

Business Case

Name of Co: Waveberg Development

Technology on which company is based: wave energy conversion

Funding Stage: Venture round

Business and Business Model

1. **Inception:** When was your company created? 2004
2. **Value Proposition:** Waveberg has a low-cost wave energy converter, which can function in smaller waves than the competition. We are far cheaper than diesel fuel for electricity production for islands. The device is far simpler than most of the competitors; the Waveberg is a large surfboard with arms to floats, and as the floats go up and down, they pump seawater through pipes to shore. Power conversion happens on shore.
3. **Current Structure:** Sole proprietorship, will incorporate once funding is obtained.
4. **General Description:** Waveberg has a patentable wave energy system. We need to prove it works at full scale, by building a series of larger models for ocean testing. Then we will partner with local project developers to develop wave farms. The company will receive an immediate income through sales of the units and an enduring share of profits from the projects.

Product

1. **Product:** Power from waves, as electricity, desalinization or aquaculture.
2. **Function and Benefit:** Most wave machines are high maintenance, like windmills, and require large waves to function. Waveberg is low maintenance, therefore low cost, and also functions in every day waves. The power production is uniform and synchronized, so the Waveberg is most valuable in low resource settings like islands.
3. **Development Stage:** The Waveberg has been tested at small scale in wave tanks, which are the accepted tool for this verification. Economic and engineering analysis is advanced. We need investment for scale-up, which is a series of engineering steps.

Competitive Position

1. **Competitors:** There are many wave energy conversion technologies at all stages from concept to pre-commercial demonstration. Leaders include Pelamis, which had three machines break down in Portugal, Aquamarine Oyster, with demonstration plans for next year, Ocean Power Tech. of New Jersey, with reported cost per kWh of 15¢ and Oceanlinx, which has a ¼ scale demonstrator being battered off Australia.
2. **Edge over competition:** The Waveberg is simpler, lighter and cheaper than any competitor we are aware of. Our costs installed project at cheaper now than wind turbines on a per kWh basis.
3. **Sustainability:** Even though we are the cheapest now, the real race starts once somebody demonstrates that wave energy really works. We will engage in continual improvement and already have plans for new features.
4. **IP Protection:** We currently have a valid US patent, a PCT application for an amplifier and a whole new worldwide patent application to file.

Markets

1. **Target Market:** Three European countries are subsidizing wave energy with feed-in tariffs of 22¢ to 45¢ per kWh, which yields gross profits of \$2 million per MW installed, or payback times of 2 years; there are 100 MW of readily available projects, achievable within 5 years. The Pacific Islands need a GW of power just for growth; they will yield gross profits of \$1 million per MW. Waveberg anticipates revenues to grow to one billion annually within 12 years.

2. **Barriers to Entry:** The key market barriers to outdistance the competition are patents in all coastal jurisdictions, using local partners to finance and get project approvals, and continual improvement.

3. Customers

Our immediate customers are project developers and local utilities. We are in touch with two developers in Ireland specifically interested in wave energy. We have strong connections with Dr. Sarmento, head of the Wave Energy Research Center in Portugal, which started and advises on the Pilot Zone there, a designated site for pre-commercial arrays to be installed with minimal permitting. We are also on the bidders list for 100 MW of non-firm power for HECO, the main utility on Oahu Island, Hawaii.

Overall, Waveberg is a promising technology in a seemingly crowded field. However, we have cultivated relationships with the key opinion leaders in the field, from Roger Bedard at EPRI to Brian Holmes at HMRC, Cork Ireland. It turns out the field is full of empty promises, so that the Waveberg stands out as highly relevant. Our testing program is executed carefully and rigorously and we can support our claims with data. Given a modest investment, we can catch up to all others and become leaders in the field, which will probably be a “winner-take-all” scenario. I look forward to a hearing and the opportunity to present to the conference, and especially to finding investors.

Paul T. Wegener, President

Waveberg Development

73 West 47th Street Unit 3, New York City, NY 10038
tel (212) 354-6199 fax (212) 354-6412 cell (212) 882-1788
www.waveberg.com