



I N T E G R A T E D S I N K E N H A N C E M E N T A S S E S S M E N T



I N S E A
P A R T N E R S

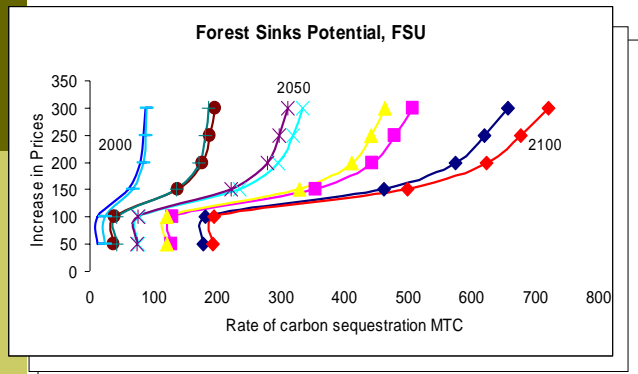
Terrestrial GHG Management Long-term Global Scenarios

Michael Obersteiner, Florian Kraxner, Dmitri Rokitianskiy, Ewald Rametsteiner, Pablo Benitez, Yoshiki Yamagata, Ian McCallum, Steffen Fritz, Keywan Riahi, Shilpa Rao, Guenther Fischer et al.

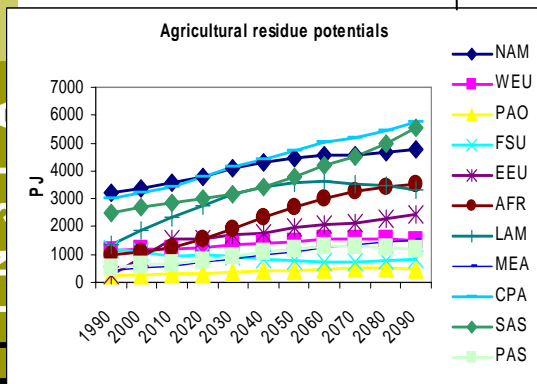
Goal

Assessment of AFOLU sector in long-term
GHG stabilization scenarios

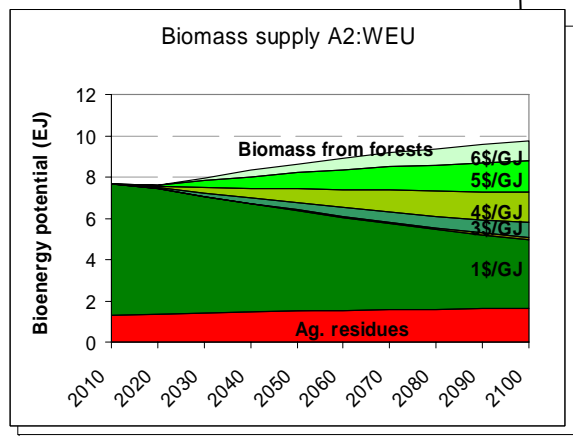
Modeling Framework



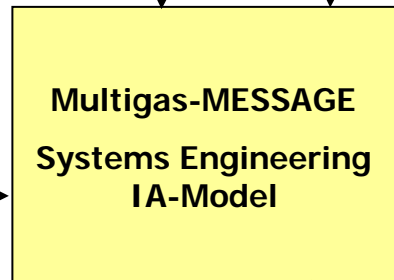
Data Sources :Obersteiner & Rokityanskiy, FOR



Data sources: Fischer & Tubiello, LUC



Data Sources: Obersteiner & Rokityanskiy, FOR; Tubiello & Fischer, LUC



Exogenous drivers for CH₄ & N₂O emissions:
N-Fertilizer use, Rice production, Bovine Livestock

Data Sources: Fischer & Tubiello, LUC

Bottom-up mitigation technologies for non-CO₂ emissions,

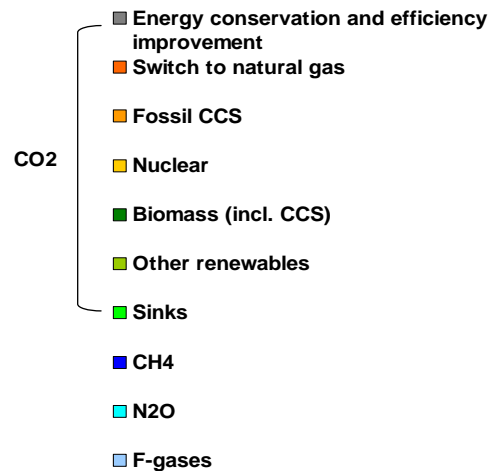
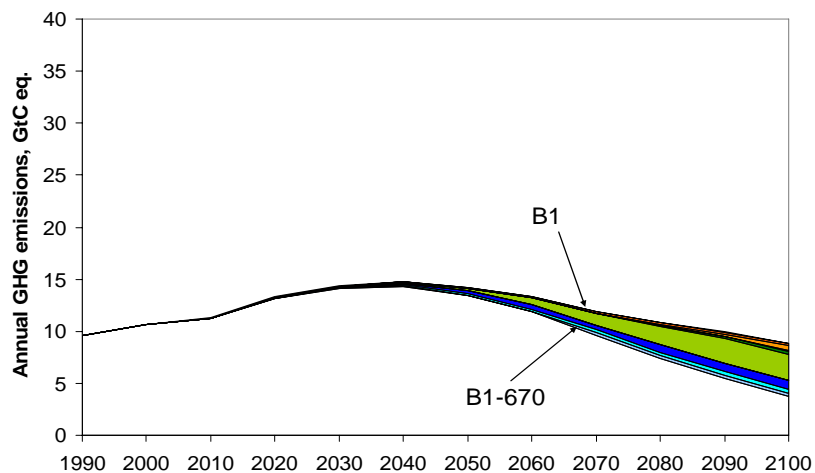
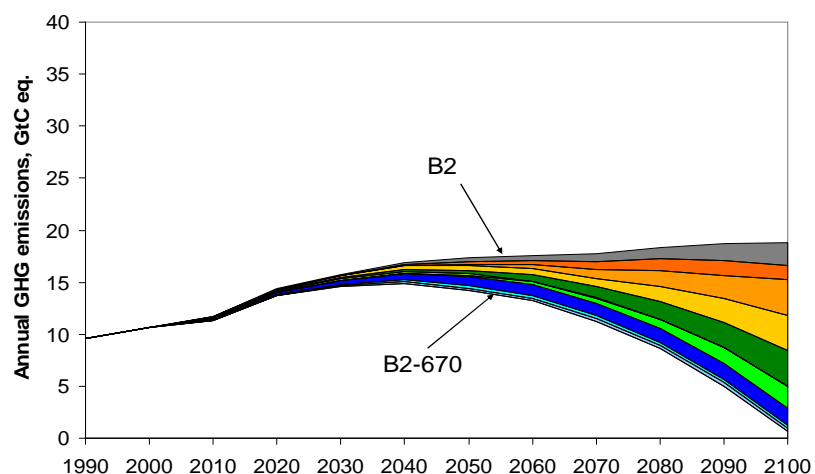
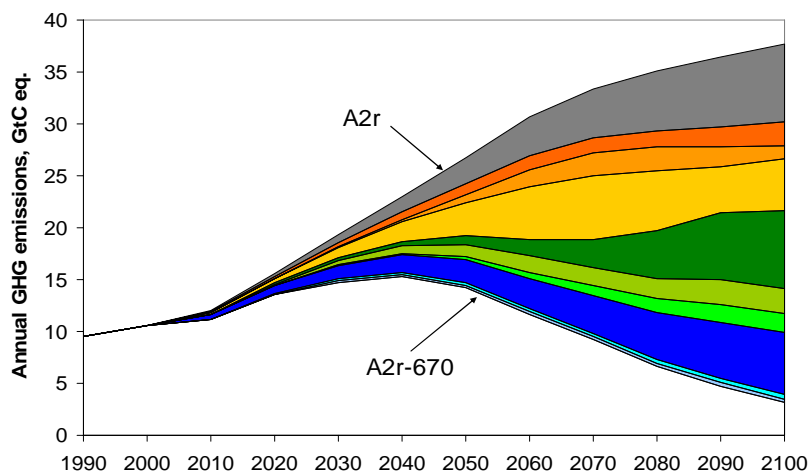
Data Sources: USEPA, EMF-21

Black carbon and organic carbon emissions coefficients

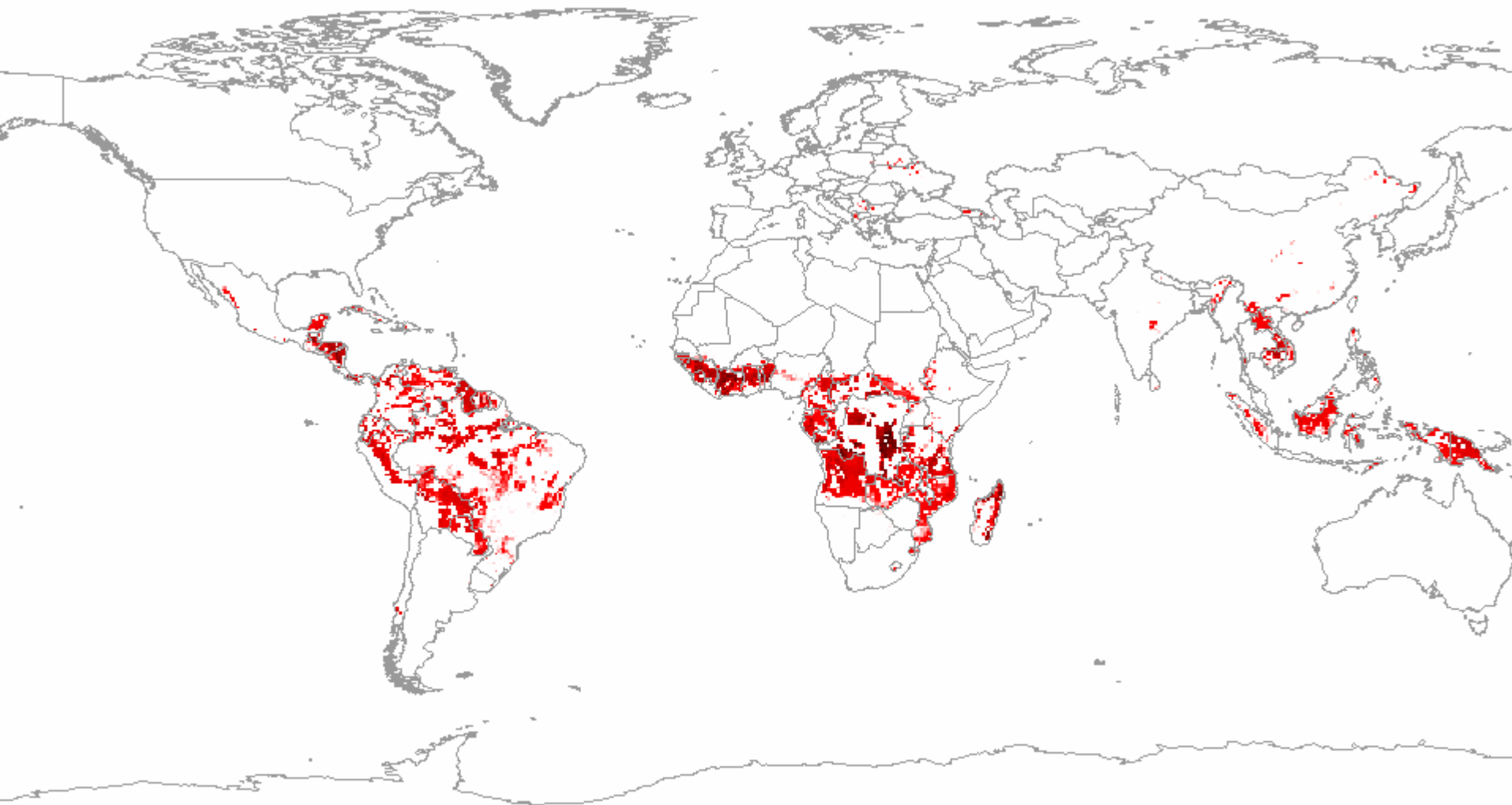
Data Sources: Bond; Klimont & Kupiano, TAP

Multigas Stabilization Portfolios

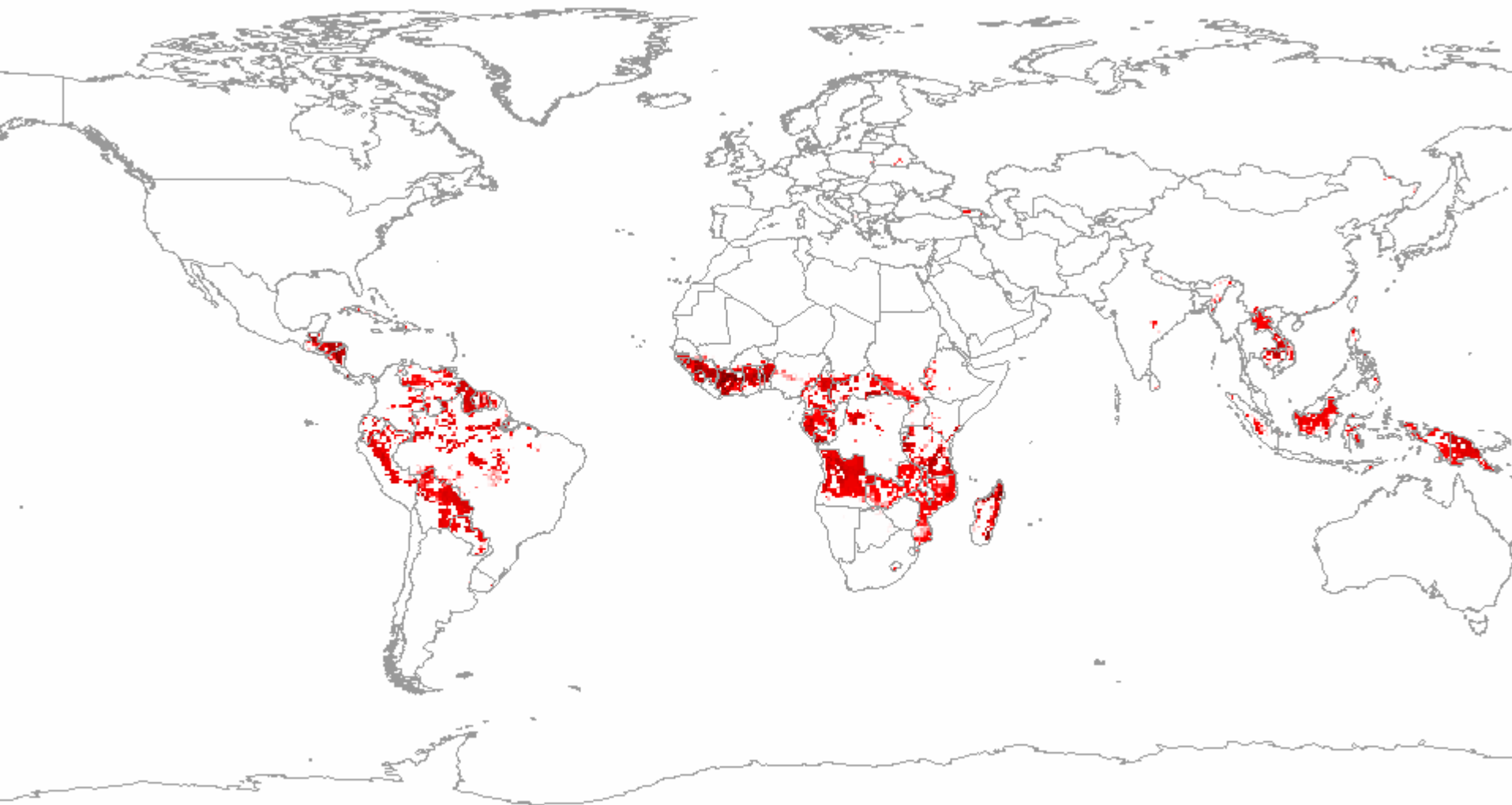
670 ppmV-eq



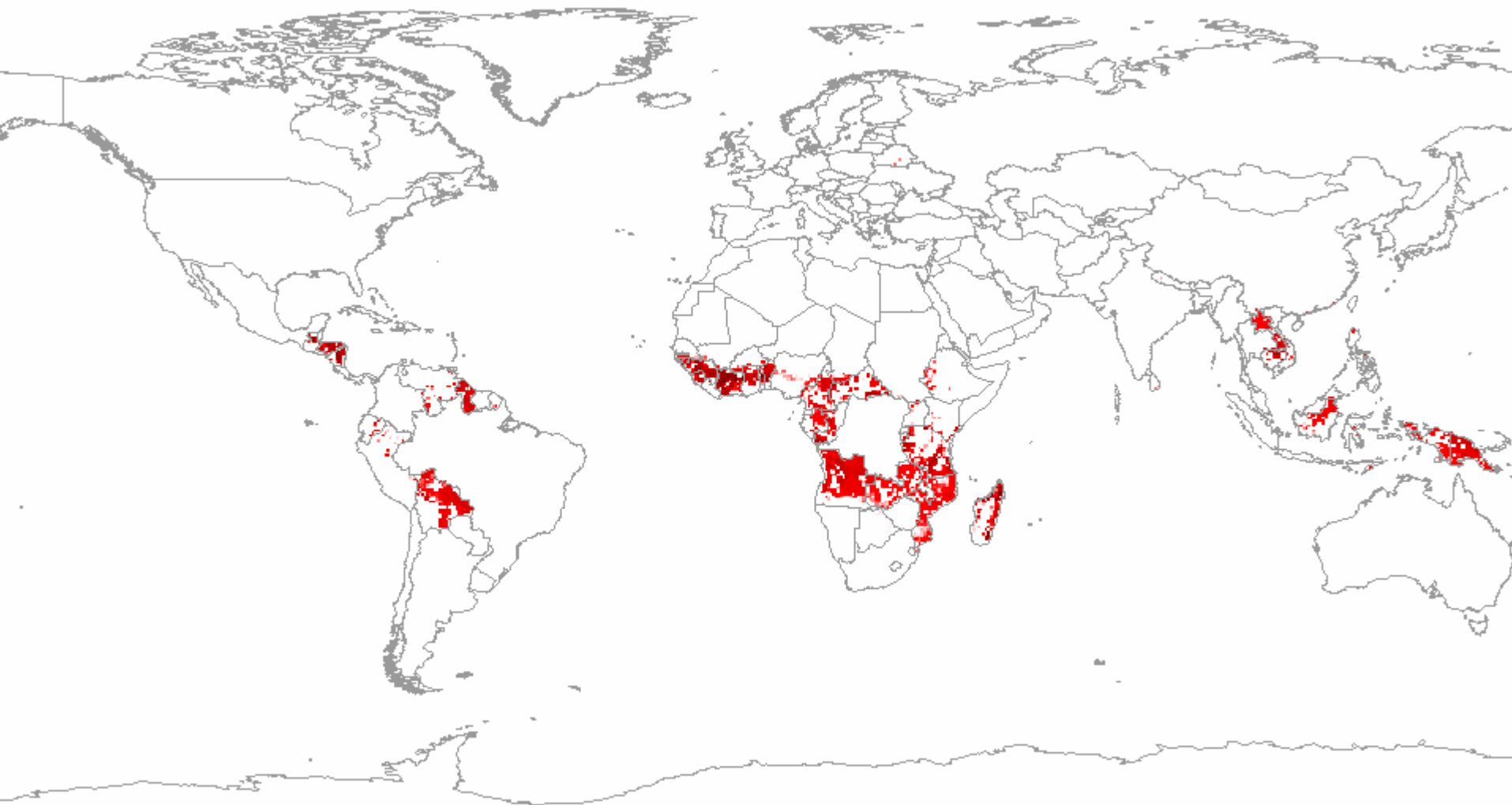
Avoided Deforestation Tax 40\$/tC



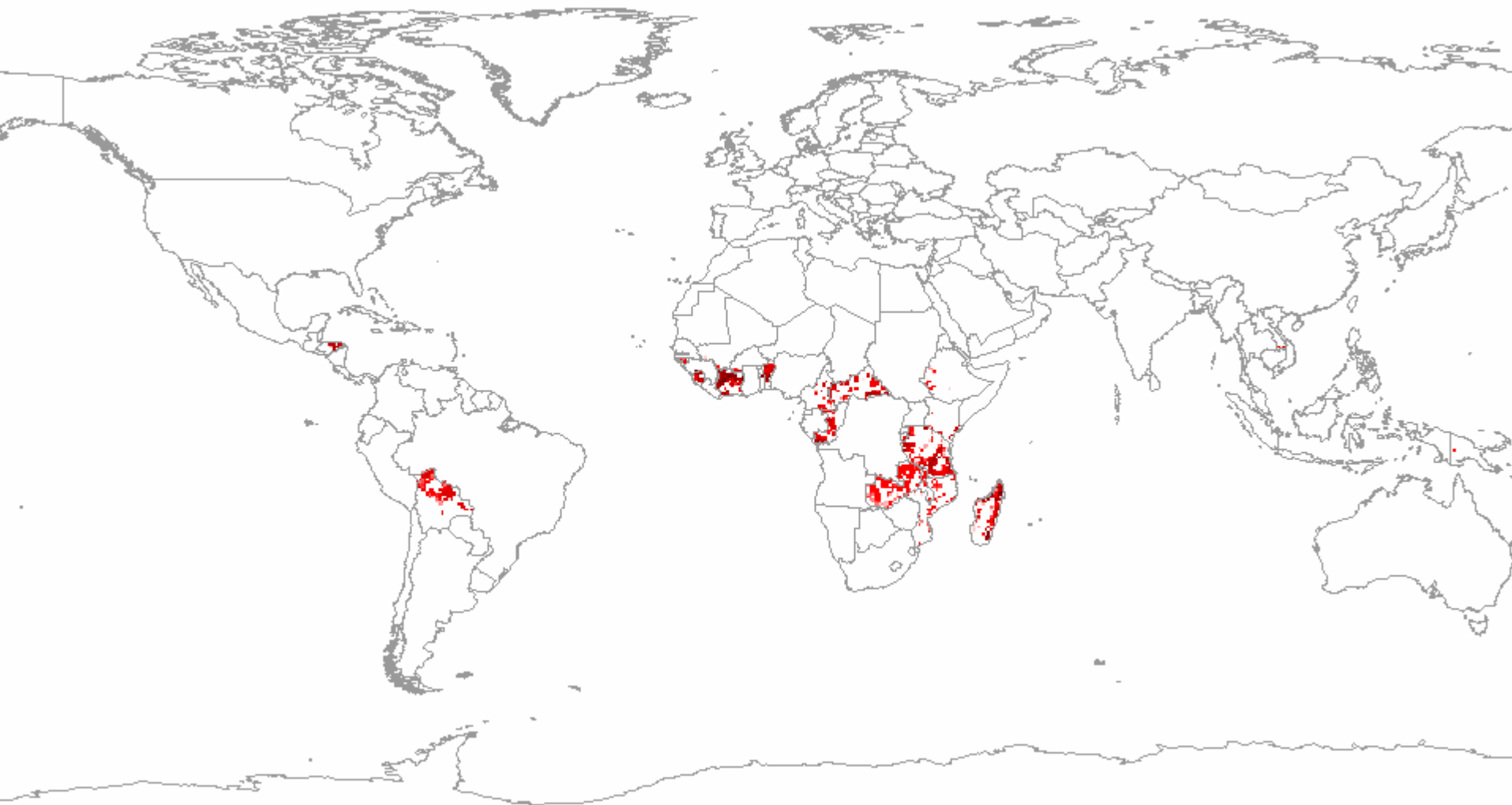
Avoided Deforestation Tax 30\$/tC



Avoided Deforestation Tax 20\$/tC



Avoided Deforestation Tax 10\$/tC



Conclusion's Detail

- ❑ BECCS, Non-CO₂ and Sinks are the most **Robust** Technologies for low stabilization
- ❑ **North-South** Transfers are Significant
- ❑ **LUC** is substantial
- ❑ **Avoided Deforestation** low hanging fruit



Abraham Lincoln once said "*Give me six hours to chop down a tree and I will spend the first four sharpening the INSEA axe.*".