# Minimising Negative Environmental Impacts

## Sustainable Energy Production

Humanitarian organisations often work in austere, off-grid environments. Using generators that burn petrochemicals is extremely common. While generators may be unavoidable in many contexts, there are steps agencies can take to reduce waste and environmental impact.

- Set standard working hours for generators – generators already have limits to the lengths of time they can operate, and where security permits agencies may choose "off hours" to avoid burning fuel when unnecessary.
- Properly service and maintain generators wherever they are in use. Properly serviced generators also will save money and enhance security.
- Invest in a solar electric or battery backup system to generate and supply electricity to offices and compounds. Battery and solar systems are often great tools to augment power systems, and can be used alongside regular generators.

For more information on the proper methods ofmaintaining a generator, on selecting and installing a solar electric system, and on using battery back-up systems, please reference the electrical power generation section of this guide.

## Sustainable Use of Vehicles

Vehicles are widely used within the humanitarian context, and operating in and around them is almost unavoidable. There are many steps to take to ensure the most sustainable and environmentally friendly performance of vehicles.  These might include:

- Selecting fuel efficient vehicles and ensuring right-sizing of fleets.
- Driver training to reduce accidents and improve fuel consumption.
- Monitoring fuel consumption.
- Monitoring vehicle utilisation in terms of both payload and empty running.
- Conducting preventative maintenance, as a poorly serviced vehicles use more fuel.
- Dispose of used tyre casings, batteries, motor oil and other vehicle waste responsibly.

A proper maintained fleet has the advantage of being both environmentally friendly, but also cost efficient. For more information on vehicle selection, vehicle and fleet monitoring, and proper maintenance, please reference the vehicle and fleet management section of this guide.

## Waste Management

Unintended by-products of humanitarian action (e.g. plastics and packaging required to safeguard the quality of the relief items, food or non-food, hazardous materials from organizations' vehicle fleets like used tyres, motor oils and lubricants, batteries and end-of-life vehicles, dangerous fumes from the burning of waste) impact negatively on local human and ecological health, and they typically occur in contexts where systems to manage them sustainably do not exist.  Waste management can be defined as the set of practices, processes and policies aiming at measuring and reducing the overall waste volumes of an organization. Typically, waste management practices should be prioritised according to the following scheme:

- Reduce
- Reuse

- Recycle

The final objective of effective waste management is reducing waste at the source, for example avoiding unnecessary packaging, banning single-use plastics and introducing mechanisms to plan needs in a way to minimize the quantity of waste or by-products to dispose of.

Effective steps to understand the different waste streams on site, identify the most suitable disposal options, and continuously improve on-site waste management include:

- Introducing a Solid Waste Inventory; This exercise allows to identify all the waste generated and disposed of either on-site and/or off-site. It is completed by performing a physical inspection of current waste storage locations in the compound/facility and/or referring to invoices from waste contractors.
- Identifying the most appropriate disposal methods for each type of waste, from “Best option” to “Last resort”.
- Identification of local contractors and potential with adequate capacity to treat and dispose of hazardous and non-hazardous waste in collaboration with procurement teams.
- Set-up and regular inspection of storage areas to ensure separation of waste streams.

## Sustainable Packaging

Logistics departments of humanitarian agencies frequently deal with packaging of materials. Packaging represents one of the greatest challenges to environmentally friendly logistics while at the same time being vital in shipping and storage.

Packaging has consequences for transportation, storage methods, and space requirements of a given space. Packaging can increase the unit cost if it hinders optimisation of storage space. Many industries have developed forms of packaging that can withstand the stresses of transport but do not justify the expense of returning them to the point of origin, being used once and then discarded.

Steps to take when planning packaging:

- Plan for biodegradable overpacking such as cardboard cartons.
- Where possible, plan for recovering packing materials, recycling them locally or even returning them to the vendor for re-use. Suppliers and the buyers should seek to recover and recycle or effectively dispose of packaging.
- Reduce the size of packing, requiring less space to store and less fuel to transport.
- Investigate local companies that may engage in environmentally friendly solid waste disposal and recycling.
- Where packing cannot be made from bio-degradable material or material reduced, consider kitting and repackaging into sustainable packing before the last mile of distribution to avoid uncontrolled disbursement of wasteful materials.

## Green Facility Management

There are many steps agencies may take to enhance the sustainability of working and living premise and warehouses. These might include:

- Avoiding wasting water by using water efficient taps, leak prevention and recycling methods.
- Install energy efficient light bulbs.
- Using interceptor tanks to avoid run-off pollution from fuel dispensing areas.

- Phase out of ozone-depleting gases from air conditioning systems in warehouses and compounds.
- Develop a strategy for managing e-waste (old computers, communications equipment) and batteries.

In warehouse and stock keeping:

- Utilise proper stock management methods to avoid infestation, spoilage, damage and expiration, all of which lead to waste and disposal.
- Exercise careful management and monitoring of hazardous chemicals to avoid spillage or leaking.
- Taking steps to better manage the production, collection and disposal of waste, including packaging wastes.

For more information on proper stock keeping methods, please reference thewarehousing and physical stock management section of this guide. Managing fuel and handling hazardous materials can also be found.

## Green Procurement

> *Sustainable procurement is the act of adopting social, economic and environmental factors alongside the typical price and quality considerations into the organisations handling of procurement processes and procedures. (CIPS)*

The procurement process is an excelling time to assess and commit to green logistics practices. Sustainable procurement considers the environmental, social and economic consequences of design, materials used, manufacturing methods, logistics and disposal. In green procurement organisations can meet their needs for goods, services, and utilities in a way that achieves value for money while still addressing principles for sustainable development.

The aim and challenge of sustainable procurement is to integrate environmental and social considerations into the procurement process. One of the most powerful methods is to choose the appropriate selection criteria with sustainability in mind, clearly inform potential bidders, and ensuring all requirements are properly met. A guide to developing solicitations for vendors can be found procurement section of this guide.

Example of selection criteria might include:

| Economic | Social | Environmental |
|---|---|---|
| Previous/current experience Accreditation by independent certification organisation. | Accreditation by independent certification organisation to a standard. | Impact of materials used and processes of production. |
| Productivity/service capacity. | Evidence that workers know their rights and responsibilities at work. | Impact of packaging. |
| Design robustness/innovation. | Presence of independent trade unions or effective management/worker committees which address workers' priorities, including pay, hours and conditions. | Impact of transport (air freight from Europe may be greater than sea freight from Asia/Africa). |

| Economic | Social | Environmental |
|---|---|---|
| Whole-life costing of product | Sub-supplier practices and conditions. | Impact of product life cycle. |
| Switching cost of current supplier. | Participation in multi-stakeholder initiatives that educate and change practices to address ingrained problems. | |

*Source: CIPS, Chartered Institute of Purchasing and Supply Chain, (2013).Ethical and sustainable procurement.*

Ongoing procurement has had such an impact on green logistics that ISO has develop a specific Standard able to guide every procurement decision.

- **ISO 20400** Sustainable procurement standard.

Formed ion the bases of ISO 26000 for Social Responsibility, sustainable procurement relies on:

- Assess the organisational "buying culture" - Understand how and from who the organisation buys/sells to, the control over sub-suppliers as well as sub-supplier capacities to accommodate green demands, and if green requirements are realistic and expressed clearly.
- Know the organisation supply chain - Evaluate the cost of the supply chain, and the proportion of the revenue that goes towards paying suppliers. Assess the suppliers societal and environmental impact.
- Think strategically; Consider the risks and opportunities of working more closely with the main suppliers across the whole life cycle of products and services.
- Get buy-in from top management - Ensure key decision makers are on board and aware of the benefits, opportunities, and possible consequences of implementing sustainable procurement into the organisation.