Common Seas

ACCELERATOR SESSION

WORLD CIRCULAR ECONOMY FORUM ACCELERATOR SESSION

UNLOCKING CIRCULARITY IN SMALL ISLAND STATES

17 SEPTEMBER, 10:00 CEST | ZOOM

Common Seas

We are Common Seas

Driving systemic, lasting reductions in plastic pollution where its needed most.

Carla Worth
Moderator
Head of Policy, Common Seas
carla@commonseas.com

Our panellists

Axel Darut
Founder, Circulearth

Jonas Barkhau
Circular Economy Advisor, GIZ

Dr. Dagny Tucker
Founding Co-Executive Director, Perpetual

Camille Mondon
Principal Waste Management Officer, Ministry of the Environment, Seychelles

Andrea Cino
Strategic Partnerships and Innovation Lead, WRAP

Alex White
Department of Environmental Management, Hawai'i

What we'll cover today

1 hour 30 minutes

- **Introduction and context**
- **Panel 1:** How to design circular economy solutions for SIDS?
- **Panel 2:** What can help drive and enable circularity in SIDS?
- **Discussion**
- **Closing**

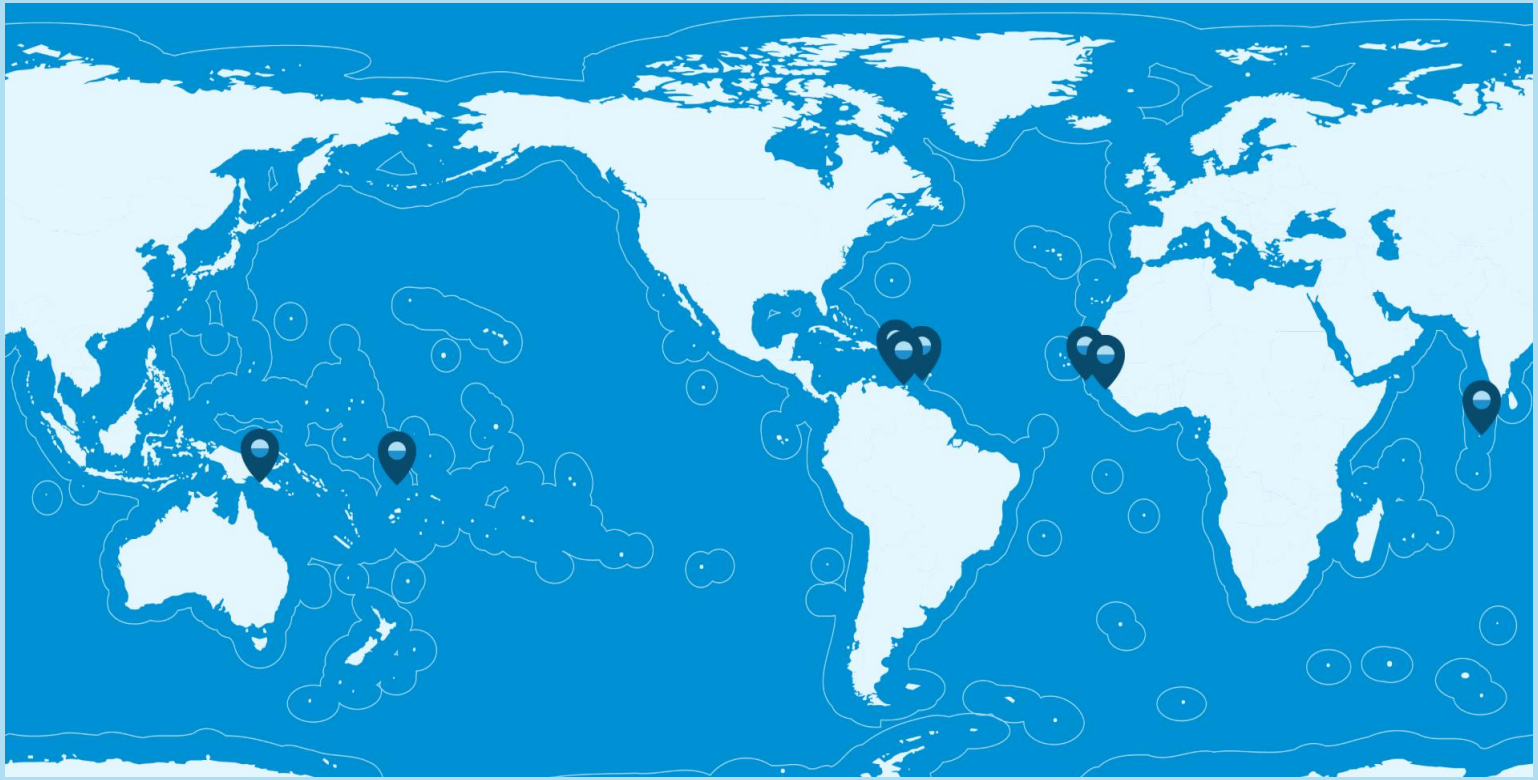
Common Seas. Partnering with SIDS and small coastal countries to significantly reduce plastic pollution

UK International Development
Partnership | Progress | Prosperity

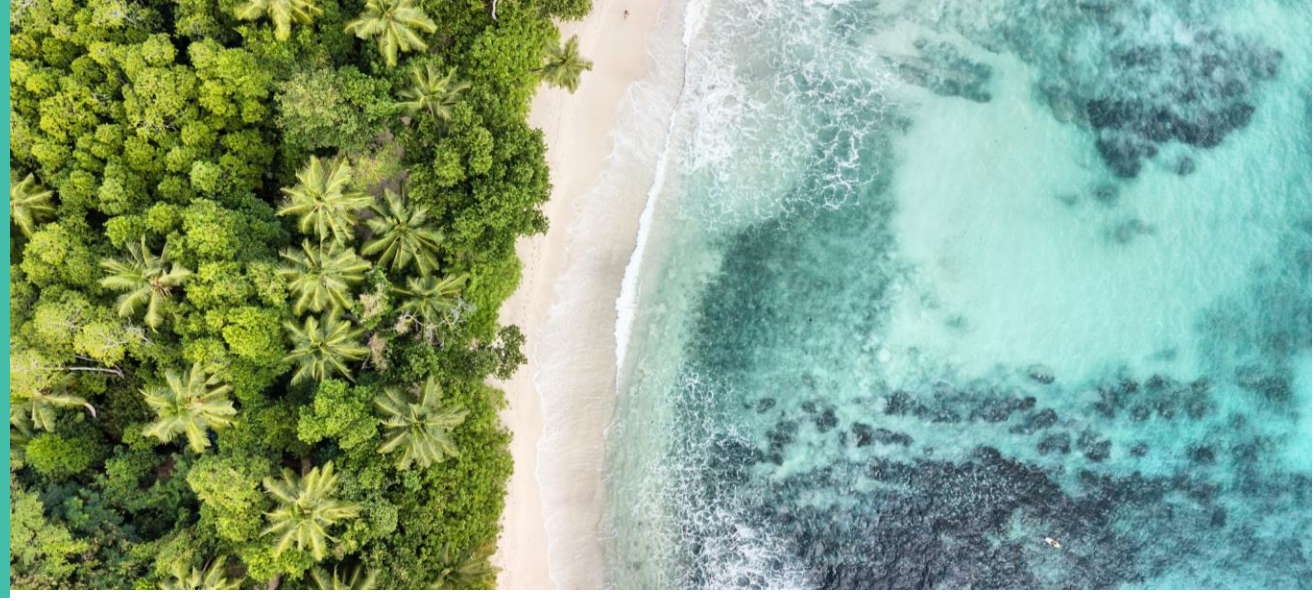
The Commonwealth

Our partners:

- Barbados
- Saint Lucia
- Grenada
- Gambia
- Guinea Bissau
- Papua New Guinea
- Tuvalu
- Maldives



Key learnings and motivation for running this session



- SIDS are an ambitious group of countries.
- **The operating context is different**. There is little/no circularity on islands.
  - Small and dispersed markets
  - Low and fragmented material volumes
  - High transport costs and distance to end markets
  - Limited infrastructure and institutional capacity

→ **The solutions need to be different**

Panel 1:
How to design circular economy solutions for SIDS?

Axel Darut
Founder, Circulearth

How can EPR be designed for SIDS?

The power of regional partnerships

Circulearth

For a regional EPR approach
The research

Objective: Explore how EPR can be adapted to address the unique challenges of SIDS / remote geographies.

Approach: Collaborative research led by Common Seas and Circulearth, in consultation with expert collaborators and an Advisory Group from November 2024 to December 2025.

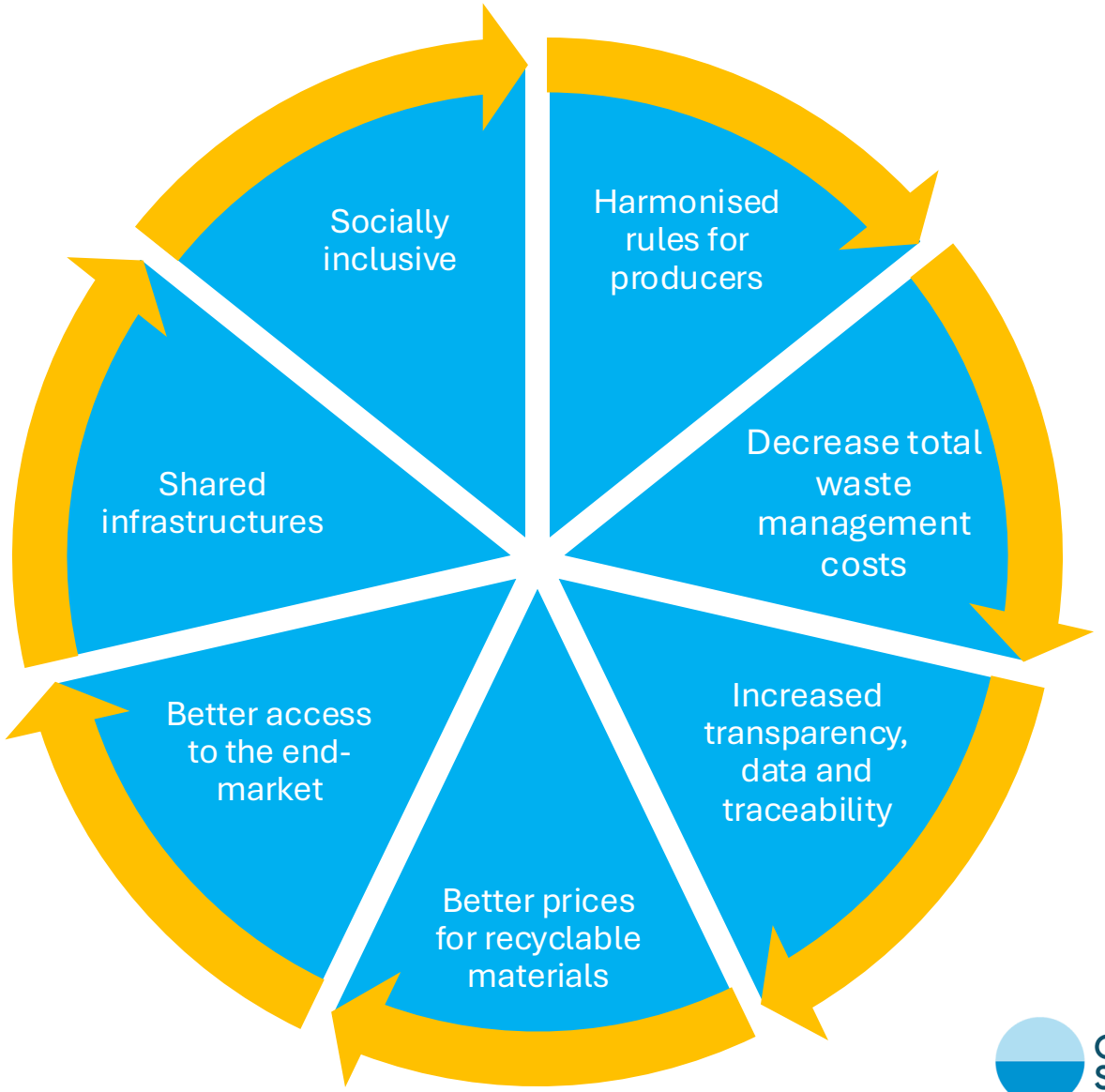
Consultation process: multiple interviews across the Indian Ocean, Caribbean, and Pacific regions with:

- SIDS governments / Regional bodies
- PROs
- Recyclers
- Plastic producers

Common Seas Circulearth

Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?

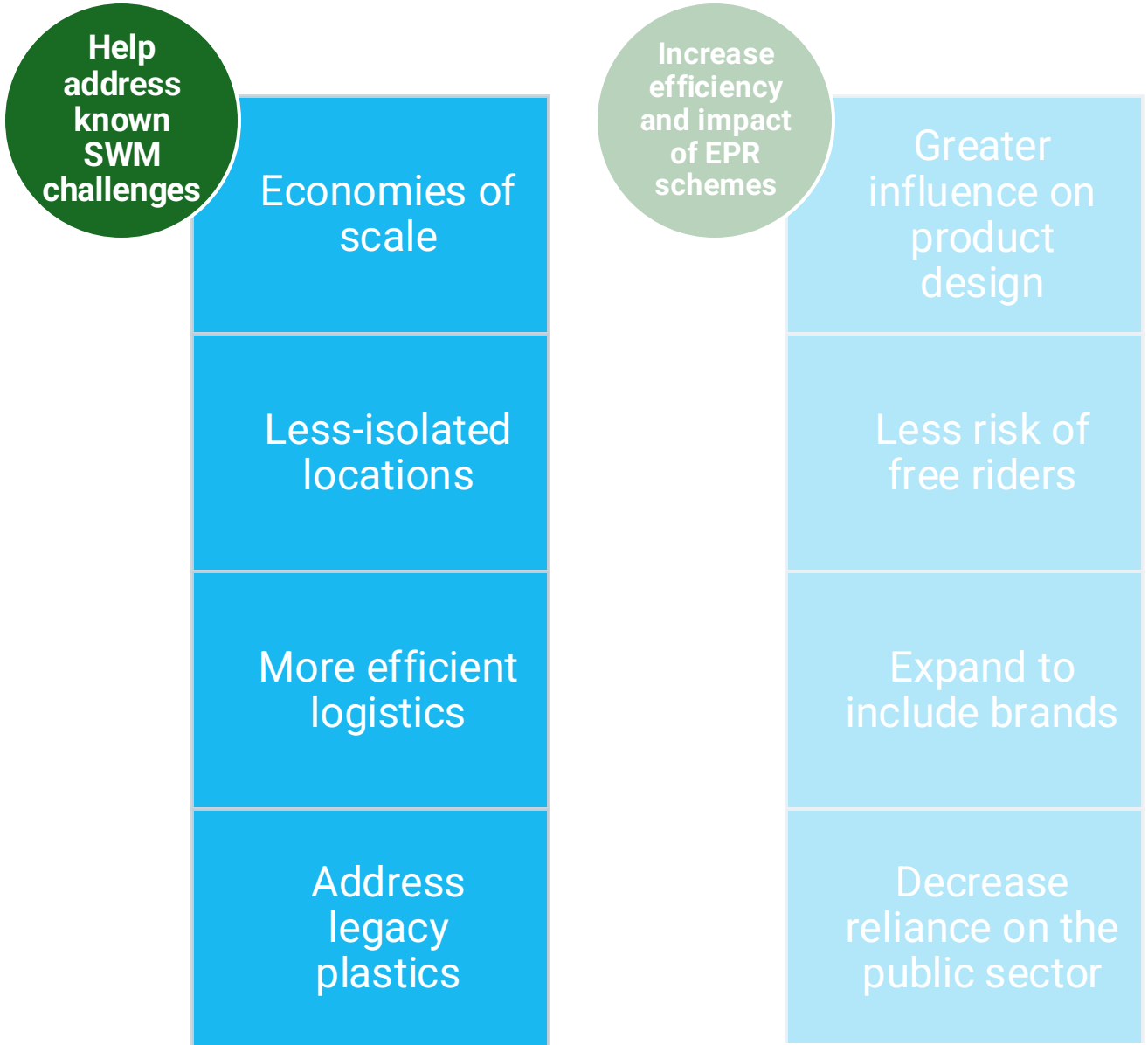
Co benefits :



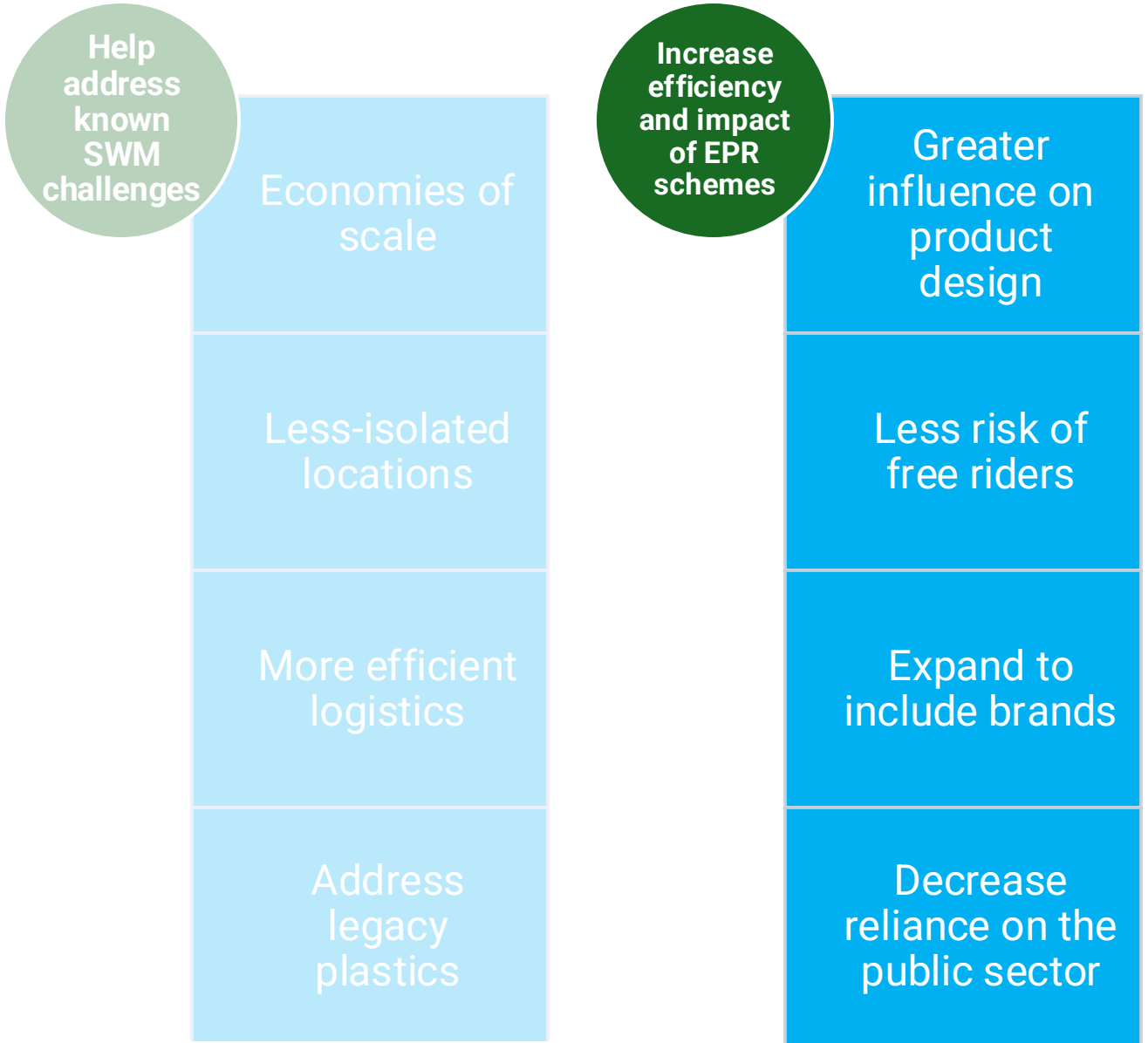
Common Seas

Circulearth

Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?

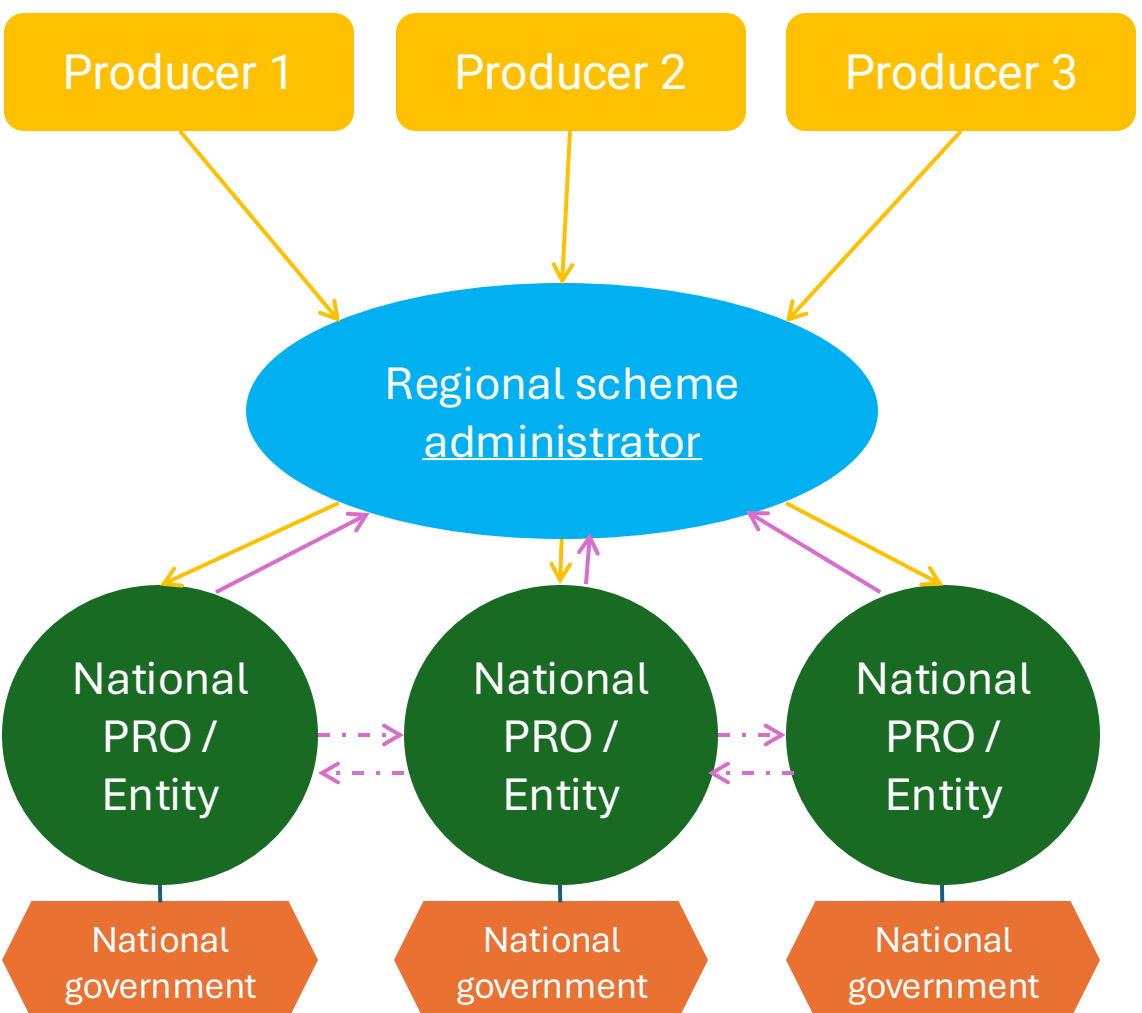


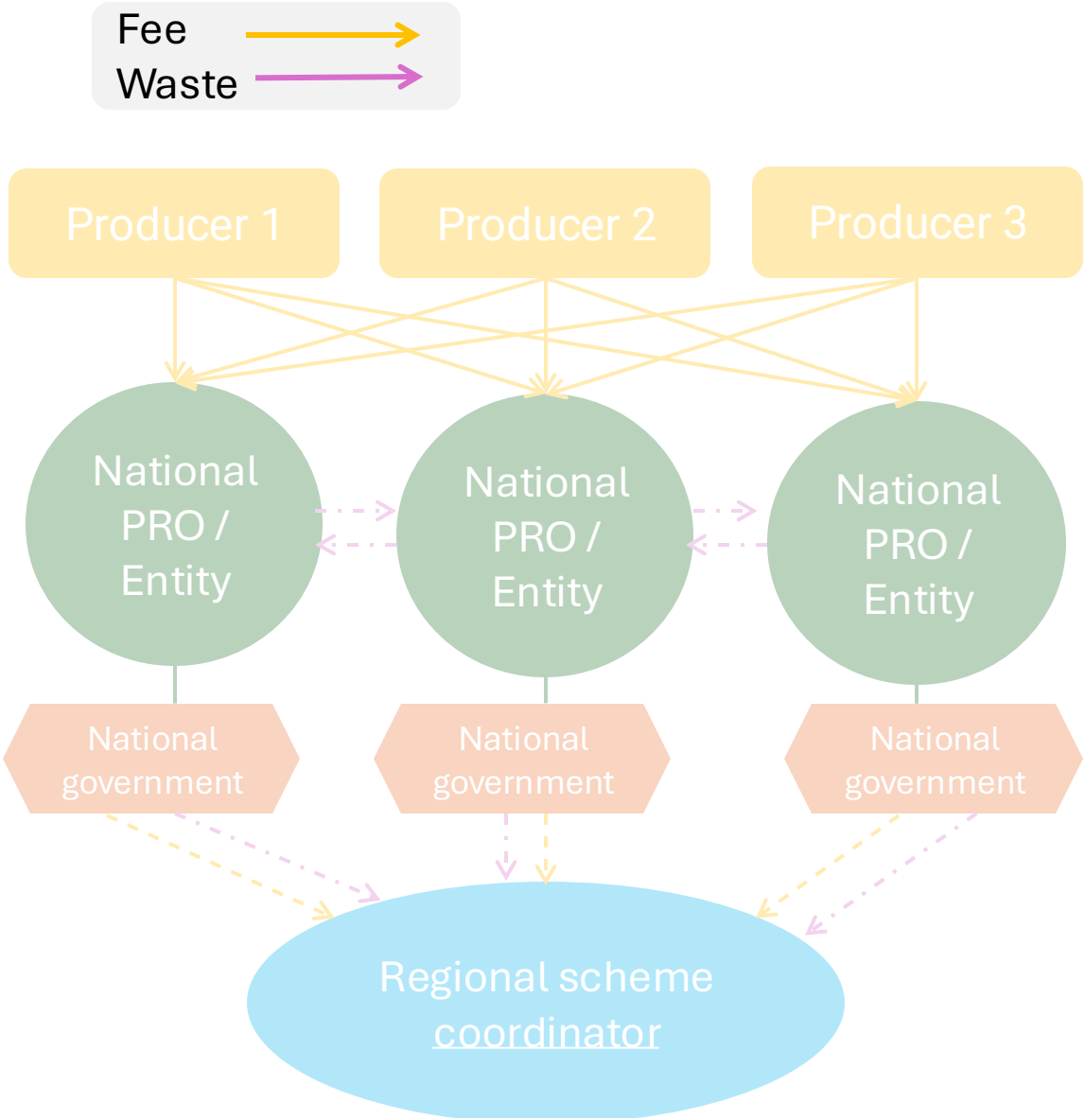
Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?



Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?

What might regional EPR look like :





Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?

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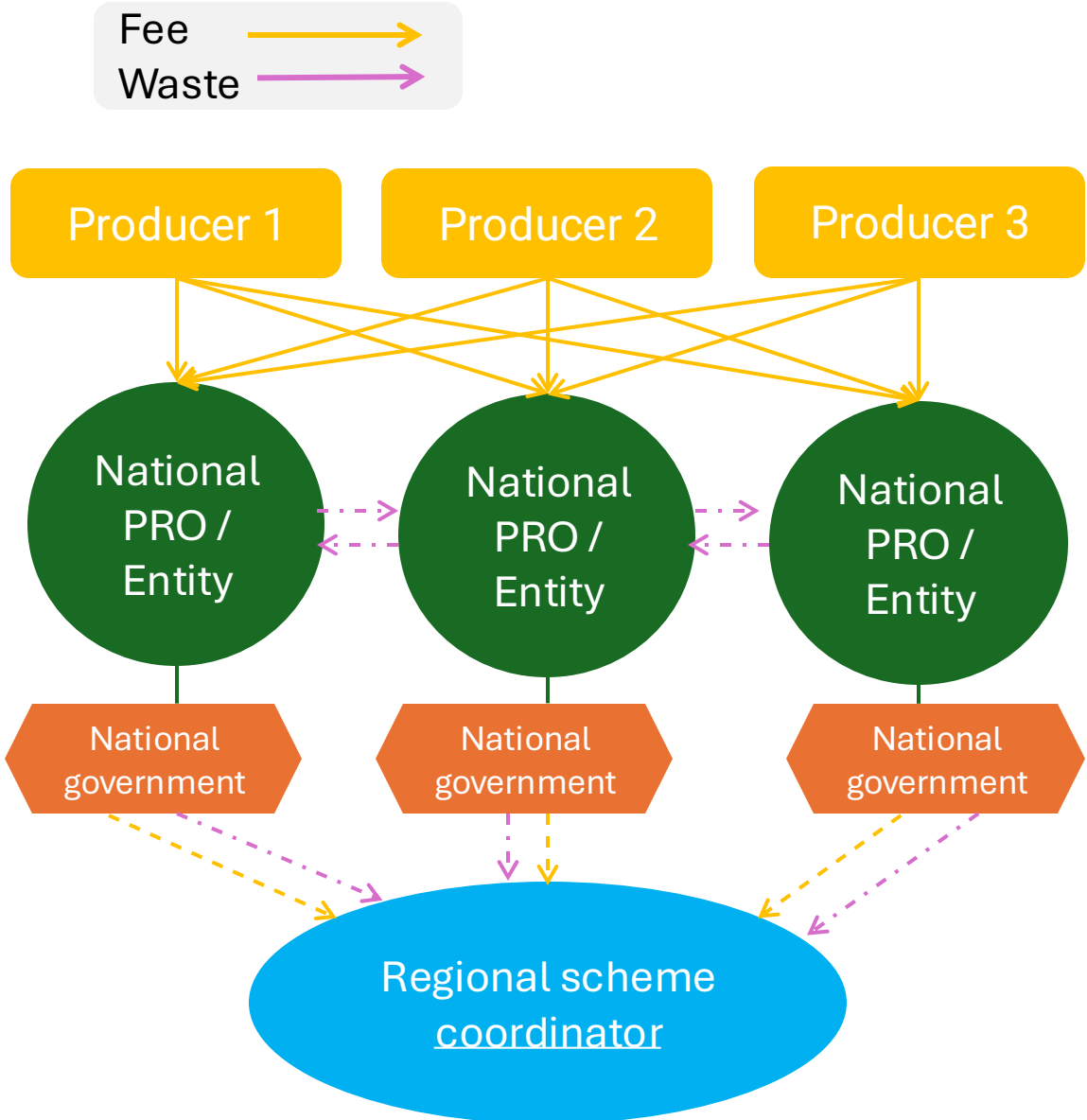

Could a coordinated, regional approach to EPR offer a solution to challenges faced by remote geographies?

Key takeaways

Key enablers

Strong regional coordination mechanisms

EPR as part of range of mandatory instruments within a circular economy law

Capacity building - access to technical expertise

Incentivised producer engagement

Integration with existing waste management practices

Data-driven planning

Potential obstacles to consider

High transport and logistics costs

Limited recycling and treatment infrastructure

Dependence on export markets

Fragmented governance and capacity constraints

Financial sustainability challenges

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Circulearth

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Circulearth

For a regional EPR approach
The ongoing work for the Indian Ocean Commission

INDIAN OCEAN COMMISSION

Legislative and regulatory analysis

Waste flows analysis

Financial flows analysis

Common Seas

Circulearth

Axel Darut
Founder, Circulearth

Thank you.

Circulearth

Camille Mondon-Renaud
Principal Waste Management Officer, Ministry of the Environment, Seychelles

How can DRS be designed for SIDS?
The case of the Seychelles

Deposit Refund System

This system combines a levy when purchasing an item, which will then be refunded when it is returned after consumption.

It mainly allows:

- Reintegrating the product into a new life cycle,
- Reducing waste,
- Avoiding the use of new raw materials for the design of new containers.

Why does it work?

- High Volume of waste
- Existing recycling and waste-processing facility and collection system
- EPR already operational
- Population used to sorting habits
- **CE concept better integrated through policy measures and political willingness to reach targets**
- **Availability of national budget to strengthen the sector**

In SIDS context…

- Volume of waste not enough sufficient for economy of scale
- Issue of economy of scale and land availability → Limited recycling and waste-processing facility (economy of scale)
- **High dependance of importation**
- EPR not necessary yet operational
- Population less used to sorting habits (only local breweries)
- CE concept at the beginning
- Lack of public sensitization → lack of political willingness
- → National Budget not adapted to the objectives

The “Sesel” design

Started with an overwhelming of the landfill with plastic bottles, pollution and bad image for tourism and fisheries.

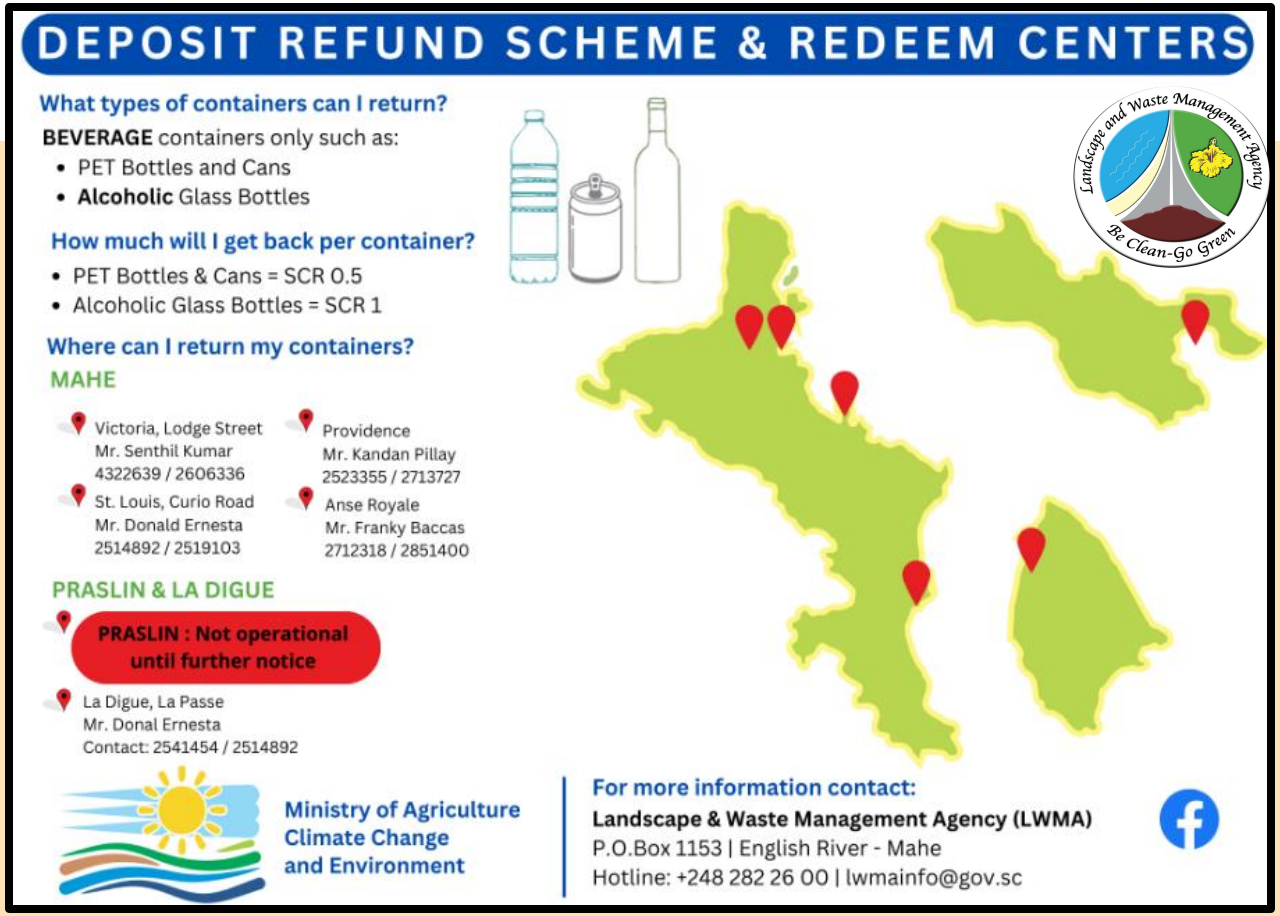
The tourism industry is a key catalyst for maintaining and promoting the island’s “green” image in Seychelles.

The DRS: a Government-Run Model gradually implemented

- Creation of a specific trust fund *(PRO eq.)*
- Gradually implementation

(2007:PET; 2012: Cans, 2018: glass bottles)

- Collaboration with the CUSTOMS division – use of the ASYCUDA software to monitor the bill of entries
- Tender for the opening of the Redeem Centers
- Specific support to recyclers when needed
- 2 years of levy’s collection prior redemption of the containers
- Rely on the informal sector



Voluntary DRS Models in the Region

Reunion Island

Brasseries de Bourbon

Madagascar

STAR

Societe Tananarivienne d'Articles Refrigeres

SEYCHELLES

Seybrew

Voluntary DRS Models in the Region

Reunion Island

Brasseries de

Madagascar

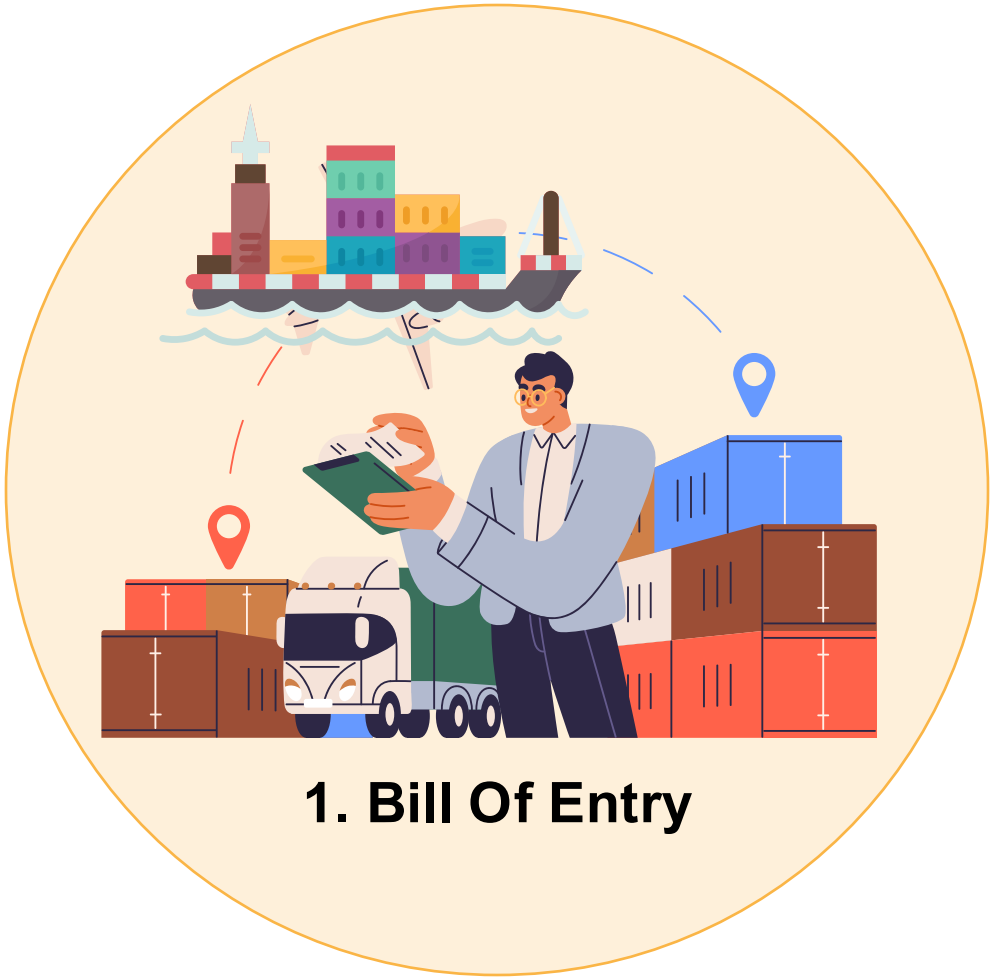
STAR

Societe Tananarivienne d'Articles Refrigeres

SEYCHELLES

What about the other beverage containers?

How does it work?



1. Bill Of Entry

- Declaration of the goods
- Verification by CUSTOMS (ASYCUDA SYSTEM)
- Payment of the levy upon arrival
- CUSTOMS transfers the money to the WMF

How does it work?

2. Redeemable items are on shelf for purchase and consumption

3a. Goods are disposed of at municipal bin sites

3b. Goods are brought directly to the redeem centers

How does it work?

2. Redeemable items are on shelf for purchase and consumption

3a. Goods are disposed of at municipal bin sites

3b. Goods are brought directly to the redeem centers

4. Goods are collected by the informal sector

Some Challenges

- Littering of the labels and caps when collected at the bin sites.
- **Only** 4 redeem centers on the Main Island
- The deposit is not enough incentive in La Digue to work. Furthermore no presence of informal sector
- Lack of communication on the system
- Same deposit for all containers
- Metal mixed with the glass

One Response...

Thank you

cmondon@gov.sc

To read more

How can reuse schemes be designed for SIDS? The case of the Ho'i Returnable Dish Program

Hawai'i

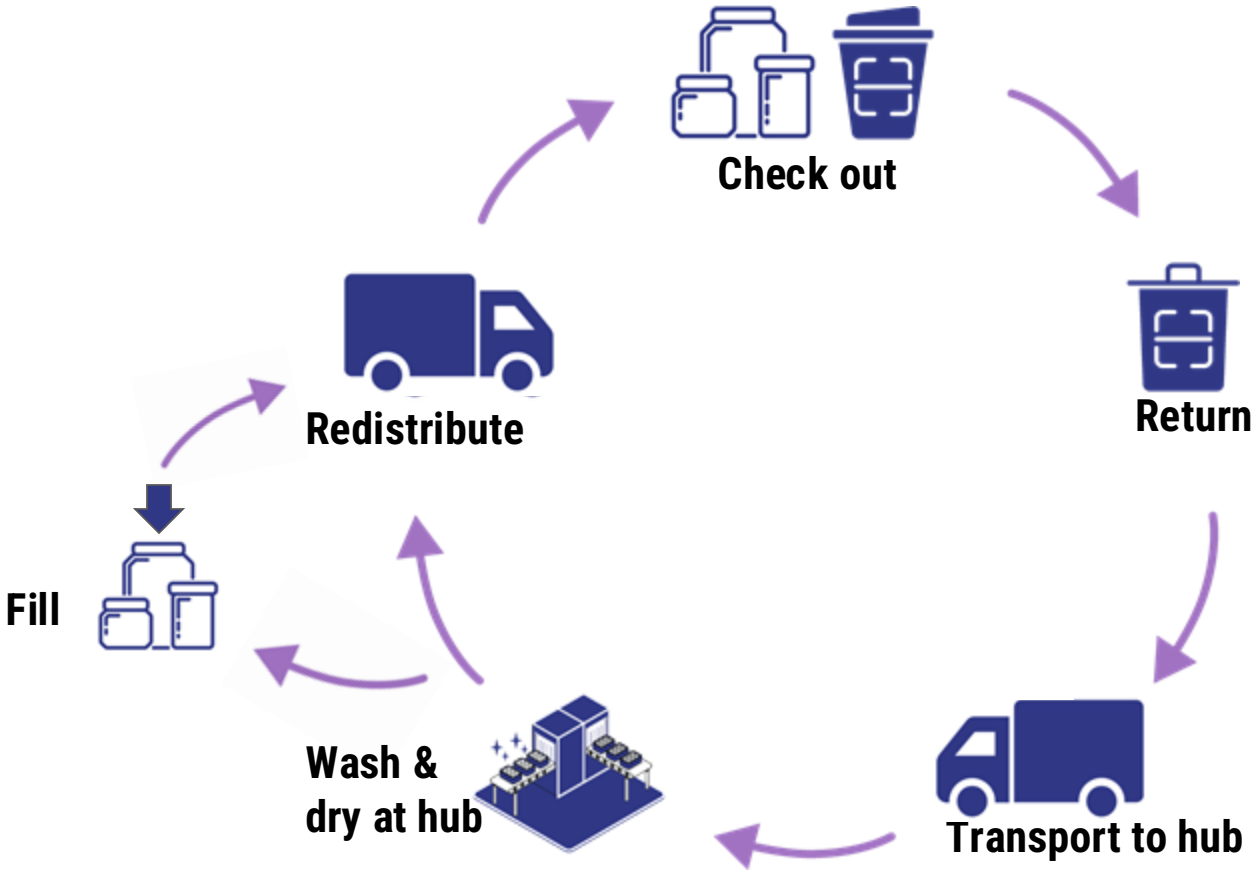
Dr. Dagny Tucker
Founding Co-Executive Director, Perpetual

Alex White
Department of Environmental Management, Hawai'i

PERPETUAL Ho'i

Reuse system: Items (packaging/foodware) are used many times for same purpose for which they were designed.

PERPETUAL



PERPETUAL

Types of Reuse Systems

In reuse systems, the packaging is owned by the business, reuse service provider, packaging as a service provider or other entity within the system such as a governance body. There are two primary types of reuse systems: Business to Consumer (B2C) and Business to Business (B2B).

B2C: Transactions where a business, non-profit, government, or other organization provides products directly to consumers

B2B: Transactions between businesses

Prefill Systems

Reusable Food Serviceware

Asset Sharing

Reusable Secondary Packaging

Reusable Transport Packaging

Prefill Bulk Ingredient or Product Delivery

Hoʻi
ENJOY. RETURN. REPEAT.

The same actor may operate in both (B2C + B2B) contexts.

Hoʻi
ENJOY. RETURN. REPEAT.

Project Partners

PERPETUAL

01

Call for interest, secure funding, reuse system design, technical assistance, implementation support

ZERO WASTE HAWAI'I ISLAND

02

Community engagement, branding, & partner benefits

Sea Grant UNIVERSITY OF HAWAI'I

03

Data collection & technical support

COUNTY OF HAWAI'I Reduce Reuse Recycle E Mālama I Ka ʻĀina

04

Owns infrastructure for reuse program

Vytal

05

Reuse Service Provider contracted to operate County infrastructure

Why Reuse? County Of Hawai‘i Perspective

- Urgent need for waste reduction
  - 262,000 tons of waste generated annually
  - 19% diversion rate
  - Avg $143/ton diversion cost
- Extend the life of the island’s only remaining landfill 73 miles from Hilo
  - ~1 million truck miles annually
  - ~$18/mile to operate the system
- Support a better alternative over SUPs
- Geographic complexity
  - Large area, low population density
  - Similar in size to Connecticut or Puerto Rico (3M+ pop)
  - Hawai‘i Island Population: ~210,000

Island Case Study

Journey to Reuse

Hoʻi
ENJOY. RETURN. REPEAT.

BUILD FOUNDATION

Learn from reuse pilots & programs

Behavior research review & analysis

Secure City support

MAPPING & ENGAGEMENT

Local partnership

Circularity Assessment Protocol

DESIGN

Capabilities landscape with 43 operators

Identify community assets

20 corporate design interviews

Community Design Workshops

Financial Modeling

Life Cycle Assessment

SYSTEM SETUP

Establish governance

Identify ideal return locations and routing

Mobilize infrastructure funding

Secure providers, equipment, space, permits

Enroll businesses

PRE-LAUNCH

Install and test all equipment

Onboard all participating businesses

Stakeholder engagement

Outreach and education campaigns

Get ready!

LAUNCH

All systems go!

Mobilize volunteers to support system success during first two weeks of system operation

Hands-on support for system success

SYSTEM IMPROVEMENTS

Monitor and improve system performance

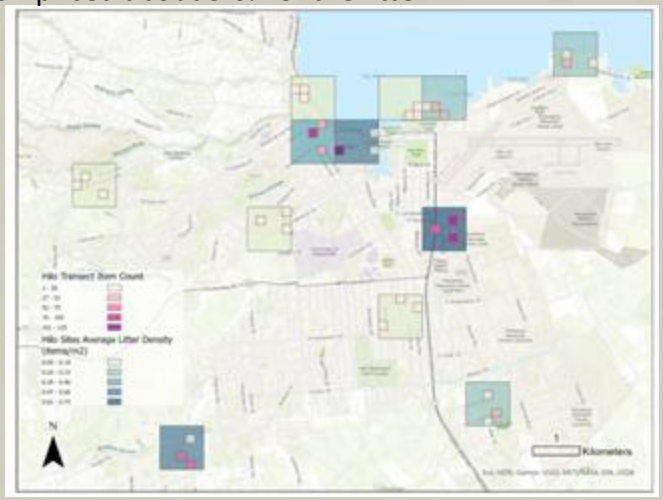
User experience research

Regularly report operational and impact metrics

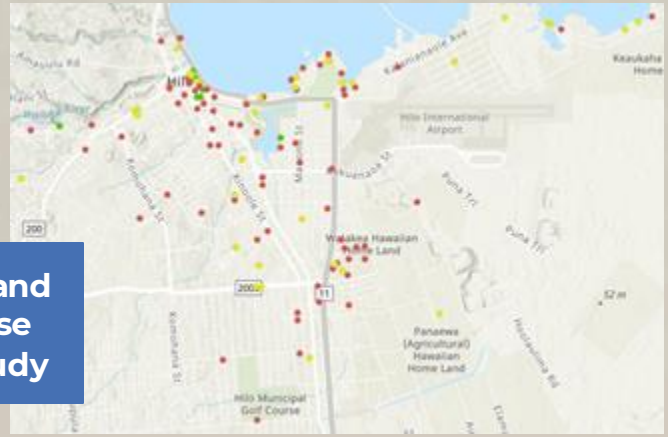
Community and Data-driven Process to Develop the Reusable Foodware System

Waste and Litter Landscape

To-go food ware (cups, containers, straws, and utensils) comprised about 5.6% of the litter.



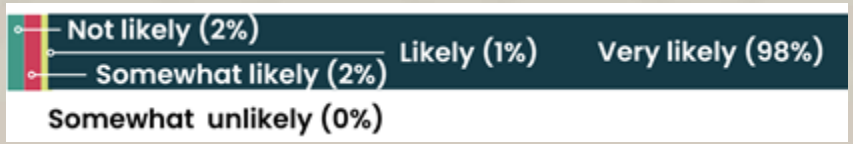
Optimized Collection Bin Placement



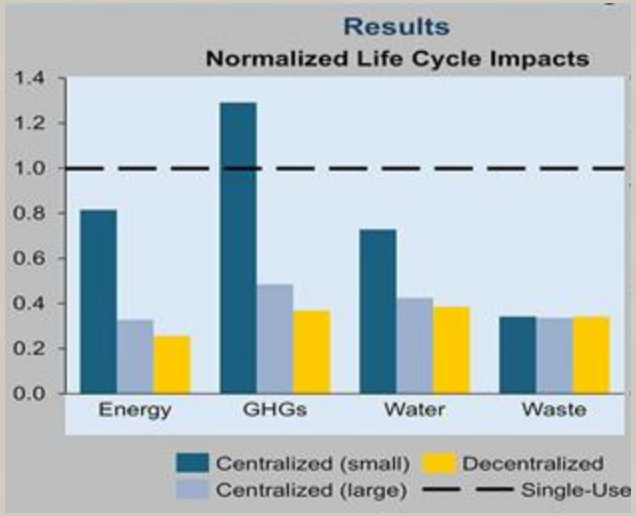
Island Case Study

Community Design Workshops

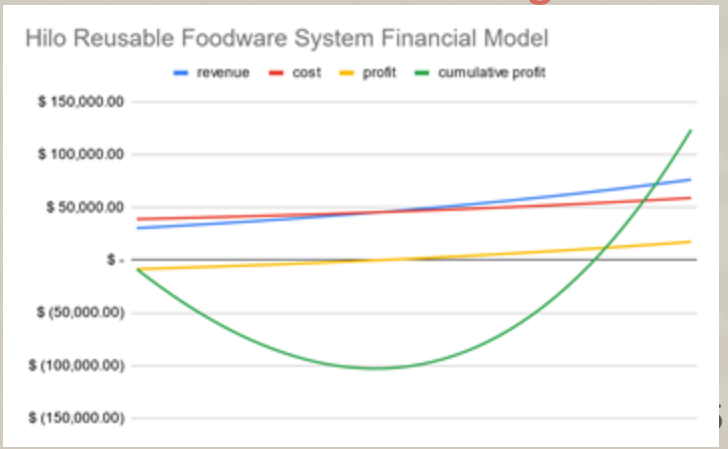
Would you use reusable cups or containers or refillable bottles if the system were available in Hilo? (N=103):



Life Cycle Assessment



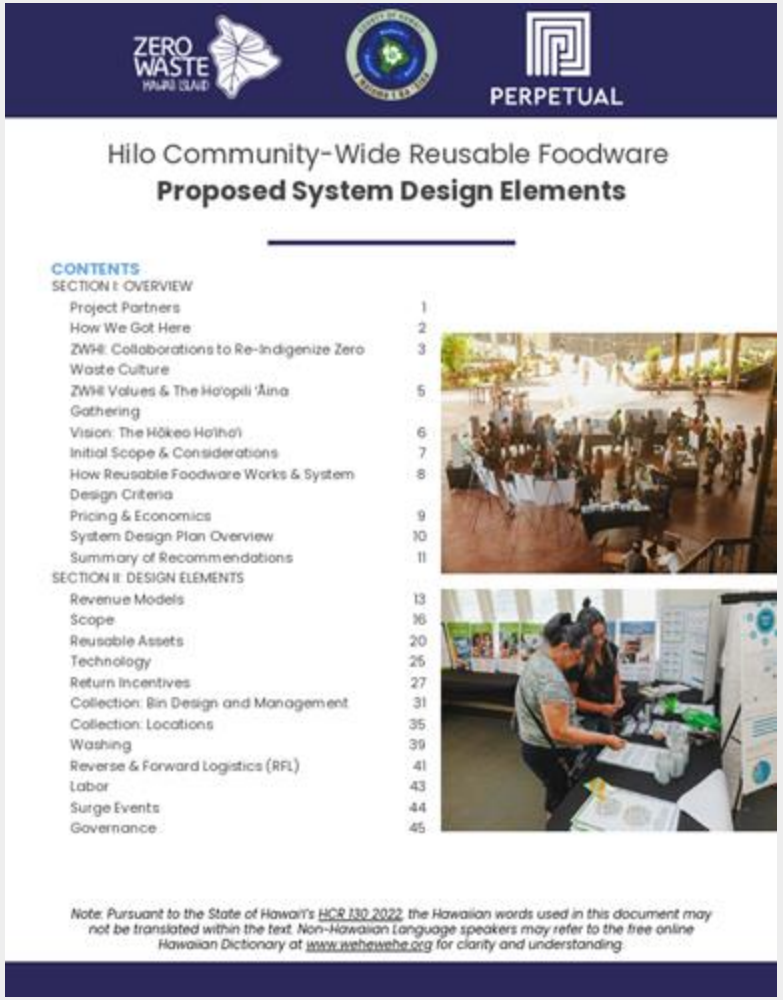
Financial Modeling



Community Engagement

Island Case Study

System Design Plan



ZERO WASTE MAUI ISLAND

PERPETUAL

Hilo Community-Wide Reusable Foodware

Proposed System Design Elements

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Note: Pursuant to the State of Hawai'i's HCR 130 2022, the Hawaiian words used in this document may not be translated within the text. Non-Hawaiian Language speakers may refer to the free online Hawaiian Dictionary at www.wehewehe.org for clarity and understanding.

The guiding document that specifies how the system will work and what is needed for it to operate.

Hoʻi: Name & Logo

The ʻUmeke

This shape visualizes traditional Hawaiian vessels typically used to store poi and other staple foods, and is proverbially likened to a mind that is full of wisdom.

The Niho Manō

These triangles are reminiscent of Kamohoaliʻi, a shark figure who led his sister Pele in the epic journey from the mythic land of Kahiki to the tangible lands of Hawaiʻi.

Photo Credit: Coe Center

The Pewa

Historically, cracked bowls were repaired and strengthened with a butterfly-shaped mend called a “pewa.” This symbolizes the restoration of our natural environment through systems like reuse.

Island Case Study

Marketing

Collaborating with local farmers, musicians, artists, influencers, and well-loved community leaders, centering “return” to love of land.

Island Case Study


OK
FARMS

How it Works

Island Case Study

Free to use for restaurant customers

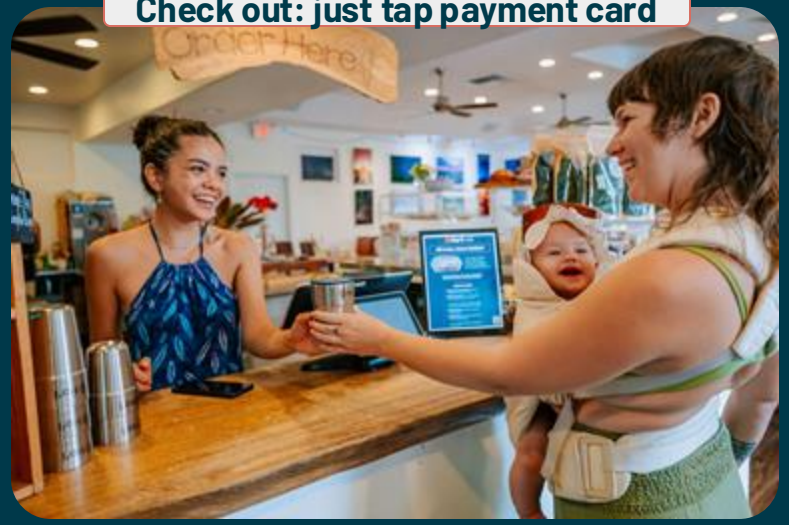
Users whose items are not returned within 7 days are charged a $15 replacement fee
No deposit

Business participants pay a monthly charge

based on their chosen usage tier, with this base unit pricing:
$0.17 per cup use
$0.34 per container use

(unit costs decrease at higher usage tiers)

Check out: just tap payment card



Enjoy anywhere

Drop at any Return Point

Vytal collects, washes and redistributes

Map of Outdoor Return Points

Island Case Study

Indoor Return Points at all participating locations

Container Assortment

Additional items to be added as needed

Island Case Study

Cups

Stainless steel base, Tritan & TPE lid

12 & 16 oz Insulated*

*12 oz cup has fill line for 8 oz
*16 oz cup has fill line for 12 oz

Trays & Bowls

Stainless steel bases; lids are either Tritan, Tritan & TPE, or polypropylene

10 in x 13.5 in 5-Compartment Tray (no lid available)

27 oz Single-Compartment Tray

25 oz 3-Compartment Tray

32 oz 3-Compartment Tray

23.7 oz Single-Compartment Bowl

24 oz Insulated Bowl*

*Fill lines for 12, 16, 20 oz

34 oz Insulated Bowl*

*Fill lines for 16, 24 oz

37.2 oz Single-Compartment Bowl

47.3 oz Single-Compartment Bowl

Island Case Study

Project Budget Overview

Budget is split across Project Partners: Hawai‘i County, University of Hawai‘i, Zero Waste Hawai‘i Island, and Perpetual

Budget for full project - 2023-2026	EPA	Foundations	Hawai‘i County	Total
Staff Time (Program only)	$361,329	$867,537	$77,268	$1,306,134
Design costs (e.g., workshops, research)	$80,750	$38,646	$0	$119,396
Equipment	$160,000	$245,000	$0	$405,000
Supplies, including reusable foodware items	$1,195,747	$39,727	$512	$1,235,986
Contractual	$442,150	$206,800	$0	$648,950
Brand, Marketing & Communications	$20,000	$193,337	$2,630	$215,967
Travel	$28,067	$29,806	$5,500	$63,373
Indirect costs	$96,861	$71,466	$9,090	$177,417
	$2,384,904	$1,692,319	$95,000	**$4,172,223**

Reuse is ideal for the island context

REUSE REDUCES

- Waste
- Supply chain disruption
- Dependance on imported materials
- Price fluctuations
- Need for waste managements & infrastructure
- Overall environmental impacts

REUSE INCREASES

- Economic benefits- money stays in community
- Local jobs
- Opportunity for fractional manufacturing/filling
- Cleaner communities, beaches & oceans
- Overall resilience

www.perpetualuse.org

PERPETUAL

Hoʻi
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www.hoi-return.org

Join us on the path to make the world cleaner, cooler, and healthier.

PERPETUAL

Dr. Dagny Tucker
dagny@perpetualuse.org

Alex White
alexander.White@hawaiicounty.gov

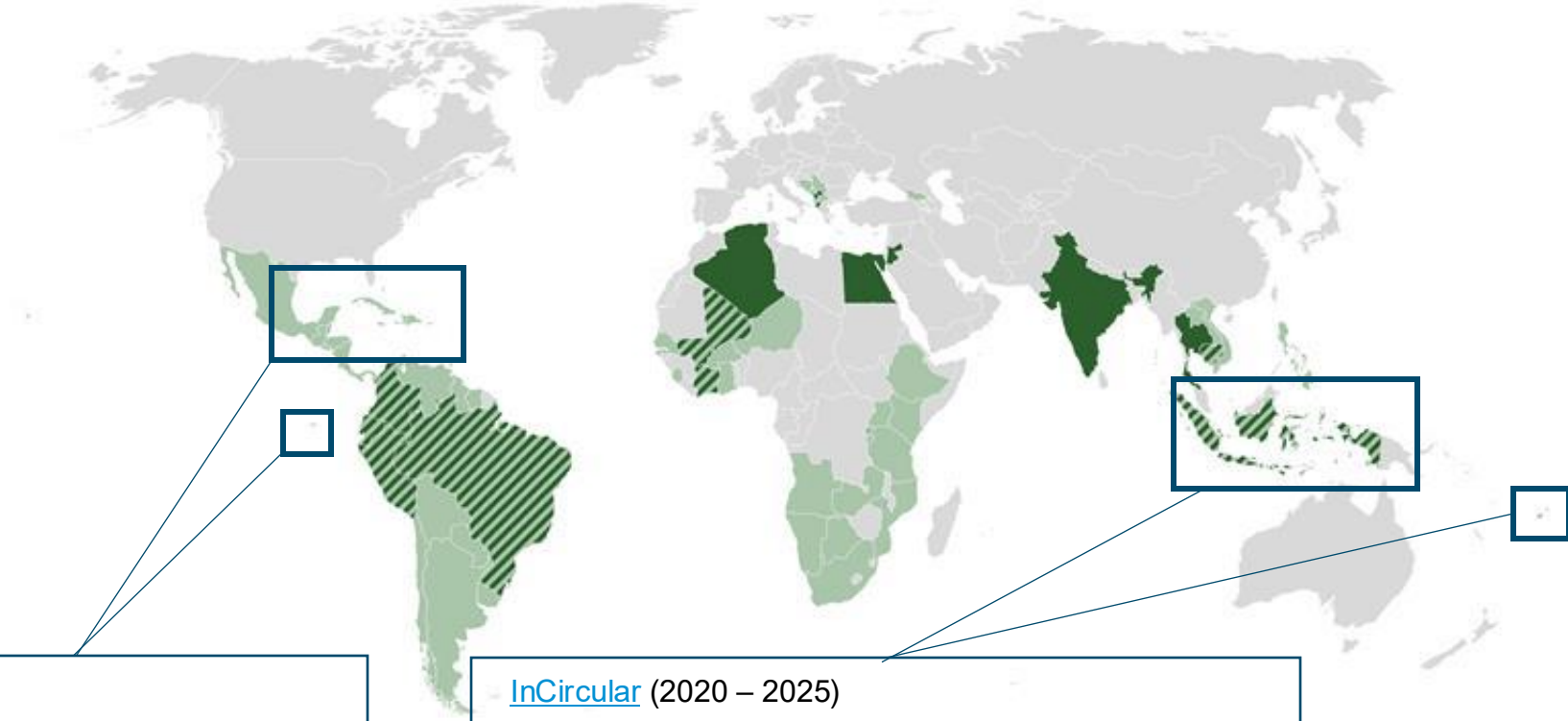
Panel 2:
What can help drive and enable circularity in SIDS?

Jonas Barkhau
Circular Economy
Advisor, GIZ

How capacity building can support a circular economy in Island and Remote Communities

GIZ Portfolio on Circular Economy

- 18 bilateral projects in 14 countries in dark green
- 11 regional and global projects in green
- **28 Projects in total**



Caribe Circular (2020 – 2025)

Promoting a circular economy in the Caribbean (2025 – 2028)

MARLI (2023 – 2028)

InCircular (2020 – 2025)

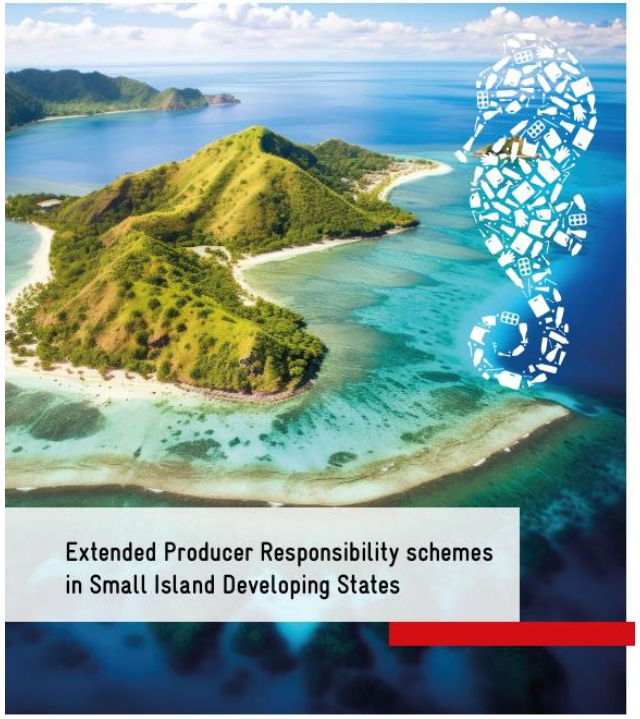
3RproMar II (2026 – 2028)

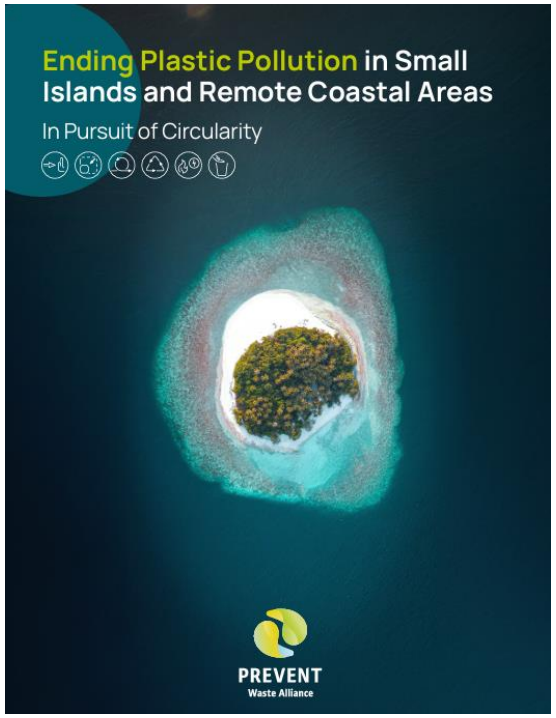
CleanSeas (2025 – 2029)

EU-PH Green Economy Partnership (2023 – 2028)

GIZ related global knowledge products on Plastics and Marine Litter

GIZ related global knowledge products on Plastic Solutions in Island and Remote Communities





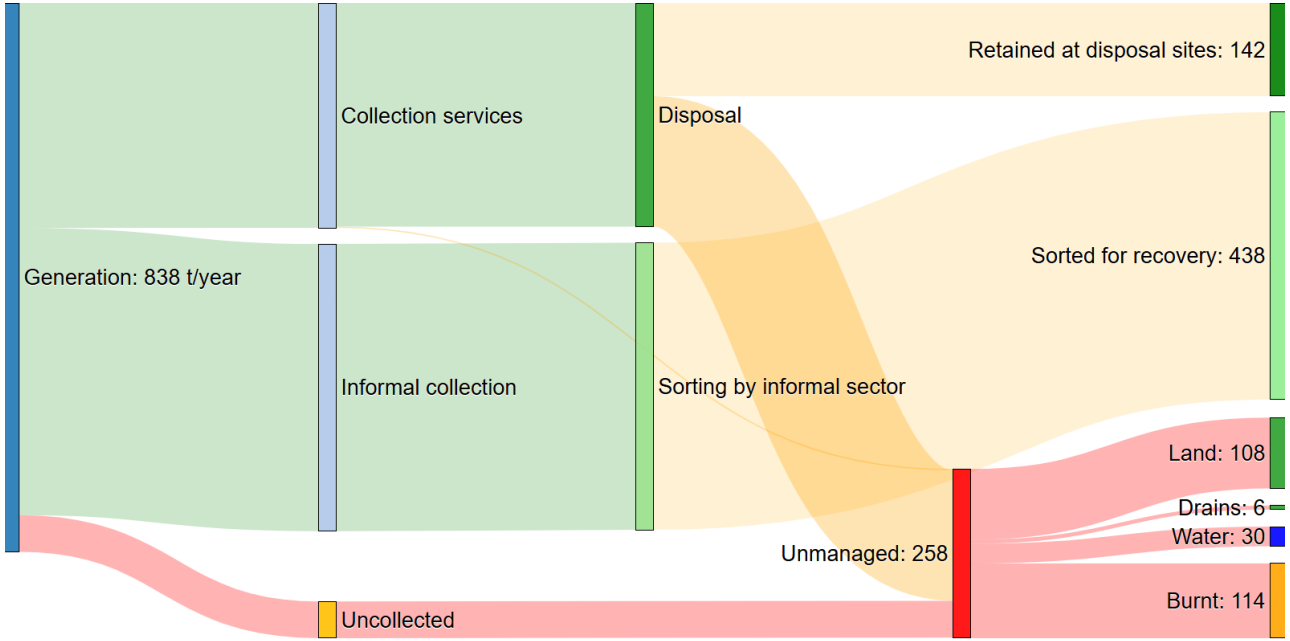
Main challenges in remote geographies

- **Promising approaches and legislations already exist** in many island communities
- **Implementation is often the main gap:** Legislation is generally more advanced than implementation, with challenges around inspection, enforcement, and cost recovery.
- **Solutions on product design are often out of scope** for remote communities and SIDS
- **Volumes are often the main constraint:** Most islands lack sufficient volumes to make domestic processing economically viable.
- Often facing **complex logistical challenges, disproportionally high costs and low efficiency** of waste management systems

Example 1: Supporting Data Based Decision Making

Caribe Circular

- **Waste Flow Diagram Analysis** in Central America and the Caribbean (link)
- **Informed decision making** based on **identification of leakage points** in MSWMS
- **Scenario function** available on WFD Website
- **Interlinked with** Un Habitat Waste Wise City Tool and SDG 11.6.1 sub-indicators
- Video: Application of the WFD in Isla Holbox (MX)



Example 2: Reusable Packaging Systen

Caribe Circular

- **German company Vytal** piloted systems to manage **traceable, reusable containers** that fit the food & drink menu for different businesses such as restaurants, hotels or company canteens
- **4 Vytal pilots** in cities in Mexico, the Dominican Rep. & Colombia
- **Local providers Xiclo (CO) and Green Depot (RD) adapted systems to local market**
- **Lessons learnt:** improved initial implementation in larger canteens, communication activities needed, behavioral change, adapt to context/needs and services, massive events as catalyst
- **Upscaling:** cities with willingness to support, business driven

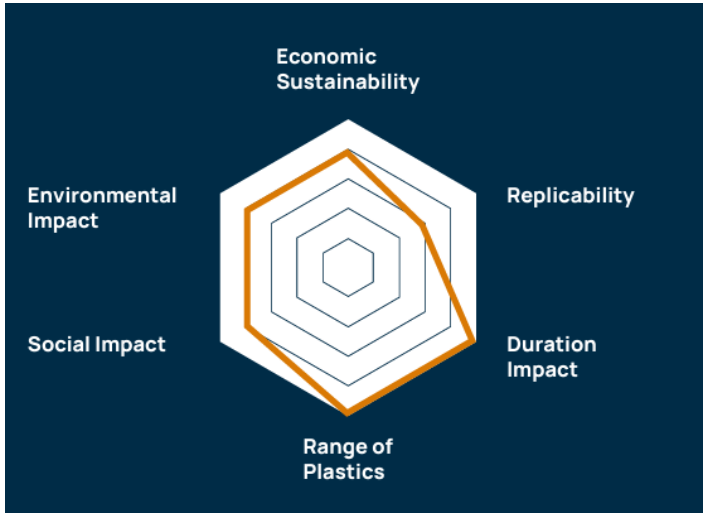
Vytal

xiclo

GREEN DEPOT

Example 3: SUP-free Island Resort Chumbe Island (Zanzibar)

- **Privately-owned** island nature reserve
- **Eco-lodge** based on a minimal impact ecotourism model, aiming to preserve the delicate marine and terrestrial ecosystems of the park.
- **Zero single-use plastics policy** on the island, reflecting its commitment to reducing waste generation at its source.
- All beverages are provided in glass containers and food served with reusable plates and utensils.
- **90% of goods supplied are sourced locally**, so they are fresh and unprocessed.
- **Generates revenue from ecotourism activities**. An average of USD $570,000 per year supports management of the marine park and forest reserve, as well as comprehensive environ mental education programs



Main Action Areas:

- **Strengthen the enabling environment**: regulation creates demand for circular businesses; and capacity enables businesses and public authorities to comply.
- **Data enables governments** to prioritize investment and enforce obligations
- **Sustainable financing is essential:** CE business models need mechanisms such as import taxes, deposits, environmental levies, or tipping fees.
- **EPR can act as an important enabler** for controlling national waste flows, however it **needs additional measures, especially regarding legacy plastic pollution** which washes up at shores.
- **Imports are a key leverage point:** As small island economies import most of what they consume, imports play a major role for import taxes, or product specific levies or fees, including EPR
- **Bans need viable alternatives:** Bans without suitable alternatives can lead to substitution rather than reduction.
- **Tourism can play a crucial role** in supporting the CE in coastal communities

Recommendations for Capacity Building:

- **Support implementation alongside policy development**
- **Design beyond individual islands:** regional approaches on shared standards, EPR systems, procurement, training, technical expertise, data platforms and markets for secondary materials.
- **Plan for long-term operation:** Financial sustainability, upgradeability, and clear ownership must be addressed from the outset when supporting infrastructure and equipment.
- **Connect CE action with economic development:** Upstream solutions can reduce waste while creating local value, businesses, and jobs.

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How private sector actors can enable circularity in SIDS

Lessons from Circular Pacific Plastics, Fiji

Challenge: SIDS inherit a value chain designed elsewhere, but own the end-of-life problem

The constraint is not only small volumes. It is fragmented responsibility, weak economics and difficult material streams.

MADE ELSEWHERE	ENTER THE ISLAND	USED LOCALLY	END OF LIFE
Global packaging design and corporate decisions	Imported goods, distributors, retailers, tourism and local producers	Communities, businesses, hotels and households	Local recovery system + distant markets

VALUE / CONTROL / COMMERCIAL DECISIONS

END-OF-LIFE COST / RESPONSIBILITY

Small, dispersed volumes + high transport cost	Packaging designed for retail, not local recovery	Valuable material is often inside business operations	Low-value materials need funding + credible pathways

The challenge is to connect responsibility upstream with delivery and value creation on the island.

Solution: design the right infrastructure for collaboration

GLOBAL AND REGIONAL BRANDS
Control
Design, global targets, finance, Market relationships
Driver
commitments / regulation / reputation

IMPORTERS & DISTRIBUTORS
Control
PoM data, logistics, aggregation
Driver
supplier links / efficiency / compliance

NATIONAL PRODUCERS
Control
Local formats, refill loops, offtake
Driver
policy / cost / reuse opportunity

RETAIL & TOURISM
Control
Consumer access, concentrated streams
Driver
community visibility / destination quality

RECYCLERS & OFFTAKERS
Control
Specs, quality, processing, demand
Driver
price / volume / viable inputs

CIRCULAR PACIFIC PLASTICS
PHASE 1

ANZPAC PLASTICS PACT

PACIFIC RECYCLING FOUNDATION JOIN THE MOVEMENT

WRAP

COLLABORATION INFRASTRUCTURE: A SYSTEM-DESIGN PROCESS

1. Understand system + material
PoM data, sources, quality, actors
→
2. Define material pathways
reuse/refill, recycle, export, aggregate
→
3. Strengthen delivery model
collection, sorting, storage, tracking
→
4. Calculate economic gap
system cost minus material value
→
5. Design financing mechanism
fees, incentives, payments, contributors

The aim is not to make every actor do the same thing. It is to identify each actor's leverage, motivation and role, then connect them through data, delivery, economics and finance.

Fiji: one shared front-end, different material pathways

Businesses
(hotels, distributors, producers, retailers)

Citizens + communities
(drop-off sites / schools / CPRs)

→

Aggregate + record
weigh / bale / track

SORT
by value + pathway

→

1 **HIGHLY RECYCLABLE**
PET bottles + clean PE film
Preserve purity. Use business routes to capture value.
→ local / export end markets

2 **LOW RECYCLABILITY**
Mixed films + flexibles
Do not dilute high-value streams. Test pathway before scale.
→ redesign / reuse / local products

3 **REGIONAL AGGREGATION**
Compatible streams only
Pre-process locally. Regionalise where scale changes economics.
→ standards + reverse logistics

Pacific Recyclers Alliance
Grassroots Recyclers - Collective Call for Action

Discussion

Thank you

Common Seas