GAMAA

Gas Appliance Manufacturers Association of Australia

GAS Connections

How to burn natural gas without releasing carbon dioxide into the air

By separating the flue gas streams there is no longer any need to scrub the carbon dioxide from the flue gas thus saving a great deal of energy.

A team at the Vienna University of Technology (TU Wien) have found a way to burn natural gas without releasing carbon dioxide into the air, and scaled up the technology so it can be applied to large facilities.

While it is much cleaner to burn natural gas than it is to burn crude oil or coal, burning natural gas generates carbon dioxide, which has a detrimental effect on the climate. The carbon dioxide generated usually forms part of the flue gas mixture, together with nitrogen, water vapour and other substances. This mixed form cannot be viably stored or recycled.

Stefan Penthor, from the Institute of Chemical Engineering at TU Wien, is part of the SUCCESS research project looking into a special combustion method called chemical looping combustion (CLC). This process allows carbon dioxide to be isolated during combustion without having to use any additional energy.

"With our combustion method, the natural gas does not come into contact with the air at all, because we divide the process into two separate chambers," Penthor explained.

In chemical looping combustion, natural gas and air flow through different chambers, and a granulate made of metal oxide circulates between the two chambers, taking up oxygen from the chamber with the air, then moving to the natural gas chamber where it releases the oxygen, allowing flameless combustion to take place, producing carbon dioxide and water vapour.

The result of this separation means the flue gas from the process is divided into two separate streams: air with a reduced concentration of oxygen; and water vapour and carbon dioxide from the combustion process. Read the full article here

Challenges explained and solutions proposed at the Victorian Energy Forum

The Energy Users Association

With the Victorian energy market in a delicate state, how can you protect your business and ensure a reliable and secure energy supply?

The Victorian Energy Forum, a one day energy forum on July 26 at the Park Hyatt in Melbourne, will explore issues critical to Victorian energy users and present new strategies for business during a rapidly changing energy environment.

Forum speakers include Victoria's Shadow Minister for Energy and Resources, David Southwick MP, Lead Scientist, Amanda Caples, Mike Cleary, COO at AEMO, Ariel Liebman, Monash Energy Materials and Systems Institute, and Rob D'Alessandro, Head of Procurement and Supply, Qenos.

The Victorian Energy Forum will cover:

- what is being done to ensure adequate supply and security for the coming summer,
- longer-term strategies for managing prices,
- where the market is headed for gas and electricity, and
- what strategies exist for business in such dynamic and challenging times

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