Pilot Community Food Waste Recycling Service

For the past few years Whitmuir Community Benefit Society have been running a food waste composting service through the 2000m² project, funded by the Scottish Government's Climate Challenge Fund. Local community members have signed up to this service, becoming Community Composters. This document aims to run through the steps taken towards running a successful service.

Step One - do you need food waste recycling in your area

An important starting point!
You will need to talk with your local community to see if there is a need for this activity to take place in your area - you might find that lots of people already compost at home and/or have chickens that they feed scraps to (although the government does advise against this).

Ways to engage with your community:

- Arrange a meeting and publicise this to openly invite community members to come and ask questions, make suggestions etc. Provide free food and drink - try to avoid mealtimes but be flexible, weekend and evening meetings may well attract a wider spectrum of your community.
- Produce posters and flyers to help spread the word.
- Set up a Facebook page and encourage people to like it so as they can communicate with you online (you can also promote any meetings / activities / events you are planning).
- Talk to your local community hubs, such as schools, health centres, post office, pub, youth clubs, community cafes, interest groups - would they be happy to have posters up, would their staff/volunteers be interested in participating.

You are aiming to talk to as many people as possible to gather information about the level of interest. This will be great for funding applications however it is also useful for getting a bit of a buzz around the idea, from this point you can then start exploring more of the practicalities. You might want to form a group specifically for this task to look at:

- Where in the community the compost machine/s could be housed.

- Does the land need to be bought/leased - if so you will need to talk with the landowner.
- Are there any suitable buildings on the site to house the compost machine/s and store caddies and other machinery and outdoor space for maturation bays.
    - A Big Hanna machine requires 6.5m x 2.25m
    - A suitable size shed for storage would be approx. 5.5m x 3.5m
    - Outdoor compost maturation area would be approx. 6m x 3m and needs to be easily accessible.
- Are there community members who would like to volunteer to run the service:
    - Inputting materials into machines
    - Extracting compost and transferring to maturation bays
    - Organising community members regarding bringing in food waste or taking away matured compost.
    - Promoting the service
- Are there any other additional activities this service could support, such as:
    - Community growing
    - Food swaps

Step Two - estimating the cost of food waste composting in your area

Our project purchased two Big Hanna in-vessel composting machines from Sweden, whilst these machines have proven to be excellent at turning food waste into compost we have researched other providers within the UK to shorten transportation of equipment and skilled staff.

The Big Hanna website is www.bighanna.com/ and has a wealth of information.
The T75 model cost £17,494 (including the bio-filter but excluding VAT and a macerator and installation costs).

In the UK IMC produce waste management equipment imco.co.uk/waste-management/ - a Grangemouth based supplier MCS www.maincontracts.co.uk/ supplied the following quote for their most comparable model - IVC2700 model costs £17,107 (excluding VAT, delivery, installation, bio-filter and macerator).

IMC produce a macerator called a WastStation, there are various suppliers so it is worth gathering more quotes, MCS quoted £14, 581 (including delivery, installation, three year parts and labour warranty and VAT).
The macerator is a key component and we would strongly advise purchasing one. The manual labour required to hand chop food waste is time consuming and therefore costly

if paying staff, it is highly unlikely volunteers would find it an acceptable task. Added to this the de-watering aspect of the WasteStation can lead to an increased input of food waste by 66%, significantly increasing the capacity of the composting machine and therefore the number of households that can participate in the service.

Both the in-vessel compost machine and macerator require 3 phase electricity, depending on the model of composting machine a wifi connection will also be necessary for automatic updates to the supplier on the performance of your machine.

Storage facilities for caddies can be in an existing suitable building, however on our project we built a purpose built shed measuring 5.5m x 3.5m with a concrete pad, this cost approx £4000 all in.

Our site is not central to our community so we have factored in additional costs to our service:

- Double axle trailer = approx £1700
- Transportation costs at 45p per mile

Our staffing costs are contracted out and cost approx £17,000 pa (this includes VAT and transportation costs) - a large proportion of this time is associated with:

- Manually chopping up food waste
- Attending bring sites to collect full caddies and distribute empty caddies

To go paperless we have transferred our recording system to a cloud based approach. Using a Samsung Tablet (cost £133) and G Suite (the basic free version would be sufficient for this purpose).

We use wood pellets as our carbon input, these vary in costs but approx. £1100 pa would cover these costs. We have trialled using chipped cardboard and this has worked very well at a 75% cardboard 25% wood pellet mix which could significantly reduce running costs if you had a supply of free cardboard (especially if pre-chipped). For reference a cardboard chipping machine costs approx £4000 but you would need to factor in the time to chip the cardboard.

Cost savings could be made by purchasing a macerator and having a centrally located site with more flexibility. This year we have successfully trialled participants bringing their caddies to our site, weighing and recording their food waste and leaving it for us to process.

****** Therefore our total costs including set up and running the service (for one year) are approx. £45k. ******

Needless to say this investment would become more cost effective overtime.

Estimated running costs (last updated 01/2018)
Electricity =
For the T120 Big Hanna

- three phase electricity supply (electrical requirement 400V / 10A), cable must be 5 core cable; 3 phases + 1 neutral + 1 earth - energy consumption is 18.41kWh/day - currently £66 (cold weather below 0ºC) or 0.41kWh/day - currently £1.50 (when warmer weather above 0ºC)

For the WasteStation

- three phase electricity (415V / 8.6A) , cable must be 4 core cables - typical days costs is 64p

Budgeting for a cost of £850 per year for electricity and ensuring the shed is well insulated to prevent the temperature dropping below 0ºC should ensure machinery running and shed lighting costs are covered.

Step Three - how will you fund the food waste composting in your area

Start by contacting your local authority as they may be interested in your waste management plans and have suggestions for funding or joint working.

Our project has been successfully funded through the Scottish Government's Climate Challenge Fund (CCF):
www.keepscotlandbeautiful.org/sustainability-climate-change/climate-challenge-fund/applying-for-ccf-funding/

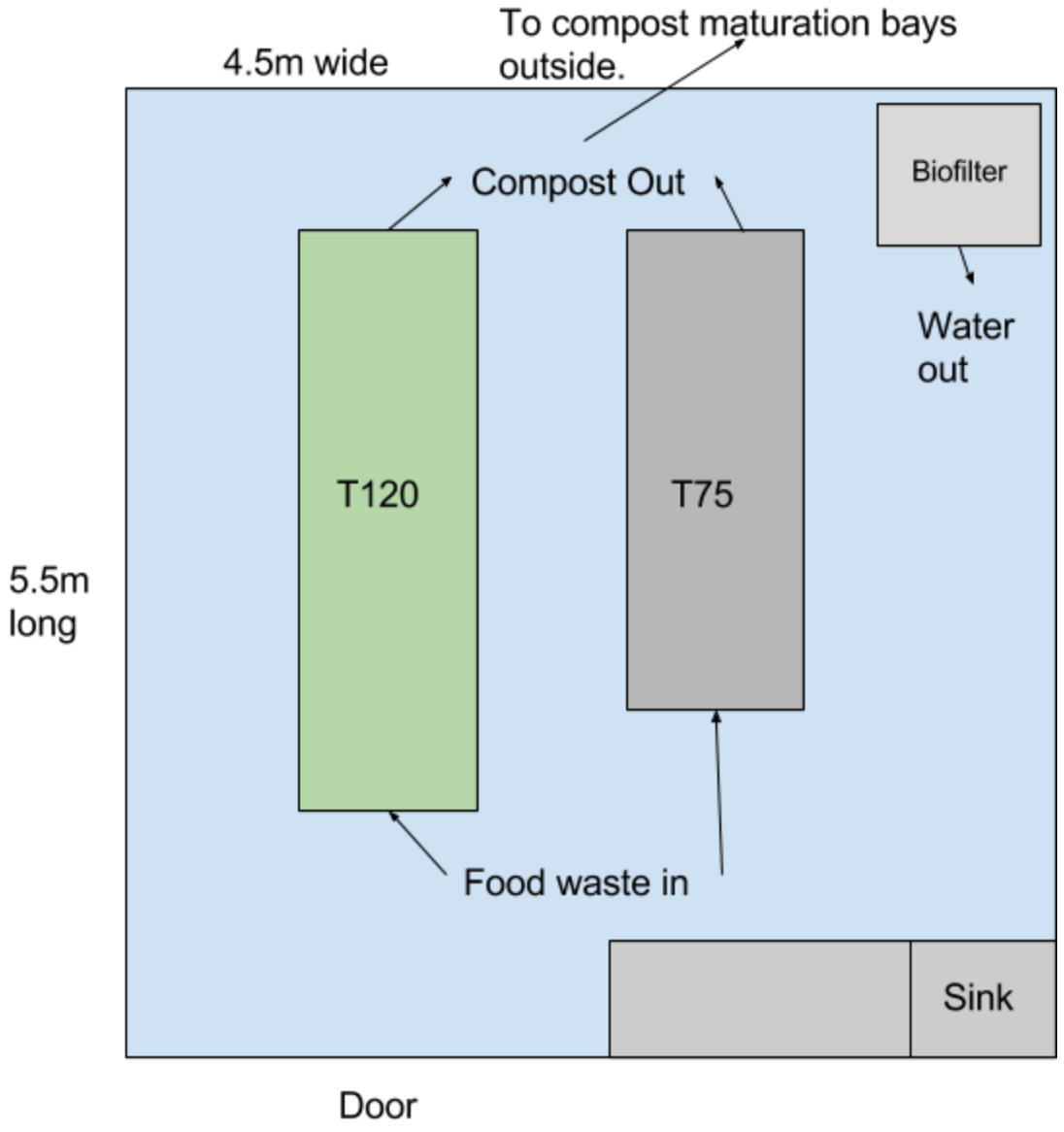
This link also has information about the CCF's Development Grant which could be a useful source of funding for Step One community consultation activities.

We have successfully submitted an Ideas Bank Proposal to CCF too, enabling you to factor in support from our organisation:
www.keepscotlandbeautiful.org/media/1559373/ccf-ideas-bank-project-idea-form_whitmuir-community-farm.pdf

Step Four - space required for our food waste composting area

Our in-vessel compost machines are housed in a Keder Greenhouse (www.kedergreenhouse.co.uk/) but there are various options (look at the Big hanna website for suggestions). As previously mentioned we also have a caddy storage shed and compost maturation bays.

We have two Big Hanna in-vessel composting machines, our current setup is:



Step Five - SEPA and licences

You will need to register your premises under the Animal By Products (Enforcement) (Scotland) Regulations 2013. Contact your local SEPA office for information on how to do this.

You will need to apply to SEPA to gain a 'Registration of exempt activity, Schedule 3, Paragraph 12' - this will remove the need for you to purchase a Waste Management License. The exemption is in part based on the fact that you will be processing relatively small tonnage of food waste per year. You will need to complete an annual return form to report on your activities.

You will need to develop and implement a hazard analysis and critical control point (HACCP) plan.

If you are collecting food waste by vehicle you will need to apply for Certificate of Registration under the Control of Pollution (Amendment) Act 1989 - again this is through SEPA.

2000m² Contact Details:

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Climate Challenge Fund
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