

## **Things to Consider When Planning an Organic Resource Recovery Facility**

A full version of this document can be obtained by contacting [info@hotrotsystems.com](mailto:info@hotrotsystems.com) or phone +64 3 377 8822.

### ***Location***

Consider where the waste (organic resource) might be generated and collected from as well as where the compost product might be utilised. The HotRot technology, with provision for remote monitoring and low operator involvement makes it suitable for decentralised installations.

### ***Plan for Expansion***

You will often need to consider waste volume increases over the next 5-10 years. Will the technology you choose enable you to easily increase capacity? Think about expansion when planning site layouts and purchasing ancillary equipment such as shredders. Cheap, low capacity, shredders may cost more in increased maintenance than the initial capital saving.

### ***What Resource to Compost***

Think about the organic wastes (resources) you are considering composting, as its collection and transport will impact on the design of the composting facility's waste-reception area. The type of waste may also impact on potential markets and marketing. Don't transport air and don't transport water, both are expensive!

It must be remembered that "garbage waste in, equals garbage compost out".

### ***Amendments***

Food, animal wastes and biosolids all tend to have moisture contents much higher than desirable and will need to have moisture removed, or where this is not practical be mixed with a "dry" amendment. Amendments can include chipped green waste or wood, sawdust or bark. Chipped C&D timber waste is very good. Remember you are creating a product (compost) so manipulation of input materials should be part of your design.

### ***Dewatering Options***

Removing water from the organic waste can help reduce the amount of amendment required and indeed the size of the composting facility. The options for dewatering are varied depending on the material to be processed and the location. Reducing the moisture content of the organic waste from 75% to 65% will halve the amount of amendment required.

### ***Product Marketing***

Consider the market for your compost product. In many cases it is better to link in with existing supply systems. Compost that is consistent and stable is going to be more marketable than material that is highly variable and unstable. Compost produced from a mix of food and green waste or biosolids and green waste will be far superior to compost from green waste only.

### ***Size of Plant***

Systems that produce immature, unstable compost will require much larger areas for storage and maturation and indeed may need additional areas of hard standing or cover. Immature compost can result in the release of odours and this may necessitate increased buffer zones, etc. The HotRot composting system has a compact footprint and also produces a stable product, requiring minimal storage areas.

### ***Environmental Impacts***

It is important that the composting facility remains clean and tidy and should have a minimal visual impact. The HotRot composting units are low horizontal vessels that present a minimal visual impact.

The single most critical factor with respect to any composting operation is the potential release of odour. Provision for odour control and treatment is an essential element of any composting facility. HotRot Exports offers an “odour-free guarantee”

### ***Energy Efficiency***

The two largest consumers of power at a composting facility will be amendment shredding and air movement. Shredders can be supplied with electric or diesel drives. All large drives should be fitted with variable frequency drives or “soft-starters” to minimise power requirements. Moving air is expensive; air fans should be as small as practical and offered with intelligent control.

### ***Product Certification and Quality***

Quality and certification of the product becomes more important where you are selling to an external client. However, any composting system should integrate a quality control system.

### ***Maintenance and Spares***

The more moving parts the more things to go wrong and the greater the amount of maintenance. While this is true, no moving parts does not mean no maintenance, and indeed it certainly does not mean a consistent or well-controlled compost product. HotRot, with its single moving shaft, represents the ideal compromise, a single robust moving part.

### ***Funding Options***

The operation of a composting facility should be viewed in the same way as any alternative waste disposal process. The operation of the facility should be supported via the cost of disposal (a gate fee), or the cost of the alternative. However, unlike existing options, installing a composting facility is likely to future-proof costs. You should understand the full costs of all alternatives and build these into your assessments.

### ***Summary***

This list of factors to consider when planning a compost plant is not exhaustive, but does cover many of the major factors, especially early in the process. Our team is committed to assisting any genuine prospective organics recycler to achieve the most sustainable and cost-efficient composting solution for their circumstances. If you need assistance, just give us a call, and we will advise if and how we can help.