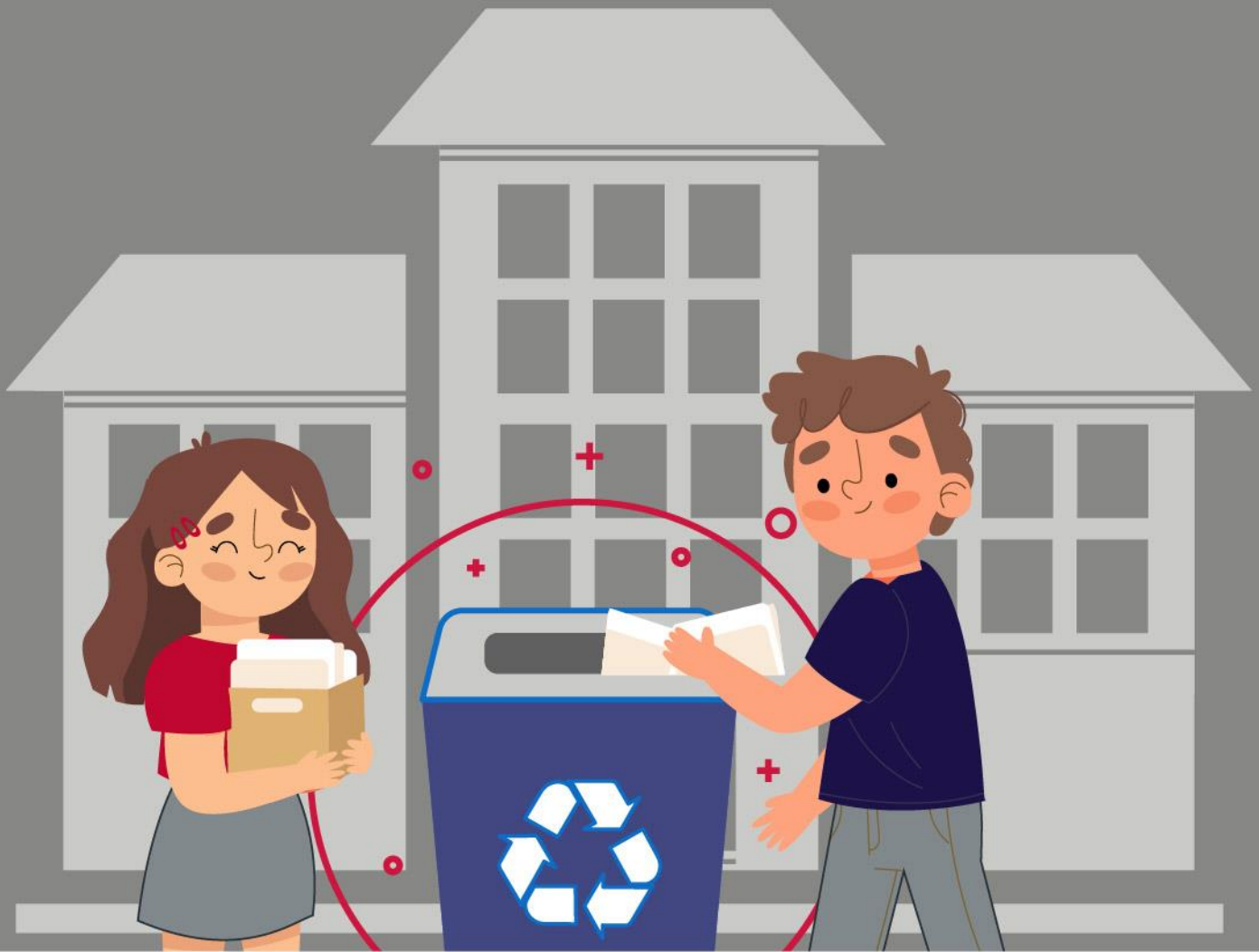




USAID
FROM THE AMERICAN PEOPLE



Technical Guideline for Implementing Recycling Systems in Schools

This booklet is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Chemonics International and do not necessarily reflect the views of USAID or the United States Government.

This booklet has been printed on recycled paper.

September 2024.

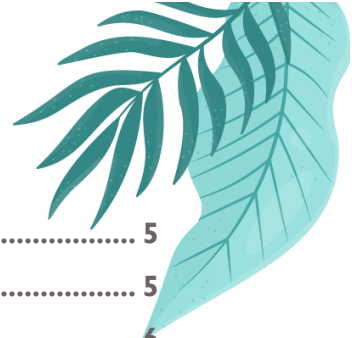


TABLE OF CONTENTS

1. About.....	5
2. Overview	5
3. Glossary.....	6
Roadmap to Recycling in Schools	7
4. Steps of Preparing for the School Recycling Program:	8
5. Understanding the nature of your waste	11
5.1 Estimating the Number and Capacity of Bins.....	11
5.2 Central Waste Collection Station in the School.....	14
Recycling Service Providers	15
6. Recycling Service Providers Services and Data	16
6.1 Recycling Providers Equipment Suppliers.....	16
6.2 Communication with Recycling Service Providers	17
Resources on recycling	18
7. Going Beyond Basics.....	19
7.1 Awareness.....	19
7.2 Reducing Practices	19
7.3 Proper Recycling	20
7.4 Performance Indicators	22
Annexes	23
8. Supporting Documents.....	24
8.1 Annex 1: School infrastructure	24
8.2 Annex 2: Current Status	25
8.3 Annex 3: Waste Management Plan:.....	25
8.4 Annex 4: Establishing a green club in your school	29
8.5 Annex 5: Separation at Source.....	40



RECYCLING

A SUSTAINABLE APPROACH IN SCHOOLS



1. About

The Recycling in Jordan Activity is a five-year Activity funded by the United States Agency for International Development (USAID). The Activity partners with the Ministry of Environment (MOENV), the Greater Amman Municipality (GAM), and private sector recycling companies to enhance the adoption of recycling services within Amman's commercial sector.

Through a market-based approach, the USAID Recycling in Jordan Activity aims to enhance and expand private-sector recycling markets, boost the demand for recycling services within Amman's commercial sector, and improve the business enabling environment for recycling services and recovered and recycled material markets.

In today's environmentally conscious world, the integration of sustainable practices in schools is essential. Students spend a significant portion of their school day in schools, providing a unique opportunity to instill recycling values among them. By implementing clear and simple strategies, school recycling efforts can be enhanced, and the culture of sustainability can be promoted among students.

School buildings generate substantial amounts of waste, such as paper, offering significant potential for waste reduction and recycling. By implementing an effective school recycling program, schools can demonstrate environmental leadership, reduce the volume of waste sent to landfills, recover valuable materials for reuse, and achieve tangible savings in waste management costs.

2. Overview

The document entitled "**Technical Guideline for Implementing Recycling systems in Schools**" introduces practical and informative instructions designed to assist all schools in separating recyclable materials and adopting effective recycling practices. Adhering to these shared guidelines not only contributes to a positive environmental impact but also promotes the concept of responsible environment protection among students. To ensure the success of such an initiative, collaboration among all stakeholders in the school is deemed crucial.

We provide below a comprehensive, step-by-step guide to assist in the effective establishment of a waste recycling program. These guidelines outline the minimum requirements for implementing a waste recycling program in schools.

The operational guidelines should be followed by all stakeholders in the school as well as those involved in or coordinating waste collection within the school.





3. Glossary

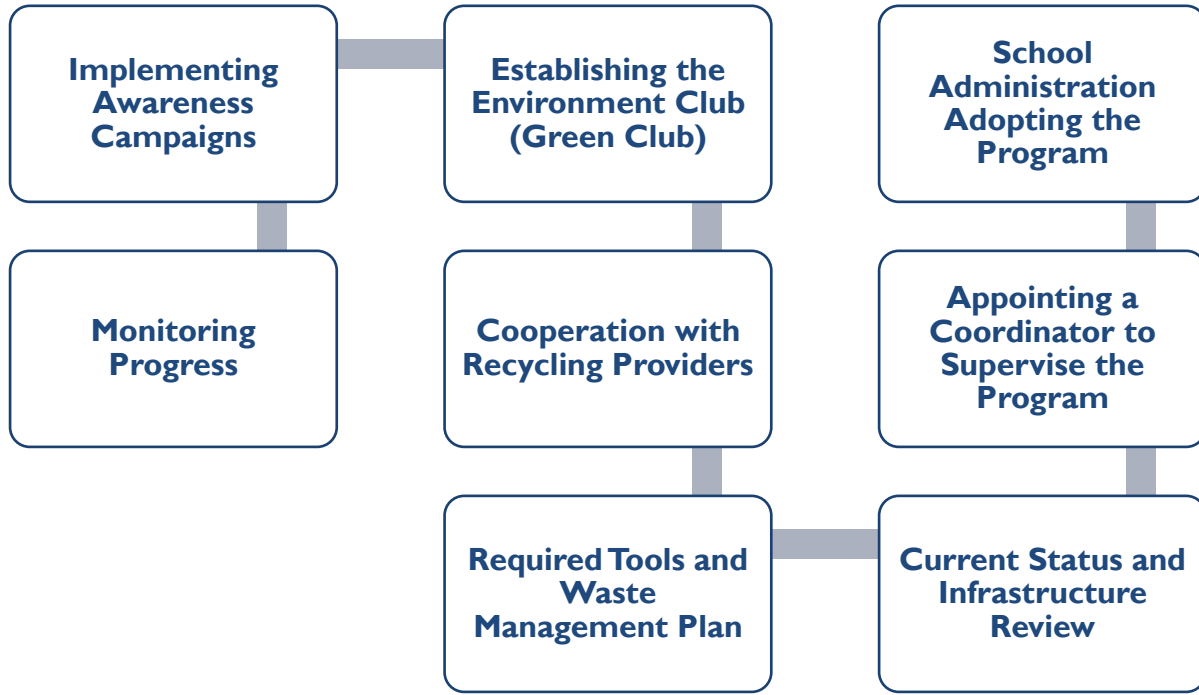
Waste:	Refers to the byproducts of a waste generator's activities that no longer hold any utility or value for the waste generator's primary business activities. Waste products are deemed recyclable if they can be safely repurposed, reused, and/or sold, including for export. It's important to note that medical waste is not considered recyclable in the context of this indicator. Nevertheless, waste generated by hospitals, pharmacies, and medical offices, which is non-medical in nature, may be eligible for recycling.
Waste Management:	This involves comprehensive oversight of waste processes, encompassing waste generation, handling, cleaning, processing, storage, collection, and transportation from its point of origin to its ultimate recovery or disposal destination. This management extends to the efficient operation and subsequent maintenance of disposal sites. Recycling is a versatile process that can be incorporated at any stage of the waste management system.
Recycling:	An integral step within the sustainable waste management hierarchy, aimed at preventing waste from ending up in landfills. Through this process, waste is reclaimed for future use, involving the separation of waste for subsequent utilization and the processing of the separated material into a product or raw material.
Waste Reduction or Prevention:	This entails the reduction of material originating from a specific source by addressing the manufacturing, processing, or consumption patterns typically responsible for generating that material.
Recyclable materials:	These are materials that have been recovered or diverted from the non-hazardous solid waste stream with the intent of reuse, recycling, or reclamation. A significant portion of these materials is utilized in the manufacturing of products that might otherwise be produced using raw or virgin materials. Typically, recyclable materials encompass metals, paper, cardboard, glass, and plastics.
Separation at Source (SAS):	This approach involves the separation of waste based on the type of material, with the aim of processing and recovering that material. It entails the separation of recyclables from the waste stream generated by commercial establishments or buildings.
Collection:	This refers to the gathering of waste, including the initial sorting and preliminary storage of waste, with the purpose of transporting it to its final recovery or disposal destination.
Food waste:	Food waste encompasses all biodegradable waste resulting from food preparation or consumption, including items such as fruit and vegetables, dairy products, coffee grounds, tea bags, bread, rice, meat, chicken, fish, and similar items. Food waste specifically excludes grease-trap waste and any associated packaging. It is frequently referred to as organic waste.
General Waste:	This term pertains to any materials, substances, or objects that have been discarded or abandoned. General waste is characterized by being non-recyclable, non-hazardous, and non-food waste, typically fitting within a public or municipal container, such as: napkins and tissues, certain types of packaging, and non-recyclable plastics.
Separate Collection:	This refers to the practice of collecting waste in a manner where different types and natures of waste are kept separate, ideally right at the source. This separation is done to facilitate specific and targeted treatment of each waste stream.
School Building:	An institutional building containing facilities, courtyards, and classrooms to deliver educational systems to students in various educational levels.

ROADMAP TO RECYCLING IN SCHOOLS

THE BEGINNING



4. Steps of Preparing for the School Recycling Program:





4.1 School Administration Adopting the Recycling Program

The school recycling program begins with the school administration's adoption of establishing a recycling system in the school, since the school administration plays an active role in the program as it is the decision maker and stakeholder responsible for supporting and facilitating recycling activities and practices in the school.

Task Owner: School Administration

4.2 Appointing a Coordinator to Supervise the Program

Appointing a coordinator by the school administration is the first step of building an effective school recycling program. The coordinator is instrumental in understanding the school's preference of the recycling system form to be implemented.

The coordinator can be an active administrator or teacher in the school. He/ she shall be provided with the required support and facilities by the school administration.

Task Owner: School Administration

4.3 Infrastructure and Current Status Review

By understanding the school's status and infrastructure, the volume of waste generated by students and school facilities will be estimated to help design a suitable recycling program for the school. Information should be gathered using a form showing the school infrastructure and volume of generated materials. Forms may vary from one school to another according to various factors, such as the school size, number of students, and types of facilities. Therefore, each school may develop its own form.

- To determine the school infrastructure (use the suggested form in [Annex 1](#)).
- To determine the status review: (use the suggested form in [Annex 2](#)).

Task Owner: School administration or recycling program coordinator

4.4 Required Tools and Waste Management Plan

To determine the required tools, a clear waste management plan must be developed encompassing the following steps:

1. Determining the status and available infrastructure using the previously filled in status and infrastructure forms in [Annex 1 and 2](#).
2. Determining the materials to be collected, such as paper, plastic, and metals by setting targets for volumes to be collected and changes in student behaviours according to a clear timetable.
3. Determining the procedures and interventions to be implemented to achieve targets using the required tools, such as appointing a provider or implementing awareness campaigns.
4. Provide the required tools, such as suitable bins to collect each type of recyclable materials generated by the school. A service provider may be contracted to provide bins as part of the service. Alternatively, bins may be purchased according to an agreement between the two parties in proportion with the school's budget and systems. (See [Annex 3](#) to develop your own waste management plan).
5. check section [Section 5.1](#) to determine the number of bins needed in your school, such that the bin sizes are suitable with the volume of generated materials, frequency of material collection, and other factors.
6. Monitor your plan continuously using performance indicators and reports generated by your service provider.

Task Owner: Coordinator under the school administration supervision



4.5 Cooperation with Recycling Providers

Communicate with recycling service providers to understand their services and fees. Verify that they can process your generated waste and intend to recycle it. Reach an agreement on the waste collection mechanism and necessary collection rounds for the recycling program.

Determine the form of cooperation suitable with the school's system, laws and budgets. You can reach an agreement that ensures sustained quality of the service provided to schedule the waste collection rounds and monitor the weight of the materials collected from the school. (See [section 7](#) for the list of recycling service providers).

Task Owner: Coordinator under the school administration supervision

4.6 Establishing the Environment Club (Green Club)

The Environment or Green Club: An Initiative that brings together students, staff, faculty and parents to participate in transforming the school into a green educational institution that promotes sustainable development by forming a team that reflects the collective commitments to sustainability, social and environmental responsibility and leads the activities of the school recycling program.

Club members:

All stakeholders in the school (students, teachers, staff, and parents) shall be engaged to allow assigning roles and responsibilities in an integrated manner that ensures effective cooperation. Male and female students from various educational stages can be engaged along with interested parents to provide required support to implement recycling activities in schools.

Assigning tasks:

Tasks shall be divided between participants in proportion with their capabilities and powers. (See [Annex 4](#), which represents the guide for establishing the Green Club in your school).

Task Owner: Coordinator under the school administration supervision

4.7 Implementing Awareness Campaigns

Launch an awareness campaign in the school to raise awareness on the recycling program in your school. Share information about the benefits of recycling and provide guidelines on effective separation. For more details on this topic, see [section 7](#) and use [annex 5](#) to design the posters).

Task Owner: Coordinator in Cooperation with the Green Club

4.8 Monitoring Progress

Monitor progress in the recycling program continuously and encourage students to recycle outside the school and in their homes. Work with your service provider to obtain records of recyclable materials that were collected to effectively evaluate and report the program's effectiveness.

Use the performance indicators listed in [annex 7.4](#) to monitor the program's performance then amend the waste management plan and improve recycling activities.

Task Owner: Coordinator under the school administration supervision



5. Understanding the nature of your waste

Type of solid waste	Description
Paper waste	Used paper, printed documents, used books and notebooks, and old flyers. Usual percentage: 45-65%
Plastic waste	Empty plastic containers and bottles (water bottles, drinking cups, and food containers). Plastic packaging Usual percentage: 5-10%
Organic waste	Leftovers from lunches and snacks. Usual percentage: 25-35%
Metal waste	Aluminium cans, tin foil (soda cans) Metal packaging (tin containers). Usual percentage: 5-10%
Other waste	Various materials such as pencils, stationary, and small materials that do not fall within the abovementioned categories. Usual percentage: 5-10%

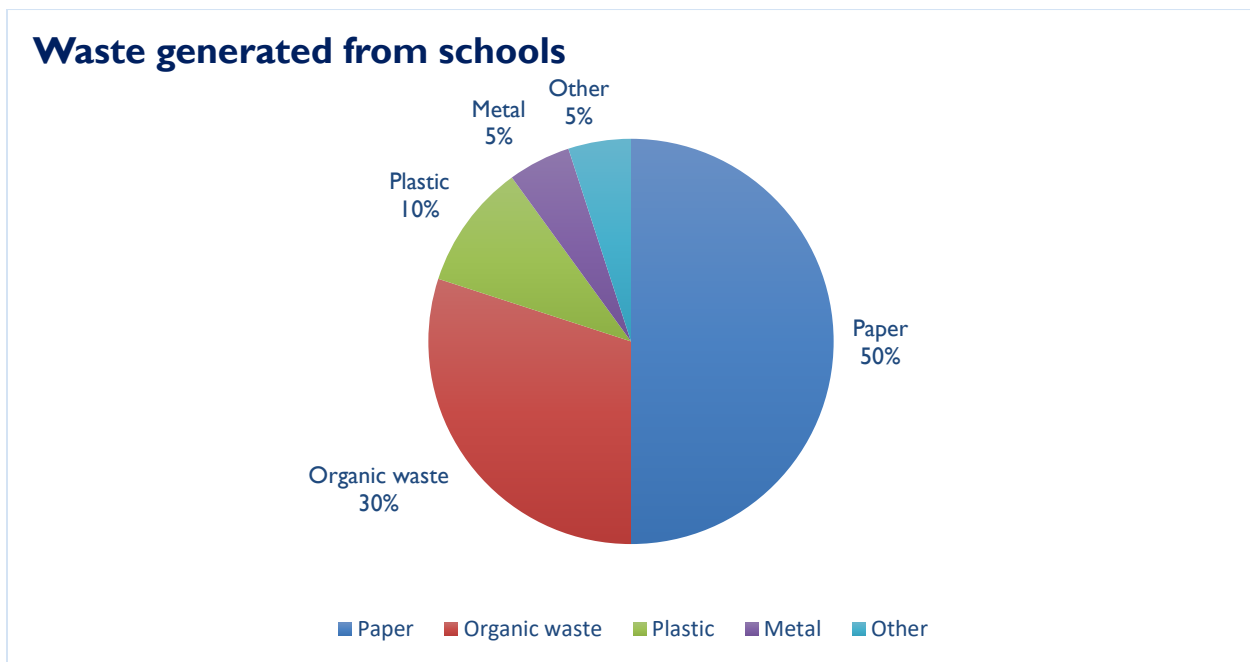


Figure 1: Waste generated from schools

5.1 Estimating the Number and Capacity of Bins

Estimating the Number and Capacity of Bins According to the Number of Students

You can determine the number and capacity of needed bins in your school depending on the number of students and school activities that might generate recyclable materials. Since paper waste represents the highest portion of generated waste, the table below shows recommendations regarding the capacity and number of bins needed to implement the paper recycling program successfully. Repeat the process with the rest of recyclable materials.



Bins should be placed where waste is generated (in classrooms, facilities, etc.) to separate it at the source directly. Each separation bin should have a distinct colour assigned to each recyclable material.

Bin location	Number	Frequency of waste collection	Bins (capacity in litres)	Number	Example
In each classroom	20-30 students	1-2 /week	Paper		
			40-50 litres	1 bin	
In Hallways	Collection bins in each floor	Weekly	Paper		
			100-120 litres	1 Bin	



Bin location	Number	Frequency of waste collection	Bins (capacity in litres)			Example
			Paper	Plastic	Metal	
Administration facilities	<p>Bins inside the administration facilities for faculty and staff use</p> <p>(Different bins or one divided bin may be used)</p>	Once or twice weekly	90-120 litres	90-120 litres	90-120 litres	
Central collection bin	One bin to collect all materials after separation	<p>Smaller bins are emptied in the central collection bin</p> <p>The central bin is emptied by the service provider according to the signed agreement</p>	770 - 1000 litres			



5.2 Central Waste Collection Station in the School

Preparing a central collection station for recyclable materials in the school involves several main steps:

I. Consulting with recycling providers: consult with your recycling providers regarding three main points:

- Determining the frequency of collecting recyclable materials (transportation schedule).
- Determining the owner of the purchasing task (bin purchasing responsibility).
- Understanding the operational model of the recycling service provider (the business model).



After reaching an agreement on these points, you can determine the sizes and numbers of the bins. Delegate this task to the recycling service provider and allow them to estimate the required sizes and numbers of bins based on their experience and previous evaluations. Having this conversation with the service provider and taking into consideration factors such as waste collection frequency and the volume of recyclable materials generated in each office will assist in selecting optimal sizes for bins in the school's central collection station.

2. Business Models of Recycling Providers:

- **Recyclable material purchasing service:** In this model, the recycling provider purchases recyclable materials directly from individuals or establishments that generate waste. Usually, service providers pay a specific amount or an in-kind alternative such as recyclable paper. They might also provide separation bins in return for collection of materials.
- **Recyclable material collection and transportation service:** In this model, the recycling service provider provides collection and transportation services of recyclable materials. That is, the provider collects a fee in return for the service.
- **Free recyclable material collection service:** The service provider offers collecting recyclable material from waste generators or companies free of charge. Although the service is provided without imposing any direct fees on waste generators, service providers generate revenue by selling the collected materials to recycling facilities or factories.
- **Purchasing bins based on agreed conditions**

After determining the volume of waste generated by the school and the number of required bins, the school administrator needs to determine the method of purchasing the bins for the school.



RECYCLING SERVICE PROVIDERS



6. Recycling Service Providers Services and Data

6.1 Recycling Providers Equipment Suppliers

The Recycling in Jordan activity compiled a list of recommended providers of recycling bins. The following table shows those providers' information.

Provider name	Phone	Email
Green Spot for Recycling	0777252705	sales@greenspotjo.com
Munich Waste Management	0797200509	info@sws-waste.com
Green Gardens	0799642640	green.gardens7894@gmail.com
Safe and Clean	0776186362	mhoammad.t@safeandcleanjo.com
Harra Project	0798812651	harraproject@gmail.com
Lahaf Trading Co.	0792835117	lahaftrading@gmail.com
Alnouf for Industrial Equipment	0777283665	kholoud@alnouf.com
Explorer for Logistic Services	0777787828	info@els-jo.com
Jordan Reach for Supplies	0799810002	Anask@joreach.com
Sami Al-Bashiti and Co.	0795705095	rami.nassar@mega-hardware.com
Bashiti Hardware Stores	0798138262	Hamza@bashitihardware.com
Abu Omar Diab Trading	0795371194	Moh.diab.omar@gmail.com
V-Tech	0799916093	yazeed@vtech-sys.com
Saleh Mashaal	0797111147	Salehmeshal@yahoo.com



6.2 Communication with Recycling Service Providers

As mentioned earlier, consulting with recycling service providers is crucial for determining the specifications of the bins. The Recycling in Jordan activity compiled a list of renowned recycling service providers. The following table shows their information.

Recycling Service Providers in Amman	Phone	Email
Faster Step	0791440500	fasterstep2016@gmail.com
Green Gardens for Recycling	0799642640	green.gardens7894@gmail.com
Safe and Clean for Environmental Services	0776186362	mhoammad.t@safeandcleanjo.com
Green Future for Sustainable Solutions	0799263339	hanan.greenfuture@gmail.com
BE Environmental Services	0776606707	om@be.jo
Jordan Environment Society	0798786339	maannasayreh@yahoo.com
Alajjal Recycling	0798560392	info@alajjalrecycling.com
Zero Waste Recycling	0795937359	Amer.alamayreh@gmail.com
GreenJo	0799903030	Greenjo.app@gmail.com
Hanoover Logistic Services	0797050040	hanoovermanagement@gmail.com
Erecycle Hub	0797868860	e-radwan@erecyclehub.com
Asima Cleaning Services	0790624994	Michel@asima.net

RESOURCES ON RECYCLING

BEYOND THE BASICS



7. Going Beyond Basics

7.1 Awareness

Cooperate with the Green Team to launch an awareness campaign for the school on recycling. This is crucial for the recycling program's success. Some of the ways of achieving this success are:

1. **Awareness workshops and seminars:** Organise awareness seminars and workshops to educate students on the importance of recycling and its benefits and the types of recyclable materials. Look into inviting service providers, experts, or environmental organisations to present interesting presentations.
2. **Linkage to curricula:** Promote recycling practices by linking recycling activities to educational curricula and explaining the benefits of recycling within the context of each educational subject.
3. **Advertisement:** Maintain awareness of recycling by advertising through awareness messages on the school's website and social media platforms, email, newsletters, or announcements on the announcement board. Share success stories, tips and warnings regarding recycling practices.
4. **Visual instructions:** Use interesting posters next to recycling bins to indicate what can or cannot be recycled. Make the instructions simple and easy to understand and follow for everyone and make sure that they are placed in a visible place.
5. **Challenges and competitions to encourage student participation:** Organise recycling challenges and competitions for students. Provide incentives or awards for achieving recycling goals, such as reducing waste or increasing recycling rates.
6. **Sustainability activities:** Organise activities or exhibitions on sustainability in the school to showcase recycled and reused products and eco-friendly services. These events can help educate students about the fields of recycling.
7. **Be a role model:** The administration should participate in recycling efforts to present a positive role model for students.
8. **Measure performance and share results:** Evaluate progress in the recycling program and share the results with the rest of the school. Highlight achievements and celebrate them to motivate students. You can prepare progress reports in cooperation with the recycling service provider.

Begin implementing the school recycling program. The first stage begins from the Green Club by mainstreaming the concept at the school level. Launch an awareness campaign on the program and share information about the benefits of recycling. Provide guidelines on effective material separation. By spreading needed knowledge among students, faculty and staff, you can achieve high performance indicators for solid waste separation in various school facilities. Promoting awareness of recycling and engaging students in the school would eventually promote the sustainability and effectiveness of recycling practices such that they extend to students' homes and protect the environment.

7.2 Reducing Practices

Since paper represents the largest portion of waste generated by school activities, reducing paper consumption is an environmentally responsible and cost-effective approach in improving productivity. Outlined below is a guide on reducing paper consumption:

1. **Electronic documentation:** Encourage using electronic documents for internal communications, reports, and memos instead of paper documents, and send them through email or a shared digital platform.
2. **Printing in two faces:** Adjust printing settings to print on both sides of the paper, thus reducing paper consumption. Encourage teachers to do the same.
3. **Electronic signatures:** Use a program for electronic signature and validation of documents. This would reduce the need to sign paper documents.
4. **Electronic invoices and receipts:** Request invoices and receipts through the internet whenever possible, to reduce the need to print paper documents and folders.
5. **Paperless meetings:** Encourage the use of laptops or tablets.



Implementing these steps will significantly reduce paper consumption in your school and save cost. It will also make the work environment more sustainable and eco-friendlier.

7.3 Proper Recycling

Recycling involves understanding the method of recycling each type of waste effectively. The following is a summary of these methods:

Paper and cardboard




- Recycle clean and dry paper and cardboard.
- Accepted materials include paper, newspapers, magazines, carton boxes, and paper packaging.
- Discard any plastic or non-paper materials before recycling.
- Cardboard boxes should be broken down flat.
- Different types of paper may be bundled in one package.
- There is no need to remove paper clips or staples.
- Don't recycle tissue paper.
- Don't recycle waxy cardboard such as that used in margarine boxes and mailers.
- Cardboard boxes should be broken down flat.
- Keep paper and cardboard products dry and cover them so that rain doesn't reach them.
- Do not bundle, bind, or bag your cardboard using plastic materials.
- Do not attempt to recycle cardboard with grease stains or food residue.

Plastic

- Check for recycling symbols (e.g., PET, HDPE) on plastic containers.
- Accepted items include plastic bottles, containers, and jugs.
- Rinse containers to remove any leftover residue.

Learn which plastics are accepted for recycling and, whenever possible, choose durable alternatives like personal aluminium or glass water bottles, washable food containers, and reusable bags. Below is a compilation detailing various types of plastics, their characteristics, intended applications, and their recycling potential.

Plastic Types

 PETE	Polyethylene Terephthalate (No. 1 PETE / PET)	<p>Description: Clear, strong, and lightweight plastic used for single-use food and drink packaging, like soda and water bottles, salad dressing bottles, and peanut butter containers.</p> <p>Recyclable? Yes, and it's the most common plastic in circulation. Rinse out any food residue and ensure items are dry before recycling.</p>
 HDPE	High-Density Polyethylene (No. 2 HDPE)	<p>Description: Commonly found in household products like milk jugs, cleaning containers, shampoo and detergent bottles. It's lightweight but durable.</p> <p>Recyclable? Yes, and can be recycled up to 10 times for new products. Ensure items are clean, rinsed, and dry before recycling.</p>
 V	Polyvinyl Chloride (No. 3 PVC or V)	<p>Description: Versatile and used in piping, medical equipment, plastic gloves, building products, water-resistant clothing, and some food packaging.</p> <p>Recyclable? Recycling PVC can be challenging. When disposed of, it can be toxic, and recycling it is not easily accessible. There are many types of PVC, some of which can be recycled by specialized recyclers to create products such as piping, fencing, panelling, gutters, floor tiles, and mats.</p>



Low-Density Polyethylene
(No. 4 LDPE)

Description: Known for use in shopping bags, squeezable bottles, furniture, clothing, and frozen food packaging. It is transparent, flexible, and tough.

Recyclable? LDPE can be recycled, but the ease of recycling depends on the type of plastic. Flexible products are more challenging to recycle, while more rigid forms are easier to recycle.



Polypropylene
(No. PP 5)

Description: Rigid, tough, and resistant to moisture, grease, and chemicals. Used for ketchup bottles, kitchen containers, straws, carpets, rope, and medicine bottles.

Recyclable? Yes, polypropylene is adaptable and can be recycled into various products.



Polystyrene
(No. 6 PS)

Description: Lightweight and often used for single-use items like egg cartons, Styrofoam packaging, packing peanuts, disposable cups, and dinnerware.

Recyclable? Polystyrene is difficult to recycle and takes a long time to decompose. It's not an eco-friendly option.



"OTHER"
(No. 7)

Description: A miscellaneous category for plastics not fitting into the other six categories, including fibreglass, polycarbonate, plexiglass, nylon, and acrylics.

Recyclable: "Other" plastics are often challenging to recycle, and some may contain harmful substances like BPA. They are not commonly accepted for recycling except for certain cases like nylon.

Please check your local recycling guidelines, as recycling capabilities can vary by location.

Metals (Aluminium and Steel)

- Recycle aluminium and steel cans.
- Rinse cans to remove any remaining residue.
- Avoid recycling scrap metal or other metal items; they may require different recycling processes.

Electronics (E-Waste)

- Take old electronics (e.g. computers, smart phones) to designated e-waste recycling centres.
- Do not dispose of electronics in regular trash.

Hazardous Materials

- Properly dispose of hazardous waste like batteries, paint, and chemicals at designated collection points.
- Never mix hazardous waste with regular recyclables or trash.
- Handling hazardous materials responsibly prevents environmental contamination and health risks.

Bulky Items

- Arrange for the proper disposal or recycling of large items like furniture or appliances through waste management services.



7.4 Performance Indicators

First Indicator: Through the School

Through the green team responsible for supervising recycling activities in the school. Each member represents other members and captures their opinions and suggestions within the scope of their roles and knowledge as follows:

- Students: By adhering to separation at source in classrooms. As the number of classrooms that practice separation at source increases, this indicates that the number of students participating in the school recycling system is increasing.
- Cleaning staff: By emptying classroom separation bins and bins in the facilities into collection bins, the volume of recyclable materials separated by students will increase and in return the volume of general waste generated by the school will decrease.
- Administration and faculty: The indicator of student engagement in recycling activities and the times in which separation at source activities increase can be obtained from supervisors and administrators in the school. The volume of separated materials might decrease during examinations and increase after exams with the disposal of books and paper.

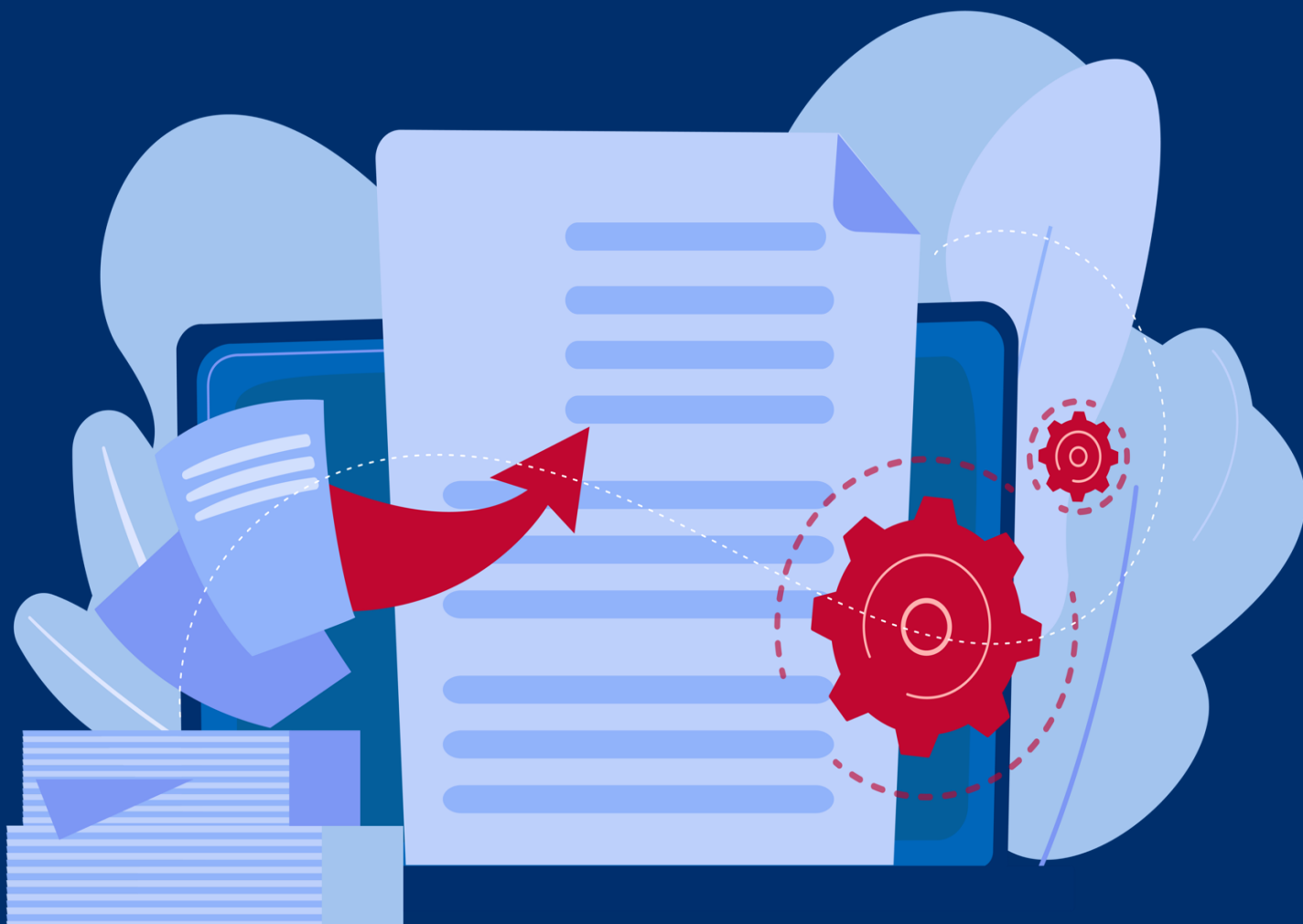
This indicator requires observation and estimation of separated material volumes to provide a preliminary indicator to monitor recycling activities and the volume of materials generated by the school and deduce reasons for the increase or decrease of these materials compared to other periods of the school semester.

Second Indicator: Through the Service Provider

You can rely on the service provider's reports on the weight of recyclable materials collected in each collection operation and the number of collection rounds in each semester to provide an indicator of the school recycling program's progress and monitor the quantities of generated materials.

This indicator depends on the weights reported by the service provider; therefore, these reports and the reported weights should be documented in school reports.





ANNEXES



8. Supporting Documents

8.1 Annex I: School infrastructure

Information needed to evaluate the infrastructure:

- **Number of students:** The number of students (who represent the largest generator of recyclable materials) is the main factor in the school recycling program. As the number of students increases, the volume of generated recyclable materials will increase.
- The quantity and types of waste generated in the school: Determining the quantity and types of generated waste in the school helps decide the needs and requirements of the recycling program. By analysing the quantities and types of generated waste, the required resources to efficiently run the program can be decided. Paper represents the largest portion of generated recyclable materials, followed by plastic, metal and other materials.
- **The school's area and facilities:** By understanding the quantities and types of waste generated by various school facilities such as classrooms, administration facilities, and external units, the separation at source and storage locations can be better assigned in school spaces and facilities. The location of bins and equipment can be better determined based on actual needs, accessibility, and facilitated use for everyone in the school.

School Name:								
Semester/ School Year:								
School infrastructure								
#	No. of buildings	No. of floors	No. of classrooms	No. of students	No. of hallways	No. of courtyards	School facilities	Type and volume of generated waste (day/ week)
1								
2								
3								
4								
5								
Analysis of the school recycling program								
#	If the school currently implements recycling practices partially or fully, answer the following questions:							
	Who participates in material separation in your school?							
	How many bins are dedicated for separation? What are their locations?							
	What are the types of separated materials?							
	Do you monitor the volume of generated materials after separation?							
	What is the expected volume of materials generated after separation?							
	How often are recyclable materials collected?							
	What is the name of the service provider that collects materials from your school?							
	Based on the previous information, you can develop your school's recycling program by following the steps in this guide. Follow step 3							



8.2 Annex 2: Current Status

Determine the targets you would like to achieve from the recycling program, then connect the targets to the school's status and performance indicators, to measure the program's effectiveness.

Example: If the school generates 1 ton of waste every month according to the analysis of generated waste (use the service provider's help to determine the overall quantity of waste generated by the school); and according to the analysis, the percentages of generated recyclable materials are as follows:

- 50% of waste is paper; that is, 500 kg of total waste.
- 10% of waste is plastic; that is 100 kg of total waste.
- 5% of waste is metal; that is 50 kg of total waste.

Plan for the volume of materials to be recycled. You can aim for recycling all generated waste but consider the possibility of not achieving this target in the first phases of the program. Monitor volumes of recycled materials monthly and connect them to the program's performance indicators.

Current Status							
Types of generated materials	Locations of waste generation	Volume of generated materials	Development opportunities			Goal planning	
			Reducing	Reusing	Recycling	Goal	Timeline
Example							
Paper	Classrooms and administration facilities	Daily generation	✓	✗	✓	Limiting the use of paper and recycling generated paper waste	Equivalent to 500 kg/month
Plastic	Hallways and courtyards	Weekly generation	✗	✗	✓	Recycling generated plastic waste	Equivalent to 100 kg/month





8.3 Annex 3: Waste Management Plan:

After developing a plan that states the school's status, including the actual volume of generated waste and locations of generation, you can develop the next stages of the waste management plan, including:

- Opportunities and interventions
- Performance Indicators
- Required services

Opportunities and interventions

Procedures (Building Opportunities)											
Types of generated materials	Locations of waste generation	Description	Required procedures				Planning				
			Separation bins are available (Y/ N)	Required action	Implementing the action	Required equipment and services	Ease of implementation	Effect on the institution	Student uptake	Total	Implementation framework
Example											
Paper	Classrooms	Separation at source to reduce volume of landfilled waste	No bins	Provide bins	Provide bins according to the agreement with the service provider	40 liter bins for each classroom	3	3	3	9	Now
Cardboard	Printing rooms	Appropriate selection of recycling bins to determine the types of generated waste and frequency of generation in printer rooms	Separation bins available	Monitor separation in available bins	(Ensure that available bins are suitable for the generated material)	Monitoring proper separation in available bins	2	1	3	6	Medium term

Evaluation scores: 1 represents the most difficult to implement and 9 represents the easiest to implement





Required services

Required Services			
Building	Required services	Description of required services	Notes

	Required/ Available	Challenges
Inspecting and auditing waste	Required	
Planning for waste management in the location	Available	
Staff training service		
Waste transportation service (full/ per demand)		
Specialized waste disposal services		
Routine maintenance of bins and replacing damaged bins		
Monthly report on waste and recycling activities		
Providing labeled bins (commercial)		
Waste processing service in the location		
Material destruction services		
Recycling guarantee service		
Cleaning and sanitization services, including pest and rodent control		
Paper and cardboard		
Electronic waste		
Metal		
Plastic		
Composting		
Organic waste		



8.4 Annex 4: Establishing a green club in your school

Introduction

The Green Club is an initiative that brings together male and female students, school staff, teachers, and parents to transform the school into an eco-friendly educational institution. This initiative aims to stimulate sustainable development and form a team that reflects a collective commitment to sustainability, social responsibility, and environmental stewardship. The Green Club can play a significant role in driving change.

The club highlights the importance of building students' capacities and motivating them to take an active role in contributing to the management and operation of their schools. It involves students in the decision-making process, the design, and implementation of activities, and ensures participation from different age groups and genders, and physical abilities thereby ensuring a wide-ranging impact. Students apply teamwork, problem-solving, and management skills to design a well-thought-out and actionable plan that addresses the school's actual needs in managing, reducing, and recycling waste.

The club aims to engage students of different stages, gender and age groups in accordance with school policy. This engagement encourages the exchange in point of views, allowing each student to reflect the needs, recommendations, and opinions of their peers.

This 10 steps guideline helps the school to establish an active green club in your school.





Steps to Establish an Effective Green Club in Your School

Step 1: Define Mission and Objectives



The launch of the "Green Club" in school begins with a sense of community responsibility, highlighting the urgent need to address the increasing amounts of waste and its negative impact on the environment and public health. This involves establishing the Green Club's mission and objectives.

Mission

Define the purpose of establishing your Green Club. What is its core role? You can determine the Green Club's mission from its fundamental purpose and reason for existence. It should articulate what your school seeks to achieve.

For example: "To create a school environment where sustainability is ingrained in every aspect of life, fostering a culture of environmental responsibility, innovation, and stewardship among male and female students, staff, and the wider community."

Objectives

Determine measurable goals for your Green Club to achieve its mission. These objectives are concrete outcomes or results that your school aims to accomplish within a defined timeframe. Objectives provide clarity and direction, guiding the Green Club's activities, efforts, and actions.

Here are some key objectives that could assist you in launching your own Green Club:

Raise Awareness: Organize educational workshops, seminars, and awareness campaigns to educate students, teachers, and staff about environmental issues, sustainable living practices, and the importance of recycling.



Reduce Waste Generation: Develop strategies to minimize waste generation through waste reduction campaigns, encouraging the use of reusable items, and promoting composting where feasible.

Increase Recycling Rates: Implement initiatives to improve recycling infrastructure, raise awareness about proper recycling practices, and track progress towards increasing the volume of recyclables collected at school.

Student Leadership: Provide opportunities for student leadership and involvement in planning, implementing, and evaluating club activities. Foster a sense of ownership and responsibility among club members for the success of environmental initiatives.

Implement Sustainable Practices: Advocate for and implement sustainable practices across the school, such as energy conservation, water conservation, and the use of eco-friendly materials and products.

Step 2: Form your Team



To effectively carry out the mission and objectives of the Green Club, it's essential to engage the school team, fostering a collaborative spirit to accomplish the shared goals of the Green Club. Engage enthusiastic male and female students, teachers, and staff members who are passionate about environmental sustainability to form the core team of the Green Club. To ensure the high-efficiency implementation of the club's activities, distribute tasks among club members (students, staff, teachers, and parents) so that each member or group is responsible for specific tasks. Arrange periodic meetings to review the work plan, discuss the most important achievements, and address any challenges.

The participation of all Green Club members in forming the action plan, under the supervision of the school administration, ensures that activities are feasible and comply with school laws and regulations. From designing awareness messages to planning interactive activities and initiatives aimed at engaging the rest of the school in reducing solid waste generated in classrooms, involve everyone. Additionally, arrange tools to measure the effectiveness of the action plan.



Step 3: Develop Roles

You can establish a set of bylaws outlining the structure, roles, and responsibilities of the Green Club based on school needs, including the club's structure and hierarchy. This clarity helps ensure smooth functioning.

These rules can include:

Membership: Membership in the club should preferably be open to all male and female students, teachers, staff, and parents regardless of their ages, educational level, nationalities, or physical abilities who share an interest in environmental issues and are willing to contribute to the club's activities.

Participation and Activities:

Members are expected to uphold the values and mission of the club, actively participate in meetings and events, and contribute positively to the club's objectives.

The club shall hold regular meetings where all members could participate in discussions and decision-making.

Assign tasks and responsibilities within the Green Club bylaws.

Financial Policies and Procedures: Establish clear financial policies and procedures governing the club's economic management, budgeting, fundraising, and expenditure.

Performance Monitoring: Adopt proper rules for the mechanism of sorting recyclable solid waste and disseminate these practices to students. You can track the increase in recyclable materials within the bins. For example:

At the classroom level: Papers can be sorted.

At the outside areas level: Metals, plastics, and other recyclable materials can be sorted.





Step 4: Planning



Highlighting the significance of strategic planning in launching the Green Club is a crucial initial phase. This involves actively seeking out potential members and collaborators to formulate a cohesive work plan. By doing so, you can effectively schedule and coordinate the club's activities within appropriate time frames. It's essential to develop a work plan that aligns with the preferences and availability of club members, potentially structuring it on a quarterly or annual basis.

When orchestrating Green Club plans, consider some important factors and key criteria to ensure a strategic approach:

School Infrastructure: Infrastructure plays a significant role in the founding process of the club, impacting the form and quality of activities. Consider factors such as school capacity, student numbers, facilities, yard space, and disposal mechanisms for recyclable solids.

Logo and Slogan Design: Logos are important elements for attracting attention and spreading the core message of the club, motivating students to manage solid materials. Use distinctive and non-traditional designs to encourage participation, enhance the clarity of the message for students, staff, and parents, regardless of their age, education level, or physical abilities.

Leverage the talents of students, parents, and administrative staff to provide necessary support and equipment for designing the logo. The logo can include a picture, drawing, video, or any art form that members see fit, allowing students to participate in the design process and fostering a sense of responsibility and belonging toward the club's mission.

Awareness Campaigns and Workshops: Design innovative awareness messages that attract attention and gain the support and participation of the rest of the school. These messages should be simple, clear, and explanatory, effectively communicating the club's activities and inspiring continuous student participation. Examples include:

- School morning assemblies
- Clean-up campaigns
- Competitions such as waste-to-art and designing logos and posters
- Interactive games and activities

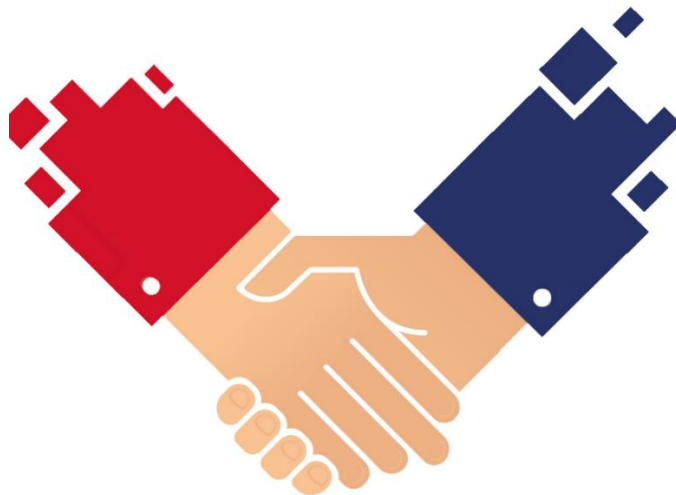


Green Initiatives and Events: Enhance the role of the Green Club by implementing sustainable, eco-friendly activities and events, such as:

- Tree planting
- Eco-friendly art contests
- Clean-up campaigns
- Recycling awareness campaigns
- Water conservation initiatives

Recycling and Educational Materials: Increase student interaction during classes and integrate green club activities with the school's curriculum. Incorporate study materials related to environmental preservation, waste management, and social responsibility into the prescribed study materials. This integration helps link theoretical knowledge to actual activities, fostering a deeper understanding of environmental issues.

Step 5: Establish Partnerships



Establishing partnerships can significantly enhance the impact and reach of the Green Club's initiatives, achieving sustainability in executing recycling initiatives within your school through:

Environmental Organizations: Partner with environmental nonprofits or advocacy groups in the community to exchange ideas, share resources, and collaborate on joint projects or events. This collaboration aims at securing accreditations and certifications within the realm of environmental conservation initiatives, such as Green Schools and ECO Schools.

Local Businesses: Form partnerships with businesses that support sustainability initiatives, such as eco-friendly companies and service providers. This includes responsibly disposing of sorted materials through recycling companies.

Government Bodies: Connect with local government departments or agencies responsible for environmental protection, waste management, or parks and recreation to access resources and support for community-based projects.

Community Groups: Collaborate with community organizations, neighbourhood associations, or youth groups to organize environmental workshops, clean-up events, or community gardening projects.



Media Outlets: Partner with local newspapers, radio stations, or online platforms to raise awareness about the club's activities, share success stories, and promote environmental education through media coverage and outreach

Step 6: Provide Leadership Opportunities



It is important to grant students leadership roles and decision-making opportunities to instill a sense of social responsibility towards environmental protection and to believe in their ability to make positive changes for future generations. This can be achieved by involving students in all stages of Green Club activities.

You can allow students to take the lead: Let students who are members of the club guide other students towards proper recycling practices, including identifying recyclable materials and those that are not. Tasks can be divided into three or more groups:

The first group: could consist of some students from each grade whose task is to monitor recycling practices within the classrooms.

The second group: could be responsible for monitoring recycling in the hallways.

The third group: for monitoring recycling in the schoolyard.

Empower students to take an active role in executing all club activities and provide them with the opportunity to divide tasks among themselves. This includes conducting awareness campaigns for other students, participating in designing logos and advertisements, as well as organizing meetings and regular reviews.

You can also engage parents in the Green Club by involving them in planning and organizing activities, providing guidance and support, and encouraging their participation in promoting environmental initiatives both within the school and in the wider community. Parents can contribute valuable expertise, resources, and connections to enhance the effectiveness and impact of the Green Club's efforts. Additionally, they can serve as role models for sustainable practices and help instill environmental values in their children and the broader school community.



Step 7: Determine Challenges



Identifying and effectively addressing challenges while continuously enhancing Green Club activities in schools is pivotal for ensuring the sustained efforts of participants and fostering a commitment to sustainable development. To devise appropriate interventions to tackle these challenges, a comprehensive understanding of their magnitude and dimensions is essential.

Internal challenges encompass issues within the school campus that can be managed through the formulation of club policies and collaboration among participants to find optimal solutions. For instance, internal challenges may include the need for adequate storage facilities for sorted materials and establishing fruitful partnerships with recycling companies to efficiently manage processed materials.

External challenges, conversely, extend beyond the school campus and involve partners, service providers, and stakeholders engaged in club activities. Addressing these challenges may require intervention at a higher level, including engagement with the school's governing body. Examples of external challenges encompass compliance with environmental regulations and standards, as well as the cultivation of awareness within the local community about the significance of social responsibility and embracing recycling practices.

Having a clear understanding of the type of challenges is crucial for designing a plan to address them. The action plan may need to be developed by all club members (students, teachers, parents, staff) so that different perspectives and options are brought to the discussion, and optimal solutions are chosen to confront the challenges according to the appropriate circumstances.



Step 8: Reporting and Evaluation



If you evaluate your club's challenges and activities, your club can be pivotal in devising an effective action plan to tackle them. You can achieve this goal by reporting and archiving your club activities.

Regular evaluation through reporting is indispensable for the Green Club to assess the effectiveness of its activities, track progress towards goals, and make informed decisions for continuous improvement. Here's why regular evaluation is crucial:

Assessment of Impact: Regular evaluation allows the club to gauge the impact of its activities on promoting environmental awareness and sustainability within the school and community. For example, the club can measure the increase in recycling rates or the number of students participating in eco-friendly initiatives. By assessing impact, the club can determine whether it is achieving its intended outcomes and making a positive difference.

Identification of Strengths and Weaknesses: Evaluation helps pinpoint both strengths and weaknesses in the club's activities and strategies. For instance, feedback from participants may reveal that a particular educational workshop was highly effective in raising awareness, while data analysis may highlight areas where recycling efforts need improvement. By identifying strengths, such as successful outreach events or engaging social media campaigns, and weaknesses, such as low participation rates in certain activities, the club can refine its approach and maximize its effectiveness.

Feedback for Improvement: Evaluation provides valuable feedback from members, participants, and stakeholders. This feedback can illuminate areas of success, areas for improvement, and suggestions for future activities. For instance, surveys can gather input on the relevance and impact of club initiatives, while data analysis can reveal trends and patterns in participation rates or resource utilization. By actively soliciting and incorporating feedback, the club can adapt its strategies, address concerns, and enhance the overall experience for participants.

Strategic Planning: Reporting results can inform strategic planning and decision-making processes. By comprehending what has been successful and where there are opportunities for improvement, the club can formulate strategies to amplify its impact and achieve its long-term goals. For example, if evaluation data indicates that a particular outreach event had a significant impact on community engagement, the club may decide to allocate more resources to similar activities in the future. Likewise, if evaluation reveals a need for additional support or resources in certain areas, such as volunteer recruitment or fundraising, the club can prioritize these areas in its strategic planning efforts.



The evaluation process can be streamlined, providing a structured framework for collecting and analysing data, documenting outcomes, and identifying areas for improvement. Regular evaluation ensures that the Green Club remains focused on its mission, continuously improves its effectiveness, and maximizes its impact on promoting environmental sustainability.

Step 9: Celebrate Success



Celebrating the achievements of the club is an essential part of motivating and supporting students to continue participating in club activities. You can encourage school students through:

Sharing Achievements on social media: Share the achievements and projects of the environmental club on social media platforms. You can also utilize local media outlets such as radio and television programs to highlight the school's environmental accomplishments.

Honouring the Efforts of Club Members: Organize a special recognition ceremony to appreciate the efforts and achievements of club members who have undertaken outstanding environmental projects. They can be awarded certificates of appreciation and small gifts as recognition for their efforts and encouragement for further contribution.

Organizing an Entertaining Environmental Activity: Arrange a fun environmental activity for school students, such as a day for cleaning the environment or a day for planting trees and flowers.

Promoting Positive Competition: Foster positive competition among members of the green club by launching exciting environmental challenges. For example, challenge them to reduce water consumption or collect the largest quantity of waste for recycling.



Step 10: Continuously Improve and Innovate



Staying adaptable and innovative in advancing environmental sustainability requires a proactive approach and a willingness to embrace change. Here are some strategies to achieve this:

Continuous Learning and Education: Encourage club members to stay informed about the latest developments and best practices in environmental sustainability through workshops. For example, collaboration with service providers can be arranged to offer training on the types of recyclable materials and proper sorting from the source.

Regular Follow-up: Conduct regular assessments of the club's activities and initiatives to identify strengths, weaknesses, and areas for improvement. Encourage open and honest discussions among club members to reflect on past experiences, evaluate outcomes, and brainstorm innovative solutions to address challenges.

Technology: Embrace new technologies and tools that can enhance the effectiveness and efficiency of environmental sustainability efforts. Explore the use of innovative solutions such as renewable energy systems. School equipment and resources can be utilized to design a video or application that contributes to enhancing the continuity of club activities and expanding recycling activities.

There are many tools to help you continuously improve your school. You can seek students' opinions to provide their suggestions, as they are always informed about everything new.



8.5 Annex 5: Separation at Source

These posters can be shown in disposal locations or above separation bins as a guide for recycling. The posters can be found on this link: <https://bit.ly/4dhPopL>



Be part of the solution, not part of the pollution

Acceptable Clean Only		Not Acceptable			
<p style="font-size: small; text-align: center;">*Clean Aluminum and Tin/Steel Cans</p> <p style="font-size: small; text-align: center;">*Clean Foil Wrap and Container</p>	<p style="font-size: small; text-align: center;">Dirty Cans</p> <p style="font-size: small; text-align: center;">Dirty Foil Wrap</p> <p style="font-size: small; text-align: center;">Dirty Foil Container</p>	<p style="font-size: small; text-align: center;">Cereal Box</p> <p style="font-size: small; text-align: center;">Books</p> <p style="font-size: small; text-align: center;">Newspaper</p> <p style="font-size: small; text-align: center;">Cardboard Boxes</p> <p style="font-size: small; text-align: center;">Paper Bags</p> <p style="font-size: small; text-align: center;">Paper and Notes</p>	<p style="font-size: small; text-align: center;">Used Tissues and Napkins</p> <p style="font-size: small; text-align: center;">Milk/Juice Cartons</p> <p style="font-size: small; text-align: center;">Contaminated Boxes</p> <p style="font-size: small; text-align: center;">Used Paper Cups and Plates</p>	<p style="font-size: small; text-align: center;">*Clean Plastic Containers</p> <p style="font-size: small; text-align: center;">*Clean Plastic Lids</p> <p style="font-size: small; text-align: center;">Water Bottles</p> <p style="font-size: small; text-align: center;">*Clean Plastic Bowl</p>	<p style="font-size: small; text-align: center;">Foam and Styrofoam</p> <p style="font-size: small; text-align: center;">Chips Pack</p> <p style="font-size: small; text-align: center;">Chocolate and Candy Wrap</p>

Metals

Paper

Plastic

Instructions

***CLEAN:** Rinse plastic and metal containers to remove any leftover residue.

- **Recycle** clean and dry paper and cardboard materials.

Do not attempt to recycle cardboard with **grease stains or food residue**, remove the dirty part and place the remaining.

Paperclips and staples do not need to be removed.

Do not attempt to recycle used paper towels or napkins.

Check for recycling environmental symbols on plastic containers and wrapping. (e.g., PP, PET, HDPE)

Properly **dispose of hazardous waste** like batteries at **designated collection points**.

Never mix hazardous waste with regular recyclables or trash.

REDUCE

REUSE

RECYCLE



REDUCE



REUSE



RECYCLE