# Green Financing As An Alternative For Improving RegionalEconomic Conditions

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# Green Financing As An Alternative For Improving Regional Economic Conditions

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**ABSTRACT**

*Green finance is a company's financial management activities using the green concept, namely activities with the basic concepts of being environmentally friendly and sustainable. The company's goal in maintaining sustainability is to obtain maximum profit (profit maximization) maximize value (value maximization) and prosper shareholders. This research method uses the method of net Present Value (NPV) analysis. Net Present Value (NPV) analysis is a financial analysis that is used to determine whether or not a business is being carried out by a company seen through the present value of net cash flows that will be received by the company concerned. The conclusions of this study are 1. Based on the results of the R/C ratio analysis of 1.437, it is stated that the tempe industry business is feasible; 2. Based on the analysis of NPV greater than one, stating that the tempe industry business has a sustainable feasibility; 3. Based on the 3R analysis, it is stated that the tempeh industry in Sidorejo village, Krian District, Sidoarjo Regency has implemented the feasibility from environmental aspects, namely implementing reduse, reuse and recycle.*

*Keywords:*
*Green Financing, Feasibility of farming, Regional Economic Conditions*

## 1. Introduction

The pandemic period that began in early 2019, has changed the paradigm of consumers, the business world, and asset owners or investors. These conditions have an impact on all sectors in carrying out operations in a sustainable manner, especially the food agriculture sector.

One of the government's efforts to overcome this problem is to provide sources of financing. In order to encourage sustainable financing, the government is implementing a green economy in Indonesia. In order to encourage the creation of a green economy, financial institutions, especially banks, are encouraged to develop green financing in providing business loan capital to all business actors.

Green Financing is defined as the overall support of the financial services industry for sustainable growth resulting from the alignment of economic, social and environmental interests. Green finance is a company's financial management activities using the green concept, namely activities with the basic concepts of being environmentally friendly and sustainable. The company's goal in maintaining sustainability is to obtain maximum profit (profit maximization) maximize value (value maximization) and prosper shareholders.

Formulation of the problem

1. How is the feasibility of a green industry business
2. How is the sustainability of green industry farming
3. How effective is the implementation of green financing

Research purposes

1. To find out the feasibility of a green industry business
2. To find out the sustainability of green industry farming
3. To determine the effectiveness of the implementation of green financing

## 2. Literature Review

The concept of social capital was first introduced by LJ Hanifan in the early 20th century. Hanifan explained that social capital is not capital in the usual sense such as wealth or money, but rather contains an individual character, which is an asset or real capital that is important in social life. The definition of social capital is the community's skills to unite and relate to one another and subsequently become a very important ability not only for economic life but also for every other form of social presence.

According to Tri Uswatun Hasanah, Nurhadi, Abdul Rahman (2020) mentions 3 forms of social capital as follows:

1. Social Networks
2. Trust
3. Social Norms

Business continuity strategy is a method used by the community, both individuals and groups in achieving a goal. such as in maintaining the continuity of a business in order to remain stable in a particular business. According to Suka Mahendra (2015) the business continuity strategy in this study is a state of a business, in which there are ways to maintain and develop as well as protect resources and fulfill a need contained in a business.

According to Suka Mahendra (2015) Men mentions there are 4 forms of strategy in business continuity as follows:

1. Strategy in capital
2. Strategy in resources
3. Strategy in production
4. Strategy in marketing

Business continuity consists of two words, namely sustainability is defined as resistance. And in the sociology and population dictionary, survival is the same as survival value, that in the value of resilience is the quality of an element that gives strength to an individual or social group to survive in a condition or situation. In Law NO. 3 of 1982 concerning mandatory company registration, business is any action, act or activity in the economic field carried out by any company or individual for the purpose of obtaining profit or profit.

Street vendors are business actors who sell trade in the form of goods or food using movable and immovable business tools, and sell in public places such as terminals, markets, and other tourist attractions that are temporary and not permanent.

**Green Finance In Agriculture**

Global warming and climate change has created uncertainties in the bumper production in agriculture. In the traditional farming yields of low returns, so that,agriculture sector has not attracted adequate investments. As a result educated and young generation prefers jobs than engage themselves in cultivation. If themodern

technologies and financing be increased in agriculture for the maximum output in cultivation, then young generation will develop the farming and yields much than a job gives. Increase of finance in irrigation during the dry season the production of crops can be increased. Farmers would be trained in modern farming practices to adopt improved package and practices.

Financing in poultry farm and hatcheries, the deficit of protein can be increased. Unemployed young people can find sufficient benefits if the financing is increased in these sectors. Government, various non-government organizations (NGOs) and microfinance institutions can provide loan facilities with low interest rate in agriculture sector and can contribute in the development of the country.

Financing in pisciculture can increase the production of fishes in the paddy fields, small and larger ponds, and farmers increase their income. The financial institutions can increase their incomes by the green financing than the investment in conventional ways, because financing in these sectors has low risk. Agriculture and rural development activities like forestry, agriculture and other land use activities, viz., dairy, soil conservation, energy use practices, use of renewable energy, etc. have tremendous potential for reducing emission of greenhouse gases (GHGs) (Uddin et all, 2013).

As a core tool of green finance, trade of carbon emissio has gained tremendous growth in the global transition of low-carbon economy. The Kyoto Protocol has established three cooperative mechanisms, including the Joint Implementation (JI) Mechanism, the International Emissions Trading mechanism (IET) and the Clean Development Mechanism (CDM) (Heil, 2001). Accordingly, the global carbon market has evolved into the JI market, the IET market, the CDM market and other markets not covered by the Kyoto Protocol such as the NSW Greenhouse Gas Emission Reduction System, the Chicago Climate Exchange and the retail market. There into, the IET market and the CDM market are the major carbon markets (Eichner, 2010). The former is based on carbon credits and the latter the project- based carbon funds, set up by developed countries for reducing greenhouse gas emissions in developing countries (Foxon, 2011).

According to the statistics of the World Bank, the global volume of carbon trade had reached 126 billion dollars in 2008. The British New Energy Finance Company predicts that the global carbon trading market will reach 3.5 trillion dollars in 2020 and is expected to become the largest market in the world surpassing the oil market. There are two relatively representative types of carbon emissions trading (Rosenbloom, 2018).

In developed countries, green financial instruments include trade of carbon emissions, carbon funds and other financial products. After introducing these kinds of tools, this article gives corresponding suggestions for the development of green finance in our country. The following parts will introduce the carbon emissions' trading, carbon fund and other products, followed by suggestions and conclusions (Peng et al, 2018).

## 3. Research Method

### Research sites

The location of the research was carried out purposively, namely in the village of Sidorejo, Krian District, Sidoarjo Regency. The location was chosen with the consideration that it was carried out by a green business/industry, which is expected to be given a green financing loan, so that in the end it can increase the economic potential of the local area.

**Determination of Respondents**

The respondents of this research are green industry entrepreneurs (tempe craftsmen) in Sidorejo Village, Krian District, Sidoarjo Regency who have not received green financing financing. Respondents were taken using the Simple Random Sampling technique. According to Sugiyono (2017), Simple Random Sampling is a sampling technique where every member of the population has the same opportunity to be sampled. all members of the population to be studied. Of the total population of 60 tempe artisans, 6 were determined.

**Datacollection**

The data needed in the study include primary data and secondary data.

- Primary data

  Is data obtained directly from interviews, observations and questionnaires distributed to a number of samples of respondents in accordance with the target target and is considered representative of the entire population, namely farmers who receive green finance.

- Secondary Data

  Secondary data is data that has been provided by agencies related to this research. Secondary data was obtained from the Village Office, related Financial Institutions (BRI Bank), which included data on farmers who received financing/capital assistance, data on the socio-economic conditions of the population.

**Data analysis**

1. Net interest value (NPV)

   Net Present Value (NPV) analysis is a financial analysis that is used to determine whether or not a business is feasible by a company seen through the present value of the net cash flow to be received by the company concerned compared to the present value of the investment capital.

   Net Present Value is the difference between the present value of cash flows in and the present value of cash flows out in a certain period. NPV is used in capital budgeting to analyze the profitability of a project. In simple terms, NPV is an estimate of the profits that a business will get in the future if we invest at the present value.

$$NPV = \sum_{i=1}^{n} N\beta i\,(1+i)-n$$

$$= \sum_{i=1}^{n} N\beta i \frac{NPV}{(1+i)-n}$$

   Where :

   NB = Net Benefit = Bene – Cost
   B = Benefits that have been discounted
   C = Cost that has been discounted
   I = Discount Factor
   N = Year
   Criteria:

   - NPV > 0 : Business is feasible
   - NPV < 0 : Business is not feasible
   - NPV = 0 : Business in Break Even Point

2. R/C Ratio

The definition of R/C Ratio is the number of ratios used to see the relative profit that will be obtained by a business or project. The use of the R/C ratio is known to aim to determine the extent to which the results obtained from a profitable business in a certain period.

R/C Ratio Formula

$$\text{R/C Ratio} = \frac{\text{Revenue}}{\text{Total cost}}$$

Criteria:

- R/C > 1, then the business is profitable
- R/C < 1, then the business loses
- R/C = 1, then the business is BEP

The R/C Ratio method is a method that is often used in the early stages of investment planning. Served as an additional analytical tool in order to validate the results of evaluations that have been carried out using other methods. This means that this method is very well done by using other methods.

## 4. Result

Average production costs can be simplified and explained in the following table:

Table. 1. Average Variable Cost of Tempe Production in Sidorejo Village, Krian District, Sidoarjo Regency (Rupiah/Day)

| No | Factor of Production | Needs | Price | Mark |
|---|---|---|---|---|
| 1. | Soya bean | 100 kg | 9.675 | 967.500 |
| 2. | Water | - | - | - |
| 3. | Fuel | 2 tabung | 18.000 | 30.100 |
| 4. | Yeast | - | - | 9.755 |
| 5. | Plastic | - | - | 32.915 |
| 6. | Labor | 0,41 HKO | 115.000 | 47.500 |
| | TOTAL | | | 1.087.770 |

Source: Primary Data Analysis, 2021

Fixed inputs are inputs used whose size does not depend on the number of products produced, or inputs that are not used up in one production process. The costs used to obtain fixed inputs are referred to as fixed costs.

This fixed cost is the same as the initial capital required in the tempe production process.While fixed costs include:

Table 2. Average Fixed Cost in Tempe Production in Sidorejo Village, Krian District Sidoarjo Regency

| No. | FixedInputCost | Needs | Price | Mark |
|---|---|---|---|---|
| 1 | SoybeanBreaker | 1 | 1.800.000 | 1.800.000 |
| 2 | TempeCuttingTool | 1 | 100.000 | 100.000 |
| 3 | Big drums | 2 | 200.000 | 400.000 |
| 4 | Mediumdrum | 1 | 100.000 | 100.000 |
| 5 | Kompor | 1 | 500.000 | 500.000 |
| 6 | Dandang | 1 | 150.000 | 150.000 |
| 7 | TabungLPG | 2 | 125.000 | 250.000 |

| | |
|---|---|
| TOTAL | 3.300.000 |

**Revenue (Total Revenue)**

Revenue is the result of the sale of the product produced, which is the result of multiplying the product produced with the price received for each unit of product. The average selling price of tempeh is Rp. 1,600 per piece. The number of products produced in each day an average of 977 pieces, so the total revenue is Rp. 1,563,300/day

**R/C Analisis Analysis**

The R/C analysis compares the total revenue with the total cost. Based on the R/C analysis, it can be seen that if the entrepreneur will increase the capital by one unit, it will be known that the existing revenue will be obtained. This R/C analysis can be used to determine the feasibility of a business. The comparison of the total revenue with the total cost of the tempeh business in the village is as follows:

R/ C = 1.563.300
1.087.770
= 1,437

Thus, tempeh business in the village is feasible because the R/C value is greater than 1. The R/C value of 1.437 means that each cost is Rp. 1, - which is used will get an acceptance of Rp. 1,437,-

**Continuous Analysis/ NPV Analysis**

This sustainable feasibility analysis is intended to assess the feasibility of a business in the long term. Based on the results of this analysis, it is used as the basis for policy makers in providing financial financing because the business is said to be feasible and can improve the economic condition of a region. Analysis of sustainable business feasibility in this study used Net Present Value (NPV) analysis. The calculation of the Net Present Value with the desired rate of return of 15% is as follows:

Table 3. Calculation of Cash Flow for Tempe Production in Sidorejo Village, Krian District, Sidoarjo Regency, 2021

| Th | Cost(Rp) | Revenue(Rp) | Profit(Rp) | DF(15%) | PresentValue(Rp) |
|---|---|---|---|---|---|
| 1 | 400.336.050 | 495.143.600 | 94.807.550 | 0,8696 | 82.444.645,48 |
| 2 | 397.036.050 | 499.247.000 | 102.210.950 | 0,7561 | 77.281.699,29 |
| 3 | 397.036.050 | 499.247.000 | 102.210.950 | 0,6575 | 67.203.699,62 |
| 4 | 397.036.050 | 534.907.500 | 137.871.450 | 0,5718 | 78.834.895,11 |
| 5 | 397.036.050 | 570.604.500 | 173.568.450 | 0,4972 | 86.342.981,34 |

Net Present Value is an analysis of financial benefits that is used to measure whether a business is feasible or not, seen from the present value of net cash flows to be received compared to the present value of the total investment issued. This NPV analysis is intended to complement the R/C analysis. Based on this analysis, the NPV value every year starting from the first year to the fifth year is greater than one (NPV> 1), it can be explained that the tempe production business in Sidorejo Village, Krian District, Sidoarjo Regency is feasible. It is hoped that this feasibility value can be recommended as a basis for providing green financing credit in the area, which in turn can help increase production and community income as well as employment.

## 5. Discussion

### Environmental Analysis

SMEs in the tempe industry sector have implemented the concept of green industry. It is known that 50% of entrepreneurs are interested in green financing while 50% stated that they are not interested in green financing because they cannot meet the requirements to get green financing. One of the requirements that must be met or set by the government is that their businesses must meet business indicators that are environmentally sound, namely implementing a reduce, reuse and recycle system. Although in fact they already did.

1. Reduce

   Reduce means reducing everything that causes waste. The tempeh production process does not produce waste

   - 100% of respondents use LPG fuel. The use of LPG in addition to saving fuel is also intended to maintain cleanliness around the production site and to reduce combustion fumes so as to reduce air pollution. The fuel in the tempe production process can also use charcoal wood or sawdust residue, but the effect can cause a less clean environment and even worse air pollution in the form of burning black smoke.
   - 100% of respondents stated that they agreed to do the drying process of tempeh after steaming by drying it by aerating to speed up the next process, namely the fermentation process.
   - 100% agreed to save water. Water is needed in large quantities in the tempeh production process. The use of water includes soybean washing, boiling, soaking and steaming. To save water costs, they use boreholes with the help of water pumps. More saving when compared to using PDAM water.
   - 100% agree to use imported soybean raw materials, considering that imported soybeans are of better quality (bigger size, whiter color, cheaper price) so that the resulting production is of better quality and quantity.

2. Reuse

   Reuse means reusing the rest of the production

   - 100% agree that they agree that the remaining boiled soybean water is very useful. They sell or give the rest of their production to other parties in need. This is indicated by the presence of residual boiled soybeans given to goat or cattle breeders. The production waste/remains of the soybean stew can be used as animal feed.
   - 100% agree that soybean washing water is very useful. The water used for washing soybeans is stored in a reservoir and then flowed into the river behind their house. The washing water that is thrown into the river or river can be used as food for fish or other animals that live in the river.

3. Recycle

   - 100% of respondents do not use hazardous materials. The tempeh production process avoids the use of additional ingredients, purely using the main raw materials, namely soybeans and yeast
   - 100% of respondents agree that the tempeh production process does not producehazardous water pollutant waste. This is because water is needed in thewashing and boiling process. Soybean laundry tubs do not contain hazardous materials and are used for washing in general and are even

considered to be food for certain animals that live in the water around the waste water disposal environment.

- 100% does not pollute the water. This is because the waste used for washing does not cause odor. Because the waste is directly dumped into the river / river where the water flows.
- 10 states that it does not cause air pollution. This is because the fuel in the production process uses LPG which does not produce billowing smoke as if wood charcoal or sawdust is used as fuel.

## 6. Conclusion

Based on the results of the study, it is concluded:

1. Based on the results of the R/C ratio analysis of 1.437, it is stated that the tempe industrial business is feasible
2. Based on the analysis of NPV greater than one, stating that the tempe industry business has a sustainable feasibility
3. Based on the 3R analysis, it is stated that the tempeh industry in Sidorejo village, Krian District, Sidoarjo Regency has implemented the feasibility from environmental aspects, namely implementing reduse, reuse and recycle

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