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Hydrogen Distribution

Regardless of where the hydrogen comes from, unless it is being used onsite, the issue of distribution must be considered. It can be transported via pipes but more often, it is transported in pressure vessels, in gas or liquid form conveyed by lorries. Truck fleets are currently used by industrial gas companies to transport seamless steel vessels of compressed, gaseous hydrogen for short distances (200-300km).

Transporting gaseous hydrogen via existing pipelines is a low-cost option for delivering large volumes of hydrogen. A major barrier to expanding hydrogen delivery infrastructure however, is the high cost of new pipeline construction.

Technical concerns over using existing pipes to distribute hydrogen include:

- * The potential for hydrogen to embrittle the steel and welds used to fabricate the pipelines
- * The need to control hydrogen permeation and leaks
- * The need for lower cost, more reliable and more durable hydrogen compression technology.

Research is continuing in these areas.

A potential solution involves using fibre reinforced polymer (FRP) pipelines. Due to them being available in sections that are much longer than steel, the installation costs for these are less as welding requirements are minimised.

Links to additional resources for this topic				
Distribution Student Powerpoint	Distribution Student Powerpoint Task	Distribution Extra Information for Teachers	Distribution Case Study – Linde Distribution Case Study - PcPhy	Kahoot Quiz