



Case Study: Oneka Technologies Wave- Powered Desalination System

CLIENT: Oneka Technologies

BACKGROUND: Oneka Technologies (Oneka) has developed a wave-powered, seawater desalination technology that has potential to provide remote coastal communities access to critically needed drinking water without the need for grid power (and associated greenhouse gas [GHG] emissions). This technology won the Grand Prize in April 2022 at the U.S. Department of Energy’s Waves to Water Prize based on the excellent performance of its system - highest water production, best water quality, and fastest assembly/deployment. It represents a dramatic alternative to conventional desalination designs and market penetration in places like California requires streamlining the permitting process and identifying municipal partners with a water need.

CHALLENGE: Permitting of conventional seawater desalination projects in CA can be challenging. The main concerns are impacts to marine life at the intake and discharge as well as energy use (GHG emissions). Technologies with solutions to these concerns are likely to experience a smoother permitting process; however, open and clear communication with regulators is still critical to that process.

APPROACH: TWB and Miller Marine Science and Consulting, Inc (MMSC) partnered to assist Oneka in the roll-out of their technology to CA regulators. Efforts also included the development of a demonstration project scope with the City of Fort Bragg, CA who is interested in the technology for providing potable water to their City which has experienced critical water needs in the recent past. With previous experience working with the City, TWB was able to recommend a focused approach that fit with their Blue Economy initiative.

SOLUTION: TWB and MMSC provided the following to Oneka:

- Regulatory roadmap memo – highlighting all necessary permitting requirements for deployment of their technology in California
- Permitting outreach memo – highlighting our recommended approach for engaging vendors based on our previous experience with other desalination proponents
- Grant application – developed and submitted all grant materials for a \$1.5 million grant for a

pilot project in the City of Fort Bragg. The pilot project seeks to permit and install a single buoy, monitor its performance over a 12-month period, and collect relevant environmental data to aid in any future full-scale installation. The grant has been recommended for award by the CA Department of Water Resources.

