

# Callide Oxyfuel Project

**Conference Wrap up**

**Utility/Developer perspective**

Chris Spero

**2<sup>nd</sup> IEA GHG Oxyfuel Combustion Conference**  
Thursday, 15 September 2011

## Utility/developer context

- Drivers are business specific but common elements include:
  - Compliance with the law
  - The desire to grow our businesses
  - The obvious need to achieve an acceptable ROI and annual profit, etc
  - To achieve and maintain an ongoing political and social licence-to-operate

# The importance of robust techno-economics

- Some techno-economic studies have been presented at this conference
- There is a reasonable alignment in comparative costings for oxyfuel and other low emission coal technologies (LECTs)

However

- The overall costs generally being shown for oxyfuel and other LETs seem rather high compared to current Cost of Electricity (at least in Australia), and it is unclear perhaps to what extent these costs will come down especially if you allow for the fact that there are probably latent conditions yet to be identified which may increase the existing cost baseline.
- Maybe some issues with cost of LETs relative to gas and renewable technologies.
- Governments & opposition, and policy makers, use this data in both developing and demolishing policy
- Techno-economics of LECTs, especially taking into consideration the full environmental benefits of oxyfuel versus alternatives, is very important.
- The need for collaboration, alignment and validation of cost data, cannot be over emphasized.

## Scientific/Technical data

- This conference has been characterized by a new level of openness and data sharing.
- These data and technical details are very important to project developers because they will often under-pin important technical and commercial decisions.
- This means that data should be reported carefully and with the appropriate qualifications so that it is not taken out of context.
- E.g., It is very interesting to look at some of the Hg data presented over the last 3 days. There is quite a range in absolute values and species values, and especially I note some very big differences with Hg species data compared with that published in relation to the Callide Oxyfuel Project at the 1<sup>st</sup> IEA conference in Germany in 2009.
- An important activity going forward will be continue the process of correlating and validating experimental data and model predictions against pilot and demo-plant data.

## Oxyfuel unit operations

- It is clear from this conference that great progress has been made in our fundamental/mechanistic understanding of oxyfuel processes, and the translation of this into pilot, demo and potentially commercial plant applications.
- Another way to look at the oxyfuel picture with the objectives of identifying new opportunities to improve , and to facilitate technology transfer, is to carefully compare and contrast unit operations, e.g.,
  - The chemical and mass balances around the pre-compression gas treatment, and around the gas compression operations.
- Such evaluations would be very nice in a series of publications or in a workshop environment.

## Concluding comments

- In summing up impressions as a Utility and Project Developer:
  - The work presented at this conference has been first class; and
  - Characterised by a genuine ethos of knowledge sharing.
- There is a sense that Technology Vendors are making significant progress as evidenced by:
  - the construction in recent times of many pilot-scale facilities (standalone and/or integrated with existing demonstrations); and
  - The availability of oxyfuel reference plant designs.
- There is also a deeper understanding and respect for:
  - The value of the R&D work that is being done, and still needs to be done, to support our high-minded ambition to deploy LECTs; and
  - The importance of higher education and technology transfer through the *Young Researchers Forum* and the *Capacity Building Course*.
- However, the big issue that still remains, is where to put the CO<sub>2</sub>!