



7 March 2018

**Senate Standing Committees on Environment and Communications**

Department of the Senate

PO Box 6100

Parliament House

Canberra, ACT 2600

**Subject: Clean Energy Finance Corporation Amendment (Carbon Capture and Storage) Bill 2017**

**Dear Committee Secretary,**

Bridgeport Energy Limited (BEL) offers the following comments on the proposed Clean Energy Finance Corporation Amendment (Carbon Capture and Storage) Bill 2017:

- BEL supports the Amendment to remove Cl 62 of the existing Act, wherein Carbon Capture and Storage (CCS) is described as a Prohibited Technology.
- BEL further requests clarity on the definition of CCS. The Amendment indicates that CCS is "within the meaning of the National Greenhouse and Energy Reporting Act 2007". However, in review of this Act, CCS is not defined.
- BEL requests that either the term CCS is modified to Carbon Capture, Utilisation and Storage (CCUS) or that Enhanced Oil Recovery (EOR) is included in the definition of CCS.

The reasons for these requests are given below:

- CCS has always suffered from the issue of high cost and lack of a revenue stream to aid project financial viability.
- One feasible solution to this worldwide dilemma, is to use CO<sub>2</sub> produced from industrial processes (power generation, ethanol plants, fertiliser plants, etc) for enhanced (or tertiary phase) oil recovery (EOR) in suitable oil fields. EOR, not only provides the opportunity to safely sequester CO<sub>2</sub> in a well-defined geological trap structure with existing wells drilled, but also stimulates the tertiary phase production of an oil reservoir, producing additional oil and therefore offsetting carbon capture equipment and supply costs by the CO<sub>2</sub> emitters.
- Utilising CO<sub>2</sub> in this manner worldwide has been defined as Carbon Capture Utilisation and Storage or CCUS, a large business model prevalent in the USA and Canada.
- EOR using CO<sub>2</sub> is technology successfully employed in the oil industry since the early 1970's and can enable significant additional oil production (up to 30% of the original oil in place) from an oil field which has already been subject to traditional primary and secondary phase extraction. CO<sub>2</sub> is sequestered in parallel as it replaces the oil and water volume in the reservoir.
- EOR has been the justification for the implementation of major CO<sub>2</sub> post combustion and capture (PCC) plants attached to coal fired power plants in both Canada (The Boundary Dam Project owned by Sask Power in Saskatchewan) and the USA (The Petra Nova Project in Texas).

- BEL is currently planning to implement an EOR project at the Moonie oil field in the southern Surat Basin, some 170km west of Toowoomba. This long term project would require up to 1Mtpa of CO<sub>2</sub> which could be sourced from PCC plants at either Millmerran or Kogan Creek supercritical coal fired power stations. Computer simulation indicates that oil production at Moonie could increase from the current 43,200barrels per annum up to about 750,000 barrels per annum.
- BEL views this project as a precursor to further EOR opportunities in the Surat and Cooper Basins. It links directly into the concept of a CO<sub>2</sub> aggregation hub for the Surat Basin. This hub could link supercritical power stations, CCS Projects (eg CTSCo's planned sequestration at Wandoan, Queensland) and EOR opportunities such as Moonie and other fields owned and operated by Bridgeport. These concepts were discussed with Minister Canavan and DIIS staff at meetings on 7<sup>h</sup> and 8<sup>th</sup> February 2018.
- Implementation of the above EOR plans could not only see the reduction of CO<sub>2</sub> emissions from Australia's newest, most efficient and reliable supercritical power stations by up to 90%, but also increase and prolong production of high quality Australian crude oil with commensurate benefits of ongoing work force employment and taxation revenue.
- As such, EOR using CO<sub>2</sub> would clearly fit as a "low-emission technology" as referenced in CI 60 (1) (b) of the existing Act and therefore should be specifically defined as a subset of CCS in any Amendment of that Act.

Our team at Bridgeport Energy would be pleased to discuss and present the concepts and technologies of CCUS to the committee at any time that would suit.

Yours sincerely,

**Chris Way**  
Chief Executive Officer  
Bridgeport Energy Limited

Cc: Shane Stephan, Bruce Denney, Bob Cook