

Sustainable Lignocellulosic Biomass Potentials in Brazil

Lotte Visser and
Prof. Dr. Martin Junginger



Universiteit Utrecht

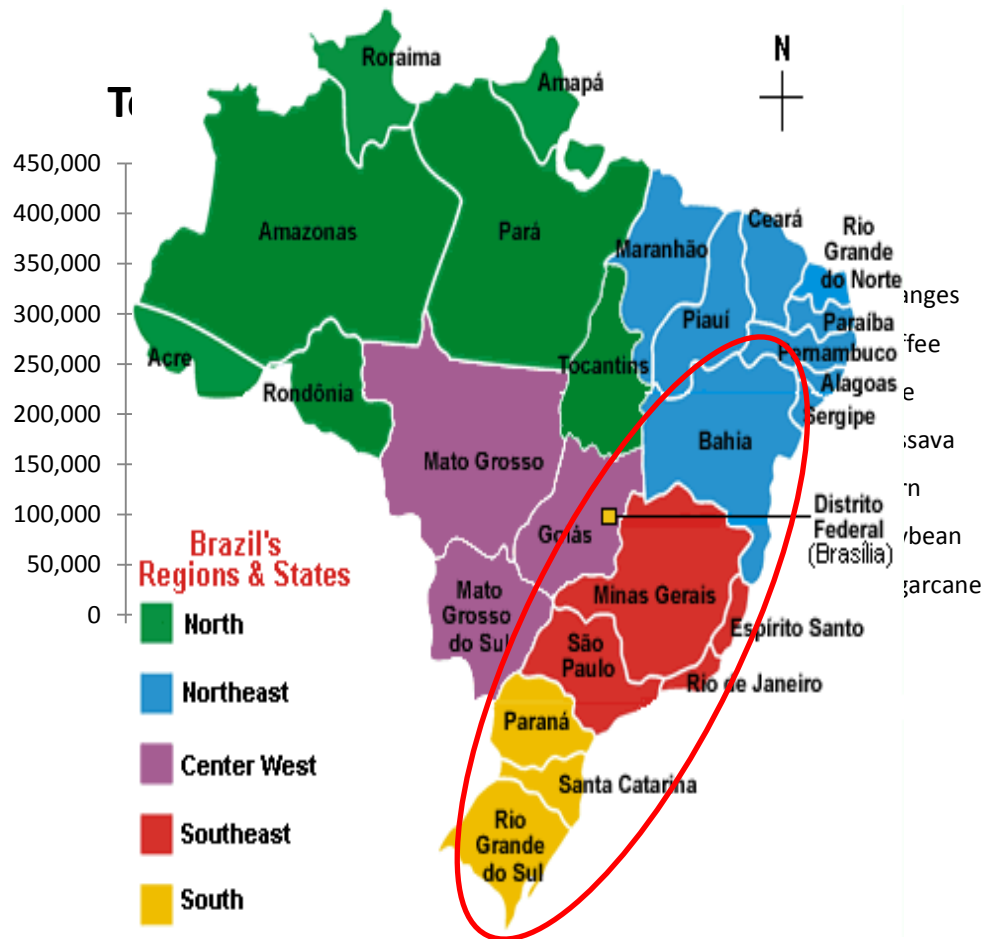
With supports of
Axel Roozen

Sustainable Lignocellulosic Biomass Potentials in Brazil

- I. Overview
- II. Methodology & Scenario Approach
- III. Results
- IV. Conclusions & Discussions



I. Country overview



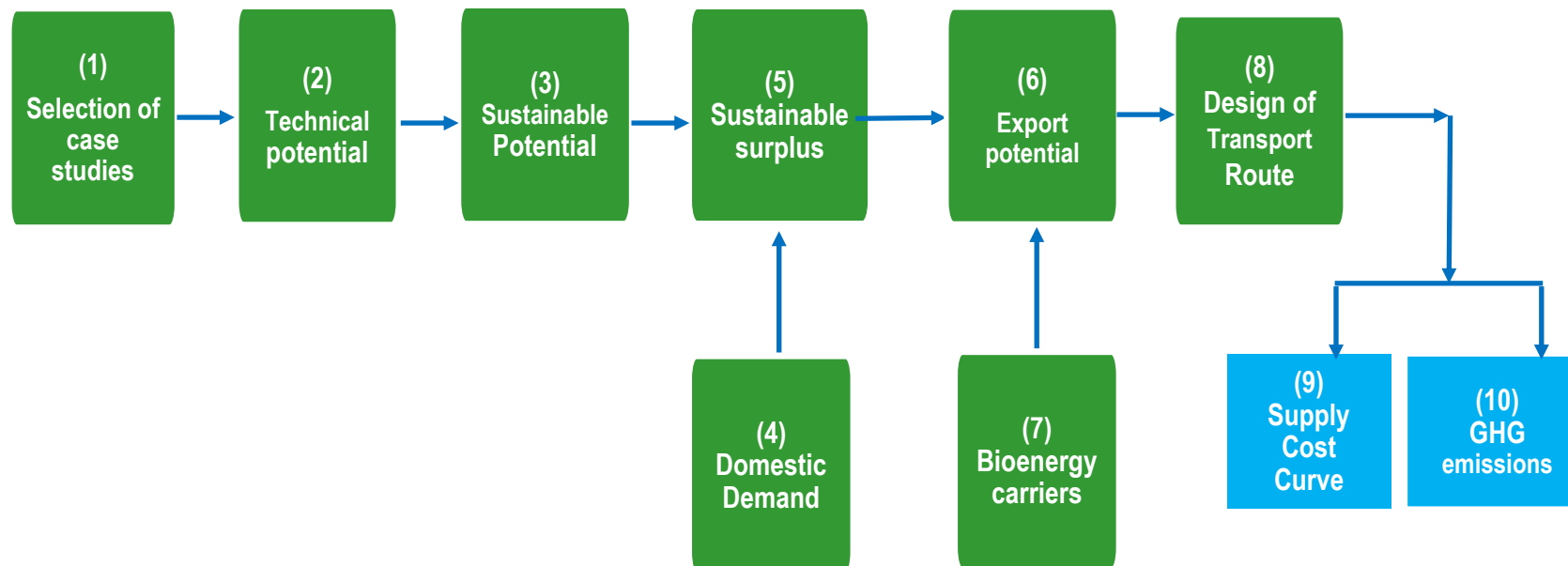
Key sustainability issues:

1. Land-use:

- Biodiversity
- Deforestation
- Land tenure
- Soil quality

II. Methodology & Scenario approach

Scenarios Timeline	BAU			High Export		
	Current *	2020	2030	Current *	2020	2030



III. Results (1): Potentials

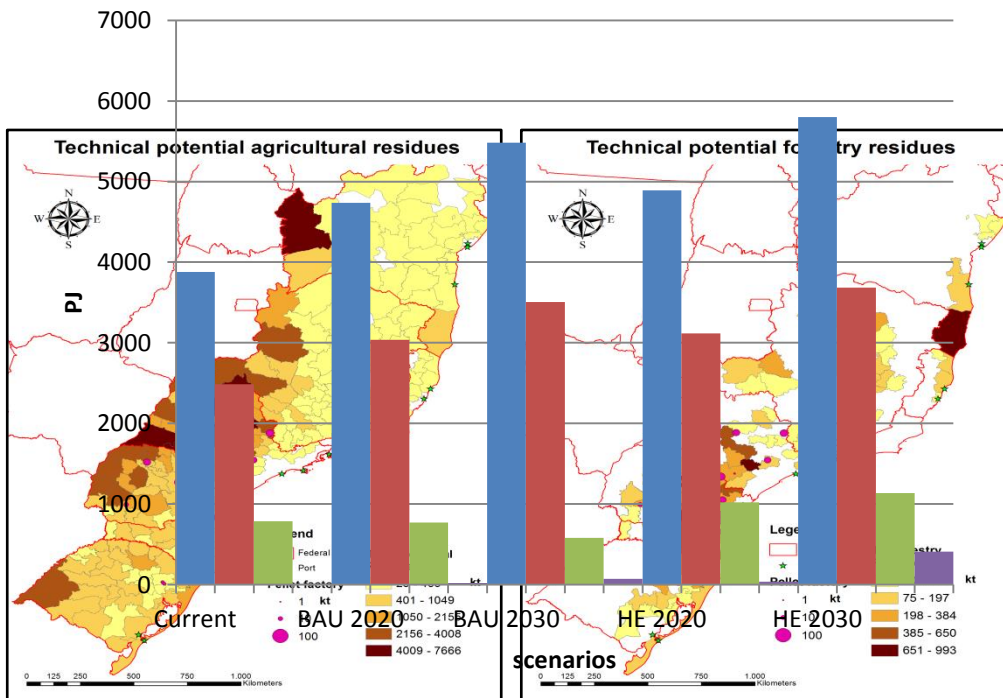
1. Agriculture:

- **Sugarcane:** bagasse, tops & straw;
- **Soybean:** straw
- **Corn:** stalk, cob, husk;
- **Cassava:** straw;
- **Rice:** husk, straw;
- **Coffee:** husk;
- **Oranges:** process residues;

2. Forestry:

- **Sawdust**
- **Off-cuts & chips**
- **Field residues**

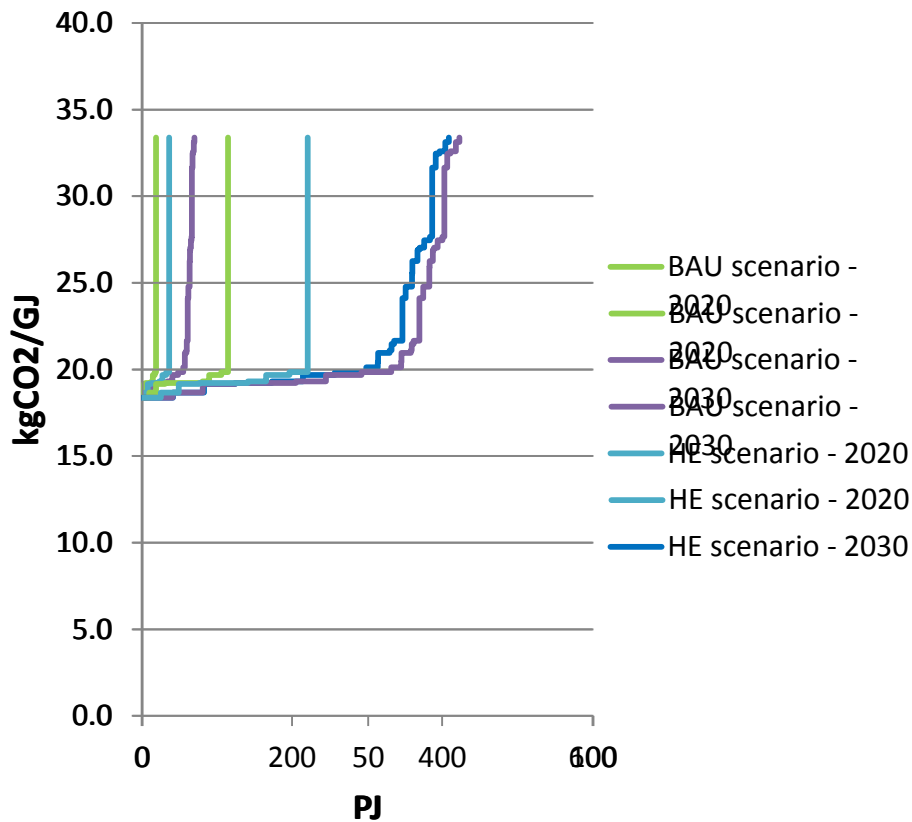
Aggregated potentials



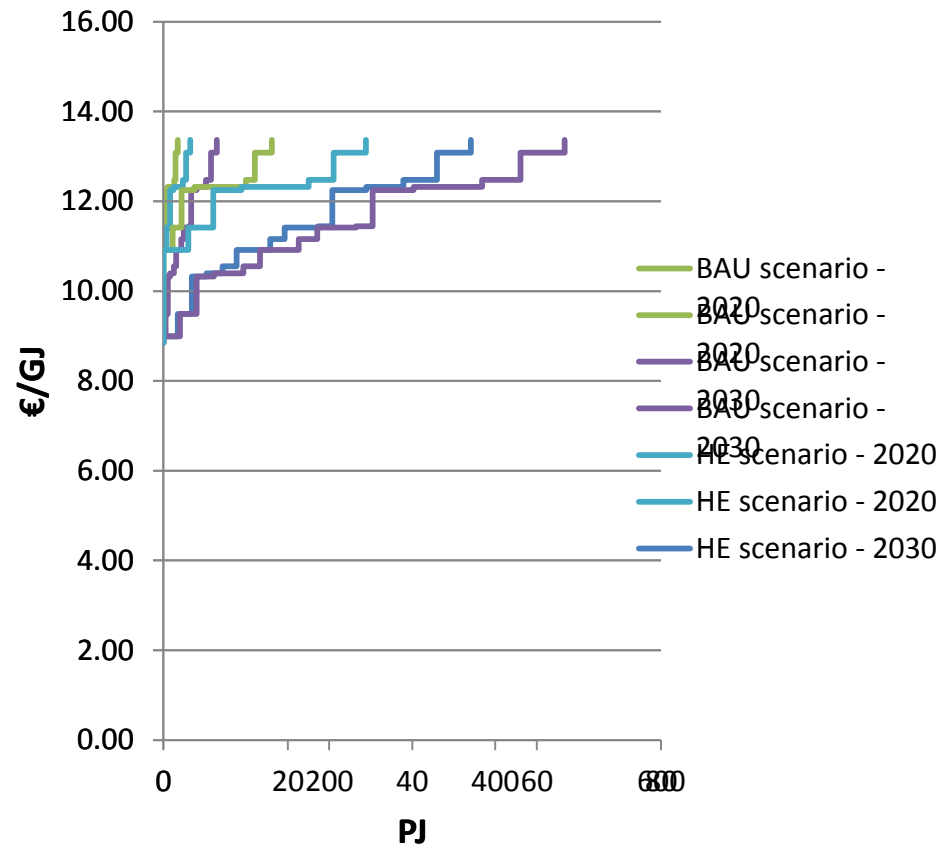
- Technical
- Sustainable
- Sustainable Surplus
- Net Export

III. Results (2): Costs & GHG - sources to port

GHG supply curve



Cost Supply Curves



IV (A). Conclusions

1. Only slight increase of potentials towards 2020

- **Limiting factor** is pre-treatment capacity

2. Local use of sugarcane residues limits availability

- Development of **second generation ethanol** uncertain

3. Large cost differences due to domestic transport

IV (B) Recommendations

1. **Data collection** on 2nd gen ethanol development

2. **Focus on mobilization**

- market development
- investments in infrastructure
- Pre-treatment plants

Thank You!

Contact:



Universiteit Utrecht

Lotte Visser:

l.visser2@uu.nl, T. + 31 30 253 5536

Prof. Dr. Martin Junginger:

h.m.junginger@uu.nl, +31 30 253 7613

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