

University recycling initiatives guide

Aim of the Guide: Encouraging and supporting universities to implement collection and recycling schemes.

Introduction

Most of the landfill sites in the metropolitan areas in South Africa are close to reaching capacity. As a result of the financial and administrative implications of this reality, a drastic departure from the historical “rubbish dump” mentality is taking place. At the same time, there are major issues relating to climate change and public health that force all interested groups in public life – from government to academia, business, consumers and environmentalists among others – to find and implement new ways of thinking that will not only save on landfill space, but relook the way that resources are managed in general.

There are many opportunities for universities to contribute to these new ways of thinking. In addition to the research done on materials handling, engineering solutions, city planning and more, universities and other tertiary academic institutions also accommodate many people at their own campus facilities all over South Africa.

This guide is intended to assist campus management and it is strongly encouraged to partner with Petco to achieve nation-wide recycling targets while setting a good example for students. The commitment of a university to be an ‘environmental change agent for future generations’ can be turned into action among others through introducing waste reduction and collection and recycling initiatives on its campus(es).

Designing a collection and recycling programme: 7 steps to success

The main steps to implementing source reduction and reuse programmes at any campus would be in essence to:

- **Obtain buy-in** from university academic and administrative management
- **Appoint a project coordinator** and campus **waste reduction committee**
- **Analyse** different aspects of a campus’ operation to identify potential sources of preventable waste through a **waste audit**
- **Train** facilities management department staff to identify both the major waste streams and recyclable material sources
- Set up a collection **infrastructure**
- Set up relevant **training and communication** processes
- **Communicate** effectively on campus about the programme

STEP 1: Secure official and administrative support

Establishing a successful collection and recycling programme requires motivating the entire campus community to participate.

It is therefore of key importance that university authorities are aware of, approve and support the aims and implications of such a programme. Work within the accepted lines of authority, and where necessary with the help of the marketing and communication departments, to ensure that this basic requirement is met. Without senior management approval, it will be more difficult to implement a wide-reaching programme that will require commitment from staff and students alike.

Ideally, the vice chancellor (rector) or failing that, another member of the university's top management should be approached to endorse the programme publicly and to be seen as its "champion".

- A memo from the vice chancellor's office would have built-in credibility and go a long way to alerting the entire campus to the programme. Ideally, it should introduce the programme objectives, and also ask directly for everyone's participation/
- Similar statements or resolutions of support, targeting specific segments of the campus population, can come from student leadership and residence councils, or from the waste management department.
- The media and communications departments of the university would be in a good position to communicate about the programme and facilitate access to other departments. Obtain their support as early as possible. (Also see **Step 7**)

Step 2: Appoint a recycling/waste reduction coordinator

Vital to an effective programme is the appointment of a waste reduction and recycling **coordinator**. The coordinator plays a lead role in creating the integrated waste management plan that guides the materials collection and recycling programming and works to implement it on a long-term basis. This person can be expected to coordinate different tasks such as:

- Overseeing recycling contracts and agreements
- Maintaining compliance with national and municipal regulations
- Researching programmes in particular about similar university initiatives
- Networking with other coordinators from other campuses
- Preparing and managing budgets
- Developing promotional material and education programmes for staff, faculty, and students
- Develop meaningful and stable communication channels to reach staff, faculty and students and provide regular programme updates
- Tracking collection, recycling and solid waste tonnages, and calculating diversion reports
- Maintaining equipment
- Training
- Supervising collection and education staff
- Preparing reports and proposals
- Promoting the programme to the campus community



Initially, the project coordinator will need to spend time on **analyses of the current situation** and communicating with key campus personnel, including relevant members of the various academic departments, campus administration and cleaning staff, as well as managers of student recreational areas. By observing and discussing their work routines and soliciting their feedback, the coordinator will be able to assess their particular role and impact on the campus' overall waste generation volumes and types of waste.

Once potential source reduction initiatives have been identified, the coordinator would have to work with the waste reduction committee (see **Step 3**) and relevant decision-makers to suggest the necessary operational changes. The director and staff of the department in charge of procurement will have to play an important part since they are in a position to influence the purchasing decisions of the rest of the university and to identify wasteful practices.

Here are some other important things to consider:

- Campus canteen/tuck shops (and the decision of what kind of food and beverages they are allowed to sell, and in what type of packaging) typically play a major role in meaningful source reduction of non-recyclable materials. Preference should be given to recyclable materials.
- In addition to educating people about source reduction and reuse practices, the coordinator would need to help implement formal policies and procedures. If there is already a solid waste reduction committee in place, it would be important to work with them.
- If the university is part of any other “greening” initiative it makes great sense to place a waste reduction programme under the same banner and utilise the same people already involved rather than to design a programme in isolation and from scratch.
- When proposing source reduction policies, remember also that cost savings are more likely to sway decision makers than environmental concerns. Although the resource conservation argument may be more compelling to student activists or even the programme coordinators. Administrators and department directors are more likely to appreciate the fiscal impact.

STEP 3: Elect/appoint a campus waste reduction committee

The role of this committee is to investigate waste reduction and recycling options for the campus. It should be comprised of administrators, staff, faculty, and students representing a cross section of people on the campus. Working with the waste reduction coordinator, the committee would:

- Evaluate current solid waste management plans and practices on campus
- Create a new plan or blueprint that includes recycling as a major element
- Monitor the implementation of the plan and the adherence to its goals and objectives
- Have the ongoing task of investigating additional recycling activities, policies, and procedures
- Decide how important it is that you also raise an income from the waste materials collected.

This will influence decisions about how and who collect, pre-sort and deliver recyclable materials (see **Step 6**)



Step 4: Conduct a waste identification study

A waste identification study identifies what types of materials comprise significant portions of your waste stream at certain key activity areas on your campus. It also identifies the origin of the materials and provides the information needed to prioritise collection and recycling, in addition to other waste reduction activities.

Some of this information can be gathered through the existing waste management records and also informally by walking through the campus and looking inside waste containers to ascertain what materials are being left in waste bins that service a particular area (e.g. you are likely to find paper in waste bins in an office environment, food waste in a canteen, and beverage and food packaging at sports facilities and social areas).

This is where producer responsibility organisations like Petco can add value by supplying relevant recyclable materials identification information.

Step 5: Set up collection and recycling infrastructure



A recycling programme does not necessarily have to be operated by the facilities management or another administrative department of a campus. Unlike other facility services such as building maintenance, or landscaping, many aspects of recycling operations do not require skilled labour. In addition, recycling operations are more wide-ranging in scope, encompassing everything from emptying paper recycling bins at workstations to preparing training workshops for staff, faculty members and students.

As part of the growing solid waste management sector, there is a substantial private service industry in place for recycling operations. You could appoint one of these suppliers as a one-stop shop, or work with various materials streams as part of your strategy. Whatever your waste reduction committee decides to do, keep in mind the following:

- Bins on campus must be marked to ensure separation of (mixed, dry, clean) recyclable materials from non-recyclables. A good idea is to use a **twin bin** format.
- However, while it may look attractive, it is **not advisable** to provide extra bins to accommodate the separation of various recycling streams unless such “recycling stations” are under permanent supervision and used correctly. Use those only in areas where such supervision is possible.
- Sufficient, enclosed, undercover and secure space is required to store any separated mixed recyclables until the minimum amount is reached for collection, ideally by a local collector who provides a “one-stop-shop” service for all recyclables so that they can all be collected in the same bin.
- Your materials storage area(s) should be easily accessible to both the collector and possibly even people from the surrounding communities, should you have space and capacity for a supervised recyclable drop-off location on campus. Your university could therefore



significantly boost its materials collection volumes (and related revenues) while providing a very valuable public service at the same time.

- Consider health and safety issues, among others, the possible odour (of wet and/or dirty recyclable materials), effects of insects (particularly bees), the possibility of creating a fire hazard and any other issues that pose a risk, especially in high traffic areas.
- **Security** – To prevent vandalism or illegal dumping, restrict access to your collection area after hours.
- You will need bulk bags which store recyclable materials for collection. Your collector should supply you with those as part of their service.
- **Staff/volunteers** - It is important to decide who will be responsible for emptying bins and supervising your storage areas. Even if you make use of a specialist outside collector (see below), you will still need people to perform some basic duties. Training cleaning staff to perform the specific recycling duties, or organising a team of volunteers are two of the options you could consider.
- **Protective clothing** – Ensure that all staff and volunteers, including cleaning staff who become involved in materials recovery and storage, have the necessary protective clothing, e.g. gloves (in particular if you collect recyclable materials such as highly breakable glass bottles.)



Step 6: Collection and transportation

Space requirements

- Issues of space and temporary storage can become a problem if not included in the programme's detailed plan. Identify a suitable area where the recyclable materials may be stored during the collection phase (before being picked up or taken off site). Take PET plastic bottles as an example; since they are filled with air, they take up a large volume, even though their mass is relatively low. The same is true for some other recyclable materials such as liquid board cartons. If a method is available to squash the bottles and cartons, it is advisable to do this, as this would save space and more could be collected for one load.
- The site should be secure and not be in the way of anyone. It should nevertheless also be easily accessible to the vehicles that transport the materials off site.
- Relevant health, safety and fire prevention standards should be considered and implemented.
- You can use bulk bags as containers to store materials and contain them in a format which often makes more economic transport possible. Talk to Petco about bulk bags for recyclable materials.



Delivery or collection

There are several ways to ensure that recyclable materials reach the companies that will recycle/reprocess the materials into new products. Each of the approaches has distinct benefits and costs. The main decision to make is if you will take it away yourself, or have it collected.

- Decide whether you are going to do detailed separation at source. For instance, there are many different types of paper, such as printer paper, newspapers, magazines, cardboard, and construction paper. The same is true for different types of plastics, glass and metals. Should you separate each specific type, it could make your recyclables more valuable. Discuss this with the specific collectors to ensure that you take the most suitable decision for your university.
- You could also collect/store all recyclables together and all waste in another. This method means less work – but materials could be contaminated easily when they are mixed together. Again, it is important to know how and where such sorted recyclable materials could be deposited or collected.
- It may be necessary to choose different ways of disposal for different materials, depending on the nature and volumes of the specific waste materials that your university has to manage. Talk to Petco about the most effective way to collect recyclable materials and read more about the advantages of doing so later in this document.
- Volumes are key to the decision about disposal and collection. Recyclable materials need to be collected in large volumes in order to make them viable for the collector. Where large volumes of recyclable materials are not collected, you will be forced to arrange your own delivery.
- As part of the overall programme, you could donate some items to charities. Many charitable organisations will be prepared to take and even pick up recyclable materials that may be found on campus, such as books and electronics.
- Some campuses are in municipalities with recycling services. You may be able to arrange that they regularly pick up and dispose of whatever materials you recycle.
- Municipal drop-off sites do not pay for recyclable materials, but if you collect significant volumes, you could contract a recycler close to you for rates and delivery/collection options. A current list of municipal drop-off sites is found on www.petco.co.za.
- If you want to maximise your recycling programme and become a local drop-off site, you could advertise the service to local business, they could then deliver their recyclable materials to you for recycling. Contact info@petco.co.za for advice in this regard.
- You could organise to undertake disposal at a drop-off site. This means using your own campus vehicles or organising transport when sufficient volumes have been collected, or at regular intervals.

To find a drop-off site or SMME to collect your recyclables, please visit our website.

Collecting and delivering loose materials directly to recyclers

For this option, you must take into consideration the following:

- The availability on campus of suitable vehicles or the cost of renting such vehicles
- The cost of fuel and general wear and tear on your vehicles



- The cost of labour required from our side to prepare, pre-sort, baling and other activities prior to transporting recycled materials to the recyclers.

These costs must be compared to the benefit of any revenue that you receive for the materials when your materials are collected (and possibly pre-sorted) on-site by an external service provider. You will then be paid prices for loose materials. These prices are often significantly less than for baled materials.

Step 7: Develop a plan for ongoing education, training and communication

It is important to follow up periodically and monitor the success of waste reduction and material reuse programmes and reinforce educational and communication efforts where needed.

Effective education and communication are highly important factors in the success or failure of waste reduction programmes. Reaching the campus population effectively will determine the quantity and quality of materials recovered for recycling and the ability to implement successful source reduction initiatives. The overall support of the programme is also based on how well the campus population understands it.

Introducing meaningful and clever social, environmental and even financial motivation drives are powerful strategies to ensure the longevity of a recycling campaign and to secure maximum buy-in of all stakeholders. One example of an effective campaign was at a European university, where they managed to significantly reduce their waste stream of non-recyclable polystyrene cups all over the campus by introducing a washable, reusable, lidded, university-branded, sturdy plastic coffee mug to both staff and students as an alternative.

As part of your efforts to minimise waste on the campus, the following is particularly important:

- Clear communication before and immediately after introducing our new recycling programme on campus
- Continued communication thereafter to ensure that new students and staff are informed and that messages about the importance of recycling and the campus recycling activities are reinforced.

Work with the communication department on campus in this regard. They control and use the methods of communication with staff and students and are in the best position to assist.

You can also find useful information material available from industry bodies. Contact Petco and visit our website www.petco.co.za for information about collection and recycling.

Who is Petco and how can we help you?

Petco, a Producer Responsibility Organisation (PRO) in South Africa, offers practical support to offices aiming to enhance their recycling initiatives. Incorporated in 2004, Petco administers Extended Producer Responsibility (EPR) schemes for various packaging products. As a national organisation, Petco focuses on driving collecting and recycling activities, guiding product design, conducting outreach and awareness activities and supporting the development of local recycling infrastructure.

With a proven track record, Petco is experienced in designing and implementing effective systems



for the collection and recycling of recyclable materials. This expertise positions Petco to support universities in preparing and implementing waste minimisation measures. Petco can provide universities with tangible assistance, including support, guidance, and potential sponsorship of equipment. By collaborating with Petco, universities can benefit from a pragmatic approach to waste management, leveraging the organisation's industry knowledge and commitment to driving change in South Africa's packaging sector.

Useful Contacts

Visit www.petco.co.za for a list of collection points, drop off sites and buy-back centres.

You could also contact some other industry bodies for general assistance or information about other material streams. Here are some of them:

- Institute of Waste Management www.iwmsa.co.za
- National Recycling Forum www.recycling.co.za
- Packaging SA www.packagingsa.co.za
- Plastics SA www.plasticsinfo.co.za

Contact Petco

Call toll free: 011 615 8875 (JHB)/ 021 794 6300 (CPT)
Email: info@petco.co.za
Website: <http://www.petco.co.za>
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