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Business Plan Summary, Dec. 2010

Introduction

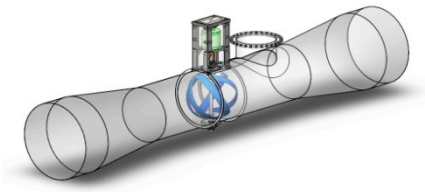
Lucid Energy Technologies, LLP (Lucid), a clean tech start-up, has created a power generating system for large-diameter water transmission pipelines that will revolutionize power production from a water utility's existing pipeline infrastructure. *Northwest PowerPipe* ™ (NWPP) is an in-conduit power system developed with Northwest Pipe Company (NWP), the leading U.S. manufacturer of large-diameter pipe.

Problem

Enormous amounts of energy are expended every day throughout the world to source, treat and distribute water to thirsty population centers and agricultural regions that in many instances are suffering from a scarcity of water. For example, in California approximately 7.5% of all electricity used in the state is dedicated to water conveyance alone. Water agencies typically purchase power at significant expense from the grid, which is largely dependent on generation from fossil fuels.

Solution

NWPP is based on an innovative vertical axis spherical turbine designed for deployment inside large diameter gravity-fed water transmission pipes ≥ 24″. It produces energy by harvesting a pipeline's excess head pressure with virtually no impact on volumetric flow, which means it does not interfere with water delivery. This is a key point of differentiation from competing technologies that deplete virtually all pressure from the pipeline and interfere with water delivery. A typical NWPP system with a single turbine/generator unit can produce 20-30 kWs, and because multiple turbine/generator units can be deployed in the same section of pipe, power production in a pipeline can be scaled to the amount of available excess head. For more information about NWPP *see*: http://www.lucidenergy.com/.



Business Model

Lucid will be the original equipment manufacturer (OEM) of NWPP systems. However, during the *beta* phase of development, Lucid will develop NWPP installations in conjunction with water agency customers by providing the necessary project capital and retaining ownership of the systems until each is commercially viable. Rather than purchasing hardware these customers will purchase power under power purchase agreements. These early installations will allow Lucid to validate NWPP in the market. Following this period, Lucid will utilize all available sales channels including sales via NWP's field force, direct OEM sales to end-use customers and a managed mix of relationships with engineering firms, construction companies and renewable energy project developers.

Market

Market conditions and trends are ripe for NWPP: water agencies use large amounts of energy; they are under increasing pressure to cut carbon emissions; water scarcity, population movements and growth necessitate new water transmission pipelines; and existing lines are old and in dire need of repair. The EPA estimates in the next 20 years that $335 billion will be spent to upgrade/replace existing pipelines.

Based on a report prepared by Navigant and GEI, the U.S. market for NWPP is estimated at between $800 million and $1.6 billion, to include wastewater discharge pipes, irrigation canals/pipelines, and low-head dams. Moreover, the world-wide market is projected to be several times larger than the U.S. market.

Competition

Various technologies can supply power to a water agency and some utilize a water utility's pipelines to generate power, but none can do what NWPP does.

- The electrical grid offers carbon intensive and inexpensive power to customers at 5-18¢/kWh, whereas NWPP offers *clean, renewable electricity at a competitive price (7-18¢/kWh)*.
- Wind provides less predictable clean power at a competitive price, whereas solar is predictable but more expensive (wind 6-10¢, solar 10-25¢). NWPP offers *consistent and less expensive clean power*.
- Conventional hydropower technologies extract virtually all pressure available. Each NWPP turbine *extracts only 2-5 psi for minimal impact to water flow*.
- Competing in-conduit hydro technologies (e.g. Cornell Pump, Zeropex) are aimed at a different market. They are designed for lines ≤ 16″, sometimes as full pressure reducing stations. NWPP *fits pipelines ≥ 24" and can go anywhere there is available excess pressure*.

Pro Forma Financial Statements *($ amounts in 000's)*

	2011	2012	2013	2014	2015
Revenue	$875	$4,025	$11,200	$17,850	$31,150
Gross Profit	$408	$1,955	$5,440	$8,840	$15,427
Operating Income	($1,340)	($30)	$2,912	$5,417	$10,792
Units Sold	8	38	107	170	297
Employees	13	18	24	30	40
EBITDA	($1,340)	($30)	$3,138	$6,602	$13,731
Cash	$2,803	$1,366	$472	$4,098	$9,468

Operations

Lucid is in the *beta* phase of development. Several projects will be installed in 2011, including a 75 kW system in Riverside, CA. This project will be Lucid's first commercial application of NWPP, supplying power to the grid that will be purchased by Riverside Public Utilities. Full commercial rollout is planned for 2012.

Team

Lucid's management team consists of President Tim Braun, VP and General Counsel Edward Kurth, VP of Engineering Mark Cosby and VP of Technology Igor Palley. Mr. Braun has considerable experience in the social investment industry and holds a BA in Economics and an MBA in Sustainable Management. Mr. Kurth is an attorney with 30 years experience representing water utilities and 10 years in renewable energy. Mr. Cosby is a mechanical engineer with many years of experience designing components for the auto industry. He holds an MS in Mechanical Engineering. Dr. Palley is a former Senior Research Scientist at Allied Signal and Honeywell. He holds 25 U.S. patents and has 27 years of industrial design and mechanical engineering experience. He has a PhD in Mechanical Engineering and a PhD in Applied Mechanics.