Energy Transition Dialogues

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Damning' IEEFA report into CCS is too simplistic

The Institute for Energy Economics and Financial Analysis (IEEFA) CCS report has compiled a lot of numerical information, but the interpretations made are too simplistic, focusing on underperformance and not adequately analyzing why the successful projects perform well, and why underperforming sites are less effective. The track record from many tens of commercial projects, shows that CO2 separation works very well on pure gas streams from industrial sites such as refineries or methane burning. However, CO2 separation has worked with only partial effectiveness on combustion producing dirty flue gases at coal power plants or bio-energy plants.

The IEEFA report fails to make the extremely important distinction between capture, transport and storage, and the continual missing link that there is no market price to pay for CO2 injection into storage. The best price is usually given by the CO2-enhanced oil recovery industry, which is why the great majority of CO2 is sold for oil production. And where there is no purchase by oil production, the CO2 is vented – and lax local environmental regulation means the penalties are too light. One example could be the Gorgon project in west Australia, where the oil company is paying for emissions and has not fixed the technical problem of CO2 storage. That is counted as a failure of CCS by the IEEFA report, when it is really a failure of markets and regulation.

CO2 capture is established to work very well at industrial scale on streams of clean gases. Several examples are routinely operating to design specification where natural mixtures of CO2 and methane are separated to high purity. Examples which work exactly to design offshore include Snohvit and Sleipner in Norway, and QUEST in Alberta, where penalties for failure are large taxes, so a lot of attention is focused on ensuring that all the CO2 is injected to permanent storage. Examples of gas separation onshore include the Exxon Shute Creek site, where the IEEFA report shows up to 7 million tonnes/year are separated at one plant. If enhanced oil recovery operations do not pay for CO2, it is vented, and the IEEFA incorrectly counts that as a failure. ■

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