



9 June 1999

Mr Paul McMahon
Secretary, House of Representatives Standing
Committee on Industry, Science and Resources
Suite R1-116, Parliament House
Canberra ACT 2600

Copy by email to isr.reps@aph.gov.au

Dear Mr McMahon

Thank you for your letter dated 25 May inviting a submission to the Committee's Inquiry into Increasing Value-Adding to Australia's Raw Materials.

The Black Coal CRC's main objective is to evaluate the performance of Australian bituminous coals in utilisation technologies developed and principally engineered overseas. These are the technologies – specifically for electricity generation and ironmaking – in which Australia's export coal is, or will be, used by international customers and which have been, or may be, imported by domestic coal users for power stations and steel mills.

Consequently, our research (or commercial benefits resulting from it) does not itself add value to coal in the physical sense of upgrading the raw material or of creating higher value products from it. Clearly, the coal producers (in the course of any pre-market processing) and the coal users (in the course of converting the coal to intermediate or end-use products) do that. Our role is to assist the former in technically marketing Australian coal to best advantage, and the latter in acquiring and operating plant optimally. Both are, of course, driven primarily by competition within their industries, and with alternatives, but environmental pressures for cleaner and more efficient use of resources are also very important considerations for coal suppliers and users.

The Black Coal CRC does aim to add value to coal in the form of technical information about its quality and processing behaviour that enables value in use to be maximised. Some examples will make clearer what this can mean:

- Ironmaking in blast furnaces relies mainly on expensive coking coal, which can be partially replaced by cheaper thermal coal injected with blast air. The value of a particular coal as an injectant depends on how the furnace material and energy balances are affected by its quality profile. The Centre's PCI Performance Predictor enables a coal to be evaluated for this use and thus to be marketed on an informed basis, and its PCI research program overall is believed to be as extensive and advanced as any in the world.

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- Because new power generation technologies are being developed mainly in the US and Europe, Australian coals are not much used in commercial demonstration plants and thus may be disadvantaged in these new markets as they emerge. The Black Coal CRC's research program overcomes this potential disability by producing performance data with high engineering credibility but without resort to pilot plants, which are very expensive for the new pressurised processes. The centrepiece of this program is a \$3M advanced gasification research reactor, which is one of very few in the world and which has some unique capabilities.
- Competition between power generators in Australia and elsewhere is causing them to relax coal quality specifications and buy cheaper coal. This creates risk because established methods of predicting performance of a new coal in one of the large pulverised coal-fired boilers typical of modern stations are relatively crude and known to have quite limited reliability. The Centre has pioneered application of several new techniques that enable more detailed and accurate evaluations to be made. Demonstrating the technical acceptability of a producer's coal to a customer can be instrumental in gaining or keeping a large supply contract, possibly worth \$100M. Forced shutdowns of large boilers due to coal-related effects can cost a generator foregone revenue of perhaps \$0.5M a day.

If the Committee wishes to include value adding of this type in its purview I would be pleased to provide more information, such as specific case studies, which I note the Committee intends to seek as the inquiry progresses.

Yours sincerely

John A Hart
Executive Director