



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG



GORAN SCHMIDT

BIOHOME

**WIE WIR ZUSAMMEN MIT AFRIKA IN ZUKUNFT AUS MÜLL
HOCHWERTIGE BAUSTOFFE MACHEN WOLLEN**

CONTENT

- Intro
- Partners
- Goals
- Strategies
- Discussion

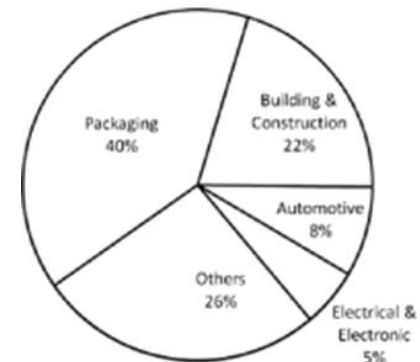
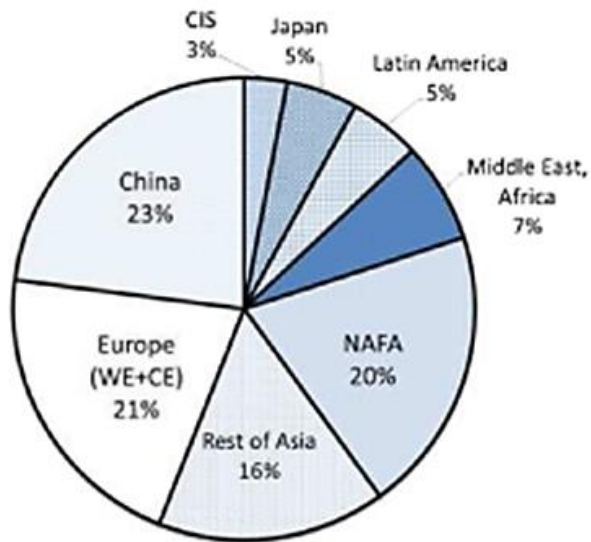




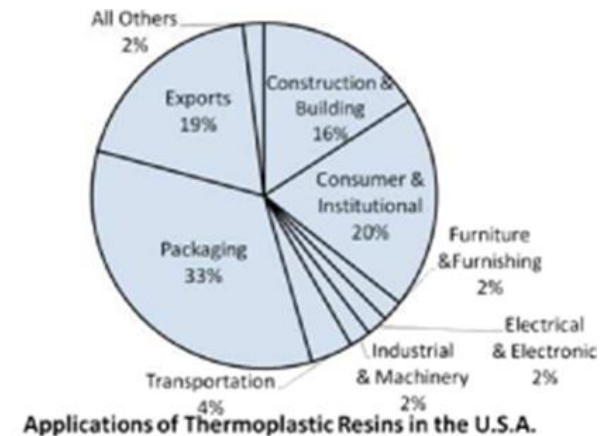
UPCYCLING, RECYCLING, DOWNCYCLING

- Many industrial processes, like plastic and electronic fabrication, rely on the consumption of finite resources
- Environmental impact of waste can affect health
- Upcycling is a strategy to reduce waste/consumption
- High-value product from waste or byproduct streams

WORLD PLASTIC PRODUCTION



Applications of Plastic Resins in the E.U.



Applications of Thermoplastic Resins in the U.S.A.



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PARTNERS



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World Forestry



Economy



Photo: M. Schütze

Wood Biology



Wood Chemistry



Wood Physics



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ETHIOPIA

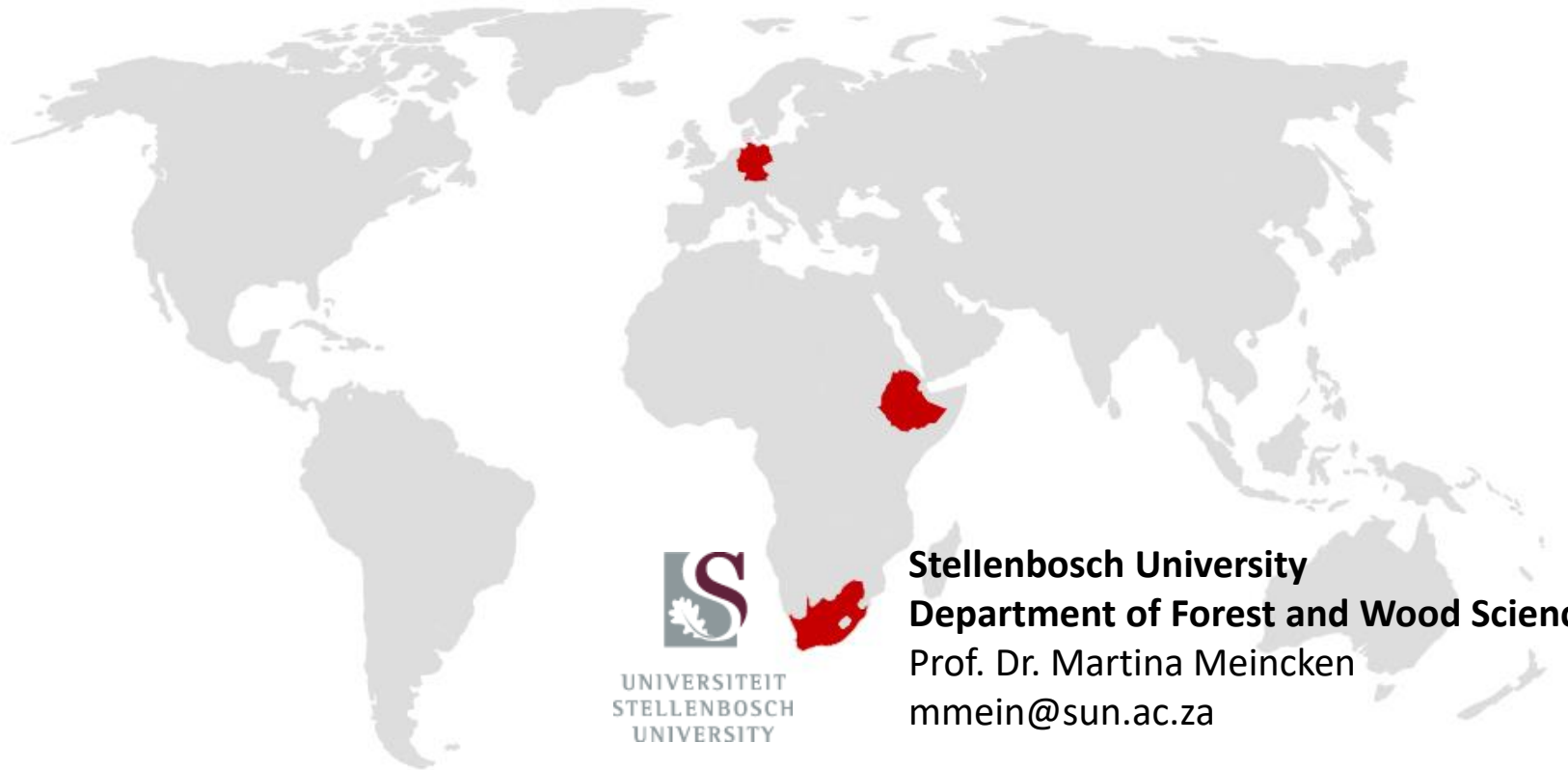
- 102 million inhabitants
- HDI 0,442 (174)
- Urbanization pressure
- Forest cover < 5%
- Agricultural profile
- Informal recycling sector





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PARTNERS



UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

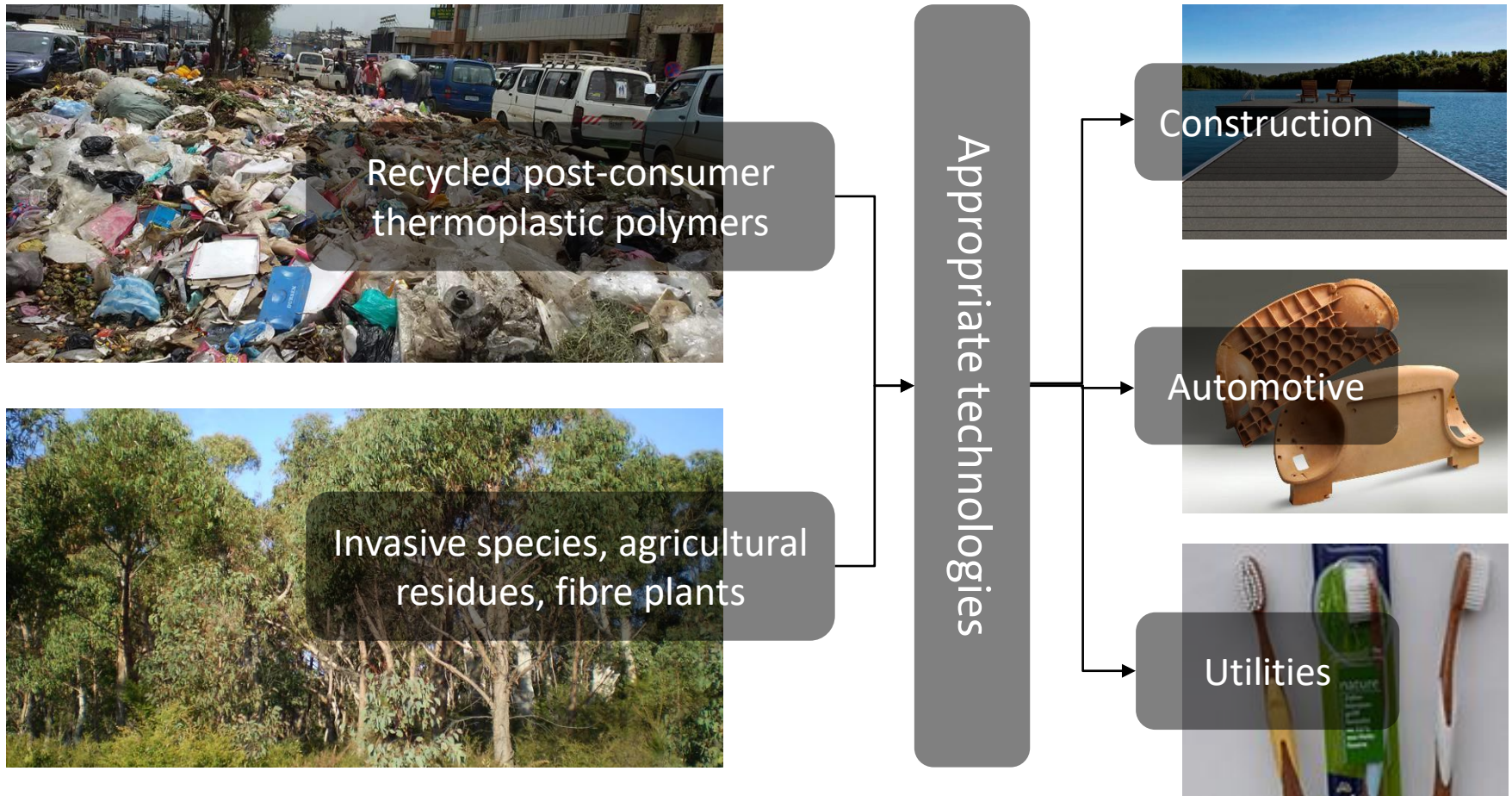
Stellenbosch University
Department of Forest and Wood Science
Prof. Dr. Martina Meincken
mmein@sun.ac.za

SOUTH AFRICA



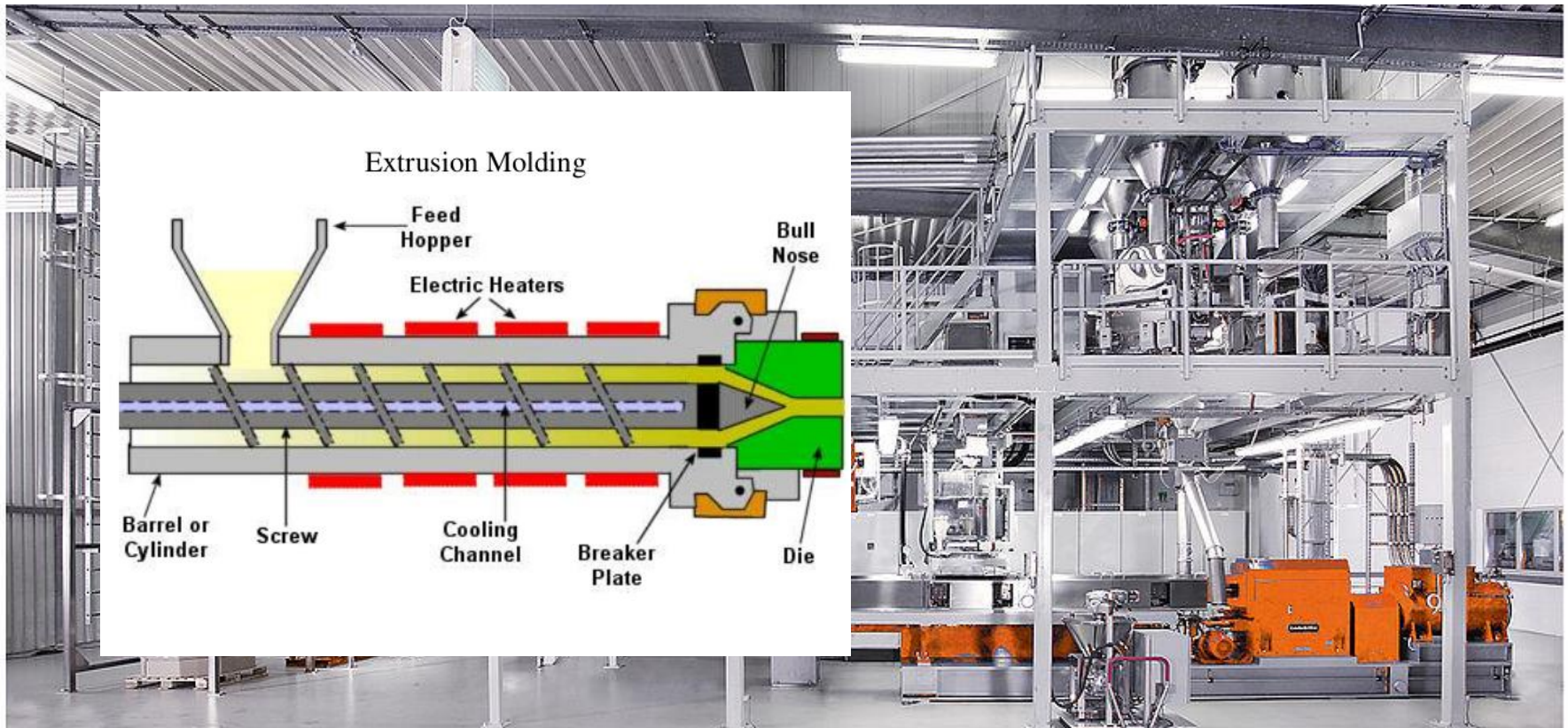
- 54 million inhabitants
- HDI 0,666 (116.)
- 91 % fossile energies (charcoal)
- Strong mining sector
- G7+5 (BRICS)
- Building industry

G1: INNOVATIVE BIO-COMPOSITES



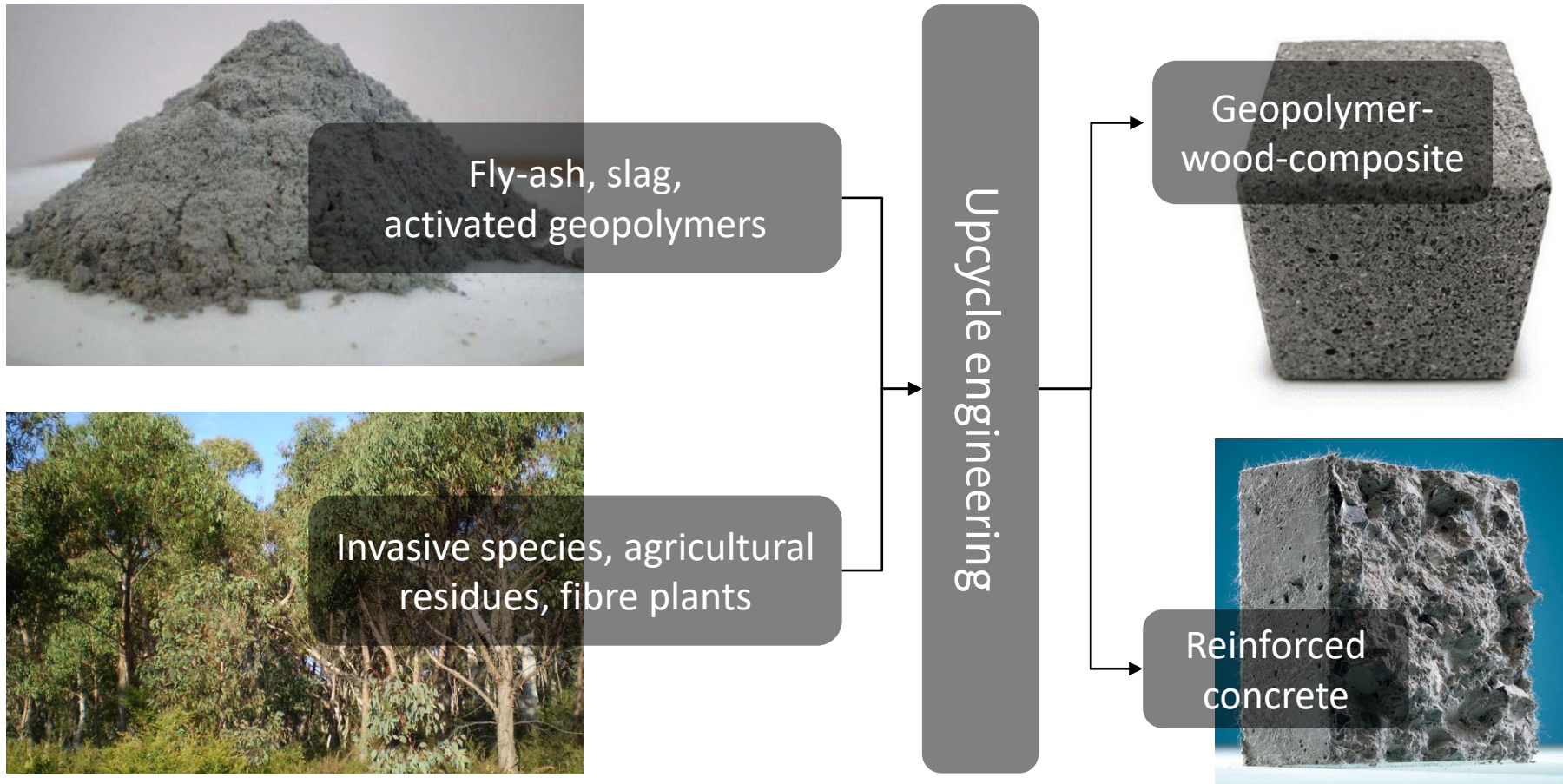
G1: INNOVATIVE BIO-COMPOSITES

KEEP IT SIMPLE!

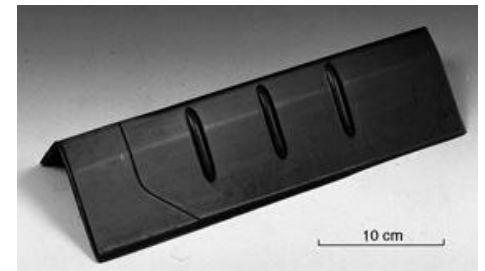
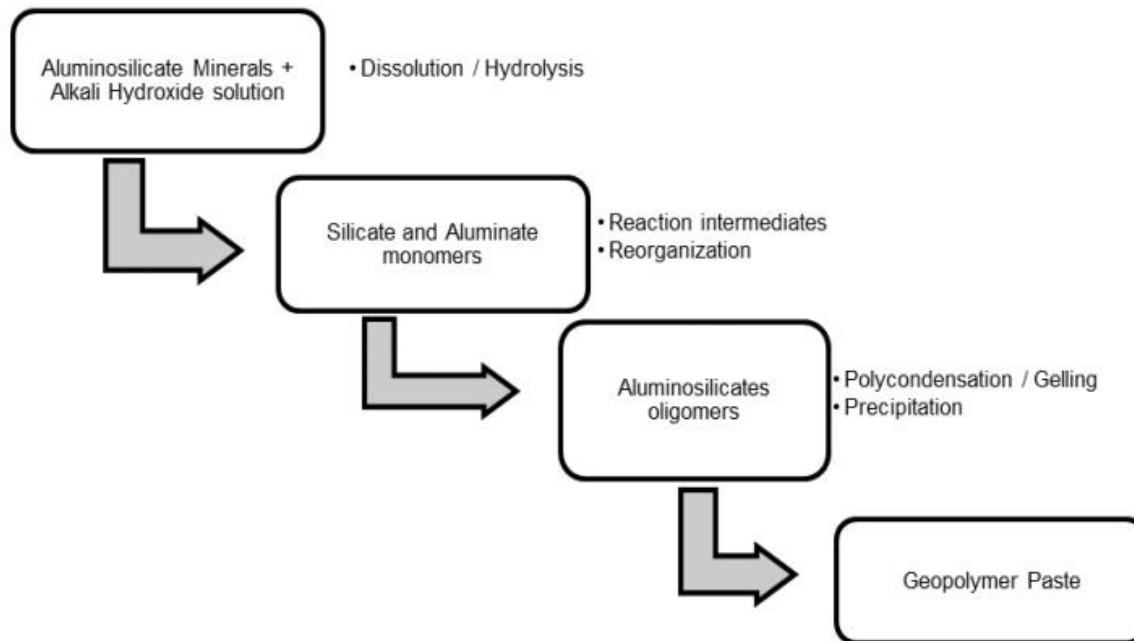




G1: INNOVATIVE BIO-COMPOSITES

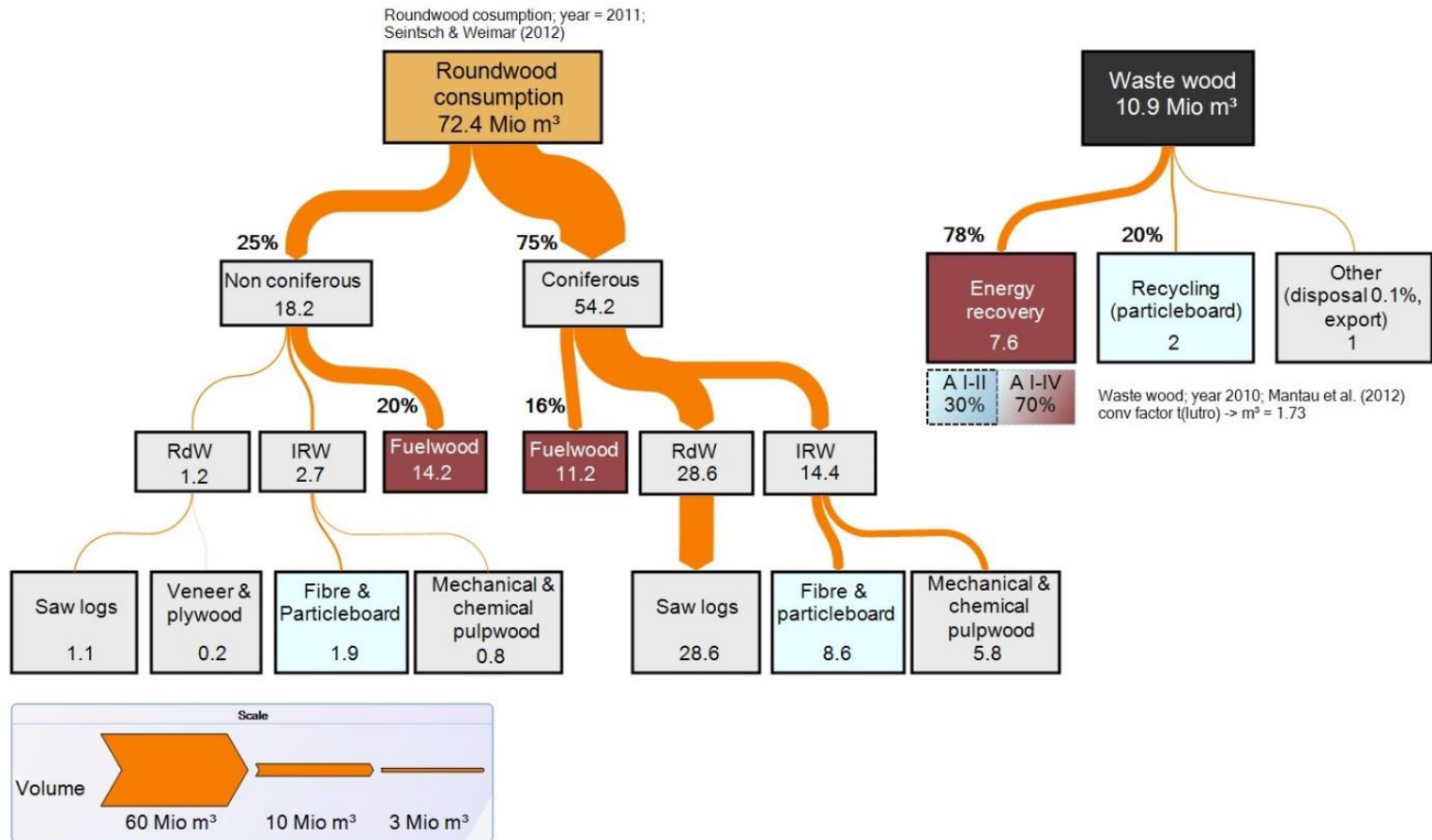


MAKE IT SUITABLE!



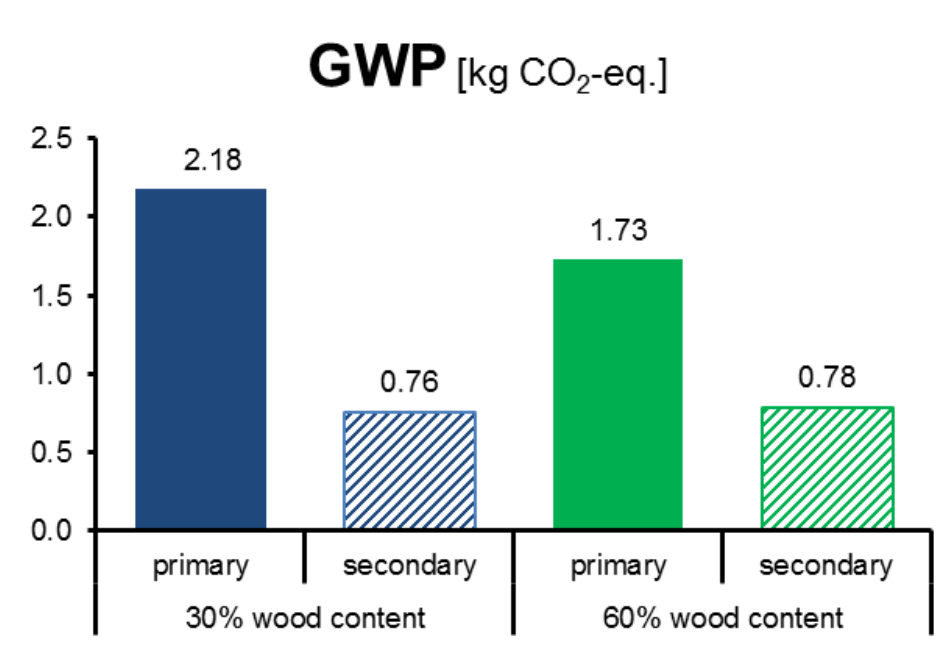
G2: MATERIAL FLOW ANALYSIS

LIFE CYCLE ASSESSMENT

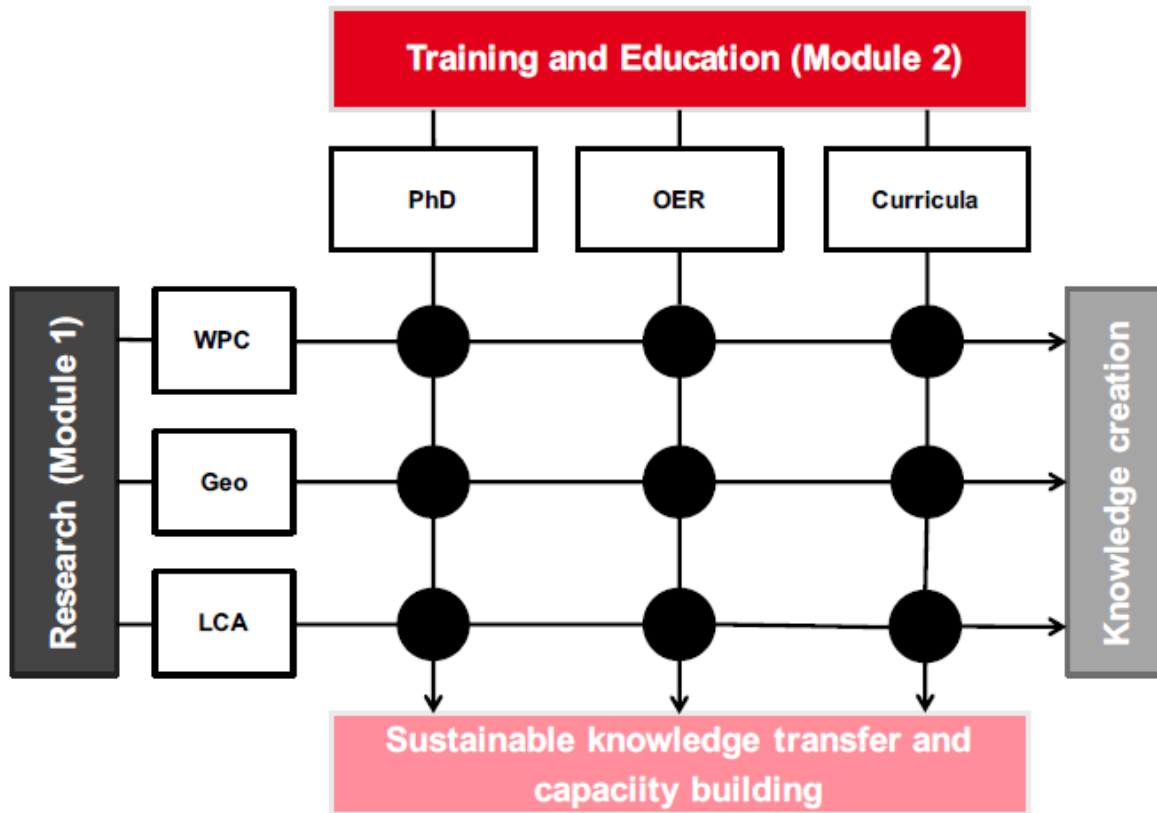


G2: MATERIAL FLOW ANALYSIS

LIFE CYCLE ASSESSMENT



G3: RESEARCH-DRIVEN EDUCATION



WIKIPEDIA
Die freie Enzyklopädie

Hauptseite
Themenportale
Von A bis Z
Zufälliger Artikel

Mitmachen
Artikel verbessern
Neuen Artikel anlegen
Autorenportal

Artikel Diskussion

Spirostachys africana

Spirostachys africana ist eine afrikanische Wolfsmilchgewächse (Euphorbiaceae). Trivialnamen verwendet: [1] Welt verbrannt um Tombotsi und Msarakana (Swahili)

Das Holz von *Spirostachys africana* wird als Baumart sind giftig. Trotzdem werden einige chemische Bestandteile aus Blättern





PROJECT GOALS

G1: Innovative bio-composites for affordable housing

- Develop WPC made of recycled resources and invasive species
- Show feasibility of geopolymer-wood-composites made of fly-ash
- Adapt processes to appropriate technologies

G2: Material flow analysis and life cycle assessment

- Identify potential, locally available resources for composites
- Evaluate environmental impact of bio-/recycling composites

G3: Research-driven education and capacity building

- Education of post-graduate experts
- Technology transfer and capacity building in composite science
- Propose post-graduate study and research concepts

FUNDS & COORDINATION

Project coordination

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Strategy programme

Partnerships for Sustainable Solutions with
Sub-Saharan Africa: Measures for Research
and Integrated postgraduate training and
continuing training

Fund

EUR 800.000

Duration

03/2017 - 06/2020