edge UTILITIES

Green Gas

Much of the gas industry is looking towards hydrogen as the solution to de-carbonising the heating demand here in Australia and across the world.

The hydrogen gas solution does act like traditional gas in many ways however, there are potential flaws to trying to introduce this into existing infrastructure at any high blend percentages. The leakage rate is higher, embrittlement is a big problem on traditional pipes and to replace pipelines to more suitable plastic pipeline would be a huge undertaking both logistically and financially. Couple this with appliances in households not being ready to take this new source, it makes a high blend in domestic supply unlikely.

An alternative to this is Biogas, which is sometimes seen to be unattractive however has the potential to be very effective. This gas comes from anaerobic (Oxygen free) digestion of organic matter, this could be food scraps, animal waste, energy crops or sludge from wastewater treatment plants.

The gas is captured in the anaerobic digester, cleaned, and blended before being pressured to be injected straight onto the grid to go into electricity production or into homes. It can also go into filling stations for transport and can be significantly cheaper than diesel. On top of that, the gas provides low NOx and up to 70% less carbon dioxide emissions. The remaining output (digestate) is used as chemical free fertiliser.

It is estimated that Australia has a biogas potential of 103TWh or 371PJ based on an average biogas unit's output, and this could alone have a 9million T/CO2e benefit.