

Non Revenue Water

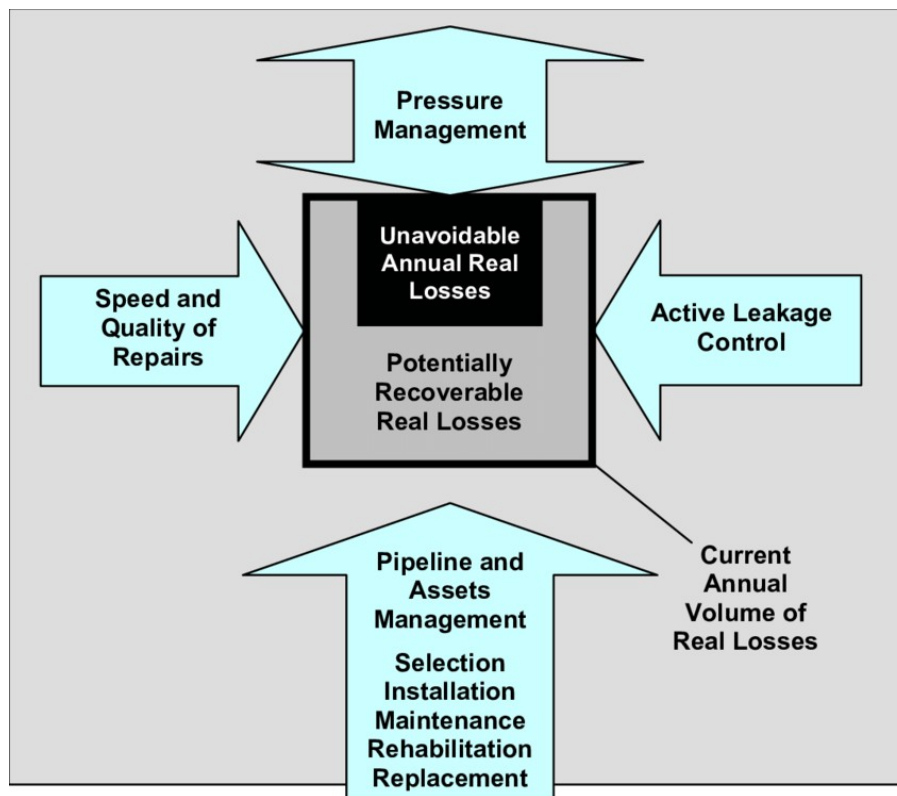
Ageing infrastructure and declining water resources are major concerns with a growing global population. Controlling Non-revenue water (NRW) is therefore a priority for water utilities around the world. The global volume of NRW has been estimated to be 320-350 million m³/day or 116-127 billion m³/year. Conservatively valued at only USD 0.31 per m³, the cost/value of water lost amounts to USD 36-39 billion per year.

NRW covers more than real system losses (leakages).

System Input Volume	Authorised Consumption	Billed Authorised Consumption	Billed Metered Consumption	Revenue Water
			Billed Unmetered Consumption	
		Unbilled Authorised Consumption	Unbilled Metered Consumption	Non Revenue Water
		Unbilled Unmetered Consumption		
	Water Losses	Apparent Losses	Unauthorised Consumption	
			Customer Meter Inaccuracies	
	Real Losses		Leakage on Transmission and Distribution Mains	
			Leakage and Overflows at Storage Tanks	
			Leakage on Service Connections up to point of Customer Meter	

IWA Water Balance

The Real Losses are the three categories of leakage. These can be reduced by several approaches, one of which is Pipeline Asset Management covering both mains and services, which includes Rehabilitation and Replacement.



PE100 pipes are an integral part of NRW reduction. PE has the lowest leakage rate of any commonly used pipe material when measured in leaks/km/year. Unlike many other pipe materials, PE does not corrode therefore does not suffer from corrosion failures. A completely PE system, both pipes and fittings, provides the lowest risk of NRW in a water supply network.

PE100 pipe is also an essential component of several trenchless methods that are used to achieve the reduction of NRW through rehabilitation or replacement:

- Pipe bursting and pipe splitting
- Sliplining
- Close-fit lining
- Pipe reaming
- Pipe extraction

A helpful source of information on NRW is: [Home - Global NRW - Global NRW](#)