



AquaVoda

**Water – An Infinitely  
Renewable Resource**

# Water – A Finite Resource

- The same water on the planet now than there was a million years ago.
- In another million years there will still be the same amount of water on the planet.
- Total water on Earth has a volume of around 1.3 trillion cubic kilometres.
- We have all the water we will ever need.

# Water – Why Worry?

- Water scarcity is real.....and it's not.
- Water itself is not scarce, but readily usable water is.
- Increased population means an increasing competition for that usable water.
- No industry can afford to be seen to be wasting water.
- No industry can be seen to be polluting this resource.
- Industry will be forced to show they are efficient users of water and they are responsible custodians of that water.

# Water – The Good News

*There is nothing that can be done to water that cannot be undone!*

# Water – Is Water

- We often talk about different types of water.
- Potable water, cooling water, wastewater, process water.
- What differentiates one type of water from another has nothing to do with the water, but what is in it.
- Water is water.

# Water – What's in it?

- Solid things, dissolved things, living things and energy.
- All water treatment is about reversing one of those four things.
- Technology now exists to turn any quality of water into usable water, no matter how contaminated it might be.
- Re-using water doesn't always stack up commercially.
- Re-using water almost always stacks up from a risk perspective.

# Water – What is Possible?

- It is technically possible to for any industry to use the same body of water again and again and only top up what they lose in evaporation or as part of their product.
- One of the four things, solids, dissolved material, living things or energy will limit how much can be recycled in an economically viable way.
- The recycle loop doesn't have to be infinite. Recycle water just once and you halve your water usage.
- Recycle twice and you have cut your water usage by 75%

# Wastewater – Is it Waste?

- We are entering the third phase of wastewater treatment.
- What in your waste stream has value?
- Advances in Nutrient Recovery are growing rapidly.
- Advances in Anaerobic Digestion are increasing rapidly.
- The potential is there to create an additional revenue stream from your waste.
- Resource recovery is also a risk reduction strategy.



# Water – New technologies

- Permanent membranes.
- Nanofiltration.
- Capacitive deionisation
- Electrolytic disinfection.
- Nutrient Recovery.
- Anaerobic Digesters.

# Where To Start?

- Become aware of your water usage.
- Ask yourself the hard questions.
- Will this water always be available?
- Am I using it in the most efficient way?
- Will access to usable water be a risk to my business?
- Map your water footprint.
- Determine what will be your limiting factor for re-use.
- Look for the value in your waste.

Water

*Is a finite resource.*

*An infinitely renewable finite resource.*

Questions?