

Sustainable Financing for Waste Management: Design It Yourself Workbook

# Step 5 - Feasibility Study

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| **What Involved to Complete Step**A Feasibility Study will assist to gather detailed information to determine: * the feasibility of a scheme and start to consider scheme mechanics
* required infrastructure and costs associated with establishing a scheme to determine its economic viability and likely scheme finances
* possible scheme components, scheme design, and scheme finances to be consulted on at Step 11

The Step builds upon Step 2 (Pre-feasibility) and includes further analysis to:1. Understand options for management of items and determining possible scheme inclusions
2. Consider potential In-Country Materials Processing/Transfer and operators of the facilities
3. Consider likely activities of Collection Depots and understand options for Depot design and operation, considering Gender Equality, Disability, & Social Inclusion (GEDSI)
4. Consider management of legacy waste
5. Consider scheme logistics and service providers
6. Consider scheme management and governance
7. Consider options for scheme finances – scheme establishment, setting the Deposit and calculating Scheme Fees

As with Step 2, this step assists to gather data and determine what is important for key decisions for scheme design. It presents “pros” and “cons” for consideration when comparing options allowing the understanding of options to make an informed decisions. The information that is gathered through this step will help to undertake effective consultation in Step 7 (Consultation) to inform Step 8 (the Scheme Design phase). | **Information / Consultation Recommended to Complete Step*** Case-study review – [schemes currently in operation globally](https://www.reloopplatform.org/wp-content/uploads/2023/05/RELOOP_Global_Deposit_Book_11I202.pdf) and existing legislation for PIC schemes in operation (SPREP / PacWaste Plus can supply legislation/regulations)
* Information from market assessments and research – opportunities for [export](https://pacwasteplus.org/resources/recycling-market-research-report/) / [in-country](https://pacwasteplus.org/resources/assessment-of-small-scale-technology-suitable-for-waste-management-in-the-pacific-and-timor-leste/) recycling
* Information from customs – data on items imported, customs systems used
* Information from in-country bottlers / manufactures etc – quantity of materials produced
* Information from recyclers and exporters – current recycling rates, information on materials processing, data on items exported
* Information from recyclers and businesses undertaking recycling / reuse initiatives
* Information from certified export markets (companies who will receive and recycle recyclable material) to understand any restrictions on material quality, quantity, handling, etc
* Information from Chamber of Commerce– views on behalf of Private Sector importers, transport agencies, accountants etc
* Information from Ministry of Local Government / Communities / Women’s Affairs etc – views on behalf of communities and marginalised groups
 | **Resources Available**PacWaste Plus Recycle Market Study Reloop Review of Global SchemesPacWaste Plus Guide for Investigative QuestioningLegislation FSM, Kiribati, Palau, RMI, Tuvalu, NSW, Queensland (request from PacWaste Plus) |

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| 1. Options for management of recyclable items
 | Step 2 gathered data to understand:* volumes of potentially recyclable material imported or manufactured locally
* current recycling/transfer activities
* possible recycling/transfer opportunities

To assess whether items are feasible for inclusion in an ARFD scheme, it is recommended to build on this data to further understand end-markets for recyclable items (in-country and export) and how to access those markets. A scheme designed in alignment with market requirements may be more likely to achieve identified scheme goals (Step 1). In consultation with the local recycling industry, use the following two tables to identify: * in-country recycling opportunities for potential scheme items (the [PacWaste Plus Small-Scale Technology for Waste Management](https://pacwasteplus.org/resources/assessment-of-small-scale-technology-suitable-for-waste-management-in-the-pacific-and-timor-leste/) publication may assist)
* global recycling markets (i.e., where products can be recycled if collected in a scheme), and required infrastructure, equipment, systems, contracts etc (how products can reach recycling markets if collected in a scheme). As with Step 2.1, the [PacWastePlus Recycling Market Study](https://pacwasteplus.org/resources/recycling-market-research-report/) provides this information for **e-waste, plastics, aluminium cans, whiteware, vehicles, used oil, batteries,** and **tyres**, providing information on potential market destinations and material quality and handling requirements (extracts from the Market Study for e-waste are provided below as an example).
* consider existing recyclers in country, and assess whether there is capacity to undertake the identified activities and what new infrastructure, facilities, equipment, and systems may be required

**Extracts from PacWastePlus Recycling Market Study:** |
| Possible Materials Recovery Options:

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|  | Volume Of Material Imported or Manufactured (From Step 2.1) (Scheme Throughput) | In-Country Recycling Opportunities | Export / Off-shore Opportunities | Other Relevant Information - what are International Export Market Requirements (i.e., Responsible Storage, Pre-Processing, And Transport) | Equipment / Facility Requirements to Process / Manage Expected Throughput |
| PET bottles (plastic) |  |  |  |  |  |
| Aluminium cans |  |  |  |  |  |
| Glass bottles |  |  |  |  |  |
| Other containers – HDPE, LPB, tin food cans |  |  |  |  |  |
| Vehicles |  |  |  |  |  |
| Heavy Equipment |  |  |  |  |  |
| Whiteware |  |  |  |  |  |
| Electronics |  |  |  |  |  |
| Tyres |  |  |  |  |  |
| Batteries |  |  |  |  |  |
| Solar panels |  |  |  |  |  |
| Used Oil |  |  |  |  |  |
| *Other* |  |  |  |  |  |
| *Other* |  |  |  |  |  |
| *Other* |  |  |  |  |  |

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| **Features to provide for Inclusive Employment**When considering In-Country Materials Processing/Transfer Facilities required for scheme operation, the following features can be included to provide for inclusive employment: * Bathrooms, safety, lighting – to provide gender equality for employment (barrier for women to apply for a job at a facility if no bathroom is provided, or they feel unsafe)
* Even surface and ramps / handrails – allowing for elderly employees or those who may need extra mobility assistance
* Shade and lunch rooms – allowing breaks for employees
* Transport - Employee pick-up service or providing flexibility in work hours allowing for those catching public transport
* Flexible hours – to cater for employment for those with caregiving responsibilities or who have limited time or strength

These features are recommended to be provided for in the selection or design of Material Processing Facilities |

System Needs / Infrastructure to Undertake Identified Recovery Activities

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|  | Existing Facility to Undertake Identified Recycling/ Transfer Activities (Identified in table above)Y/N | If Yes | If No |
| **Name of Facility** | **Sufficient Size, Equipment, Infrastructure to Process Expected Throughput for an ARFD Scheme?****Y/N** | **Additional Facility / Equipment Required\* to Collect and Process Expected Throughput for an ARFD Scheme?** | **Estimated Budget for Identified Equipment / Facilities** | **Facility Possible Service Provider to Scheme?** **Y/N****Provide comment on how facility could be a Service Provider?\*\*** | **What Facility / Equipment Required to Collect and Process Expected Throughput?** | **Estimated Budget for Identified Equipment / Facilities** |
| PET bottles (plastic) |  |  |  |  |  |  |  |  |
| Aluminium cans |  |  |  |  |  |  |  |  |
| Glass bottles |  |  |  |  |  |  |  |  |
| Other containers – HDPE, LPB, tin food cans |  |  |  |  |  |  |  |  |
| Vehicles |  |  |  |  |  |  |  |  |
| Heavy Equipment |  |  |  |  |  |  |  |  |
| Whiteware |  |  |  |  |  |  |  |  |
| Electronics |  |  |  |  |  |  |  |  |
| Tyres |  |  |  |  |  |  |  |  |
| Batteries |  |  |  |  |  |  |  |  |
| Solar panels |  |  |  |  |  |  |  |  |
| Used Oil |  |  |  |  |  |  |  |  |
| *Other* |  |  |  |  |  |  |  |  |
| *Other* |  |  |  |  |  |  |  |  |
| *Other* |  |  |  |  |  |  |  |  |
| TOTAL BUDGET |  |  |  |  |  |  |  |  |

\* i.e., baler / press, forklift, glass crusher, sieve / washing system for glass recycling (optional), bobcat (or alternative)\*\* i.e., via contract, MOU, PPP, etcNote: identified scheme facilities / equipment does not necessarily need to be in place at scheme commencement. If identified there are either: no facilities available for processing certain material types, or if facilities do not have the capacity to manage the expected throughput, or if they have been identified as unlikely to be a service provider / partner in the ARFD scheme, options available include:* engage a Scheme Manager as a service provider (through contract or Public Private Partnership arrangement, etc) whereby the service provider supplies required infrastructure to manage expected throughput. The supply of equipment etc will be charged during scheme operation through the Handling Fee.
* Collecting a “float” or seed funding through implementing a transition period at scheme commencement (where the fees and deposits are charged on eligible items, but redemptions are not possible). The revenue received during the transition period may be used to invest in required scheme equipment.
* not including identified material in scheme until a Materials Processing Facilities is feasible to be established
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| 1. Possible Scheme Inclusions
 | Based on findings above, identify items that may have an opportunity to be collected and recycled in phase 1 of a scheme (short term) and phase 2 (longer term) with facilities/equipment that are feasible to be established. Assign items a possible phase of inclusion by dragging the icons into one of the three boxes.Keep in mind the following:* Scheme goals identified in Step 1
* In-country or offshore recycling markets
* Does the country currently have the facilities and equipment necessary to manage expected throughput? Or are these facilities feasible to be obtained?
* Perverse impacts – i.e., importers and consumers choosing other containers (such as tetra-pak) over PET or aluminium if tetra-pak is excluded from the scheme
* Impacts to low-income households – i.e., should ARFD be applied to items considered “essential” items for households (water, milk, food in tin cans, whiteware, etc) OR just on “luxury” items (fizzy beverages, new vehicles, etc)?

Note: This exercise is based on recycling facilities/equipment. Further assessment will be undertaken below to determine facility operators, collection depots, logistics support etc to finalise the scheme inclusions. Additionally, meaningful discussions and obtaining feedback on scheme inclusions are recommended to be a key component of Community Consultation sessions (Step 7). |
| Pet Bottle Vector Icon Illustration Royalty Free Cliparts, Vectors, And  Stock Illustration. Image 153813128.Recycle - The 4 R's - RecycleKiwi Wine bottle with label - Free iconsTetrapak Icons - Free SVG & PNG Tetrapak Images - Noun ProjectCar, cars, tractor, van, vehicles icon - Download on IconfinderConstruction, excavator, heavy equipment, build, tool icon - Download on  IconfinderOven Icon Royalty Free Cliparts, Vectors, And Stock Illustration. Image  80878215.Devices icons - subtriangular.internetbuzz.site Vehicle Tyre Icons - Download Free Vector Icons | Noun ProjectCar Battery Icons - Download Free Vector Icons | Noun Projectsolar panel sun energy eco comments - solar panel icon PNG image with  transparent background | TOPpng Crude-Oil Icons - Free SVG & PNG Crude-Oil Images - Noun Project | **Items for possible inclusion in ARFD (drag and drop):** | **Comments – why items included? Or why not included?**  |
| phase 1  |  |
| phase 2  |  |
| Not identified for inclusion in scheme |  |
| Note: it is recommended the Working Group “future proof” the legislation, i.e., determine items to be included in Phase I and 2 and focus attention/investment on ensuring these items can be managed, BUT provide in legislation the ability to “turn on” additional items once it is feasible for the scheme to collect and recycle those items.  |

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| From the above findings, summarise identified (existing or new) In-Country Materials Processing/Transfer Facilities necessary to consolidate and process items included in Phases 1 and 2 of the scheme (strike out or delete material types determined as not feasible for inclusion).

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| **Material Types** | **Existing or New Facility Possible to be Material Processing/Transfer Facility for Each Material Type? (from Step 5.1)** | **Budget Required (from Step 5.1)** | **Current Operator (if any)** | **Comments** |
| Beverage Containers (PET, Aluminium, Glass bottles, Other containers)  |  |  |  |  |
| Bulky Items (Vehicles, Heavy Equipment, Tyres) |  |  |  |  |
| Electronic Items (Whiteware, Electronics, Batteries, Solar panels) |  |  |  |  |
| Used Oil |  |  |  |  |
| Other |  |  |  |  |
| Other |  |  |  |  |
| Total Budget |  |  |  |  |

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| Notes for Follow-up / Further Research / Discussions: |

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| 1. Operators of Material Processing Facilities
 | If operators of potential In-Country Materials Processing/Transfer Facilities are not already in place, or if new facility(ies) will be established for the ARFD, it is recommended to consider who may be appropriate operators. Note: it may be identified for the facility(ies) to be operated as an individual service to the scheme, or for the In-Country Materials Processing/Transfer Facility operator(s) to also be Scheme Management or complete other responsibilities for the scheme (discussed further in Step 5.8). |
| Before determining operators of In-Country Materials Processing/Transfer Facilities, it is recommended to first confirm the activities the facilities will undertake as part of the ARFD scheme. Some options for activities are provided to the right – consider each and answer yes or no. Add comments or further factors for consideration.These results may help understand the best operators for identified Materials Processing Facilities.  | **Consider what will be the activities In-Country Materials Processing/Transfer Facility(ies)** | **Y/N** | **Comments**  |
| Receive items from Collection Depots |  |  |
| Manage operation of Collection Depots |  |  |
| Count and verify items from Collection Depots |  |  |
| Issue Handling Fee payments to Collection Depots |  |  |
| Calculate Handling Fee  |  |  |
| Manage refund of Deposits to consumers |  |  |
| Manage internal logistics (shipping, transport, handling) to provide for collection of materials throughout country  |  |  |
| Process items for in-country recycling or export overseas |  |  |
| Manage recycling processes to meet end-market contractual requirements (e.g., contamination levels) |  |  |
| Data collection and reporting, i.e., quantity of scheme material returned, deposits paid, etc |  |  |
| Internal inspection and auditing  |  |  |
| Other  |  |  |
| Other  |  |  |
| Different options for operators of In-Country Materials Processing/Transfer Facilities are detailed below. Consider previous answers and note comments to determine appropriate Materials Processing Facilities operator (or operators if more than one). |
|  |  |  |  |  |  |
| Information  | In-Country Materials Processing/Transfer Facilities operated by a Public Sector Agency (Government) such as the Department of Waste  | In-Country Materials Processing/Transfer Facilities operated by a Private Sector Agency (business) such as a recycling business  | In-Country Materials Processing/Transfer Facilities operated through a partnership such as a Public Private Partnership (PPP) or State Owned Enterprise (SOE)  | In-Country Materials Processing/Transfer Facilities operated by a Managing Agency, established through Regulation or under contract by ARFD scheme  | Other options for In-Country Materials Processing/Transfer Facilities operation |
| Pros  | Department of Waste or other suitable government agency may have experience or capacity to operate a waste facility and to undertake activities identified above.If minimal Private Sector recyclers exist then equipment for materials processing may not exist in country. Government may be able to apply for donor assistance to procure facilities.Government operation of Materials Processing Facilities may have means to keep scheme costs lower for importers and consumers.Government may complete other responsibilities for scheme (operate Collection Depots, or be Scheme Manager) through same arrangement.Government agency involvement may reduce administration requirements for contract management, etc | Private Sector Agencies may exist who have appropriate experience and existing equipment to operate a waste facility and to undertake activities identified above. Private Sector can be contracted to Scheme Manager via contract, allowing for auditing and compliance. Private Sector Agency required to supply and maintain necessary equipment, specified in contract – so no requirement on Government to supply equipment. Equipment may also be better maintained if owned by Private Sector. Private Sector may complete other responsibilities for scheme (operate Collection Depots, or be Scheme Manager) under same contract, minimising contract management responsibilities. | Partnership arrangement may be able to ensure appropriate agencies responsible for materials processing and to undertake activities identified above – regardless if Public or Private. May be established through regulation or via contract, allowing for auditing and compliance.Necessary equipment may be owned by scheme, not Private Sector, therefore able to utilise donor investment. Or Private Sector may supply equipment through partnership which may be better maintained. Continuity of partnership would not be dependent on one Private Sector company who may close business.Government involvement in partnership may have means to keep scheme costs lower for importers and consumers.PPP or SOE may complete other responsibilities for scheme (operate Collection Depots, or be Scheme Manager) under same arrangement, minimising administration responsibilities. | Managing Agency arrangement may be able to ensure appropriate agencies responsible for materials processing and to undertake activities identified above. May be established through regulation or via contract, allowing for auditing and compliance.Necessary equipment may be owned by scheme, not Private Sector, therefore able to utilise donor investment. Or Private Sector may supply equipment through partnership which may be better maintained. Continuity of Managing Agency would not be dependent on one Private Sector company who may close business.Managing Agency may complete other responsibilities for scheme (operate Collection Depots, or be Scheme Manager) under same arrangement, minimising administration responsibilities.  |  |
| Cons | Need to consider if Department of Waste or other suitable agency have experience or capacity to operate a waste facility and to undertake activities identified above.May not be appropriate systems to allow auditing of performance of Government agency as do if auditing performance of a contract  | Private Sector recyclers may not have necessary equipment to processing materials at expected capacity, procurement of required equipment may not be available through donor investment so will need to be factored into scheme and scheme fees etc.Private Sector not guaranteed, may close down which could have large impact on scheme and trust of consumers.Private Sector may not have incentive to keep scheme costs low for importers and consumers.May increase administration requirements for Scheme Manager to oversee contract. | PPP or SOE model may not be commonly used requiring new government policy or legislation.Need to consider if Department of Waste or other Government agency have experience and capacity to partner. | Managing Agency model may not be commonly used requiring new government policy or legislation.Private Sector may not have incentive to keep scheme costs low for importers and consumers.  |  |
| Provide comments / list pros and cons (consider questions provided) | *What Public Sector (Government) Agencies have the experience and capability and capacity to operate an In-Country Materials Processing/Transfer Facility?**Are they suitable to undertake activities identified above?**What would they need to operate a Facility?* | *What Private Sector (businesses) have the experience and capability and capacity to operate an In-Country Materials Processing/Transfer Facility?**Are they suitable to undertake activities identified above?**What would they need to operate a Facility?* | *Is a partnership approach an option for operate an In-Country Materials Processing/Transfer Facility?**Is there examples of PPP or partnerships for operation of similar facilities?**Is a partnership approach suitable to undertake activities identified above?* | *Is operation of an In-Country Materials Processing/Transfer Facility using a “Managing Agency” an option to consider?**Are there examples of Managing Agency arrangements for other facilities?**Is a Managing Agency suitable to undertake activities identified above?* | *What other options may there be to operate of an In-Country Materials Processing/Transfer Facility and undertake activities identified above?* |
|  |  |  |  |  |
| From the above findings, identify likely agencies to operate In-Country Materials Processing/Transfer Facilities (existing or new) identified for Phases 1 and 2 of the scheme (strike out or delete material types determined as not feasible for inclusion).

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| **Material Types** | **Possible In-Country Materials Processing/Transfer Facilities (Step 5.2)** | **Possible Agency(ies) / Partnership(s) will Operate In-Country Materials Processing/Transfer Facilities** | **Option for Operators to be Selected / Engaged as Service Provider** **i.e., Contract, Partnership, MOU, PPP Etc** | **Identify Training Needs of In-Country Materials Processing/Transfer Facility Operators** | **Other Comments** |
| Beverage Containers (PET, Aluminium, Glass bottles, Other containers)  |  |  |  |  |  |
| Bulky Items (Vehicles, Heavy Equipment, Tyres) |  |  |  |  |  |
| Electronic Items (Whiteware, Electronics, Batteries, Solar panels) |  |  |  |  |  |
| Used Oil |  |  |  |  |  |
| Other |  |  |  |  |  |
| Other |  |  |  |  |  |

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| Notes for Follow-up / Further Research / Discussions: |

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| 1. Collection Depots
 | Step 2.3b considered options for Collection Depot style, looking at pros and cons and noting what may be appropriate for collection of different ARFD items. It is recommended for the feasibility study to further consider what a scheme may need from its Collection Depots. As mentioned above, Collection Depots may be the only component of a scheme that communities will interact with. As such, it is important they enable interaction for ALL members of the population – allowing access to all households and individuals, regardless of their gender, ethnicity, social status, income, transport options, and level of mobility. The following components are recommended to be integrated in Collection Depot design and operation:* Inclusive opening hours to enable access to those with work and/or caregiver commitments
* Accessible locations for households to access not dependant on if they have access to a vehicle
* Accessible path of travel without barriers, allowing for a wheelchair user to be able to turn and exit
* Gentle gradient and surface that is firm and slip resistant – and including ramps, and handrails
* Shade and seating to provide for those needing a rest
* Inclusive signage – using symbols and translated as necessary
* Counters and any return slots to be visible and at appropriate height for wheelchair users and elderly
* Safety components, including appropriate lighting
* Limiting public access to any machinery operating areas
 |
| Before making a decision on the type/design of Collection Depots, first consider what may be important activities for the Depots to undertake. Some activities are provided to the right – consider each and answer yes or no. Add comments or further important factors in the “other” category.These results may help consider the appropriate design of Collection Depots | **Consider activities at Collection Depots** | **Y/N** | **Comments**  |
| Collect eligible scheme items from consumers |  |  |
| Apply mechanisms to reject material  |  |  |
| Provide refunds to consumer |  |  |
| Provide access to all community members – inclusive locations and opening hours times |  |  |
| Collect and consolidate items for transport to the Material Processing Facilities |  |  |
| Transport the items to the Material Processing Facilities |  |  |
| Scheme promotion and advertising |  |  |
| Maintain accurate material counting and recording processes |  |  |
| Track material to minimise fraudulent activities |  |  |
| Accurate material counting, and recording processes |  |  |
| Participate in inspections/audits |  |  |
| Other: |  |  |
| Other: |  |  |
| For the materials types selected for inclusion in Phases 1 and 2 of the scheme above (Step 5.2), drag the type (or types) of Collection Depots that may work for local communities. Keep in mind the answers above, and the scheme goals identified in Step 1 and providing for accessibility and GEDSI. Note: Meaningful discussions and obtaining feedback on these findings are recommended to be a key component of Community Consultation sessions (Step 7). Drag (or copy and paste) selected option(s) to illustrate possible Collection Depot styles for different materials and community types and provide additional comments and estimated costs for the establishment / construction of the preferred options.Options for Depot Operators are provided below in Step 5.5. |
|   | **Preferred Option – Capital / Main Centres** | **Preferred Option – Remote Islands / Communities** | **Provide Comment on Preferred Collection Depots – where located? Do facilities exist already?** | **How many Depots to be constructed? What equipment needed?** | **How will Depots Provide for Accessibility and GEDSI Factors?** | **Estimated Budget for Depot Establishment**  |
| beverage containers: | beverage containers: |  |  |  |  |
| bulky items: | bulky items: |  |  |  |  |
| electronic items: | electronic items: |  |  |  |  |
| 1. Collection Depot Operation
 | It is recommended to consider who may be appropriate to operate the Collection Depots. Using findings Step 5.4 above, consider agencies, companies, groups available and appropriate to operate the identified depot style and complete the identified activities. Options for operators are detailed below. Consider previous answers, and the pros and cons provided, and note comments on each option to determine the best operators for Collection Depots.

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| **Operation of Collection Depot may be a way to meaningfully include marginalised groups or those with different needs and abilities in a scheme. During completion of the below consider whether groups such as women’s groups, youth groups, or groups with special needs could be Collection Depot operators. Are there options to assist these groups to undertake this role?**  |

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| Information | Depots operated by a Public Sector (Government) Agency such as the Department of Waste | Depots operated by a Private Sector (business) Agency such as a recycling business | Depots operated through a Public / Private Partnership or other partnership such as a Recycling Agency or State Owned Enterprise | Depots operated by a NGO such as an Environmental Society  | Depots operated by a social NGO such as a disbility support provider  | Depots operated by a Managing Agency, established under contract by ARFD scheme | Other options for Depots operation |
| Provide comments / list pros and cons (consider questions provided) | What Public Sector Agencies have the experience and capability and capacity to operate Collection Depots?Are they suitable to undertake activities identified above?What would they need to operate a Depot? | What Private Sector (businesses) have the experience and capability and capacity to operate Collection Depots?Are they suitable to undertake activities identified above?What would they need to operate a Depots? | Is a partnership approach an option for operate Collection Depots?Is there examples of PPP or partnerships for operation of similar facilities?Is a partnership approach suitable to undertake activities identified above?  | Are there NGOs with the experience and capability and capacity to operate Collection Depots?Are they suitable to undertake activities identified above?What would they need to operate a Depots? | Are there social / disability support NGOs with the experience and capability and capacity to operate Collection Depots?Are they suitable to undertake activities identified above?What would they need to operate a Depots? | Is operation of operate Collection Depots using a “Managing Agency” an option to consider?Are there examples of Managing Agency arrangements for similar facilities?Is a Managing Agency suitable to undertake activities identified above?  | What other options may there be to operate of a operate Collection Depots and undertake activities identified above? |
| Write additional factors or suggestions  |  |  |  |  |  |  |  |
| From the above findings, summarise the identified the Collection Depot types and possible operator(s) to collect the products included in Phases 1 and 2 of a scheme (strike out or delete the material types not included).

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| **Material Types** | **Identified Possible Collection Depot Style (from Step 5.4)** | **Budget Required** | **Possible Operators Collection Depot (from Step 5.5)** | **How will Collection Depot Operators be Selected and Managed?** **i.e., contract, partnership, MOU, PPP etc** | **Identify Training Needs of Depot Operators** |
| Beverage Containers (PET, Aluminium, Glass bottles, Other containers)  |  |  |  |  |  |
| Bulky Items (Vehicles, Heavy Equipment, Tyres) |  |  |  |  |  |
| Electronic Items (Whiteware, Electronics, Batteries, Solar panels) |  |  |  |  |  |
| Used Oil |  |  |  |  |  |
| Other |  |  |  |  |  |

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| Notes for Follow-up / Further Research / Discussions: |

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| 1. Legacy Waste
 | This step will assist to identify legacy waste and funding requirements to manage those items. Legacy waste are the ARFD items currently in the country – either in stockpiles, dumps, or in use/circulation. These are the items that entered the country before an ARFD took effect, so therefore have no Deposit or Fee paid on them.There are options for managing legacy waste through an ARFD scheme, including: * Implement scheme with a “transition period” to build up the ARFD Fund (or Float) – i.e., collect Deposits for several months before providing Refunds
* Obtain a loan/grant from government or donors to collect items at scheme commencement
* Hosting legacy waste clean-up or amnesty buy-back events prior to scheme implementation
* Implement scheme in stages to build up ARFD Fund – i.e., start ARFD on item with minimal legacy waste (i.e., Aluminium cans) and add in other products if/when fund builds up
* Investment in barcode / logo system to mark items imported / manufactured after scheme commencement-only these items eligible for refund

At the feasibility stage it is recommended to collect data to:* understand the volume legacy waste, to therefore calculate potential costs on the scheme
* explore feasibility of options to manage legacy waste

Estimates of the legacy materials expected can be conducted through modelling of the imports / sales, and comparisons with other countries of similar size and cultural structure to determine likely redemption patterns. |
| Determining the volume of legacy waste and estimating cost to manage it can be undertaken using Tab 2 of the ARFD Calculator (request from SPREP / PacWaste Plus). To use this calculator as an effective decision making tool, it is recommended to collect the data as indicated in the following table

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| --- | --- | --- | --- | --- | --- |
| Items Targeted for Inclusion in Phase 1 and 2 of Scheme | Import Quantities – Last 5 Years (or as much available data) | Export Quantities – Last 5 Years (or as much available data) (estimated from data gathered during step 1.2) | Currently In Stockpiles at Recyclers (estimated from step 1.2) | Currently In Stockpiles in Environment (estimated from step 1.2) | Estimated Quantity of Legacy Waste |
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| ARFD Calculator will also utilise data collected in Step 2.1:- Typical expenses to export 1 20” sea container - Typical revenue earned - export 1 20” sea container  |
| Using the information gathered, complete Tab 2 of the ARFD Calculator. This calculator will provide an financial value that may be required to manage the estimated volume of legacy waste present .Insert possible costs into the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Items Targeted for Inclusion in Phase 1 and 2 of Scheme | Estimated Quantity of Legacy Waste | Estimated Cost to Manage Legacy Waste (before ARFD is operational – i.e., no Fee or Deposit) | Estimated Cost to Manage Legacy Waste (once ARFD is operational – applying Fee to handle and export items, but no Deposit to consumers) | Estimated Cost to Manage Legacy Waste (once ARFD is operational – applying Fee to handle and export items, AND Deposit to consumers) |
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| Different options managing legacy waste is detailed below. Consider previous answers, and the pros and cons provided, and note comments on each option to determine the best option. |
|  |  |  |  |  |  |  |  |
| Information | Implement scheme in stages to build up ARFD Fund – i.e., collect deposit on items several months before providing refunds  | Obtain seed funding to enable collection of items imported / manufactured prior to ARFD implementation | Organising legacy waste clean-up initiative prior to scheme implementation | Organising amnesty buy-back events prior to scheme implementation | Implement scheme in stages to build up ARFD Fund – i.e., start ARFD on item with minimal legacy waste (i.e., Aluminium cans) and add in other products if/when fund builds up | Investment in barcode / logo system to mark items imported / manufactured after scheme commencement-only these items eligible for refund | Other options |
| Country using this system  | Australia, FSM (Yap), Palau, Tuvalu | Palau, RMI  | Cook Islands |  |  | Australia |  |
| Comments | Allows for importers / manufactures to fund the return of their legacy items, complying with the Producer Responsibility element of the scheme.Timing and content of scheme awareness messages / communications recommended to be considered to limit likelihood of households and businesses to stockpile material | Seed funding may be established via grant or loan with government, donor, or producers. Loan can be paid back once scheme is operational, but will be necessary to be considered in calculation of scheme fees. |  |  |  | Barcode system may not be feasible in small countries with a large percentage of items imported (compared to those manufactured in country). |  |
| Provide comments / list pros and cons (consider questions provided) |  |  |  |  |  |  |  |
| Write additional factors or suggestions  |  |  |  |  |  |  |  |
| Notes for Follow-up / Further Research / Discussions: |

|  |  |
| --- | --- |
| 1. Scheme Logistics / Service Providers
 | It is recommended to consider the logistics and associated infrastructure / systems required to provide for effective operation of the scheme.Some options for logistics and associated infrastructure / systems are provided in the following table – consider each to help understand the systems that may be required. |

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| From the above findings, use the table to summarise the associated infrastructure / systems required.

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| --- | --- | --- | --- | --- | --- | --- |
| Possible Associated Logistics / Infrastructure / Systems Required for Operation of ARFD | Will Service be Required for Scheme OperationY/N | Comment on Logistics Support Requirements  | List Agencies Able to Undertake Identified Activity  | Capital\* Investment Required for Identified Logistics Support | Estimated Capital Budget for Identified Logistics Support | Comment on how Agency Engaged Service Provider?\*\* |
| Internal shipping – transport items from Collection Depots to Materials Processing Facilities  |  |  |  |  |  |  |
| Truck transport – items transported from Collection Depots to Materials Processing Facilities |  |  |  |  |  |  |
| External shipping – transport items from Materials Processing Facilities to overseas markets |  |  |  |  |  |  |
| Other transport logistics:  |  |  |  |  |  |  |
| Customs system upgrade to identify and capture ARFD items at border – i.e., ASCOYDA system |  |  |  |  |  |  |
| Accounting software to provide for financial scheme operation |  |  |  |  |  |  |
| Accounting firm to assist with financial scheme operation  |  |  |  |  |  |  |
| Phone application (“app”) to assist with operation of the scheme  |  |  |  |  |  |  |
| Establishment of a Barcode system to provide for scheme operation  |  |  |  |  |  |  |
| Website to assist with promotion and use of scheme  |  |  |  |  |  |  |
| Advertising and promotion |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

\* Capital budget or capital expenditure (or Capex) = budget allocating money for the procurement of assets such as facilities, equipment, website etc. As opposed to operations budget or expenditure (Opex) which is the budget required for ongoing operating of a scheme (i.e., transport, shipping, power, maintenance, etc). \*\* i.e., via contract, MOU, PPP, etc |

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| 1. Scheme Management
 | The previous sections in Step 5 have considered physical components of scheme operation. Based on these findings, it is recommended to consider appropriate management for scheme. When considering Scheme Management, first determine the activities the Scheme Manager will undertake to ensure the scheme achieves the desired goals. Options are provided to the right – consider each and answer yes (if activity will be required for the Scheme Manager) or no (if not). Add comments or further important factors in the “other” category. Note: It may be beneficial to undertake this exercise in parallel with Step 5.9 (below) considering scheme governance.These results may help identify the best agency to be Scheme Manager and what agreement (i.e., MOU, PPP, contract) may be required to identify and select that agency. | **Consider what will be the role of the Scheme Manager**  | **Y/N** | **Comments** |
| Day-to-day operation – Operating Collection Depots, In-Country Materials Processing/Transfer Facilities, and scheme logistics  |  |  |
| Managing contracts for scheme operation –Collection Depots, In-Country Materials Processing/Transfer Facilities, and scheme logistics |  |  |
| Establishing contracts with overseas recyclers and understanding specific contractual requirements  |  |  |
| Ensuring scheme meets legislative requirements |  |  |
| Ensuring scheme meets recycling targets  |  |  |
| Identifying and negotiating with overseas recycle end-markets |  |  |
| Coordinating shipping and logistics for scheme operation |  |  |
| Undertaking data collection and reporting  |  |  |
| Undertaking monitoring and evaluation |  |  |
| Undertaking audits on scheme operation |  |  |
| Reporting to importers and communities |  |  |
| Undertaking marketing and promotion |  |  |
| Other |  |  |
| Other  |  |  |
| Different options for Scheme Manager are provided below. Consider previous answers, and the pros and cons provided, and provide comments on each type – make note of what Scheme Manager may be appropriate. |
|  |  |  |  |  |  | **OTHER** |
| Provide comments / list pros and cons (consider questions provided) | *What Public Sector (Government) Agencies have the experience and capability and capacity to manage an ARFD scheme?**Are they suitable to undertake activities identified above?**What would they need to manage a scheme?* | *Are there Private Sector (businesses) that have the capability and capacity to manage an ARFD scheme?**Are they suitable to undertake activities identified above?**What would they need to manage a scheme?* | *Is a partnership approach an option for managing an ARFD scheme?**Is there examples of PPP or partnerships for similar schemes?**Is a partnership approach suitable to undertake activities identified above?* | *Are there NGOs (civil society / disability groups etc) that have the capability and capacity to manage an ARFD scheme?**Are they suitable to undertake activities identified above?**What would they need to manage a scheme?* | *Is scheme management undertaken using a “Managing Agency” an option to consider?**Are there examples of Managing Agency arrangements for other initiatives?**Is a Managing Agency suitable to undertake activities identified above?* | *What other options may there be to manage the scheme* *and undertake activities identified above?* |
| Write additional factors or suggestions  |  |  |  |  |  |  |
| Preferred Option for Scheme Management (copy and paste icon or write) | Provide other comments on Scheme Management and any details/requirements to be provided for in the regulation  |
| 1. Scheme Governance
 | To ensure the scheme achieves desired goals for communities and the environment, and is financially fair and transparent, it may be appropriate for a scheme to have a Governance Body. Options of activities for a Scheme Governance Body are provided to the right – consider each and answer yes (if activity will be required for the Scheme Governance Body) or no (if not). Add comments or further important factors in the “other” category. Note: It may be beneficial to undertake this exercise in parallel with Step 5.8 (above) considering scheme management.These results may help identify the best agency or agencies to be Scheme Governance Body and what agreement (i.e., MOU, PPP, contract) may be required to identify and select that agency. | **Consider what will be the role of the Scheme Governance Body**  | **Y/N** | **Comments** |
| Provide strategic directives to the Scheme Manager |  |  |
| Establishing contracts with Scheme Manager and managing the contractor(s) |  |  |
| Establishing contracts scheme partners - Collection Depots, In-Country Materials Processing/Transfer Facilities, scheme logistics  |  |  |
| Ensuring scheme meets legislative requirements |  |  |
| Undertaking audits on scheme operation |  |  |
| Arranging external audits  |  |  |
| Undertaking data collection and reporting  |  |  |
| Undertaking monitoring and evaluation |  |  |
| Reporting to ministers / cabinet |  |  |
| Reporting to importers and communities |  |  |
| Undertaking marketing and promotion |  |  |
| Communication and engagement with stakeholders |  |  |
| Undertake compliance and enforcement |  |  |
| Establish and administer dispute resolution process |  |  |
| Other  |  |  |
| Different options for Scheme Governance are provided below. Consider previous answers, and the pros and cons provided, and provide comments on each type – make note of what Scheme Governance may be appropriate. |
|  |  |  |  |  |  | **OTHER** |
| Provide comments / list pros and cons (consider questions provided) | What Public Sector (Government) Agencies have the capability and capacity to manage an ARFD scheme?What would they need to manage a scheme? | Are there Private Sector (businesses) that have the capability and capacity to manage an ARFD scheme?What would they need to manage a scheme? | Is a partnership approach an option for managing an ARFD scheme?Is there examples of PPP or partnerships for similar schemes  | Are there NGOs (civil society) that have the capability and capacity to manage an ARFD scheme?What would they need to manage a scheme? | Is scheme management best undertaken using a “Managing Agency” an option to consider?Is there examples of PPP or partnerships for similar schemes  | What other options may there be to manage the scheme |
| Write additional factors or suggestions  |  |  |  |  |  |  |
| Preferred Option (copy and paste) | Provide comments on Scheme Governance and how it will be provided for in regulation  |

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| 1. Scheme Establishment Budget
 | From findings through the Feasibility Study, record the Capex (capital investment) required for the scheme (delete Capex not required)

|  |  |  |
| --- | --- | --- |
| **Possible Capex** | **Investment Required for Scheme Implementation Y / N and Provide Details** | **Estimated Budget** |
| *Materials Processing Facilities*  |  |  |
| *Materials Processing Equipment*  |  |  |
| *Collection Depots* |  |  |
| *Managing Legacy Waste*  |  |  |
| *Vehicles* |  |  |
| *Customs System* |  |  |
| *Accounting software*  |  |  |
| *Phone application (“app”)*  |  |  |
| *Barcode system*  |  |  |
| *Website*  |  |  |
| TOTAL |  |  |

Options to source required budget:* Implement scheme with a “transition period” to build up the ARFD Fund (or Float) – i.e., collect Deposits for several months before providing Refunds – in order to procure and establish identified infrastructure
* Obtain a loan/grant from government or donors
* Establishment expenses to be added as to calculation of Scheme Fees – provided for in scheme operation using a loan or “transition period” model
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| 1. Level of Deposit
 | In global ARFD, the level of the Deposit (along with convenience of returning the eligible material (discussed in above) has a direct influence on consumer engagement. The illustration in Step 2.3b highlighting return rates from global scheme comparing population per return facility (x axis) against deposit rates in USD (y axis) shows the higher the Deposit component (and the more Collection Depots there are) the higher the return rate will be. Reminder: the Deposit is the component of an ARFD that will be returned to the consumer, it is intended to incentivise changed behaviour of households. It is not intended to reflect the cost or recycling or used to operate a scheme - that component is the “Fee” which is discussed below.The level of Deposit is an important factor for the to consider for overall operation of the Scheme. it is recommended the Deposit level should be: * high enough to
	+ incentivise consumer behaviour to take items to Collection Depots
* but not too high as to
	+ result in antisocial behaviour (theft of materials or attempts for fraud)
	+ affect the price of goods to a level that results in disproportionate impacts on lower-income families

The table below provides a list of active ARFD schemes (for Beverage containers only) within the Pacific showing eligible scheme material types, Deposit and Fees, and calculated return rate (import data v items collected by scheme). It is worth noting that the average minimum wage for the five countries with an existing ARFD scheme is approximately USD$1.85/hour.Of note, Australian schemes have a standard Deposit value of AUD10c (approximately USD 7c) and New Zealand proposing a Deposit of NZD 20c (approximately USD 13c).

|  |  |  |  |
| --- | --- | --- | --- |
| **Pacific Island Country** | **Advanced Recovery Deposit Fee Value (USD$)** | **Eligible Scheme Material** | **Return Rate (%)** |
| FSM (Kosrae) | August 2006 - *Recycling Program Regulations* (under *Kosrae Recycling Program Act*)$0.06 (USD$) Collected:* $0.05 Deposit
* $0.01 Fee
 | Aluminium, glass, PET, ULAB | 86%(2017 data) |
| FSM (Pohnpei) | August 2011 - *Recycling Program Regulation* (under Chapter 3, Title 27 of the Pohnpei Code)$0.06 (USD$) Collected:* $0.05 Deposit
* $0.01 Fee
 | Aluminium | Approximately 60%(2017 data) |
| FSM (Yap) | 2007 - *Recycling Program Regulations* (under the Yap State Recycling Act (Yap State Law 7—18))$0.06 (USD$) Collected:* $0.05 Deposit
* $0.01 Fee
 | Aluminium, PET, glass | Aluminium >90% (2020 data) |
| Kiribati | December 2004 - *Special Fund (Waste Material Recovery) Regulations* (under the *Special Fund (Waste Materials Recovery) Act*)$0.05 (AUD$) Collected: ($0.035 USD)* $0.04 Deposit ($0.027 USD)
* $0.01 Fee ($0.007 USD)
 | Aluminium, PET, ULAB | Aluminium >90%PET <50%(2018 data) |
| Palau | October 2006 - *Beverage Container Recycling Regulations*, made (under the Republic of Palau Public Law No. 7-24)$0.10 (USD$) Collected* $0.05 Deposit
* $0.025 Fee (redemption centres)
* $0.025 Fee (scheme admin)
 | Aluminium, PET, glass, tetra-pac, army pack | 84%(2018 data) |
| Republic of Marshall Islands | January 2018 - *Recycling Program Regulations* (under the *Styrofoam Cups, and Plates and Plastic Products Prohibition, and Container**Deposit (Amendment) Act*)$0.06 (USD$) Collected:* $0.05 Deposit
* $0.01 Fee
 | Aluminium, PET | Approximately 85%(2018 data) |
| Tuvalu  | August 2019 - *Waste Management (Levy Deposit) Regulation* (under the *Waste Management Act*)As detailed (Note: all in AUD)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Collected** | **Deposit**  | **Fee** | **Admin**  |
| Al, PET, glass | 10c | 5c | 2.5c | 2.5c |
| Lubricating Oil | 40c |  |  | 40c |
| Nappy | 5c |  |  | 5c |
| Large White Goods  | $100 | $50 | $25 | $25 |
| Medium White Goods  | $60 | $30 | $15 | $15 |
| Small White Goods  | 30 | $15 | $7.50 | $7.50 |
| Construction Heavy Equipment  | $2,000 | $1,000 | $500 | $500 |
| Construction Medium Equipment  | $1,000 | $500 | $250 | $250 |
| Construction Small Equipment  | $500 | $250 | $125 | $125 |
| Office and family vehicles  | $400 | $200 | $100 | $100 |
| Motorbikes  | $200 | $100 | $50 | $50 |
| Batteries:motorbike vehicle/equipment solar panel  | $10$30$60 | $5$15$30 | $2.50$7.50$15 | $2.50$7.50$15 |

 | Aluminium, PET, lub oil, nappies, e-waste, heavy equipment, vehicles, batteries | 67% |

Additional information on Deposit values from schemes around the world can be found in the [RELOOP Global Book Grid-of-Comparison](https://www.reloopplatform.org/wp-content/uploads/2023/05/GDB-2022-Grid-of-Comparison.pdf)  |
| The following tables are designed to guide the consideration of factors to determine appropriate Deposit levels to be placed on items identified for inclusion in a scheme. These activities are intended to guide decision making. The level of Deposit is a key topic for consultation with local communities (Step 7), asking for their thoughts on what level of Deposit may influence them to change their behaviour, and provide for positive impacts such as reduced litter, income creation, BUT NOT to create any disproportionate impacts in their communities.  |
| When considering appropriate Deposit levels, it is important to understand the economic context and possible influence different Deposit levels may have on local communities. Complete the table to gather information that may assist determine appropriate level of Deposit for the target items.

|  |  |
| --- | --- |
| Are there any existing Deposit/buy-back scheme or initiatives (current pr past)? i.e., brewery’s offering a buy-back on glass bottles? clean-up event involving a buy-back component?  | N |
| Y | What is/was the level of Deposit/Refund: |
| Does/did this Deposit/Refund motivate the community to participate? Y / N, provide comments |
| Are there “litter pickers” working at landfills?  | N |  |
| Y | What items are they collecting? | What value do they get paid? |
| *e.g., PET bottles* | *USD $1 / kg* |
|  |  |
|  |  |
|  |  |
| Is this value considered sufficient to motivate households to participate in an ARFD-type scheme? Y / N, provide comments |
| For any existing recycling of ARFD items, do recyclers currently provide a drop-off CHARGE? OR a Buy-back VALUE? | **Item** | **Buy-back VALUE** | **Drop-off CHARGE?** |
| *e.g., Aluminium cans*  *Scrap Vehicle*  *e-waste* | *USD $1 / kg* | *$150 USD / car**$10 USD / washing machine* |
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| For any existing recycling of ARFD bulky or electronic items (EOL vehicle, whiteware), what is the average cost to transport (i.e., delivery or pick-up charges) the item to the recycling yard? | **Item** | **Average Cost - Transport Item to Recycling Yards** |
|  | Capital / main town | From furthest community / island |
| *e.g., EOL Vehicle*  *Whiteware* | *~USD$50**~USD$10* | *~USD$250**~USD$50* |
|  |  |  |
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|  |  |  |
| What is the minimum wage? |  |
| From results above, how many Collection Depots are intended per population? i.e., 1 depot per 2,500 people? |  |
| What are the denominations of local coins and notes? i.e., 5c, 10c, 25c? |  |
| What is the current average sale price of the items selected for inclusion in Phases 1 or 2 of a scheme: | **Item** | **Average Sale Price** |
| *e.g., Beverage in aluminium can* *Laptop* *Second-hand vehicle* *New vehicle*  | *$1.50 USD**$500 USD**$10,000 USD**$35,000 USD* |
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| Scheme will have different levels of Deposits for different material types (beverage containers v bulky waste).When considering levels of Deposit, it is recommended to consider what the scheme seeks to achieve (i.e., effective means for litter reduction) OR not achieve (i.e., disproportional impacts on low-income households) and how the level of Deposit may affect that. Some options are provided to the right – consider each and answer yes (if seek for scheme to have an affect) or no (if not). Add comments or further important factors in the “other” category.These results may help with the next exercise and consider appropriate scheme Deposits.  | **Consider what may seek to Deposit level** | **Beverage Containers** | **Bulky Items** | **Electronic Items** | **Used Oil** | **Other** | **Comments** |
| **Y/N** | **Y/N** | **Y/N** | **Y/N** | **Y/N** |
| Providing opportunities for informal workforce and existing litter-pickers  |  |  |  |  |  |  |
| Influencing consumer choice – i.e., whether they will purchase an item or not |  |  |  |  |  |  |
| Providing an effective means for litter reduction  |  |  |  |  |  |  |
| Providing an effective means for groups to fundraise (i.e., church, youth, sport group)  |  |  |  |  |  |  |
| Providing supplementary income and meaningful employment opportunities |  |  |  |  |  |  |
| Influencing Private Sector (choosing to import or manufacture an item or not) |  |  |  |  |  |  |
| Not creating disproportional impacts on low-income households  |  |  |  |  |  |  |
| Other: |  |  |  |  |  |  |
| Other:  |  |  |  |  |  |  |
| Based on the findings above, and considering pros and cons provided, indicate an appropriate Deposit level on the scale.Note: This exercise is only relevant for beverage containers |
| **“Low” deposit (i.e., >5c USD)**Minimal influence on Private Sector / Consumers Not as effective to incentivise changed behaviour Lower return rates recycling return of items, not as effective at litter reductionNot as effective at providing for litter-pickers or supplementary income for households May need more Collection Depots to receive target return rates | Place an “X” on the scale for an appropriate level of Deposit (for beverage containers) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **“Low” Deposit “High” Deposit** **(i.e., >5c USD) (i.e., ~20c USD)** | **“High” deposit (i.e., ~20c USD)**Influence on Private Sector / Consumers Effective to incentivise changed behaviour Higher return rates recycling return of items, effective at litter reductionEffective at providing for litter-pickers or supplementary income for householdsMay need less Collection Depots to receive target return rates  |
| Different levels of Deposits are provided below (high, medium, low) from for items identified as possible inclusion in the ARFD. Consider previous answers, and the pros and cons provided, and note comments on each option.**Note again: Deposit levels are a key topic for consultation with local communities (Step 7)**Consider options for Deposit levels

|  |  |  |
| --- | --- | --- |
| **Option** | **Equalivent in Local Currency** **(round to nearest denominations of local coins and notes)** | **Comments / list pros and cons on if this value may be an appropriate Deposit Level** |
| **Beverage Containers** |  |  |
| *E.g., Low (i.e., 5c USD)* | *e.g., ~0.20 PNG Kina* |  |
| Low (i.e., 5c USD) |  |  |
| Medum (i.e., 10c USD) |  |  |
| High (i.e., 20c USD) |  |  |
| Other: |  |  |
| **Bulky Items** |  |  |
| Low (i.e., $150 USD) |  |  |
| Medum (i.e., $500 SD) |  |  |
| High (i.e., $1,000 USD) |  |  |
| Other: |  |  |
| **Electronic Items** |  |  |
| Low (i.e., $5 USD) |  |  |
| Medum (i.e., $25 USD) |  |  |
| High (i.e., $50 USD) |  |  |
| Other: |  |  |
|  |  |  |
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| 1. Scheme Fees
 | Setting appropriate scheme Fees requires the identification of the “true cost” for recycling the eligible products . Particular attention to this understating and calculating this “true cost” is recommended as it is a central factor that could positively or negatively influence the feasibility or economically viability of the scheme – i.e., allow the achieving, or not achieving, of goals sought. For the long-term economic viability of a scheme, Scheme Fees are recommended include a Handing Fee component and an Administration Fee component.The “true cost” of recycling can be calculated using Tab 1 of the ARFD Fees Calculator provided To use this calculator as an effective decision making tool, gather the following data:

|  |  |  |  |
| --- | --- | --- | --- |
| **Category**  | **Details**  | **Estimated Cost in local currency** | **Cost in USD** |
| Logistics - Internal Transport | What does it cost to transport (i.e., on boat or truck):  |  |  |
| * A 1m3 bulka bag from outer islands/ provinces to the identified Materials Processing Facility(ies)
 | *e.g., $100 PNG Kina* | *$30 USD* |
|  |  |
| * One of the bulky items identified for inclusion in a scheme from outer islands/ provinces to the identified Materials Processing Facility(ies)
 | *e.g., 1 x Scrap vehicle = $350PNG Kina* | *$100 USD* |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |
| External Shipping | Cost to ship 1 tonne of materials to possible export markets identified in Step 2 |  |  |
| Cost of Operating Collection Depot(s)  | Cost to Operate the Collection Depots identified in (5.3)For 1 day (power, labour, etc) |  |  |
| How Many Depots identified | Cost to operate for ONE day |  |  |
| Depots for Beverage Containers |  |  |
|  |  |  *Number x cost* |  |
| Depots for Bulky / Electronic Items |  |  |
|  |  | *Number x cost* |  |
| Cost of Operating Materials Processing Facility(ies)  | Cost to Operate the Materials Processing Facility(ies) identified in (5.1)For 1 day (power, labour, etc) |  |  |
| How Many MPF identified | Cost to operate for ONE day |  |  |
| MPF for Beverage Containers |  |  |
|  |  |  *Number x cost* |  |
| MPF for Bulky / Electronic Items |  |  |
|  |  | *Number x cost* |  |
| Administration  | Estimated time/cost for undertaking Scheme administrating each week, completing the types of activities as specified | *Total weekly admin expenses* *(time x number of hours/week) + other weekly expenses =*  |  |
| Hourly salary for office staff: |  |
| Activities  | Estimated hours required / week |
| * Contract management
 |  |
| * Marketing and advertising
 |  |
| * Data collection and accounting, reporting
 |  |
| * Inspections and compliance
 |  |
| * Investigating fraud
 |  |
| Other weekly estimated admin expenses: |
| * Rent of office space
 |  |
| * Operation of Office equipment
 |  |
| * Expected expenses for marketing and advertising (radio adds etc)
 |  |
| * Other
 |  |  |  |
| Other scheme Services: | Weekly operating costs of other identified scheme systems (from Step 5.10): |  |  |
| * *E.g., website and/or app*
 |  |  |
| * *Accounting software subscription*
 |  |  |
|  |  |  |
| Scheme Establishment\*  | Budget estimated for procuring infrastructure / equipment to establish scheme (from Step 5.10) |  |  |
| Budget estimated for managing legacy waste (from Step 5.6) |  |  |

\* If needing to be provided for as part of Scheme Fees |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Using the information gathered, insert the estimated budgets into Tab 1 of the ARFD Fees Calculator. This calculator will provide an estimated Fee value that may be placed on the ARFD items identified in Phases 1 and 2 of a scheme. **The generated values may be used as a guide for discussion and shall be confirmed with recycling and waste management experts and discussed with communities.**Insert proposed Deposit level proposed in and proposed handling and admin Fees from calculator into the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Items Proposed for Scheme Inclusion  | Proposed Deposit Amount (from Step 5.11) | Proposed Handling Fee(from Calculator) | Proposed Admin Fee(from Calculator) | TOTAL ARFD TO BE COLLECTED |
|  |  |  |  |  |
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| Notes for Follow-up / Further Research / Discussions: |