

Pipeline Asset Management in the UK Water Sector

Plenary lecture)

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The paper will provide some background to the UK water sector, including an overview of why it was privatised, and the work that has been done over the last 27 years. This will show that the focus through the Privatised era, has been on building new assets to enable the UK to catch up and comply with the relevant European legislation, rather than on managing its aging asset base.

Key facts:-

Water companies in England and Wales own

- ***340,000km of water mains***
- ***392,000km of sewers***

At the rate of replacement applied over the last 27 years it will take:-

- ***200 years to replace the water mains (much longer for trunk mains)***
- ***800+ years to replace the sewers***

30% of the buried water mains are ferrous (cast iron, spun iron, ductile iron or steel)

70% of the larger diameter trunk mains are ferrous

The water companies have been incentivised to efficiently deliver large, complex capital programmes. The government and regulators are now trying to incentivise the water companies to take a longer-term view; shifting the focus to managing the existing assets, whilst working out how to deal with the on-going challenges posed by rising populations and climate change.

The water main and sewerage networks are vast and funds are limited so smarter approaches are being considered, but these will only work if those interpreting the data and designing the systems understand what they are looking for. The water companies in the UK are widely considered to have a short-term cost driven culture and this will not change quickly. It is also important to note that the individuals with the relevant knowledge and understanding are in short supply.

In keeping with many of the other papers being given at the congress, the paper will also look at the researched and understood bacterial corrosion of sewers and how this affects sewers above the waterline. This will be contrasted with the less well understood corrosion processes behind the loss of invert in metallic wastewater rising mains that is causing problems on a significant portion of the UK's 33,000 wastewater rising mains – there are many interesting corrosion problems still to be resolved within the water industry.