

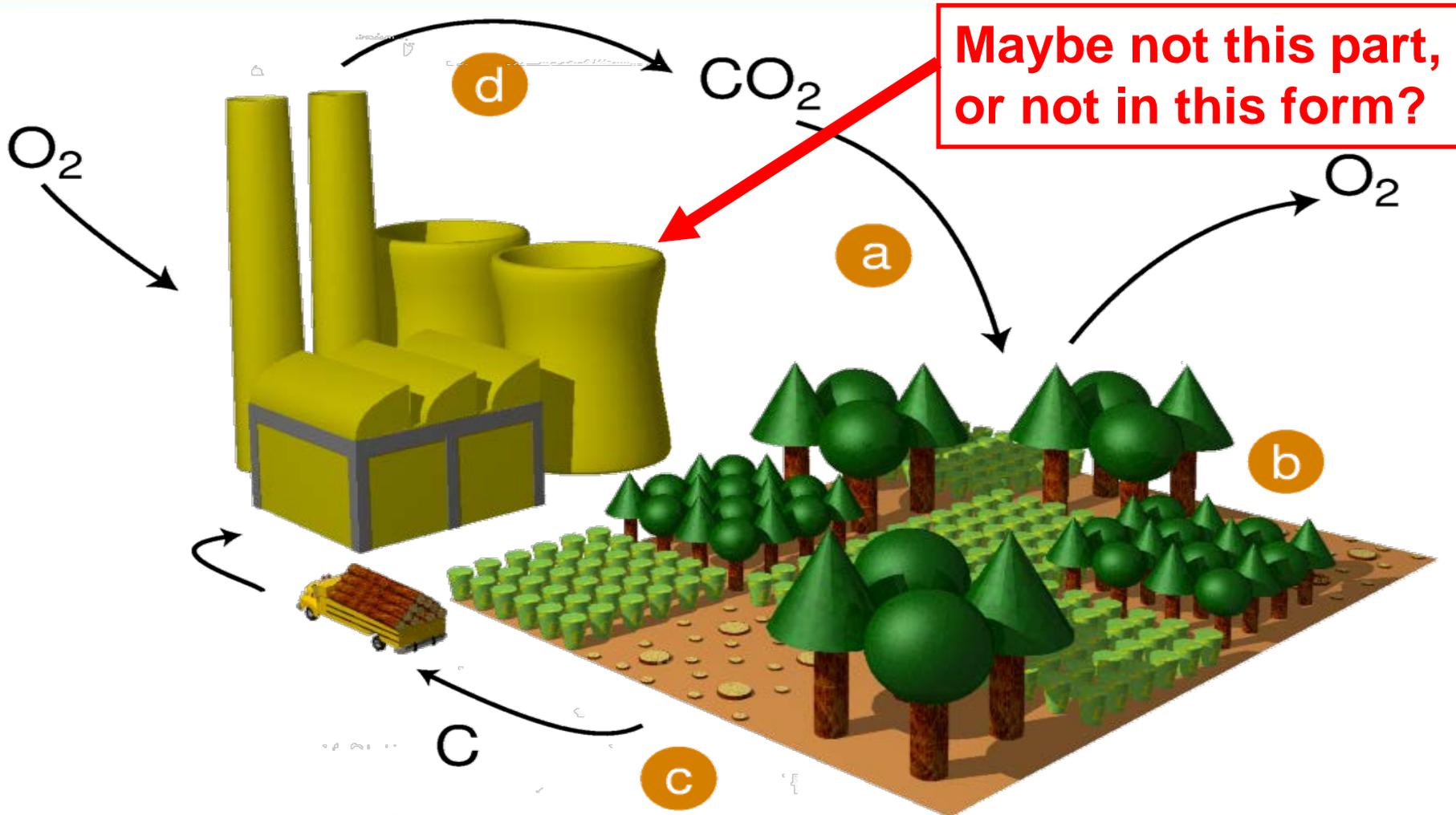
Contribution of bioenergy to long-term climate outcomes

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- Consequential LCA is the correct approach for assessing the impacts of bioenergy policies bioenergy on climate change/GHG emissions
- The relevant baseline for consequential LCA is 'BAU'
 - (and BAU is more certain, because by definition it happens)
- In the longer term, bioenergy supply and consumption will be 'business as usual'
 - (At least from the point of view of forest management and wood supply, perhaps not conversion systems)
- This 'could' be interpreted to mean that GHG emissions related to biogenic carbon will, eventually, become irrelevant
 - Equally it may be argued that BAU use of wood will not be displacing anything from the energy mix?...
 - But absolute GHG emissions ('what the atmosphere sees') will be low.



- This is not where we are now. How do we get here?
 - How do we avoid making things worse in the short term?
 - (How) can LCA and forest carbon stock accounting help?

- Forest bioenergy is used efficiently
 - For the 'best' end uses
 - To supply pressing needs for materials and energy
 - To optimise GHG emissions reductions
- Must try to avoid GHG emissions increases in the short-term, but not losing the longer-term goal in the process
- => (How) do we 'best manage' the deployment of bioenergy sources and technologies over time?
- => Can we maintain and enhance land-based vegetation carbon stocks whilst at the same time significantly mobilising the wood resource?
- If so (perhaps a big if), what policies would be relevant, and, is GHG accounting for bioenergy sources relevant to achieving the desired outcomes?

- Energy supply and energy security will become *at least* as important as climate change mitigation in the long term
- It will become even more important to protect and ensure resilience of forest (and other) ecosystems
- Sooner or later, land availability (for all uses) will become a strong constraint
- If GHG emissions of (forest) bioenergy become less relevant in the longer term (see earlier), will non-GHG impacts of forest bioenergy (and other sources) become more critical?
- In particular will the agenda shift from carbon to water?
- Are there any implications for what we do now?
 - We still have to solve “today’s problem” (GHG accounting).



Thank you