants, whose construction is currently suspended, it is only a matter of time when the Czech Republic will begin at a larger scale to build wind power plants.

The diploma thesis deals with solar and wind energy especially in terms of business and also from the perspective to address potential investor within Czech Republic. For this purpose was diploma thesis written as a business plan, which includes two different projects with focusing on, as mentioned before, business in solar and wind energy. In business plans was processed all basic information, like are all necessary information for planning of solar or wind project, understanding the possibilities of using solar or wind energy in Czech Republic according to localities through the authorization process, there was also mentioned which technology is the best for the project from perspective of Author of this thesis. In business plans was also evaluated the economic return and effectivity of potential projects.

Business plans are also used to provide basic information how to do business and how to address potential investor.

In the end it could be said that the business in renewables is very perspective, but in wind energy is more perspective even if the construction costs are higher than in solar energy. So for the author will be wind energy considered as a better way for realization of chosen projects.

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