



RISK ASSESSMENT OF PAHs BEFORE AND AFTER BIOCHAR TREATMENT

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FUNDING

Research program:

**RE:
SOURCE**

Supported by:

FRAMEWORK FOR RISK ASSESSMENT OF BIOCHAR TREATMENTS

- Based on established methods for risk assessment
- Site-specific guideline values
- Testing of untreated and treated soil



Biokolsbehandling av PAH- och metalförorenad jord

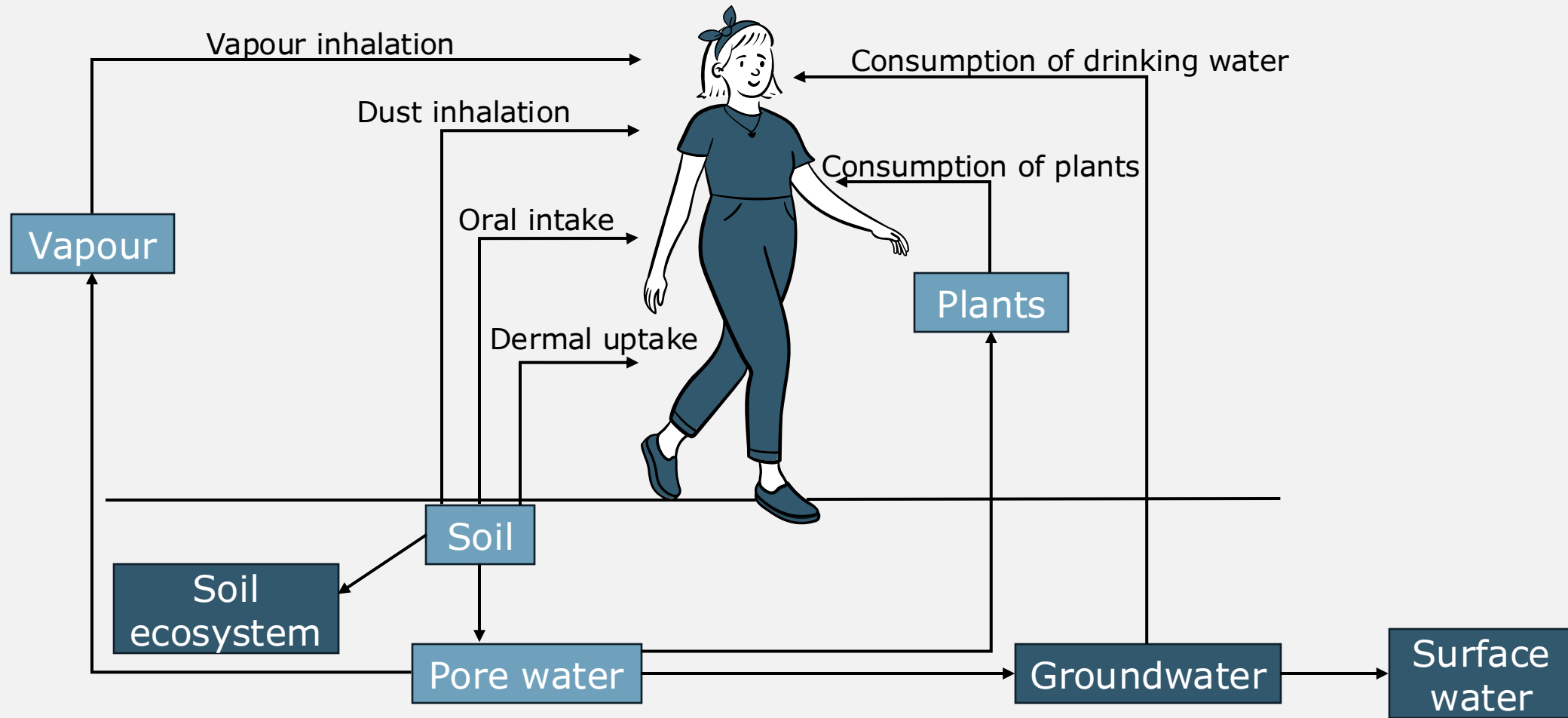
Metodik för platsspecifik riskbedömning

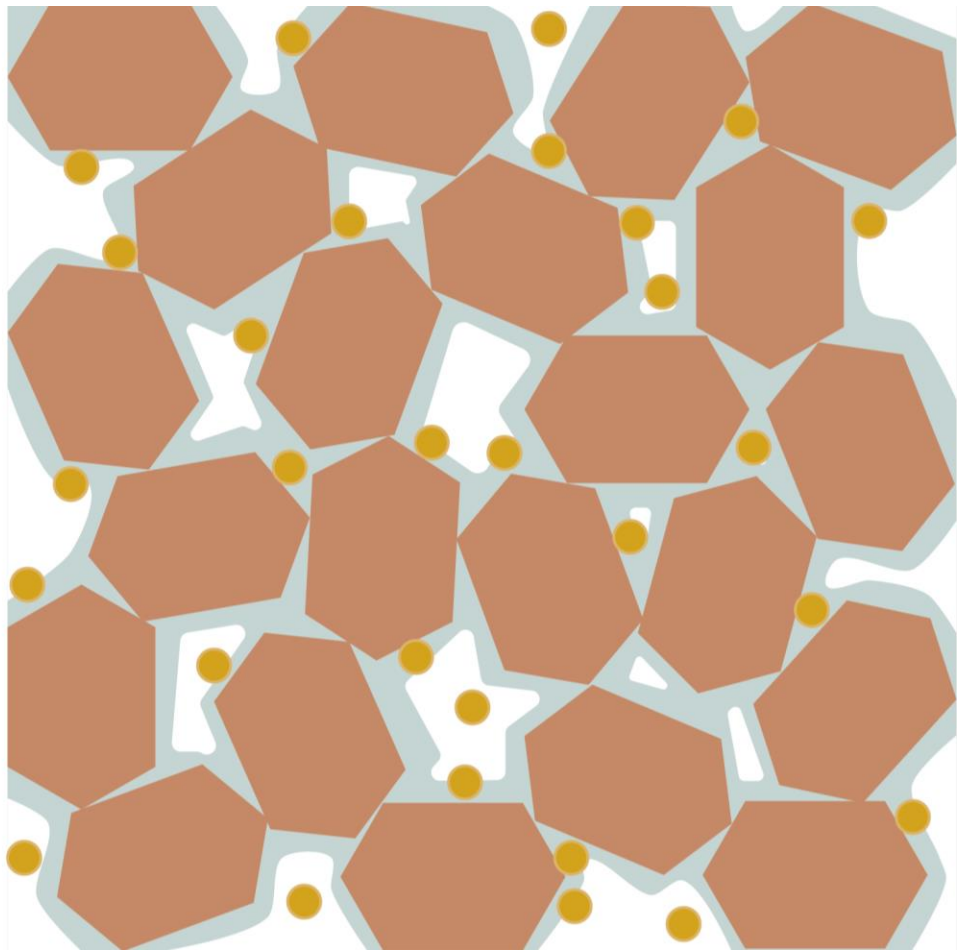
Dan Berggren Kleja, Matilda Johansson och Anja Enell

Uppdragsgivare: SGI

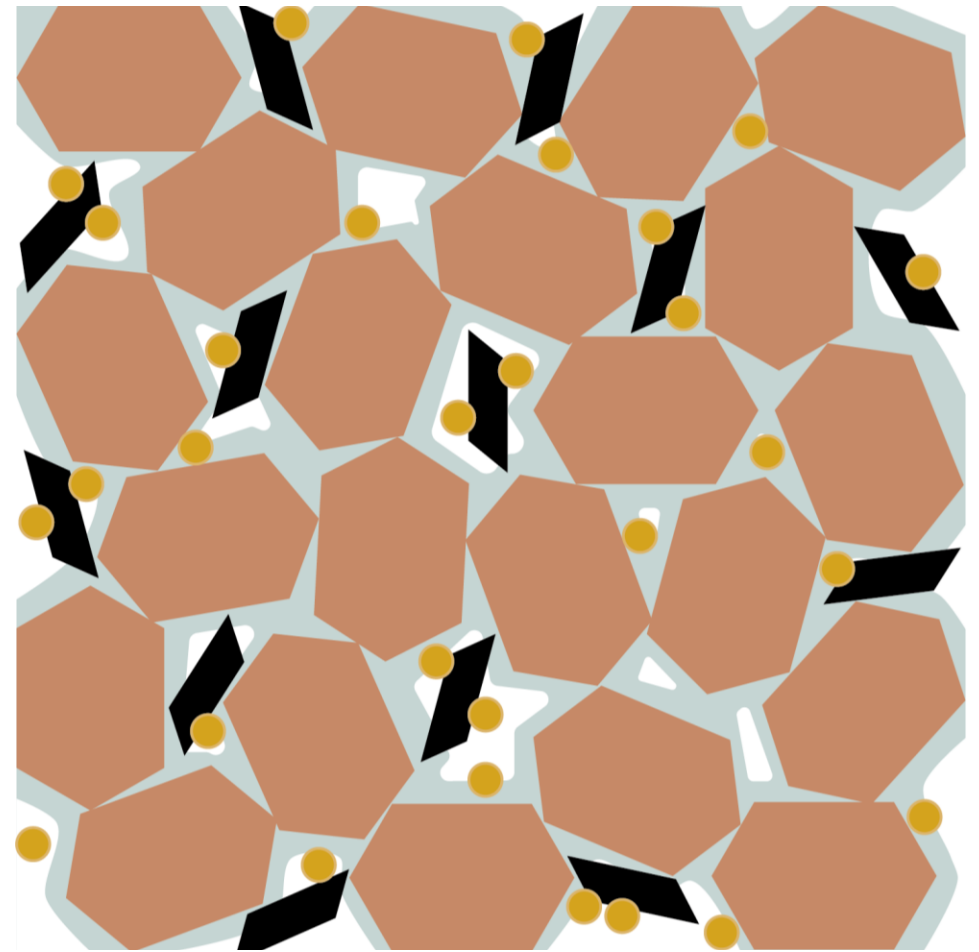
2026-02-13

[Link to report](#)





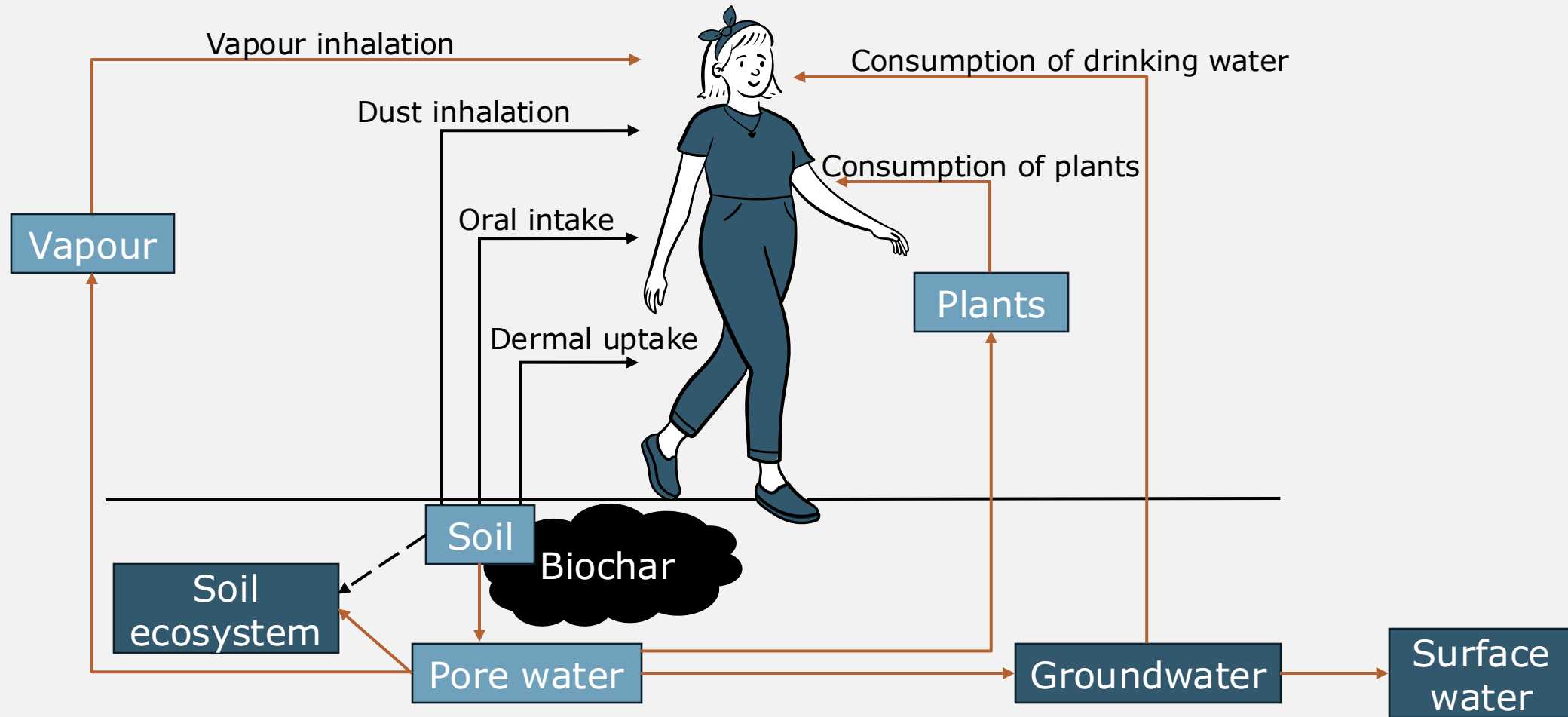
PAH-contaminated soil



Biochar treated soil

 Soil particles  Pore water  Pore gas  PAH  Biochar







MEASURE



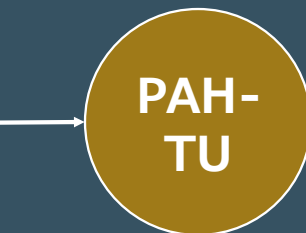
POM = Polyoxymethylene
(equilibrium passive sampling)

CALCULATE

Site-specific organic
carbon-water partitioning
coefficient



Excel tool:
SEPA guideline values

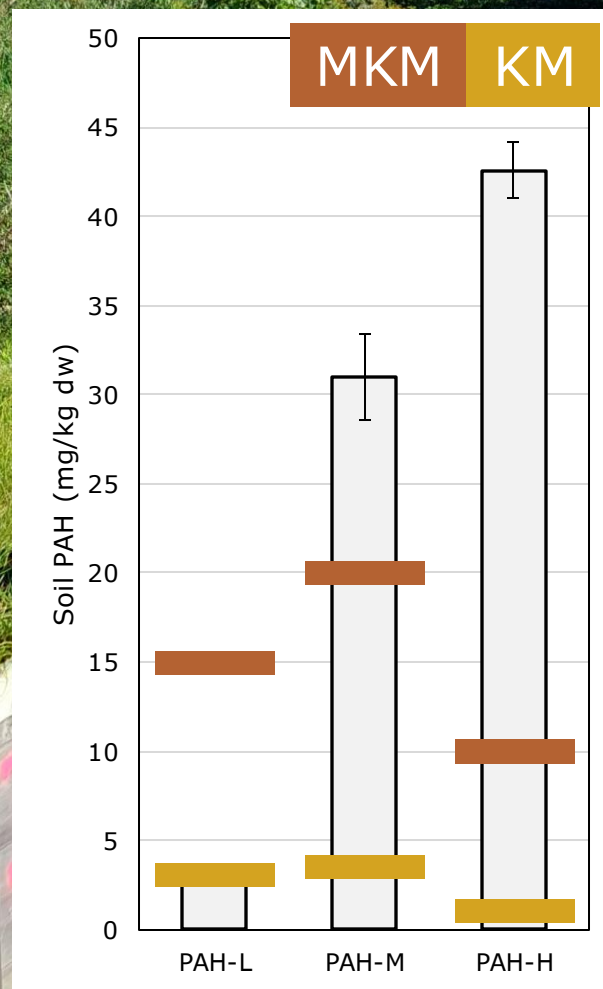
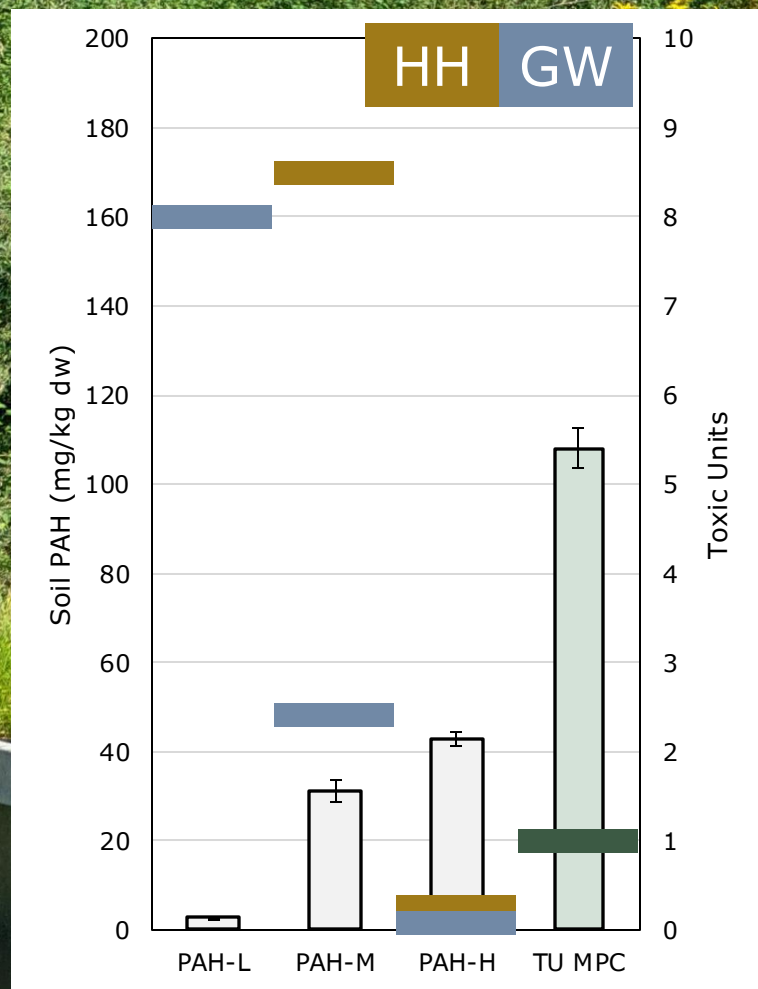


Excel tool:
PAH-TU-kalkylatorn

ASSESS

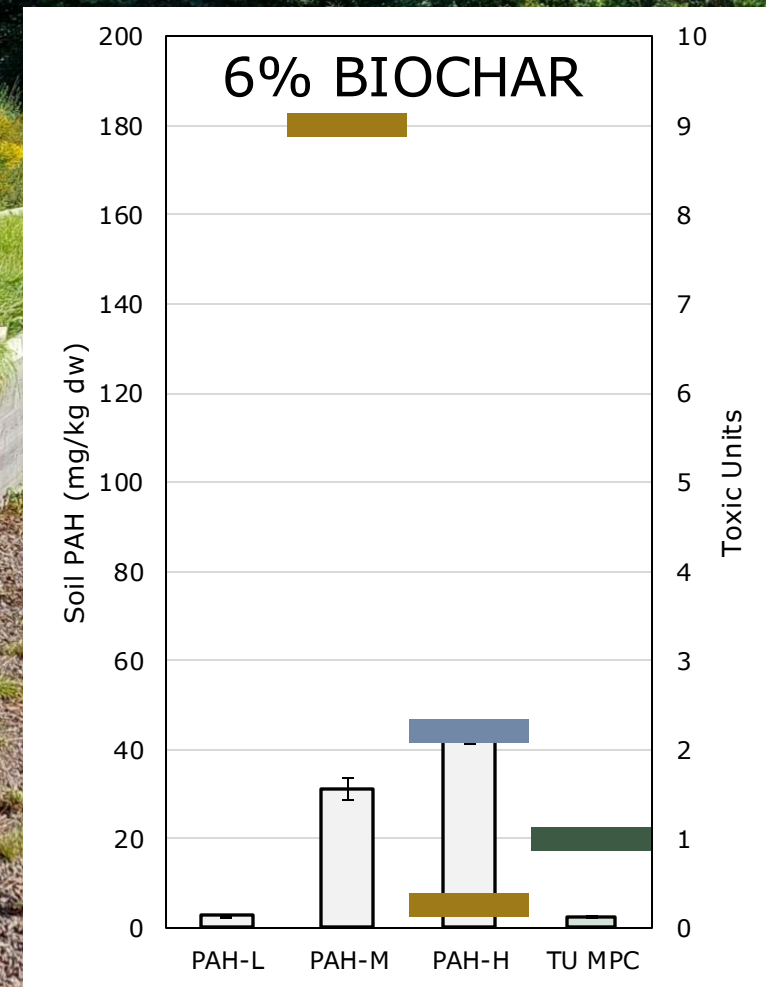
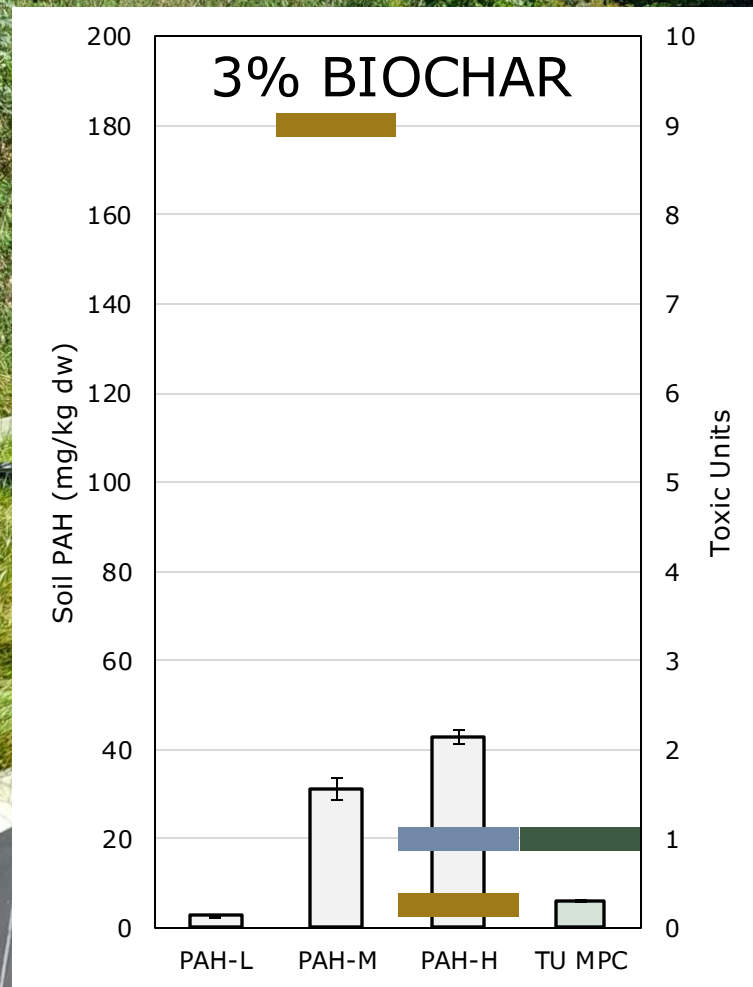
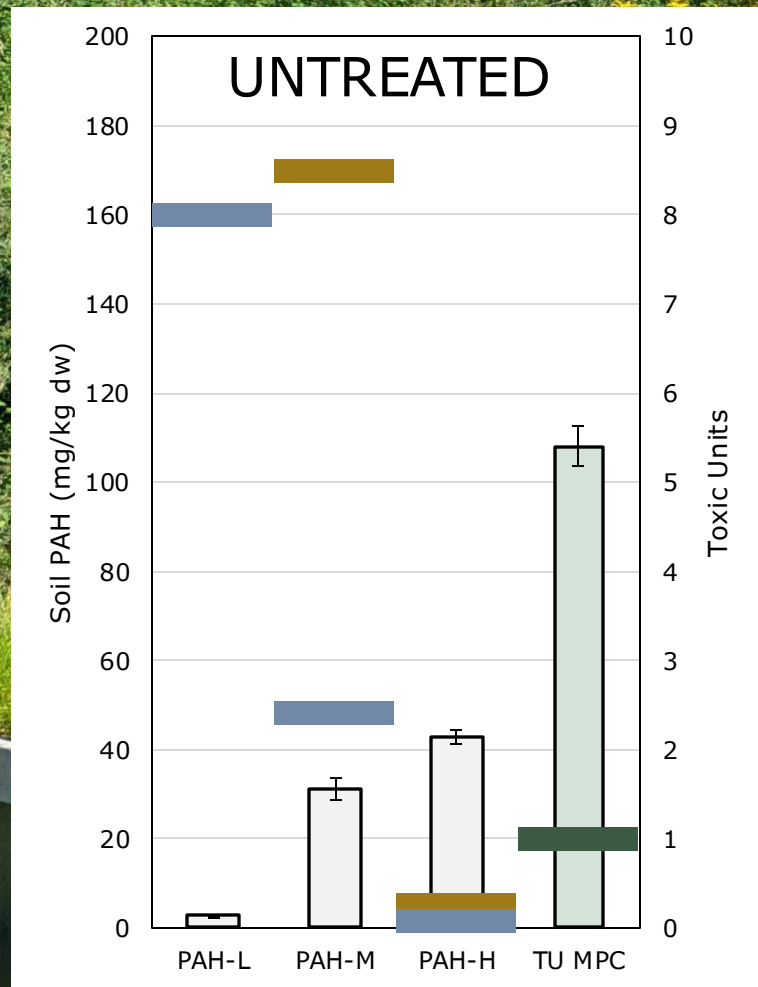


Ecological risk assessment based on
toxic units (TUs)



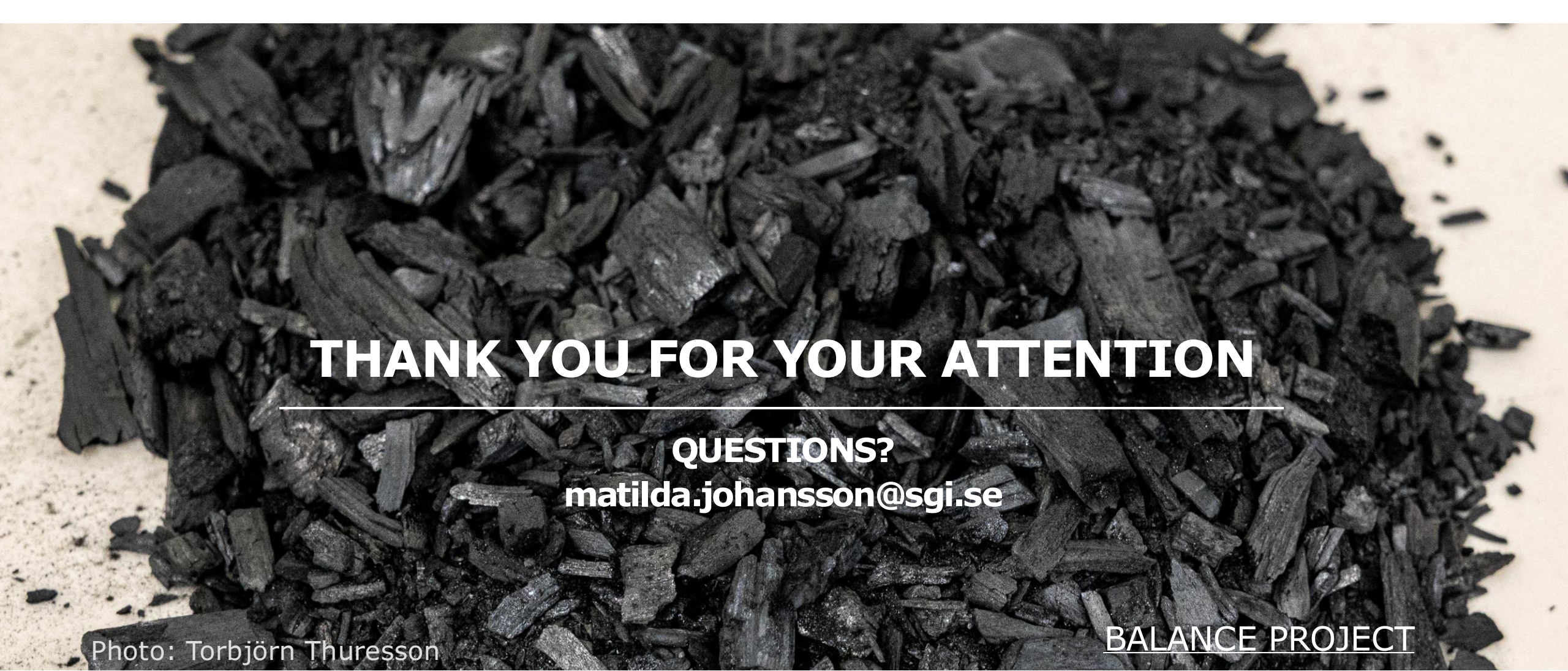
KM sensitive land use
MKM less sensitive land use
HH human health
GW groundwater

human health groundwater



SUMMARY

- Biochar can reduce PAH mobility and bioavailability in soil
- Equilibrium pore-water concentrations provide a measure of reduced PAH availability
- Use the same workflow before and after treatment
- Test the selected biochar together with the site soil before full-scale treatment
- Limited applicability to heavier PAHs



THANK YOU FOR YOUR ATTENTION

QUESTIONS?
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Photo: Torbjörn Thuresson

BALANCE PROJECT

