

Waste Food and Circular Economy Group

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OUR BIG IDEAS



This hierarchy provides the context for our ideas



Biotechnology Clusters

(not the main thrust of our discussions - just one slide to summarise opportunity and hope that others pick up)

- Blown away by potential of using food waste to make high value products
- Wastes - food, distillery, brewery and farm waste
- Possible products - fish and animal feed, human food, construction materials
- Looked at propagation of mushrooms and insects - modular and scalable
- Fits with developing policy and support structures (ZWS)
- Big opportunities for collaboration around local food clusters



Our Big Project Proposition

Community composting of food
waste in 100 Highland villages
and districts by 2025

Aims of Project

1. To reduce food waste in 40,000 participating households by one third
2. To reduce residual waste food to landfill by 6,200 tonnes
3. To create over 20 green jobs



Why local food waste composting?

- In Highland only 24% of population have food waste collection (Inverness only)
- 3Kg food waste per household per week goes into landfill each week
- Ban of biodegradables into landfill by 2025 – need solution, ideally a local one
- Composting is a 'way in' to behaviour change relating to food waste
- Reduction in CO2 emissions:
 - By reducing landfill emissions
 - Less food waste
- Compost produced for local food growing

Why community scale?

- Home / business scale and composting important but
 - Initiatives and resources already exist
 - Less scope for widespread behaviour change
- Larger scale regional composting eg Keenans in Aberdeenshire and Ritchie's in Carrbridge
 - Scope to work with existing operators
 - Less scope for widespread behaviour change
- **Community Composting: The sweet spot that fills the gap**
 - *Tried and tested technology*
 - *Proven behaviour change outcomes*
 - *Pilots and demos done – its all ready for roll-out.*

The Big Hanna (or similar) – the technology we propose is used

This is one of the smaller machines



Example of small machine for 100 households

- Length 3.90,
- Width 1.08m
- Height 1.50m
- CO2e saving: 46 tonnes per year
- Capacity: 40 tonnes per year
- Compost: 7 tonnes per year

Bigger machines are available!



Big Hanna Technology

- Smart
- Automatic aeration (no need to manually turn)
- Low energy, produces own heat
- Can potentially achieve BSI PAS 100

Big Hanna Capacity Options

Model	T40	T60	T120	T240	T480	Neter12	Neter20	Neter28	Neter36
Capacity *)									
Food waste/day (kg)	10-15	20-35	40-70	55-170	115-340	170-515	285-855	400-1200	515-1545
Food waste/week (kg)	75-100	150-250	300-500	400-1200	800-2400	1200-3600	2000-6000	2800-8400	3600-10800
Food waste/annum (ton)	4-5	8-13	16-26	21-62	41-124	62-187	104-312	146-437	187-562
Number of households	25-35	55-70	90-135	130-300	275-650	-	-	-	-
GHG Emissions (MTCO2EQ) avoided calculated on www.epa.org using WARM (per year)									
GHG Emissions landfilled	8	20	40	95	191	287	479	672	863
GHG Emissions composted on-site	-1	-3	-5	-12	-25	-37	-62	-86	-111
GHG Emissions savings	-9	-22	-46	-107	-216	-324	-541	-758	-974

Community Composting Project: Key Elements

- Big Hanna composter – scaled to suit each village or neighbourhood
- Locate in community facility, ideally a school giving opportunity to kick-start school/community engagement with food.
- Permanent shared workforce - trained and skilled to collect waste
- Every Big Hanna has a community support group to help reduce food waste. Proven success at
 - Whitmuir Farm
 - Tesco 'No time for Waste' campaign.
- Sale of compost under shared brand

Resources Needed

- 100 composting sites – ideally a schools or community hubs
- 100 sheds or poly-tunnels to put composter in
- Collecting arrangements – could be self service, or collection service
- 20 composting jobs and 2 management jobs
- Community groups or ‘community champions’ to support, educate and promote
- Capital cost for set up

Costs of Project (Back of Envelope - credit Pete Richie)

- 100 composters in sheds with kit - £4million = £400,000 pa depreciated over 10 years
- 20 composting and 2 management jobs = £600,000 pa
- Activities to reduce food waste = £200,000 pa
- So £1.2m/pa for:
 - 100,000 people reduce food waste
 - 6,500 tonnes food waste diverted from landfill
 - 22 jobs
 - Locally produced compost

Finance suggestions

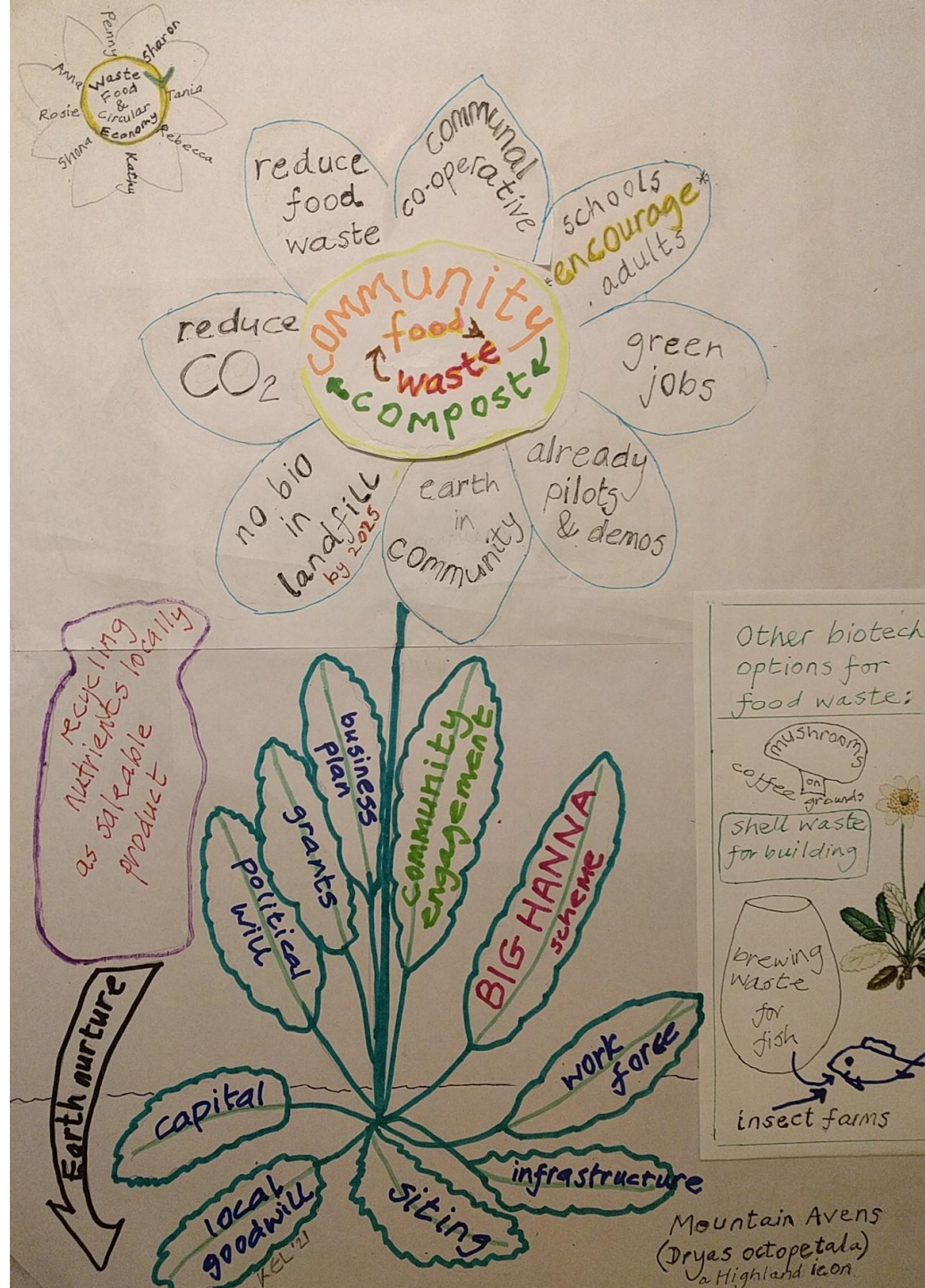
- Apply cost savings resulting from:
 - reduction in municipal waste collections
 - dealing with less biodegradable waste
- Selling compost
- Strategic sponsorship from supermarkets eg Co-op?
- Capturing externalities – ie the value of emissions savings (requires policy change)
- Capital Grants? - Scottish Landfill Communities Fund could be appropriate, BIG Lottery new climate grants. (Need to beware of fickleness of grants)

Actions

- Briefing MSPs – good fit with green recovery and climate emergency
- Discussions with Highland Council to agree plan linked to future savings
- Gauge community interest and input
- Preparation of business plan

We started this discussion in thinking about Thurso and it would be nice to see the first Big Hanna there!

SUMMARY



Thanks to:

Michael Sutherland, Fair Share

Andy Hume, Highland Council

William Clark, Zero Waste Scotland

Pete Ritchie, Whitmuir Farm

References

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