INTERNATIONAL JOURNAL OF
ENERGY AND ENVIRONMENT

*Volume 10, Issue 4, 2019 pp.187-194*

*Journal homepage: www.IJEE.IEEFoundation.org*

# Business feasibility analysis of solar power plants in east-sumba energy zone

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Received 3 July 2019; Received in revised form 29 July 2019; Accepted 30 July 2019; Available online 31 July 2019

**Abstract**
The purpose of this study is to determine the business feasibility of the East Sumba energy security zone solar power project. Low of electrification ratio and energy security index and very large of potential of solar-based natural resource energy or solar power plants (SPP) in East Sumba make this study important. Data analysis used business feasibility analysis. There are several aspects used in this study, namely legal, market and marketing aspects, technical and technological aspects, management aspects and human resources, socio-economic aspects, environmental aspects, and financial aspects. This study uses primary and secondary data from the experience of SPP businesses in East Sumba and several regions in Indonesia. Business feasibility analysis simulated by SPP on Grid with battery Back-up System for 100 households/houses in hamlets/ villages. The result shows that the SPP business is feasible to implement based on several aspects, namely legal, marketing, technical and technological aspects, management and human resources, social and environmental and financial aspects. The SPP business can be developed with a capacity of 15 kWp for 100 households without batteries. In order to make the investment successful and feasible, it needs the role of "cheap" subsidies to support small-scale generator investments such as soft loans, government spending, grants, and so on. Battery schemes, it is not recommended for private investment because of battery prices are still high and battery useful life is under 10 years. Therefore, investment is suggested made by each household according to needs.


**Keywords:** Electrification ratio; Energy security; Business feasibility: Solar power plants.

## 1. Introduction

The Ministry of Energy and Mineral Resources (ESDM) Republic of Indonesia has made Sumba Island as an icon of the renewable energy island in Indonesia. Development of Sumba Island as an Iconic Island of Renewable Energy is an activity that has been initiated by the Ministry of Energy and Mineral Resources Republic of Indonesia and Hivos since 2010 [1]. This program aims to provide reliable energy access for people who live on small and medium-sized islands in Indonesia, through the utilization of renewable energy.

Previous studies indicated that the availability of energy based natural resources in East Sumba has a high value, natural resources in East Sumba consist of solar power plants (SPP), water (Micro Hydro Power Plants /Hydro Power Plant), wind power plant, biogas and biomass power plant are sufficient potential,

however, the energy security index in East Sumba is still low [2]. The low energy security index in East Sumba is caused by several conditions. First, Affordability (affordability or purchasing power) of people are still low, most people in East Sumba are poor and live in hamlets or grasslands in remote areas and not centralized. Second, Access to energy is also still difficult for the people of East Sumba, this is because of the hilly and grassland topography and non-decentralized / scattered and far-flung residential areas, while East Sumba has a large area. Third, supporting infrastructure, such as roads and bridges, is not enough. Last, Institutional models have not yet been formed. In addition, the low electrification made investors difficult to invest in East Sumba. This fact is in line with the statement from regional government and head of Indonesia state-owned electricity Sumba branch that the electrification ratio of East Sumba district only reached 31% in September 2018.

According to a study from the Asian Development Bank [3], Sumba Island, known as its Pasola tradition, has four renewable potentials, such as hydro power plant (micro hydroelectricity), power plant dams (hydro storage), wind power plants and solar power plant and biogas power plant opportunities from animal waste and biomass. Besides, in December 2015, ADB identified 300 potential locations that can be developed as minigrid locations with very low costs for micro hydro development. The analysis is done to determine the potential of natural resources that can be used as new renewable energy. The result shows that solar power plant is the most potential and prospective energy that can be developed in East Sumba in order to strengthen energy security based on renewable natural resources.

The potential of solar energy on the island of Sumba, which is tropical area, can be developed at 10 MW, based on an average solar beam of 5 kWh / m / day, with the sun shining for five hours a day with radiation of 1000 watts / m, with an area of 11,153 km [4]. Based on the background mentioned above, and the known the potential of natural resource energy, then the next is how the business feasibility of solar power plant projects is viewed from several aspects. The purpose of this research is to analyze the business feasibility of the East Sumba energy security zone solar power project.

## 2. Method

This study applied descriptive research. Data gathered from primary and secondary data. This study focused on seven aspects. For financial aspect, this study calculated the amount of investment costs, working capital and the rate of return on investment from the business to be sold. The assessment used for financial aspects are Net Present Value (NPV), and Internal Rate of Return. Net Present Value (NPV) method was used to reduce deficiencies found in the Payback Period (PP) method. The NPV method is a method used by comparing the present value of the proceeds to the present value of outlays. The positive NPV calculation means that the investment will give higher results than the minimum desired rate of return. Conversely, if the NPV is negative, it means that the investment will give a lower yield than the minimum rate of return desired, then the investment should be rejected. Other methods are Internal Rate of return (IRR), Net Benefit Cost Ratio (Net B / C), Payback Period (PBP) and sensitivity analysis.

## 3. Result and discussion

Based on the results of the TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution) analysis, solar power plant (SPP) is chosen as alternative solution for energy security problems in East Sumba [2]. However, a very interesting challenge in this study is to fulfill the Electricity Energy in lagging zones and supporting government programs in village development. Particularly in the East Sumba region, the village topology is scattered so that it requires sustainable energy based on natural resources and the Indonesia electrical state-owned company network has not yet reached the villages in the remote areas because of lack of road infrastructure. Sharpen this study, it is necessary to thoroughly examine the feasibility aspects of the business starting from the Legal, Market and Marketing, Technical and Technology aspects, Costs, Management and human, social and community resources to the financial aspects. The details are discussed below.

### *3.1 Legal aspect*

Legal aspect is analyze based on the status of land (government/custom/private) and not within the Limited Production Forest/Conservation area which are important requirements in accordance with the Guidelines for Preparing a Feasibility Study for Centralized Solar Power Plants [1]. For the status of land (owned by the government / custom / private), when using budget and government spending, the review of legal aspects is more emphasized in the clarity of the status of the land that will be used as the SPP location so that there are no problems or disputes after the SPP is built, supplemented by a statement as stipulated in

the Ministerial Regulation Energy and Mineral Resources Republic of Indonesia Number 10 of 2012 concerning the Implementation of Physical Activities for the Utilization of Renewable Energy, and in making a statement to coordinate in advance with landowners / customary heads / hamlet heads.
The legal aspect is very important, given the many cases of conflict related to land legality or the legality of the place of business, even the legality of the business. If this is ignored, it is feared that it will cause problems in the future. The impact is not only business continuity is not guaranteed, but also energy supply and energy security will not be achieved, even though the resources are abundant.

*3.2 Market and marketing aspect*

Based on observation of conditions in the field, interviews with key persons and the conditions of East Sumba, the potential of the electricity market is still very large and has a great opportunity because East Sumba's electrification ratio is still relatively low. Demand is still high, while energy supply from both PLN and other energy sources is still limited, and lack of interested business-people. On the other hand, projects and programs related to the development of Sumba as iconic independent energy and renewable energy islands have not been optimal and their continuity is not guaranteed.
Although the market potential is very large and prospective, it does not mean that it does not require a strategy in renewable energy marketing, especially SPP in East Sumba. However, the marketing strategy that is carried out should refer to the Resource Based Strategy. This is certainly for several important reasons.
First, related strategies in introducing products and conducting promotions. The SPP company management will have to implement a direct selling strategy, by directly approaching and introducing products to prospective customers, which are the people of East Sumba and the Regional Government in accordance with the mapping and market potential that has been done before. We do this because indeed the market of SPP is still special, especially in areas or hamlets that are truly isolated, but potentially. This means that in the marketing strategy of SPP products it is more the strategy marketing method, which is in the process of formulating a market-oriented strategy that considers the ever-changing business environment and the need to provide superior value to the market (customers). Thus, SPP in marketing its products is more to Winning Strategies through Value Creation as illustrated in Figure 1.
Because the marketing strategy of SPP products is based on value, the management of SPP must certainly understand the concept of value / benefit that:

- Customers / communities only want to buy something that is truly valuable. This means that the SPP company must provide products that are valuable, beneficial to people's lives, affordable and sustainable.
- Products / services that are of value to someone are not necessarily valuable to others. But here, the value given must be truly economical and sustainable.
- If there are more than one product / service that can meet the needs / desires of the customer, they will choose a product / service that has a higher value.

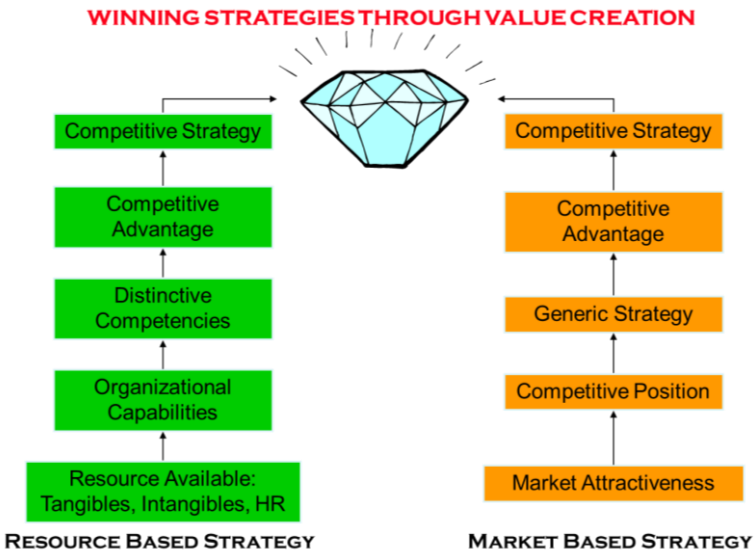


Figure 1. Marketing strategy through value creation [5].

 

Therefore, SPP management will prioritize the value of benefits or benefits that will be obtained by consumers (in this case the community or government or company) when buying the products they offer. Thus the management of the company does not only offers value, but also educates the public so that companies and public get profit and benefits from the product.

But over time, the insights of the Indonesian people towards SPP technology are increasing, SPP management slowly starts to educate the public and use other promotion strategies such as websites. This means that SPP in marketing its products also pay attention to consumer knowledge and the role of technology to consumer behavior. Especially nowadays web-based marketing and social media are very effective and can reach all groups and everywhere. This is the age of postmodern marketing; all businesses must be internet based. The company management also added that marketing of the company's products and services is also based on value-based marketing. Because basically the products offered to the public provide value, especially in:

- Environment
- Social by helping overcome the energy crisis
- Pollution-free and renewable energy

Second, in the success of product marketing strategies, SPP companies do not only carry out resource-based strategies, but also need to consider market-based strategies (Market-Based Strategies). As stated earlier, while products are sold based on value, marketing can be done directly to prospective customers who have been mapped before. Through this monitoring, research is carried out, whatever needs can be done for prospective customers. Customers will buy products or solutions that will be offered. Related to the actual company in running a business, it is necessary to really use strategic marketing methods, ranging from selling value and benefits, then starting to understand and regulate the market by conducting market research (marketing research). Thus, the target market is truly measurable and predictable and quite effective.

Third, in marketing SPP's products/service, Company also apply the STP Model (Segmentation, Setting/ Shooting, and Positioning/Market Positioning). In applying the STP Model, SPP Company needs to segment the market first, especially when the marketing strategy is market-based. Market segmentation can be divided into four main segments, namely the public, private companies, state-owned companies and government institutions. Each segment has a different character so that the approach should be different. Market Positioning also needs to be applied to find out whether if the product in price and quality is still competitive. Market positioning becomes baseline of the company / private sector to continue to innovate not only in quality and quality but also in price. This means that the SPP companies themselves need to implement STP and they really understand their market segments, who's the targets and how to be positioning the company. Moreover, their products (SPP), besides having high value and benefits, also having uniqueness and environmentally friendly and renewable. Because of the uniqueness, competitors in this business are rare, so that in the near future, if the company is consistent and always can improve technology and the performance of its products services, it is undeniable that it will become a major market player, especially SPP.

However, in running the SPP business, it does not mean that there are no obstacles. Based on interviews with businesspeople, key persons and SPP leaders in East Sumba there are number of obstacles encountered, especially the obstacles that the company in winning the SPP market competition in East Sumba which will explain further. Companies have problems in getting information on market positioning and competitors. This occurs because of the fact that most competitors also apply almost the same marketing strategy which is direct selling. Because most users of SPP technology are government institutions, to get information related to projects that have been implemented and with competitor information is difficult. Therefore, because the main problem is to implement a marketing strategy that is almost the same, and the constraints in getting information on market positioning and competitors, the company should really sell products that have high value, high performance, large benefits, efficient and effective. That kind of products that can compete in the market. In addition, companies must strengthen networks and relationships and be supported by all stakeholders, especially the local community.

*3.3 Technical and technological aspects*

Development Planning of SPP in the energy security zone in East Sumba needs to be planned comprehensively and completely, technically and technologically. The planning needs to calculate the electricity that will be supplied from SPP. SPP that will be developed should focus on areas that are isolated and do not have adequate road infrastructure and still difficult to reach by the Indonesia Electrical State-Owned Company network.

Those area are chosen not only for technical considerations, but also for social welfare consideration. The SPP, which will be developed, are mini and small. Its capacity is around 100 kk or 100 houses. The capacity is to fulfill target of meeting energy needs for a hamlet / village. The technical details of energy each household as follows: minimum energy for lighting (bulb) are around 7 Watts of power at least 1 piece, for 21 "LCD TV is 25 Watts, and 45 Watt for fans. Optimal use of electricity can be fulfilled during the day, but at night people can use a battery that is charged during the day. The use of lights can reach 8 hours per day/night with 5 pcs, so the total power needed per night for lighting with a 7 Watt LED bulb is around 0.28 kWh, so the electricity needs per night per house is around 0.395 kWh.
The energy produced from the solar module is directly channeled to the household and the excess energy is stored in the battery that has been prepared by each household. The energy in this battery can be used at night or during a power outage. The way it works is that the energy produced from the solar module is directly flowed to the electric load and the excess energy is stored in the battery but at home. Energy in this battery can be used at night or during a power outage. But the SPP uses the Off Grid with battery Back-up System method, while in each house uses On Grid with battery Back-up System.

*3.3.1 Estimated power requirements*
Energy/power needed for small scale in fulfilling the "hamlet" energy security zone need to be calculated in detail and precisely in order to meet the potential business scale. This is very important for the continuity of energy supply and business. Thus, it can be attractive for the private sector to join in developing energy security zones in East Sumba. Assume that estimated 50 household electricity demand in the daytime is around 9.25 kWH, while at night around 19.75 kWh, the total is only 29 kWh. The most potential business scale is at least 50-100 per household, so that it becomes attractive for investors.

*3.4 Management and human resources aspects*
The management of mini SPP is relatively easy and uncomplicated and requires high technology that is quite easy to understand and does not require human resources with high education in doing maintenance. Human resource is needed when it is in the setup process. In this process, it needs experts who have competencies and experience in electricity management and technology, especially SPP technology. Human resources needed for maintenance are technicians/guardians, administrators and supervisors who can monitor several mini-SPPs in East Sumba. Thus, the SPP developed is relatively easy to manage. In terms of technical competence, it is possible for community to manage in the form of mini nuclear power plants which are managed by the community through village owned enterprise.

*3.5 Social and economic aspects*
In the social and economic aspects, the people of East Sumba live in groups in hamlets that are isolated and far from the city. The development of mini SPP is feasible because it can support people who live far from city and near the water resource. The social community of East Sumba is mindfulness in accepting new things especially if it can make their community have a better life. This can be seen from the response and readiness of the community in receiving renewable based energy. Because people think that energy utilization especially electricity give positive impact to community including economy and social.
People are aware if the presence of electricity will increase their standard of living such as better economy, some works can be done at night. With the presence of electricity, water from rivers or springs can be distributed to homes, so people do not need to bathe in distant rivers, because the needs of clean water have been fulfilled to the homes. Even their agriculture and livestock can grow rapidly, because enough water for livestock needs and watering crops, vegetables, crops and fruits. Thus, agricultural productivity significantly increases, even they have made agriculture as a profitable and continuous agribusiness and not rely on the rainy season.
The very interesting thing is the presence of electrical energy, it can affect not only economically but also socially and culturally. As an example, in Kamalapia (a hamlet in East Sumba), the existence of an energy-independent hamlet has minimized the risk or problems of infidelity. Because they already have enough lighting, the man who has the potential to commit adultery or immorality will be embarrassed, because the people of Sumba each have a culture of shame and high respect if the act violates the norm known by others. In addition, with a prosperous society, community diseases such as criminal theft will decrease. Thus the development of the mini SPP in East Sumba is very necessary and very suitable to be applied, especially in remote hamlets.

*3.6 Environmental aspect*

The development of solar energy-based electricity (SPP) is very environmentally friendly and does not make pollution for water, air and soil. SPP is relatively easy to maintain. The waste produced is very small. Waste of SPP comes from the worn battery. But this is acceptable because useful life of battery is yearly. Thus, for environmental aspect, the SPP Development has a very small negative effect on the Environment.

*3.7 Financial aspect (investment feasibility)*

SPP energy costs are different from energy costs for conventional power plant because the cost of SPP is affected by high initial costs but low maintenance and operating costs. The initial investment costs for the SPP include the cost of the SPP components, the cost of the solar panel buffer racks and the SPP installation costs. The components of the SPP consist of the cost of buying solar panels and inverters. Calculation of cost analysis shows the amount of investment costs for mini-village SPP with a capacity of 100 households/house.

The financial aspect is analyzing the amount of investment costs and working capital and the rate of return on investment from the business to be sold. The method includes the assessment of financial aspects, namely: The Net Present Value (NPV) method is used to reduce deficiencies found in the Payback Period (PP) method. The NPV method is a method used by comparing the present value of the proceeds to the present value of outlays. The positive NPV calculation means that the investment will give higher results than the minimum desired rate of return. Conversely, if the NPV is negative, it means that the investment will give a lower yield than the minimum rate of return desired. Then the investment should be rejected. Other methods use Internal Rate of return (IRR), Net Benefit Cost Ratio (Net B/C), Payback Period (PBP) and sensitivity analysis.

The percentage of SPP investment costs including the cost of purchasing solar panels is the largest of the total costs in developing SPP can reach 70%, then the cost of purchasing inverter, investment installations and buffer racks. The percentage of costs is also in line with Yulianandа study [6], which stated that the percentage of panel purchase costs is 71% of the total cost, whilst the purchase of an inverter with a percentage of 21% ranks second, then the installation and buffer rack is the third place where each percentage the same is 4% of the investment value. The high cost of solar panels on this investment shows that this cost greatly affects the size of the initial investment in SPP.

Other important costs are Cost of Maintenance and Operations, Cost of Life Cycle and Cost of Energy. The resulting energy target shows in Table 1.

Table 1. Mini-financial projection of SPP hamlet energy security zone.

| Project Financing : Laverage | | |
|---|---|---|
| Bank | 0% | |
| Equity | 100% | |
| Target CAPEX PV | 32,143 | |
| Target CAPEX Batt | | USD |
| Loan Portion | - | USD |
| Equity Investment | 32,143 | USD |
| Operation | | years |
| FiT Solar | 0.1700 | USD/kWh |

The investment feasibility of SPP that will be developed in the East Sumba Energy Security Zone is determined based on the results of the WACC, PV, Net Present Value (NPV), IRR and Payback Period (PBP) calculations and sensitivity analysis (Table 2).

The investment feasibility table shows that the total present value of net cash flow resulting from the multiplication of net flows with a discounted factor is 43,995 USD. If the initial investment (initial investment) is 32,143 USD, - then the value of NPV is 11,852 USD. The positive NPV calculation results are 11 852 USD (> 0). It shows that the mini SPP investment that will be developed in East Sumba (energy security zone) is feasible.

Assuming bank interest rates in USD 7%, inflation of 4%, and tenor/investment period of 20 years, the IRR generated is also above the bank interest of 10.2% and the Payback Period (PBP) of this investment for 10.65 years. Note that storage batteries are not included in investment costs but are provided by the public. But if SPP is on pure grid, this investment is not feasible. This means that the feasibility of investing

 

and the financial aspects of developing mini-solar power plants is feasible and it is very possible to be a solution for people in remote hamlets in East Sumba. This can be seen from the cash flow table, as well as from the net cash and accumulative net cash continue to increase (Figure 2).

Based on the results of the analysis, SPP that is feasible to develop is SPP with a capacity of 15 kWp for 100 household without batteries. Benchmark the selling price of 85% of the local cost of provision, of which for NTT 85% cost of provision = 17 ct$ / kWh. This means that with a full model Investment with small capacity and for the long term only for solar power plants (Table 3).

However, so that a successful and feasible investment needs the role of "cheap" subsidies to support small-scale power investment such as soft loans, government spending, grants, and so on. As for the scheme with Batteries, it will not be recommended for private investment. Considering the battery price is still high and the battery life is under 10 years. Battery investment will be carried out by each household as needed.

Table 2. Investment feasibility of mini SPP.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Inflation Rate** | 4% | | 14000 USD | | | | |
| **Interest Rate** | 7% | | 0.2 ct $ COE PLN | | | | |
| **Loan Period** | 10 Years | | | | | 0.7 | |
| | | | | | /20y | /8y | |
| **WACC** | 7.0% | KK | **Paket kWp** | **Batt qty** | **PV** | **Batt** | Energy kwh/y |
| **PV** | 43,995 USD | 15 | 2 | 3.25 | 4,286 | 4,500 | 2,952 |
| **NPV** | 11,852 USD | 25 | 4 | 6.5 | 8,571 | 9,000 | 5,904 |
| **IRR Laverage** | 10.2% | 50 | 7.5 | 13 | 16,071 | 18,000 | 11,070 |
| **Payback Period** | 10.65 Years | 75 | 9 | 22.75 | 19,286 | 31,500 | 13,284 |
| | | 100 | 15 | 32.5 | 32,143 | 45,000 | 22,140 |

where. KK : Household

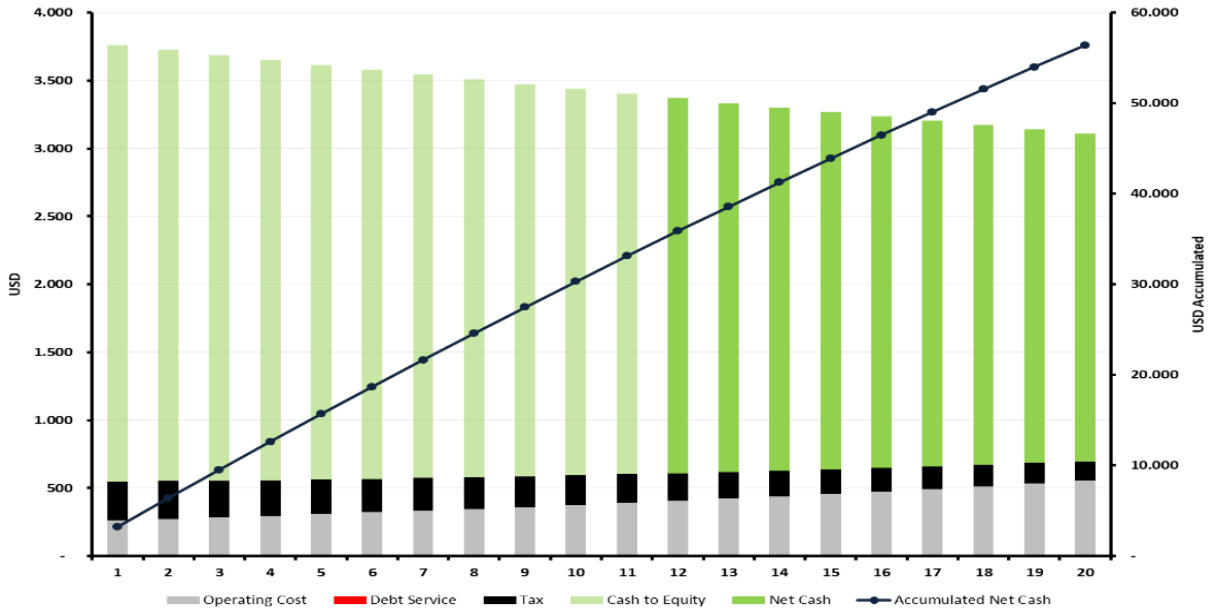


Figure 2. Cash flow projection.

## 4. Conclusion

Based on business feasibility analysis using seven aspects, namely legal, marketing, technical and technological aspects, management and human resources, social and environmental and the financial, in general the SPP business that will be developed is feasible. SPP that is feasible to be developed is SPP on Grid with a battery Back-up System with a capacity of 15 kWp for 100 household without a battery. So that a successful and feasible investment needs the role of "cheap" subsidies to support small-scale generator investments such as soft loans, government spending, grants, and so on. Battery schemes, it will not be recommended for private investment. Considering that battery prices are still high and battery life is under 10 years. Investment will be made by each household according to needs.

 

Table 3. Detailed calculation of Mini SPP cash / cash flow analysis in East Sumba energy security zone.

| Description | | Constr. Periode | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Profit Loss Statement** | | | | | | | | | | | | | | | | | | | | | | |
| Revenue | USD/year | | 3,764 | 3,726 | 3,689 | 3,652 | 3,615 | 3,579 | 3,544 | 3,508 | 3,473 | 3,438 | 3,404 | 3,370 | 3,336 | 3,303 | 3,270 | 3,237 | 3,205 | 3,173 | 3,141 | 3,110 |
| *Energy Projection* | kWh | | 22,140 | 21,919 | 21,699 | 21,482 | 21,268 | 21,055 | 20,844 | 20,636 | 20,430 | 20,225 | 20,023 | 19,823 | 19,625 | 19,428 | 19,234 | 19,042 | 18,851 | 18,663 | 18,476 | 18,291 |
| *Electricity Sale* | USD/year | | 3,764 | 3,726 | 3,689 | 3,652 | 3,615 | 3,579 | 3,544 | 3,508 | 3,473 | 3,438 | 3,404 | 3,370 | 3,336 | 3,303 | 3,270 | 3,237 | 3,205 | 3,173 | 3,141 | 3,110 |
| **Total Operation Expenses** | -7% | 7% | (263) | (274) | (285) | (296) | (308) | (321) | (333) | (347) | (361) | (375) | (390) | (406) | (422) | (439) | (456) | (474) | (493) | (513) | (534) | (555) |
| O&M | increase i/ y | 4% | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Batt Replc | -20% /7y | | | | | | | | - | | | | | | | | | | | | | |
| **EBITDA** | | | 3,500 | 3,452 | 3,404 | 3,356 | 3,307 | 3,259 | 3,210 | 3,161 | 3,112 | 3,063 | 3,014 | 2,964 | 2,914 | 2,864 | 2,814 | 2,763 | 2,711 | 2,659 | 2,607 | 2,554 |
| *Depreciation Batt 8y- linear basis* | 7 years | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| *Depreciation PV 20y- linear basis* | 20 years | | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) | (1,607) |
| **EBIT** | | | 1,893 | 1,845 | 1,797 | 1,749 | 1,700 | 1,652 | 1,603 | 1,554 | 1,505 | 1,456 | 1,407 | 1,357 | 1,307 | 1,257 | 1,206 | 1,155 | 1,104 | 1,052 | 1,000 | 947 |
| *Bank Interest* | 7% | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **EBT** | | | 1,893 | 1,845 | 1,797 | 1,749 | 1,700 | 1,652 | 1,603 | 1,554 | 1,505 | 1,456 | 1,407 | 1,357 | 1,307 | 1,257 | 1,206 | 1,155 | 1,104 | 1,052 | 1,000 | 947 |
| *Taxes* | -15% | | (284) | (277) | (270) | (262) | (255) | (248) | (240) | (233) | (226) | (218) | (211) | (204) | (196) | (189) | (181) | (173) | (166) | (158) | (150) | (142) |
| **Net Income** | | | 1,609 | 1,568 | 1,527 | 1,486 | 1,445 | 1,404 | 1,363 | 1,321 | 1,280 | 1,238 | 1,196 | 1,154 | 1,111 | 1,068 | 1,025 | 982 | 938 | 894 | 850 | 805 |
| **Cash Flow Statement** | | | | | | | | | | | | | | | | | | | | | | |
| **Cash Flow from Operation** | | | 3,216 | 3,175 | 3,134 | 3,093 | 3,052 | 3,011 | 2,970 | 2,928 | 2,887 | 2,845 | 2,803 | 2,761 | 2,718 | 2,676 | 2,633 | 2,589 | 2,546 | 2,502 | 2,457 | 2,412 |
| EBIT | | | 1,893 | 1,845 | 1,797 | 1,749 | 1,700 | 1,652 | 1,603 | 1,554 | 1,505 | 1,456 | 1,407 | 1,357 | 1,307 | 1,257 | 1,206 | 1,155 | 1,104 | 1,052 | 1,000 | 947 |
| +Depreciation | | | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 | 1,607 |
| -Tax | | | (284) | (277) | (270) | (262) | (255) | (248) | (240) | (233) | (226) | (218) | (211) | (204) | (196) | (189) | (181) | (173) | (166) | (158) | (150) | (142) |
| **Debt Service** | | 0% | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cashflow From Financing | | | | | | | | | | | | | | | | | | | | | | |
| *Equity* | 100% | 32,142.86 | | | | | | | | | | | | | | | | | | | | |
| *Bank Loan* | 0% | - | | | | | | | | | | | | | | | | | | | | |
| *Year* | | 10 | | | | | | | | | | | | | | | | | | | | |
| *Debt Service per Year* | | - | | | | | | | | | | | | | | | | | | | | |
| Beginning Balance | | | | | | | - | - | - | - | | | | | | | | | | | | |
| *Principal* | | | | | | | - | - | - | - | | | | | | | | | | | | |
| *Interest* | 7.0% | | | | | | - | - | - | - | | | | | | | | | | | | |
| Ending Balance | | | | | | | - | - | - | - | | | | | | | | | | | | |
| **Net Cash to Equity** | | | 3,216 | 3,175 | 3,134 | 3,093 | 3,052 | 3,011 | 2,970 | 2,928 | 2,887 | 2,845 | 2,803 | 2,761 | 2,718 | 2,676 | 2,633 | 2,589 | 2,546 | 2,502 | 2,457 | 2,412 |
| **Accumulated Net Cash to Equity** | | | 3,216 | 6,392 | 9,526 | 12,620 | 15,672 | 18,683 | 21,653 | 24,581 | 27,467 | 30,312 | 33,115 | 35,876 | 38,594 | 41,270 | 43,902 | 46,492 | 49,037 | 51,539 | 53,996 | 56,408 |

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