

The State of the Analysis

IATP/IonE Conference on
Indirect Land Use Change

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Jason Hill, Assistant Professor
Department of Bioproducts
and Biosystems Engineering
University of Minnesota
hill0408@umn.edu



A tale of three LCA studies

- Ethanol plant owner
- Ethanol industry analyst
- Government regulator
- How would each construct an LCA?
 - What volume of ethanol is being considered?
 - What is the purpose of each LCA?
 - What data would each choose as model inputs?

What is the appropriate use of LCA in decision-making?

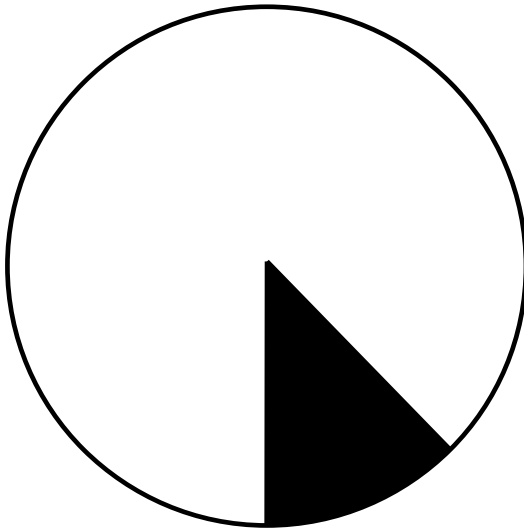
- Attributional LCA
 - What are the total emissions from the process and material flows directly used in the life cycle of a product?
- Consequential LCA
 - What is the change in total emissions as a result of a marginal change in the production and consumption of a product?
- Where does responsibility lie in each?

Responsibility?

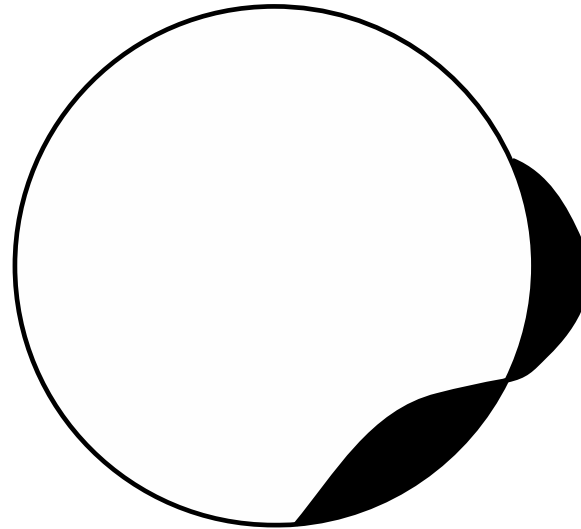
- “Searchinger et al.’s arguments imply that since the Brazilian government may not fully control deforestation in the Amazon, we should make sure that U.S. biofuel producers would be held responsible for activities that will raise the price of corn and soybean and may lead agents in Brazil to deforest the Amazon and increase GHG emissions.” – Zilberman et al. (2010)

Two flavors of LCA

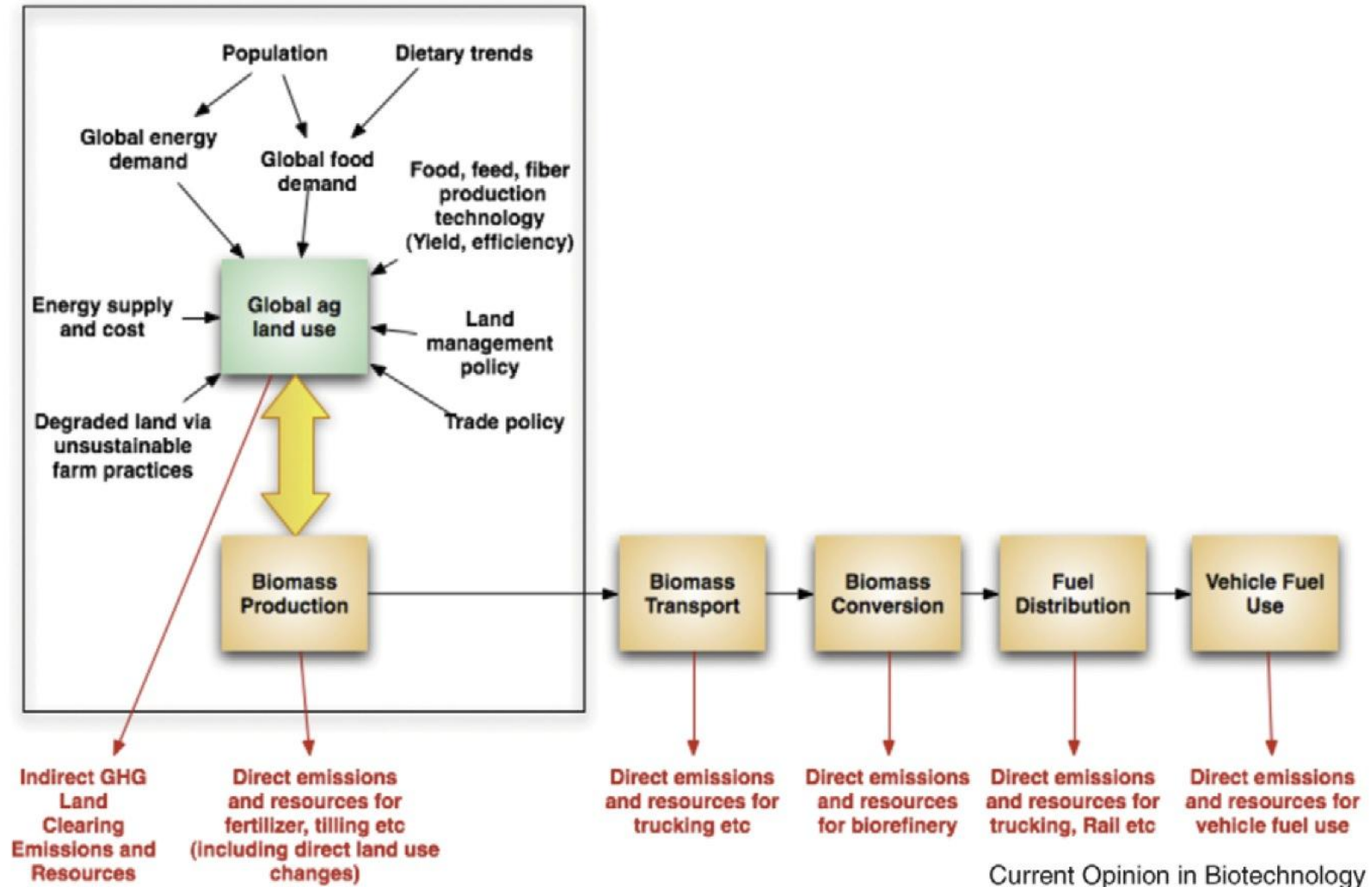
Attributional LCA



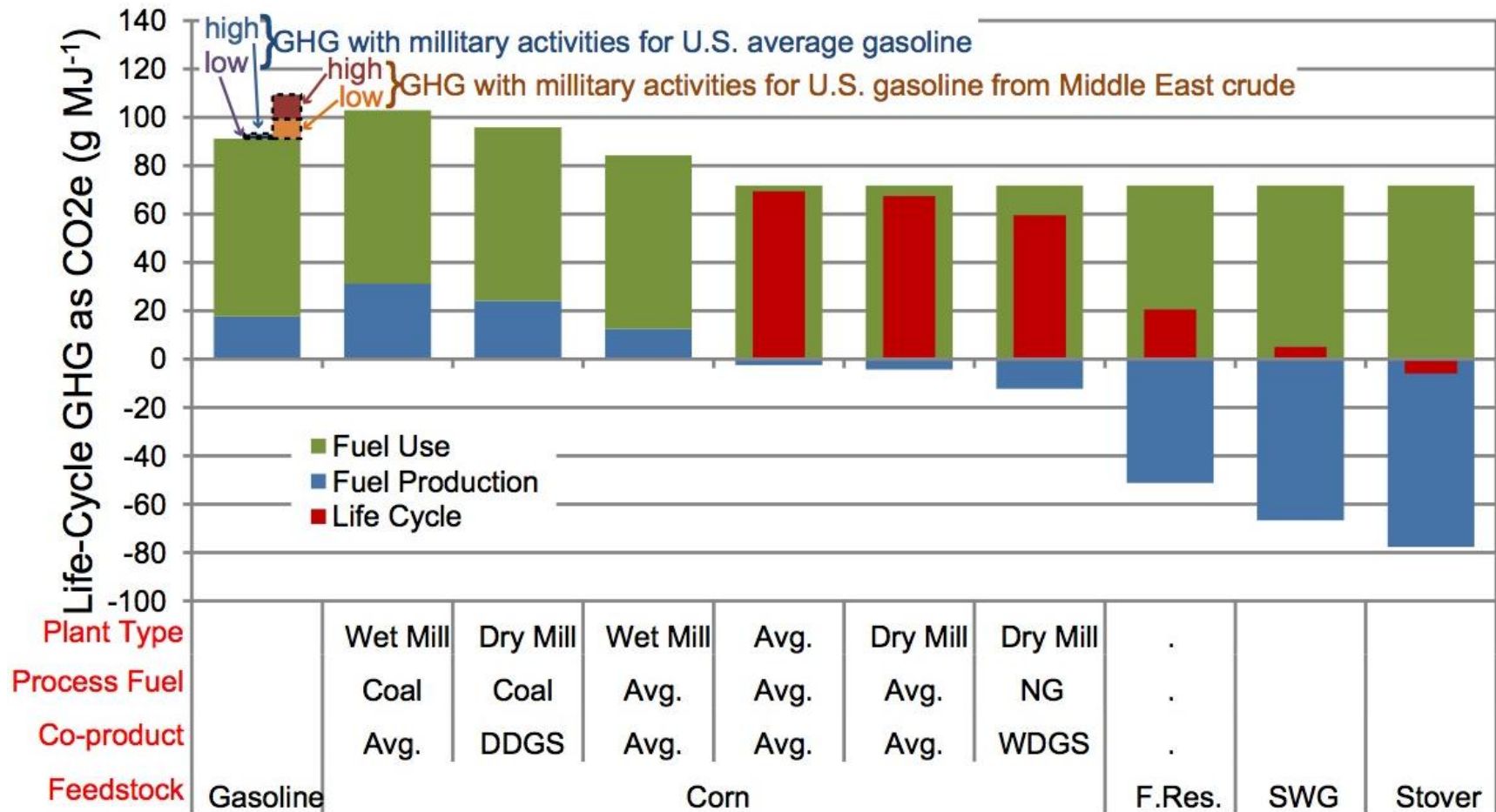
Consequential LCA



Two flavors of LCA



Biofuel net GHG emissions



iLUC is only one marginal effect



Ethanol Reduced Gas Prices by 89¢ per gallon in 2010*

Ethanol reduced the average American household's gasoline bill by more than \$800.
If ethanol disappeared, gas prices could rise by as much as 92%.*

We can't afford to pay even more at the pump.



Final thoughts

- Indirect land-use change is one of but many market-mediated effects resulting from decision making in the energy and agricultural sectors
- Regulation using LCA conflicts with the polluter pays principle
- LCA is useful for evaluating policies, but its benefit as a regulatory mechanism has not yet been demonstrated.