



Water quality aspects linked to bio-energy : some thoughts

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Defining water impacts boundaries?

- Imports of biomass to Europe from CA: transoceanic transport accounts for 10% of the total GHG contribution ...
- What about water?
 - ✎ Given maritime regulation : type of fuel used out EU seas may lead to water acidification impact
 - ? which boundary for assessment and geographic definition of impacts in LCA?

Risks or opportunities?

Water consumption intensiveness of coal-based electricity (L/KWh)

→ coal mining and power plant operation

✎ positive impact of higher biomass share but not much sensitive

👁 given the type of biomass : water eutrophication might be more

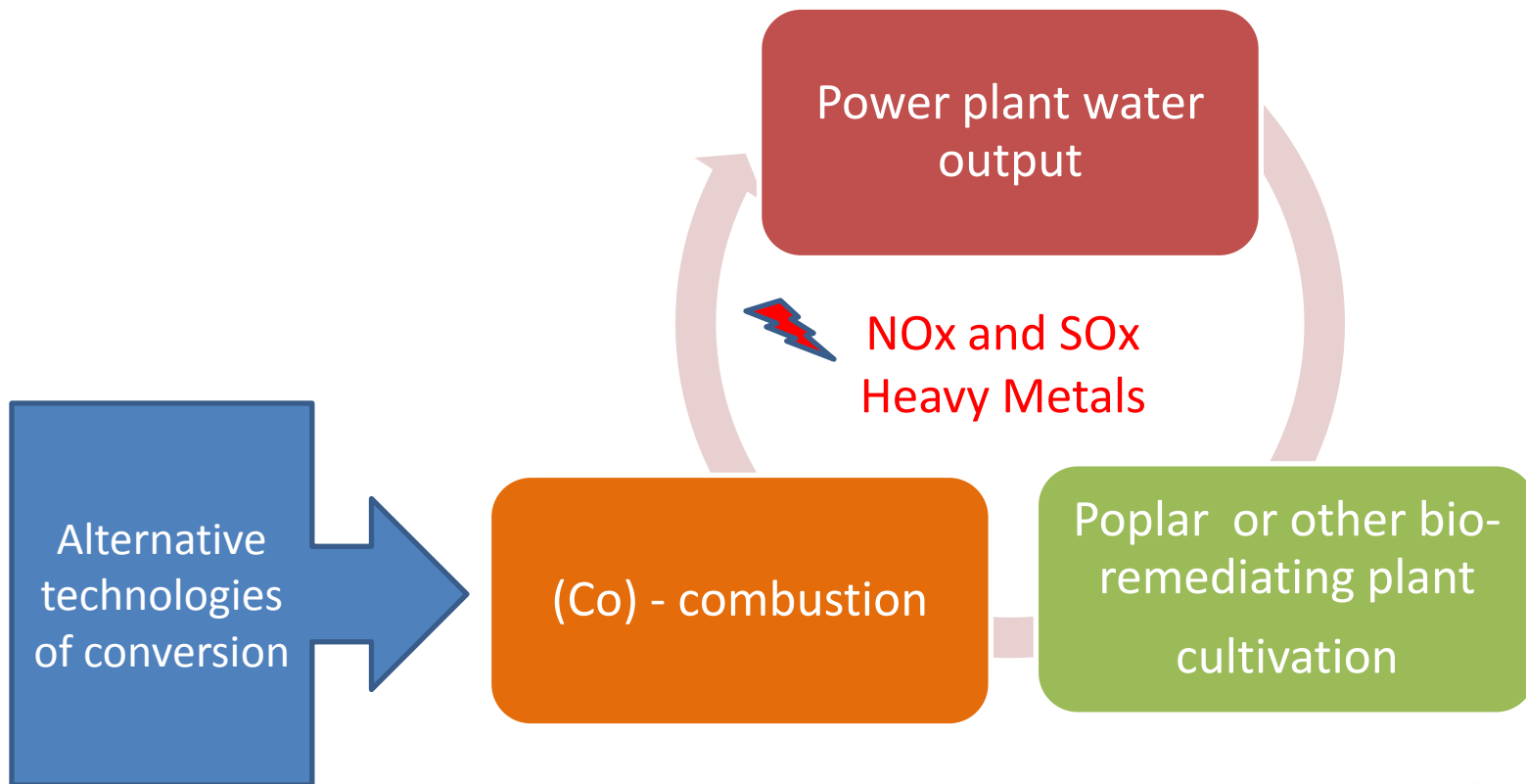
important when biomass share increases

Sourcing biomass fuel in energy plantations : green business in degraded land area
check no impacts on water table, erosion...

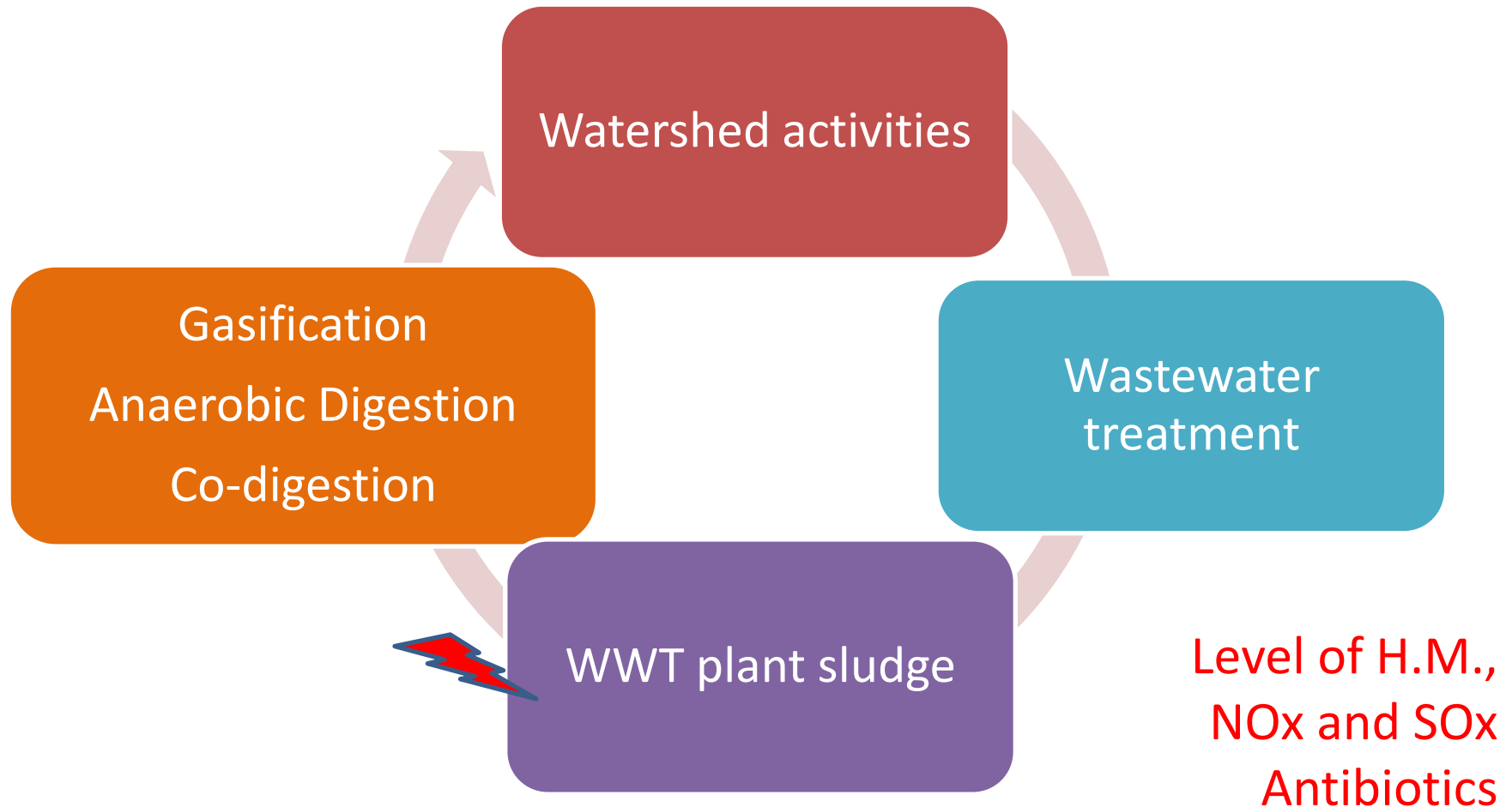
Bio-remediation and bio-energy?



Main bio-energy carrier (in EU) at the moment is wood-based (residues)



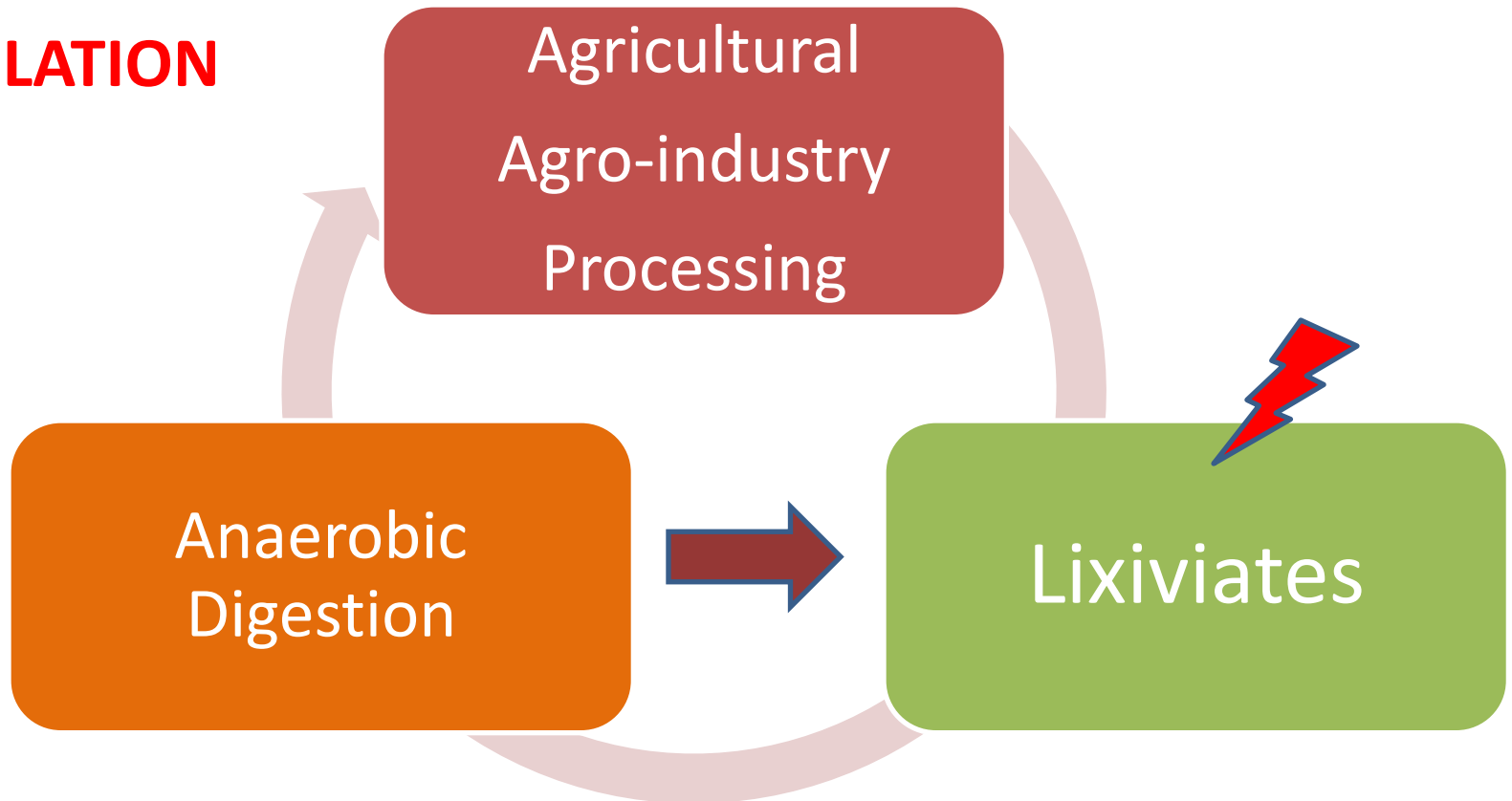
Depending on the local regulation!



Water quality in food sector : win-win?



REGULATION



Conclusions and perspectives



- Water use in energy sector must comply with discharge regulation (seasonality, process requirement, energy provision...)
→ more and more pressure on Member States to comply with Water Framework Directive
- LCA is mainly a support tool to define design improvement and process alternatives
- Looking for biomass fuel alternatives based on process water remediation
→ biotechnology must not be conflicting with operation, with viability criteria
→ fuel produced (biomass) must comply with fuel specifications

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