



*Crucible  
Carbon*

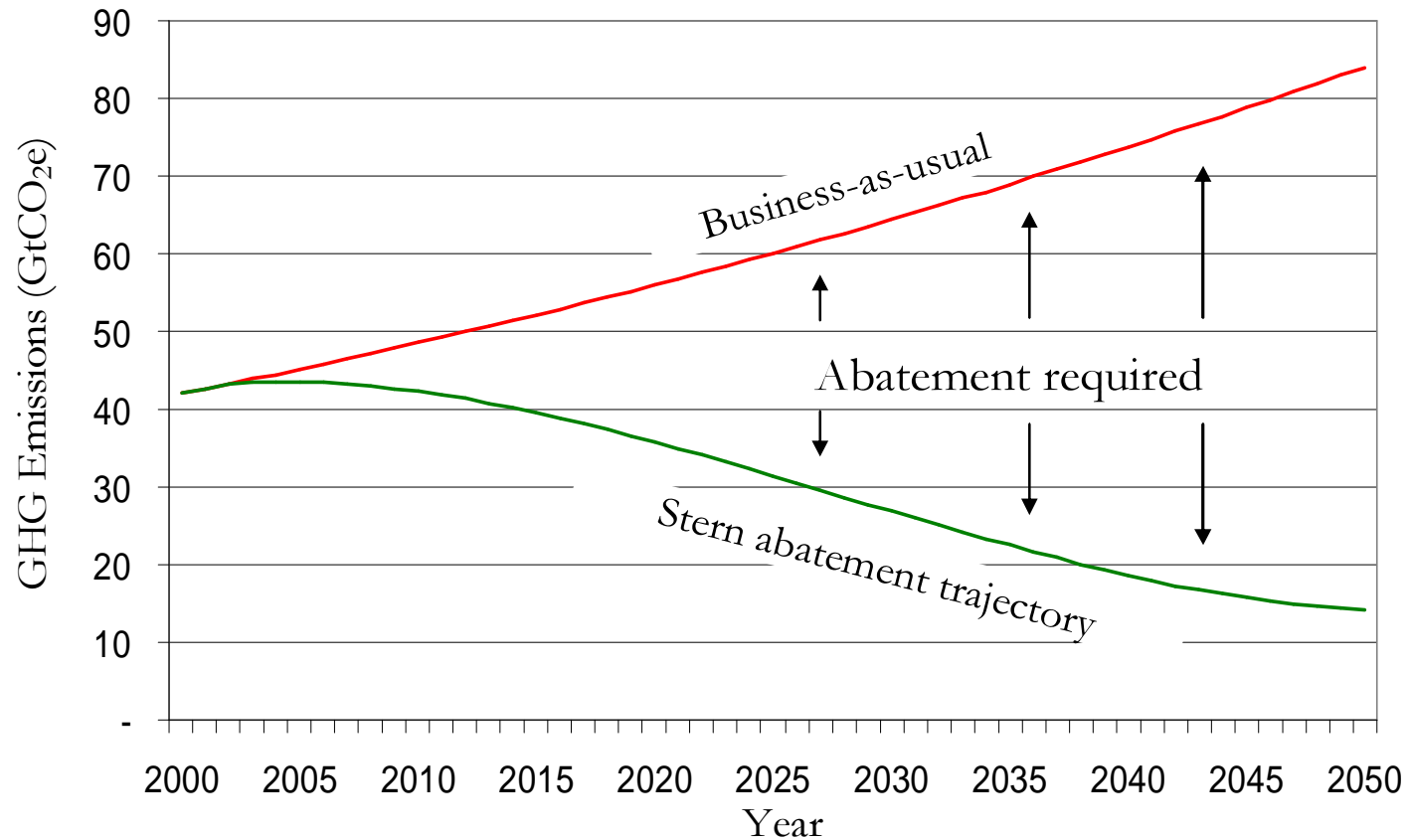
## **Some carbon arithmetic (are we ready?)**

**Dr Joe Herbertson**

**The Crucible Group Pty Ltd**

**April 2007**

# Climate change abatement challenge



Stern Review, 'The Economics of Climate Change', Cambridge Uni. Press, 2007. Recommended trajectory based on stabilisation at 450 ppm CO<sub>2</sub> with a 30% reduction by 2020

Could pyrolysis, bioenergy and agrichar make a real contribution?  
1 wedge (10%)?

# Stern trajectory (450 ppm CO<sub>2</sub>e)

Assume 1 tonne (dry) biomass produces 400kg char (2/3 fixed carbon)  
GHG benefit (energy and sequestration) approximately 2 tonne CO<sub>2</sub>e

By 2020, 20 Gt CO<sub>2</sub>e total abatement required globally  
10% = 2 Gt CO<sub>2</sub>e from pyrolysis, bioenergy and agrichar  
That is:

1 Gt (dry) biomass processed per annum  
400 Mt bio-char produced per annum (no venting)

**“The size of the challenge is the size of the opportunity”**

**High volume proof of terra preta benefits**

**High volume, low capital and operating cost biomass supply and pyrolysis**