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# FOSTERING THE ALIEN VEGETATION ADDED VALUE CHAIN THROUGH INDUSTRIAL SYMBIOSIS

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TIPS Circular Economy & Industrial  
Development Dialogue  
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# SETTING THE CONTEXT

- Invasive alien plants (IAPs) – biodiversity, fires, food security, tourism and water supply impacts
- Introduced in the 1600s, peaking in 1800s
- Estimated 380-8,759 plant species
- Condensed 1.5m ha (1.2% South Africa's land area)



# OPPORTUNITIES



- **Halting growth, clearing and beneficiation**
  - Job creation
  - Adding value to the IAP supply chain
- **Several strategies are in place in South Africa**
- **Core initiative: DEA's Extended Public Works (EPWP) Working for Water Programme**
  - Focus on removal/harvesting
  - Socio-economic & environmental intervention
  - Deemed a 'success' the business model has been expanded into other programmes

Including ...

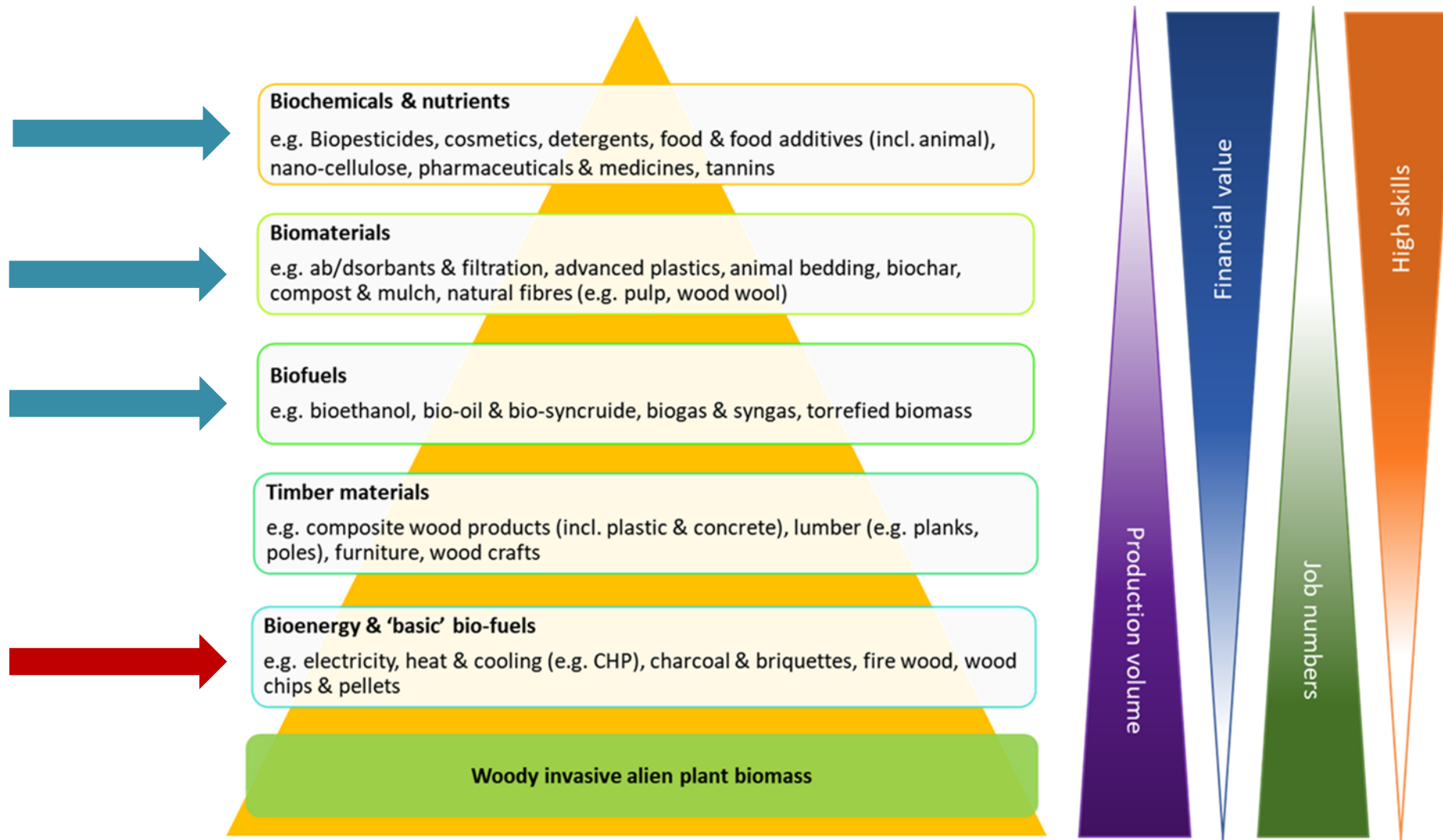


# VALUE-ADDITION POTENTIAL

- Create economic, social and environmental value to the woody biomass removed in the clearing process or by-product during manufacture.
- Volumes and variety of feedstock would suggest that there is a real opportunity to develop viable products and create jobs.
- Job creation exists in:
  - Harvesting
  - Processing
  - Manufacture
  - Produce use & maintenance



# INVASIVE ALIEN PLANT BIOPRODUCT VALUE HIERARCHY



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# UNLOCKING JOBS THROUGH AIP VALUE-ADDED INDUSTRIES

## Drawing on three studies:

1. Eco-furniture Programme: An evaluative review (The Jobs Fund)
2. Framework for the summative evaluation of the TIPS/WWF-SA Green Jobs Advocacy project
3. Unlocking jobs through alien invasive plant value-added industries (SANPARKS)



Trade & Industrial Policy Strategies (TIPS) is a research organisation that facilitates policy development and dialogue across three focus areas: trade and industrial policy, inequality and economic inclusion, and sustainable growth

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### UNLOCKING AND RETAINING JOBS IN THE ALIEN VEGETATION ADDED VALUE CHAIN THROUGH INDUSTRIAL SYMBIOSIS: CASE STUDY ON WOOD PELLETS



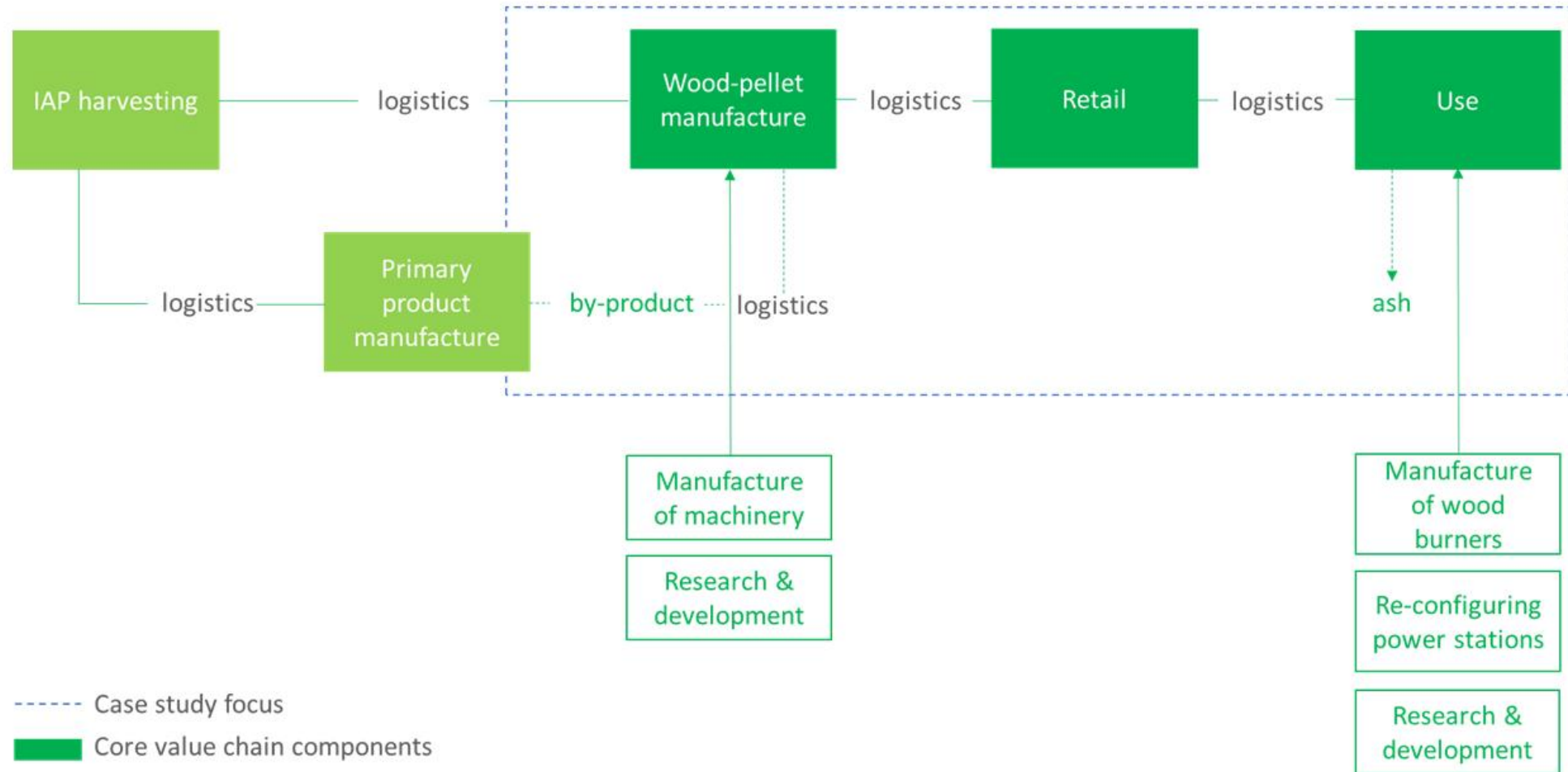
Nicola Jenkin and Shakespear Mudombi  
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# CASE STUDY: WOOD PELLETS AS A FUEL AND ELECTRICITY SOURCE TO REPLACE PARAFFIN AND WOOD FUEL

- South Africa generates the majority of its energy from coal
- Need to reduce GHG, shift from fossil fuels and transition to a low-carbon economy
- 68% (3.4m homes) of South Africa's non-electrified homes use paraffin; and 74% firewood

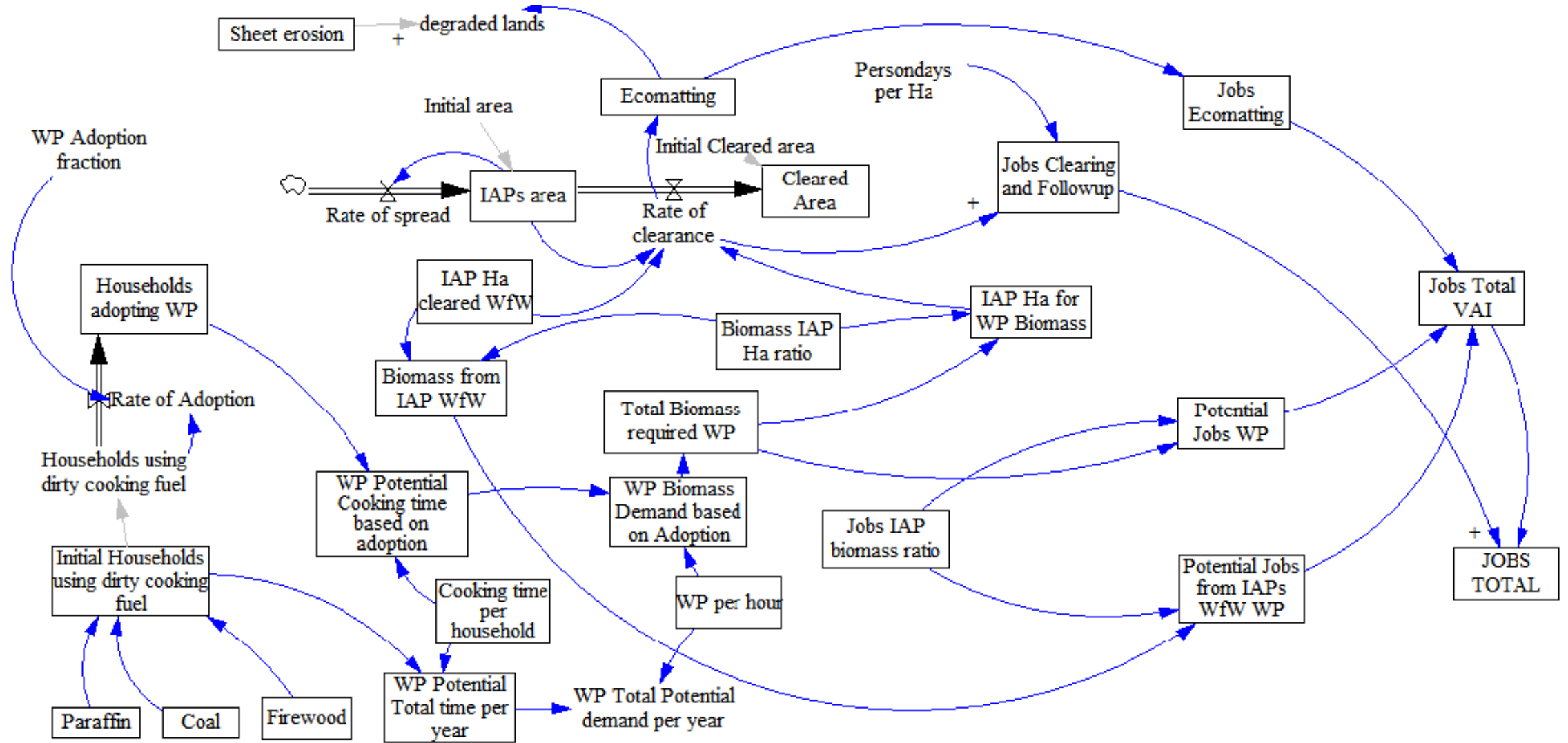


# WOOD PELLET EXPANDED VALUE CHAIN





# ESTIMATION OF POTENTIAL JOBS



# SCENARIO: VALUE CREATION POTENTIAL

Possibility to replace paraffin with wood pellets and 'clean stoves':

At an incremental rate of 5% per annum:

- 1.48 million direct jobs created by 2030
- Clearance of an estimated 2.3m Ha of IAPs
- 1.06 million non-electrified houses converted to wood pellets

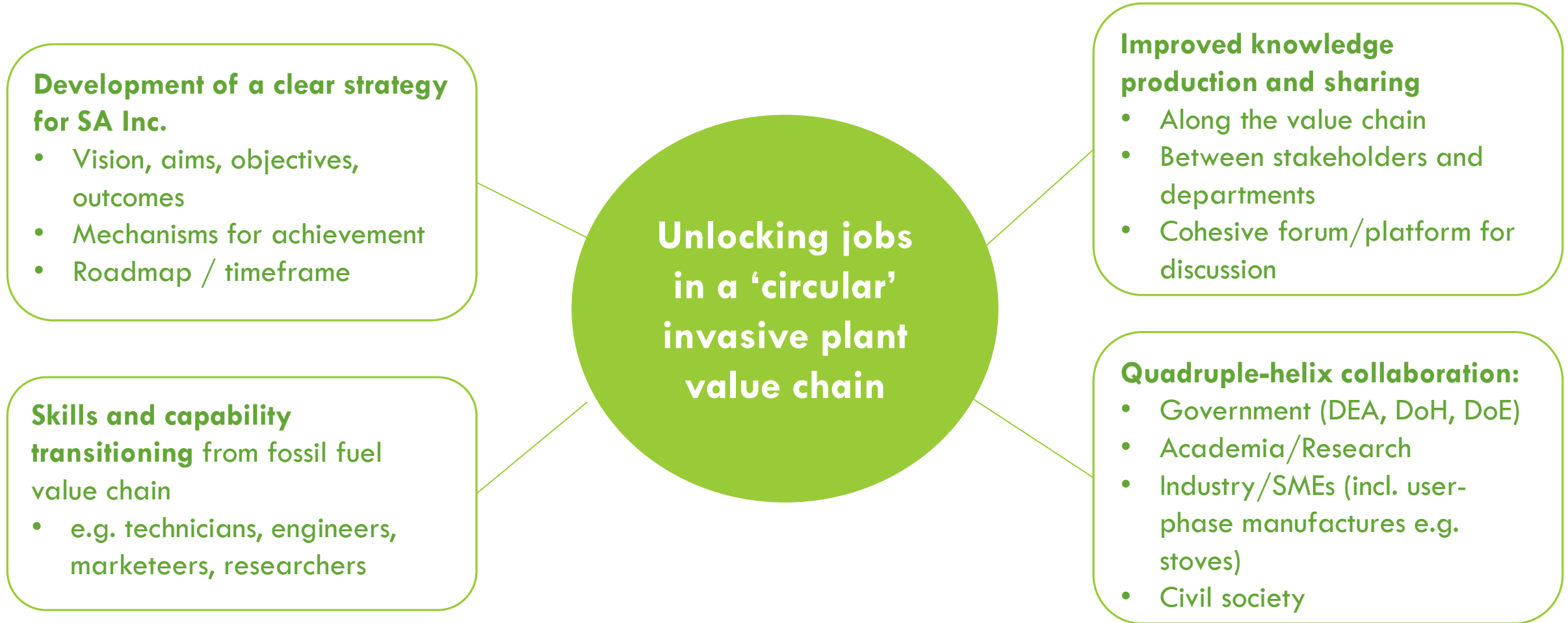


# CHALLENGES

- **Logistics:**
  - Suitability of feedstock
  - Transport (access to feedstock; point of processing)
- **Production:**
  - Perceived cost and production efficiencies
  - Almost non-existent production for the local market
  - Unrecognised small-scale technology potential
  - Behavioural shift to new technology
- **Business-model with systemic issues:**
  - EPWP-reliance; Government funding cycles; Bank risk aversion
  - Creation of just and sustainable jobs
  - Notion that ‘large’ and centralised is best
- Perceived inadequacy and misalignment of policy
- Multi-initiatives and ‘nodes’ of discussion



# PROPOSED INTERVENTIONS



# THANK YOU

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