



# Biomass to charcoal – prospects for Australian forest industries

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MINERAL RESOURCES

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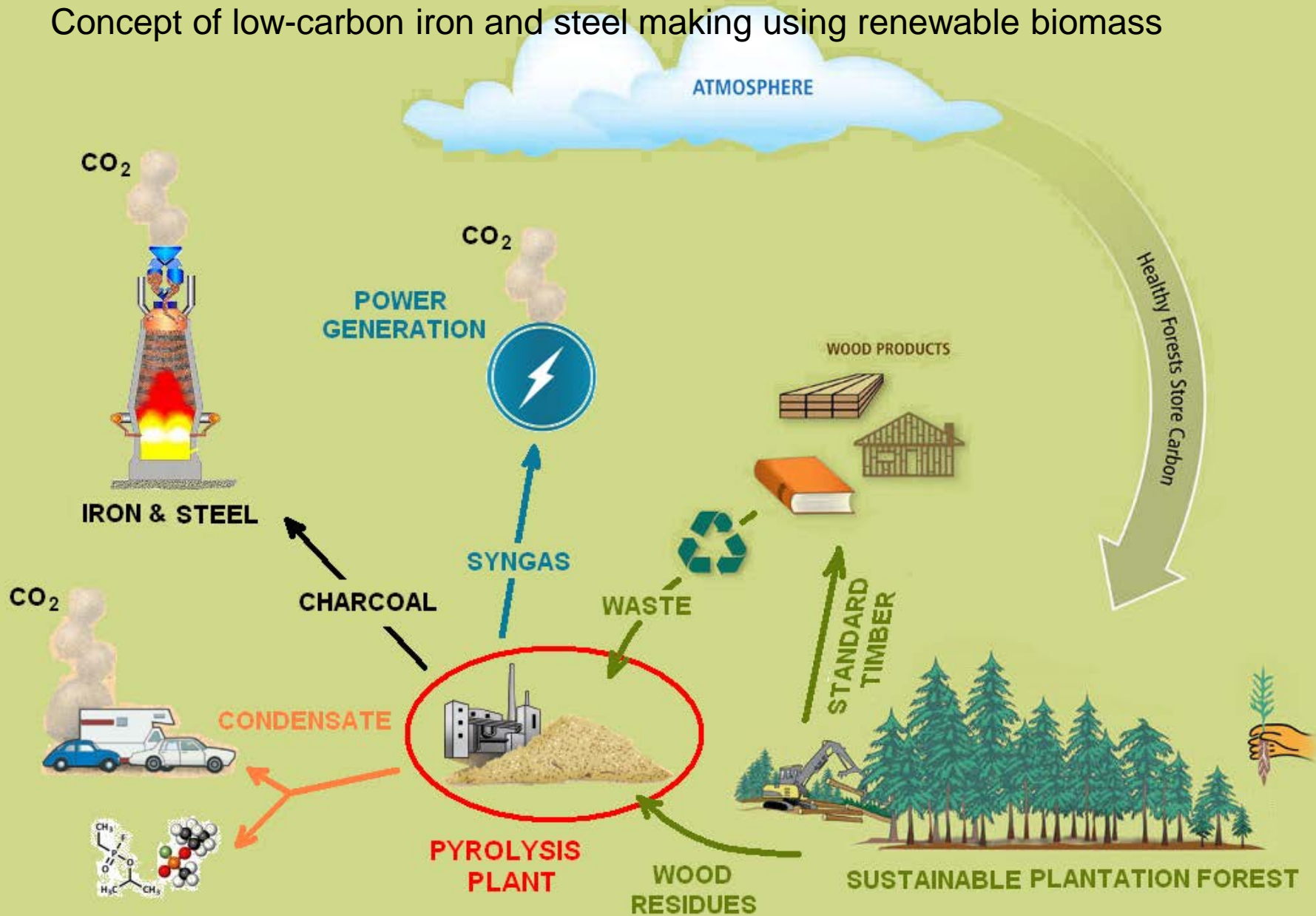


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# Outline

- Concept, target biomass, charcoal applications
- Charcoal application in metallurgy (particularly silicon)
- CSIRO technology
- Our plans in the next year
- Your feedback and opinion

# Concept of low-carbon iron and steel making using renewable biomass



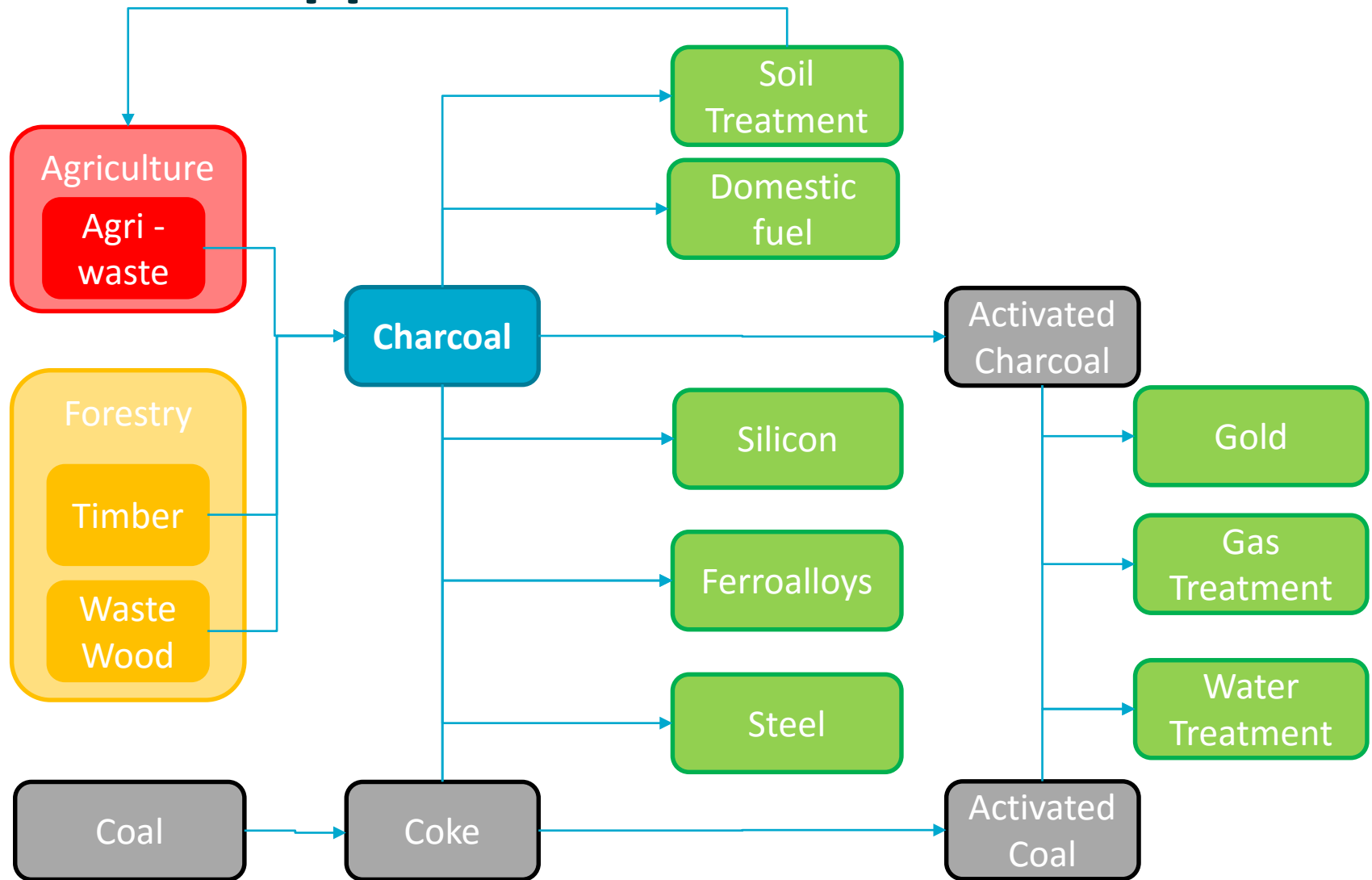


# Biomass source – Opportunity for Forest Industries

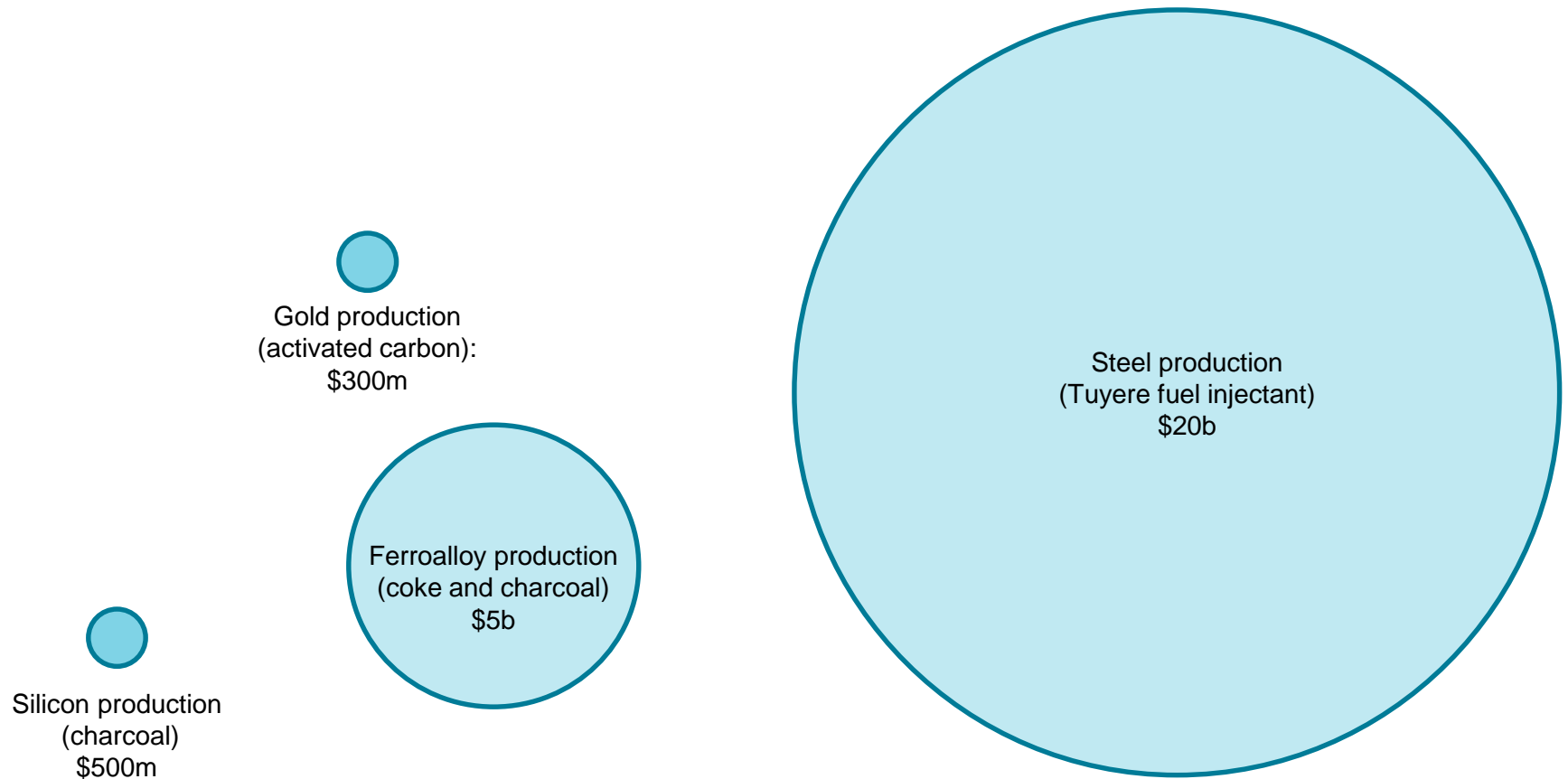
- Woody biomass
  - Forest residues
  - Wood processing
- Agriculture
  - Wheat stubble
  - Bagasse
- Horticulture
  - Nut wastes
  - Grape marc
- Woody weeds
  - Camphor Laurel



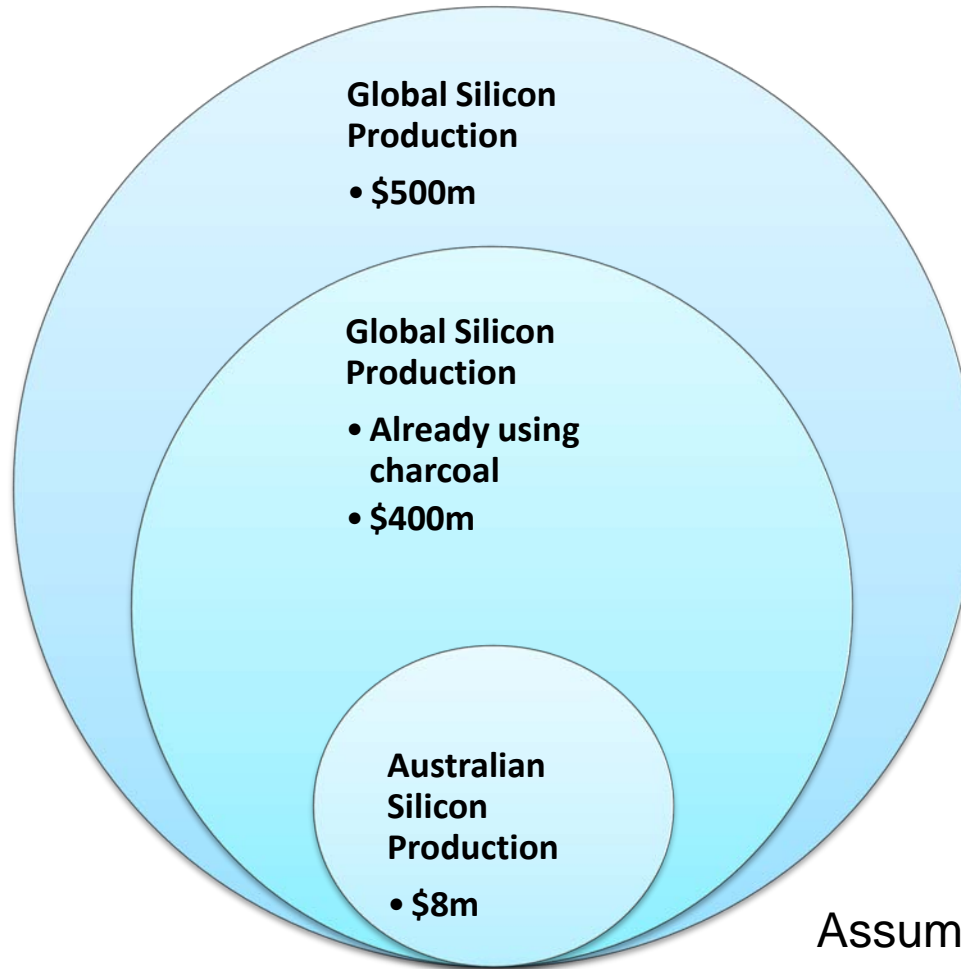
# Charcoal Applications



# Market size

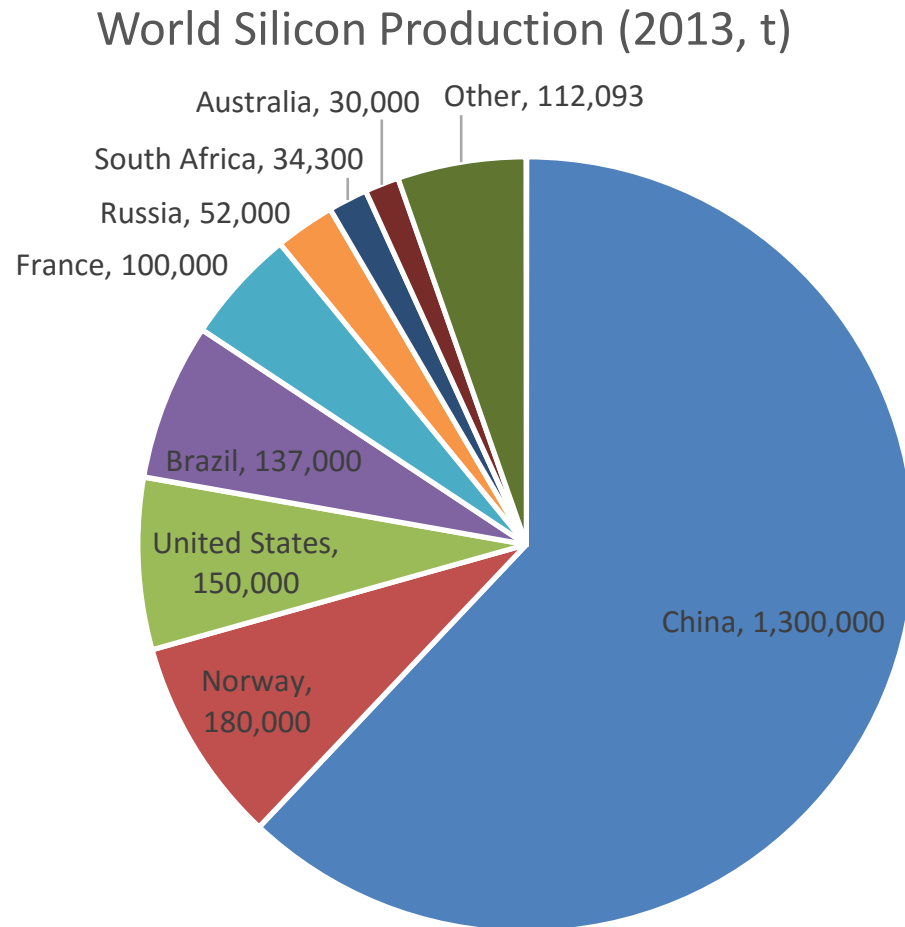


# Charcoal for silicon metal production



Assuming charcoal US\$300/t

# World Silicon Production





# Customer Need

Company	Quote
Company A	Every silicon producer would like to use charcoal. Our metallurgists are desperate to use more charcoal
Company B	We are definitely interested in charcoal production for both China and North America. It is a critical issue for silicon producers globally.
Company C	Want to establish joint projects with potential partners on charcoal and bio-oil production.





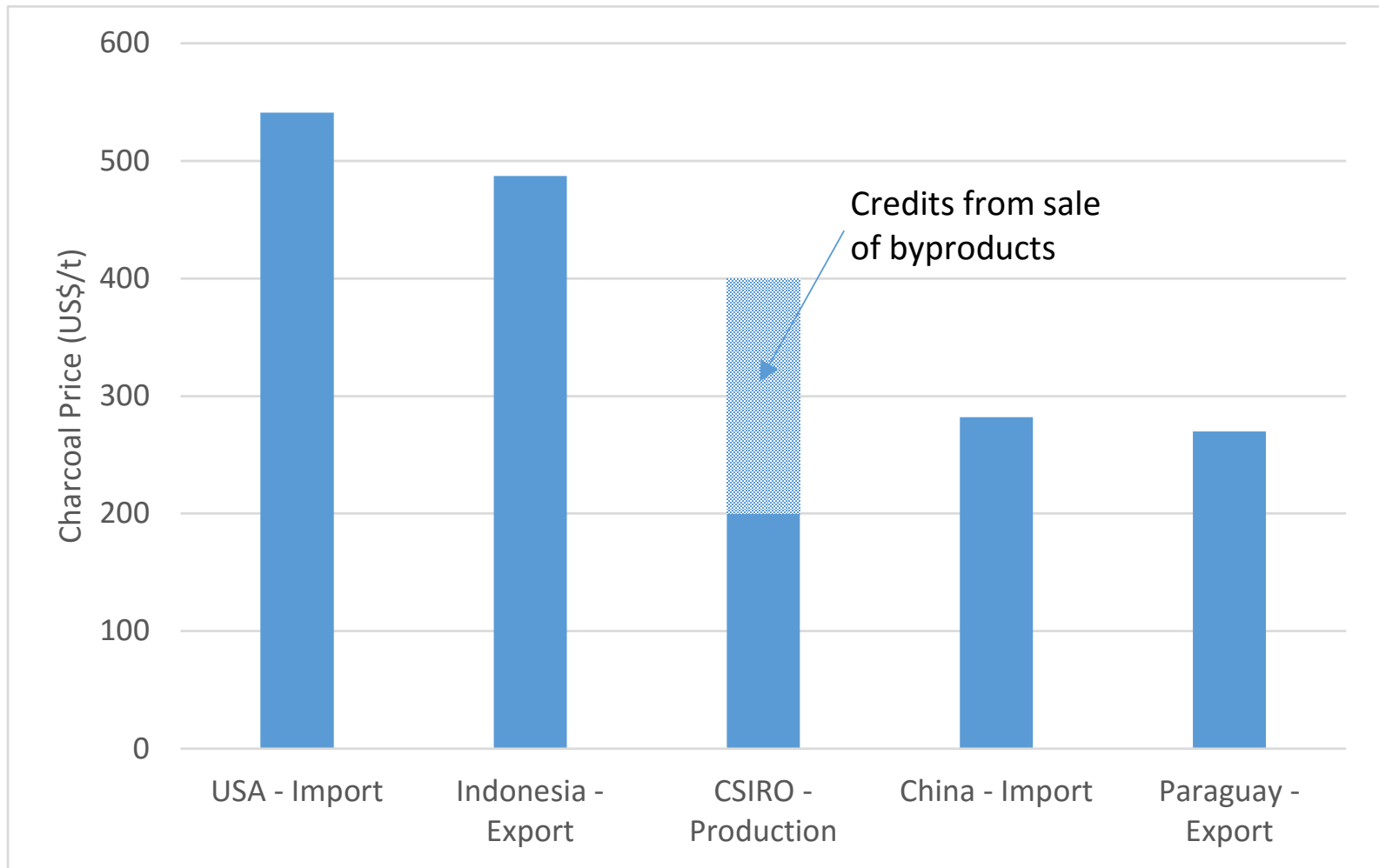
# Simcoa industrial plant

- We are talking with global Si producers



*SIMCOA's charcoal plant*

# Charcoal Price



# Next steps

- Within 6 months
  - Have partner that is providing technical contribution such that charcoal is suitable for silicon production (price and quality)
- Within 12 months
  - Some external support

# Thoughts? Feedback?





# Biomass to Renewable Carbon

# Thank you

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