
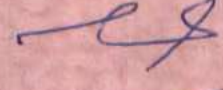





Waste Management Department
Technical Guidelines No 6.
Commercial Centers Recycling Guide
2015 Revision



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1. INTRODUCTION

Dubai Municipality in its effort to implement a sustainable and integrated waste management in the Emirate of Dubai has initiated the mandatory waste segregation scheme in Dubai commercial centers. This initiative is part of a series of programs that will be implemented by DM to increase waste recycling and reduce waste going to landfills.

On a daily basis, the community is being reminded of how precious our environment is and that more needs to be done to protect our natural resources. Individuals as well as the business community has the opportunity to act in a sustainable and environmentally friendly manner wherever they are. Part of this is being able to recycle, whether it is at home, at work, or in public places.

This guideline aims to provide a guide as well as methods to establish and maintain effective recycling systems in commercial centers in the Emirate of Dubai.

2. BENEFITS

- a) Be known as an environmentally friendly and responsible company.
- b) Demonstrate environmental leadership.
- c) Minimize the amount of waste being sent to landfills and recovering valuable materials that can be processed into new products.
- d) Cost savings on waste management cost.

3. RECYCLING PROGRAM REQUIREMENTS

Setting up the system may need the following:

- a) Providing training to housekeeping personnel.
- b) Involving shop owners, restaurants and stalls.
- c) Setting up separate bins for the different waste streams: Garbage and Recyclables.
- d) Provide color codes for the bins for the different waste streams.
- e) Provide clear labels.
- f) Set contracts with your waste contractors.
- g) Conduct of awareness programs to the shoppers.

4. CHALLENGES

- a) Lack of support of the business owners.
- b) Getting the housekeeping personnel voluntary involvement to the new system.
- c) Multicultural costumers that frequently visit commercial centers.
- d) Diverse waste stream.
- e) Lack of space for recycling equipments and infrastructures.
- f) Financial investments.
- g) Contractual issues with existing service providers.

5. STEPS STARTING A RECYCLING PROGRAM

5.1 Obtain management support and identify all regulatory requirements

The management support for the new recycling program is one of the most important requirements for its overall success. If the management is fully committed in the program; the employees, the business owners and later the shoppers will be encouraged to follow. Therefore presenting the overall objectives of the program, its requirements (financial, infrastructure etc.) and its benefits, and getting management support is the first crucial step.

5.2 Form a recycling team

The creation of a recycling team headed by a Recycling Coordinator (preferably from the Commercial center Management Operations) is the next step in the process. The recycling coordinator should be strongly skilled both in communication and organization. This individual should know the operation of the commercial center inside and out. Aside from the recycling coordinator the following are the suggested members of the recycling team: An individual from maintenance or housekeeping department, business owners and waste service provider.

5.2.1 Maintenance or Housekeeping Staff

These individuals play a vital role in the team since they will handle the waste firsthand. It is the cleaning staff who clean the food courts, toilets and collect the waste from the bins in commercial centers. It will also be the duty of the cleaners to place the recyclables in the correct bins in the storage area. Having their inputs in preparing the overall program will provide a lot advantages.

5.2.2 Business owners

Shops, restaurants and stalls generate wastes, therefore for the program to be successful their support and cooperation is required. Their suggestions on the type of waste that will be recycled, the quantity and the storage facility or recycling bins sizes location will be very important in the program.

5.2.3 Waste Management Service Provider

Invite a representative of your current or future waste service provider to join your team. Agreement should be made on the type of storage facility that they may provide as well as the location and frequency of collection. Their knowledge about the current market of prospective waste materials that will be collected for recycling will be a great input in planning the recycling program.

5.3 Perform waste stream assessment

Conducting a waste audit is very important in waste management planning. It is in this study that commercial centers can identify the specific kinds of waste they generate. A waste audit can determine what kind and quantity of waste your center is generating. This will aid the commercial center in deciding what materials to recycle and the possible income that could be earned in the program. Dubai Municipality has conducted a Waste Characterization Study involving 5 commercial centers. The results may be used for indicative purposes only.

The amount and type of waste that is generated will determine:

- a) Size (i.e. volume) of the bin.
- b) Number of bins.
- c) Servicing (i.e. emptying and cleaning) frequency. Under-servicing can reduce the cleanliness of the area, but over-servicing increases costs.

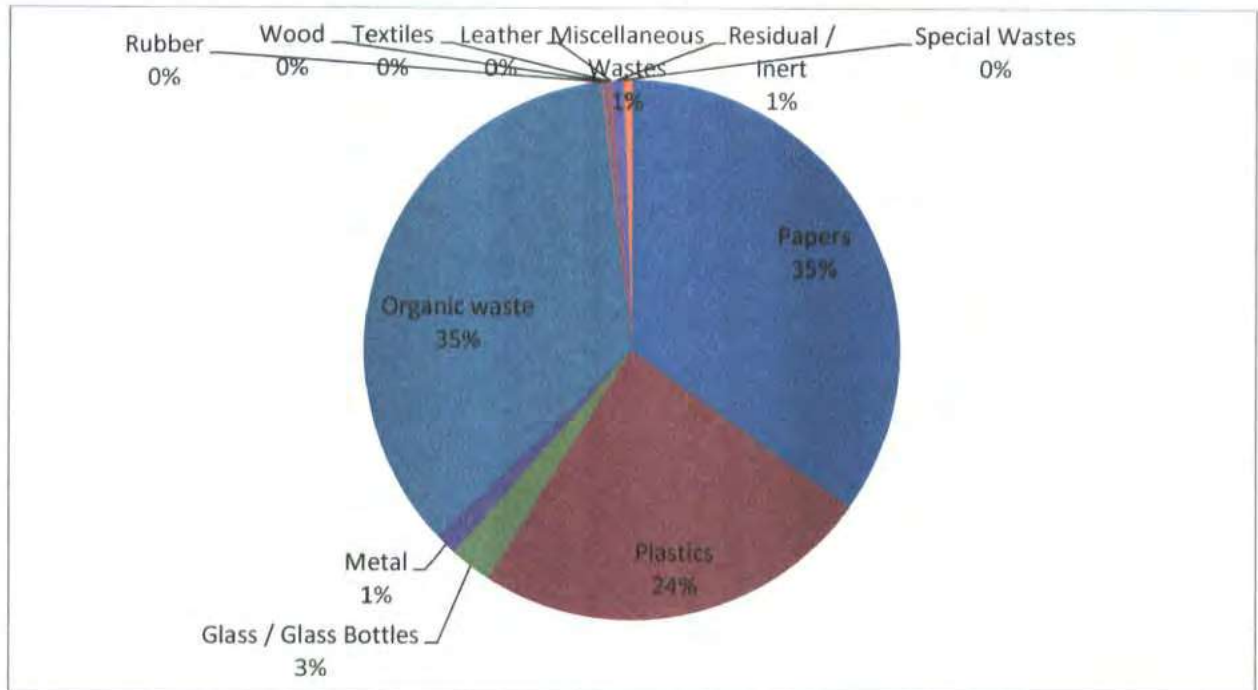


Figure 1 Major Waste Category Weight % Distribution of Waste from Commercial Sources

5.4 Determining the types of recyclable to be collected:

Suggested materials to be recycled:

- Paper (all kinds)
- Corrugated carton
- Plastics (consult waste service provider for plastics with available markets)
- PETE Bottles
- HDPE Bottles
- Aluminum cans
- Tins cans
- Glass

6. WASTE RECYCLING BINS

The waste recycling bins play a very important part in the overall success on the recycling program. The commercial center management should ensure that there are sufficient, properly designed and properly located bins.

People, shoppers and customers will support the program if:

- a) The bins are strategically located (can easily be seen).
- b) The bins are easy to use.
- c) It has simple and easily understandable signage.
- d) They are properly informed about the initiative.

Ideally recycling bin should be placed next to a garbage bin, so people can easily separate the recyclables from the rest of their wastes. This discourages contamination of the recycling bin.

6.1 The Design of the Bins

The most important aspects to be considered in choosing or procuring bin design are the color codes, signage and openings. Dubai Municipality Waste Management Department standard color codes are:

- a) Black for garbage.
- b) and Green for mixed dry recyclables.

These colors can be used in the signage of the bins, bin lids or openings etc. the commercial centers are free to design the bins in a way that best suits the premises architecture and aesthetics.

Recommended sizes of the bins are 120 liters to 240 liters, however the commercial centers management may use any other bin sizes that best cater to their requirements. Legible, clear and color coded signage is recommended to be placed around the bins.

It is also recommended that the signage be written in these languages: Arabic, English, Hindi and Urdu. The bin and its signages should be designed to make the people think about recycling. The two bins must also clearly

indicate what kinds of materials will be placed in the in the garbage bin and what goes in the recycling bin.

The signages should be large and easy enough to read. A positive language that encourages involvement in the recycling initiative is recommended. It is also recommended to use signages above the bin with bright and catchy colors to make the bin stand out.



Figure 2. Properly Designed and Labeled Recycling Bin

6.2 Proper Location of the Bins

Bins need to be placed where they are:

- Easily seen.
- Convenient to use.
- Most likely to be used – for example, in food courts or in pathways around food areas.
- Where they work as reminders of the system within the centre – for example, at entrances and exits and between food retailers.

The commercial center management should evaluate the movement of people and waste through the centre and then place bins where they are clearly needed. Garbage and recycling bins should be positioned so that people are presented with a clear option for their garbage and recycling – both in terms of color and signage. Areas where food is eaten will need larger and/or more garbage bins, and/or more frequent servicing than in other areas.



Figure 3 Recommended Recycling Bin Set up

6.3 Bins in Food Courts

In areas such as food courts, placing more garbage bins on their own will cater for the greater amount of garbage generated.

- a) Install more garbage bins than recycling bins.

Signage of bins must contain images of the types of recyclables collected. Clear and bold color-coded signs will encourage better recycling by helping people make the right choice.

- b) Recycling signs hanging above the bins will help people easily find the bins and remind them to recycle.



Figure 4. Proper Bin Placement and Signages in Food courts

- c) Use the design of your recycling bin lid to limit contamination. Putting access holes in the lid limits what can be put in the recycling bin and a round hole reminds people of the shape of bottles and cans that can be recycled. Brief your cleaners on what is recyclable in the centre, and give them regular feedback on the recyclables collected. Some centers have set up cleaners' trolleys with separate recycling and waste receptacles to enable materials to be disposed into the

appropriate bin. Centre management might want to consider providing caps or shirts to cleaning staff to reinforce the recycling message amongst staff and patrons

7. STORAGE OF GARBAGE AND RECYCLABLE WASTE

The commercial center management is required to provide a storage space for safe and sanitary storage of garbage and recyclable materials. The area needs to be kept clean and meet appropriate health and safety standards and regulations. The effectiveness of the recycling program can be improved by setting aside distinct areas for separating and temporarily storing general garbage and recyclables before collection. Cleaners, waste contractors and where applicable business owners need to have easy and safe access to these areas. The areas should be clearly identified with appropriate signage that is color-coded for waste and recycling. You can color-code paths, bins or areas to show where recyclables and garbage end up. Space for cardboard compactors and skips may also be needed.

8. COLLECTION AND TRANSPORT

Use the contracts with cleaning or maintenance contractors and waste management contractors to set up the most practical schedule for collecting the bins and showing when, how and where materials will be collected. The following should be considered.

- Will recyclables be collected at the same time as general garbage or at different times?
- What will be the system for collection and storage of garbage and recycling?
- Will you use the same contractor for both general garbage and recycling?

9. IMPLEMENTATION

9.1 Program launch

Once the structure of the program are all in place and the center is ready to implement the initiative, choose a date on which to officially launch the program. Plan at least a few weeks ahead of time, and inform business owners and shopping center staff about the program well in advance. Prepare and disseminate a press release to appropriate media outlets.

9.2 Promotion and Education

Send a formal letter from the shopping center management to business owners, announcing the program and requesting participation. Make the memo brief and upbeat. Highlight the benefits of the recycling program, explain the recycling procedures, and let business owners know that you will be providing them with more information before the official launch date.

Develop a recycling handbook, pamphlet, or poster. Shopping centers should develop brochures or handbooks that explain their recycling procedures. This handbook or pamphlet will provide business owners and shoppers with official recycling instructions that can be referenced to.

Developing a recycling poster can be another way to remind business owners, their staff and shoppers about the “do’s and don’ts” of recycling. For example, a poster might list materials that can and can’t be recycled through your facility’s collection program. Distribute the posters to business owners and ask them to put them on the walls near their collection bins.

Organize training sessions and/or prepare special communication gatherings for housekeepers and other shopping center staff who will be involved with implementing the collection program. Make sure they understand their role in the program, and ask for feedback on ways to improve the program. You may have to prepare recycling instructions in languages other than English.

Educate business owners and their employees on how to properly participate in recycling by providing simple and concise information on what to do. You can deliver this information in different ways.

10. PERFORMANCE MONITORING AND REPORTING

Once the public recycling system has been set up, it is important that regular monitoring takes place to make sure that:

- The system is properly maintained.
- Issues are dealt with swiftly (eg. contamination).
- Communication and education programs are working effectively.
- Performance is reviewed on a regular basis.
- Opportunities for continual improvement are identified.

Targets and objectives as well as monitoring and reporting responsibilities for the public recycling system should have been established as part of the new system and included in contracts with business owners, waste collection contractors and cleaners. Targets for the monitoring program should include:

- Contamination rates and materials.
- Diversion rates (i.e. calculated by dividing tonnages recycled by total waste generated in both recycling and rubbish bins).
- Degree of cleanliness.
- Adherence to health and safety.
- Issue response effectiveness.
- Impact of communication and education activities.

Appendix 1. Fines

The Mandatory Waste Segregation Program is an initiative that is aimed at long term waste management sustainability in the Emirate of Dubai. In order to achieve this it needs a collective effort from everybody. Dubai Municipality believes that Environmental Stewardship shall drive the commercial center management to implement the program comprehensively, in addition in order to strengthen the implementation of the program fines shall be imposed to those commercial centers who continuously and deliberately ignore this order.

Table 1. Applicable Fines for Non Compliance of Mandatory Waste Segregation Program

S.No	Fine	Amount (AED)
1	Not providing containers for storing waste by the private companies and establishments, trading centers, residential communities and hotels resulting in activities not complying with the stipulations and standards approved in this respect as determined by the competent and concerned authorities.	1000 per day
2	Not placing out a plan for reducing the waste or recycling the same if it becomes evident to the competent and concerned that the activity practiced by a establishment produces large quantities of wastes.	1000 per day

References :

1. United States Environmental Protection Agency, A Guide to Waste Reduction at Shopping Centers
2. The Government of Australia, Guidelines for Public Recycling in Shopping Centers
3. Scottish Environmental Protection Agency, UK
4. Wrap, UK

For any clarification or inquiry please contact
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