

Too good to waste:

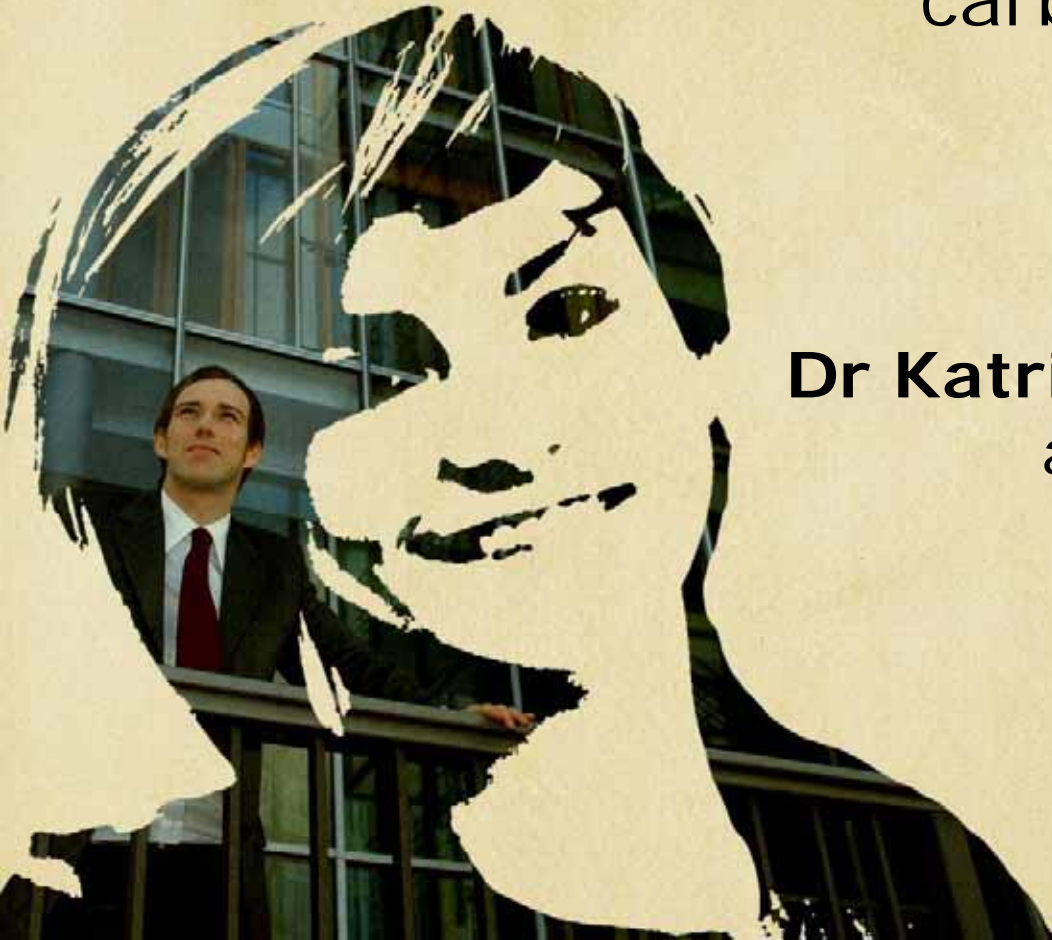
Creating biochar from cleared vegetation as a soil improver and carbon sink

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Cleared Vegetation



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Onsite Mulching



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End Product: Mulch



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End Product: Biochar



Key Design Issues

In investigating the suitability for biochar production from roadside verge clearing several key design issues were considered:

- Mixed input of vegetation
- Potentially wet (fresh) mulch
- Need for low technology approach
- Local solution, able to be produced near to end use of char



Starting Materials

Ideally some degree of uniformity would be preferred

Variability of size and plant species did not pose a problem



Biochar was able to be produced

Mulch to Char

Roadside vegetation cleared at start of construction season (~October)

Mulch samples were approximately 6 months old at time of biochar production

Biochar yield - 47.9%

Low technology

Barrel and pit methods are low tech approaches for producing biochar

Barrel method worked well for our initial investigation, with very small samples

- need larger scale for revegetation projects

Lessons Learned

Biochar can be made from cleared roadside vegetation

- where there is woody biomass

Mulch at time of clearing and store until almost ready for revegetation

- Allows for drying time
- Requires planning

Phase Two: Onsite Production

In the next phase we are going to use pit method on site, immediately adjacent to the land to be revegetated.

Use construction equipment to:

- dig and cover biochar pits
- Apply and mix biochar prior to revegetation



Key Challenge of Onsite Pit Method

Fire management!

Need to wait to end of fire season

- End of fire season is typically near end of construction season



End of Season production

Advantages

Wood cleared early is drier

- Reduced smoke and increased char

Reduced fire risk

- Cooler temperatures

Reduced disruption to construction activities

Disadvantages

Potential for rewetting of mulch from rain

- Delay to char production

Fire hazard from mulch piles

Construction equipment may be no longer located onsite

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