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Community Outreach Regarding Community Economic Utilization Waste in Improving the Community's Economy

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Abstract: In an effort to reduce waste in the city of Medan, the Medan City Government continues to strive to innovate and collaborate with various parties to be able to process waste at the Terjun TPA. One of them is the collaboration between the Medan City Environmental Service (DLH) and PT. Indonesia Power Pangkalan Susu Power Generation Unit in terms of Research and Development of Processing Waste into Solid Fuel for Cofiring Steam Power Plants (PLTU). This collaboration was marked by the signing of an MOU between the Head of the Medan City Environmental Service (DLH) Suryadi Panjaitan and Plt. Senior Manager PT. Indonesia Power Pangkalan Susu Power Generation Unit Trisno Widayat at the DLH Medan City Office, Thursday (16/3). On that occasion, the Head of Medan City DLH, Suryadi Panjaitan, said that this collaboration was a follow-up to the previous collaboration between the Medan City Government and PT. PLN (Persero) regarding research and development of waste management into solid fuel for cofiring of Steam Power Plants (PLTU) which was carried out last year. "This collaboration is in the framework of how we can utilize organic waste, especially those originating from plants in the Terjun TPA, to be used as solid fuel for the cofiring of the Pangkalan Susu Steam Power Plant (PLTU) which is currently managed by Indonesia Power," said Suryadi Panjaitan. Suryadi Panjaitan further said that this collaboration was certainly hoped for by the Mayor of Medan, Bobby Nasution, who wanted the Terjun TPA to be used for the benefit of the community, nation and state. "With this collaboration we hope to provide benefits to the people of Medan City, because we will be assisted by PLN in fulfilling electricity distribution for the people of Medan City and of course this will also be directly proportional to the increase in Medan City's PAD," he hoped. Meanwhile Plt. Senior Manager PT. Indonesia Power Pangkalan Susu Power Generation Unit, Trisno Widayat said that as PLTU managers, they have an obligation to become a green power plant. One way to make this happen is by using city waste as fuel.

Keywords: Community Economic, Improving, Collaboration

A. Introduction

The government's mission to realize development that is environmentally sound and energy independent is still far from reality in this country, including the city of Medan. Many opinions about the problem lie in the country's inability to develop cheap and useful technology at the local level. One of the things that previously could not be used was turning waste into something of high economic value, for example electricity. What we know is that waste can only be processed into crafts, fertilizer and others. Some people don't know that waste can be processed into electricity. Garbage is a problem faced almost all over the world. Not only in developing countries, but also in developed countries, waste is always the biggest problem throughout the year. On average, every

day big cities in Indonesia produce tens of tons of waste, including the city of Medan. The rubbish is transported by special trucks and thrown away or simply piled up in the place provided without doing anything else. From day to day, rubbish continues to pile up and there is a pile of rubbish as we see. So we should never underestimate household waste or other waste, because this waste can be used as an alternative material substitute for natural gas, petroleum and geothermal energy which are used to generate electricity. Waste Processing into Electrical Energy (PSEL) as a Technological Intervention Reduces the Volume of Waste in the city of Medan so that the city of Medan can reduce flood disasters caused by the large amount of waste that is thrown away by humans. In this discussion we want to explain and provide motivation and suggestions for reducing flood disasters in the city of Medan and utilizing waste waste into electrical energy like 12 cities that already have movements to convert waste into electrical energy in energy independent efforts.

B. Methods

For partners operating in the productive economic sector and aiming for a productive economy, the method of implementing activities is related to stages in at least 2 (two) different problem areas that are handled by partners, such as:

a. Problems in the production sector.
b. Problems in the field of management.
c. Problems in the field of marketing, etc.

To achieve maximum research results in this research, this research is included in the type of observational research (Observation) using qualitative methods. Qualitative methods are research that obtain results from experiments. The data from this research, namely the use of waste as a power generator to create a flood-free and energy-efficient city of Medan, is research that aims to inform the public and government that waste can be used as an economical power generator for the people of Medan City. The collection techniques in this research are as follows:

1. Research what types of waste can be used in power generation management.
2. Find out how to manage waste into electricity generation power.

C. Result and Discussion

Human activities utilize nature and leave residue that is considered no longer useful so that it is treated as useless, unused or wasted materials as residue from a process resulting from human activities. Waste is usually in the form of solids or semi-solids, known as wet waste or dry waste. Sources of waste generally come from housing and markets. Waste is an important problem for densely populated cities, including Medan City. Indonesia produces 23 to 48 million tons of waste per year, this amount is equivalent to the food portion of 61 to 125 million people. And the level of people who are hungry in Indonesia is ranked third in SOUTHEAST ASIA.

It turns out that food waste can be processed into fuel. The factory located in Romerika, Norway manages 50 thousand tons of food waste per year, which produces around 14 thousand cubic meters of environmentally friendly liquid biogas fuel used to run 135 buses in the City of Oslo. The Solo city government together with SCMPP are working on a waste-powered power plant which in the future, converting 540 tons of household waste energy, can produce just 5 megawatts, capable of meeting the electricity needs for T2000 to 3000 houses with a capacity of 900 kva.

D. Conclusion

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household waste energy, can produce just 5 megawatts, capable of meeting the electricity needs for T2000 to 3000 houses with a capacity of 900 kva. In Indonesia, the government is encouraging the construction of waste-powered power plants (PLTSa) in 12 cities, namely DKI Jakarta Province, Palembang City, Tanggerang, South Tanggerang, Bekasi, Bandung, Semarang, Surakarta, Surabaya, Makasar, Denpasar and Manado. Therefore, Medan City must be able to become a city that receives the construction of a waste power plant (PLTSa). Because the electricity produced by PLTSa is the use of new, renewable energy by prioritizing environmentally friendly technology. Waste into electrical energy is more profitable than using coal. As an illustration, 100,000 tons of waste is equivalent to 100,000 tons of coal.

E. Acknowledgment

And if we use waste, we can overcome two environmental problems, namely reducing carbon emissions and also the problem of waste causing flooding. The technology for managing waste into electrical energy is very simple, namely:

1. Garbage is burned to produce heat (thermal conversion process)
2. The heat from combustion is used to convert water into steam with the help of a boiler
3. High pressure steam is used to rotate the turbine blades
4. The turbine is connected to the generator with the help of a shaft
5. The generator produces electricity and the electricity is supplied to the house or factory.

F. References

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