

Dr Sara Beavis

Hydrology, engineering geology, water resources management
Fenner School of Environment and Society
Building No. 43
Biology Place
Acton, ACT 0200
Australia

Canberra ACT 0200 Australia
T: +61 2 6125 8138/9377
F: +61 2 6125 0757
sara.beavis@anu.edu.au

Re: Photosynthesis fixing carbon and making water

The Groundswell project is a three year Urban Sustainability Grant from the NSW Department of Environment, Climate Change and Water (DECCW) Environmental Trust which is involved in composting source-separated organic and green waste, and returning it to agriculture. The process does not require shredding and includes the use of a biological inoculant to control odour.

My role in this project is to review and describe the science underpinning the project, both from theoretical and applied perspectives. As a component of that role, I have reviewed the paper by Ken Bellamy, *Photosynthesis: fixing carbon and making water*, which describes the theoretical underpinnings of the project by outlining the processes of both green plant and bacterial photosynthesis. My assessment of the paper is that the theory and concepts presented are sound and would be clearly understood by an informed, general audience.

The work in progress on the Groundswell project by a team of researchers, local government and State agencies suggests that the outcome of this project will have profound implications for sustainability by linking rural productivity and urban resource consumption and reuse. I would also suggest that application of some of the key concepts presented in the paper, which allude to sources and cycling of soil moisture and nutrients, could have significant implications for soil carbon sequestration.



Sara Beavis
9th September 2009