

Asia-Pacific Partnership
Cleaner Fossil Energy Task Force
Grand InterContinental Seoul, Seoul, Korea
31 March – 2 April 2009

Update on the Callide A project

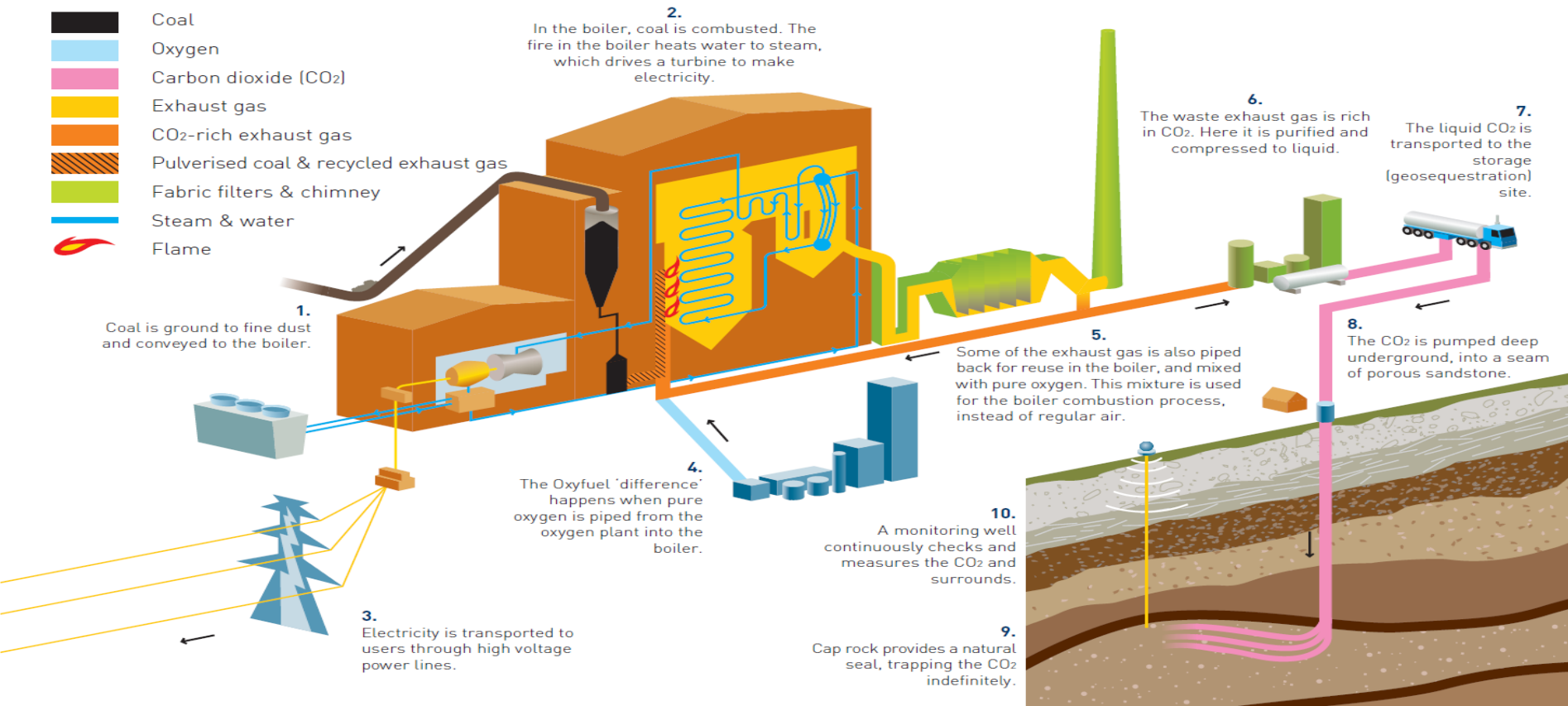
Takashi Kiga
Japan Coal Energy Center (JCOAL)



Callide
Oxyfuel Project

CFE-06-e5 Callide A Oxy-fuel Demonstration Project

This project will provide a world-first, fully integrated demonstration of oxy-fuel pulverized coal technology at 30 MW (electrical) scale, and capture and storage of up to 20,000 tonnes of CO₂ per year.



<http://www.callideoxyfuel.com>

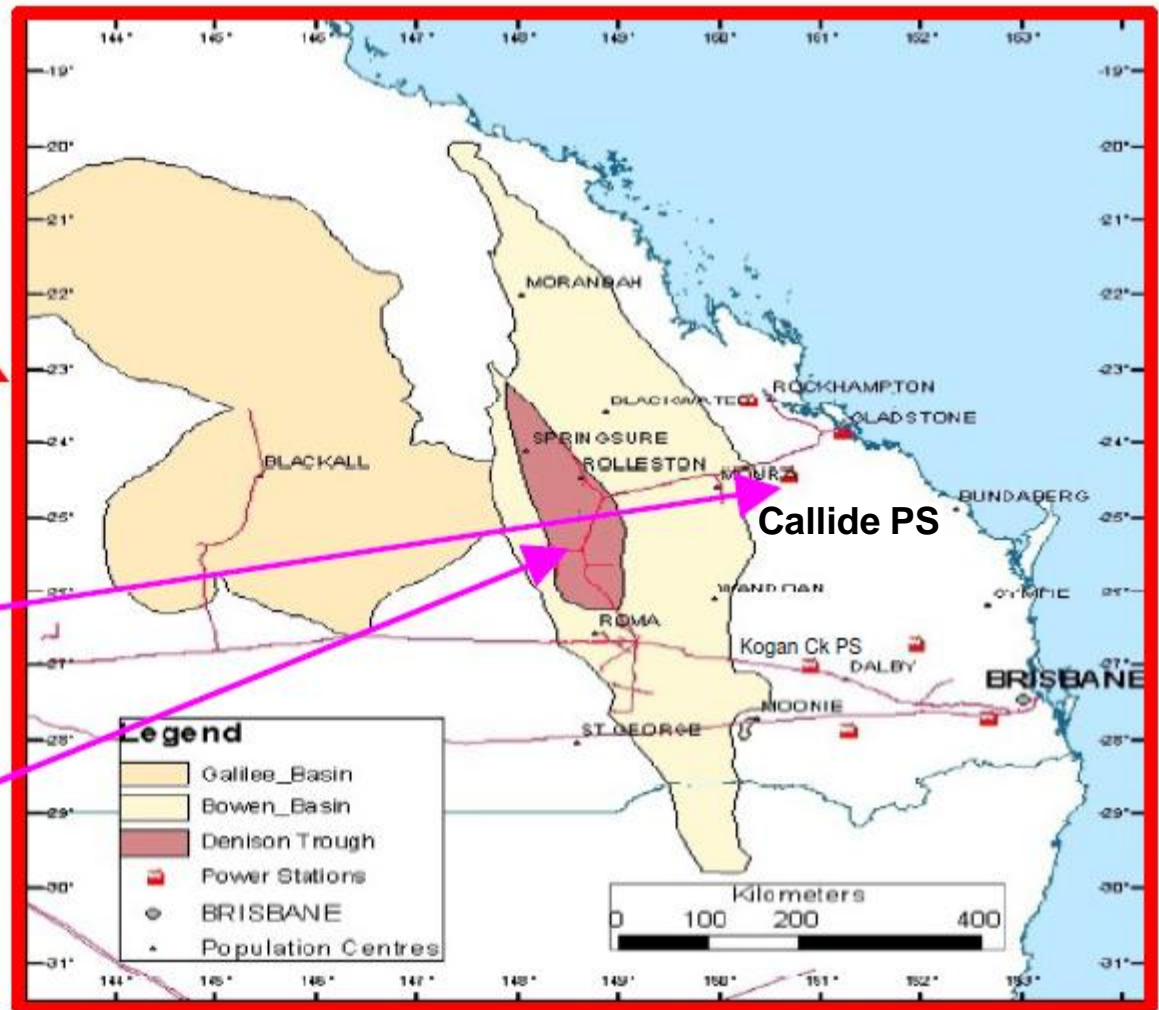
Callide
Oxyfuel Project

Project Site – Power Plant & CO₂ Storage Site



Oxyfuel Retrofit Site
Callide A Power Station
4 x 30 MWe Station
Steam 123 t/h at 4.1MPa, 460°C
Commissioned: 1965 – 69
Refurbished 1997/98

Potential Geosequestration Area
Denison Trough Formation



CFE-06-e5 Callide A Oxy-fuel Demonstration Project

Participation

The project is being managed by the Unincorporated Joint Venture (UJV) established for the special purpose to conduct the project.

Oxyfuel Project Partners



CFE-06-e5 Callide A Oxy-fuel Demonstration Project

Objectives

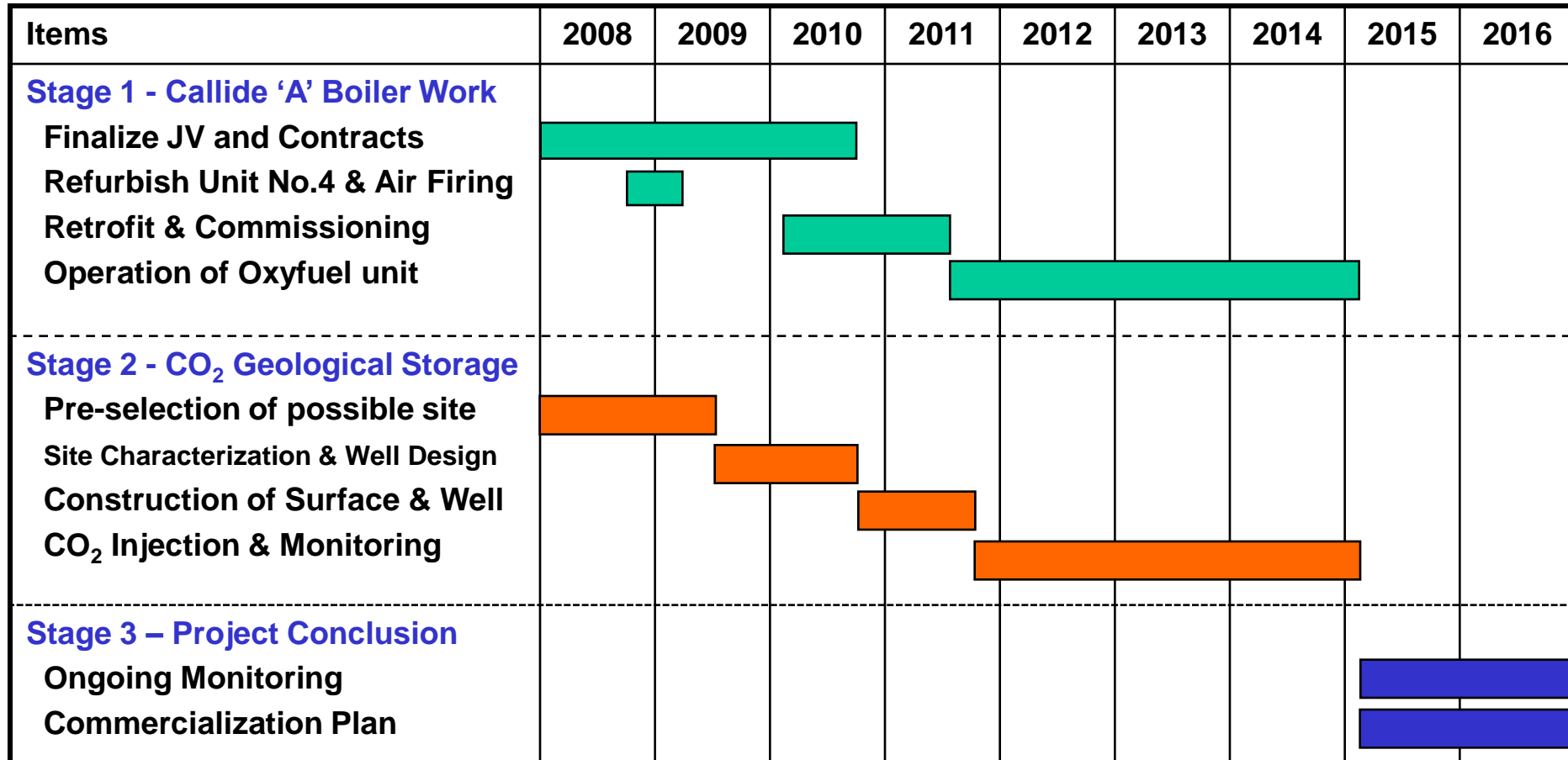
The Callide-A Project has three broad goals, namely to:

Demonstrate a complete and integrated process of oxyfuel combustion of pulverized coal, incorporating oxygen production, oxy-fuel combustion, CO₂ processing and liquefaction, and CO₂ transport and geological storage.

Obtain detailed engineering design and costing data and operational experience to under-pin the commercial development and deployment of new and retrofit oxy-fuel boiler applications for electricity generation.

Obtain detailed geotechnical design and costing data and operational experience to support the development of geological storage projects in excess of 1 million tonnes of CO₂ per year.

Project Schedule



Project Schedule

Milestones

- LETDF Announcement: 30 Oct 2006
- APP Flagship Project: 15 Oct 2007
- Signing JV Agreement: 20 March 2008
- Commence Refurbishment: Sept 2008
- Launch Ceremony: 14 Nov 2008
- Commence Air-firing: January 2009
- Oxy-firing: 2011 - 2014
- CO₂ storage & monitoring: 2011 - 2016



Launch Ceremony



General View



Flame



Control Room



Turbine Floor

Refurbishment and Air-firing

Callide
Oxyfuel Project

Next Steps

Following the two month reliability run starting in February, the project team will work on the oxyfuel conversion over 2009 and 2010. This includes:

- **Civil works**
- **construction of an air separation unit** for producing pure oxygen, which will be mixed with recirculated exhaust gases and fed into the boiler where the coal is burned
- **retrofit of the boiler with oxyfuel technology** to produce a concentrated stream of CO₂ suitable for capture and storage
- and **construction of a CO₂ compression and purification unit** for separating and liquefying the CO₂ before transportation to the geological storage site.