Is there room for biochar in the city?

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Why urban biochar solutions?

In urban environment, ecosystem services and functions need help

- Water storage
- Binding/removing pollutants
- Carbon storage

Soil digging prevalent – biochar application well suited

Application costs included in infrastructure construction – has to be done in any case

Little opportunities to compensate C footprint of construction within projects - biochar a relevant option

Climate change in planning UG

- Plan to be resilient
  - Extreme weather BC
  - Diversity
  - Convertibility
- Plan to mitigate
  - Retain carbon storage and capture
  - Increase carbon sequesteration BC
  - Long-lasting structures and materials
  - Low carbon footprint of construction BC
  - Compensate carbon expenses BC
  - Low carbon footprint of management

Planning climate change resilient and mitigating UG

Finding synergies and solutions with other project goals

Usually little to no extra cost

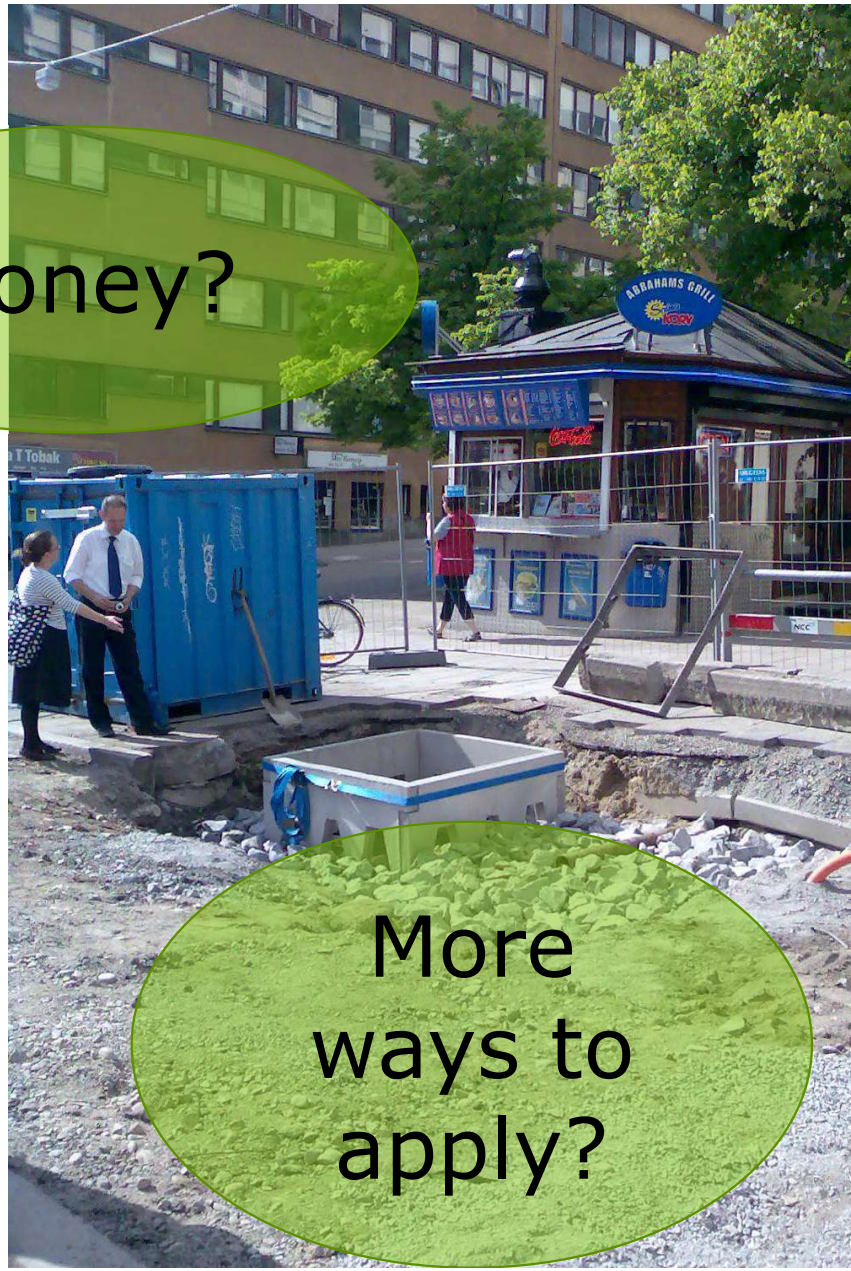
Who's interested in biochar?

Motivation

- Municipal carbon neutrality goals – compensation not well understood (sitowise.com/fi/uutiset/kunnat-avainroolissa-ilmastokriisin-ja-luontokadon-ratkaisemisessa
  - Possibilities to compensate with traditional urban greening exist, limited BC allows for partial compensation already in planning and constructing a new development projects
  - BC not well known option, but increasing interest
- Environmental services/protection
  - Stormwater quality/quantity management applications valuable emerging tool
- Plant specialist, planners, urban tree officers
  - Growth improvement (primary marketing argument)
  - Stress tolerance is very valuable!
    - Less drought/irrigation
- Barriers: lack of knowledge, availability, certainty of no harm, ready to use solutions, cost

Money?

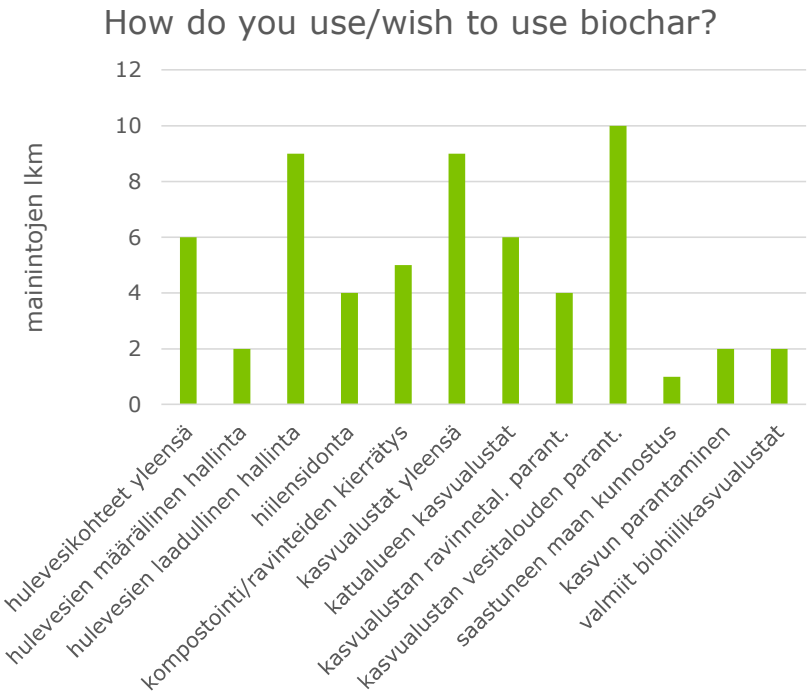
Means



More ways to apply?

Questionnaire in biochar seminar (2020), end users in UG need info most on:

- Best biochars for different user needs
- How much to use
- Growing media recipes
- Reference sites to check
- Does it need replacing/changing in stormwater applications
- Synergies/interactions with fertilisers
- What kind of soil analysis works for biochar soils
- Planting site construction with biochar – practical quidelines



VYL biochar-seminar, workshop results

Less is more

When more is required, biochar can help compensate lost soil C stocks and sequestration

Summary

Urban environment well suited for biochar application

- Digging soil offers good opportunity to use biochar
- Quick partial compensation for C footprint of construction

- Hardscape materials (emerging)
  - Pavers, concrete,…
  - Lightweight construction on low bearing subsoils
- Stormwater filters
- Growing media

Outlook: Is there room for biochar in the city?