**Pendulum Power and Water Executive Summary**

Pendulum Power and Water (PPaW) has developed a renewable, non-carbon emitting electric generation and water production technology that addresses some of the most critical issues facing clean energy policy makers in the quest to meaningfully reduce carbon emissions while also addressing climate impacts on our natural landscapes (especially wildfires) and the need for affordable power and water. PPaW’s units use gravity and compressed air to create power and via heat release also produce water as a byproduct. These power systems provide a response to the following emergency, resource, policy, reliability and economic issues, among others:

* PPaW units are portable and can be either interconnected to the grid or used as standalone microgrids or emergency power (and water supply) sources for emergency operation or as backup power at critical facilities in lieu of diesel generators (and support building electrification and zero carbon buildings);
* PPaW’s technology is renewable, baseload and flexible energy that is economical and enhances reliability in every location without depleting natural resources or adversely impacting natural landscapes, creates an additional water supply, and is zero carbon emitting in operation;
* Sustainably produces new water supplies in quantities that support emergency, agriculture and domestic needs without stressing natural resources, including aquifers and rivers;
* Cost effectively reduces greenhouse gases from the atmosphere, utilizing those sequestered gases in beneficial non-release processes.

**PPaW** is an innovative, scalable system that generates clean renewable electricity without the use of fossil fuels. It produces water in scalable quantities to deliver untreated water for agricultural use and to deliver treated, potable water for domestic uses. It sequesters carbon dioxide from the ambient air for uses in non-release processes. The small footprint and independence from fossil fuels and non-disturbance of natural conditions of PPaW installations allows them to be sited at any location. A freight container sized unit can generate up to 1 megawatt (MW) of electricity 24/7and can be ramped up or down as needed; and produces 1,000 gallons of water/hour and 25.52 acre feet of water annually per containerized unit.

**PPaW Operational detail**

PPaW utilizes the power generated by gravity in a pendulum application to compress air for use in other integral systems to compress extensive quantities of air to drive the operation of electric generators. The innovative, dynamic compressor designs have few moving parts, which reduces maintenance and the amount of power needed to compress air. Air supplied to the compressors is processed through condensers to extract water vapor (humidity) from the ambient air and collect the liquid water for additional filtration and treatment processing for domestic uses. The air once compressed is processed for sequestration of carbon dioxide.