

CALL FOR EXPRESSION OF INTEREST (EOI) FOR MATERIAL RECOVERY FACILITY DESIGN

Vietnam Flagship Program – CLEAN CITIES FOR A GREEN VIETNAM

SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services. We focus on three sectors and have a long-term, local presence in over 25 countries in Asia, Africa and Latin America. Our team of more than 1,300 staff is the backbone of SNV. For more information: www.snv.org.

Vietnam is a thriving country with a large and growing population, limited existing waste management infrastructure (*high levels of mismanagement/leakage into environment*), and yet a rapidly increasing rate of plastic consumption (6% CAGR). According to a study initiated by the National Plastic Action Platform (NPAP) Vietnam, most plastic waste (51%) is mis-managed or leaked into the environment while only 38% is incinerated or goes to an engineered landfill and 11% is either formally or informally recycled. In a business-as-usual scenario, the mis-managed plastic waste will double by 2030 to approximately 3 million tons/year. The Vietnam government has shown a strong commitment to addressing this challenge with recent policy interventions such as the new Environmental Protection Law (2020), the National Strategy on Integrated Management of Solid Waste (2018), the NPAP formation (2020), and the initiation of an Extended Producer Responsibility (EPR) scheme for packaging to be launched in 2024.

To help Vietnam tackle this issue, SNV Netherlands Development Organisation submitted the Clean Cities for a Green Vietnam (CCGV) project proposal to the Alliance to End Plastic Waste (AEPW) to implement a multiple large-scale, integrated, sustainable, and holistic waste management infrastructure project leveraging proven technologies in selected cities through a consortium of partners that will provide a reference for accelerated replication across the country.

CCGV project brief

The objective of the CCGV project is to reduce plastic waste leakage into the environment in Viet Nam, in particular, to reduce plastic debris into water bodies, rivers and ocean, and reduce the plastic mismanaged in landfills, dumpsite or incinerated.

To reach this objective, the CCGV project targets to **divert 15% to 20% of the plastic waste to be collected for recycling in Hanoi and Ho Chi Minh**. This will be achieved by improving the solid waste management system and integrating a circular economy approach to segregate, sort, process and recycle or recover plastic materials.

In particular, CCGV is willing to support the local governments to put into practice the national policies, with technical and financial support on awareness campaigns to promote source segregation; develop skills and provide equipment for segregated collection; invest in the construction and operate sorting and pre-processing facilities and; stimulating a reclaiming and recycling market, with emphasis on the low value plastic. All the above considering the integration and *do-no-harm* approach of the large informal sector working on collection, sorting and recycling of plastic waste.

Objective of the assignment

This assignment is part of the Component 3 of the CCGV project: “Increase sorting and processing capabilities”. The focus on this component is to design, construct and operate Material Recovery

Facilities (MRF) to increase the volumes of recyclable materials diverted from going to landfills and incinerators. This must ensure the supply of steady amount of materials and with the required quality and specifications for the market.

Through the feasibility phase (2022), different potential locations for MRF have been identified and assessed by the consultants and SNV team, including a technical feasibility assessment and an economic analysis. This resulted in a varied of models, size and capacities of these sorting facilities, which may provide a variety of experiences and lessons for the country and the project.

During the project implementation, **CCGV aims to hire an engineering firm to develop the detailed construction and manufacturing design of the facilities' equipment and infrastructure.** It is expected that most of the equipment for the MRF would be manufactured in Viet Nam, although not excluding the importing of specialized equipment. Moreover, the technical specifications and scope of work for the design of the facilities will be provided by an international MRF consultancy firm to the selected Vietnamese engineering firm for this assignment.

Note: A Material Recovery Facility (MRF) is a facility that receives mixed solid waste recyclables, sorts by size, positively or negatively target sorts by characteristic, to make a freight-ready package to go to market.

Scope of Work

The engineering consultancy firm will develop the technical design and supervise the correct manufacturing and installation of the equipment, and construction and other service installations of the Material Recovery Facilities (MRF) in Hanoi and HCMC.

In principle, 3 facilities will be placed in Hanoi city (different districts) and 1 facility in HCMC.

- A) Design of sorting equipment:** the firm will follow the technical specifications provided by the international MRF firm to develop the specific designs for the manufacturing of the sorting equipment by a Vietnamese factory. The potential equipment is proposed as:

Item #	Equipment Piece	Example Specification	Comments
1	Infeed Conveyor	1.0MX7.0M at 35° incline, variable speed drive 2 – 20M/min	Hopper feed sized for small bucket loader
2	Vibratory Screen	Finger screen style with 50.0mm openings	Removes fines
3	Drum Magnet	1.0 – 1.5M diameter undermounted drum	Refined waste data needed for final design
4	Presort Conveyor	1.2MX7.0M, single speed drive 20M/min	Manual sort to remove problem materials
5	Post-Presort Conveyor	1.2MX3.5M single speed drive 30M/min	Elevates material to Optical Sorter (OS)
6	Spreader	Twin disk or other effective design	Spreads material across width of OS entry mouth
7	Optical Sorter (OS)	2.4 – 2.8MN wide, NIR and metal detect sensors	Single-eject (base) dual eject (optional)

8	PE Film Sort Conveyor	1.2MX8.0M, single speed drive 30.0M/min	Manual sort for capturing rigid PE to bunker below and cleaning of unsorted PE film for end of line
9	Other materials sort transfer conveyor	0.6MX6.0M single speed drive 20.0M/min	Elevates other materials to sort conveyor
10	Other material sort conveyor	0.6MX7.0M, single speed drive 30.0M/min	Manual sort to remove recyclables passing through the OS
11	Non-Eject conveyor	0.6MX7.0M, single speed drive 20.0M/min	Conveys non-eject materials to waste pit
12	Baler Feed Conveyor	1.5MX9.0M, single speed drive 12.0M/min	Feeds baler
13	Baler	Horizontal Auto-Tie	Bales plastics and metal to export quality bale

B) Design of infrastructure: The firm will develop the design for construction for each of the MRF and locations. A basic technical layout has been drafted during the feasibility phase of the project. The firm is expected to visit the site (already solid waste operations ongoing) to conduct a detailed assessment of the area, access to services, etc., while discussing with the facility operator regarding the infrastructure design.

The design of the MRF infrastructure could include, but not limited to and not all the below elements required for each MRF:

- Warehouse, roofed area of extended building: In general, a building to host the equipment is in place, although it may require adjustments and annexes.
- Platforms, Supports, Chutes, Stairs, and Bunkers: additional elements that will sustain or provide access to the sorting equipment.
- Controls and electrical upgrades: In general, all locations have an existing electrical installation, which is required to upgrade based on the power demand for the sorting equipment operation.
- Any other element necessary to ensure the operation of the MRF.

C) Supervision of manufacturing, installation, and construction: the firm will supervise the manufacturing of the designed equipment, along with the construction of any infrastructure, installation and testing of equipment in each MRF location. It is expected that the equipment will be entirely manufactured in Viet Nam, with exception of some more specialised equipment required to be imported. The construction and installation will be conducted by a Vietnamese company.

D) Operation and Maintenance Manual: The firm will cooperate with the international MRF firm to develop the technical and operational manual for targeted operators and participate in training course to ensure all workers will be fully equipped with necessary knowledge and skills for the efficient operation of the system.

For more details on the Expression of Interest process, submission requirements, and evaluation details, please see corresponding sections below:

Submission Requirements	Interested firms are invited to set out a summary of their firm and relevant experience in a short Expression of Interest (Eoi) for the task. The EOI should
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	<p>include the following documents and be submitted via the link: https://smrtr.io/d5C3B</p> <ol style="list-style-type: none"> 1. Letter of EoI with summary of the firm's capacities and areas of expertise. 2. Short description of 3 similar assignments for equipment design conducted in the last 5 years. 3. Short description of 3 similar assignments for infrastructure design conducted in the last 5 years. 4. List of renowned clients (INGOs, Government, Companies) with at least one contact name and email. 5. Organisational structure and profile of key personnel. 6. Legal and registration documentation of the firm.
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Selection Process

SNV will review all Expressions of Interest received in accordance with the guidelines and criteria in this solicitation. SNV reserves the right to exclude any EOIs that do not meet the guidelines. Please note that SNV is unable to provide detailed feedback to those EOIs that are not selected.

Step 1: SNV will shortlist selected EOIs, and unsuccessful respondents will be notified. Successful applicants will be contacted by SNV.

Step 2: SNV will release Requests for Proposals (RFPs) for the specific activities and contract with the selected organizations/ consultants.

Protection of Information

We request that Expressions of Interest responses be free of any intellectual property that the applicant wishes to protect. Should offerors wish to include proprietary intellectual property that they believe would be helpful for SNV, please note the proprietary nature of such information. Costing information will be kept confidential and will not be shared beyond SNV.

Issuance of this EOI does not constitute a commitment, award, or engagement on the part of SNV nor does it commit SNV to any future commitment or engagement.

Note: SNV reserves the right to change or cancel this requirement in the EOI/or solicitation process at any time.