

General Discussions. Session 2.

Ian Evans – what is the most efficient way of generating electricity from biomass?

Mike Welch – gasification combined cycle is best. However, there are still some challenges such as gas cleaning. Some problems are common to reciprocating engine-based systems and turbines, others are more specific. There will be a breakeven point where engines will be able to compete with combined cycle steam turbine plant. There are no easy answers - there will be a mix of technologies applied.

Abdullah Malik – is there a gas compressor available for high temperature gases?

Mike Welch – we have not identified one yet. The gas needs to be cooled down before feeding to the gas compressor. This is also the case for both reciprocating engines and gas turbines. This is a major issue especially for low CV gas; parasitic loads can be high.

Abdullah Malik – are there any processes for removing nitrogen from gas in order to increase its CV?

Mike Welch – this has been offered. Efforts have been made mainly in the oil and gas industry to strip CO₂ from natural gas. However, there are cost penalties. It does not appear economically feasible to strip nitrogen in this way unless for a very specific process that, perhaps, was associated with a high gate fee.

Francis Mosnier – is sewage sludge accepted as ‘biomass’?

Matti Nieminen – it is generally considered as a waste although the definition varies between countries. Sludge is considered to be a renewable energy source if energy can be recovered from it. i.e. gasification or combustion or with energy recovery.

Francis Mosnier – in Germany, sludge is considered to be biomass although this may change. There are many uncertainties.