



IS YOUR COMPANY POURING MILLIONS DOWN THE DRAIN?

*“WE
ACHIEVED
SAVINGS OF
\$3 MILLION
PER YEAR
AT ONE
CHEMICAL
FACILITY.”*

Water is a vital and seemingly cheap resource for industrial facilities. However, it is a mistake to think that its cost to your business is what appears on your water bill. Instead, businesses need to understand the many ways water interacts with their industrial processes because when you add together the costs associated with treating and moving it around a plant, water is not cheap.

THE TRUE COST

Companies that investigate the true business costs of water can find that they are pouring millions of dollars down the drain.

This is illustrated by a study Arcadis carried out for a global chemical manufacturing company across its US production sites. We identified ways to reduce the annual water consumption in just one of this

company's plants by 17% - more than 791,000m³ every year, enough water to fill 300 Olympic-size swimming pools.

When linked costs - such as lower energy bills - were taken into account, the measures we proposed saved this plant more than \$3 million a year. The cost of implementing them was just \$760,000.

Reduced water usage saves on the energy needed to pump, heat and cool it at different stages of the industrial process. It also cuts the amount of chemicals used in manufacturing processes, such as coolant, degreasers, and acids and it reduces both the chemicals and energy used for water purification prior to onsite use, as well as for onsite wastewater treatment.



“IT MIGHT NOT BE JUST MONEY THAT YOU’RE POURING DOWN THE DRAIN. IT COULD BE YOUR REPUTATION TOO.”

REDUCE, REUSE, RECYCLE

When you only use water once in your industrial process, you are allowing all of the money spent on energy and treatment chemicals to go down the drain.

To stop this happening, various measures to reduce, reuse and recycle water can be adopted, such as recycling boiler feed and cooling tower water, and reusing the water used for cleaning manufacturing equipment.

However, many companies never take such steps because simple water audits fail to take into account how this vital liquid affects every part of the business. This means the true cost of water isn’t identified, and the need to make the necessary investments isn’t spotted. Or worse, proposed water efficiency measures are rejected because they don’t make financial sense.

BLITZ YOUR WATER

The way we helped this chemical manufacturing company – and many of our clients – identify water efficiencies that can be financially justified is by employing a method known as Water Kaizen Blitz. The “blitz” part is a short intense dive into understanding how water is used onsite. At its heart is a collaborative approach that brings together people from every part of the business.

Carefully structured teams are created to include a mixture of onsite and non-site personnel. Onsite personnel will include maintenance staff, who have detailed knowledge of the facilities and the manufacturing

operations. Non-site personnel will include experts in processes and technologies for reducing water use, including water treatment technologies.

At the US chemical plant, water and utilities cost data was collected to develop a “total cost of water” for the site. Three onsite teams were then given three days to carry out a Water Kaizen Blitz. By delving into every part of the plant’s operations, the teams were able to identify 12 project opportunities with a return on investment of less than two years, saving more than \$3 million a year.

It isn’t only large facilities like the US chemical plant that benefit from this technique. Smaller manufacturing sites can also make sizeable gains by delving deeply into their water usage.

For example, when identifying ways of reusing water with a pharmaceutical company in Ireland we generated annual savings of over \$167,000 for an investment of just under \$189,000, meaning the company saw a return on its investment in less than two years.

CORPORATE RISK

Many companies are waking up to the true cost of water, and not just in terms of how it affects manufacturing processes. Reputational and strategic risk associated with water use are increasingly being recognized as having tangible financial consequences for companies that fail to tackle them.

Water now frequently features in corporate risk assessments conducted for investors. In the

bonds markets, models such as the UN’s Corporate Bonds Water Credit Risk Tool apply a shadow price for water to depict its true value over and above its purchase price.

The tool combines water risks with a company’s water use and financial figures, and evaluates how water stress would impact the company’s debt-to-income ratio, which in turn influences its bond rating. Even if your company isn’t seeking investment, in many countries water efficiency targets are now becoming legal regulatory obligations and failure to meet these targets typically result in financial penalties.

GUARDING A SCARCE RESOURCE

The wider context for all of this is that fresh water is becoming an increasingly scarce resource. In 2015, NASA’s satellite data revealed that a third of the world’s large aquifers are severely water-stressed and, according to the World Economic Forum, global water requirements in 2030 are projected to be 40% above sustainable water supplies.

The global population and developing nations are growing so fast that soon there may not be enough water to go around. And company shareholders and boards are starting to recognize the strategic risk associated with being seen as a business that wastes water.

It might not be just money that you’re pouring down the drain. It could be your reputation too.

For more information, contact us:



Martijn Karrenbeld

Global Sector
Leader, Chemical &
Pharmaceuticals

E martijn.karrenbeld@arcadis.com

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www.arcadis.com