The client and market

We are working with a **developer and supplier of equipment for the sustainable supply of safe drinking water in remote areas**. Many remote island communities or those in conflict areas do not have access to a consistent supply of fresh drinking water or a reliable energy source to allow water to be created where it is needed. There is therefore a need for technology to **transform non-potable water (polluted, waste, grey, brackish or seawater) into safe drinking water**. Reverse osmosis (RO) systems are currently used in large desalination infrastructure projects, but are unsuitable when access or power is restricted, or if supply is required in a short time-frame. **Membrane distillation (MD) processes** are increasingly being investigated as a potential alternative to RO for these scenarios. The process **relies on the partial pressure difference (triggered by a temperature difference) between each side of the vapour-selective and hydrophobic membrane pores**. These pores are larger than in RO systems, resulting in less pressure, and subsequently less energy required, which facilitates the use of resulting MD systems in remote, off-grid locations with renewable energy sources.

The search

Membrane distillation is an ongoing area of development and the client is interested in identifying either: -

1 - Companies or research groups able to help scale up production of membrane distillation systems for deployment globally

They are therefore looking for the following: -

- Supply of modular membrane distillation units (for varying output systems) utilising: -
    - Air Gap MD (AGMD)
    - Permeate Gap MD (PGMD)
    - Liquid Gap MD (LGMD)
- Suppliers of membranes interested in development of new MD units
- Technologies for the cost-effective production of MD units

2 - Alternative thermally-driven water production technologies for further development

All technologies should enable the following: -

- Small footprint/compact and modular units (complete system to fit 20 or 40ft shipping container)
- High energy efficiency and high output
- Use of renewable energy sources

Appropriate products or technologies could come from those involved in desalination or those manufacturing and processing sectors requiring onsite water purification or liquid concentration – i.e. textiles, food, pharmaceuticals.

What the client can offer

Our client has excellent routes to market channels including: governments, NGOs and commercial companies, all of whom are looking for energy-efficient water supplies from seawater, or polluted or waste water. The company is carrying out ongoing development work and has the ability to incorporate innovative technologies into their commercial products. They are therefore interested in **potential collaboration with research groups developing technology, those looking to commercialise relevant technology and companies able to supply modules or components for their systems**. The company will consider all potential solutions, but is most interested in those solutions that have been proven in some way (including lab concept, pilot plant and industrial application). Companies manufacturing MD units or components should be able to demonstrate their ability to produce pilot scale at least, and ideally should offer a reliable supply in the next 12 – 24 months. Please send any preliminary information on any potential solution or partner to:- Diane Kolonko, via diane@strategicallies.co.uk