

An aerial photograph showing a coastal landscape. A dirt road runs diagonally from the bottom right towards the center. To the left of the road, there is a large, irregular pile of waste, including plastic bottles and other debris, situated in a grassy area. The background features a body of water with patches of submerged vegetation and a distant shoreline.

ABACO ZERO WASTE

A Pilot Project Modeled After
Hope Town Zero Waste

HTZW is Funded by the
Global Environment Facility / United Nations Development Program

Photograph by Phillipp Huebner



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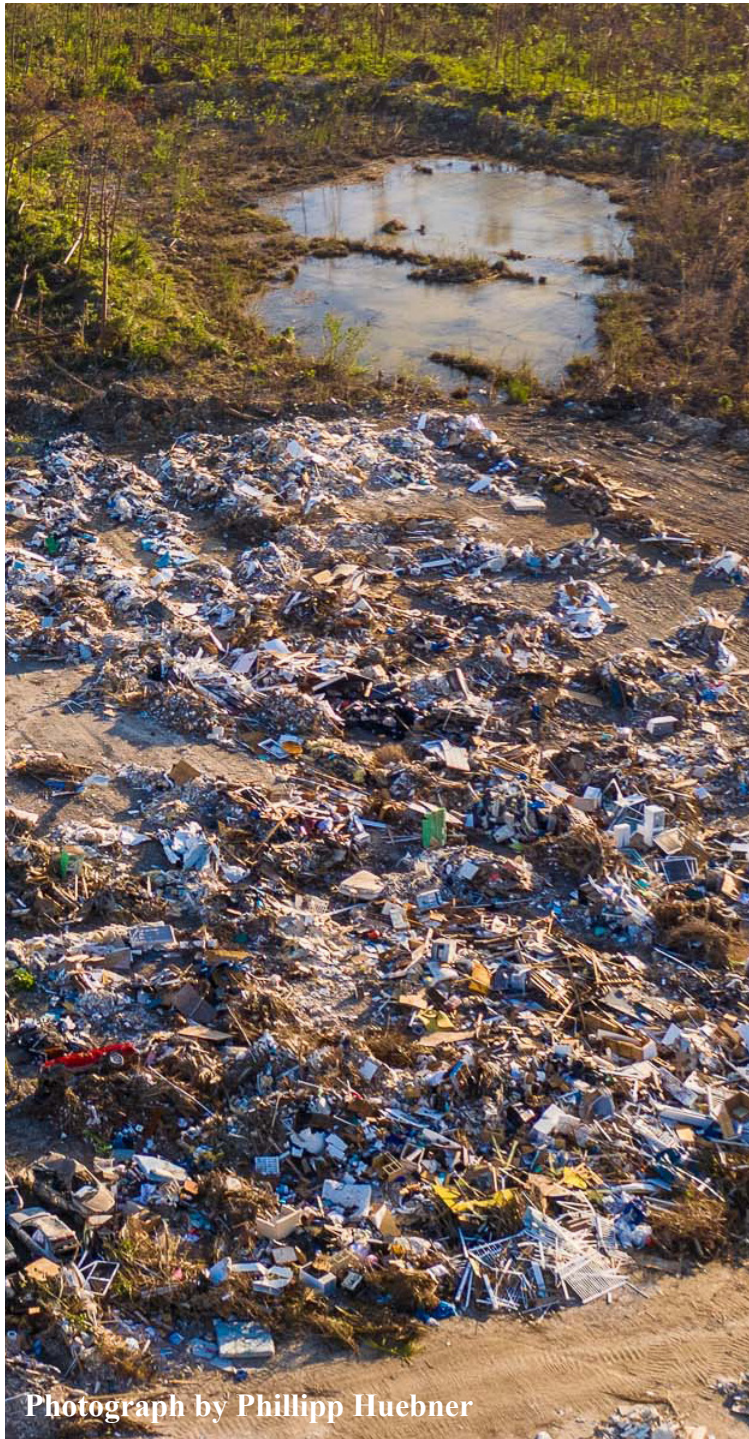
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PROBLEM STATEMENT

The Bahamas is a Small Island Developing State in the Caribbean that produces 1.85 kg of waste per person/day, compared to the regional average reported above 0.99 kg of waste per person/day, and the global average of 0.74 kg (Kaza et al., 2018). This imbalance is largely due to the large numbers of tourists and visitors that visit the Bahamas each year. Shortcomings of the Solid Waste Management Systems (SWMS) in The Bahamas have led to a mounting waste crisis. The United Nations Environmental Program for the Caribbean (UNEP-CEP, 2014) identifies the following reasons for the crisis:

- The Governance of 30 inhabited islands, each with their own ad hoc SWMS
- Hazardous waste management practices such as open air burning of dumpsites
- The spraying of raw sewage on the natural environment for disposal
- The phenomenon of illegal dumping of waste and raw sewage on the natural environment
- The continual generation of more waste with minimal infrastructure to support the growth, and the lack of a comprehensive national strategic plan for SWMS

Great Abaco is the third largest island in The Bahamas and boasts the third largest barrier reef system in the world, the largest underwater blue hole system in the world, Ghyben-Herzberg fresh water lenses that provide potable water Abaco and to other islands in The Bahamas, old growth forests and beaches that are listed as the top 10 most beautiful beaches in the world. Abaco has been struggling with improper waste management for decades. The region became the third largest economy in The Bahamas from tourism by July 2019.

On September 1st, 2019, Hurricane Dorian made landfall in Abaco as the strongest category five hurricane in the country's recorded history. The impact was catastrophic, destroying 60% to 80% of the most densely populated communities. Hurricane Dorian generated large volumes of mixed debris. Debris can have far reaching environmental implications for terrestrial and marine environments. This is due to the complexity of waste generated and the level of cross contamination of toxic materials and liquids. Debris is also set of fire regularly to reduce the volume and collect cooper. This presents extreme hazards to the environment and communities of Abaco threatening homes and businesses.

Abaco must develop sustainable waste management systems to address the debris generated from Hurricane Dorian, existing legacy waste before the storm, raw sewage, and the generation of new waste as the region rebuilds. There is currently no formal waste management at any of the dumpsites, nor any recycling programs on Great Abaco Island. Nearly 100% of plastic, aluminum, used oils, tires, appliances, electronics and other waste materials end up in the dumps where it will either remain indefinitely or be burned. These practices pose substantial risks to humans, wildlife, and the environment.

Photograph by Phillipp Huebner

ABACO AND TREASURE CAY REGIONAL CONTEXT

Abaco is an island archipelago, covering 649 square miles and encompassing a unique combination of habitats across land and sea. As per Conde Nast Traveler, “The Abaco Islands in the Northern Bahamas.....with hundreds of miles of unexplored forests, uninhabited cays, turquoise flats, stunning coral reefs, and villages locked in time rewards, adventurous travelers”. The Sea of Abaco is known to many yachtsmen as the finest sailing and cruising ground in the world. There is snorkeling one of the largest barrier reefs in the western hemisphere, cave diving in extraordinary Blue Holes, and exploring pristine forests and bird life.

Abaco showcases many examples of Bahamian ecosystem types including pine rocklands, coppice, coastal strands, rocky shores, freshwater wetlands, tidal creeks and estuaries, coral reefs, and seagrass beds. Abaco is home to a rich marine biodiversity, migratory and resident avifauna, herpetofauna, and a single group of native land mammals: bats. Several species of Abaco’s fauna are endemic, including the Abaco Parrot and Abaco Boa.

Being one of the largest Bahamian islands, Abaco maintains a sizable freshwater lens that supplies water to mainland communities and other islands in The Bahamas such as the capital. It is also one of only four Bahamian islands to support pine forests. Abaco is home to 11 national parks and protected areas under various management regimes including the Bahamas National Trust, Bah. Department of Marine Resources, and Bah. Forestry Department. The South Abaco Blue Holes Conservation Area has also been designated as Queen’s Commonwealth Canopy.

Abaco’s environment however is under pressure from poor waste management, debris fires, disease (stony coral tissue loss disease), invasive species, and climate change.

Prior to Hurricane Dorian, Abaco was home to a resident population of 16,700 (2010 census), and an additional 2,500 vacation or retirement homes owned by non-Bahamians which swelled the total population to 26,000. Abaco’s GDP reached an all-time high in 2018 and is the third largest island contributor to the overall Bahamas economy. Extrapolating BTC & Aliv users, current full-time residents in Abaco comprise approximately 14,000. 2021 nominal (current) GDP was \$345.7mil whilst a 55% increase Year on Year it remains 42% below the 2018 peak. This is attributable to “the central business district of Marsh Harbour and Treasure Cay that is wiped out”.

Treasure Cay (TC) was the largest gated community in the Bahamas and the Caribbean prior to Dorian with 1200 homeowners (over 1000 acres) with a 50 year history. This was a near 50:50 split between single-family and condominium owners. TC is a unique community with 120 Bahamian family residents and economic activity supported by a hotel resort, vibrant marina, golf course, and vacation rental homes. Dorian destroyed the resort and 95% of all homes and condominiums. The resort ceased all operations, releasing employees immediately in September 2019. No resort rebuilding has commenced thus leading to limited rebuilding among the second homeowners. This makes Treasure Cay the ideal pilot location for Abaco Zero Waste as a complete overhaul of waste management can be integrated into the rebuilding process and engage the community in their decision-making, personal actions, and commitment to environmental change. Because of the inbuilt structures of Treasure Cay through the TC Property Owners Association and TC Amenities Management Limited (dues charged), we believe this unique situation will lead to strong participation in the proposed Membership program.



Photograph by Juliette Deal

ABACO ZERO WASTE PROJECT

The goal of Abaco Zero Waste is to develop an integrated waste management plan for Treasure Cay modeled after Hope Town Zero Waste (program overview below) that can be used as a model for other islands in The Bahamas. The project aims to be financially sustainable, logistically feasible, and environmentally sound. The first recycling and waste to energy facility in Abaco will be developed to reduce the volume of waste produced in a systematic way that capitalizes on economies of scale to divert materials from the waste stream through new innovative microeconomic opportunities in waste to energy, recycling, and composting technologies. The Abaco Zero Waste project has six primary objectives.

- To conduct a Waste Management Assessment for North Abaco to inform the development of the Treasure Cay Zero Waste Management plan and future Zero Waste Management Plans for the communities in the north (Crown Haven, Fox Town, Coopers Town, and Leisure Lee).
- To conduct a Waste to Energy Assessment and Energy Usage Analysis for the Zero Waste Facility site operations to inform the development of an Integrated Energy System for the Zero Waste Facility.
- To develop and implement a Zero Waste Management Plan for Treasure Cay modeled after Hope Town Zero Waste on Elbow Cay, Abaco.
- To develop and implement the first Zero Waste Recycling Facility on Abaco as a teaching institution and microeconomic business incubator for young adults and entrepreneurs to learn how to divert waste into new resources.
- To implement the first waste to energy system in Abaco to power the Zero Waste Recycling Facility by turning raw sewage and organics into electricity with a technology tested by Tesla's Solar City.
- To develop and implement an Abaco Zero Waste Educational Program with Friends of the Environment and Hope Town Zero Waste to educate youth and young adults about the impact waste has on the natural environment and teach waste diversion strategies.
- To expand the Hope Town Zero Waste program material collection system to include the collection of used cooking oil to recycle into bio fuels and used motor oil to recycle into mechanical lubricating oil at the C & C Waste Transfer site.

GARDEN PROGRAM



RECYCLING PROGRAM



HOPE TOWN ZERO WASTE

The Hope Town Zero Waste Demonstration is a Resource Diversion and Waste Mitigation integrated community based, student lead Zero Waste Program. Our goal is to continue to develop and create a Waste Diversion Model for the Elbow Cay Community and other Out Islands and Cays in The Bahamas to showcase a whole systems approach to Resource Diversion and Waste Mitigation as a community (year-round residents, second homeowners and visitors). Through a series of programs, activities and local initiatives, we wish to create a template that other islands in The Bahamas may implement at different levels and scales.

COMPOST PROGRAM



REDUCE PROGRAM



The Hope Town Recycling Program started in September 2015 as a community-based organization which launched a local recycling program in Hope Town. The organization was made up of four committee members and students from the Hope Town Primary School. The organization then evolved into Hope Town Zero Waste (HTZW) in 2017 with funding from the Global Environment Facility through the United Nations as a resource diversion and waste mitigation program focused on the 4 R's (Refuse, Reduce, Reuse, and Recycle). HTZW has created the infrastructure for long term benefits to the community through:

- St. James Community Center and Hope Town Primary School soil based gardens (pre and post Dorian), hydroponic and aquaponic systems (fall 2022)
- St. James Community Center and Hope Town Primary School youth compost programs (pre and post Dorian)
- Community compost collection system (fall 2022)
- Island wide aluminum can recycling collection system (pre and post Dorian)
- Battery and used flare recycling collection system (post Dorian Jan. 2022)
- Plastic recycling collection system and on island recycling with 3D printing technology (fall 2022)
- Fresh drinking water refilling and delivery system (post Dorian 2021)
- Bi-monthly farmers markets for local vendors and a freecycle table and zero waste station refillery for cleaning products and beauty care (post Dorian Dec. 2021)
- Resuable program (pre and post Dorian)
- Workshop series (pre and post Dorian)
- Beach Walker marine debris removal program (post Dorian summer 2021)

FARMERS MARKETS

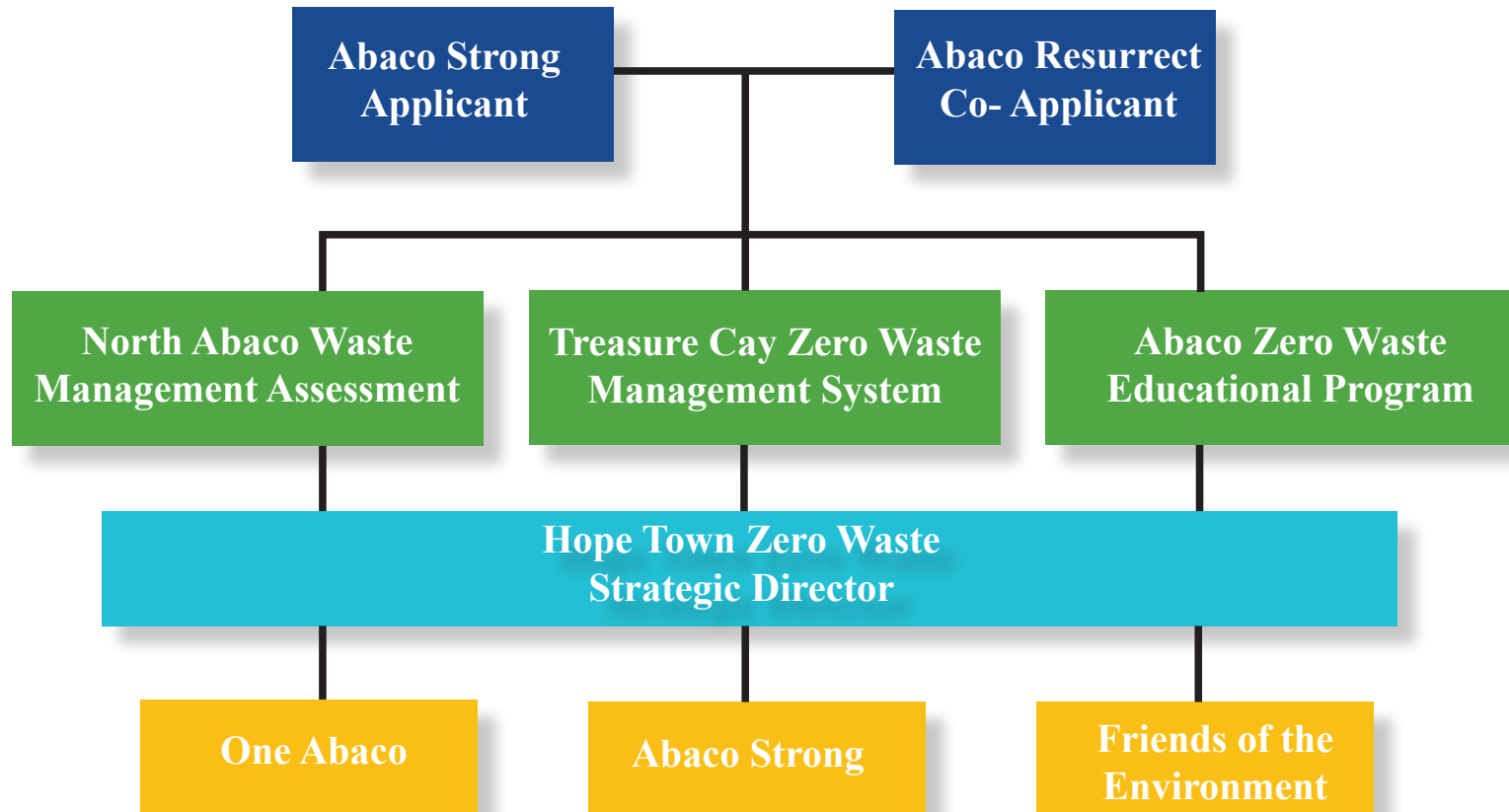


WORKSHOPS



ABACO WASTE ORGANIZATIONAL STRUCTURE

Abaco Zero Waste is a project initiated by a consortium of organizations that have been serving in Abaco to rebuild following Hurricane Dorian and to create sustainable environments and livelihoods on the Abaco Islands. The Organizations below in the organizational chart have partnered together to develop, implement and execute the Abaco Zero Waste Project.



SUPPORTIVE PARTNERS



STAKEHOLDER ROLES AND RESPONSIBILITIES

Name	Professional Credentials	Experience	Role in the Organization	Responsibilities
Juliette Deal	Waste Mitigation and Resource Diversion Specialist with a Master's in Environmental Studies specializing in Integrated Solid Waste Management in Small Island Developing Nations	Juliette has worked in the field of Resource Diversion and Waste Mitigation for 14 years in the Bahamas, US and Caribbean working with businesses and teaching communities about waste reduction and diversion both professionally and personally on her own time. More recently, Juliette was the United Nations Development Program Debris and Waste Management Specialist for Hurricane Dorian's response in Abaco working with NGO's and Government agencies to coordinate debris removal.	Co-Founder and Director (Volunteer) of Hope Town Zero Waste and Strategic Director of Abaco Zero Waste	Abaco Zero Waste Program Development, Implementation and Strategic Direction
Tegwen Hasted	Extensive experience in international institutional finance and philanthropy	Tegwen has held Director level positions in Securities divisions of international banks, private hedge funds and various board positions for 501 C3's, working extensively with foundations, charitable trusts and family offices.	President of Abaco Strong	Fundraising initiatives for Abaco Zero Waste Project
Martha Fleury	Extensive experience in the business and non-profit sector in Systems Analysis and Project Management	Founder and President of Abaco Strong, Communications Director of Multiple Non-profit organizations Fifteen Years as Systems Analyst and Color Specialist at Xerox Corp.	Executive Director, Abaco Zero Waste	Oversight of Implementation of Assessment, Pilot Program, and Education Campaign for Abaco Zero Waste, Annual Fundraising
Ken Hutton	Extensive experience in business management	C-Level position in multiple companies. Acquisition/Merger/Turnaround of 17 companies in last 25 years. 2 x President of Grand Bahama Chamber of Commerce, 4 x President of Abaco Chamber of Commerce, 8 x Director of Bahamas Chamber of Commerce	Co-Founder /President of Abaco Resurrect Assoc./ One Abaco Foundation.	Program Oversight and Strategic direction. Fiscal accountability and transparency.

STAKEHOLDER ROLES AND RESPONSIBILITIES

Raquel Thurston	Program Director for Abaco Strong	Operations Manager for Samaritans Purse in aftermath of Hurricane Dorian Extensive Experience in Insurance and Banking Industry	Program Director of Integrated Waste Management Pilot Project in Treasure Cay	Implementation of Integrated Waste Management System in Treasure Cay and Northern Abaco
Olivia Patterson Maura	Masters in Zoology with focus on Community Conservation and Environmental Education BSc in Marine Biology	Olivia has worked in conservation and informal education for 16 years, focusing on sustainability and biodiversity conservation, targeting resources that are critical to livelihoods, culture and environmental health in Abaco, Bahamas.	Deputy Director, Friends of the Environment	Program Management, Administration, Partner, and Messaging Coordination
Lianna Burrows	Bsc Marine Biology (major in Marine Science, minor in Leadership Studies)	Lianna has five years experience in developing and communicating messaging for conservation, science, and sustainability. She has formed strong relationships with schools and communities which will facilitate program implementation.	Outreach Coordinator, Friends of the Environment	Education Program Development and Implementation
Lyndeisha Curry	BSc in Biology (minor in Chemistry)	Lyndeisha has six years' experience implementing environmental education programs. She has also been involved in debris and waste management initiatives following Hurricane Dorian and brings that perspective into the programming.	Education Officer, Friends of the Environment	Education Program Development and Implementation
Clay Wilhoyte	C & C Waste Company	Clay has owned the Waste Management Company on Elbow Cay for over 30 years and been a partner of HTZW for 4 years.	Bahamian Glass Beer Bottle and Aluminum Can Recycling Manager	Bahamian Glass Beer Bottle and Aluminum Can Recycling Program Management
Caroline Key	Re-round Resident and Environmentalist	Caroline Key is a full-time resident of Hope Town, Abaco and mother of two young children. Avid environmentalist who has recycled with the Hope Town Zero Waste Program since it began, at home and at work. Very passionate about reducing our community waste, encouraging the reuse of items, and being involved in the recycling program.	Bahamian Glass Beer Bottle and Aluminum Can Recycling Coordinator	Bahamian Glass Beer Bottle and Aluminum Can Recycling Coordination Community and Business Outreach, Education and Partnership Coordination

METHODOLOGY

1) Conduct a Waste Management Assessment (WMA) for each community in Abaco to document the current formal and informal parts of the solid waste management system in place (i.e., generation, collection and transport system, diversion and disposal methodologies), the financial framework to support it (if applicable) to identify each stakeholder and the relationship to the solid waste management system. The waste management assessment (WMA) will be conducted for Crown Haven, Fox Town, Coopers Town, Treasure Cay, and Leisure Lee. The waste management assessment will collect data by:

- a.** Interviewing businesses (i.e., resorts, restaurants, marina's, grocery stores, and hardware stores etc.) and institutions (i.e., schools and churches) to document:
 - i.** The top five types of waste produced (i.e., plastic, glass, organics, metals, and oils etc.)
 - ii.** The percentage that each top 5 type waste stream represents
 - iii.** The number of weeks the businesses or institution classifies as peak, middle and low season (if applicable)
 - iv.** The volume of waste produced for peak, middle and low season (i.e., volume of bag(s) used, and the # of bags disposed of per wk per season
 - v.** The current internal waste management system for the interviewee (i.e., how do they collect, store, and remove waste from the facility)
 - vi.** The waste reduction, composting or recycling initiatives already implemented (if any)
 - vii.** The level of interest in participating in recycling and composting any concerns or challenges that would impact participation
- b.** Interviewing the waste collector to document:
 - i.** The volume and type of waste produced during peak, middle and low season (i.e., solid waste, organics, furniture etc.)
 - ii.** The current waste management system in place
 - iii.** Current segregation, recycling, or composting initiatives in place (if any) and for what materials
 - iv.** Challenges or concerns the waste collector has about the current system in place
 - v.** Level of interest in recycling and organic collection
- c.** Interviewing businesses and individuals locally and regionally that offer salvage or recycling services (formal & in-formal) to document:
 - i.** The type of materials accepted
 - ii.** The requirements to divert materials (i.e., condition of the materials, logistics required to truck or ship the materials etc.)
 - iii.** The cost and capacity to fulfill the requirements (i.e., administrative, know-how), and
 - iv.** The return on investment for the material or products
- d.** Interviewing businesses and individuals that offer services that can help support a waste management system to document:
 - i.** The equipment and/or capacity and know-how
 - ii.** The cost for their equipment and/or services; and
 - iii.** Level of interest and availability in participating in a waste management system
- e.** Conducting a community survey to document the communities:
 - i.** Perspective or experience about the current waste management system
 - ii.** Concerns or challenges with the current waste management system (if any)
 - iii.** Perspective or experience about a Abaco Zero Waste Management System and willingness to participate
 - iv.** Challenges or concerns about a new Abaco Zero Waste Management System

METHODOLOGY

- f. Conducting an environmental impact assessment for the Crown Land identified for the Zero Waste Facility to confirm the location is environmentally viable for and Zero Waste Management Facility (ZWMF)

2) Conduct a Waste to Energy Assessment (WEA) and the development of an integrated energy system for the Abaco Zero Waste Project. The Abaco Zero Waste Facility will be off grid and self sufficient by producing clean energy from a biogas system and other renewable energy sources such as solar power. The purpose of the WEA is to provide pertinent information on the input requirements of the biogas system from the community organic collection system for optimal outputs of energy production. The WEA will then inform the development of an integrated energy system for the Zero Waste Facility that maps out all of the energy requirements for the facility and provides a sustainable energy production and usage plan for the project .

- a. Use the data from the WMA to quantify the waste inputs and the energy outputs based on the technologies capacity
- b. Conduct an energy usage analysis for all of the technologies, equipment, appliances and site operations at the Zero Waste Facility
- c. Develop an integrated energy system for the Zero Waste Facility based on the WMA results and energy usage analysis

3) The development, implementation, and execution of a Zero Waste Management System (ZWMS) for Treasure Cay that is applicable at a local level with relevant stakeholders (i.e., Local and Central Government Agencies, waste management companies, heavy equipment companies, freight boat companies and recyclers etc.) that is sustainable at a local level. This will be achieved by:

- a. Using the data collected from the WMA to inform the development of a Zero Waste Management Plan (ZWMP) for Treasure Cay (TC).
- b. Conducting a series of community engagement sessions and workshops to revise the ZWMP draft.
- c. Writing a final ZWMP draft of the plan posted publicly for approvals by Stakeholders.
- d. Procuring WM technology for ZWMF (i.e., Puxin waste to energy system & Precious Plastics) and products for the waste collection system.
- f. Preparing the ZWMF for technology installation (note: the ZWMF will be wheelchair and handicap accessible).
- g. Installing and testing the waste diversion technology (i.e., Puxin, Precious Plastics, EcoRich and Top Oil Recycling Systems).
- h. Creating signage for the ZWMF in English and Creole.
- i. Hosting OSHA 30-hour health and safety course for new staff hired (note: minimum equal female to male ratio) to support the ZWMS.
- j. Hosting up-skilling equipment training for the Precious Plastics, EcoRich and Top Oil Purifier by manufactures and supplies for new staff.
- k. Hosting up-skilling equipment training of the technology above for young adults, entrepreneurs, and mature students with disabilities.
- l. Launch the TC Zero Waste Management System with community leaders and stakeholders.
- m. Report progress, challenges, lessons learned, and overcomes in a monthly report to stakeholders and Government agencies.
- n. Provide data from WMA and progress reports to the Government of the Bahamas to help inform community to cabinet policy development.

METHODOLOGY

4) The development, implementation, and execution of an Abaco Zero Waste Educational Program to support the Abaco Zero Waste Project and encourage other communities in Abaco and The Bahamas to adopt waste reduction and diversion initiatives. This will be achieved by (but not limited to):

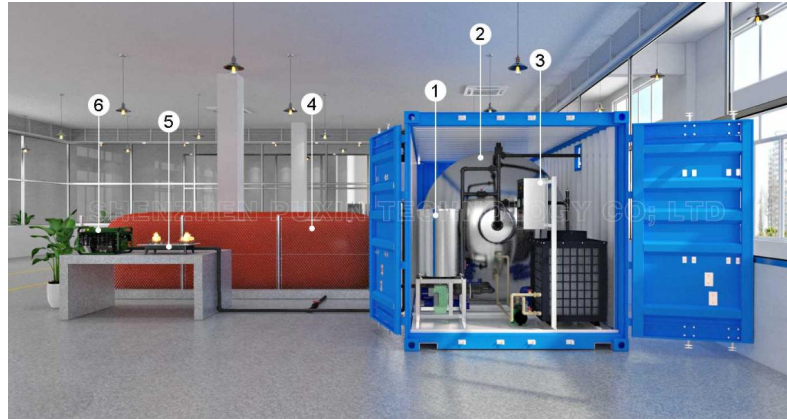
- a. Hiring and training two student apprentices per year, one male and one female, yr. 2 & yr. 3, as a sustainable livelihood initiative.
- b. Developing, posting, and managing social media campaigns in English and Creole (i.e., “What is Zero Waste”).
- c. Host a career day at the ZWMF in year 2 and year 3 of the Abaco Zero Waste Program to teach about new waste diversion technologies.
- d. Host a Zero Waste Day for each summer camp (4 summer camps a year) for year 2 and year 3 of the Abaco Zero Waste program to discuss 4 R’s (re-fuse, reduce, reuse, and recycle), expose the students to reusable products and alternatives, and teach them about ways to support a zero-waste lifestyle.
- e. Host a Zero Waste Day for each of the Friends of the Environment’s three after school clubs.
- f. Host a Zero Waste blitz during Earth Week with assemblies in 4-5 schools across Abaco and donate reusable water bottles and grocery bags.
- g. Develop an infographic in English and Creole using data provided by the WMA and HTZW to disseminated through multiple media platforms.
- h. Integrate Zero Waste initiatives, sorting and data collection reporting into the International Coastal Clean-ups and other annual clean-up challenges.

5) Expanding the Hope Town Zero Waste material collection system. HTZW aims to continue to add more materials to the list to divert. Used cooking oil and used motor oil are the next two materials to make biofuels and motor lubricant. This will be achieved by:

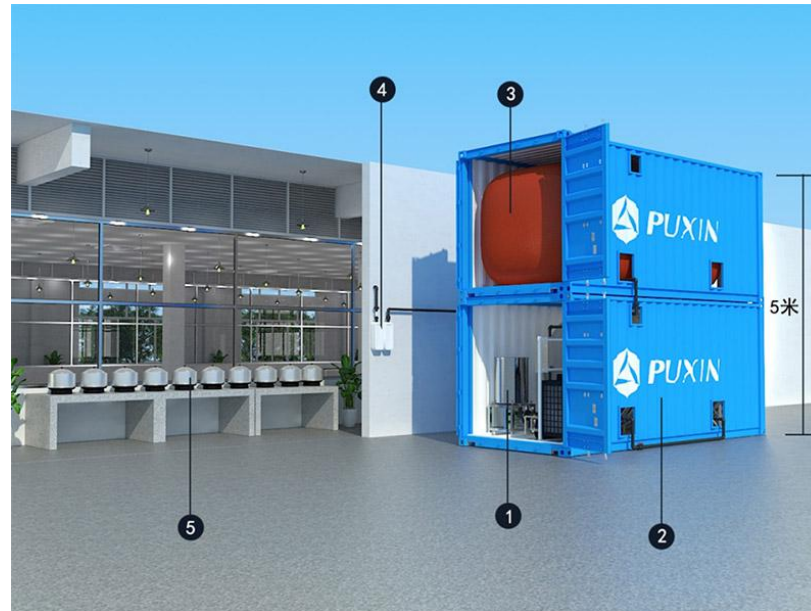
- a. Installing the Top Oil Purifier at the C & C Waste Management Facility.
- b. Procuring industrial cooking oil containment units for resorts, restaurants, and marina’s for used cooking oil transportation to the C & C site.
- c. Procuring industrial motor oil containment units for golf cart, vehicle and boat rental and repair companies on Elbow Cay.
- d. Processing the used cooking oil and used motor oil into new resources.
- e. Up-skilling C & C Waste employees on new technology.
- f. Hosting tours to show how the Top Oil Purifier works.

TECHNOLOGY

Puxin Container Anaerobic Treatment System



1. Waste shredder, 2. Anaerobic reactor, 3. Console,
4. Biogas storage bag, 5. Biogas stove, 6. Biogas generator



1. Waste shredder, 2. Anaerobic reactor, 3. Biogas storage bag, 4. Biogas dehydrator and desulfurizer device, 5. Biogas cooker

TECHNOLOGY

Precious Plastics 3D Plastic Recycling Self Contained Plant



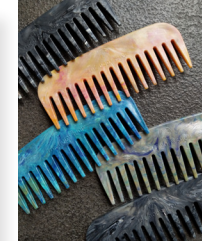
Shredder Pro



Sheet Press Pro



Extrusion Pro



EcoRich Elite II Micro-organism Based In-vessel Aerobic (With/ oxygen) Organic Composting Machine



TOP Oil Purifier New energy TYR waste oil to Diesel plant / used cooking oil to machine oil filter



ABACO ZERO WASTE FACILITY PROPOSED SITE LOCATION



Information on Crown Land provided by Summit Surveying (Bahamas Lands and Surveys)

The site is located south of the S.C. Bootle Highway, midway between Marsh Harbour and Treasure Cay and approximately Two Thousand (2,000) feet southwest of Bakers Creek Subdivision.

The dimension of the parcel is 660 feet by 660 feet, totaling ten (10) acres with elevations range between twelve (12) to twenty (20) feet above mean sea level.

The approximate location of the southwest corner has U.T.M coordinates of N 2 942 000 and E 279 540 meters.

The parcel is occupied by mixed coppice with scattered pine. Some low lying areas and creeks exist in the vicinity, none being within 500 feet of the site.

This site is not accessible by vehicle but there is evidence of some previously built roads that passes through it.

The above information was obtained from D.O.S Sheet 16 Abaco, prepared for The Department of Lands and Surveys, Nassau, Bahamas and some field observations.

This land can be the contribution by Government of the Bahamas to a Public Private Partnership for the Abaco Zero Waste Project.



SOCIAL IMPACT

35 Waste Management
Assessment Interviews

75 Waste Management Assess-
ment Community Surveys

404 Residential Recycling &
Compost Collection
Participants

5 Business Recycling &
Compost Collection
Participants

3 Community Educational
Engagements on TC Zero
Waste Plan

60 Youth Under 18 Educated
About Zero Waste Strategies
and Technologies

5 Zero Waste Educational
Events

30 Social Media Posts

ECONOMIC IMPACT

3 Female/ 2 Male AZW Staff
4 Female/ 1 Male W.M. Assessors
2 Female/ 3 Male Com. Liaisons

5 Female Friends of the
Environment Staff

1 Female Apprentice
1 Male Apprentice

25 Female Up-skilled
Beneficiaries
25 Male Up-skilled Beneficiaries

35 Young Adults and
Entrepreneurs Trained on Zero
Waste Technology

10 Mature Adults with
Disabilities Trained on Zero
Waste Technology

24 Guided Tours of the Zero
Waste Facility Teaching About
Zero Waste Technologies

ENVIRONMENTAL IMPACT

2,130 Tones of Organic Material
Diverted from the Waste Stream

1,647 Lbs of Compost Produced =
65 Tones of Methane
Diverted from the Atmosphere

19,200 m3/yr of Biogas Produced =
21,897 Tones of Methane
Diverted from the Atmosphere

26, 950 Lbs of Plastic Diverted
from WS = 51 Tones of Co2
Diverted from the Atmosphere

1,078 Benches Made from
Recycled Plastic

3,547 Lbs of Aluminum Cans
Diverted from the Waste Stream

400 Lbs of Used Cooking Oil
Diverted from WS =
340 Lbs of New Bio fuels

150 Lbs of Used Motor Oil =
94 Lbs of Lubricating Oil

DOCUMENTS

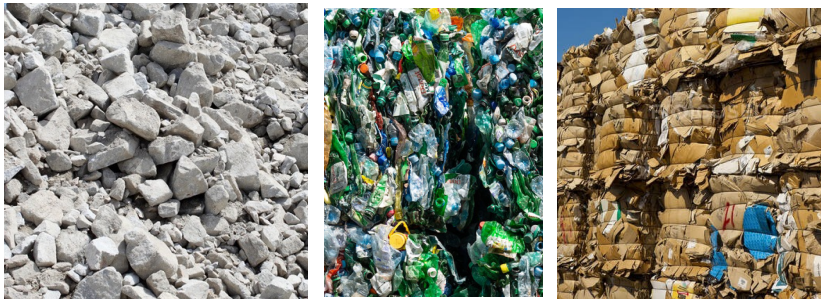
2 Environmental Impact
Assessments (Crown Land and
Snake Cay)

5 Waste Management Assess-
ments (1 for each community
assessment)

1 Zero Waste Management Plan
for Treasure Cay

1 Zero Waste Educational
Program Plan

3 Annual Progress Reports
(1 for each Year)



BENEFITS

Community to Cabinet Data Driven Policy

Waste Generation and Diversion Data, and Waste to Energy
Production and Consumption Data for Government

Innovative Business Development Incubator

Waste Diversion Start-ups and Upskilling of Existing Informal
Waste Diversion Businesses

Environmental, Social and Economic Impact

Climate Change Mitigation, Waste Reduction, Disease
Prevention, Fire Risk Management, and Sustainable
Development

Knowledge Mobilization

Teaching about New Technology, Open Source Data, Sharing
Lessons Learned and Overcoming Challenges

LETTERS OF SUPPORT



COMMONWEALTH OF THE BAHAMAS
LOCAL GOVERNMENT AUTHORITY
DISTRICT COUNCIL
CENTRAL ABACO DISTRICT
BAHAMAS GOVERNMENT COMPLEX, DUNDAS TOWN
TEL (242) 699-0165 Fax (242) 699-0169

Chief Councillor:
Mr. Faron Newbold J.P.
Deputy Chief Councillor:
Mr. Derek Dawkins

Our Ref: DLG/LGA/CAD

May 30, 2022

Abaco Zero Waste Project
Ms. Juliette Deal, Project Lead
Marsh Harbour
Abaco, Bahamas

Dear Ms. Deal,

RE: Support for Abaco Zero Waste Project

It is a pleasure to provide this letter of support on behalf of the Central Abaco District Council to the Abaco Zero Waste Project.

Council believes that this project is crucial, not only to the future wealth and growth of Abaco, but also to the lives and well-being of our citizens and residents.

For a long time, the residents on the mainland and surrounding cays have had to witness the degradation of the island, as a result of poor planning and basic framework.

It is our opinion that Abaco Zero Waste Project is our islands solution. A partnership-based initiative is how these problems will be solved.

We hereby reach out the full support and commitment of the Central Abaco District Council to assist in every way to help bring this vision to fruition.

Sincerely,

Mr. Faron Newbold
Chief Councillor/ Justice of the Peace

FN/msa

MR. CHURTON TOOTE, MRS. PATRICE WILLIAMS, MR. DALE HILL, MR. CUBELL DAVIS
MR. CECIL INGRAHAM, MS. BEVERLY SAWYER, MR. ROSCOE THOMPSON III



LOCAL GOVERNMENT AUTHORITY
TOWN COMMITTEE
MARSH HARBOUR/SPRING CITY
P.O. Box AB-20765

Tel: (242) 699-0165 Fax: 699-0169

June 3, 2022

Abaco Zero Waste Project
Ms. Juliette Deal,
Project Lead Marsh Harbour,
Abaco Bahamas

Dear Ms. Deal,

RE: SUPPORT FOR ABACO ZERO WASTE PROJECT

It is with pleasure that the Marsh Harbour Spring City Township offer this letter of support to the ABACO ZERO WASTE PROJECT.

We are pleased that you have taken the lead with such an initiative and it is our hope that many others will also offer their support in this venture. For too long the health of the residents of our community have been unfairly impacted by the lack of proper riding of Waste.

We offer our full commitment to assist with this project in whichever way we can to help you accomplish your goal.

Sincerely,

Mr. Roscoe Thompson III
Chairman

RT/tn

**Masanetie Joseph, Dale Hill, Danny Sawyer, Dexter Russell, Lottie Patrice
Williams, Lisa Kemp, Louise Reckley**

LETTERS OF SUPPORT

Abaco Chamber Of Commerce

P.O. Box A3 20551, Marsh Harbour, Abaco, Bahamas
Tel: (242) 699 3261 www.abacochamber.org info@abacochamber.org
<http://facebook.com/abacochamber>



Ken Hutton
President

May 28, 2022

Daphne
DeGregory-Miaoulis
Vice-President

Abaco Zero Waste Project
Ms. Juliette Deal, Project Lead
Marsh Harbour, Abaco
Bahamas

Scott Ferguson
Secretary

Brenda Jenoure
Treasurer

Dear Ms. Deal,

Re: Support For ABACO ZERO WASTE Project

Ruth Saunders
Director

We are pleased to provide this Letter of Support on behalf of the Board of Directors and Membership of the Abaco Chamber of Commerce to the ABACO ZERO WASTE project. We believe this project to absolutely critical to not only the economic future of Abaco but also the lives and health of our citizens and residents. For too long our island and cays have had no other option but the continued degradation of our beautiful home because of a lack of planning and infrastructure. Historic natural disasters have convinced us that this situation must not be allowed to continue. The ABACO ZERO WASTE project is the solution. A community-based and led initiative is the only way we can solve our own problems. We therefore extend the full support and commitment of the Abaco Chamber of Commerce to work with you and assist in any way to help accomplish this worthy endeavour.

Krista Albury
Director

Daynan Tynes
Director

David Ralph
Director

Sincerely and behalf of the Board of Directors,

Kenneth Hutton, President
Abaco Chamber of Commerce

"Helping To Make Abaco A Better Place To Live And Do Business"



Friends of the Environment

PO Box AB 20755
Marsh Harbour, Abaco, Bahamas

242-367-2721

www.friendsoftheenvironment.org

June 14, 2022

To Whom it may Concern,

Friends of the Environment (FRIENDS) is a Bahamian non-profit organization that was established in 1988 with the mission to preserve the environment of Abaco, Bahamas through education, conservation, and research facilitation.

Understanding the importance and urgency for the need of an integrated waste management plan for Abaco, FRIENDS has agreed to become a partner on the Abaco Zero Waste Management project. Our role will be to assist with community education and outreach planning and implementation, particularly with school students and social media messaging. We have resources in place (staff already hired, two 12 passenger vans purchased and licensed) which can be utilized for the project.

Sincerely,

Olivia Patterson-Maura
Deputy Director
olivia@friendsoftheenvironment.org

LETTERS OF SUPPORT



KPMG Advisory Services Ltd.
PO Box N-123
Montague Sterling Centre
13 East Bay Street
Nassau, Bahamas

Private and Confidential

Abaco Strong, Inc.
5604 Jordan Road
Bethesda, MD 20816

Attention: Ms. Martha Fleury, President

31 May 2022

RE: Abaco Zero Waste

Dear Ms. Fleury—

Pursuant to our discussions, we understand that Abaco Strong, Inc. is leading a consortium that also includes the Abaco Resurrect Foundation, Hope Town Zero Waste, One Abaco Foundation, and Friends of the Environment, (collectively, the "Consortium") and that the Consortium intends to apply to the BlueTech for Waste Innovation Challenge (the "Challenge") being sponsored by the Inter-American Development Bank ("IDB") and the Global Environment Facility ("GEF"). The Consortium's proposed project is titled "Abaco Zero Waste" and potential awards for successful applicants include financing and/or inclusion in the IDB Lab Innovators Network.

KPMG Advisory Services, Ltd. ("KPMG" or "we") wish to advise that, should the Consortium be successful in its application to the Challenge, we would, in principle, be interested in supporting the Consortium as financial advisor for the proposed Abaco Zero Waste project. KPMG's participation in the project would in all respects subject to the satisfactory completion by KPMG of applicable client and engagement acceptance procedures, including due diligence, independence, and conflict of interest checks, as well as the negotiation, agreement, and signing of a specific engagement letter or contract.

Based on our discussions, the financial advisory services that KPMG could potentially provide the Consortium with respect to the Abaco Zero Waste project could include

KPMG Advisory Services Ltd., a Bahamian company and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.

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Internet: www.kpmg.com.bs



some combination of the following: support with developing the strategic case, business case, plans and financial models; economic impact studies; True Value analyses; identification and evaluation of supplementary financing options; procurement support; stakeholder engagement support; and project management support.

Please note that this letter must not be construed as an indicative proposal or offer to provide any services, as any such proposal would be subject to satisfactory completion of our internal approval processes and due diligence.

We wish you success with your application to the Challenge. Thank you for giving us this opportunity to partner with you on this project.

Yours sincerely,

KPMG Advisory Services Ltd.

KPMG Advisory Services, Ltd.

KPMG Advisory Services Ltd., a Bahamian company and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company

LETTERS OF SUPPORT



**ISLANDS
BY DESIGN**

155 Shirley
Park Avenue
P. O. Box SS-6533
Nassau, Bahamas

June 7th, 2022

Abaco Strong, Inc.

5604 Jordan Road

Bethesda, MD 20816

Attention: Ms. Martha Fleury, President

RE: Abaco Zero Waste

Further to our recent discussions, we understand that Abaco Strong, Inc. is leading a consortium that also includes the Abaco Resurrect Foundation, Hope Town Zero Waste, One Abaco Foundation, and Friends of the Environment, (collectively, the "Consortium") and that the Consortium intends to apply to the BlueTech for Waste Innovation Challenge (the "Challenge") being sponsored by the Inter-American Development Bank ("IDB") and the Global Environment Facility ("GEF"). The Consortium's proposed project is titled "Abaco Zero Waste" and potential awards for successful applicants include financing and/or inclusion in the IDB Lab Innovators Network..

Islands By Design Ltd. , (IBD), that should the consortium be successful , in its application IBD would be interested in supporting the Consortium as its environmental consultant for the proposed above captioned project..

Kindly note the scope of work and terms of reference would be subject to the requirements of the Environmental Planning and Protection Act, 2019.

We wish you success with your application to the Challenge. Thank you for giving us this opportunity to partner with you on this project.

Yours Sincerely,

Islands By Design Ltd.

Keith A. Bishop P.E.

Principal

www.islandsbydesign.com
info@islandsbydesign.com



Nassau: (242) 328-5544
Eleuthera: (242) 577-0041