**Co-designing waste management solutions for the Isles of Scilly**

**Findings from the first phase of community workshops**

This document outlines suggested requirements for a new waste management system on the Isles of Scilly, developed through workshops involving participants on St Agnes, St Martin’s, Bryher and St Mary’s during September 2024.

These ideas reflect the perspectives and priorities of the workshop attendees, aiming to guide the design and implementation of a system that aligns with the community’s needs and values. They are not definitive. Rather, they are the start of an ongoing discussion. They provide a focus for research into different potential future waste management arrangements which, as the findings indicate, will need to consider technical, organisational and economic aspects. This research will in turn provide the basis for subsequent community co-design in which participants will work with engineers and scientists to specify a locally-appropriate waste management solution.

Here we present:

1. A summary of the overall findings
2. A high-level summary of the technical and social or organisational requirements
3. A detailed summary of the ten main themes that emerged in the workshop discussions

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1. **Summary of findings**

Key themes identified by the workshop participants include the need for hardware that is robust, maintainable, and adaptable to seasonal variations. Participants emphasized the importance of systems that are simple to repair locally, standardized across islands, and resilient enough to reduce dependency on external operatives or mainland services. Suggestions also highlighted the need for scalability and adaptability to handle varying waste volumes and types, particularly in response to seasonal fluctuations.

Participants highlighted the high cost of the current waste transport system and the potential for localized solutions to reduce expense and carbon emissions. Consideration was given to the provision of centralised waste processing on St Mary’s versus multiple solutions on the off-islands. Off-island processing would reduce the costs and risks of transporting waste but would also need servicing and repair on each island.

There was significant support for a circular waste management model, converting outputs like compost into valuable resources for agriculture and gardening. Participants stressed the importance of producing high-quality outputs that comply with regulations and meet local soil and environmental conditions. Participants also identified the need for robust measures for waste collection and storage to ensure biosecurity and environmental protection.

Behaviour change emerged as a critical factor, with participants suggesting leveraging existing habits while encouraging compliance through incentives and community engagement. The potential for resistance to change was acknowledged, and a phased implementation strategy (e.g., where commercial waste processing precedes residential measures), coupled with community-driven self-policing, was proposed to increase acceptance. Ideas for waste collection focused on accessibility, frequency, and cost-effectiveness, with solutions tailored to both domestic and commercial needs while avoiding storage issues and minimizing disruption.

To refine these ideas, participants recommended researching best practices from other island communities, and evaluating alternative potential technologies (including composting systems already in use on the islands). Overall, these suggestions emphasize cost-effectiveness, environmental sustainability, and alignment with community goals while acknowledging that further refinement and validation are necessary.

Workshop participants identified both technical and social or organisational requirements (outlined in section 2), and ten themes emerged from the discussions (detailed in section 3).

1. **Technical and organisational or social requirements**

**Technical requirements**

1. **System Design and Functionality**:
   * Must accept a wide variety of waste.
   * Avoid "feeding errors" caused by incorrect waste types.
   * Resistant to breakdowns that could create backlogs.
   * Simple, maintainable, and scalable (e.g., for seasonal population fluctuations).
   * Corrosion-resistant and UV/rainproof.
   * Operable without regular oversight; robust even if left unused in winter.
2. **Infrastructure and Logistics**:
   * Accessible location with electricity and water supply.
   * Secure, rat-proof, and gull-proof waste collection and storage.
   * Short, quick, and reliable supply chains for parts and repairs.
   * Quality containers for transport and storage of waste.
   * Compatible with existing island recycling practices.
3. **Environmental Compatibility**:
   * Solar-powered systems preferred, reducing reliance on external energy sources.
   * Compost or outputs meet regulatory standards for environmental and agricultural use.
   * Minimize carbon footprint and align with long-term zero-waste goals.
4. **Operational Resilience**:
   * Avoid reliance on specialist skills or individuals with unique skills on Isles of Scilly.
   * Common technology across islands for ease of repair and compliance.
   * Ensure compliance with health, safety, and environmental regulations.
5. **Output and Utility**:
   * Produce usable outputs such as high-quality compost or energy.
   * Avoid mismatch between compost production and local demand.
   * Systems should reduce overall waste volume to cut disposal costs.

**Social or organisational requirements**

1. **Community and User Engagement**:
   * Simple and easy-to-use systems for both residents and visitors.
   * Incentives to increase composting and waste separation compliance.
   * Address cultural resistance to change by demonstrating financial and environmental benefits.
   * Engage local institutions (e.g., community centres, existing contractors) in the process.
2. **Operational and Workforce Considerations**:
   * Employment opportunities, but running off-island composters may be too little work for a new role but too much for existing contractors.
   * Address lack of housing for operatives on smaller islands.
   * Design self-policing systems with community agreement on rules.
3. **Economic Feasibility**:
   * System must be cost-effective and not exceed current waste management expenses.
   * Pay for itself, including maintenance and repair costs.
   * Reduce transport and disposal costs, particularly the £530/tonne fee for black bag waste removal.
4. **Collection and Transport**:
   * Collection systems tailored to island-specific challenges (e.g., lack of vehicular access).
   * Flexible schedules for seasonal waste volumes (e.g., daily during high season for businesses).
   * Avoid prolonged waste storage at homes or collection points.
5. **Long-Term Sustainability**:
   * Circular waste management systems retaining waste on-island for local benefit.
   * Leverage lessons from similar island communities to build effective systems.
   * Foster community ownership and alignment with broader environmental goals.
6. **Detailed requirements summary – ten themes**

Ten themes emerged from the workshop discussions. These are set out in the following tables, and encompass technical and social or organisational concerns in relation to: hardware maintenance, running, and repair; other hardware issues; waste inputs; waste collection; biodigester outputs; biosecurity; behaviour change; finance and costs; on-island and inter-island issues; and research and learning**.**

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| **1. Hardware maintenance, running, and repair** |
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| **1. Local Maintenance and Repair** |
| * **Maintainability on Island**: Systems should be maintainable by multiple individuals locally to avoid dependency on a single expert.   + *Examples*: Avoid "Scilly-specific" systems that only one person can repair (St Mary’s Group 2), maintainable by someone on the island (Bryher Group 2). |
| * **Simplified Design**: Systems should be easy to repair, with minimal complexity and corrosion resistance.   + *Examples*: "No bells and whistles" (St Agnes Group 1), easy repairs prioritized. |
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| **2. Resilience and Reliability** |
| * **Resilient Systems**: Hardware must be robust to avoid breakdowns that create backlogs and to handle fluctuating waste volumes.   + *Examples*: Resilient design (St Mary’s Group 2), coping with fluctuating waste (St Martin’s Group 1). |
| * **Seasonal Suitability**: Systems should operate reliably even if left unused during off-seasons, such as winter.   + *Examples*: St Martin’s Group 2 highlights the need for reliability during downtime. |
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| **3. Operational Independence** |
| * **Reduced Dependency on External Resources**: Minimize reliance on external operatives or mainland services to maintain cost-efficiency and logistical simplicity.   + *Examples*: Avoid importing/exporting maintenance resources (St Mary’s Group 2), no housing for operatives (Bryher Group 2). |
| * **Local Expertise**: Access to local expertise is critical, even if occasional external input is required.   + *Examples*: Expertise access noted by St Agnes Group 1. |
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| **4. Standardization Across Islands** |
| * **Shared Technology**: Utilizing similar systems across islands can streamline maintenance and reduce training requirements.   + *Examples*: Standardized technology enabling shared servicing (Bryher Group 2). |
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| **5. Cost-Effectiveness** |
| * **Self-Funding Systems**: Systems must pay for themselves, considering costs for management, repair, and local operation.   + *Examples*: Self-funded systems (St Mary’s Group 2), cost-effective local maintenance (Bryher Group 2). |
| * **Financial Viability**: Avoid high costs or systems that introduce unnecessary complications or financial burdens.   + *Examples*: Managing local composting incentives (St Martin’s Group 1). |
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| **6. Waste Management Efficiency** |
| * **Flexibility for Waste Types**: Hardware must handle a wide range of waste without operational errors, such as “feeding errors” caused by incorrect waste input.   + *Examples*: Wide waste variety (St Mary’s Group 2). |
| * **Promoting Composting**: Systems should support composting efforts, including for residents without space or facilities.   + *Examples*: Compost incentives (St Martin’s Group 1, St Agnes Group 2). |
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| **7. Human Resource Challenges** |
| * **Operative Considerations**: Requiring a dedicated operator may limit resilience, particularly if they are unavailable.   + *Examples*: System failure during operator absence (St Mary’s Group 2), challenges with employing operatives on smaller islands (Bryher Group 2). |
| **8. Simplified Logistics** |
| * **Short Supply Chains**: Quick, reliable supply chains are crucial to reduce downtime and ensure smooth operation.   + *Examples*: Short supply chains emphasized (Bryher Group 2, St Agnes Group 1). |

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| **2. Other hardware issues** |
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| * **Scalability and Adaptability** |
| * **Scalability**: Multiple groups emphasize the need for scalable hardware that can accommodate varying waste volumes and population fluctuations (e.g., seasonal changes).   + *Examples*: Scalable digester systems for future business growth, solutions for winter populations (St Agnes Group 1). |
| * **Adaptability**: Hardware must cope with “lumpy supply” (irregular waste input) and offer flexible alternatives for high and low seasons. |
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| **2. Practical Design and Usability** |
| * **Simplicity**: Systems should be simple and user-friendly, catering to residents and visitors alike.   + *Examples*: Green cones, easy steps for implementation (St Martin’s Group 2; St Agnes Group 2). |
| * **Convenience**: Features like counter-top bins, rat-proof outdoor bins, and adequate lighting for winter access were identified as practical considerations. |
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| **3. Sustainability and Energy Efficiency** |
| * **Renewable Energy**: The use of solar energy (e.g., solar roofs for digesters, solar heating) is a priority for sustainable operation.   + *Examples*: Solar heating (St Mary’s Group 2), solar roof options (St Martin’s Group 2). |
| * **Reducing Carbon Footprint**: Ensuring systems are environmentally friendly and aligned with carbon reduction goals (St Agnes Group 2). |
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| **4. Resilience and Robustness** |
| * **Durability**: Hardware must withstand environmental conditions and usage demands (e.g., UV-proof and rat-proof designs).   + *Examples*: St Martin’s Group 1 emphasizes durability for outdoor setups. |
| * **Reliability**: Systems must be robust against non-compliance or failure, particularly in isolated areas. |
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| **5. Location and Infrastructure Challenges** |
| * **Infrastructure Needs**: Electricity, water, and drainage access are critical, but site constraints pose challenges.   + *Examples*: Costly wiring (St Martin’s Group 2), site challenges for utilities (St Agnes Group 1). |
| * **Centralization vs. Decentralization**: Balancing shared systems across islands with the need for localized setups (e.g., shared technology for regulatory compliance). |
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| **6. Compliance and Regulatory Considerations** |
| * **Regulation**: Hardware must meet environmental health and safety regulations, avoiding overly complex or bureaucratic processes.   + *Examples*: Regulatory compliance concerns (St Mary’s Group 2, St Agnes Group 1). |
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| **7. Minimizing Disruption** |
| * **Community and Visitor Acceptance**: Hardware should avoid being noisy, smelly, or visually disruptive to avoid negative perceptions.   + *Examples*: Avoiding disruptions and ensuring visitor comfort (St Agnes Group 2). |

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| **3. Waste inputs** |
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| **1. Circular Waste Management** |
| * **On-Island Processing**: Emphasis on creating a circular system where all waste is managed locally, reducing reliance on external transport.   + *Examples*: Circular waste management system (St Mary’s Group 2), retain waste for compost and local use (St Agnes Groups). |
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| **2. Variety of Waste Types** |
| * **Wide Range of Inputs**: The system must handle diverse waste types, including food, cardboard, green waste, and specialty streams (e.g., yacht, dog waste).   + *Examples*: Must accept a variety of waste (St Mary’s Group 2), deal with cardboard, green waste, and cooked food (Bryher Group 1, St Martin’s Group 2). |
| * **Compostable Bags and Carbon Inputs**: Some materials, like compostable bags or tree chips, require consideration for their compatibility with the system.   + *Examples*: Compostable bags cannot be digested (St Mary’s Group 2), tree chippings for compost (St Agnes Group 1). |
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| **3. Compliance and Separation** |
| * **Waste Separation**: Effective separation of waste at the source is crucial to avoid processing errors and inefficiencies.   + *Examples*: Avoid poor compliance in waste separation (St Mary’s Group 2), compliance required for pubs and cafés (St Agnes Group 1). |
| * **Engagement with Stakeholders**: Collaboration with key businesses (pubs, cafés) to manage compliance and quantify waste streams is necessary.   + *Examples*: Work with Karma/pub to identify waste streams (St Martin’s Group 2), pubs are main waste sources (St Agnes Group 1). |
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| **4. Reducing and Managing Waste** |
| * **Minimizing Food Waste**: Efforts to reduce overall food waste contribute to a more efficient system.   + *Examples*: Reducing food waste (St Mary’s Group 2). |
| * **Existing Practices**: Building on current habits, such as using veg peelings or exploring briquettes from cardboard, helps integrate waste into existing workflows.   + *Examples*: Veg peelings already used (Bryher Group 1), consider briquettes from cardboard (Bryher Group 1). |
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| **5. Scale and Capacity** |
| * **Volume of Waste**: Systems need to handle large and variable inputs, such as weekly 6-700kg waste from pubs (St Agnes Group 2) or seasonal variations.   + *Examples*: Manage fluctuating inputs, assess if only commercial waste is sufficient (St Martin’s Group 2). |
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| **6. Long-Term Goals** |
| * **Zero Waste Aspirations**: Aiming for long-term goals of zero waste aligns with broader sustainability initiatives.   + *Examples*: Long-term zero waste goal (St Martin’s Group 2). |

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| **4. Waste collection** |
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| **1. Accessibility and Convenience** |
| * **Centralized Collection Points**: Communal or central collection points are necessary, especially for those with space or access challenges.   + *Examples*: Collection points for bags (St Mary’s Group 2), communal points for those with access issues (St Mary’s Group 2). |
| * **Accessible Locations**: Sites must be physically accessible and avoid requiring multiple trips, particularly for those near quays or central collection areas.   + *Examples*: Accessible locations near current collection (Bryher Group 1), secure and accessible storage sites (St Agnes Group 2). |
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| **2. Frequency and Flexibility** |
| * **Frequent Collections**: Regular, often weekly, collections are a priority to manage waste without long-term storage. High-season demands from businesses require even daily collections.   + *Examples*: Weekly collection (St Mary’s Group 2), daily business collection during high season (St Martin’s Group 2). |
| * **Storage Challenges**: Avoiding prolonged waste storage at homes, businesses, or quays is critical, particularly for odorous or decomposing waste like plate waste.   + *Examples*: Avoid storing waste in small homes or flats (Bryher Group 2), avoid storing plate waste unless storage is excellent (St Agnes Group 2). |
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| **3. Domestic vs. Commercial Needs** |
| * **Dual Collection Systems**: The system must balance the differing requirements of domestic and commercial waste.   + *Examples*: System coping with domestic and commercial challenges (St Mary’s Group 2). |
| * **Business-Specific Needs**: Businesses such as cafés and pubs generate significant waste and need tailored collection solutions, especially during high-traffic seasons.   + *Examples*: Daily collection for businesses in high season (St Martin’s Group 2). |
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| **4. Avoiding Storage Issues** |
| * **Storage Problems**: Waste storage at homes, quays, or collection points can lead to issues with space, odor, and pests. Robust and sealable containers are necessary but not always sufficient.   + *Examples*: Storage at quay is a huge problem (Bryher Group 1), secure site for storage needed (St Agnes Group 2). |
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| **5. Cost and Infrastructure Considerations** |
| * **Avoid High-Cost Solutions**: Collection vehicles, while ideal for efficiency, present concerns due to high costs and maintenance requirements.   + *Examples*: Avoid collection vehicles due to cost (Bryher Group 1). |
| * **Alternative Methods**: Some participants suggest self-transport options, such as taking waste to the dump or quay.   + *Examples*: Take waste to dump/quay if possible (Bryher Group 2). |
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| **6. Simplicity and Ease of Use** |
| * **Minimizing Complexity**: Any system must be straightforward and require minimal effort compared to the current setup to ensure compliance and usability.   + *Examples*: Not too complicated – easy steps from current system (St Agnes Group 2), avoid requiring two trips (Bryher Group 1). |

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| **5. Biodigester outputs** |
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| **1. Circular Economy and Local Use** |
| * **On-Island Systems**: There is a strong preference for retaining digester outputs within the Isles to support a circular waste management model.   + *Examples*: All on island – circular waste management system (St Mary’s Group 2); Retain waste on Agnes to do good here (St Agnes Group 2). |
| * **Local Utilization**: Compost and other outputs should directly benefit the local community, reducing reliance on imports and improving self-sufficiency.   + *Examples*: Compost used locally (St Mary’s Group 2); Compost valuable for flower production (Bryher Group 1); Compost fits with locally acidic soil (St Agnes Group 1). |
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| **2. Quality and Utility of Outputs** |
| * **High-Quality Compost**: Producing high-grade compost suitable for specific local needs, such as flower production or farming, is essential.   + *Examples*: Compost of quality for flower production (Bryher Group 1); Market for high-grade compost (St Mary’s Group 2). |
| * **Adapted for Local Conditions**: Compost should be tailored to local environmental and soil conditions to maximize utility.   + *Examples*: Compost that fits with locally acidic soil (St Agnes Group 1). |
| * **Versatility**: Outputs beyond compost, such as energy or other materials like fly larvae for chicken feed, should be explored to maximize value.   + *Examples*: Produce storable energy, fly larvae for chicken feed (St Agnes Group 1). |
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| **3. Economic and Environmental Incentives** |
| * **Incentivized Use**: Compost could be sold or distributed free to encourage participation in the system, provided it does not conflict with existing businesses.   + *Examples*: Compost that is sold or given away (St Mary’s Group 2). |
| * **Environmental Benefits**: Outputs should align with environmental sustainability, such as reducing the need for imported soil and preventing leaching or other ecological harm.   + *Examples*: Cost of import / low topsoil addressed by local compost (St Agnes Group 2); Avoid leaching from nitrate output (St Agnes Group 1). |
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| **4. Regulatory and Practical Concerns** |
| * **Compliance**: Digester outputs must meet regulatory standards for use, particularly when applied to food crops or sold commercially.   + *Examples*: Meet regulation / inspection requirements (St Mary’s Group 2); Meet requirements for spreading on food crops (St Martin’s Group 2). |
| * **Storage and Distribution**: Systems for storing and distributing compost need to be established to ensure outputs match local demand.   + *Examples*: Consider compost storage and distribution (St Agnes Group 1); Avoid mismatch between compost output and demand (St Agnes Group 1). |
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| **5. Volume Reduction as a Goal** |
| * **Minimized Waste**: Even if compost or other outputs have limited economic use, a significant reduction in waste volume is seen as a worthwhile achievement.   + *Examples*: Reduction in volume of waste might be enough of a win (St Martin’s Group 2). |
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| **6. Avoidance of Unwanted Outputs** |
| * **Pest and Environmental Risks**: Outputs should not attract pests (e.g., rats) or contribute to environmental degradation.   + *Examples*: Avoid edible outputs (rats); Avoid leaching from nitrate output (St Agnes Group 1). |

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| **6. Biosecurity** |
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| **1. Pest and Wildlife Control** |
| * **Rat and Gull Proofing**: Systems must prevent access by pests like rats and gulls to minimize contamination and maintain hygiene.   + *Examples*: Rat and gull-proof collection (St Mary’s Group 2), rat-proof outdoor bins (Bryher Group 2). |
| * **Quality Containers**: Waste containers should be durable and secure to prevent pest intrusion during transport and storage.   + *Examples*: Quality containers required for waste transport (St Martin’s Group 2). |
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| **2. Disease Prevention** |
| * **Avoid Disease Spread**: Proper waste management practices should minimize the risk of diseases spreading through spillage or unprotected waste handling.   + *Examples*: Avoid dirty communal collection points (St Mary’s Group 2), biosecurity at aggregation points (St Agnes Group 1). |
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| **3. Environmental Protection** |
| * **Invasive Species Management**: Waste systems must be designed to avoid creating habitats for invasive species that could harm local ecosystems.   + *Examples*: Prevent habitats for invasive species (St Mary’s Group 2). |
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| **4. Cleanliness and Maintenance** |
| * **Regular Cleaning and Upkeep**: Collection points and bins must be regularly cleaned to maintain biosecurity and reduce unpleasant conditions.   + *Examples*: Organise cleaning of collection points (St Mary’s Group 2). |
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| **5. Location-Specific Concerns** |
| * **Aggregation Points**: Biosecurity measures must extend to central collection or aggregation points to protect public areas and nearby ecosystems.   + *Examples*: Biosecurity at waste aggregation points (St Agnes Group 1). |

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| **7. Behaviour change** |
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| **1. Building on Existing Practices** |
| * **Leverage Current Habits**: Efforts should focus on enhancing and expanding current practices, such as recycling and composting.   + *Examples*: Build on existing recycling habits (Bryher Group 2), incentivized composting (St Martin’s Group 1). |
| * **Perceived Success**: Where current systems like green cones or personal compost heaps are viewed as effective, they should be retained or supported.   + *Examples*: Perception that green cones work and are “good enough” (St Martin’s Group 1). |
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| **2. Motivation Through Incentives** |
| * **Financial Incentives**: Monetary benefits, such as cost savings or revenue generation, can motivate behavior change.   + *Examples*: Motivate change by making or saving money (Bryher Group 2), compost distribution provides direct benefit (Bryher Group 1). |
| * **Tangible Benefits**: Demonstrating direct, local advantages (e.g., improved compost availability) can help encourage buy-in.   + *Examples*: Compost distributed on island for residents (Bryher Group 1). |
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| **3. Cultural and Social Dynamics** |
| * **Resistance to Change**: Many residents are reluctant to adopt new systems, especially when the current system "works." Resistance is compounded by aversion to top-down mandates.   + *Examples*: Reluctance to change because “it’s worked this way in the past” (Bryher Group 2), anti-being told what to do (Bryher Group 2). |
| * **Importance of Self-Policing**: Compliance is higher when rules and expectations are community-driven rather than imposed by external authorities.   + *Examples*: Self-policing is strong where there is agreement about rules (St Martin’s Group 2). |
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| **4. Key Influencers and Institutions** |
| * **Engaging Leaders**: Involving key individuals and institutions can significantly impact community acceptance and participation.   + *Examples*: Engage community leaders, existing waste contractors, and key representatives to Duchy (Bryher Group 2). |
| * **Community-Led Initiatives**: Empowering local stakeholders helps build trust and ensures the system aligns with community values.   + *Examples*: Key individuals actively represent views (Bryher Group 2). |
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| **5. Challenges in Compliance** |
| * **Ease of Non-Compliance**: Current systems may make it too convenient to ignore waste separation, requiring strategies to address these tendencies.   + *Examples*: Too easy to throw all waste into one bag (Bryher Group 2). |
| * **Separation Compliance**: Success depends on ensuring proper waste separation, but achieving this requires education and buy-in.   + *Examples*: Need compliance in waste separation (St Agnes Group 2). |
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| **6. Phased and Adaptive Approaches** |
| * **Gradual Changes**: Introducing changes in phases can help minimize resistance, such as starting with commercial waste management to avoid upsetting residents.   + *Examples*: Commercial-only waste management as a first step (Bryher Group 1). |
| * **Adapting to Feedback**: Systems must evolve based on what works in the community, emphasizing simplicity and benefits.   + *Examples*: Understand how to get people on board with new ideas (Bryher Group 1). |

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| **8. Finance and costs** |
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| **1. Cost-Effectiveness** |
| * **Affordability Relative to Current Costs**: The system must be no more expensive than existing waste management methods, or it must demonstrate clear financial advantages such as cost savings in transportation or disposal.   + *Examples*: Running costs equal or less than now (St Agnes Group 1); Cannot cost more than now unless other costs are reduced (Bryher Group 1). |
| * **Reduction in Waste Volume**: A significant reduction in waste volume is seen as a financial benefit, particularly if it reduces disposal and transport costs.   + *Examples*: Reduction in volume of waste might be enough of a win (St Martin’s Group 2). |
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| **2. Long-Term Financial Sustainability** |
| * **Self-Sustaining Model**: The system should pay for itself, including costs of maintenance and repair. This could involve revenue from compost sales or savings from reduced external waste collection needs.   + *Examples*: Pays for itself including management and repair (St Mary’s Group 2); No ongoing costs that the island has to meet (St Agnes Group 2). |
| * **Revenue Generation**: Compost or other outputs could be sold or distributed free as an incentive, provided this does not create competition with local businesses.   + *Examples*: Compost that can be sold OR given away (St Mary’s Group 2). |
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| **3. Cost Burden and Shared Responsibility** |
| * **Shared Funding**: Questions arise about how initial costs, ongoing expenses, and breakdowns will be financed, whether by councils, businesses, or households. Collaboration between stakeholders is essential.   + *Examples*: Who pays initial costs and when it breaks down? (St Martin’s Group 2); Might need to negotiate with council if new waste payment model agreed (Bryher Group 1). |
| * **Involvement of Businesses**: Solutions must be financially viable for key waste producers such as pubs and cafés, who may need to share costs or derive direct benefits.   + *Examples*: Needs to work for pub and café – main sources of waste (St Agnes Group 1). |
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| **4. Motivation for Behaviour Change** |
| * **Economic Incentives**: Savings or income opportunities could encourage participation and compliance in the system.   + *Examples*: Motivate change by making or saving money (Bryher Group 2); Less than cost of commercial waste collection (St Mary’s Group 2). |
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| **5. Waste Collection Costs** |
| * **High Costs of Current System**: The expense of transporting and processing waste is a key driver for change, with the current cost of removing black bag waste being a reference point.   + *Examples*: £530/tonne to remove black bag waste (St Martin’s Group 2). |
| * **Income to Support Collection Services**: Expanding existing services to include food waste collection may require new funding models or income streams.   + *Examples*: Collection service might require income to extend to food waste (St Martin’s Group 2). |
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| **6. External Dependencies** |
| * **Transport Costs**: The reliance on external transportation for waste removal is a significant cost factor, emphasizing the importance of localizing waste processing and minimizing off-island dependency.   + *Examples*: Economic costs of transport (St Agnes Group 1). |

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| **9. On-island and inter-island issues** |
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| **1. Preference for On-Island Solutions** |
| * **Localized Waste Management**: Many groups emphasize the benefits of managing waste locally, including reducing dependence on transport and associated costs, as well as achieving community benefits. Local systems are seen as simpler and more sustainable.   + *Examples*: On island solution (no freight) – simpler organisation (Bryher Group 1); Retain waste on Agnes to do good here (St Agnes Group 2). |
| * **Environmental and Economic Gains**: Local systems align with goals to minimize transportation-related emissions and costs while ensuring waste contributes to on-island benefits like soil improvement or energy production.   + *Examples*: Economic costs of transport (St Agnes Group 2); Minimise transporting of waste (St Agnes Group 1). |
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| **2. Challenges of Inter-Island Waste Transport** |
| * **Transport Limitations**: Moving waste between islands is constrained by limited capacity, logistical complexities, and the high costs of shipping waste.   + *Examples*: Capacity to move waste off the island is limited (St Martin’s Group 2); Storage at quay huge problem (Bryher Group 1). |
| * **Dependence on Boats**: Transporting waste relies heavily on boats, creating vulnerabilities when weather or other factors disrupt schedules. Prolonged storage of waste is particularly problematic.   + *Examples*: Worse when boat does not come for several weeks (Bryher Group 1). |
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| **3. Quality and Infrastructure for Waste Transport** |
| * **Waste Containers**: When transporting waste off-island, quality containers are essential to ensure waste is secure, hygienic, and does not cause biosecurity risks during storage or transit.   + *Examples*: Quality containers required for waste transport (St Martin’s Group 2). |
| * **Centralized Systems for Efficiency**: Centralizing waste management might improve access to expertise, reduce maintenance costs, and provide standardized infrastructure for transporting waste.   + *Examples*: Centralised system might help with access to expertise / maintenance (St Agnes Group 1). |
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| **4. Balancing Local and Shared Systems** |
| * **Inter-Island Waste Management**: Some groups suggest shipping waste to larger islands (e.g., Tresco or St Mary’s) where better facilities or economies of scale may exist, while others stress minimizing transport altogether.   + *Examples*: Possibly ship waste to Tresco or St Mary’s (St Martin’s Group 2). * **Waste Contract Arrangements**: Off-island composters would create new job opportunities, but potentially too little for a new job, while potentially too much for existing contractors. |

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| **10. Research and learning** |
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| **1. Researching Best Practices** |
| * **Comparative Studies**: Learning from similar contexts, such as practices on other islands like those in Scotland, is emphasized to adapt proven strategies effectively.   + *Example*: Understand e.g. Scottish island practices (St Martin’s Group 2). |
| * **Technology Evaluation**: Gathering evidence on the functionality and outputs of specific technologies, like green cones, is critical to inform their suitability for local needs.   + *Example*: Evidence that green cones work – what comes out? (St Martin’s Group 2). |
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| **2. Understanding Outputs and Impact** |
| * **Soil Improvers vs. Compost**: Researching the differences between soil improvers and compost is necessary to determine which is more suitable for local soil conditions and agricultural use.   + *Example*: Understand (research) soil improver vs compost (St Mary’s Group 2). |
| * **Community Impact**: The potential environmental and economic benefits of waste-derived outputs need to be thoroughly understood to align with local goals, such as improving soil quality or reducing reliance on imports. |
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| **3. Encouraging Behaviour Change** |
| * **Community Engagement Strategies**: Identifying ways to build public buy-in for new waste management systems is critical. Research should focus on motivators for change, such as financial benefits or environmental improvements.   + *Example*: Need to understand how to get people on board with the idea (Bryher Group 2). |