

NewCarbon Innovation to produce biochar in a novel, clean and cost effective way using biomass from forestry and sawmill waste



Marius van der Merwe

BEng (Met)

CEO, NEWCARBON (Pty) Ltd

24 August 2016



The Synergy of Science and Industry: Biochar's Connection to Ecology, Soil, Food, and Energy





Who are we?





Where are we based?





Where are we based?





Where are we based?





Why we got involved?



2014 – Research: The Challenges We Face



Climate change -
variability -
extremes



Soil fertility



Water
management



Impact of
hazardous
pesticides and
nitrogen fertilizers



Burning of crop
residue



Alkalinity of soils

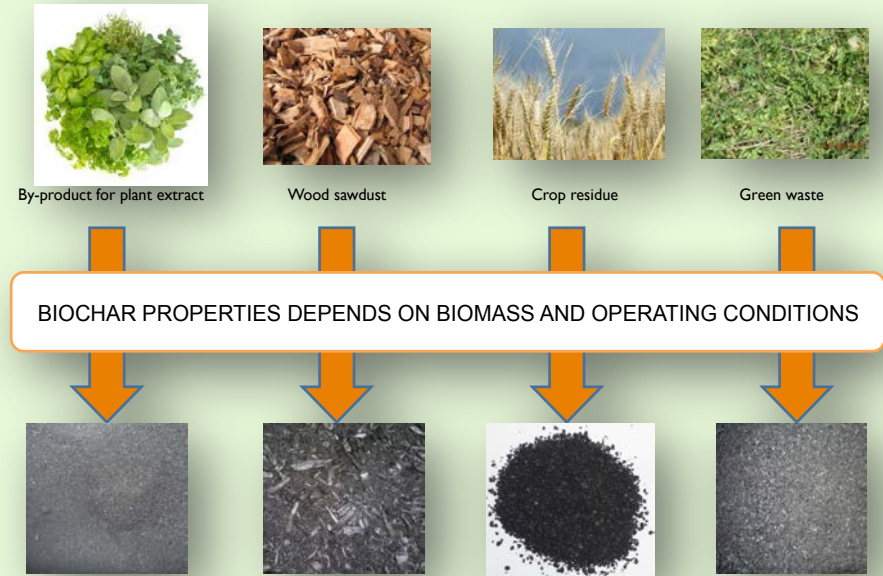
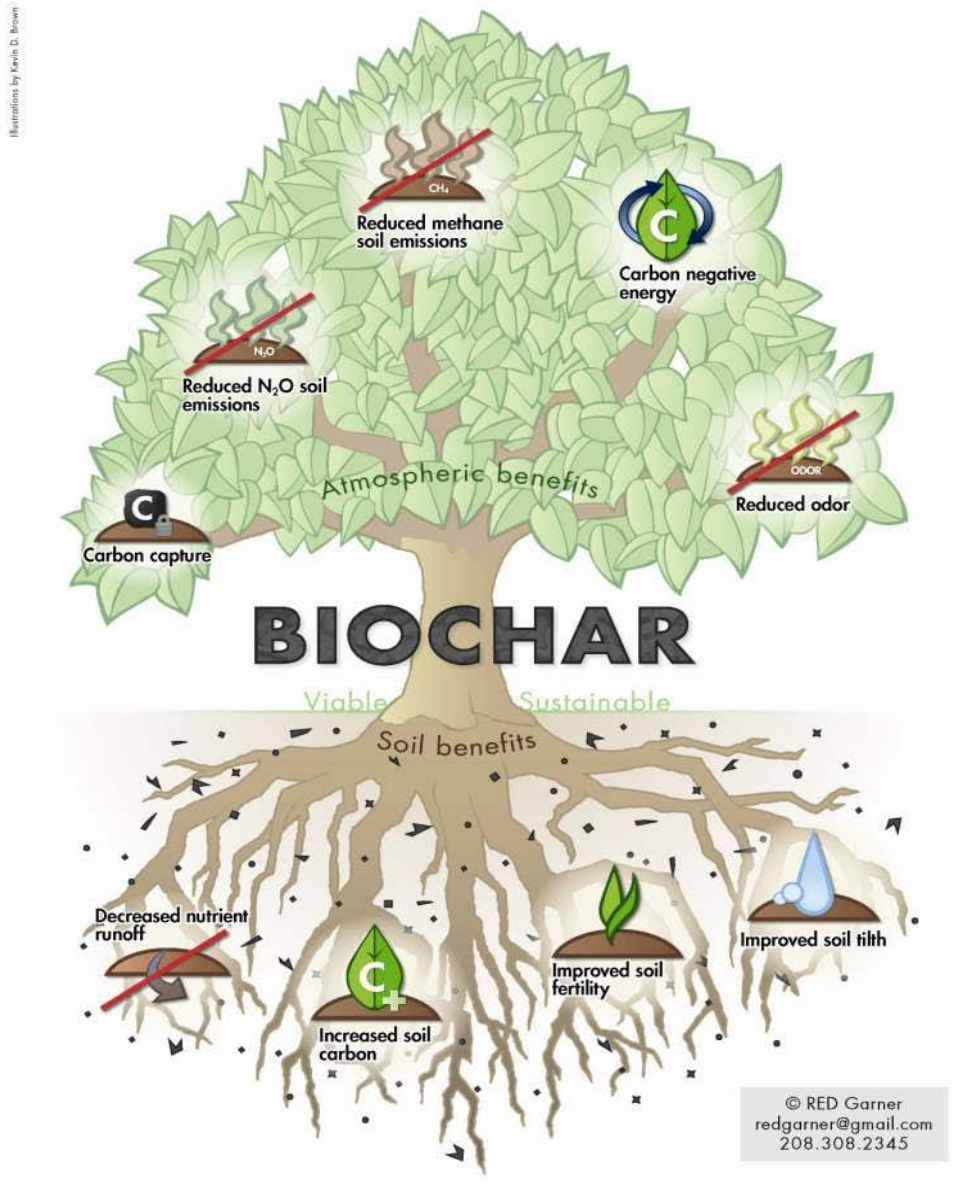




Why we got involved?



2014 – Research: Discovered Biochar





Why we got involved?



2014 – Research: Various Production Units at Various Scales





Why we got involved?



2014 – Research: Key Outcomes / Take Aways

- Gained an understanding of the **major challenges**
- Overview of the **production methods** and **scale**
- Identified possible **gaps** and **opportunities**
 - **Biochar** market / industry potential
 - **Clean** and **cost effective** production units at economic **volumes**
 - **Matching** feedstock availability / production / markets
 - **Solving** multiple **issues / challenges** with **integrated solutions**





Our Short HIStory

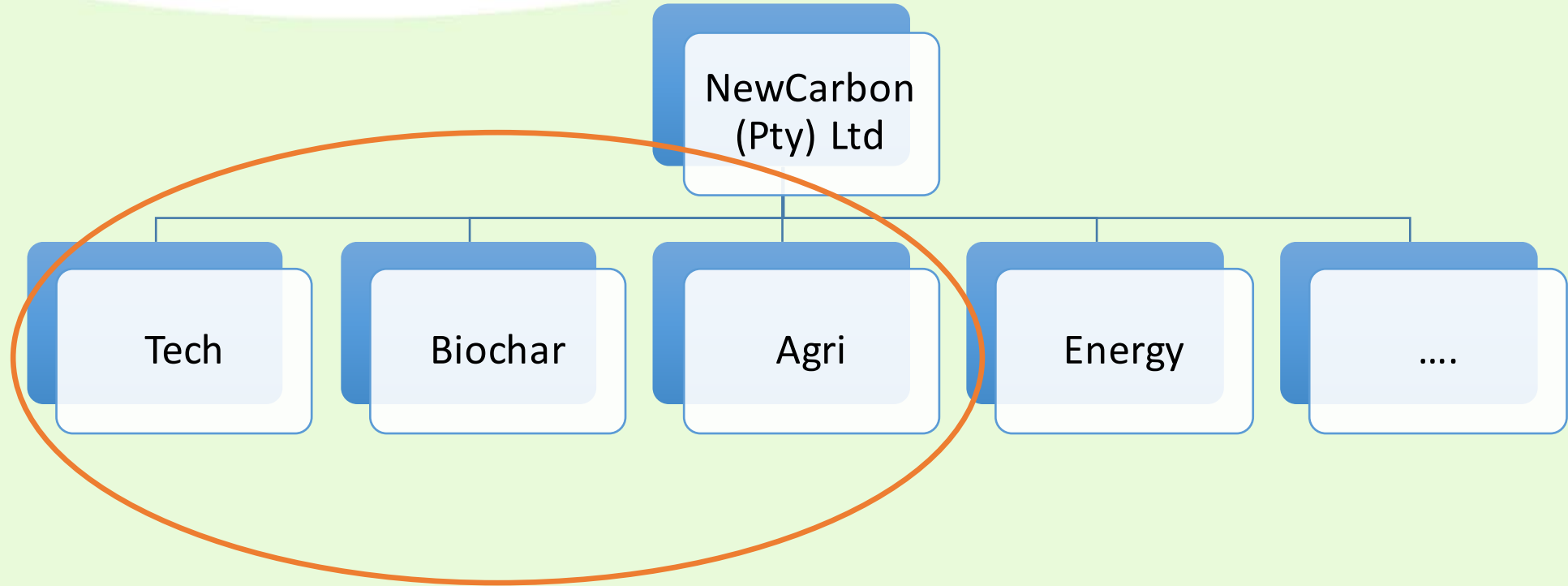


2014 – Research: Playing with fire, studying soil, food, animal health





NewCarbon Focus Areas





Dream:

Novel, clean and cost effective production unit:

- Mobile / semi-mobile
- Able to process ± 1 t/h dry feed
- Low cost / low tech / simple build and operate
- Feedstock:
 - Forestry waste / Invasive species / Sawmill waste
 - <30 mm top size,
 - Able to handle 60-70% moisture content (dry basis)

Markets

- Start developing markets for biochar and biochar solutions in South Africa





1. Produce a functional Prototype
 - First Pilot / Prototype by 2016
 - First Commercial unit / project by 2017
 - 100 Commercial units / projects across Southern Africa by 2020

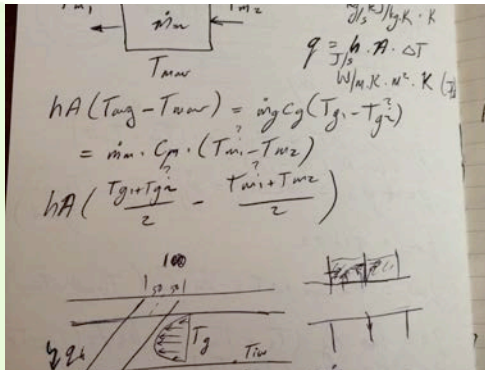




Our Short HIStory



2015/16 – Development: Pilot / Prototype

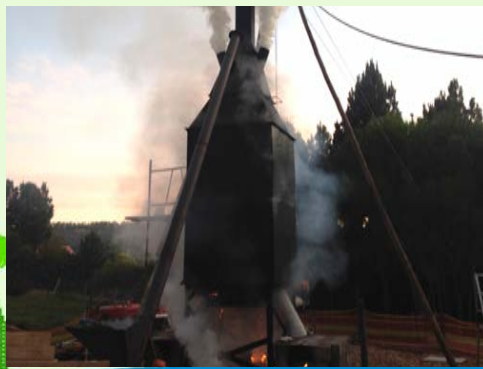




Our Short HIStory



2015/16 – Development: Pilot / Prototype





Design Goals:

- US \$500k - \$1m
- ± 5 ton/day biochar (± 40 yd³)
- Energy self-contained using only wood and solar energy (and/or on grid)
- ± 1200 yd² total footprint





Application Imperatives



Planet

People

Sustainable
Circular
Economic
Solutions

Profit





Application for
Green Growth



Benefits and
Use



**SUSTAINED
AGRI-GROWTH**



Production of
Biochar from
residues



THANK YOU for your attention,
Please feel free to contact me



MARIUS VAN DER MERWE
Director & CEO | B.Eng (Met)
+27 82 383 8339

NEWCARBON

PO Box 1375, Sedgefield, 6573
Office: +27 44 343 1523
Email: marius@newcarbon.co.za

*The Synergy of Science and Industry: Biochar's
Connection to Ecology, Soil, Food, and Energy*

