

## ***Carbon in the Real World***

A proactive initiative '*Carbon in the Real World*' was launched in Bathurst at **SEGRA** 2015. This initiative is a direct response to the situation that world-wide many activists and headline seeking media commentators are demonising the terms 'carbon' and 'coal' with catch-all cries to for a 'carbon free economy,' a 'fossil fuel free world' and to 'leave-it-in the ground.' Such demonising is being done in extreme ignorance of what the words really mean in ecological, economic and social terms. Scant regard is being given to the reality that carbon is the foundation element of all forms of life on earth and that it is essential for the maintenance of the biophysical environment and our livelihoods and lifestyles.

Two interconnected activities were used to introduce '*Carbon in the Real World*' and they were led by Gerry Morvell, Chair of Brown Coal Innovation Australia (BCIA). The first was a presentation in a 'Spotlight' session where discussion was focused by the proposition: *Don't Demonise Carbon! It is Essential to Regional Landscapes, Rural and Remote Communities and You*. The second was a short presentation as part of the **SEGRA** Challenge titled: *How Can We Optimise Carbon in the Real World?*

### ***SEGRA Spotlight Session 6: Don't Demonise Carbon! It is Essential to Regional Landscapes, Rural and Remote Communities and You***

Gerry Morvell argued that the proposition: *Don't demonise carbon! It is essential to regional landscapes, rural and remote communities, a sustainable future and you* serves to remind us of several realities. For example, the value of retaining and putting carbon into the soil to maintain and enhancing production and conservation landscapes. As well, it highlights of the inherent value of coal as a source of new 21<sup>st</sup> Century products, rather than simple burning a valuable non-renewable resource to generate electric power using 19<sup>th</sup> century technology.

This point is illustrated by producing and using 'carbon-in-water' fuel from either brown or black coal to reduce the vulnerability of primary producers, the mining industry and the transport sector across rural and remote regional production landscapes to remove the insecurity of imported diesel. Carbon also serves as a medium for energy storage for intermittent renewable sources and is essential for the production of silicon metal for the solar industry and turbine blades for the wind industry. A cold reality is that many new technologies that underpin energy efficiency are carbon based.

The presentation was well received by representatives of local governments, businesses and chairs and CEOs of Regional Development Australia regions (RDAs) from across Australia. Considerable discussion was generated from regions where there is a serious down turn in the coal industry and closure of thermal power stations. This opened up an opportunity to introduce the session participants to (for example): coal refining, to produce new carbon products; graphite for storing energy in the form of heat; and 24/7 solar; and alternative carbon fuels.

The following key conclusions were drawn from the spotlight session.

- To overcome the demonising of coal we must change the name away from 'coal' to reflect the enormous value of carbon
- The social and economic benefits of carbon are a 'too well kept secret'
- The world is rapidly developing a carbon dependent economy that is beyond the realm of burning fossil fuels
- Carbon is underpinning new products and industries, new employment opportunities and wealth creation

This left a final focusing question: *How do you get the information on the opportunities from the benefits of a carbon economy out to entrepreneurs in regional Australia and beyond?*

**SEGRA Challenge: How can we optimise carbon in the real world?**

In responding to the challenge topic, Gerry opened by pointing out that Australia has the opportunity to take on a global problem with a local approach to carbon sequestration. Specifically, by change farming practices in Australia producers can pick up on international 'reverse options' carbon sequestration processes and earn more from their properties. With respect to carbon reconditioning of soils; the point was made that Carbon based fertilisers improve productivity by restoring soil structure and increasing water and nutrient uptake. Currently, trials using products from Latrobe Valley brown coal are already underway in Victoria.

Gerry Morvell, argued: yes, nations must move quickly to reduce and mitigate the deleterious effects of emissions of carbon dioxide and other greenhouse gasses that are forcing factors for accelerated global warming. He argued that this is where the confusion commences. Carbon is not carbon dioxide or other greenhouse gasses as promoted at times in media 'short-hand'. Rather, it is a chemical element that forms a vast number of compounds many of which have as yet unmeasured value to mankind. Many scientists and technologists argue that carbon will be for the 21<sup>st</sup> century what iron and steel were for the 19<sup>th</sup> and 20<sup>th</sup> centuries. And coal is a mineral of fossilised carbon, which among many uses, is essential for the production of steel, plastics, carbon polymers and pharmaceutical products.

In concluding, Gerry raised focusing questions such as:

- When demonising carbon are we replacing 'a fair go' with 'hypocrisy'?
- When dismissing the importance of carbon products are we 'throwing the baby out with the bath water'?
- When ignoring reality, is Australia in danger of turning its back on the opportunities offered by carbon as the driver of new economic activity?

**Moving Forward: Towards Priority Policy and Practice Actions**

In the real world ***Carbon underpins all forms of life, society and the global economy.*** Maximising the benefits that carbon can bring to production and conservation landscapes and reducing greenhouse gas emission could in fact be achieved by moving towards having an 'enhanced-carbon society and economy'. On this basis there is an identified need for:

- Recognition that the world is rapidly developing a carbon dependent economy that is beyond the realm of burning fossil fuels.
- Proactive measures to overcome the demonising of coal by promoting the enormous value of carbon and the social and economic benefits it is bringing to regional Australia.
- Strong political leadership, political will and supportive policies to optimise the opportunities to maximise the use of carbon in our production and conservation landscapes and create new jobs and wealth from the innovative use of carbon in rural and regional Australia (ie move to a new carbon age).

- Further dialogue between regional stakeholders towards possible regional projects aimed at optimising carbon resources, creating new jobs and producing new products and services, new employment opportunities and wealth creation.

Two key strategic policy actions to be furthered are:

- Acknowledging the position that carbon has in conserving and enhancing production landscapes, the production of steel and plastics, providing and storing renewable energy and underpinning 21<sup>st</sup> Century carbon polymer and pharmaceutical industries
- Optimising Australia's inherent solar advantages by using graphite batteries in heat storage systems for the 24/7 generation of electricity using Concentrated Solar Power (CSP) in peri-urban, rural and remote regions.

### **Summing up**

Economists, politicians and environmental activists have used shorthand and created a mythology that 'Carbon' is harmful. This is a false proposition; rather, in the real world ***Carbon underpins all forms of life, society and the global economy.*** Maximising the benefits that carbon can bring to production and conservation landscapes and reducing greenhouse gas emission could in fact be achieved by moving towards having an 'enhanced-carbon society and economy.'

Spotlight Session participants agreed that we do we need strong political leadership and political will to act to optimise the opportunities to maximise the use of carbon in our production and conservation landscapes and create new jobs and wealth from the innovative use of carbon in rural and regional Australia. Support from the participants to move to a new carbon age was enormous. Contact details have been exchanged to further the dialogue between participants towards possible regional projects aimed at optimising carbon resources, creating new jobs and producing new products and services.