



## News from CCS TLM - March 2012

CCS TLM is the leading provider of integrated, expert consultancy, engineering and advisory services to the emerging CCS sector.

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## NEWS

### CCS TLM at Platts European Carbon Capture and Storage

CCS TLM were one of a select numbers of exhibitors at the Platts conference held on 27-28 February in London. Where the Keynote address was given by Charles Hendry MP, Minister of State for the Department of Energy & Climate Change. Charles Hendry stated that: Commercial deployment of CCS is required in 2020s; the UK Government are committed to being leaders of CCS deployment, not followers. There are 3 challenges:

- To reduce costs & risks – to become more cost competitive
- To develop a market framework to support CCS deployment, and
- The removal of key barriers.

**CCS TLM Chief Executive, Paul Bryant** was a member of the Panel Discussion entitled “Driving CCS forward – are we on course to deliver commercial availability by 2020?”. Some of the key points made were:

- 2020 is getting close. The projects that will be operating in 2020 are the ones that are being thought about now. If we are not thinking about too much now then we won't get much by 2020.
- All of the components exist. What we are missing is the integration and this is largely a matter of the will to do it.
- Current focus is on the power industry. This is understandable as this is where the bulk of the CO<sub>2</sub> is generated. Problem is that this industry is accustomed to a mature market for technology and low risk commercial environment. CCS has an oil and gas sector risk profile and struggles to thrive in a utility world.

## CCS TLM Expansion



CCS TLM are pleased to announce our continued expansion with the recruitment of **Lynn Andrews** who will head up our **Transportation and Offshore Consulting** sector. Lynn has over twenty years' experience in offshore and onshore pipeline design. Recent technology areas she has been involved in include carbon capture pipelines, LNG import, gas storage, ultra-deep water and planning and consents. Project locations have ranged from the south coast of England to Soliton-wave ridden Indonesian waters. As well as extensive design and project management experience, Lynn has held senior management positions with Andrew Palmers and Penspen Ltd, including developing Penspen's offshore pipeline capability for their

London office. Some of the projects Lynn has worked on include: Kingsnorth CCS basic design and planning; Port Meridian LNG Deepwater Port project; Medgas Algeria to Spain pipeline FEED and Blue Stream pipeline project. For further information click [here](#).



We are pleased to announce that **Donna Andrews** has joined CCS TLM to help with our expanding range of CCS training courses offered by the **CCS TLM Academy**. Donna has many years' experience in resourcing in the oil and gas arena and specifically for CCS and renewables. For more information or to contact Donna please call +44(0)203 463 8529 or click [here](#).

## INTEGRATING A CAPTURE PLANT

The integration of a post-combustion, absorption capture plant in a power plant design requires a delicate balancing act between revenue losses, costs and careful risk management.

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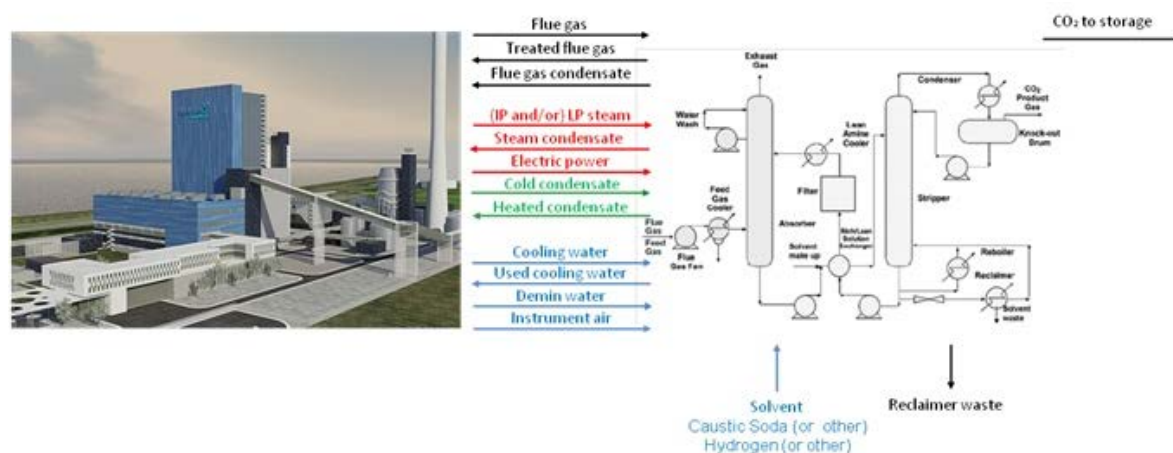


[Lynn Andrews](#)  
Transportation and  
Offshore Consulting



[Bryan Lovell](#)  
CO<sub>2</sub> Storage

The below figure shows the most important interfaces between the capture plant and the power plant.



To understand the relative importance of revenue losses and costs, it must be noted that the energy penalty – i.e. the steam and electricity consumption of the capture plant is not insignificant. Our experience tells us that a 1% change in this energy consumption has the same impact on the project economics as a 5% change in the capital cost of the capture plant.

Heat integration is an obvious way to reduce the energy penalty of absorption capture plants and has been pushed quite far in the context of the process industry. There are however good reasons to assume that heat integration will be less optimized in the power plant industry. Obviously, there will be a tendency to limit the complexity of the design of the capture plant as long as the technology is in its First Of A Kind phase. Heat integration in the FOAK technology is basically limited to heating condensates from the power plant. More importantly, heat integration will remain constrained in the longer term by the fact that power plants need to cycle.

Power plants cycle because electricity prices fluctuate in function of the demand. When demand is high enough, power plants operate at full load. Whenever demand is too low, power plants operate at minimum load or shut down altogether. In between, when the considered power plant is the so called marginal plant, it follows the variation of the load demand.

Flexibility, i.e. the ability to follow load demand, is probably the single most important criterion to decide between different technical options: What is the minimum load at which the combined power and capture plant can operate? , Can the combined power and capture plant cycle over all part load conditions?, Is the weighted energy penalty optimised over the different part load conditions?...

The team at CCS TLM in combination with Tractebel Engineering has considerable experience in understanding and managing these issues.

If you have any questions regarding any aspect of capture plant integration, please click [here](#).

*Jeroen Soenen, Head of Capture & Power Consulting*

## CCS TLM ACADEMY TRAINING

Bookings are now being taken for our course **'Carbon, Capture and Storage: A Field-Based Masterclass'** on **30<sup>th</sup> April-4<sup>th</sup> May 2012** in Dorset, UK which is being conducted in conjunction with **AGR TRACS Training** who provide technical and commercial training courses to the oil and gas industry and **Dr Bryan Lovell OBE**.

**The Field-Based Masterclass** in Dorset combines the specialised team from AGR TRACS with the academic excellence of NCCCS and the full value chain experience of the CCS TLM team. The course is unique all-encompassing training experience combining classroom sessions, case studies and field visits.

Delegates will follow the path of carbon from extraction from ancient rocks in the subsurface, through eager use by us, to capture and safe storage back in those same rocks. The course will study the spectacular exposures of rocks and real oilfield facilities and data, set in the demanding financial and legal framework of a World Heritage site. Participants will be supported by tuition in the technical essentials as they work through the logic of a full CCS scheme. For full information, click [here](#).

We are pleased to confirm our next **'Simplifying CCS'** open course will be held in Calgary on **9-10<sup>th</sup> May**. For full information, click [here](#).

More dates are planned throughout 2012 in various locations. We will keep you updated through this newsletter, alternatively please keep checking our [website](#) for more details.

Both courses are undergoing endorsement by the Geological Society and are supported by Dr Bryan Lovell OBE, Senior Research Fellow in Earth Sciences, University of Cambridge.

Fellows of The Geological Society receive a 10% discount on course fees.

## Related Links

[CCS TLM](#)

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[AGR TRACS](#)

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[ROAD](#)



To book your place or discuss your individual or bespoke CCS training requirements, please call +44 203 463 8529 or email [academy@ccstlm.com](mailto:academy@ccstlm.com).

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