

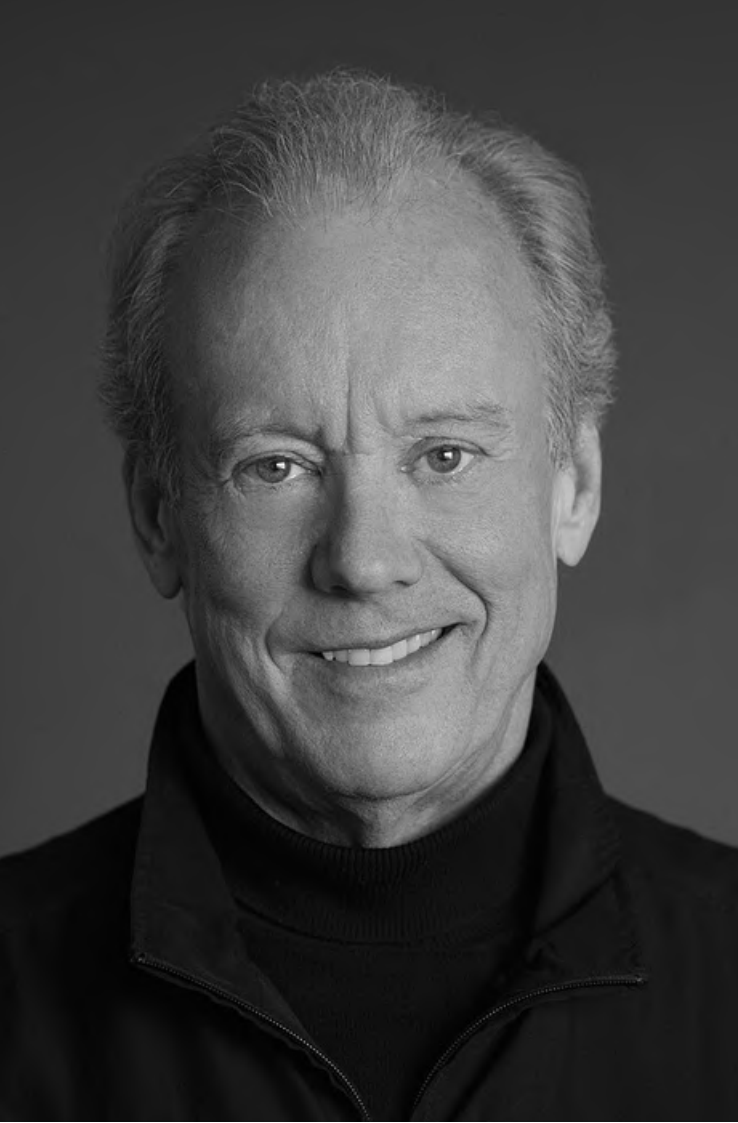
NO-TRASH TRIANGLE INITIATIVE

A PRLS PROJECT

ANNUAL REPORT 2022-23

LATEST INFORMATION AND UPDATES
FROM THE CORAL TRIANGLE





DEAR FRIENDS AND SUPPORTERS

In 2022/2023 we have scaled our plastic waste collection in the Coral Triangle significantly.

To date, our team has collected 500 tons of ocean-bound plastic waste from North Sulawesi, a global hotspot of marine biodiversity.

We are very proud to have established a business model that covers our operational costs for plastic waste collection from the region this year.

In our annual report, we've provided an overview of our activities with our local and international partners over the past 12 months.

JENS HAMPRECHT

FOUNDER

WILLIAM MCDONOUGH

FOUNDER, SENIOR ADVISER

PRLS

PLASTIC RECOVERY: LAND & SEA



THE CORAL TRIANGLE

THE AMAZON OF THE SEAS

Nowhere else on earth is the biodiversity of the oceans so great.

The Coral Triangle is home to more than 75% of the world's reef-building coral species and to more than 6,000 species of fish.

However, this natural treasure is severely threatened by climate change and also by massive pollution.

[VERON ET AL. 2009 DELINEATING THE CORAL TRIANGLE. GALAXEA. JOURNAL OF CORAL REEF STUDIES.](#)

[GRUBER ET AL. 2023. TRENDS AND VARIABILITY IN THE OCEAN CARBON SINK. NAT REV EARTH ENVIRON](#)

[NASA 2022. OCEAN WARMING \(OCEAN WARMING | VITAL SIGNS - CLIMATE CHANGE: VITAL SIGNS OF THE PLANET \(NASA.GOV\)\)](#)



THE OCEAN IS OUR LIFE

HUMANKIND DEPENDS ON HEALTHY OCEANS

The global ocean absorbs 25% of global CO₂ emissions and 90% of global warming from these emissions.

Healthy oceans are essential for restricting global warming to less than 1.5 degrees.

The ocean provides food. Local populations live by and from the sea. If we save these coasts and islands from pollution, we all benefit.



OUR JOURNEY TO SCALE PLASTIC WASTE COLLECTION IN NORTH SULAWESI

Plastic pollution is a massive problem in North Sulawesi and waste management infrastructure is rudimentary or absent.

When we looked at plastic waste collection in North Sulawesi in 2017/18, most of the waste volume people collected was PET bottles from the regional capital Manado.

Why? Because PET containers have an economic value. The income from selling bales of PET bottles to recyclers on Java allows the local aggregator to cover the costs of collecting these bottles from Manado City.



SUSTAINABLE BUSINESS MODEL

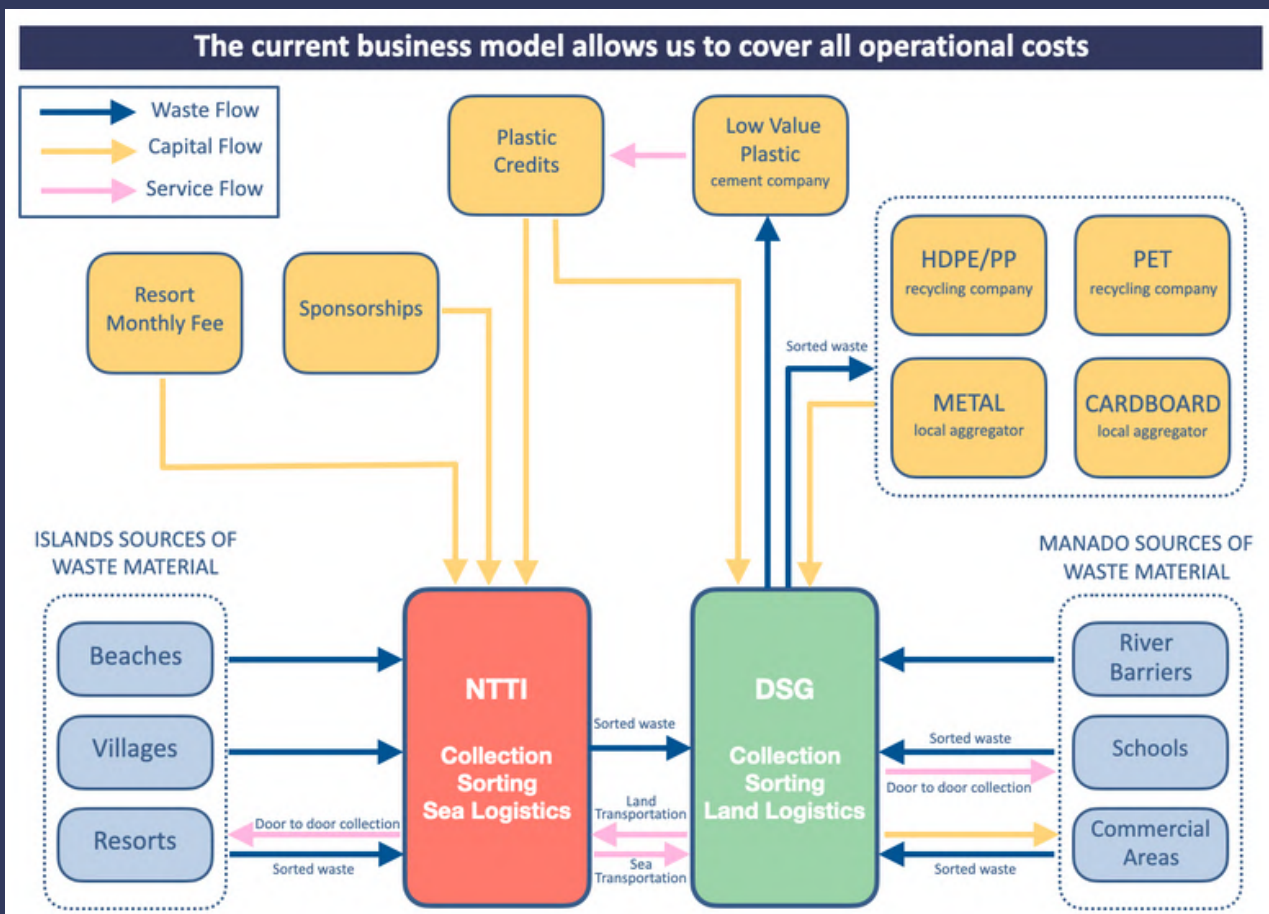
HOW TO ADDRESS ECONOMIC CHALLENGES

We realized we were facing two challenges in scaling a waste collection in remote areas.

Firstly, the revenues from selling PET bottles would be insufficient to cover the logistics costs of collecting PET bottles from the more rural areas and the islands around Manado. We needed an additional income source to cover the high logistics costs of waste collection from these areas.

Secondly, as PET accounts for only 12% of the plastics produced in Indonesia, it was clear that collecting just PET bottles was not enough to clean up the environment.

Therefore, to scale our plastic waste collection in a sustainable way, we set up different measures in 2022/2023. See image below for our current sustainable model.



PARTNERSHIP WITH DSG

1

A key player in our No-Trash Triangle project is our logistics partner CV Daur Sinar Gemilang (DSG), founded in 2018 by Amelia Tungka, a passionate diver and influential Manado businesswoman, who has long been a supporter of NTTI. Amelia has been instrumental in setting up our logistics network.

DSG is based in Manado city, where they have a waste sorting station, equipped to handle tons of plastic waste each week. They work with initiatives across the region to organize transportation, cleaning, sorting and processing of plastic waste collected from beaches, rivers and businesses all over North Sulawesi.



PARTNERSHIPS WITHIN THE TOURISM INDUSTRY

2

In a short time, we have achieved partnerships with nine tourist resorts on the islands. The presence of our project co-ordinator, Anna Clerici, on the ground, and her experience as a resort manager, were essential in setting up these new partnerships.

No-Trash Triangle Initiative partner resorts are committed to managing their waste in a responsible way. We support the resorts' teams to properly sort the waste so that it can be recycled or processed responsibly.

By signing up to our program, the resorts have access to our regular collection service which makes dealing with the waste they produce and collect from their resort beaches more sustainable.





AMELIA TUNGKA (FOUNDER OF DSG), JOEL TASCHE (CEO OF CLEANHUB), ANNA CLERICI (PROJECT MANAGER OF NO-TRASH TRIANGLE INITIATIVE)

PARTNERSHIP WITH CLEANHUB

3

In North Sulawesi, only a minority of the plastic waste collected in the environment is suitable for mechanical recycling.

We have worked hard to collect that non-recyclable waste, preventing it from being littered or burned openly. Up until 2022, we were sending this waste to properly managed landfill but wanted to explore better options.

Therefore, we established a partnership with CleanHub. We use their app to establish the traceability of our material flows, receiving plastic credits which allow us to finance the collection of non-recyclable plastic waste.

In the future we expect that more of this waste stream will be suitable for chemical recycling.

Plastic credits play an important role in establishing waste collection schemes, especially when extended producer responsibility schemes don't exist.

Our project shows the importance of making plastic credits available for collection of all plastics - not just those that can be mechanically recycled today (PET, PP, PE).

SPONSORSHIPS

4

Sponsorships allow our partners to demonstrate their support of plastic waste recovery from land and sea while enabling us to accelerate our project.

Some examples:

Raiffeisen Capital Management through the initiative of its banker Fabio Cappa, supports the No-Trash Triangle Initiative by financing education on marine biology for local schools on Bangka Island in 2023/24, as part of their ESG activities.

A beach clean-up event resulting in over 1 ton of plastic waste collected in a single day was fully sponsored by **SudScrub**, as part of their commitment to abate plastic waste emissions to the environment.

trinamiX, a wholly owned subsidiary of BASF SE, provided us with their portable device and app for analysing plastics and enabled us to improve our sorting quality in 2022/23

The marketing agency **ViewToo**, impressed by our work to tackle the ever present plastic pollution problem, decided to become the official sponsor of our waste collection boat for Bangka Island. This has reduced our logistic costs by 65%.





ECOLOGICAL VALUE ADDED

HOW TO ADDRESS ECOLOGICAL CHALLENGES

STATUS QUO

>80%

of the plastic used in rural areas of Indonesia ends up as mismanaged plastic waste (1)

67%

of the plastic waste that enters the ocean around Indonesia originates from rural areas (1)

In Indonesia, rural areas bear the greatest burden of mismanaged plastic waste due to extremely limited waste collection services (1).

It is not possible to end plastic waste pollution in Indonesia without developing solutions for the rural areas. For this reason, our team has set up plastic waste collection in the heart of the Coral Triangle - in North Sulawesi.

Since there is no established plastic waste collection on the islands and in the rural areas around Manado, we expect the additional benefits to be significantly higher than projects in more populated areas of Indonesia.

As we expand our project into 2024, we plan on quantifying the CO₂ emissions avoided through our project as well as the plastic waste we've prevented from entering the environment.



THE GREEN CIRCLE

PRIORITY AREAS FOR WASTE COLLECTION

HOUSEHOLD

collection at source is the key to get high quality plastic waste suitable for recycling. We have initiated a pilot project for plastic waste collection from a coastal village.

ISLANDS

act as filters for ocean-bound plastic waste. The No-Trash Triangle Initiative does daily clean-ups and creates an efficient network with tourist resorts and the local community on islands to make sure the waste is collected, sorted and brought back to the DSG facility in Manado

SHORES

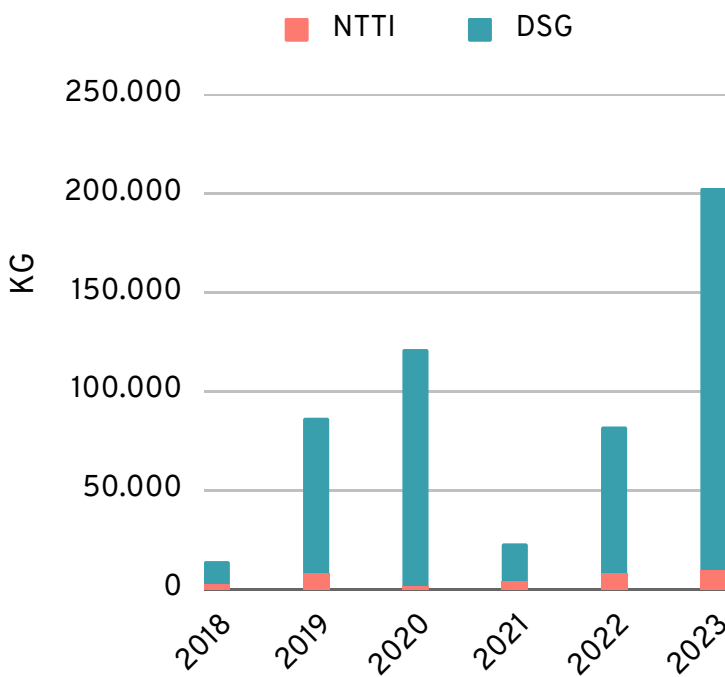
are filled with waste left behind by the receding tide. In collaboration with other initiatives and the Environment Office of Manado (DLH), beaches along the coast of Manado are regularly cleaned and the waste is sorted at the DSG facility.

RIVERS

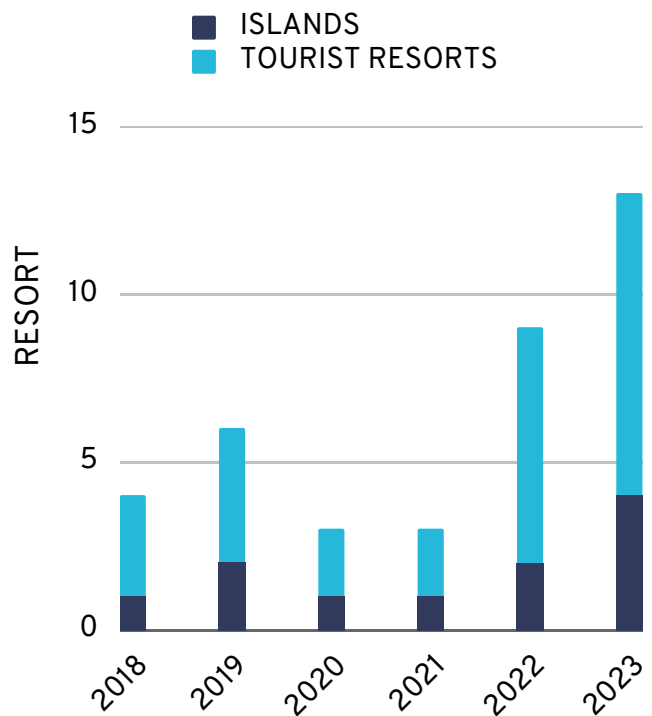
are the main transport routes for waste into our oceans: waste from the existing river barriers in Manado City is collected daily by DSG. This pick-up prevents more than 60 tons of trash from entering the oceans and Bunaken Marine National Park per year.



VOLUME OF PLASTIC WASTE SORTED



AREA AND PARTNERS FOR WASTE COLLECTION



OUR VISION

Our long term vision is that all plastic waste from our region will be recycled, through innovation in mechanical recycling, solvent-based recycling, depolymerization, pyrolysis, and gasification.

There is no silver bullet among these recycling technologies. We will evaluate for each of our waste streams in the Coral Triangle which recycling technology is best suited to maximize the volume and the quality of the waste-based materials recovered from our project region.

TODAY

All plastics that have a value for mechanical recycling are sent to recycling companies while we send all non-recyclable plastic waste to cement factories in Indonesia to replace coal as a raw material in the production of cement. This utilization makes it possible to prevent uncontrolled dumping and reduce CO2 emissions from the uncontrolled burning of plastic waste.

SOCIAL IMPACT

HOW TO ADDRESS SOCIAL CHALLENGES

In North Sulawesi, the level of education is low compared to other regions of Indonesia: only 25% of 16-year-olds achieve minimum proficiency in reading, 18% of them achieve minimum proficiency in math. (1)

One in five girls in rural Sulawesi marries at under 18 years of age.

In Indonesia, women working in waste management earn about 40% less than men (1); as in other developing regions, there is a lack of protective equipment among waste workers (2).

Therefore, our priorities for developing social impact are: helping to improve education on the islands, empowering women, and health & safety in waste management.

1. UNICEF, 2019. PROVINCIAL SNAPSHOT NORTH SULAWESI

2. BENING ET AL 2022. THE TRUE COST OF SOLVING THE PLASTIC WASTE CHALLENGE IN DEVELOPING COUNTRIES. JOURNAL OF CLEANER PRODUCTION

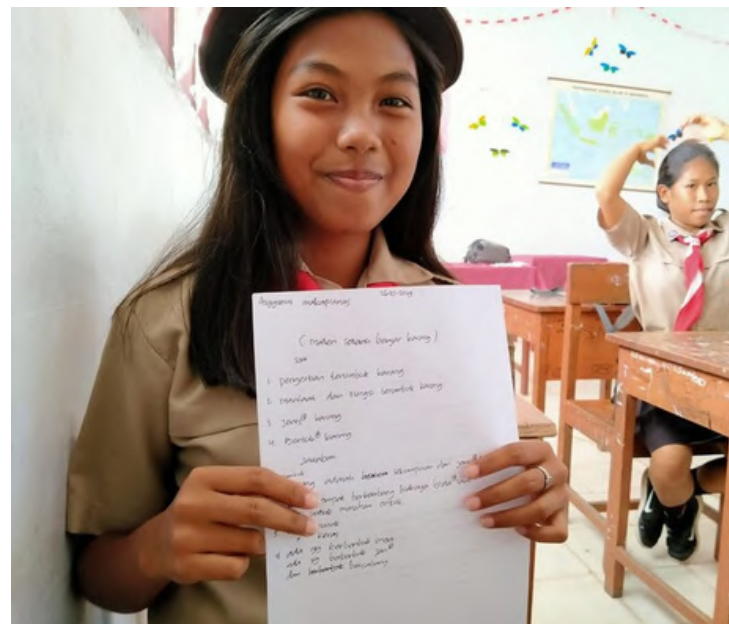


EDUCATION AND AWARENESS

Education is a key factor.

We created the teaching program “School on the Beach” for junior high schools that includes ecology lessons covering topics related to the marine environment and conservation.

Amelia Tungka is committed to creating awareness in the local community by teaching good waste management within schools, municipalities, and to the community in the regional capital Manado.

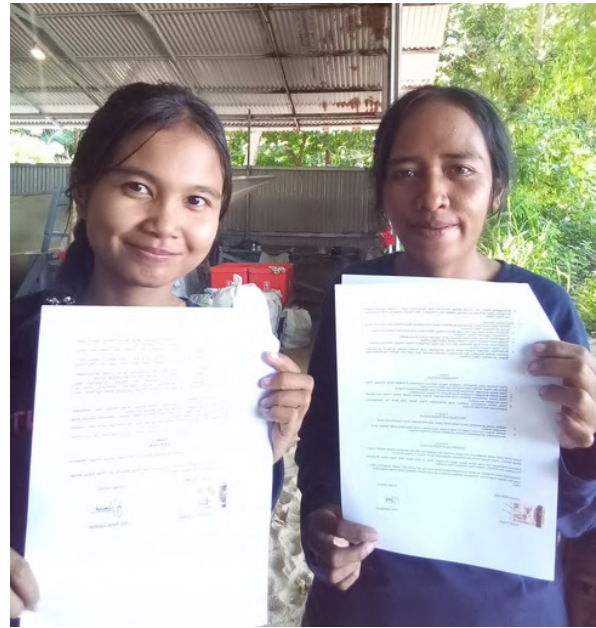


WOMEN'S EMPOWERMENT

We provide employment to women on the islands, giving them flexibility according to their family needs.

We teach them English, marine biology, how to dive, and help them develop computer and internet literacy as a non-financial benefit of their job.

We are proud to see that one of our former employees is now studying at the University of Manado.



STATUS QUO

<50%

of women on remote islands finish high school.

1.UNICEF, 2019: PROVINCIAL SNAPSHOT NORTH SULAWESI





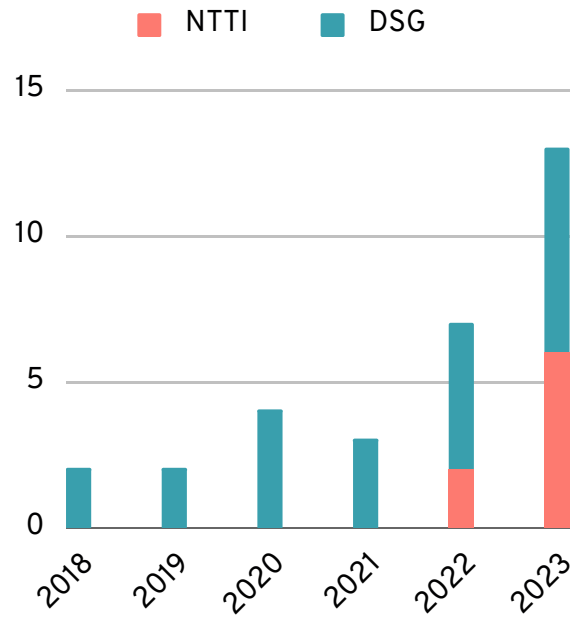
HEALTH & SAFETY GUARANTEED

Our aggregator partner DSG completed a thorough hazard assessment for all operations in 2022.

An external auditor compiled the Corrective Action Plan and checked for its implementation to guarantee workers' safe and healthy working conditions.

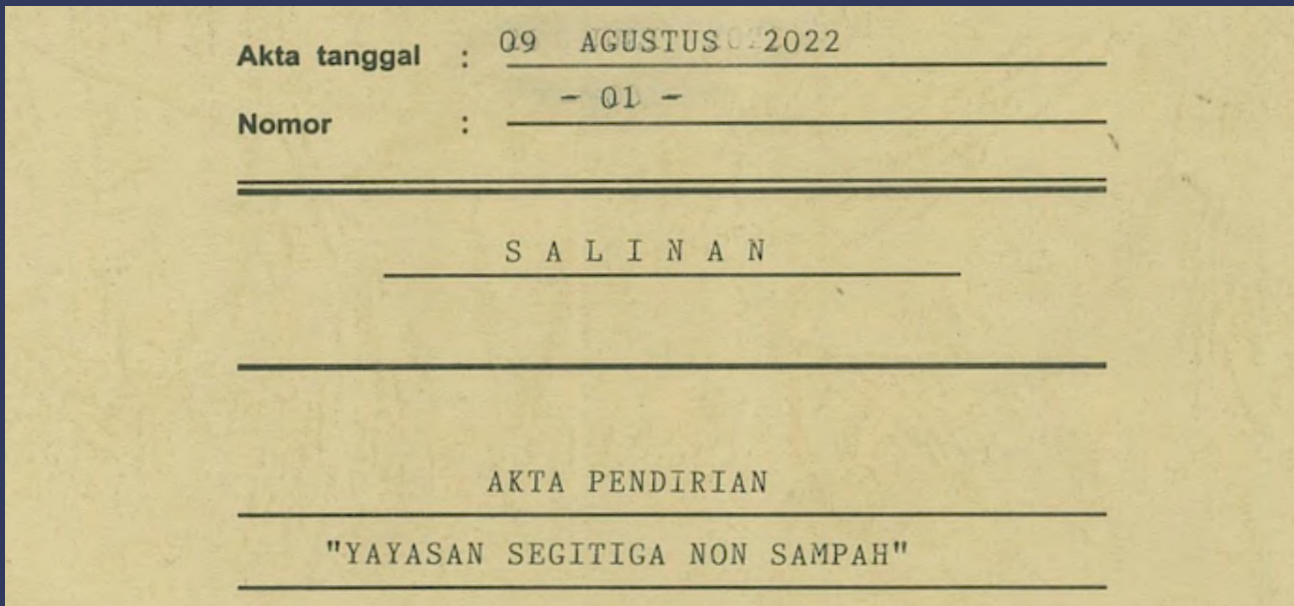


PEOPLE EMPLOYED



From 2018 to 2021 there are no employees shown for NTTI. During that time, it was run solely by volunteers. Since 2022 we have created several permanent positions.





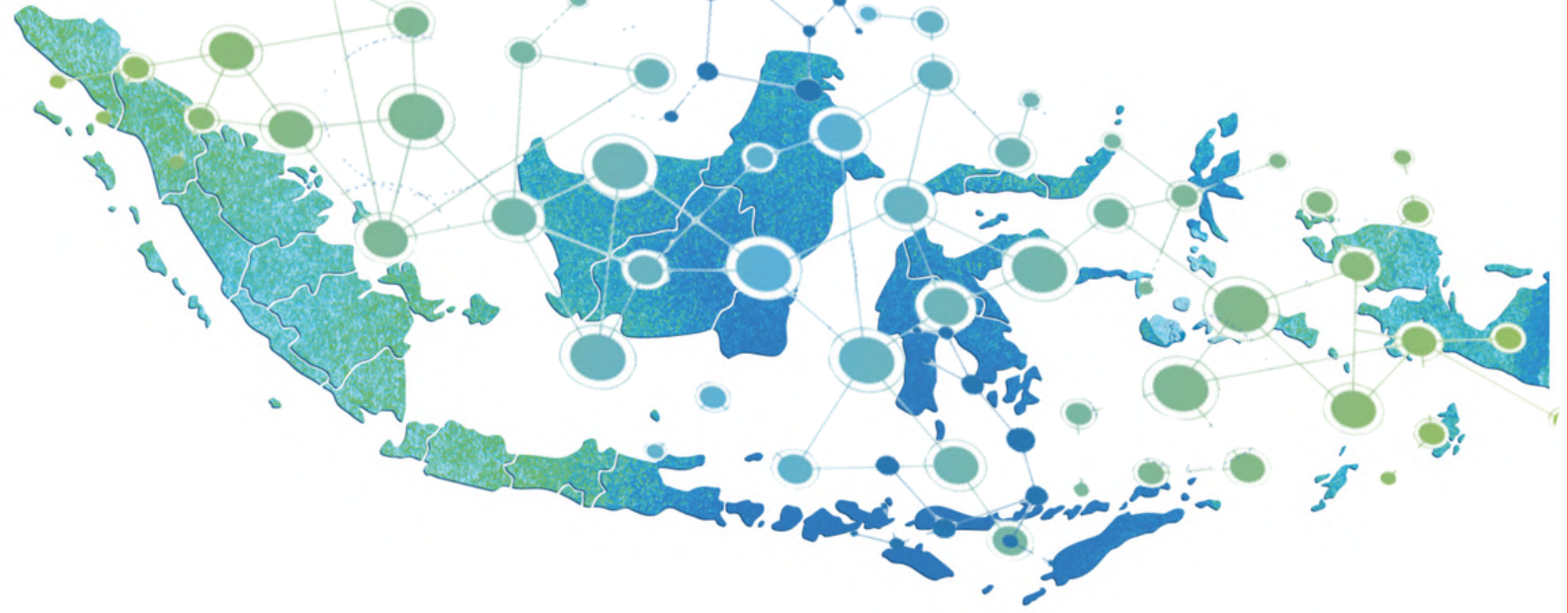
NTTI IS NOW A FOUNDATION

The No-Trash Triangle Initiative is now officially recognized as a foundation in Indonesia under the name Yayasan Segitiga Non Sampah. It is led by individuals from a range of backgrounds and professions, all of whom are dedicated to protect the Coral Triangle from pollution.

The official status as an NGO opens up a variety of funding opportunities for the No-Trash Triangle Initiative and gives us the credibility that we hope will make discussions with officials and local governments a little easier.

This is the culmination of our efforts to create an organization that is run by local people on the ground with the support of an international network.





OUTLOOK

2024/25

Scale up collection from households

Remote islands around Manado have no waste collection infrastructure. Open burning or littering are the only options available to the locals. Over the next months, our aim is to scale up the collection of plastic waste directly from households on the islands. Collecting plastic waste at the source will help us abate littering of plastic waste.

Scale up sorting infrastructure

Our existing sorting capacities are fully utilized, therefore we need to expand the sorting capacity at our sorting station in Manado. For this purpose, we will approach foundations and ask for financial support.

Closing the loop of the food value chain

Organic waste disposal is responsible for 2% of global CO2 emissions. We plan to start up the separate collection of organic waste to divert it from landfill and turn it into valuable compost.

Scale up river waste collection

Rivers account for around 1 million tons of plastic waste going into the ocean globally. We plan to scale up river barriers across the city of Manado to minimise the plastic waste leakage into the marine environment.

Set up Brand Owner Partnerships

Collecting plastic waste from the Coral Triangle implies high logistic costs. Simply selling the plastic waste we collect to recyclers allows us to capture only a share of the value we create. We are currently preparing partnerships to market the recycle from our region to brand owners.

TODAY

Prior to the pandemic, we were collecting 100-200 kilos of plastic waste a month. Currently our project in North Sulawesi is running at a rate of 30 to 40 tons of plastic waste per month.

Even though we are operating in a region that requires a high logistical effort, we have proven that we can cover the the operating costs of our project, and we are now ready to take the next step on the growth path with our partners and supporters.

PARTNERS



McDONOUGH
INNOVATION



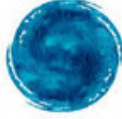
CIRCULATE CAPITAL



Siladen
Resort & Spa



Coral Eye
Marine Outpost



Sea Souls
ESSENCE OF DIVING



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NOMAD DIVERS
BANGKA

