

# Sustainable Biomass Potentials in Indonesia - Palm Residues in Central Kalimantan

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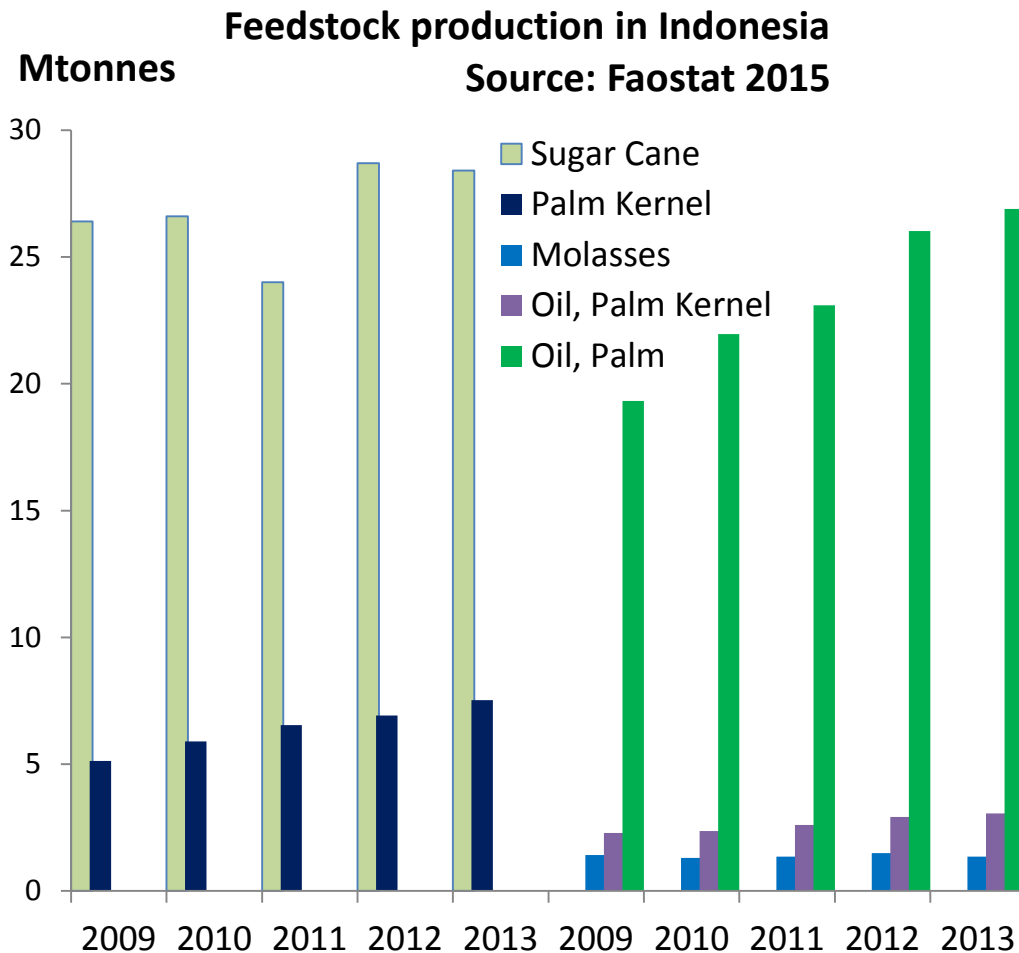
Universiteit Utrecht

# Sustainable Lignocellulosic Biomass Potentials From Palm Residues in Indonesia

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



# I. Country overview



## Key sustainability issues:

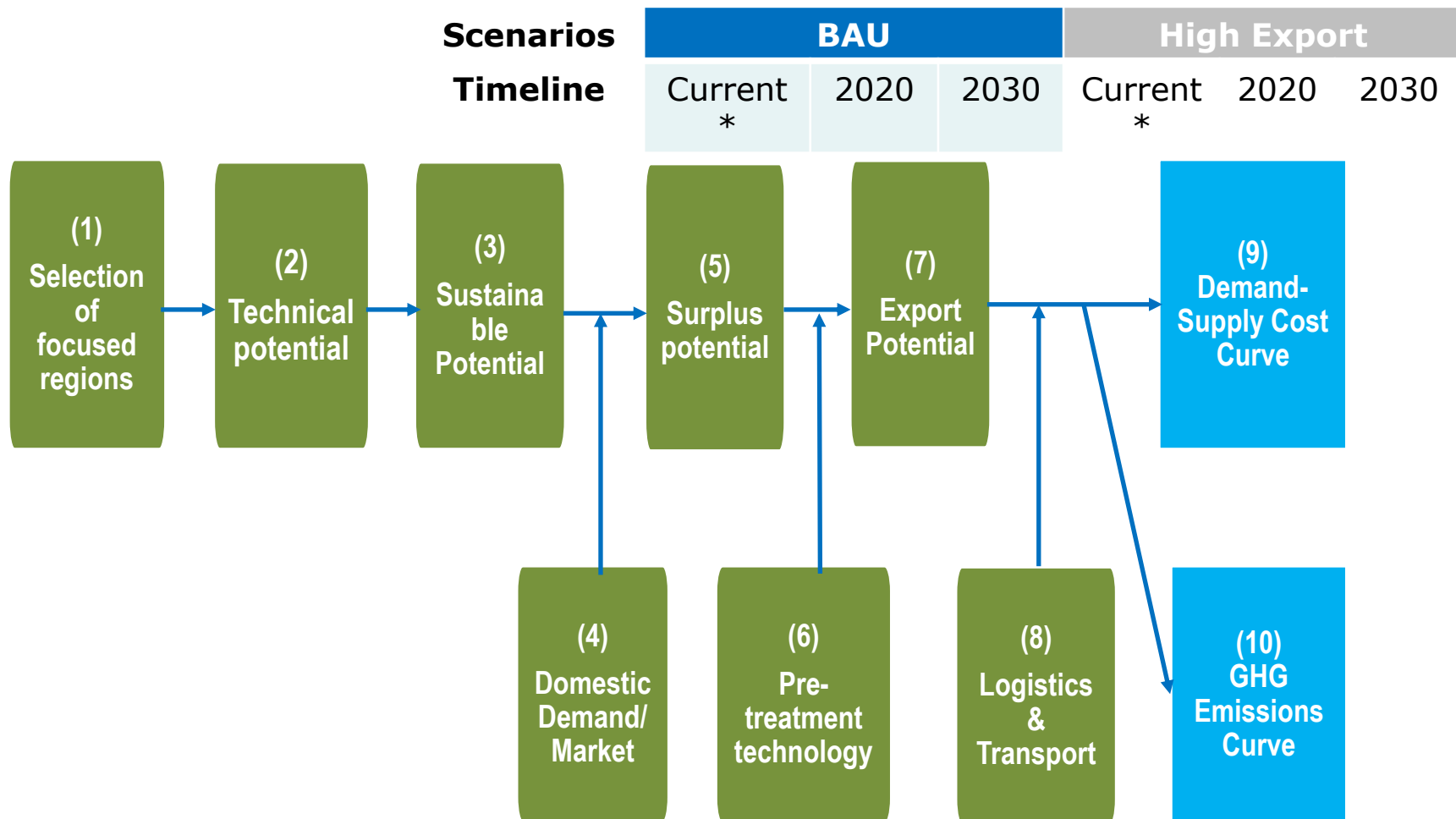
### 1. Land-use & environment:

- land rights for small owners
- deforestation
- pollution (air, water)
- climate change
- biodiversity degradation

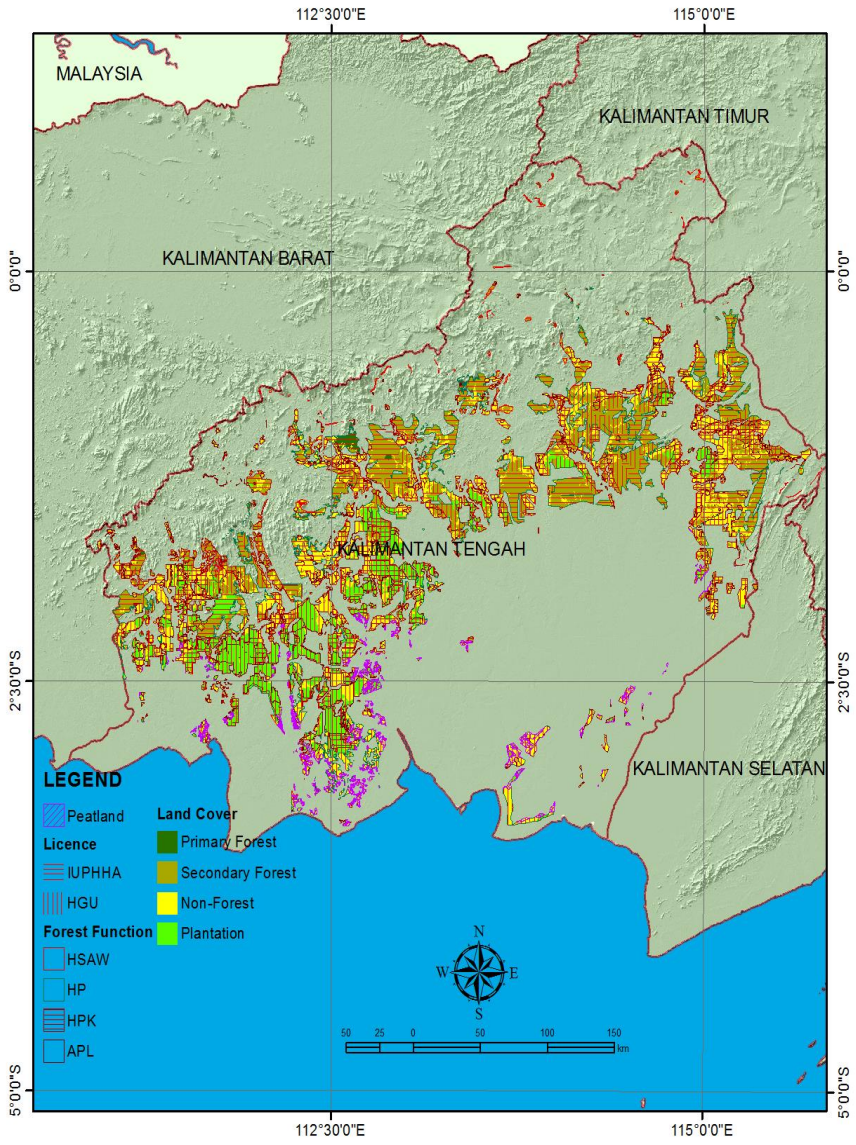
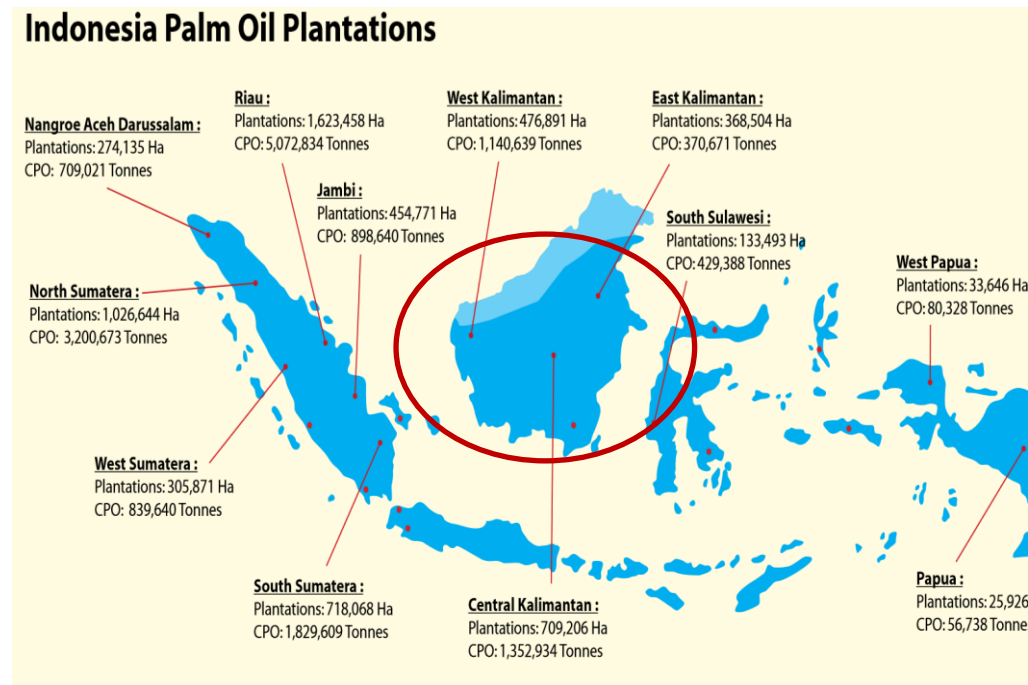
### 2. Resources overexploitation:

- Water resources

## II. Methodology & Scenario approach



# III. Results (1): Potentials

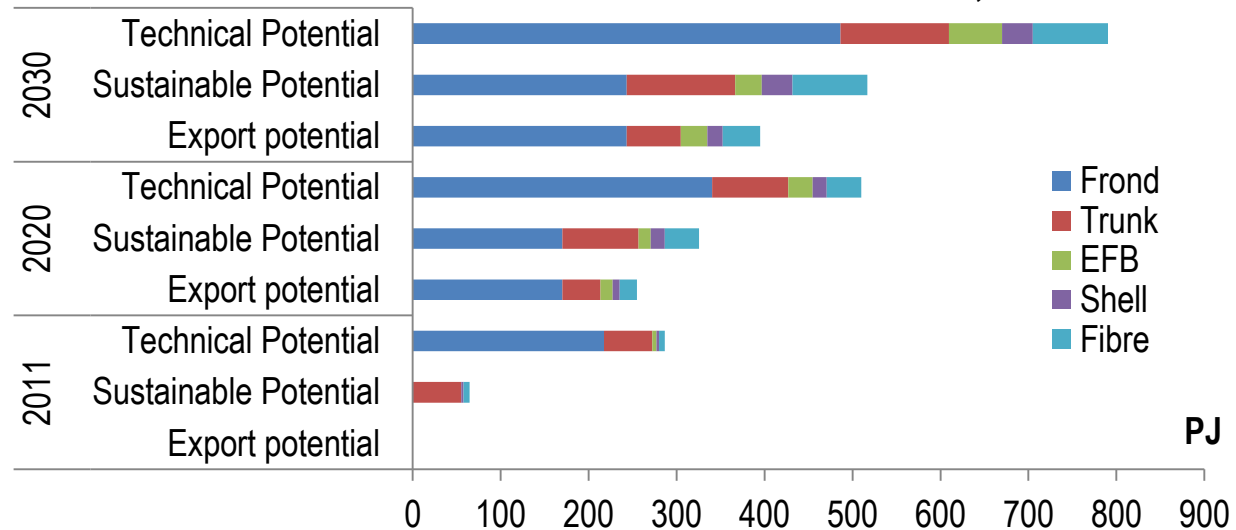


## Agriculture: Palm Residues

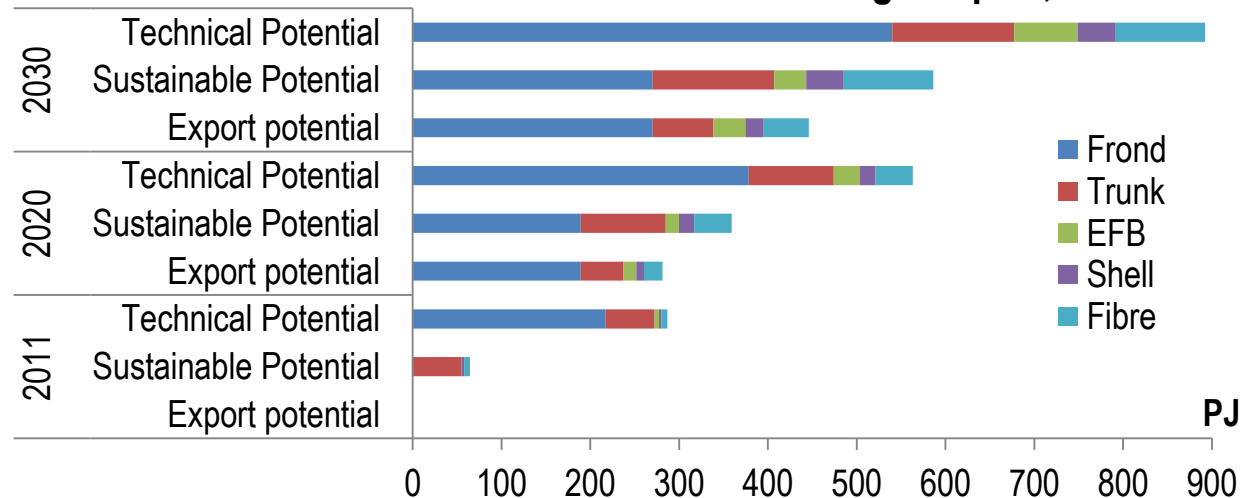
- Frond
- Trunk
- Empty Fruit Bunch
- Fibre
- Shell

# III. Results (1): Potentials

## Overview - Palm Residues Potentials - BAU, PJ

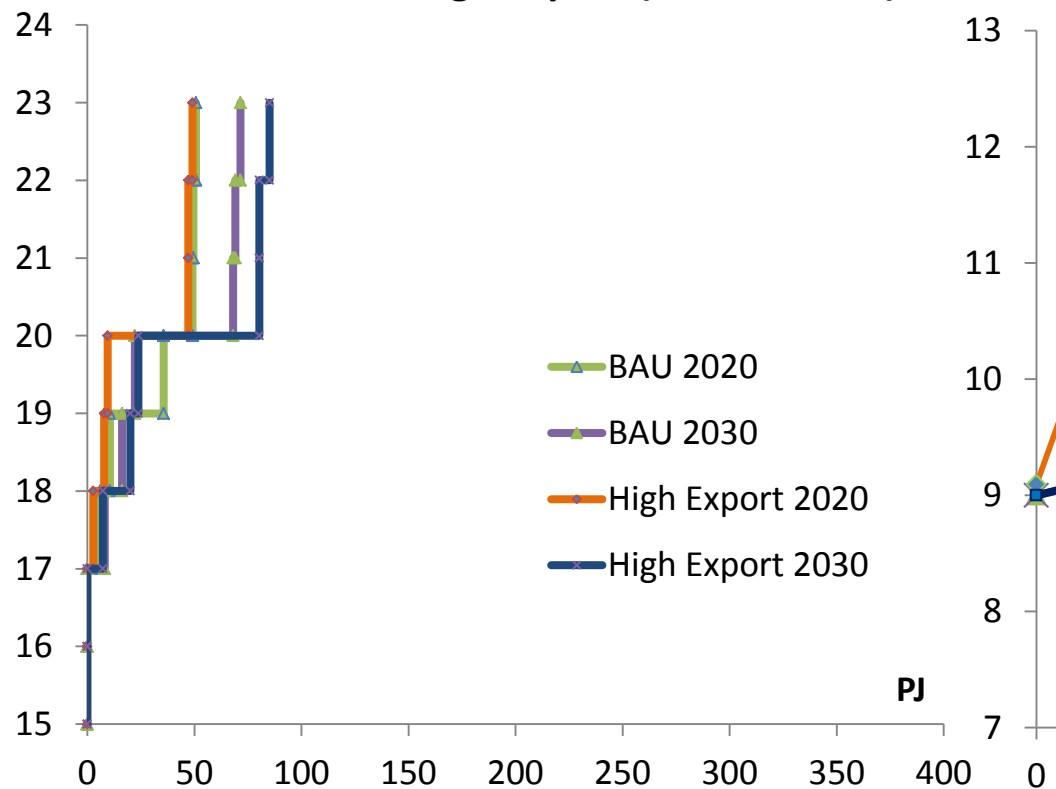


## Overview - Palm Residues Potentials - High Export, PJ

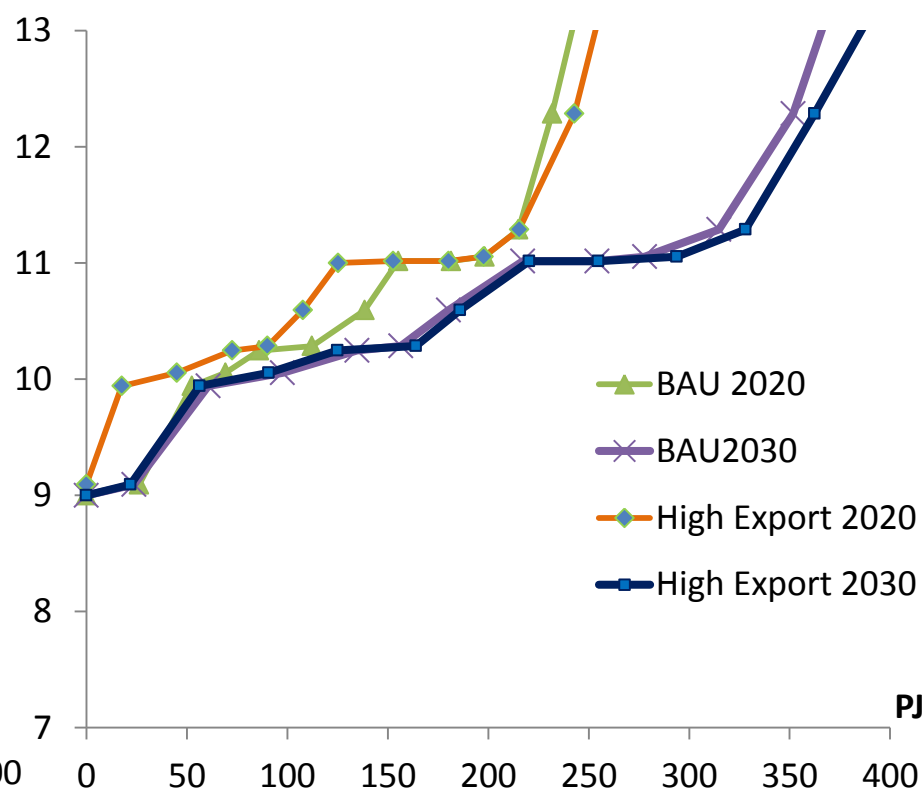


## III. Results (2): Costs & GHG - sources to port

**Total GHG Emissions - Source to harbour, BAU & High Export (2020 & 2030)**



**Supply-cost curves: Source to Harbour BAU & High Export (2020-2030)**





## **IV (A). CONCLUSIONS**

**Potentials highly increase from 2020 to 2030:**

- **Advanced management** is more available in 2030
- **Palm plantation** is more matured

## **IV (B) RECOMMENDATIONS**

- 1. Biodiversity and forest protection** to be further investigated
- 2. Use of trunks and fronds** for pelletisation to be further analysed
- 3. Other potentials possibly mobilised** from other sectors (e.g. rice, sugar cane)



# Thank You!

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