

White paper



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Background

According to the United Nations, we dump more than 2 billion tonnes of waste every year. Global waste could grow to 3.40 billion tonnes by 2050, more than double population growth over the same period. Waste generated per person per day averages 0.74 kilograms but ranges widely, from 0.11 to 4.54 kilograms. By 2050, these numbers may increase by 40% in low- and middle-income countries and 19% in high-income countries. The fastest-growing regions are Sub-Saharan Africa, South Asia, and the Middle East, and North Africa.

About 12%, or 242 million tonnes, of total waste every year are plastics. About 91% of plastic waste is not recycled, and roughly 79% is accumulating in landfills or is in the environment as litter. Research shows that about 8 million tonnes of plastic end up in oceans each year. There are several gigantic plastic soups in the oceans. The largest one is in the Pacific of the size of 1.6 million square kilometers, or three times the size of France. If the waste growth trends continue, there will be more plastic waste than fish in the oceans. Most plastics cannot be decomposed by bacteria but instead, break down into small fragments –smaller than 5 millimeters in length- known as microplastics.

This fragmentation process accelerates under ultraviolet light, which is abundant in the ocean and the open dump waste disposal sites. The fragments spread farther across our planet, entering our water and food supply. Since 1950, we have produced more than 10 billion tons of plastic. No wonder one can eat, drink, and breathes in more than 74,000 microplastic particles every year.

Microplastics, or their much smaller version, nano plastics, can make their way into the tissue of our bodies. For example, breathing in nano plastics can introduce them into our cardiovascular system and bloodstream. Chemicals found in plastics have links to various health problems, including reproductive harm and obesity, organ problems, and developmental delays in children.

To deal with plastic waste, we need to have an efficient recycling system. Unfortunately, most recycling systems are not that efficient. Out of 270 million tonnes of plastic products a year, 242 million tonnes become waste. Indeed, usage reduction is the most preferred solution. However, given how dependent we are on plastic, recycling remains the backbone solution.

Problem



There are two issues that we want to address. The first is about an inefficient recycling system that hinders a society from living in a circular economy. The second is about the essential yet impoverished waste communities.

An inefficient recycling system hinders a circular economy

Waste recycling is a form of wealth creation. It can spur grassroots investment by poor people, create jobs, reduce poverty, save municipalities money, improve industrial competitiveness, conserve natural resources, and protect the environment. However, looking at how 91% of plastic waste was left un-recycled, our society still perceives recycling activities as negligible. This behavior is the legacy of the 'take-make-waste' framework of economic development.

In the plastic context, promoting a circular economy can be done by optimizing recycling activities. Due to its chemical structure, one can only recycle most plastic about three times, where each recycling process leads to a lower quality of plastic. After all the recycling processes, plastic is doomed to litter our environment eternally. Because of these characteristics, increasing recycling capabilities is of the utmost importance.

Important yet impoverished waste communities

Waste communities living in the dumpsites are suffering. Dumpsites, especially in developing countries, become an irony. Because of the improper municipal recycling system, dumpsites rely on informal labor as waste pickers, waste sorter, transporter, and all roles in the recycling process.

Thus, dumpsites become a source of living for millions of people. However, situations in dumpsites are horrible. Working conditions are dangerous due to sharp and toxic waste and landslides. Living conditions are terrible because of stench, pests, and polluted groundwater. Socially, waste communities are shunned by others due to their inferiority.

As informal workers, they are largely denied access to health insurance and pension.

Waste communities are also denied access to the banking system, even though they need it. Most waste pickers and sorters are informal laborers that earned marginal monetary rewards. Denying access to the banking system makes them unable to procure better equipment that can increase their productivity. Moreover, they become vulnerable to loan sharks since they are generally financially illiterate. This creates a downward spiral for their well-being.

Mission

01 We promote the circular economy by improving the recycling system.

Plastic Finance focuses on plastic recycling by increasing the productivity of waste pickers. We are not disrupting the value chain of waste; instead, we add value to the value chain to benefit all parties. Moreover, we support the tree replanting program to decarbonize CO2 pollution, further cementing our commitment to the circular economy.

02 We empower waste communities so that they have a higher social standing in society.

Plastic Finance aims to enable the waste communities. We focus on the activities that will increase their self-esteem, which improves their productivity and well-being.

03 We democratize access to ESG investing.

Our effort to enrich the recycling system and empower waste communities can be sustained and widened with the help of investment communities. With DApps and DeFi, we democratize access for everyone to take part in a global mission to recycle and empower.

Opportunity to take part in the ESG investing

For so long, businesses have been entrapped by Milton Friedman's doctrine, which states that "An entity's greatest responsibility lies in the satisfaction of the shareholders." The shareholders are the only group to which a corporation is socially responsible. As the consequences, all investment decision is based on yield criteria such as return on equity, operating profit, price to earnings growth ratio, and many others. All of which focus solely on the shareholders.

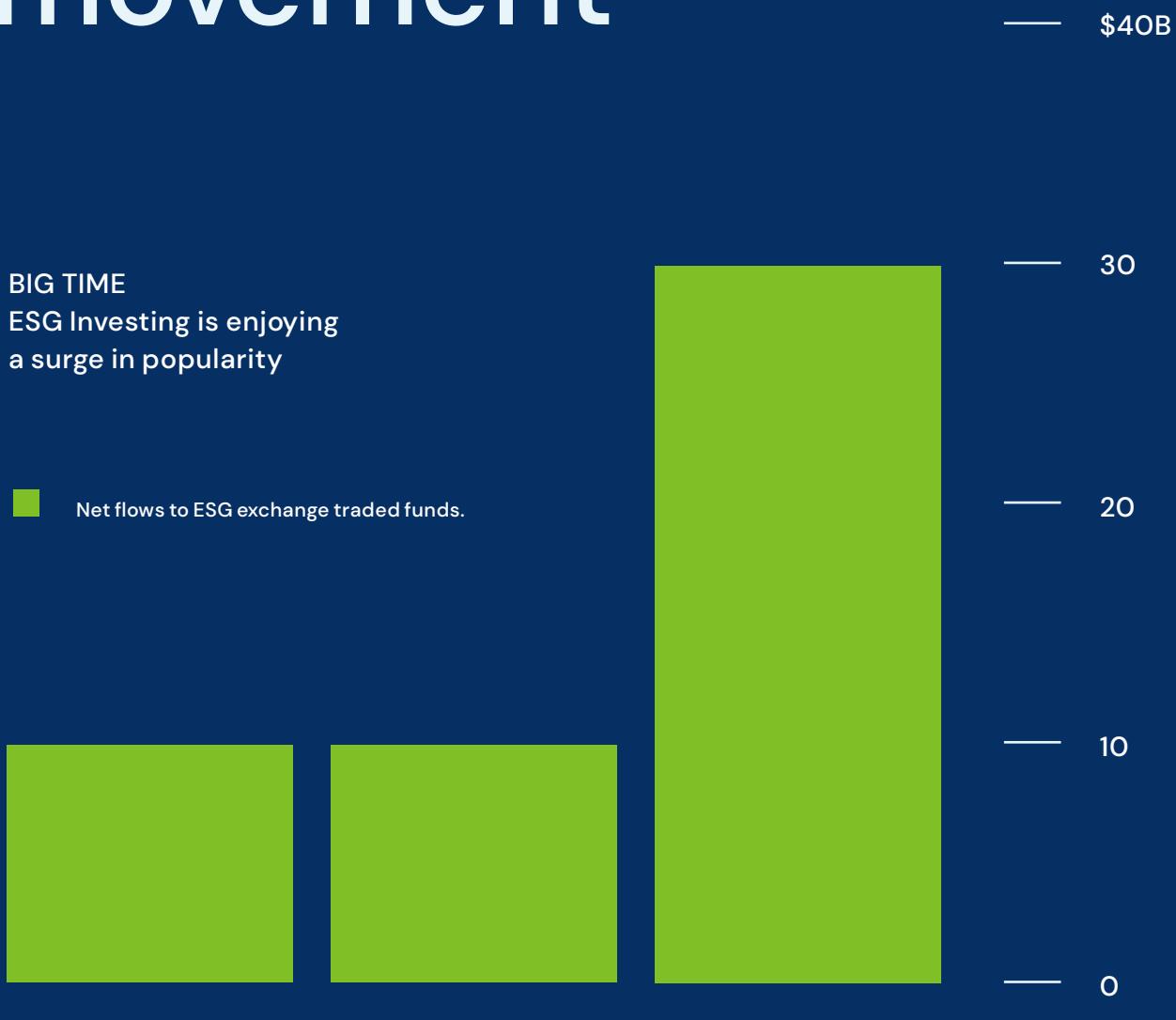
In the past decades, stakeholders theory gained ground. There was increased pressure for corporates to serving beyond shareholders and stakeholders: the society around the corporates, customers, employees, suppliers, governments, and environments. However, the Friedman doctrine is so entrenched that stakeholders theory was dwarfed by the concept of Corporate Social Responsibility (CSR). CSR is generally understood as a strategic initiative that contributes to a corporate's reputation, positive public relations, and some believe it can increase long-term profits. Some businesses adopt CSR policies because of the ethical beliefs of senior management.

In short, CSR, in general, is a short-term remedy.

Nowadays, most investors question the sustainability issues in their investment choices. The problems of climate change, depletion of natural resources, workforce exploitation, and less inclusion to the poor because of industrial revolution 4.0 become the highlights among the investment community. Investors want to invest in a company whose business has a sustainable, positive impact on the environment and society. This attitude is supported by the fact that investment based on Environment, Social, and Governance (ESG) consideration performed better in a crisis period. The growth of ESG investing has grown tremendously in the past two years.

Plastic Finance, with its simple concept, fits into ESG investing theme. This project answers the plastic waste problem, which in turn contributes to fixing plastic pollution (the E factor), creates financial inclusion through DeFi and Cooperative (the S factor), and all the process will be open and transparent using blockchain technology (the G factor).

ESG investing becomes a world movement



2001-2018

2019

2020

Solutions

Blockchain technology and stable coins can play significant roles in streamlining the funding of the plastics recycling industry, empowering the waste communities, and acting as an ESG investment model. We propose a three-pillar of solution:

Encourage waste price transparency via tokenization

Economic and social empowerment for the waste community via DeFi

Ensuring the sustainability of this movement via security token and committing this project as an ESG investment model

Using smart contracts, we tokenize each type of plastic waste and create an internal exchanger, so everyone in the waste supply chain can have easy access to monetize the plastic waste.

Blockchain technology gives more transparency to the pricing formation and can be utilized as a tracker for better waste management. Further, we create a DeFi DApss so the waste can be collateralized as an asset.

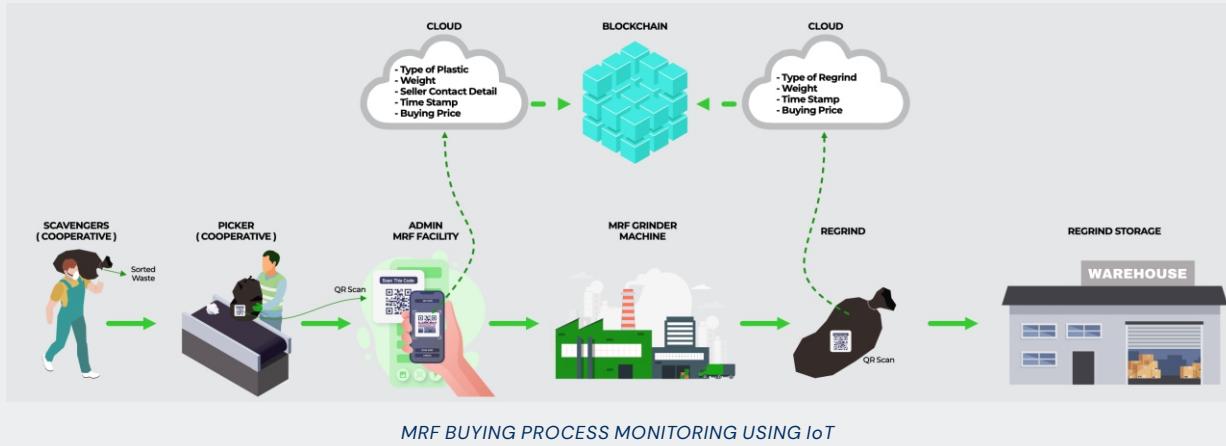
The DeFi will enable waste pickers and communities to gain funding access to improve their productivity.

Finally, a governance token that also acts as a dividend token will ensure the sustainability of this circular economic model. By committing this model as an ESG investment, we can increase its potential for broader adoption worldwide.



Combining IoT and Blockchain

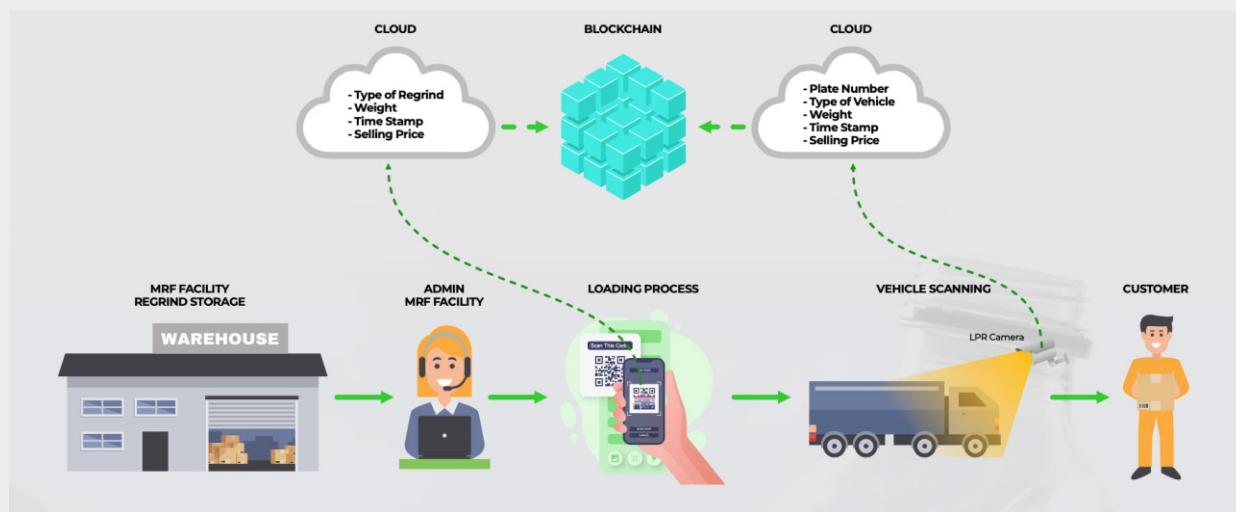
Using ERP software combined with modern surveillance in each step of transaction steps in MRF facilities from collecting plastic garbage into regrinds sales will minimise slippage in revenues and improve trust among Stake Holders.



Buying Process From Scavengers upon Regrinds Sales

Scavengers has already sorted plastic waste and bring it to MRF facility through cooperative, they will weigh it and record the type of plastic, weight, seller contact details, time stamp and buying price according to our exchange price. And QR code sticker pertaining that information will be put on each bag and the information will be uploaded to cloud server which eventually placed on Blockchain.

That stored waste will be grinding in Grinder facility, and the time stamp, type of reground, weight will be recorded again to cloud.



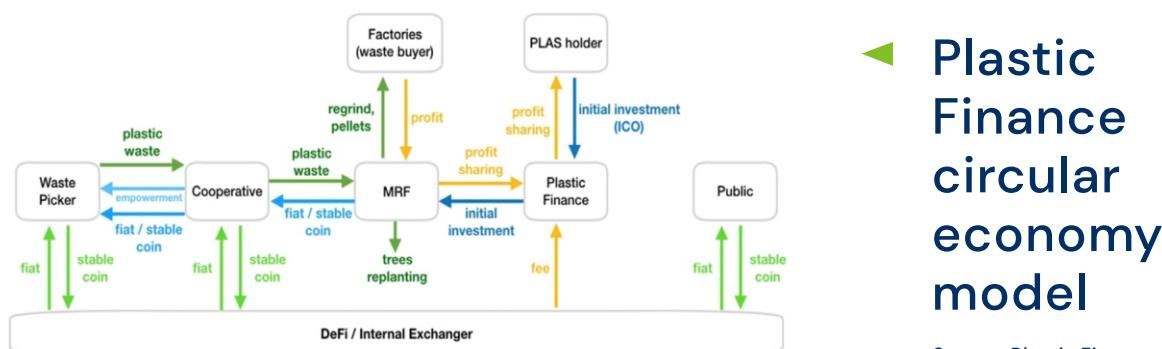
MRF SELLING PROCESS MONITORING USING IoT

MRF Selling process

From reground warehouse, once we got order with agreed selling price, we will record timestamp, weight, type of regrounds, and selling price to the cloud and once the pick up truck is coming to collect the regrounds, we will also record the License Plate number using LPR IP CAMERA (license plate recognition , Internet protocol), and upload them to the cloud and eventually will be uploaded to blockchain.

Plastic Finance circular economy model

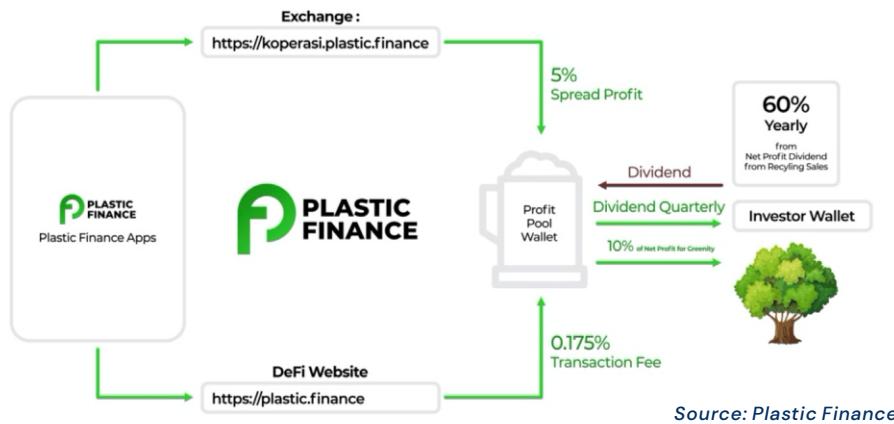
A critical process in our model is creating a Cooperative, in which members are waste pickers. Cooperative will strengthen the bargaining power of waste pickers to get better trading terms for their waste. Cooperative can also protect their member from loan sharks by providing funding access. From a social perspective, Cooperative helps to empower the social standing of waste pickers via education and legal protection. Finally, Cooperatives have more power to accelerate the adoption of blockchain technology for waste recycling.



The Cooperative accumulates waste from its members (waste pickers) then sells it to the Material Recovery Facility (MRF). The MRF sorts and processes the waste into various saleable waste forms then sells it to recycled waste buyers. The relationship between Cooperative and MRF is a symbiotic one. The Cooperative needs better trading terms, while the MRF needs continuity of supply. The bond between Cooperative and MRF is cemented through the ownership of Cooperative in the MRF.

The creation of MRF requires a significant capital investment. This can be done with the issuance of a security token, PLAS, by Plastic Finance. In return, the MRF will share 60% of its annual profits with Plastic Finance, which will distribute the net proceeds to PLAS holders as BUSD 'dividends'. Having a legal form in the local law, the MRF can act as a catalyst for ESG initiatives that benefit the local population, for example, implementing green initiatives.

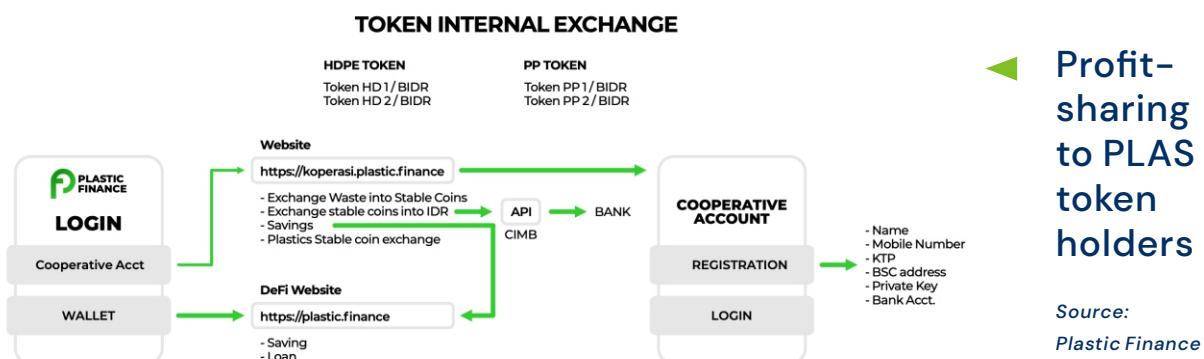
Profit-sharing to PLAS token holders



An ideal form of DeFi should serve both the waste pickers directly, the Cooperative, and the public. When selling their collected waste to the Cooperative, waste pickers can choose to receive fiat money or stable

token. If they decide to obtain a stable token, they can store it in the DeFi as collateral for a fiat loan or simply exchange the stable token into fiat money in the DeFi. The Cooperative and the public can also participate in the DeFi. Their participation will certainly improve DeFi's liquidity pool. Widespread adoption of Plastic Finance DeFi means widespread financial inclusion for the have-not. For example, every 1 ton of plastic regrinds processed involves ten waste pickers. Our 3-year target of 210,000 tons means 2.1 million person-hours inclusion in DeFi.

The DeFi also provides another income stream for PLAS holders. Plastic Finance will take a small fee from transactions in DeFi: for every exchange of stable coin and fiat money, for every saving withdrawal, and every loan payment. The net proceeds from DeFi's fees will be distributed to PLAS holders as BUSD 'dividends'.

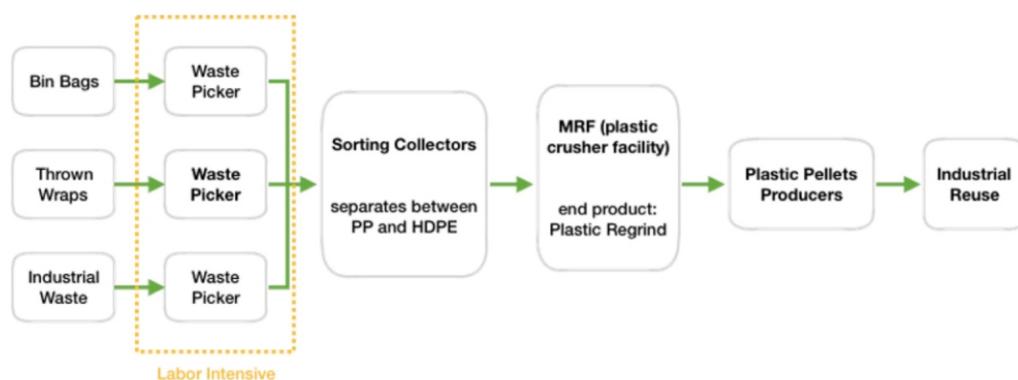


Symbiotic relationship between Cooperative and MRF

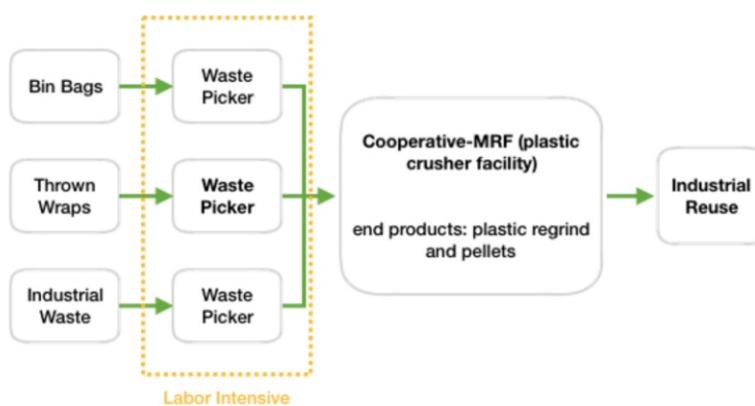
To understand the importance of the Cooperative-MRF relationship, we must understand the current practice of the waste pickers – collectors relationship.

It is a common practice that waste pickers enter into binding contracts with collectors. A typical binding contract is a verbal contract that requires a waste picker to gather a certain amount of waste then sell it to the collector. Often, the waste picker is forced to accept an unfair price for the sake of certainty that a collector would pay for the waste they found. They also often fell victim to loan sharks with this type of arrangement.

Today's plastic recycling practice



Plastic Finance vision



Plastic Finance green initiatives

Plastic Finance contribution to mother earth

INITIAL INVESTMENT PER MRF		
Feeding machine, capacity 500kg/hour, 10 hours/day	Rp.	50.000.000
Press Machine	Rp.	30.000.000
Dryer Machine	Rp.	15.000.000
Waste Material	Rp.	80.000.000
Pick-up Car	Rp.	80.000.000
Land Lease	Rp.	50.000.000
Inflation	Rp.	22.750.000
Investment per MRF 1\$ = Rp14.500	Rp.	327.750.000
	\$	22.603
REVENUES		
Revenues per hour	Rp.	3.000.000
Net Margin per hour	Rp.	600.000
GREENIFY		
Price of Teak Tree (tectona grandis)	Rp.	10.000
Tree planted per hour, 10% of profit		6
Tree planted per year		21.600
Co2 (kg) absorbed per year		216.000
Assume 1 PLAS = 1\$,CO2 absorbed (kg)	=	9.56
PLASTIC RECYCLED		
Plastic recycled per day (kg)	Rp.	5.000
Plastic recycled per year (kg)	Rp.	1.800.000
Assume 1 PLAS = 1\$,CO2 absorbed (kg)	=	80

Plastic Finance, through the MRF, aims to share 10% of the dividend for the tree replanting program. Such a program will be done via partnerships with certified planter organizations such as Sinergi Foundation, One Tree Planted, Tree of Heart, and many others. We estimate each 1 PLAS token worth US\$1 equals 10 kg CO2/year absorbed and 80 kg/year plastic recycled with the current environment. Each MRF can contribute 216,000 kg CO2/year and recycle 1,800 tons of plastic per year.

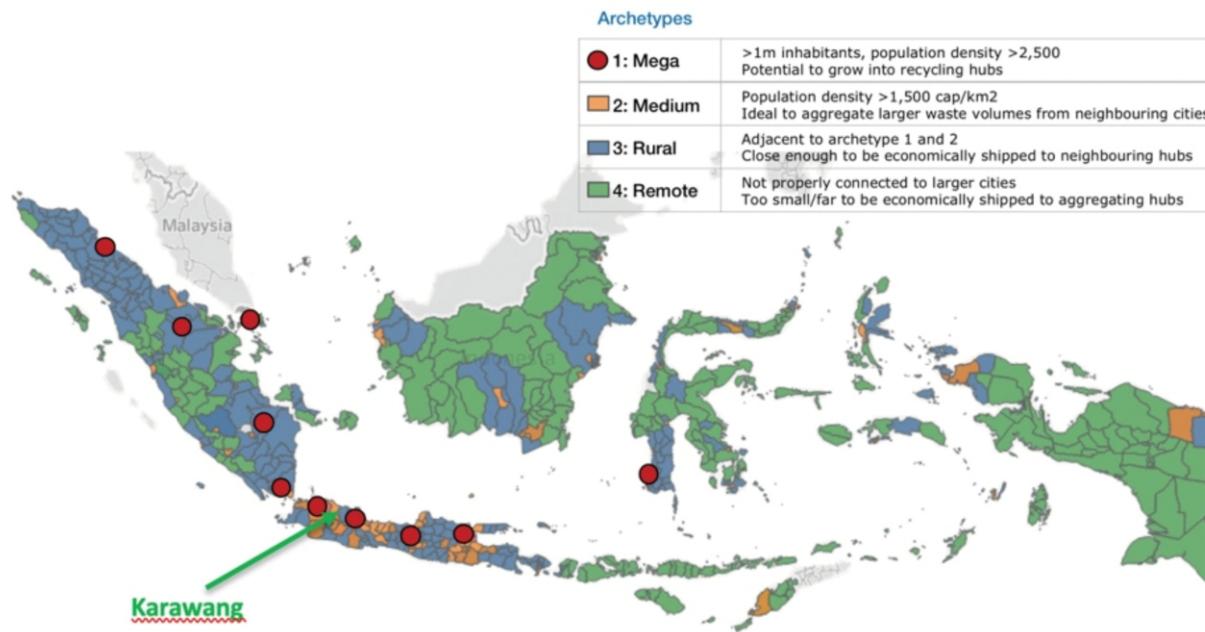
A PLAS token holder will simultaneously address three problems: contributing to plastic waste recycling, empowerment and financial inclusivity of the waste community, and participating in carbon absorption through tree planting.

Pilot project – a baby step towards a huge addressable market

Plastic Finance will use at least 54% of the token sales proceeds for the recycling business. To prove our concept, we start with a pilot project in Karawang, Indonesia. Karawang is one of the industrial centers in Indonesia. However, unemployment is as high as 11.5% in 2020 and 9.6% in 2019. About 8.3% of its population is below the poverty line or living with less than \$1 a day.

Karawang has proximity with both the Greater Jakarta area and West Java rural area. Waste pickers are most active in and around megacity such as Greater Jakarta, while most mismanaged plastic waste is in Medium and Rural area. This area is a sweet spot for a green initiative, bridging waste communities and continuous waste supply with waste buyer.

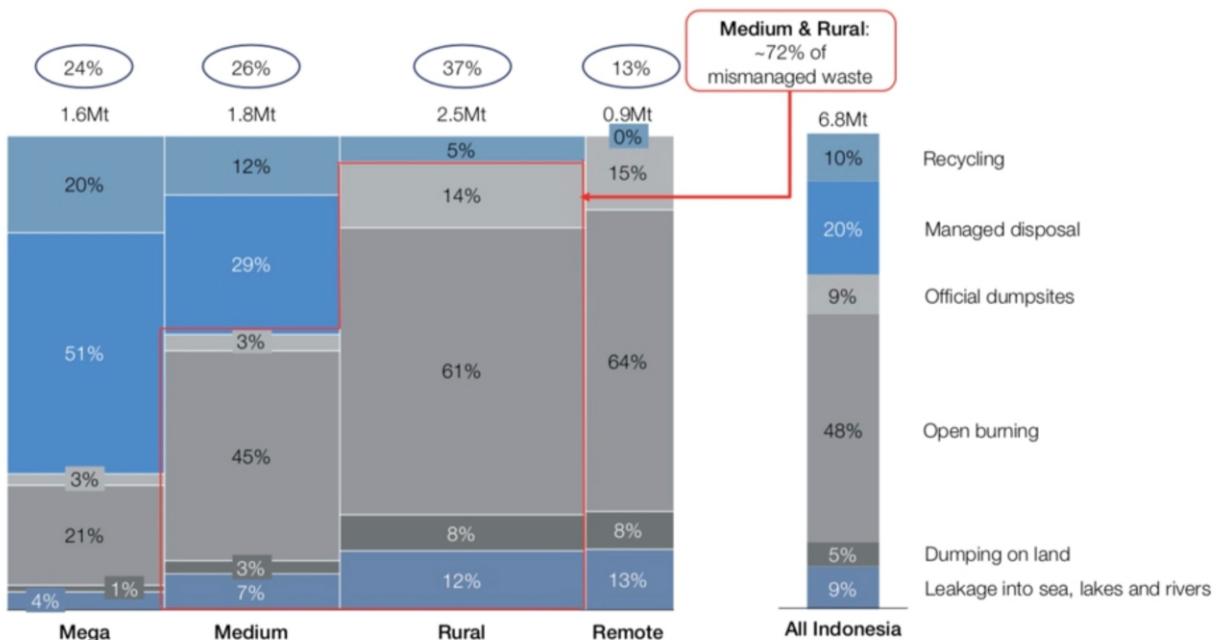
Pilot Project in Karawang, West Java, a sweet spot to start a green initiative.



Source: Plastic Finance research; archetypes map from NPAP

Most mismanaged waste are in Medium and Rural area

Source: NPAP



We build our first MRF and set up the first Cooperative. At the time of writing, we have secured the land for the MRF, engaged with the local waste community to set up a Cooperative, and established a supportive relationship with several plastic rWecycled buyers. We believe the key is not to disrupt the existing waste supply chain but to empower them. The pilot project will commence operation by Q3-2021.

In our pilot project, we recycle two major types of plastic: High-Density Polyethylene (HDPE) and Polypropylene (PP). Each class will be processed into plastic regrind and pellets. These can be sold to many factories in the Karawang area. Plastic regrind and pellets are usually mixed with virgin materials to reduce cost, optimize material usage and reduce demand on natural resources.

In the first stage, we focus on HDPE regrind and PP regrind. Each group will be represented as stable coins (HDPE regrind coin and PP regrind coin), where one coin represents 1kg of regrind. People can use the stable coins in the DeFi as loan collateral or just exchange them for BIDR.

Another token, PLAS, is created to fund the recycling projects (the MRF facilities, recycling employees, partnerships development with local waste society, and other infrastructures). PLAS also serves as a governance and ownership token, in which holders get protégé dividends, or profit-sharing, from recycling business and DeFi transaction spreads.

Total addressable market

The total plastic waste generated in Indonesia is as high as 6.8 million tons per year and growing by 5% annually. About 47% of it is openly burned, and only 10% are recycled. Our first MRF can only process 1800 tons of plastic waste per year or 0.03% of total unrecycled plastic waste in Indonesia. The expansion beyond the pilot project can be done in many ways: enlarge the capacity of existing MRF, expand to other districts/provinces, expansion to other plastic products, or partnership with other Cooperatives/waste communities.

If the plastic waste growth remains unhindered and the recycling rate doesn't improve, Indonesia will have 16.2 million tons of plastic waste by 2040. Assuming Rp3000/kg selling price in the waste picker level, that means Rp 48.7 trillion, or US\$ 3.3 billion worth of problems. Plastic Finance is still in the infancy, with a max 23.7 million token supply, limited funding, and limited staffing. However, with a robust circular economy model, this baby-step green initiative could become a widespread global movement.

Roadmap

Q3 2020 – Q1 2021

- Idea creation.
- Team formation.

Q2 2021

- Token airdrop
- A legal entity, limited liabilities in Indonesia
- Incorporation in Seychelles
- Cooperative formation in Indonesia
- DeFi coding and smart contract audit
- Early contributor funding
- Private sales
- Advisor boarding
- Buying 300kg/day reground machine for Karawang MRF as a pilot project

Q3 2021

- Pre-sales DeFi started
- Going to exchanger

Q4 2021

- Grinds internal exchanger operational; pair
- BIDR with indexes Adding 3 tons /day capacity
- 10,800 teak trees replanted = CO2 108,000 kg absorption (half-year effective MRF operation)

Q1 2022

- MRF capacity 3.5 tons/day
- Migrate Plas Token

Q2 2022

- MRF capacity 10 tons/day
- 432,000 trees replanted = 4.3 tons CO2 absorption

Q3 2023

- MRF capacity 30 tons/day

Q4 2023

- MRF capacity 40 tons/day
- 1,728,000 trees replanted = 1.7 tons CO2 absorption

Q1 2024

- MRF capacity 50 tons/day
- 2,160,000 trees replanted = 21 tons CO2 absorption

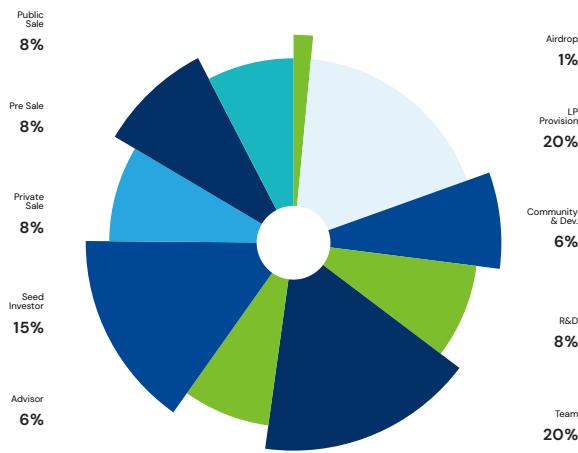
Tree planting is based on 10% allocation from net profit, but in practice there may be difficulty in acquiring more than 100,000 seed.

Tokenomics

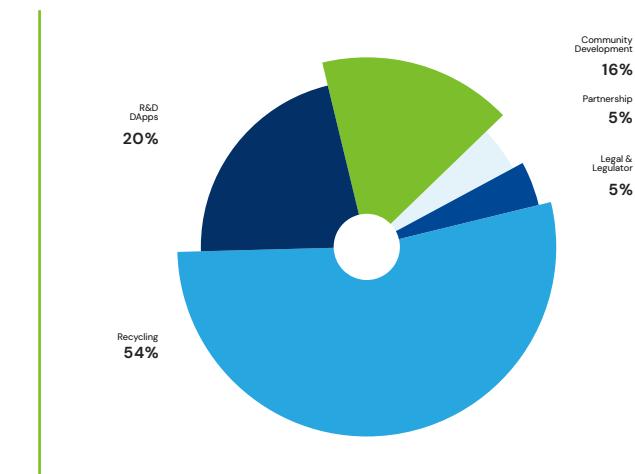
Blockchain	: BSC BEP-20
Governance token Ticker	: PLAS
TOTAL SUPPLY	: 23.900.000 PLAS
PUBLIC SALES TOTAL	: 2.000.000 PLAS @ 1 USD
EARLY CONTRIBUTORS	: 3.585.000 PLAS locked up to 27 months
PRIVATE SALES	: 2.000.000 PLAS @ USD 0.375 minimum BUSD 20.000,-
Pre-Sales	: 2.000.000 PLAS @ USD 0.6 minimum BUSD 500,-
Airdrop or Community Grant	: 239.000 PLAS
Hardcap Pre-Sales + Accredited Sales	: \$ 1.950.000,-
Hardcap Public Sales Total	: \$ 2.000.000,-
Total Hardcap	(can be planned into IFO if Pre-Sales and Private Sales succeed) :\$ 3.950.000,-

PLAS price calculation is pegged to USD value

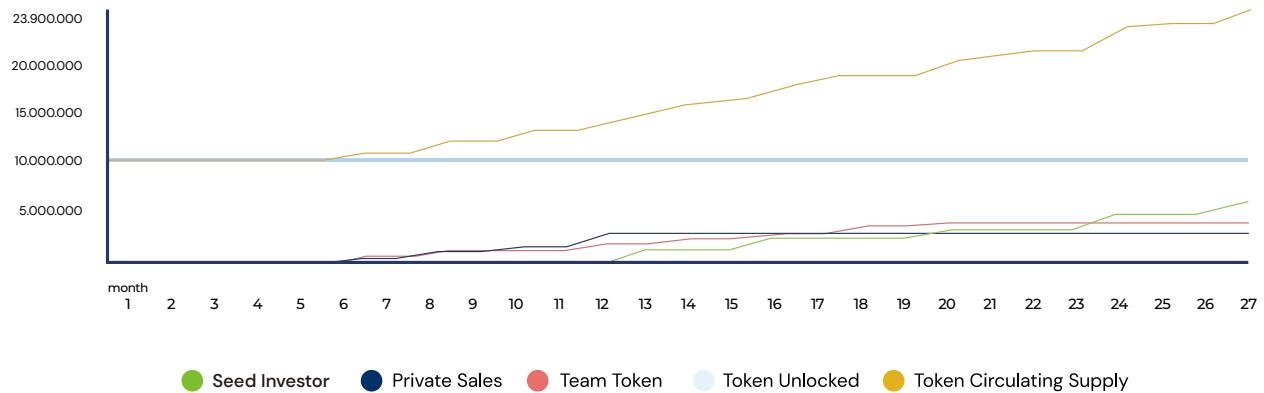
Token distribution



Fund allocation



Token generating event (unlocking schedule)



Seed Investor, 3.558.750

PLAS (early bird) :

20% month 13th

20% month 16th

20% month 20th

20% month 24th

20% month 27th

Private Sales, 2.000.000

PLAS Token Unlocking :

25% month 6th

25% month 8th

25% month 10th

25% month 12th

Team Token, 4.740.000

PLAS Token Unlocking :

10% month 6th

10% month 8th

10% month 12th

10% month 14th

10% month 16th

20% month 18th

10% month 20th

10% month 22nd

10% month 24th

Unlocking Timestamp begins from day 1 of public sale.

Future Developments

POLYPROPYLENE	
PP 1	Plastic Cup A
PP 2	Plastic Cup B Wet
PP 3	Dry Plastic Cup B
PP 4	INJEK
PP 5	PPPK (toleransi 3%)
PP 6	PP Black
PP 7	Lips Cup Edge
PP 8	PPKN
PP 9	HD Cat
PP 10	PP SP MR / PP HJ / PP BR / PP Color QC 3%
PP 11	Sealed Tea / Juice Small Cup
PP 12	HD Bottle Cup
PP 13	LD Blue / Red / Mineral Dry
PP 15	BonBon
PP 16	Cor Black Dry
PP 17	Cor Green Dry
PP 18	Boncos Bal (unregrind)
PP 19	PP Sheet Original Bal
PP 20	PP Sheet Colour Bal

HIGH DESITY POLYETHYLENE	
HDPE 1	NASO
HDPE 2	BLBK
HDPE 3	Motorcycle Lube Bottle
HDPE 4	Toys
HDPE 5	BLOW MAMBO

Total Supply :
infinite-elastic
Each will be paired
with IDRT or BIDR

Disclaimer

Any staker participate in staking BNB and receiving PLAS (PLASTIC TOKEN) products or services expressly acknowledges technical and market uncertainties which are inherent in any business development project as presented in this White Paper (see below for risk factors) and that this project may therefore never come to fruition or may have to be abandoned, without the PLAS being used. In such a case, the staker expressly acknowledges and accepts that it will not be entitled to sue or bring any direct or indirect legal action before the courts, the arbitration bodies, or any alternative dispute settlement body, either in Indonesia or abroad, against the Cooperative, its directors, shareholders, employees or subcontractors in the event of the non-performance, non-deployment or non-implementation of the project, even in cases where its PLAS have lost some or all of their value.

PLAS is issued by smart contract and governed by the smart contract. Once a smart contract is deployed, it can not be changed. Although PLAS is born from a cooperative business environment, no entity controls it. We use to call DeFi is a DAO (DECENTRALIZED AUTONOMOUS ORGANIZATION). The team only design the SMART CONTRACT, but the day-to-day technical operation is controlled automatically by an algorithm written in SMART CONTRACT.

In addition, the PLAS DAO (DECENTRALISED AUTONOMOUS ORGANIZATION) may not be held liable for any of:

1. use of services that are not compliant with the applicable terms;
2. non-performance, failure, malfunction, or unavailability of the services due to a third party, the buyer, a third-party product, or the buyer's breach of its obligations;
3. indirect damages such as business loss or disturbance, loss of orders, operating loss, infringement of the trademark, loss of profits or clients (e.g., improper disclosure of confidential information concerning said clients due to failure or piracy of the Platform, third-party proceedings against the client, etc.);
4. loss, disclosure, or unlawful or fraudulent use of user sign-on by the buyers or third parties;
5. suspension of access or temporary or permanent suspension of services (in particular, arising from a request issued by an appropriate administrative or judicial authority, or notification received from a third party);
6. loss, alteration, or destruction of all or part of the content (information, data, applications, files, or other items) hosted on the infrastructure, insofar as the Company is not responsible for managing the continuity of buyers' activities, and data backups in particular;
7. a mismatch between the services and the buyer's needs (in particular, concerning the sensitivity of the relevant data);
8. security incidents relating to the use of the Internet, concerning, in particular, the loss, alteration, destruction, disclosure, or unauthorized access to the buyer's data or details on or via the Internet; and
9. damages to systems, applications, and other items installed by the buyer on the infrastructure.

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