



ENDING PLASTIC POLLUTION INNOVATION CHALLENGE 2020

TOP 14 FINALISTS



<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>14 LIFE BELOW WATER</p>
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The **Ending Plastic Pollution Innovation Challenge (EPPIC)** is an ASEAN-wide competition aiming to beat plastic pollution in coastal cities in Viet Nam, Thailand, Indonesia and the Philippines, by selecting innovative solutions and helping them to grow and scale-up.

Over 159 teams from six ASEAN countries applied to EPPIC in less than two months. They came up with a broad range of solutions to tackle plastic pollution with upstream and downstream innovations. In September 2020, 14 teams were selected as EPPIC finalists and undertook a 3-month incubation programme, including two field trips to Ha Long Bay and Koh Samui.

In the Final Pitching Competition, taking place on 26 January 2021, four winners will be awarded a seed funding of up to USD 18,000 each and start a 9-month impact acceleration programme.

EcoTech

Trash is Treasure



Photo by Francesco Ungaro on Pexels

Team



Dr. Duong Hai Minh
CEO (based in Singapore)

9 years of experience in impact research into aerogel material innovations from various industrial and agricultural wastes for novel engineering applications.



Dr. Phung Le
Co-Founder (based in Viet Nam)

One of the 50 most influential women in Viet Nam in 2019 for her achievements in research on agriculture, especially treatment of agricultural waste, according to Forbes Viet Nam.



Mr. Dave Le
Co-Founder (Viet Nam)

5 years of experience in impact research on waste-to-energy and making aerogel material from environmental waste.



Mr. Goh Xue Yang
Co-Founder (Singapore)

Engineering Doctorate student researching on aerogel materials and its novel engineering applications.

Solution

EcoTech has developed a groundbreaking technology that turns many kinds of plastic waste into novel, high-value aerogel materials for billion-dollar markets, such as heat and sound insulation, high-temperature garments and oil spill clean up.

A pilot has been launched in Singapore with the capacity to manufacture 250,000 m² per year of aerogels from various wastes, including plastic, paper, textiles, rubber and agricultural waste).

Innovation

EcoTech has successfully overcome the problem of plastic waste by developing a means to convert them into high-value aerogels for many useful applications - the first aerogel made from plastic waste.

Eco-aerogels have practical applications, such as in oil-spill clean ups and heat and sound insulations, providing excellent water repellency, are highly compressible and ultra-low density, and have high-porosity, high absorption capacity and ultra-low thermal conductivity. At the end of their useful life, these aerogels can be recycled again to make other aerogels.

Notable achievements to date include:

- Patented: Polyethylene Terephthalate (PET) Aerogels, SG Non-Provisional Application No. 10201802587W;
- Won first place for Sustainable Technologies, Create the Future Design International Contest 2018, Tech Briefs USA;
- Won TechConnect Innovation Awards 2019 in the USA;
- Received world-wide media coverage, with over 2 million views (Reuters, Bloomberg, CNA, Straits Times, etc.).



Business Model

The technology is ready for mass production, with commercial equipment available and no critical technical problems.

- Phase 1 (2020-2021): Pilot & Selling products to partners;
- Phase 2 (2022-2023): Mass production & B2B (Selling products);
- Phase 3 (from 2023): B2B (Selling mass products and services (convert waste to products, oil spill clean up)).

The cost of production is USD 1.5 per square meter, and will sell for USD 4-5 per square meter for the absorbent version and USD 15-20 per square meter for the insulator version.

Targeting the Asia Pacific market, with very competitive prices through off-line and online channels.

Market

The global aerogel market was valued at USD 692.1 million in 2018 and is expected to reach USD 2.97 billion by 2026, at a CAGR of 19.7%. The market is primarily driven by demand from various end-use industries, such as oil and gas, building and construction, automotive, aerospace and marine.

Of particular note is that the robust expansion of the building and construction industry will positively impact demand for aerogel, as the number of residential and commercial construction projects rises across the globe.

Contact

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Dr. Duong Hai Minh, CEO

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Impact Model

SDG 9 - Industry, Innovation and Infrastructure: Develop new aerogel materials from plastic waste to be used for oil spill clean up, heat and sound insulation; enhancing research and upgrading industrial technologies; promoting sustainable industrialization through the project's manufacturing production.

SDG 12 - Responsible Consumption and Production: Apply sustainability in operations, such as using plastic waste as production materials; zero waste disposal; reusability and recyclability of the products. At end of life, products can be reused and recycled as raw materials for other aerogels.

SDG 13 - Climate Action: Prevent the harmful effects of plastic pollution; reduce CO₂ emissions by reducing energy use, reusing and recycling different products.

SDG 14 - Life below Water: Apply newly developed aerogel in cleaning up oil spills in the ocean, contributing to reduce marine pollution, protect marine ecosystems and conserve coastal areas.

Traction & Key Metrics

2018 - First development of aerogel from plastic bottles; Won first place for Sustainable Technologies, Create the Future Design International Contest 2018, Tech Briefs USA.

2019 - Completed optimisation and patented the technology; Won TechConnect Innovation Awards 2019 in the USA; World-wide media coverages with over 2 million views (Reuters, Bloomberg, CNA, Straits Times, etc.); Got interest from Mapletree, 3M, Enretech Australasia; SIA Engineering Company; WOHA Architects; Shell Oil Company, etc.

2020 - Piloted manufacturing (capacity of 250,000 m² per year); Raised S\$ 155,000 from Mapletree Investments Pte Ltd.

Vision

- Reach revenue of USD 5 million per annum by 2023;
- Expand market and set up factories in SEA (Indonesia / Malaysia) and Australia within 10 years;
- Global company and IPO by 2030.

Investment

- Our target is to raise USD 1 million in 2021, to reach production capacity of 1.2 million m² of plastic aerogel per year.
- Expect \$3 million in next 2 years, to increase the capacity to 3 million m² per year.

Plastic Pollution Challenge

Viet Nam is in the top 4 countries contributing to plastic waste entering the oceans, especially in Ha Long Bay, with 5,272 tons of plastic waste generated annually.

Only 9% of plastic waste in Viet Nam is recycled, typically for low-value applications and simple use.



CIRAC

Providing recycling waste plastic technologies for circular economy



Photo by Silas Baisch on Unsplash

Team



Mr. CHATCHAI
Co-Founder



Dr. SIKARIN
Co-Founder

We are plastic resin specialists with more than 10 years working in plastic factories in Thailand. Mr. Chatchai has extensive experience in reactor / process design, especially related to plastic production and recycling. Dr. Sikarin has experience in designing new plastic to improve plastic performance. We have close relationships with the leading companies in the plastic packaging industry.

Plastic Pollution Challenge

About 100 million tons of multilayer thermoplastics are produced globally each year, popular for their effectiveness in packaging food and medical supplies. However, few people know that behind their benefits these multi-layered polymer sheets cannot be recycled using conventional methods. As a result, most ends up in landfills or being incinerated.

Solution

The CIRAC system turns aluminum laminated thermoplastic, focusing on snack and food packaging, into valuable products and materials, such as aluminum, diesel fuel and activated carbon. With the unique design of the CIRAC reactor, combined with the right pyrolysis conditions, we are able to separate the aluminum film from the waste while the remaining plastic is converted into liquid fuel (called heavy oil) - going from waste to valuable resources.



Figure 1: CIRAC system, converting snack packaging waste to aluminum (main product) and heavy oil (by-product)

Innovation

CIRAC provides a solution for converting aluminum laminated thermoplastic waste into these valuable products:



The CIRAC process not only cuts aluminum production cost to a third of conventional mining, but also saves on the cost and environmental impacts of landfill, incineration and extraction activities.

We are currently developing new technologies for upgrading heavy oil outputs, and in the near future, will provide three valuable products - aluminum, diesel fuel, and activated carbon.

Impact Model

The CIRAC system contributes to:

SDG 11 - Sustainable Cities and Community: Closing the loop of plastic and aluminum provides a zero waste system:

- Samui = 40 tonnes per day of snack packaging => 8 tonnes of aluminum per day;
- Thailand = 1,000 tonnes per day of snack packing => 200 tonnes of aluminum per day.

SDG 12 - Responsible Consumption and Production: Reduce aluminum mining - recovering up to 60,000 tonnes per year from snack packing waste, saving USD 40 million per annum and decreasing imports by about 15%.

SDG 1 - Zero Hunger by 2030: Aluminum laminated thermoplastics have been designed to prolong shelf life, playing an important role in packaging food for people in remote areas. Demand for this packaging will continue to increase at a rate of about 4.1% per year.

SDG 7 - Affordable and Clean Energy: Diesel fuel produced through CIRAC provides an alternative fuel that is more environmentally friendly compared with conventional petroleum fuels, with a GHG (greenhouse gas) emissions decrease of about 14%.

Business Model

Currently, the system can produce about 300 kg of aluminum from 1 ton of waste packaging, per day. Recycled aluminum fetches about USD 1 per kg, while our operating cost is about USD 0.2 per kg. This means a profit of about USD 0.8 per kg and an estimated daily profit of USD 240.

Revenue streams

- Selling our products - aluminum, diesel fuel, and activated carbon
- Selling technology (CIRAC)

Potential customers

- Aluminum casting companies (Selling product)
- Packaging companies (Selling product and technology)
- Waste plastic to energy companies (Selling technology)
- General waste and recycling companies



Market

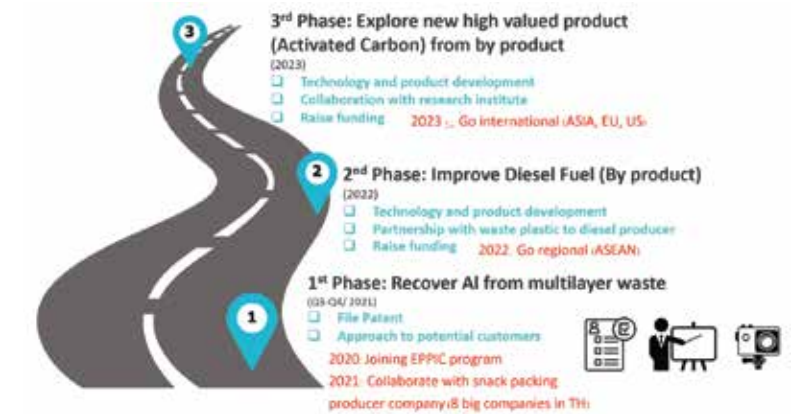
In Thailand, the demand for aluminum is about 1 million tonnes per year, with half currently imported. This, coupled with a demand growth rate of more than 10%, ensures a huge market for this product.

Our use of snack and food packaging waste means a more flexible process than those of competitors limited to other wastestocks (such as Polycycl, Bianna, APchemi, etc.). This lower competition for wastestock means more secure access and lower cost of supply. Moreover, CIRAC is a solvent-free process, thus, not only lowering both CAPEX and OPEX, but also an environmentally friendly technology.

There are many companies using chemical processes (including pyrolysis) on recycling waste plastic. However, no one has a commercial process that can recycle aluminum laminated thermoplastic (snack packaging) like CIRAC.

Traction & Key Metrics

Pathway to growth:



- 2020: Joined the EPPIC program
- 2021: Collaborate with snack packing production companies
- 2022: Go regional (ASEAN)
- 2023: Go international (ASIA, EU, US, Africa, and Latin America)

Vision

We want to become the world class technology provider for recycling waste packaging.

Investment

USD 300,000 investor capital for pilot-scale plant, processing 1 ton of waste per day

Funds used for:

- Building a standard process for commercial scale: USD 150,000;
- Research and development cost for producing diesel: USD 50,000;
- Research and development cost for producing activated carbon USD 100,000.

Contact

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Deplasticfying campuses with multi-use cups and food containers



Photo by Hiroko Yoshifuji on Unsplash

Team



Le Thuy Linh
Founder & CEO

9 years of experience in sales and marketing.
Winner of UNEP Low Carbon Footprint challenge in South East Asia 2020. Top 5 Blue Venture Awards 2020.



Dao Thi Hong Diep
Coordinator and Logistics Manager

9 years of experience in international business.

Plastic Pollution Challenge

There are 2.4 million students enrolled in Viet Nam every year. They go to campus to study and socialize, eating and drinking on a daily basis. The main plastic waste items generated on the campus are single-use plastics, styrofoam cups and food containers.

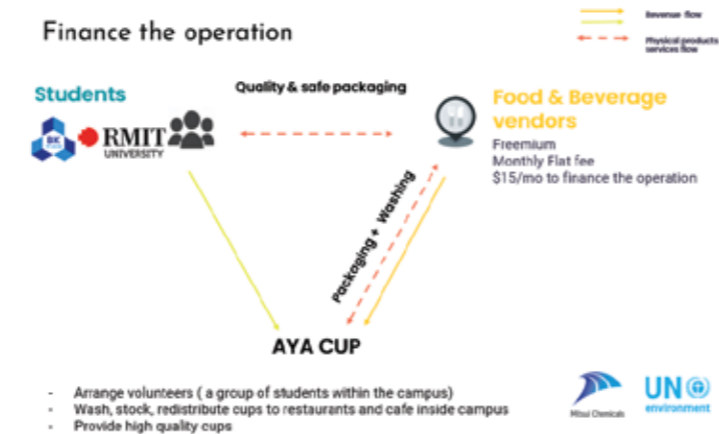
Solution

AYA provides turn key solutions, including training, know-how, software and hardware, to implement the sharing cup system on campus. We collaborate and strengthen our solution Schoolab Vietnam (Innovation training center), who is implementing Deplasticfying in Campus in different universities.

AYA provides embedded tech solutions and high-quality reusable cups and food containers for canteens, food and drink vendors on campus to replace the use of disposables. Students can borrow the reusables and return them at collection points around campus.

Business Model

Vendors who join the system pay a flat fee of USD 30/month, and it's free for students. The primary financial resources will come from sponsors, donations and government grants.



Impact Model

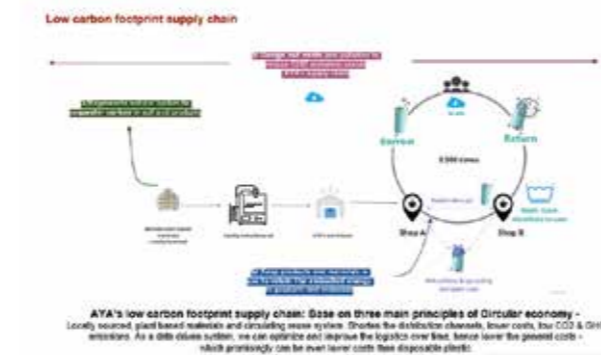
Total number of students in Vietnam

Education level	# of students (million)	# of schools	Est. disposable cups used per day	Est. disposable cups used per semester (180 days)
Elementary	7.8	15,254	1,495,890	269,260,274
Lower secondary	5.14	10,320	985,753	177,435,616
Upper secondary (incl Trade schools Universities, Colleges)	2.4	2,399	25,571	4,602,740
Total	15.34	27,973	2,507,215	451,298,630

Innovation

An upstream innovation, redesign how students reuse cups within their campus. We design-out single-use plastic, right at the source - with our closed-loop system of cup lending in a closed and controlled environment.

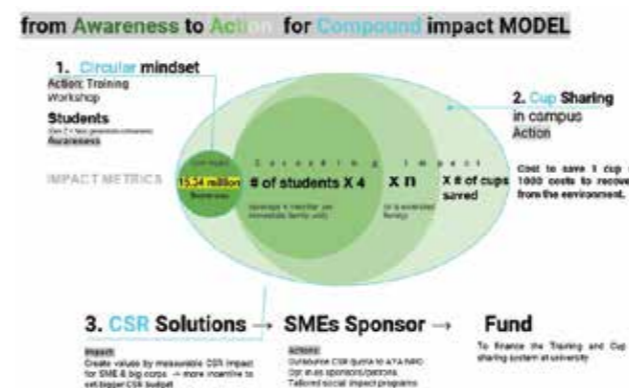
Our innovation comes from the effort of changing people's behavior. Besides, we collaborate with multiple stakeholders to keep a lean operation for this long term project.



Impact Model

SDG 11 - Sustainable Cities and Communities: As reusable cups are circulated and reused thousands of times, there is no waste to be collected, hence reducing transportation and energy needed for waste management and recycling, pollution and public costs for municipalities.

SDG 12 - Responsible Consumption and Production, SDG 8 - Decent Work and Economic Growth: By replacing low quality single-use plastic cups with durable BPA free reusable cups in a systematic way, the project can reduce plastic consumption from the source.



Traction & Key Metrics

Projects:
Provide Cup Sharing solution at Music Festival Epizode 2019. Saved 44.000 single-use plastic cups.
Provide Cup Sharing Solution at Marathon Lakerun 2020. Saved 2300 single-use plastic cups.

We already have sponsors:

- VSVA (Grant);
- Mitsui Chemical (Grant);
- barePack.co (Mobile App);
- Schoolab - Deplasticfying Campus (Design thinking and training for students).

Q1-Q2 2021: Exploratory project with Ho Chi Minh City University of Technology.
Q3 2021: RMIT.

Prizes:

- Winner of UNEP Low Carbon Footprint challenge in South East Asia;
- TOP 14 of the Ending Plastic Pollution Innovation Challenge (EPPIC) delivered by UNDP.

Vision

Educate, empower and unite Gen Z with corporations, to collectively create sustainable shared values in eradicating single use plastic on campuses in Viet Nam and Asia.

Investment

We are looking for sponsors for hardware (reusable cups and containers), washing machines and transportation as well as financial support for: human resources, purchasing hardware (cups and washing stations) and software, and maintaining facilities to launch and implement programs in 3 universities in 2021.

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Galaxy Biotech

Keep Food Fresher and Make Globe Green



Photo by Tom Fish on Pexels

Team



Khoa Le
Co-Founder

19 years' experience in automation and biotechnology.

Current: Chairman - Galaxy Biotech JSC.

Past: M&E Manager (Samsung).



My Tran, CFA
Co-Founder

Master of Business Administration - Solvay Brussels School, CFA Charter-Holder.

Current: CEO - Galaxy Biotech JSC

Past: Equity analyst (Thien Viet Securities), Investment Analyst (Saigon Asset Management), Industry Mentor (CFA Institute Research Challenge 2019), CFA lecturer (International School of Business).

Plastic Pollution Challenge

Viet Nam is one of the largest fresh fruit and vegetable exporters in the world. However, agricultural products have low value due to a lack of effective post-harvest preservation, leading to 50% product loss. At the same time, the popular usage of plastic bags in the preservation process in transportation contributes to the problem of plastic pollution.

Solution

In July, 2020, GALAXY BIOTECH launched the BREATHABLE BIOBAG, a starch-based bag made from industrial cassava (tapioca) starch - a popular local species that grows well in harsh soil in the Highland and South-East regions of Viet Nam. The bag provides a solution for food preservation, while being biodegradable.

Innovation

The BREATHABLE BIOBAG tackles two urgent issues, including plastic pollution and food waste. Moreover, our solution also helps increase Viet Nam's agricultural product - which is cassava, thus adding incomes for poor farmers.

We have applied both biotechnology and nanotechnology to develop 4 types of eco-friendly food preserver bags, targeting the bio-packaging industry. We are innovating with bags that can keep vegetables, fruits, meat and fish fresher and protect them from bacteria and viruses.

We have also developed a methodology to calculate the CO2 emissions to find ways to minimize pollution.

Awards include:



Top 5
Startup Viet 2020



Top 10
Startup Wheel 2020



Agricultural sustainability prize
Viet Nam Rural Youth Innovation Award



Impact Model

SDG 1: No Poverty: Lowering losses and increasing the value of local products, creating more local jobs.

SDG 2: Zero Hunger: Keeping food and agricultural products fresher for longer, reducing food waste.

SDG 9: Industry, Innovation and Infrastructure: Applying technological innovations to reduce plastic pollution and fight food waste.

SDG 11: Sustainable Cities and Communities: Creating jobs for local communities.

SDG 13: Climate Action: Reducing CO₂ emissions compared to normal bags made of virgin plastics. Using 1kg of our bags will reduce 5.2kg CO₂ emission according to the Climate Impact Forecast.

Business Model

We sell the BREATHABLE BIOBAG to B2B fruit and vegetable exporters and distributors. The target gross margin is 40%. In 2021 the gross margin target will be set lower at 15-20% to support market development.

The product line includes:

- BREATHABLE BIOBAG 1: small size - 22x32cm;
- BREATHABLE BIOBAG 2: medium size - 30x40cm;
- BREATHABLE BIOBAG 3: large size - 45x60cm;
- BREATHABLE BIOBAG 4: custom size, to customer requirements.

Despite only a relatively recent introduction to the market, in July 2020, our products have attracted many customers including:



Investment

For 2021, we are seeking to raise USD 250,000 of funding for new production facilities (35%), product innovation (25%), sales and marketing (20%) and operations (20%).

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Market

Our targeted customers are Vietnamese fruit and vegetable exporters and distributors with a market valuation of USD 80 million.

Table: Competitive Advantages

COMPETITIVE ADVANTAGES						
	Competitors	Size	Price (VND/pcs)	Ingredients	Biodegradation ability	Fruit preserver ability
1	Aneco	-	-	Bioplastic	+	-
2	OPEC	-	+	Plastic	-	-
3	GreenMAP	-	-	Plastic	-	+
4	Japan Food preserver	-	-	Plastic	-	+
5	Sunhouse food storage	-	-	Plastic	-	-/+
6	Miracle Fresh	-	-	Plastic	-	-/+
7	BREATHABLE BIOBAG	Customized size	+	Bioplastic	Yes	Yes

Traction & Key Metrics

- Clients and potential clients: 50+, such as DalatFoodie, Agrivis, Flowery, etc.
- Total revenue: USD 4,000 (from October to December 2020).
- Total clients and distributors: 30 stores in Ha Noi and Ho Chi Minh City.
- Have exported to Singapore and the US.

Vision

We aim to become the leading biotechnology company in Viet Nam. We want to increase the economic value of local agricultural products and reduce food waste using technology to increase local materials' value. This solution will enhance value chain sustainability for all stakeholders, from farmers, intermediaries, manufacturers, to end-users.

By 2023, we intend to achieve a volume of 200 tonnes per annum, claiming a 3.6% share of the Vietnamese breathable biobag market.



Green Island Foundation of Thailand

Consume, Play and Replay



Photo by Francesco Ungaro on Unsplash

Team



Wisaroonl Wongboon
Project Consultant

Senior lecturer in Environmental Technology at Walailak University. He will bring his academic expertise on how to analyse data and utilise it to improve our service and product.



Wichayapas Rujira
Project Manager

Foundation Manager of Green Island Foundation of Thailand.

She is responsible for creating multi partnerships and initiating collective efforts between communities during the implementation process.

Plastic Pollution Challenge



The rapid expansion of the tourism business and rampant use of single-use plastics products are key factors contributing to the approximated 300 thousand tons of undisposed plastic waste in Koh Samui. But above all, the root of the problem is the lack of widespread awareness about waste separation and management across the island.

Solution

A self-starting waste management app that helps users, especially in groups, to customise their solid waste management according to individual or collective needs. It uses stimulating features, like gamification, and incentive programs to educate and encourage people to create and follow through on their waste-related initiatives.

Innovation

The app not only serves as a tool for collecting data on waste management but also focuses on using behavior-stimulus features and integrated incentive programs to emphasize users' "beneficial experience" from self-managing their waste, individually or collectively.

Users can also learn about waste management by taking interesting online lessons or playing fun games. Furthermore, by taking a snapshot of solid waste, the app will automatically analyze items before guiding users through the segregation and sending off of their waste to collection units nearby.

The data collected from the app will be used to improve services and to inform other waste management solutions.



Impact Model

2 Primary SDGs

Goal 13 - Climate Change and Goal 14 - Life Under Water: By relying less from the existing solutions which are detrimental to the climate and ocean life and diverting to our innovative solutions, habitants in Samui Island and in its surrounding areas can make positive changes in the environment while benefiting from the experience.

2 Secondary SDGs

Goal 4 - Quality Education: In developing this app, we also develop an educational tool aimed for use in schools to raise students' awareness and encourage real actions, with a potential to be developed into the curriculum, both in a classroom setting or online.

Goal 12 - Responsible Consumption and Production: The app focuses on the relationship between the origin of waste and package or consumer goods. Understanding how citizens consume will shine light on appropriate waste solutions. What's more, gamification and incentive programs will educate and encourage the users to become responsible consumers.

Business Model

Currently, we focus on serving 22 schools first in Koh Samui first, by licensing our educational contents, producing extracurricular programs for their pupils. Ideally, students find interest in our app and will encourage their friends and family to use it as well. The ultimate goal is to build a large and robust community, so we can reach out to big corporates via their CSR programs, to apply for sponsorship in exchange for promotion of their image in our app.



Market

To build the product ecosystem in which the product can be developed and the customer base can thrive, our app needs to go through 3 development stages, Stage 1, launch an MVP to test our data collecting modules of apps in 22 schools across the island. Stage 2, a full-fledge app with gamification integrated tested under B2B agreement (90 convenience stores in Koh Samui whose staff can use our service to manage the store's waste). Final stage, the app is available in app stores targeting the circles of small to medium sized waste-related businesses in need of waste feed in their production pipeline or environmentalist circles with waste-related initiatives to follow through individually or in groups (e.g. trash-picking group).

Traction & Key Metrics

Currently this initiative is still at the very primary idea stage. However, we have planned various stages for the plan of action towards having the final full-fledge app. We have approached 22 schools on the island first and are currently in talk with one of the region's largest retail businesses and owner of the biggest convenience store chain for the scale-up potential. Furthermore, we are also in talk with another potential partner who wants to get involved in developing a first interactive self-starting solid waste management curriculum.

Vision

In the next 2 years after the launch of this program, we plan to be the leading waste management solution in Koh Samui through providing specialised knowledge and service in waste management. Our innovative educational content will be the must-have program in every middle and high school on the island with potential to scale up and beyond the island itself. In the 5 year time, in providing a full-fledge and improved version of the app, we aim to thrive on the main target groups of customers: Small to medium sized or even large businesses in need of innovative waste management service or CSR waste projects. We also plan to introduce an eco-product marketplace to the app.

Investment

We have set a starting capital goal of around 1,000,000 Baht (about USD 33,000), which will be used to produce the app to be launched this year. It will also help support our operation during development. However, for this we will seek out financial support from partnerships that we will have established in each stage.

Contact

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Refill Đây

Join the Refillution!



Photo by May Law on Pexels

Founders



Mr. Nhan Nguyen
Founder

- Committed and active environmental activist in 6 environmental organizations in Viet Nam since 2006;
- Entrepreneur having started two multiple businesses in the USA and Viet Nam;
- Lecturer at RMIT University Viet Nam.



Ms. Sa Ke Na
Co-Founder,
Administrative and HR specialist

- Has 6 years of Administrative and HR experience;
- Held the position of Secretary for the Youth League in Binh Thanh District.

Plastic Pollution Challenge

Single-use plastics, are leaked into the environment every minute causing a variety of problems, such as:

- Choking our rivers and oceans;
- Killing animals both on land and in the water;
- Entering our food chain;
- Creating human health problems.

Unfortunately, in many cases there are no convenient alternatives to purchasing products in plastic bottles or bags, which leads to more use of virgin plastics and leaking of plastic waste into the environment.

Solution

Refill Đây addresses these problems before they become a problem by preventing virgin plastics from being used in the first place. We provide a convenient alternative to single-use plastic by refilling reusable containers with trusted products at our customers' homes, offices, restaurants or hotels.

Innovation

Refill Đây is an innovation synthesizing two existing ideas that no one else has tried before: motorbike delivery and refill stores. In many ways, it is similar to Mailing and DVDs, which is how Netflix started.

The issue with refill stores is accessibility of both location and product brand. The refill shops require customers to come to the store with their containers. This is problematic if one lives far from the store as it is easier to just go to the local convenience store. Additionally, these refill shops tend to sell 100% all-natural and expensive brands that most customers have never heard of. By delivering well-known, trusted brands to the consumers' doorstep, Refill Đây addresses both of these problems and brings an innovative new concept to the marketplace.



Impact Model

SDG 12: Responsible Consumption and Production: Our core purpose is to minimize single-use plastic; We will provide educational materials to our customers; Our suppliers will retool their production facilities to sell their products in larger size containers.

SDG 8: Decent Work and Economic Growth: We will provide jobs for delivery drivers and shop sales representatives; Our aggressive medium-term goal is to have one refill station (job) for each of the 259 wards in HCMC. Longer term will scale up across the country.

SDG 5: Gender Equality: We will work with the Women's Union of each ward and province to hire women for our available positions; We will also rely on the Women's Union to assist us in our word of mouth marketing activities.

SDG 13: Climate Action: Less plastic in landfills and littered on the streets equate to less GHG emissions;

SDG 14: Life Below Water: Less plastic will be leaked into the streams, rivers and ocean.

SDG 15: Life on Land: Less plastic will be leaked on land impacting wildlife and less to be burned releasing toxic gases.

Business Model

Refill Đây's business model is a retail/delivery model where we sell and deliver products to customers at their homes or offices.

- The gross margin on our current products ranges from 25% to 60% depending on the product.
- The four major operational costs and estimated structure are staff salaries (38%), product inventory (37%), warehouse cost (19%) and fuel/admin expenses (6%).
- Our revenue streams will be both transaction-based and recurring/subscription and come from these three primary markets: (1) green-minded consumers, (2) small restaurants, cafes and hotels, and (3) low-income customers who rely on purchasing sachets.

Market

According to Euromonitor (2020), more Vietnamese consumers are becoming aware of the issues with plastic. For example, one can see a proliferation of non-plastic straws in many higher-end and eco-conscious coffee shops and restaurants.

In 2019 a market study conducted for Unilever's Seventh Generation brand identified the green consumer market segment as approximately 650,000 people in HCMC. This is 7% of the HCMC market and fits the profile of our primary market.

Vision

We envision a world where the refill/milkman model has disrupted the home grocery and goods delivery service. We envision a world where a working parent can leave empty containers in a locker in the morning and come home to find full containers of trusted products in the evening. We envision a mobile-app where customers can easily order all of their refillables and track the number of plastic bottles they have saved from going into the environment. We envision a massive warehouse distribution center with solar panels charging our delivery scooters. We envision a delivery model without plastic.

Contact

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Traction & Key Metrics

Since its conception in May 2020, Refill Đây has been recognized in two international competitions. They are:

- Winner People's Choice Award in RMIT University's International Activator Competition;
- Top 14 out of 159 contestants in the UNDP Ending Plastic Pollution Innovation Challenge.

In the past 8 months the concept has developed through a collaborative and consultative effort with the following top-of-class corporate, NGO and governmental partners:



Refill Day is currently piloting in Ha Long Bay and Ho Chi Minh City to finalize our minimum viable product.

Investment

For 2021 we are seeking funding totaling of \$USD 50,000 which will be spent to develop an application for managing the business, prototype testing and communications:

Item	%
Campaigns and communications	40%
App Development + R&D + Strategy	20%
Market Development/Train the trainers	20%
Fund-raising for community projects	10%
Direct sponsorship	10%



P+usTreat

Everybody can recycle



Photo by Sophia Muller on Unsplash

Team



Nurcahyati
COO

Putri Amalia
CEO

Azizah Nur Ilmi
CFO

PlusTreat was formed by three highly committed, female leaders who want to tackle the problem of plastic waste pollution, and are eager to seek an innovative solution. The team aims to make a real impact on society, in every part of the world.

Plastic Pollution Challenge

As a tourism attraction, Koh Samui generates 10,800 tons of plastic waste per year, with the top 2 categories being bags and bottles. The main source of this waste is the daily consumption of bottled water, where in restaurants, they produce 132kg of bottle plastic per restaurant and per week.

Solution



P+ustreat takes care of plastic bottles from collection from the end customer to segregation, and processes it into plastic flakes. Flakes are separated into three groups based on color - clear, clear-blue, and other colors.

Impact Model

Aligned with the SDG 12 - Responsible Consumption and Production:

- Increased recycling rate (12.5).
- Facilitating consumers and manufacturers responsibility for their consumption and production, educating consumers on recycling (12.8).
- Supporting manufacturers to adopt EPR (Extended Producer Responsibility) measures (12.6).
- Increase research and development about technologies for sustainable consumption and production (12.a).

Also supported:

- **SDG 14 - Life Below Water:** Conserve and sustainably use the oceans, seas and marine resources.
- **SDG 13 - Climate Action:** Prevent / reduce / collect plastic waste from the environment, in general and in Koh Samui in particular.
- **SDG 8 - Decent Work and Economic Growth:** Minimize labor exploitation, such as scavenging waste for low returns. P+usTreat can empower otherwise exploited labor with livelihood opportunities to get fairer and more stable income.

Market

P+usTreat machines will be used by the public as "smart trash bins" that will give them incentives for every bottle they put in, in the form of reward in our mobile application. The reward can be exchanged with coupons from the parties, for example like Danone, who bought the P+usTreat machine. The main competitor to P+usTreat is Tomra, who also produces reverse vending machines for collecting recyclable waste. However, P+usTreat machines have more features to segregate and make plastic flakes, are cheaper, and have ready-to-sell outputs.

Innovation

P+usTreat distributes reverse vending machines in public places, where people can conveniently deposit their PET plastic waste.

Beyond this, it also offers simplicity in the plastic recycling chain. Conventional plastic recycling processes require more steps because the plastics need to be separated based on their type. Following sorting, plastics are balled into cubes to be shredded afterwards.

P+ustreat helps to shorten the recycling chain by eliminating the separating and balling process., providing a compact, single machine with many functions. Our vending machines take PET bottles and reduce them to flakes, sorted by color, ready for use by manufacturers.



Business Model

Our revenue will come from the P+usTreat machine itself, which will be sold to governments and companies to contribute to their CSR programs and to fulfill their EPR (extended producer responsibility) commitments. They can place the P+usTreat machine in public places such as tourist attractions, shopping malls, and schools. Potential customers from the private sector include recycler manufacturers, such as Indorama Venture and Veolia, as well as FMCG manufacturers, such as Unilever, Danone, Ades.

Traction & Key Metrics

Currently, we have a blueprint design, a work-in-progress machine prototype, and are creating a social community through Facebook and Instagram by partnering with other social-environment communities.

Before joining the EPPIC program, we joined an incubation program by the Universitas Islam Indonesia called UBIC, where we received a IDR 12,500,000 grant. P+usTreat also participated in a boot camp held by INOTEK Foundation, in an event titled Women Technopreneurship Indonesia, and was named in the Top 50 in the Circular Innovation Jam Indonesia.

Vision

Our vision is to create a circular economy by promoting the adoption of an environmentally friendly lifestyle to support sustainable development.

A year from now, we hope to have achieved mass production of our machine, and in 3 to 5 years, making revenue from selling our machines and subscriptions to the app.

In 5 to 10 years from now, we seek that citizens across Indonesia, Thailand, and Viet Nam are using P+usTreat.

Investment

We need around USD 25,000 to develop and produce our machine and apps.

Contact

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mGreen

Earn money from recycled waste by mobile phone



Photo by Francesco Ungaro on Unsplash

Team



Ms. Tran Thi Thoa
CEO

10 years of experience in marketing, social environment activities, business development and management.



Mr. Nguyen Hong Linh
CTO

10 years of experience working as a mobile application developer for a loyalty system in FPT group.



Ms. Nguyen Ai Tuong Van
Project Manager

3 years of experience in implementing social projects and corporate affairs.



Mr. Bui Thien Ha
Supervisor

15 years of experience in the loyalty and customer care center of VNPT and Viettel.

Plastic Pollution Challenge

People lack knowledge about waste sorting, means of reaching waste collectors, and incentive to sort waste. This leads to waste being dumped into the sea, making waste management difficult for authorities. Currently, there are 0.8 tons of uncollected plastic waste in the ocean.

Solution

mGreen is a mobile app that educates people about waste segregation, rewards them for taking part in recycling activities, and connects residents with collectors and merchants at shops and stores.

Innovation

We built 3 mobile applications for 3 groups of users - waste collectors, households, and store owners. This system encourages residents to sort garbage at home, helping collectors collect waste conveniently. Furthermore, the mGreen loyalty coalition platform also provides a system for merchant promotions, where points can be exchanged by mGreen users for customer care programs.



Impact Model

SDG 9 - Industry Innovation and Infrastructure: mGreen employs mobile application and big data to waste sorting and collection.

SDG 11 - Sustainable Cities and Communities: The mGreen app is a supportive approach, contributing to build smart, modern, and civilized cities.

SDG 13 - Climate Action: App mGreen helps to classify garbage at sources, reducing greenhouse emissions from conventional waste collection systems.

SDG 17 - Partnership for the Goals: Loyalty cooperation with companies to build a circular economy for plastic waste.

Business Model



Stage 1: User sorts his/her waste, enters the weight of the sorted waste into the mGreen App, gets his/her submission validated by a collector through the mGreen collector app, and earns points based on the collector's scoring.

Stage 2: Collector sells his/her collected waste to a recycling plant. mGreen receives an intermediary fee from that plant.

Stage 3: User switches his/her points for vouchers and gift codes from mGreen merchant users so that they can receive incentives when buying at the merchants' stores. These stores then return commissions from the increased sales to mGreen.

Market

"30,000 tons of generated waste per day are recyclable waste. These waste are valued at approximately USD 200 million per year (according to the Ministry of Natural Resources and Environment). mGreen expects to capture 5% of this market, which is USD 10 million.

mGreen's potential competitors include GRAC, RALAVA app, etc. These are apps that support users to classify trash at source and earn points for redemption. However, until now they have not been able to attract many customers and users. Some waste management apps in Southeast Asia, such as KoomKah (Thailand) and Eazy (Singapore), are growing but are not popular outside the host country borders.

Contact

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- Ms Thoa - CEO**
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Traction & Key Metrics

From 2018-2020, mGreen was implemented in 10 provinces in Vietnam, with 50 launch events and 'Greendays' (Events where people redeem recycled waste in exchange for points and gifts via the mGreen app);

Created 100 recycling collector jobs and 120 Environment Ambassadors (students who help to promote mGreen and spread awareness about waste sorting); contributed to the collection of 200 tons of recycling waste;

mGreen has also achieved National and International awards, including 'Technology to cope with Climate change' from the Worldbank, the Ministry of Science and Technology (of Viet Nam) and the Viet Nam Women's Union; Asia-pacific Innovation Social Award 2019; Top 3 Hanoi Smart City and Innovation Solution.

Vision

mGreen's ultimate goal is to collect and sort 1 million tons of recyclable waste, which will contribute to reduce the equivalent of 1 million tons of CO2 in the atmosphere. mGreen also wishes to create 10,000 more jobs for waste scavengers, and advance the efficiency of waste management by engaging every citizen to take part in the process.

In the next 3 years, mGreen will become the leader in providing technology solutions to waste management, and 70% Vietnamese households will use our mGreen application.

Investment

We are calling for investment of USD 500,000 for:

- R&D: 20%
- Operation: 30%
- Market Expansion: 20%
- Marketing: 30%

With this investment, mGreen can reach 1 million residents and occupy 5% of Vietnam's waste management market by 2023 while collecting 1.5 million tons of recyclable waste. mGreen can also contribute to the circular economy by growing to become a platform for FMCG and 10 of the biggest brand owners in Vietnam to collect and recycle packaging materials of their products.



OceanKita BBN

Rivers and coastal waters clean-up and plastic recycling solutions



Photo by Francesco Ungaro on Pexels

Team



We are a partnership between Sustenea and Bela Bumi Nityasa (BBN). Our members include:



Zulfikar
Sustenea Co-Director and Bela Bumi Nityasa's Vice Director

An independent consultant in solid waste management, with experience in diverse projects all over Indonesia and beyond. Strong understanding and skills in adopting new technologies.



Navitri Putri Guillaume
Bela Bumi Nityasa's Co-founder and Director

Experienced in managing relationships with governments and giving strategic, technical, financial and management guidance.



Nicolas Bernier
Sustenea's Co-founder and Director

More than 30 years of experience in technical and operational roles, a geopolitical expert of South and East Asia, now dedicating his professional life to the environment.

Plastic Pollution Challenge

- 0.73 million tons of plastic waste are released from Viet Nam into the ocean each year;
- Plastics generated in the three districts of Ha Long Bay is estimated to be more than 28,000 tons a year and plastics entering the ocean more than 5,000 tons;
- Only 10-15% of collected waste in Vietnam is reused or recycled.

Solution

We use trawl-nets to collect plastics in bodies of water, then recycle these plastics into long lasting construction materials. This solution has an immediate impact and can be conducted in parallel with other actions focused on preventive measures with a longer term impact.

Innovation

A comprehensive solution that, for the first time, combines collection and recycling of plastic waste, with quite some novelty. For collection, we use trawl-nets that have been continuously improved over more than 20 years. They are now manufactured in Indonesia and made of neoprene to be high resistance and long-lasting. For recycling, we use an open-source process from Precious Plastic. Our team has developed a formula to transform mixed plastic waste into durable plastic planks. Introducing recycled-plastic planks to the South East Asian market will expand the possibility of plastic recycling, and encourage more sorting and recycling in the future. It is worth noting that the cost of producing plastic waste will diminish as the production scale increases. Due to its durability, it is suitable for tropical climates.

Impact Model

SDG 8 - Decent Work and Economic Growth: Operating one 2T trawl-net and recycling 200 kg of plastics will provide decent jobs to 10 local people

SDG 9 - Industry Innovation and Infrastructure: We promote inclusive and sustainable industrialization and support domestic technology & industrial diversification.

SDG 11 – Sustainable Cities and Communities: We contribute to inclusive and sustainable urbanization, protect natural heritage, reduce the adverse effect of natural disasters and environmental impacts for cities.

SDG 13 – Climate Action: Collecting and recycling plastics contribute to decreasing carbon emissions, and strengthening resilience to climate-related disasters.

SDG 14 – Life Below Water: We significantly reduce marine pollution (up to 70% of the floating debris), protect ecosystems and increase scientific knowledge for ocean health.

SDG 17 - Partnerships for the Goals: Local communities are the first beneficiaries of our actions. We also coordinate with national activities and internationally funded projects.

Business Model

The cost of plastic waste collection using trawl nets will be USD 28,000 per year. This cost will be covered by clients seeking clean up services (such as local governments, port authorities, local companies (for CSR)), with waste collected belonging to Oceankita and Bela Bumi Nityasa.

Bela Bumi Nityasa will set up a recycling center, with production capacity of up to 9,600 plastic planks per year. The current market price for a similar plastic plank is USD 4.5. With the estimated production cost of USD 60,000 (in the first year) we can sell the planks for USD 4 per plank, making a potential revenue of USD 76,800 by year two, with a total profit per year (starting in 2nd year) of USD 8,255.

Market

Our potential market is local government, port authorities, hotels, resorts, public/private companies (for CSR), schools, etc.

OceanKita already has a number of partnerships either confirmed or under final negotiation, including:

- To provide training and demonstration with the environmental department of Thousand Islands regency (Jakarta province), Steinberg Protocol, Exo Foundation (small rivers and lakes clean up in Bali with NPOs Green School Bali and Sungai Watch);
- Manufacturing of trawl nets with Boogie Advindo Indonesia, Waste Free Ocean (NGO), Life Project for Youth (project in Surabaya).

BBN has secured several letters of interest from hotels and resort owners to purchase plastic

Traction & Key Metrics

OceanKita has 3 sizes of trawl-net. They can collect 50kg, 1,000kg and 5,000kg of mixed marine litter per deployment, respectively. This means a potential of several tons per day, with plastics typically make up 10-40% of collected waste. With BBN's technology, most of this plastic can be cleaned and recycled (PE, PP, PS). PET, with the highest value on the market, can be sold to be processed in bigger factories.

OceanKita's clean-up technology is between 10 and 30 times more cost efficient than the competition, whether collection is done manually (most cases) or by other equipment (only possible under specific conditions).

Vision

By 2022 our target is to collect at least 70% of floating waste in Ha Long Bay and recycle at least 30% of it. In the following years, we aim to expand our operation to other Vietnamese coastal areas.

Indonesia will remain our main market for the coming years, especially as Covid-19 related travel restrictions remain. Under negotiation with a number of cities with international funding, the kick-off of the first projects will enable us to accelerate growth thanks to related grants, interest of investors. By 2022, we expect to have at least three major projects and a number of minor projects with NPOs - the real start of our accelerated development.

Investment

We are seeking USD 145,000 for:

- CAPEX to built trawl-nets and recycling machines (USD 82,150);
- 2 years of OPEX operating and maintenancing recycling machines (USD 62,850).

Yearly revenue generated from plastic recycling will be USD 38,400 starting in the first year of operation.

Yearly profit generated from clean-up service and plastic recycling will be around USD 13,000, starting in the first year of operation.

Contact

 www.ocean-kita.com/home/

 www.instagram.com/oceankita/

Zulfikar, Co-Director of Sustenea
& Vice Director of Bela Bumi Nityasa

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GreenPoints

Green Tribute towards a Green Planet



Photo by May Law on Pexels

Team



Huynh Hanh Phuc
CEO & Founder

MBA (University of Missouri, 2013), MPP (Harvard University, 2015), CFA Charterholder

Current: President of Teach For Viet Nam
Ex: Grab (Strategy and Operations Manager), Intel (Accountant)



Chanh Dang
UX/UI Lead

Green Edu (Product Manager), Intel (Risk Analyst), ON Semiconductor (Recruitment Manager)



Ngai Nguyen
Tech Lead

Home Credit Viet Nam (Mobile App Team leader for sales), Senior Business Analyst (Lending, Fintech) - Home Credit Viet Nam



Thao Nguyen
Operation Lead

Masan Consumer (Management Trainee, Trade Marketing), Kyna (Corporate Development Executive), Teach For Viet Nam (Alum)

Plastic Pollution Challenge

At the macro level, there is no mechanism for different action groups to collaborate and take ownership of environmental initiatives, especially on plastic. At the micro level, while there have been vigorous efforts to reduce plastic pollution and clean up the environment, most are scattered, disjointed and non-continuous quick fixes.

Solution

GreenPoints is a mobile application leveraging the power of gamification to make living green easier and more enjoyable. Collaborating with multiple stakeholders, GreenPoints encourages communities to take green actions under a wide range of themes (trash classification, clean up activities, etc), receive GP (the currency of the green ecosystem), and redeem points for gifts for self, family or community.

Innovation

We aim at becoming a platform to unite and amplify all stakeholders' initiatives and interests. We apply gamification and game-based philosophy to making green actions more fun and engaging. Users can become green billionaires, and we can all celebrate their achievements together.

GreenPoints provides tools for and incentivizes people to use less plastic, recycle more, take green actions, and reward themselves as well as their communities. That way, we touch both intrinsic and extrinsic motivations, self and social interests alike, and most importantly, leverage the resources of stakeholders and players to create a tool to tackle existing garbage and prevent future pollution.

Impact Model

A healthy environment: via green actions and gamification, and different themes of living green: clean up, education, reduction, reuse and recycling activities can be taken;
Better social well-being: individual, group-based, and family themes create a better sense of belonging and self-actualization;
Better coordination: dashboards and ranking in the GreenPoints app, motivate stakeholders to act more transparently to promote themselves as accountable actors in the ecosystem;
Better economic security: the Green Point virtual currency incentivizes actions for rewards - make refillable products and grow vegetables, make organic compost; green donation to match money funded from sponsors.

SDGs alignment:

- SDG 9: Industry, Innovation and Infrastructure;
- SDG 11: Sustainable Cities and Communities;
- SDG 12: Responsible Consumption and Production;
- SDG 13: Climate Action;
- SDG 17: Partnerships to achieve the Goal.

Business Model

As an impact enterprise, GreenPoints aims to be a strategic partner of the government, development agencies, corporate companies and the community, to combat environmental issues together.

Our potential customers are any end users with smartphones. They are beneficiaries, and also players in cross selling/ advertising themes. Other stakeholders are sponsors (corporations, UNDP, USAID,...), executors (local CSOs, environmental companies), or policy promoters/ makers (government agencies, ministries, VASI,...). This model will foster private-public partnership formation to solve environmental issues.

Market

Our target is the Vietnamese mass market, where smartphone penetration rate is 40%. GreenPoints empowers or collaborates with partners in different sectors as a pathway to growth. Some specific segments within the market include:

- NPOs and their volunteers: creating campaigns on apps for users to participate;
- Government agencies and staff: monitoring waste sites and organizing waste collection programs with communities and business sponsors;
- Enterprises and staff: helping employees to live greener, bond better with colleagues;
- Schools and communities: easy and fun as extra curricular activities;
- In Ha Long Bay : local citizens, fishermen, tourists.

Contact

greenpoints.vn

facebook.com/GreenPoints.vn

Huynh Hanh Phuc (Founder and CEO)

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Traction & Key Metrics

30/12/2019: Launched in Ho Chi Minh City, with the basic theme of giving waste and old belongings to receive GP, then exchange for gifts, attracting 100 first users, via the mobile-app;

7/2020: Set-up in HCMC, Ben Tre, Ha Noi, Thanh Hoa, attracting over 1,000 users and media (regional TV and newspapers);

10/2020: Finished new features, including green map that promotes green terminals, report gray dumping spots, manage clean up campaigns, establish monthly local green fairs and green donation;

16/9/2020: Won two first prizes in the World Wildlife Fund (WWF) Plastic Innovation Contest (link) and became one of 14 finalists in the UNDP EPPIC Competition;

12/2020: Launched campaigns to test new features, attracted a corporate sponsor and two individual donors committed to matching funds for green donations.

Vision

By 2040, all Vietnamese citizens will be green billionaires. GreenPoints helps develop green and sustainable communities in Ha Long, leveraging gamification to increase user engagement. Users feel a strong sense of community and belonging, understanding that they must "go far, go together" in the journey to combat plastic waste and climate change.

Expected annual income: USD 250,000 (1st year); USD 500,000 (2nd year); USD 1,000,000 (3rd year).

Investment

Sources of funds:

- In 2020, we already bootstrapped USD 50,000, (developed app and tested prototypes);
- In 2021, we are looking for USD 250,000, preferably in the forms of grants, CSR funds, service contracts and public private partnership;
- In 2022 and 2023, we will raise USD 500,000, for operation and scaling up.

Green Joy

Green Grass Straw For A Greener World



Team



Nguyen Vo
Founder & CEO

In charge of procurement and public relations. She has a business and management background, with work experience at multinational companies.



Thao Le
Business Development + Finance

In charge of business development and financial planning. She has 10 years of experience in business development and investment in the real estate, hotel, and hospitality industries.

Plastic Pollution Challenge

The demand for straws in Ha Long is growing strongly, following the boom of the tourism industry. Quang Ninh province received more than 14 million visitors in 2019, 14% more than 2018. Among 8 million tons of plastic end up in the ocean every year, straws comprise just 0.025 percent, but significantly impacts the ocean and water fauna, leading to the deaths of millions of seabirds, hundreds of thousands of sea animals and countless fish each year.

Solution

Green Joy is producing biodegradable and sustainable straws made in Viet Nam from the natural grass Lepironia.



Innovation

Green Joy is replacing plastic straws with environmentally friendly, natural straws made of Lepironia grass, which is abundant only in the Mekong Delta of Viet Nam. The production process is eco-friendly, with 90% of the process being automated and relying on solar energy, reducing electricity and water consumption and resulting in minimal carbon emissions. We are also piloting AI technologies in the sorting process to automate the production line.

Awards include:



1st Prize
Falling Walls Lab Viet Nam 2018



2nd Prize
Blue Venture Award 2019



Top 4 Viet Nam
Circular Innovation Jam 2020

Impact Model

Primary Goal

SDG 12: Responsible Consumption and Production - Using 100% natural grass straws, helping to preserve the natural grass ecosystem (100 hectares of grass fields), and reduce 5 billion plastic straws by 2026.

SDG 14: Life Below Water - Avoiding the use of plastic straws to keep the ocean clean.

SDG 8: Decent Work and Economic Growth - Through our production and partnership, Greenjoy provides people with decent jobs and helps to improve local economies.

Secondary Goal

SDG 1: No poverty - Improving the livelihoods of over 1000 farmers and local people in the Mekong Delta region by 2025.

SDG 5: Gender Equality - Creating job opportunities for local women and girls. Greenjoy is a women-led startup and 70% of the staff are women and girls.

SDG 13: Climate Action - The whole production process is eco-friendly, with minimal carbon emission, no landfill and no plastic recycling.

SDG 17: Partnerships For The Goals - GreenJoy partners with farmers, local communities, NGOs, government and tech labs/universities to support the growth and development of the enterprise.

Business Model

Selling to B2B HoReCa customers domestically (D2C) and wholesalers/distributors to export to Europe, America, Japan, South Korean and APAC. Revenue split: 90% wholesale, 10% retail.



Market

The market demand for grass straws is growing exponentially, as single-use plastic ones are gradually banned in Europe, the US, Asia, in 2020 -2021. In the US alone, about 500 million straws are used every single day, and according to Statista.com, Enomia. Straw Wars, 23.5 billion plastic straws were used in Europe as of March 2018.

With this, we calculate that the total addressable market for grass straws is about USD 2.5 billion, in which the Service Available Market and Serviceable Obtainable Market is around USD 1 billion and USD 50 million, respectively. This market potential is about 30 times larger than our current manufacturing capabilities, about 36 million straws per year (USD 620K in revenue).

To meet such high market demand, we plan to optimize our production by gradually automating more steps of the production process.

Contact

greenjoystraw.com

Greenjoy Straw - Ống hút cỏ thiên nhiên

Greenjoy Straw

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+84(0)865653268 Hanoi

Traction & Key Metrics

Have sold 30 million straws since November 2018.

Domestically: over 500 B2B HoReCa customers In HCMC, Phu Quoc, Nha Trang, Da Nang, Hai Phong and Hanoi.

Internationally: reaching over 30 countries across Europe, America, Japan, South Korea, Oceania and APAC.

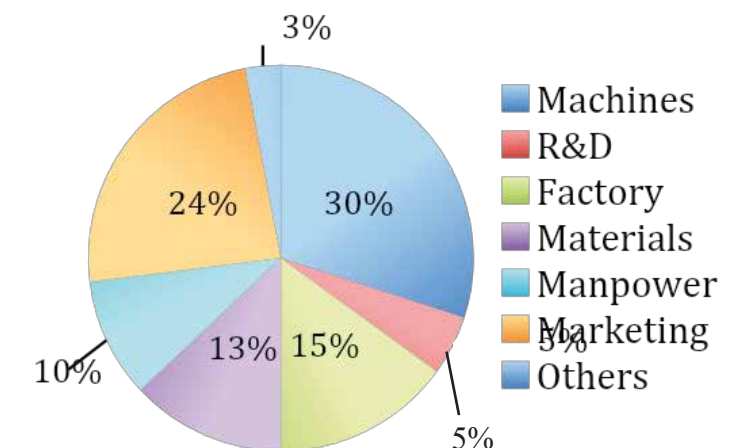
Vision

To become the number one grass straw supplier in Viet Nam and export to more than 100 countries, replacing 5 billion plastic straws and reaching a turnover of USD 50 million by 2025.

Accelerate the phasing-out of single-use plastic by making the most sustainable and affordable grass straws for the F&B sectors and individuals.

Investment

- To automate and scale up the production line;
- To plant, grow and preserve 10 hectares of grass fields;
- For marketing and brand exposure;
- For R&D and to register for IP right protection;
- For global expansion.



Seven Clean Seas

We Clean Seas

seven
clean
seas

Photo by Harry Holder on Unsplash

Founders



Tom Peacock-Nazil
Founder and CEO - SCS

Tom quit the rat race in 2019 to work on Seven Clean Seas full-time and pursue his passion clean seas.



Kim Le
Co-founder - CL2B

Kim is a Circular economy activist focusing on the Southeast Asia region to make a global impact.



Benjamin Moody
Co-founder - SCS

is an ocean advocate who studied Biological Sciences, specialising in marine plastic.

Plastic Pollution Challenge

1. There is no economically viable method for collection of low-value plastic in rural and island locations
2. 500,000 people need to be connected to Solid Waste Management everyday until 2040 to close the collection gap. (PEW 2020)

Solution

Plastic Offsetting is the act of purchasing Plastic Credits to offset a necessary plastic footprint.

A Plastic credit represents 1,000kg plastic recovered directly from or intercepted from the marine environment through a SCS project.

Sale of Plastic Credits generates capital which can be invested in plastic leakage prevention and plastic recovery infrastructures.

Innovation

2 billion people in the world are living without waste management collection services and unfortunately, many are in rural and/or island communities. As a result, these communities are areas of high plastic leakage.

Traditional waste management economics often do not make financial sense in many of these regions due to the low material value / population density so funding innovation is needed to bridge the gap.

Plastic Offsetting mobilises corporate capital to achieve this. If a company has a plastic footprint, they can purchase plastic credits from Seven Clean Seas to offset their necessary plastic consumption.

This financial innovation allows Seven Clean Seas to invest in on the ground solutions for collecting, recovering and segregating waste from areas of high leakage.

Impact Model

SDG 14 - Life Below Water: SCS is Targeted to recover 10,000,000 kilos of plastic from the marine environment by 2025 from the 7 top plastic polluting countries (as seen in Jambeck et al., 2015).

Plastic Leakage Prevention
Marine Plastic Recovery

SDG 8 - Decent Work and Economic Growth: SCS strives to create as much social impact as possible, focusing on hiring vulnerable communities (e.g. current Cleanup Crew lost their tourism jobs due to COVID19). A major focus is to offer formalised employment with fair wages and safe working environments to the existing informal sector where possible. Also, the target is to achieve >50% female employment on all projects.

SDG 11 - Sustainable Cities and Communities: Key to our strategy is marine plastic leakage prevention by creating and installing waste management solutions in 'at risk' communities.

Business Model

1. Generate Funding

1.1.1 Recover plastic from the Marine Environment, certify activity and enter into Registry to enable sale of Plastic Credits. Started in 2018 and have now recovered over 95,000kg.

1.1.2 Directly market and sell Plastic Credits to companies with plastic footprints. First sale was Feb 2019 and now have many clients. Currently hiring a Head Of Partnerships in Singapore to significantly boost sales in 2021.

1.2 Generate funding through Grants. (Microsoft, ECCA Family Foundation, Marina Bay Sands, Howden Group, Kauhne+Nagel, Dematic, Lush)

2. Invest in Projects

2.1 SCS currently operates an Ocean Plastic Recovery project in Bintan, Indonesia (inside a MPA). This project employs 22 people and will expand in 2021 to include community and industrial plastic interception.

*Currently raising grant funding for a material sorting facility.
**In talks with IndoCement for domestic Co-Processing solution

2.2 The most ambitious project is now funded and due to come online in 2021. A high volume (1.46kt pa) River Plastic Recovery technology in Vietnam.

Market

Target market - FMCG's, SME consumer goods companies, multinational corporations, companies looking for CSR partnerships.

Regulatory requirements such as EPR and social movements from ecologically minded customers are currently pushing companies towards our solution. Several large MNC's already have Net-Zero plastic footprint targets.

Competitors - TonToTon, reSea, RePurpose, Plastic Credit Exchange, Plastic Collective.

Traction & Key Metrics

2018 (Q2)	- Founded (All revenue from CSR)
2019 (Q2)	- 1st Plastic Offsetting deal closed
2020 (Q1)	- Awarded River Cleanup grant (Marina Bay Sands)
2020 (Q2)	- Launched Cleanup Crew in Bintan, Indonesia
2020 (Q3)	- Finalists for UNDP EPPIC incubator
2020 (Q4)	- River Cleanup Pilot funder secured (Howden Group)
2020 (Q4)	- BritCham Sustainability champion of the year
2020 (Q4)	- Finalists for the UNWTO Sustainable Development Goals Global Startup Competition. (SDG14)

Revenue / Grants (USD)	-\$70,000+ / \$310,000
Partners on-boarded	- 46 (Mixed)
Kilos recovered from the ocean	- >95,000k
Plastic credits sold	- 39,225
Gender equity in our teams	- 35% Female and improving
Number of locations	- Indo Active, Viet / Mal pending

Vision

To be a market leader in remote waste management solutions, ocean plastic recovery and Plastic Offsetting.

Plastic Credit market to grow similar to that of carbon, generating billions for WM Investment. SCS to provide a turnkey solution from project owner/operator to credit seller (Premium Credits).

As projects grow, SCS to become major supplier of physical Ocean Intercepted / Recovered plastics.

Investment

USD\$1.5 million+ equity fund raising

- Scale team
- Scale projects
- Secure dominant Plastic Credit market segment.

Contact

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TerraCycle Thai Foundation

Outsmarting Ocean Plastic



Photo by Jean Louis Paulin on Unsplash

Team



James Scott
Executive Director

Is a dedicated professional committed to implementing highly effective waste capture and recycling programs.



Samnieng Bonlu
Team Lead

A retired canal community leader has lived on the canal for 3 generations and is committed to see the canal clean and plastic free.

Innovation

Waste is just a mismanaged resource. The Foundation builds upon the global success and experience of TerraCycle Inc., and is applying this to the non-profit space. This has allowed us to go beyond traditional ocean waste cleanup programs, in our scope and approach to solving the challenges. To improve collection we have created a very durable, cost effective and efficient river plastic trap that collects hundreds of kilograms per device, per day, with minimum cost and labor, in multiple environments. But it is our processing that really differentiates us.

We develop sustainable, innovative business models and private / public partnerships that allow us to process waste that would normally go unrecycled or end up in landfills. As part of our outreach to change waste behaviors, we also run educational and gamification programs. These incentive programs provide communities with community gardens, park equipment, and playgrounds built from recycled waste. Our programs also provide stable income, safety and training for trash pickers.

Plastic Pollution Challenge

Thousands of tonnes of plastic waste are polluting the oceans after being dumped in Thailand's canals and rivers every year. The waste needs to be collected and recycled before it reaches the ocean and is degraded and diluted across the ocean making it difficult to collect and recycle.

Solution

Our river traps remove 1 - 2.5 tonnes of waste daily, so it can be recycled and not land filled. Our outreach, incentive and education programs change public behavior, to prevent future dumping by including communities as part of the solution.

Impact Model

SDG 14.1 & 14.2 - Each device prevents up to 85,000 kgs of waste from polluting the oceans per year. The devices are easily deployed and scalable.

SDG 13 - Our activities reduce the carbon footprint, and our outreach educates the public on reduction and recycling.

SDG 12.5 to 12.8 - We deliver programs to encourage, educate and implement the 4 r's: redesign, reduce, reuse and recycle. We offer CSR programs to public and private organizations, and educational institutions.

SDG 17.7 - Develop and improve recycling technology and infrastructure in developing countries: Thailand (2020) and India (2021).

SDG 6.3, 6.6 & 6.b.1 - Improve water quality in inland bodies of water through direct removal of waste and waste dumping prevention outreach and education.

SDG 1 & 8.5 - We offer fair, stable and equal employment opportunities to low income communities, trash pickers and developmentally disabled people in our areas of operation. To date, we have provided employment to 12 people from the community surrounding our pilot project.

SDG 3.8 - Health plans and safety training are provided to trash pickers and low-income employees.

Business Model

Primary funding will be from sponsoring organizations that are looking to lower their plastic/carbon footprint as part of their sustainability goals. Our programs provide them with plastic offsets and verifiable river/ocean plastics to use in recycled products. This is a proven model used by TerraCycle worldwide for over 20 years in 22 countries. Proven by successful programs with all major CPG companies, such as P&G's Head and Shoulders ocean waste bottle program, and Colgate's plastic waste to playgrounds program. The Foundation will also generate income from donations, CSR educational canal cleanup tours, a new e-commerce store featuring products made from recovered river and ocean plastics to be launched in 2021. We also provide operational management and processing to other cleanup programs. The foundation also seeks Grants to develop the infrastructure needed to implement the sponsorship programs and expand capacity.

Market

We are the best solution wherever a low cost, low tech, high impact solution is needed. We have demonstrated that we are able to collect and process at a lower cost than competing organizations. This has led to operation management contracts in Thailand and India, beginning in 2021. We currently operate in 1 of over 1600 polluted canals in Bangkok, and have been asked to extend our program to other canals, rivers and waterways in Thailand. We are highly scalable and can deploy new river plastic traps within 2-3 weeks from the time of order.

Traction & Key Metrics

In 6 months, despite COVID-19 restrictions, the pilot project collected 133,756 kgs of waste from the Lat Phrao canal. We expect to exceed 250,000 kgs in 2021 (excluding expansion projects).

500+ visitors have toured the project, including 2 European Ambassadors, Thai government officials and several Thai celebrities, including Maria Poonlerlarp (Miss Thailand 2017). We have a waiting list of 400 people for paid CSR tours.

The project has been well-received by the media, with 100+ media placements, 70 million impressions, including 2 documentary videos that alone have generated over 2 million views on social media.

We are currently operating at 30% below our projected budget.

We are in negotiations for 7 operational contracts, to deploy other organizations cleanup operations.

Provided stable full time employment to 12 low income members of the community.

Vision

The organization will continue to develop innovative waste management solutions to prevent and recycle ocean waste. Expanding throughout SEA, we will be able to meet the increasing demand for certified recycled ocean plastic waste. We will greatly expand the types of materials recycled and the products produced with the materials.

In areas where we have reversed or stopped waste from entering the waterways, we will shift our focus to upcycling and increasing demand for products made from recycled materials.

Investment

We offer a range of investment levels beginning with single collection location sponsorships, to complete city solutions with processing facilities. Minimum corporate sponsorships begin with a 1 yr, 25K USD investment, and range up to a full multi location processing facility for 350K USD per year. We have a variety of sponsorship program options, to suit the needs of the environment's waste challenges and the goals of the supporting organization.

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VIFEP

For blue ocean fish



Team



Ms. Cao Le Quyen
Deputy Director of Vietnam Institute of Fisheries Economics and Planning (VIFEP)

PhD in environmental science and fisheries resource management.
23 years of experience working in fisheries management and development planning, as well as fisheries policy analysis.



Vu Thi Hong Ngan
Vice Head of GIS, Remote Sensing and Environment Division, VIFEP

MSc in environmental science.
17 years of experience working in fisheries environment management and planning.

Innovation

The plastic squeezing machine is made of saltwater resistant materials and designed to fit in tight spaces on fishing vessels. and. It is operated with an electrical system on-board, and helps to reduce the size of used plastic bottles on-board by about 90%.

Fishermen will bring back the plastic waste to the ports where they can exchange it, via a mobile app, for supplies for their next trips to sea, such as instant noodles, milk, mobile credit, shampoo, tooth paste, drinking water, cooking oil, etc.

Impact Model

The ultimate impact goals of the team include, but are not limited to: protect the ocean that is the habitat of fisheries resources; develop feasible mechanisms and policies for the collection of plastic waste from fishing vessels and exchange for goods.

Our goals contribute to the achievement of the SDGs:

SDG 8 – Decent Work and Economic Growth: the exchange mechanism via a mobile app creates job opportunities for local people at local plastic collecting points/hubs, such as fishing ports, local fishermen associations, etc.

SDG 11 – Sustainable Cities and Communities: the project is expected to reduce approximately 1,400 tons of plastic waste per year in the ocean if it is implemented and upscaled successfully in 28 coastal provinces of Viet Nam.

SDG 14 – Life Below Water: the activities of the project also help to raise awareness of the local fishermen in controlling plastic waste, thereby contributing to protecting the marine environment.

Plastic Pollution Challenge

Viet Nam currently has approximately 47,450 offshore and middle shore fishing vessels and about 300,000 fishermen in these waters. Since the vessels do not have plastic trash storage onboard, it is estimated that they dump about 1,400 tons of plastic waste at sea annually.

Solution

We provide a mini plastic squeezing machine and a mobile app for local fishermen to collect and convert plastic waste into necessary supplies for fishing activities. In the long run, the project is expected to reduce approximately 1,400 tons of plastic waste per year.

Business Model

Vessels with a mini squeezing machine installed will be eligible for the following exchange mechanism:

5 kg of plastic waste =	1 200ml bottle of shampoo
	1 box of milk
	5 packets of instant noodle
	1 ltr of cooking oil
	1 mobile recharge of VND 20k
	1 tube of toothpaste

Typically, about 3-5 kg of plastic waste can be collected per fishing vessel per sea-trip of 7-25 days. With an average return of VND 2,000 per kg of plastic bottles, the model will not generate profit in the short term and will still need sponsors for the exchanged supplies (milk, instant noodles, etc.). Further, with an average price of VND 10 million for one squeezing machine, there is little incentive for local fishermen to purchase, given the low value of collected plastic waste. Therefore, support is also required from other stakeholders.

Market

Our target markets are 28 coastal provinces in Viet Nam that have a large number of fishing vessel owners (about 47,450 in total).

Traction & Key Metrics

The project is in the conceptual phase. We have worked with different potential donors and have received positive feedback on project contribution proposals (i.e., sponsoring through their CSR budgets), such as with P&G for shampoo Vinsmart for smart-phone provision, Rang Dong for light installations on vessels, and VIFEP for squeezing machines.

Vision

All Vietnamese fishing areas will be free of plastic waste with abundant fishery resources. All plastic waste from fishing activities will be collected, brought back to fishing ports and dealt with properly. Fish captured from the seas of Viet Nam will be safe and of high quality.

We aim to collect about 1,400 tons of plastic waste from offshore and middle shore fishing vessels in Viet Nam annually, and contribute to the blue ocean fish production.

Contact

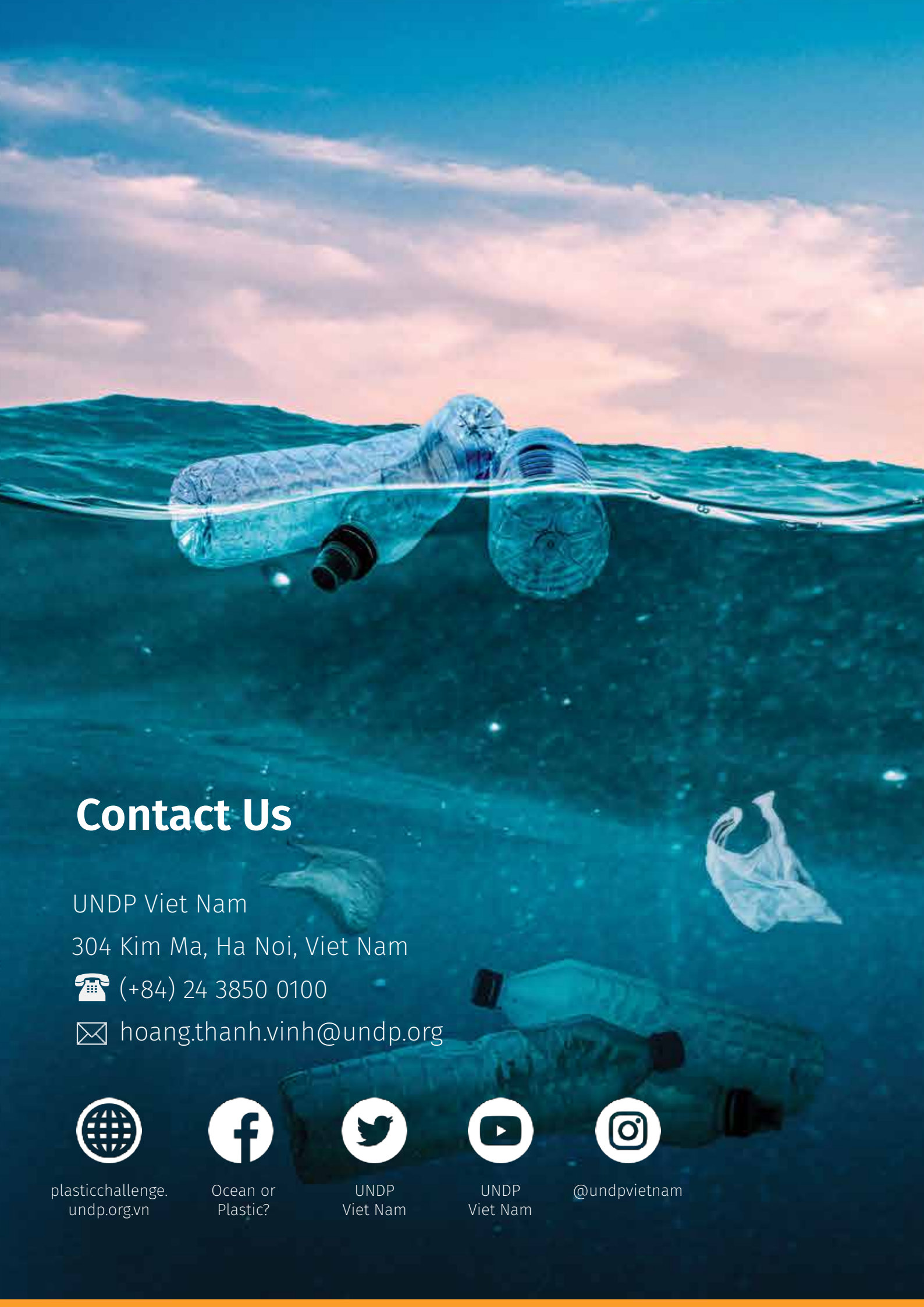
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Photo by Tom Fish on Pexels



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Ocean or Plastic?



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