

## Power & Water

Power & Water (P&W) is an award-winning UK based technology company pioneering the design and manufacture of Sono-electrochemical water treatment products and systems – **Soneco**<sup>®</sup>. Soneco is an innovative treatment process combining electrolysis and ultrasound to generate reactive treatment reagents and oxidative radicals, directly from electrode plates. P&W works directly with utilities, Mining, Process and Industrial companies, providing technical support for plant design, integration, operation and after-sales software and support.

## Soneco<sup>®</sup> and our Markets

Combining both electrolysis and ultrasound in a single, modular design adds to the versatility of Soneco<sup>®</sup> to create a process that is effective and highly efficient. Its compact design makes it the ideal choice where available space is limited, whilst its modular construction caters for much larger treatment requirements. Soneco<sup>®</sup> can be installed as a stand-alone system, easily integrating to existing treatment set-up or used in conjunction with several proprietary processes offering truly unrivaled environmental performance.

The Soneco<sup>®</sup> process can be programmed to treat a wide variety of waste streams simply by altering the parameters within the control unit and changing the electrode material. The following process reactions can occur:

- **Sono-EC:** Electro Coagulation (using Iron and Aluminium Plates)
- **Sono-HDX:** Electro hydroxide (using Magnesium Plates)
- **Sono-AOP:** Advanced Oxidation Process (using Mixed Metal Oxide [MMO] Plates)

### Utility Companies



### Industrial Processing



### Aquaculture & Fisheries



### Mining & Groundwater



## Soneco<sup>®</sup> Treatment Processes

- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>• Phosphorus Removal</li> <li>• Water Recovery</li> <li>• Water Re-use</li> <li>• Nutrient Recovery</li> <li>• Process Enhancement</li> <li>• Sludge Enrichment</li> </ul> | <ul style="list-style-type: none"> <li>• Grey Water Treatment</li> <li>• Clays &amp; Colloids Removal</li> <li>• Solid Separation</li> <li>• Trade Effluent</li> <li>• Oil Water Separation</li> </ul> | <ul style="list-style-type: none"> <li>• Nutrient Recovery</li> <li>• Ammonia Reduction</li> <li>• Organics Removal</li> <li>• Water Recovery</li> <li>• Water Re-use</li> <li>• Sludge Conditioning</li> </ul> | <ul style="list-style-type: none"> <li>• Liquid-chemical free pH adjustment</li> <li>• Neutralisation of Acid Mine Drainage</li> <li>• Metals Removal</li> <li>• Recovery of Fines</li> <li>• Groundwater Remediation</li> </ul> |
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## Sector Benefits using Soneco®

### Utility Companies

- Validated for P removal
- Additional contaminant removal benefits
- Low operator & maintenance needs
- Minimal downtime
- Flexible control options
- Reduced risk of iron permit failures
- Environmentally-safe
- Future-proof solution

### Industrial Processing

- Flexible control allowing easy site optimisation
- Reduced transport and on-site health and safety concerns
- Discharge can be monitored and controlled
- Simple and adaptable treatment

### Aquaculture

- Increase in production opportunity
- Reduced sludge volume and transport requirements
- Suitable for sensitive areas (AONB, SSI etc)
- More sustainable waste management
- Key element in the Circular Economy

### Mining

- Suitable for rugged, remote locations
- Wide treatment potential
- Safer means to treat acid mine drainage
- Potential to power using renewables

P&W's success has been built on continuous product and service innovation, originating from our own R&D and associated academic and industrial partnerships.



**We offer** an Affordable, Sustainable, Environmentally Safe Solution for Water Treatment

**We provide** expertise and experience in the supply of modular, liquid-chemical free equipment and solutions.

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