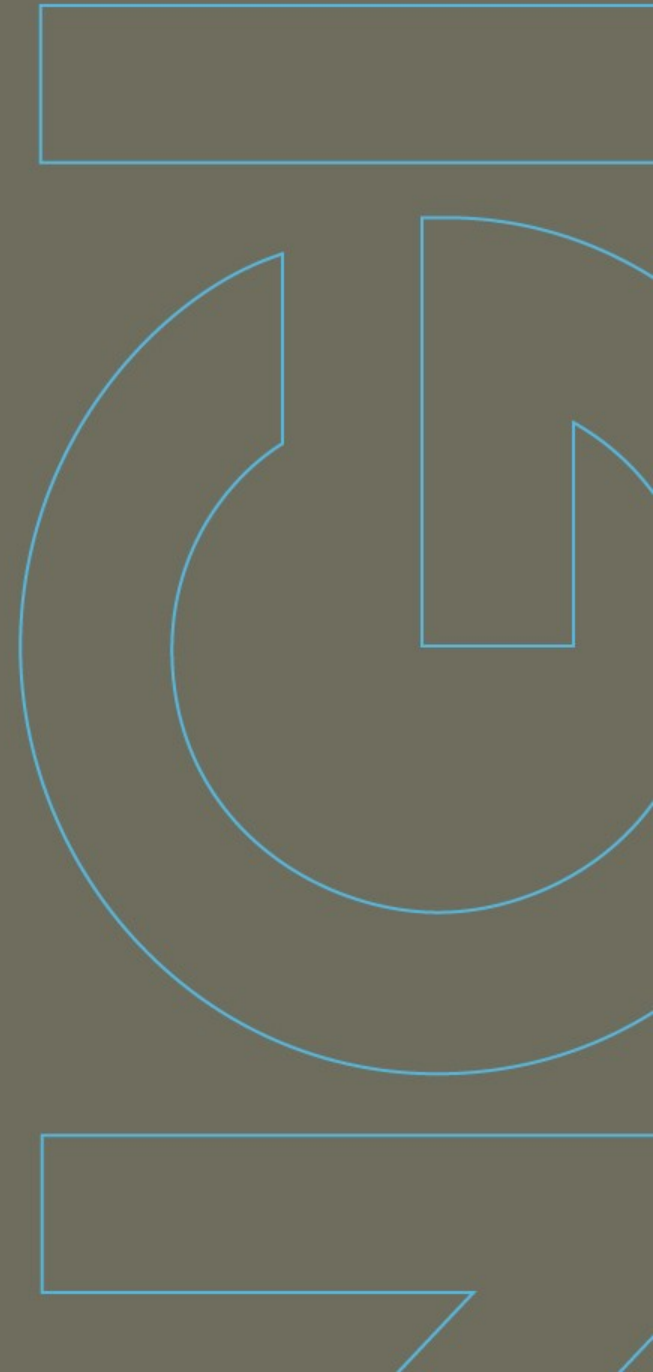


LCA Zambia biochar

Preliminary results



The different scenarios

1. Traditional farming

- ✓ slash and burn of weed
- ✓ No use of herbicide, use of fertilizer



2. Conservation farming

- ✓ 4 times better yield less fertilizer

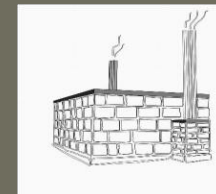
3. CFU and traditional kilns,

- ✓ half of the fertilizer is replaced by biochar



4. CFU and improved retort kilns.

- ✓ capacity 10 tonnes pr year. Lifetime 4 years

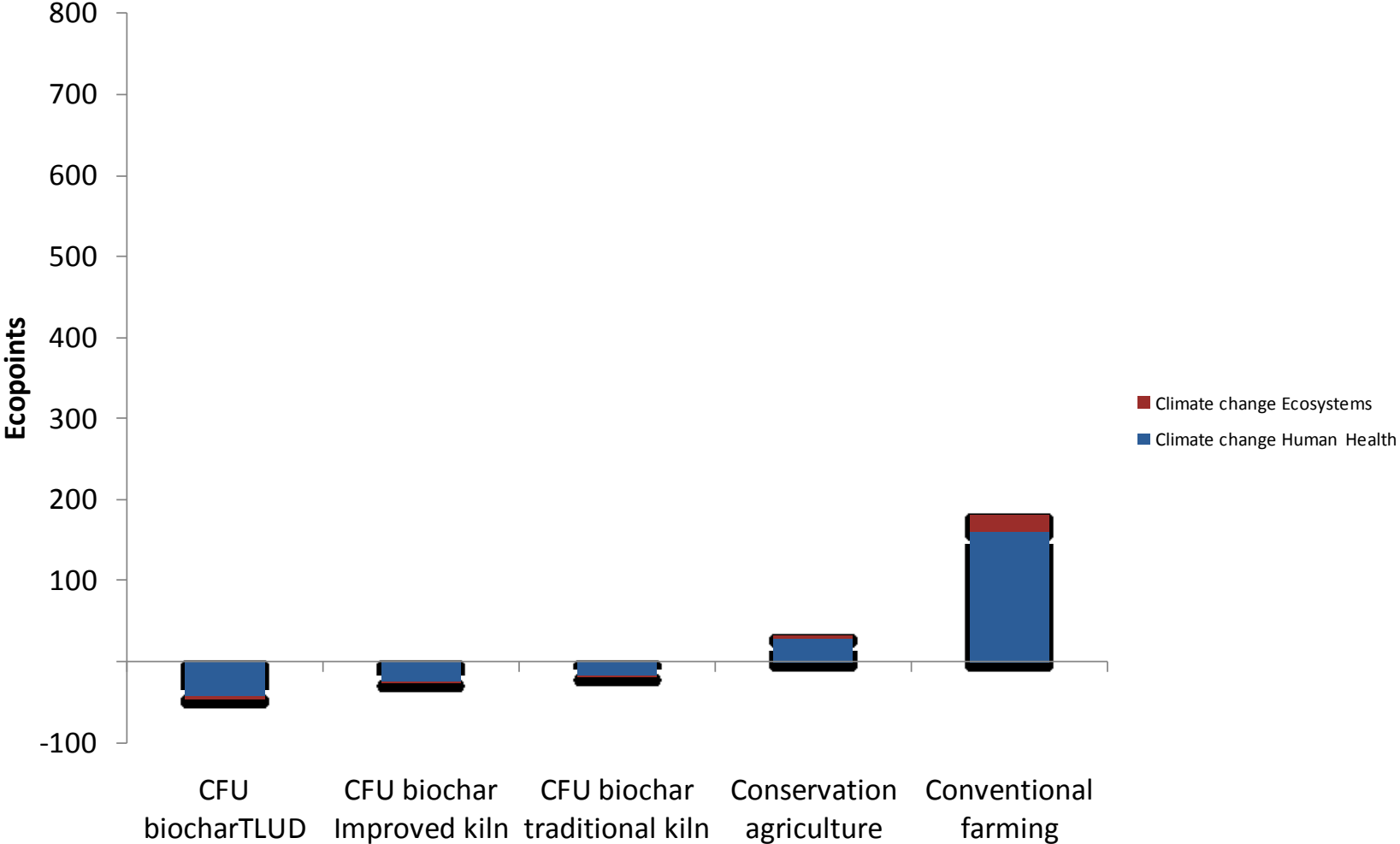


5. CFU and TLUD stove.

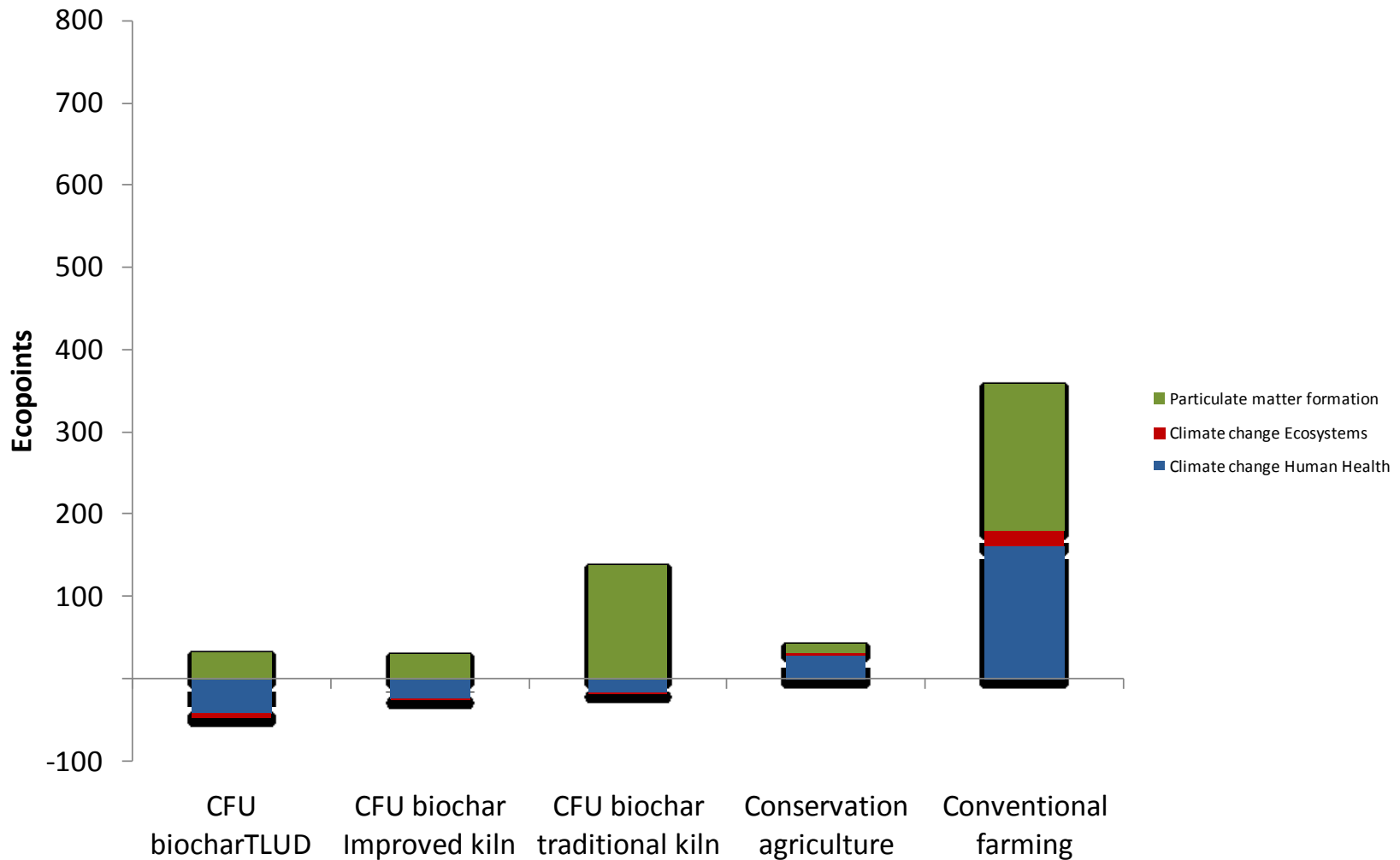
- ✓ capacity 1 tonnes pr year. Lifetime 4 years



Climate change effect pr tonnes harvest and year

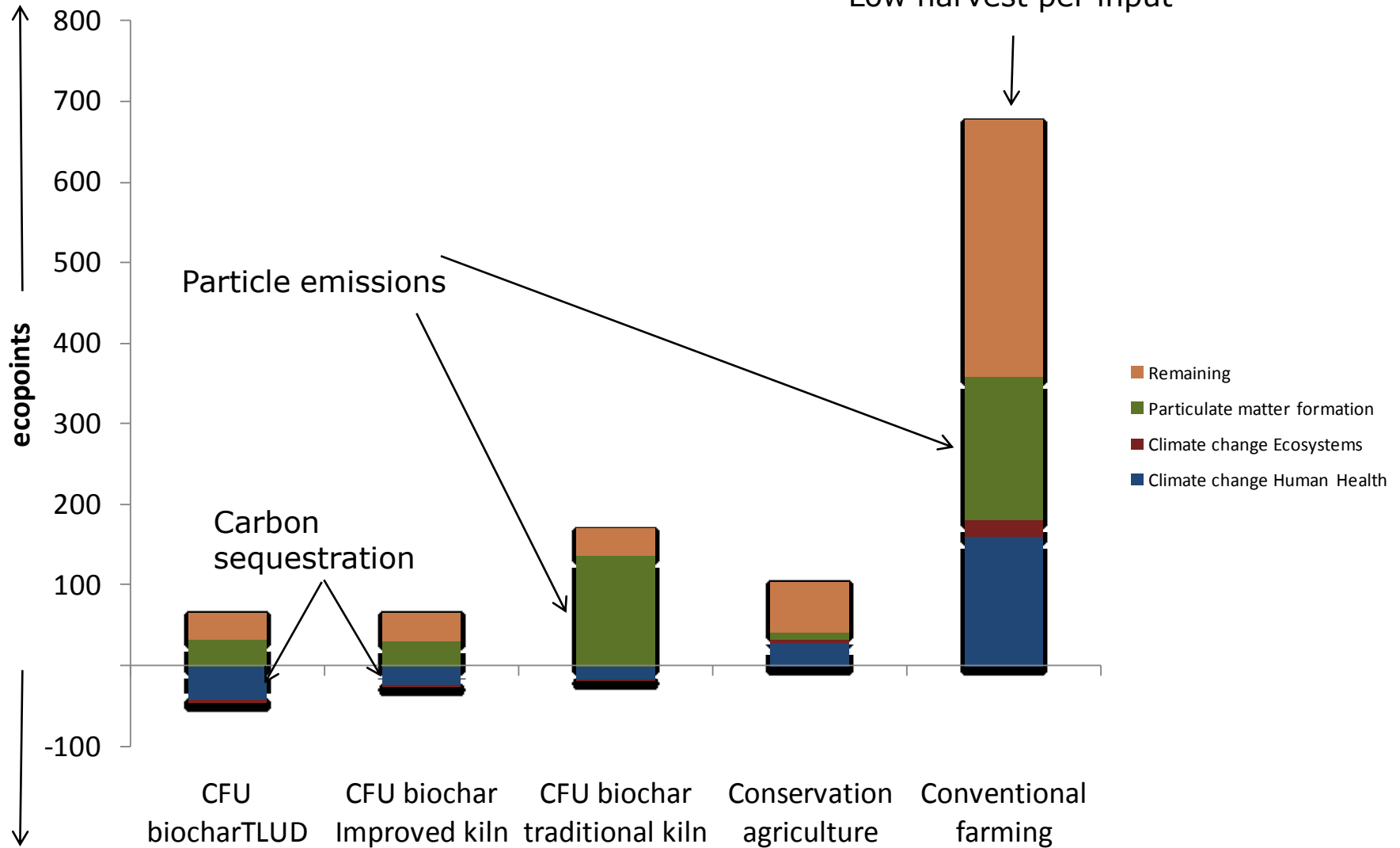


Adding health effects...



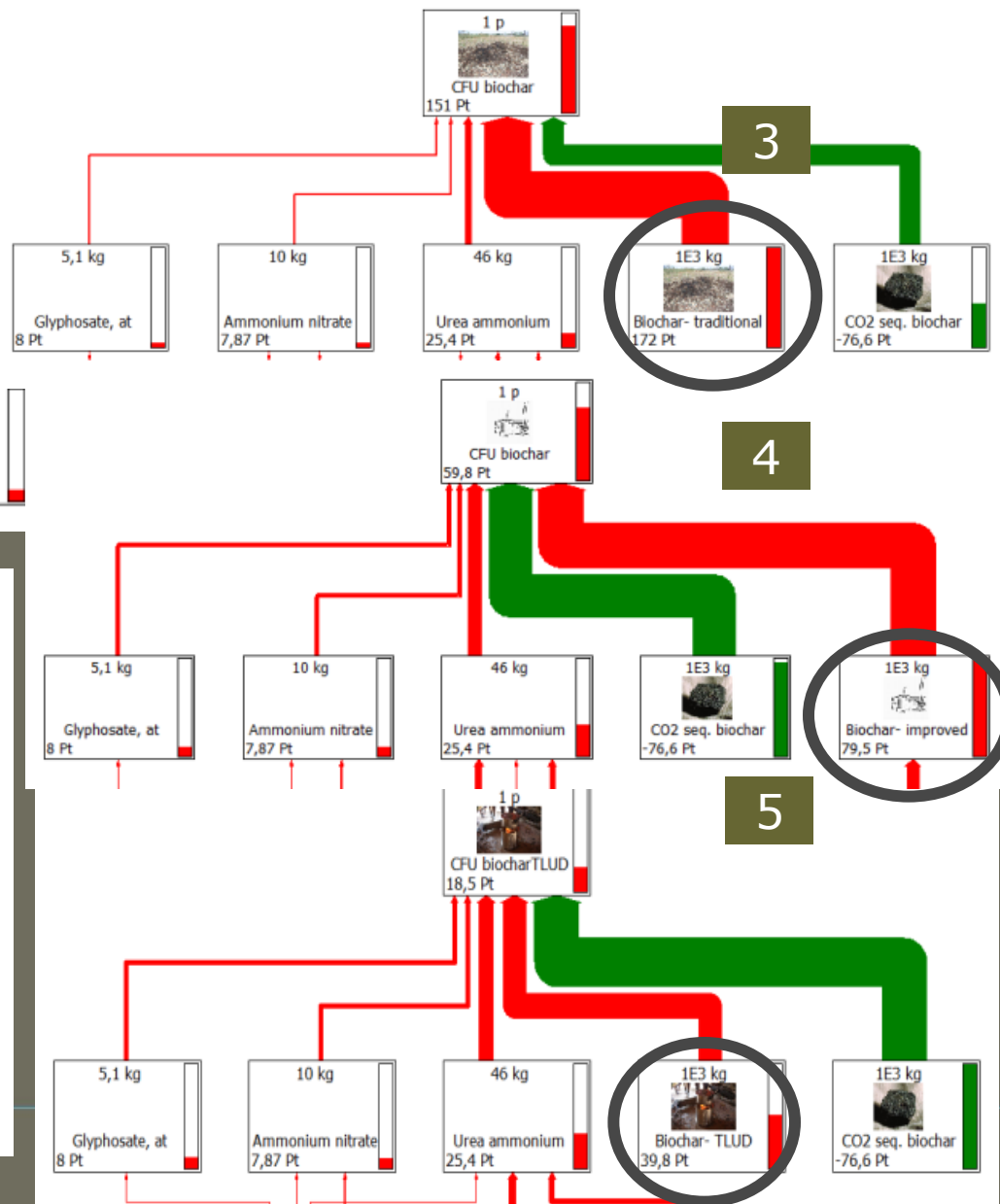
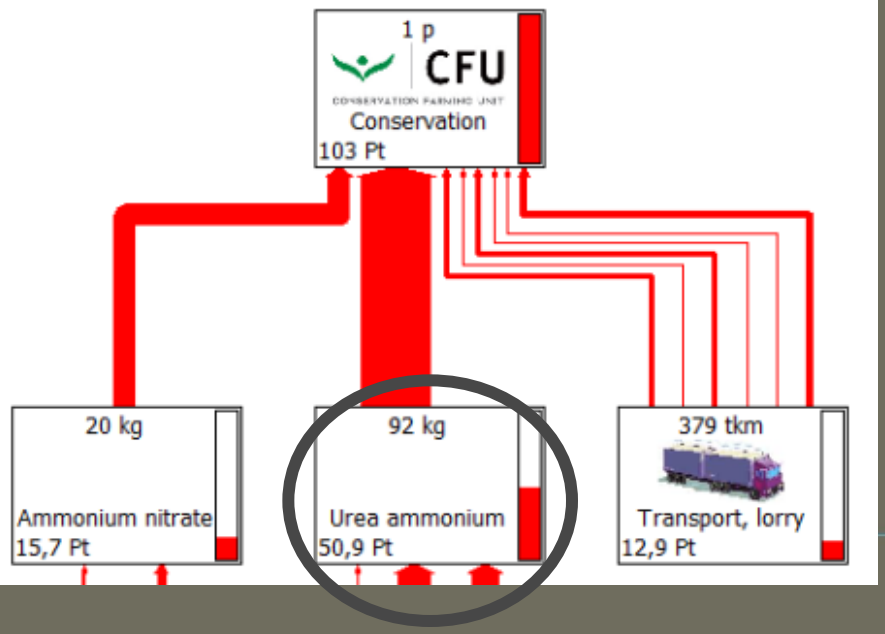
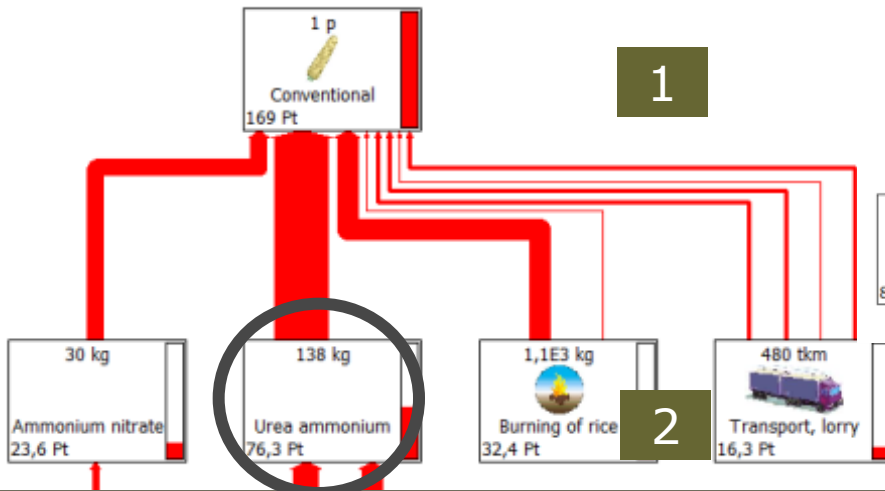
Total impact per kg corn harvest....

Negative effect



Positive effect

Contribution to impact from different items



Conclusions

- Conservation farming has less environmental impact than traditional farming
- In general addition of biochar is beneficial in a life cycle perspective
- The selection of production technology is important-traditional kiln is not the way to go forward, particle emissions and health effects are too severe
- Topdressing urea has highest environmental impact of additives, since ammonia is produced from natural gas