



# Creating Water & Renewable Energy Solutions for Islands, Coastal & Remote Communities

**Avanale**   
Water Solutions

**Avanale**   
Renewable Energy



## Customers

### > Municipal customers and water authorities

- Hospitals, including dialysis units
- Gov't agencies

### > Commercial customers

- Tourism
- Resorts & Hotels including golf courses

### > Industrial customers

- Mining
- Food & beverage including
- General industry and manufacturing, car washing

## Creating Water & Renewable Energy Solutions for Islands & Coastal Communities

### *Securing water and minimising environmental impact is essential*

The need for sustainable solutions is recognised as the only way to go forward around the world. Generating power from solar combined with "smart design" of water treatment technology, not only saves money long term, but reduces the environmental impact.

The requirement of water security due to Climate change, droughts, floods, groundwater salinity, overuse of aquifers, rising sea water levels, rainfall variability and El Nino/La Nina climatic events have a direct impact on the availability of water resources for islands and coastal communities.

We work in partnership with you to guarantee that your water quality and availability meet your expectations.

Our wide range of equipment and process expertise meet specific requirements of municipal, commercial and industrial customers.

#### Our strengths in the Pacific region:

- > Active presence for over 20 years within the region.
- > Guaranteed high quality of products, equipment and Water Specialty Chemicals, meeting stringent international standards
- > Water solutions suitable for sensitive environments (coral reefs, marine and natural parks, rivers etc)
- > Experience in working with government agencies and local governments
- > We only supply robust and reliable equipment requiring minimal maintenance and easy to operate
- > Skilled team in Renewable Energy & water treatment processes and equipment
- > Customised training for local technicians and operators on service and maintenance of equipment

#### We can provide:

- > Treatment for sea water, groundwater and brackish water for producing high quality drinking, process or irrigation water
- > Treatment of wastewater to remove BOD, Suspended Solids, bacteria and viruses, & other contaminants for safe discharge or reuse
- > Expertise in membranes and remote monitoring
- > Standard packaged water and wastewater treatment plants and engineered systems
- > Service, maintenance, training & chemical solutions
- > Renewable Energy products such as Solar panels, inverters, Solar powered LED street and security lighting, energy saving air conditioners.



# Technologies



## Reverse Osmosis desalination units for brackish water or sea water

- Containerised or skid-mounted reverse osmosis mobile units for water desalination or water demineralisation
- Quick & easy to install, meeting international standards
- Wide range of models available
- Solar assisted and energy recovery options available

## Sewage Treatment – conventional and solar powered

- Simple and robust installation to treat wastewater treatment problems through aerobic digestion for small and medium-sized communities utilising RBC technology
- Modular, pre-fabricated system, easy to install & cost effective
- Solar powered options available



## Specialty Water Treatment Chemicals & UV Reactors

- Antiscalants
- Membrane cleaners
- Disinfection – chemical and UV



## Water Testing Equipment

- Hand held water proof Photometers
- Full range of easy to use test strips
- pH meter Turbidity and Conductivity meters



## Spare Parts and Consumables

- Full range of quality spare parts and consumables including RO Membranes and cartridge filters.



## Solar Panels

- Full off grid systems as well as individual panels and inverters
- We also provide a complete range of installation hardware from world leading manufacturers.
- Full design services available
- Full installation provided
- Easily integrated with your water treatment plant, factory or house



## Maintenance & Service Agreements, Training

- We can tailor maintenance and service agreements, as well as customise training to suit your specific site and needs
- Based on our experience, we can also provide valuable advice on the complete water cycle, meeting your specific site requirements

# Case Studies

## > Provide Safe Drinking Water Through Desalination

### Containerised Sea Water Desalination Plant

#### **PNG – Regional Processing Centre – Australian Government**

- Design & Build contract for the supply of a containerised reverse osmosis plant to supply drinking water including disinfection.
- Capacity –800,000 litres per day with energy recovery.
- Short lead time required and achieved.



### Brackish Water Reverse Osmosis Unit

#### **• Nauru – Capelle & Partners**

- Design, Build Brackish water reverse osmosis unit to supply drinking water for their supermarket, rental accommodation, ice machines and food preparation areas.



## > Refurbishment of old Reverse Osmosis Units

### Nauru Utilities Desalination Units

#### **• Nauru Utilities Corporation**

- Capacity: 3 x 110 kL/day
- 3 x 10 year old units required extensive refurbishment. Avanale was successful in tendering to refurbish 2 x containerised units and 1 skid mounted unit.
- Water quality and improved reliability of the equipment was achieved.
- Funding by AusAID.



### Nauru Health – Dialysis Units

- **Dialysis unit RO system for the production of Dialysis quality water.**
- Replacement of reverse osmosis system for Dialysis.
- Improved water quality to patients, improved reliability, improved water quality & power efficiency.



## > SUPPLYING SPECIALTY WATER CHEMICALS TO IMPROVE RELIABILITY

### Capelle & Partner - Republic of Nauru

- Replacement of existing reverse osmosis unit.
- Supply of Chemicals (antiscalants & cleaning chemicals ) to reduce biological fouling and scaling of the membranes.
- Reduction of operating costs by over 75% after using our Specialty Water Chemicals.



## > PROVIDING TRAINING, CONSUMABLES & WATER TESTING EQUIPMENT

### Ongoing Support and Service

- Bali – Supply of photometer and test strips.
- Nauru – Provide training, service, photometers & consumables.
- Kiribati – Supply of consumables.
- Australia – Supply of Consumables, Photometers & Test Strips to Health Departments & various industries.

# A Snapshot of our Products and Consumables



A wide range of photometers for more precise water testing of multiple parameters



Avanale has a large range of inexpensive quality test strips made in the USA



We have a large range of RO membranes at discounted prices



Solar panels and accessories from the world's leading manufacturers



Quality cartridge filters of all types and sizes at warehouse prices

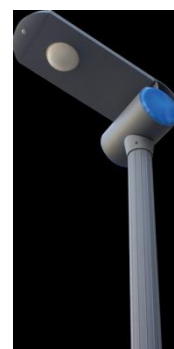


Containerised & skid mounted reverse osmosis systems



Waste Water treatment Plants

Solar powered LED security and pathway lighting





# Avanale Water Solutions

## Creating Water Solutions

# Avanale Renewable Energy

## Creating Renewable Energy Solutions

We provide Design & Build capabilities, custom & standard skid systems, Equipment Supply, Mobile Plants, Specialty Water Chemicals, as well as Consumables, Maintenance & Service agreements.

In addition to our own design and build capabilities, we offer quality products from companies such as

Sonepar  
Suntech  
CNP  
Grundfos

DuPont  
DPA Solar  
Pylontec  
BYD

We create water & renewable energy solutions for drinking water, industrial process water and wastewater aimed at municipal, commercial & industrial customers, including agricultural, Medical and Hotel Resorts.

*For all inquiries on our offer for islands, please contact: Philip Battey, CEO*

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