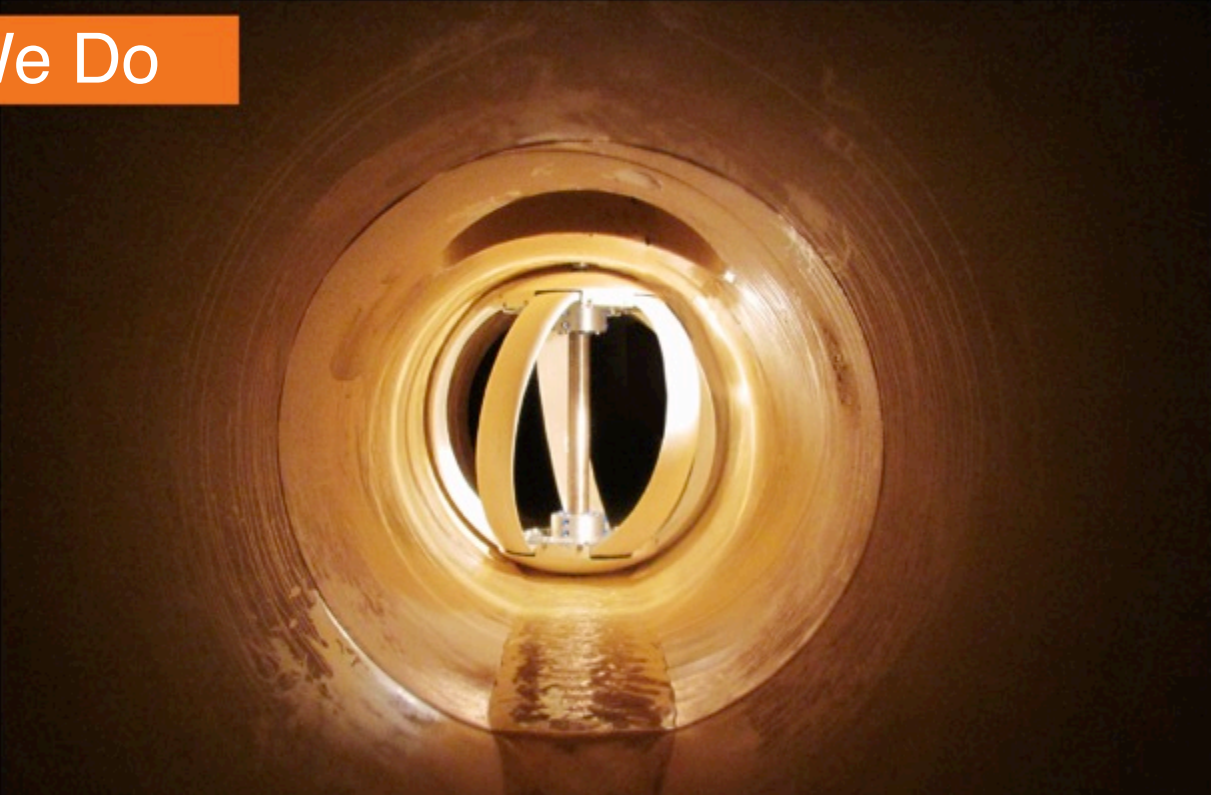


LucidEnergy™

Harvesting renewable, low-cost electricity from gravity-fed water pipes



What We Do



Lucid Energy is a manufacturer of a renewable energy turbine system that enables municipal, industrial and agricultural facilities to produce baseload, dispatchable, low-cost electricity from their gravity-fed water pipelines and effluent streams.

LucidEnergy™

Who We Are



- Lucid Energy Inc. – hydrokinetics engineering since 2007
- First Center of Excellence with LucidPipe Power System installed at Western Municipal Water District, Riverside, California
- Teaming with ESCOs and AECs at the nexus of energy and water on commercial projects in major metropolitan areas
- Patent issued May 2011; additional US and International patents in process
- Establishing Centers of Excellence in New York and Texas

Commercial Deployment at Western Municipal Water District

- Behind the meter, continuous energy generation
- Integrated into Riverside's SCADA system
- Remote monitoring and control capabilities



PowerPipe Installed
Lemona Pump Station - Riverside, CA

Economic Benefits

PRICE 5¢ - 9¢ per kWh

COST PER kW \$3,000 - \$5,000 installed

SIMPLE PAYBACK 2 - 7 years

IRR ranges from 40% - 150%

QUALIFIES FOR FEDERAL INCENTIVES

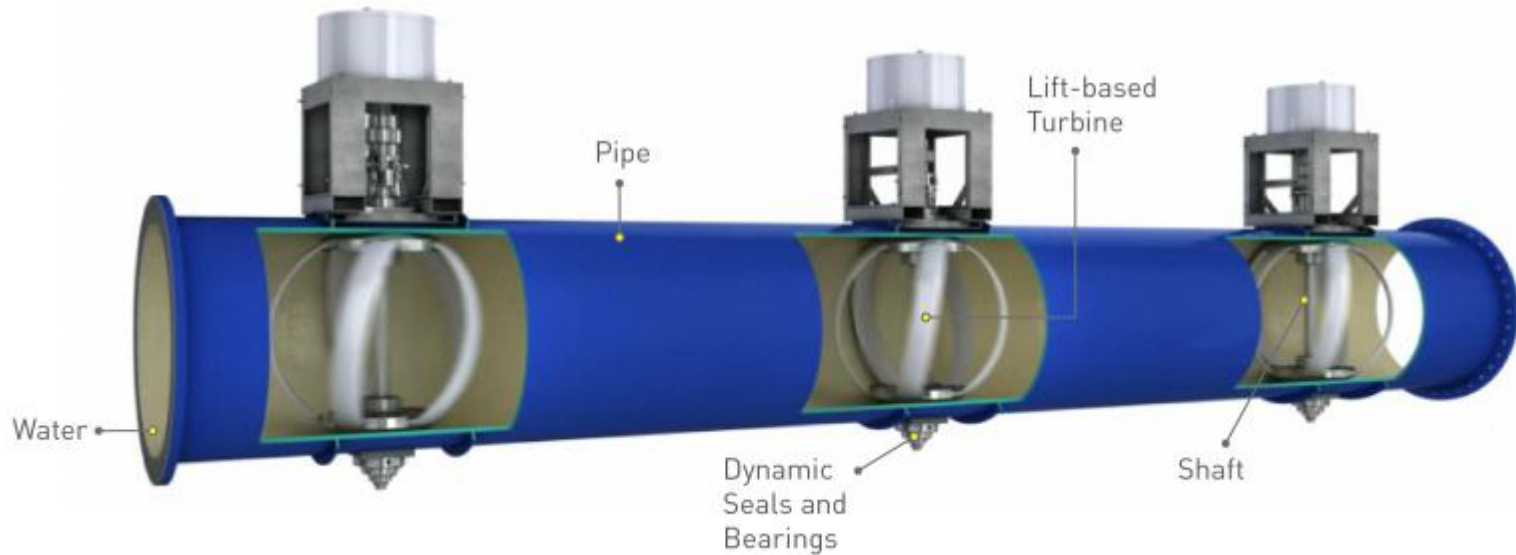
Investment Tax Credit (ITC), Production Tax Credit (PTC)

ELIGIBLE for renewable energy credits

ELIGIBLE for many state, local, and utility incentives

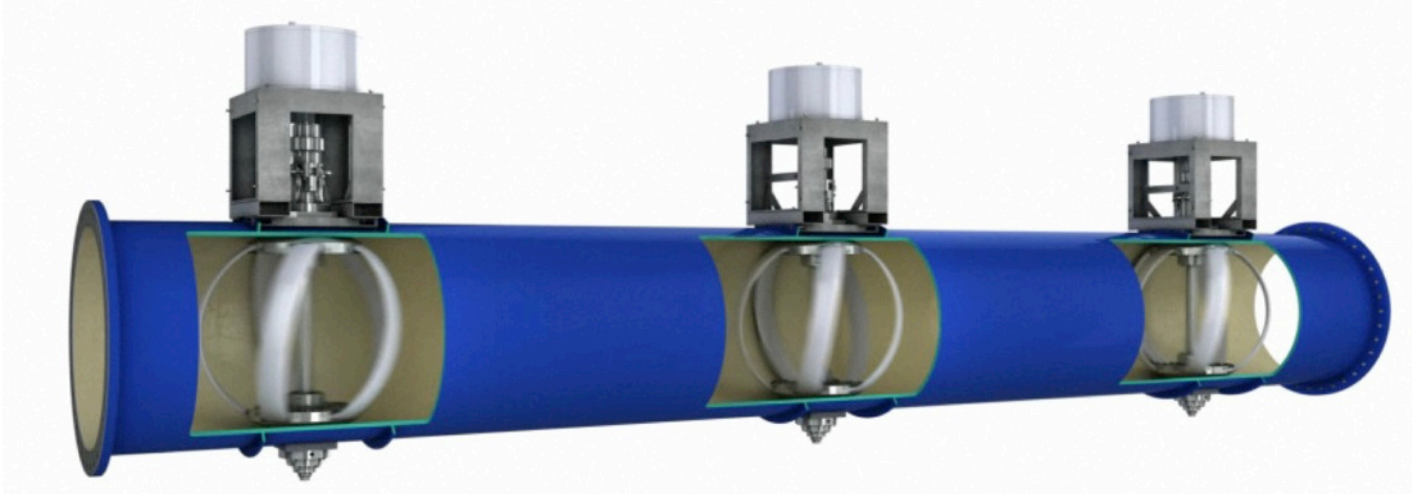
LucidPipe Power System

How it Works – Power Generation



- Moving water turns the lift-based turbine, capturing excess head energy
- Mechanical power is converted to electricity by the generator system
- Power electronics condition the power to grid-ready, single, or three-phase power

Low cost and easy to deploy*



Key Attributes:

- Generates clean, reliable, low cost electricity from excess pipeline pressure
- Designed to include multiple turbines in series to maximize energy generation
- Remote monitoring capability to minimize operating expense, improve reliability
- Scalable to pipe diameters 24"- 96"
- Eligible for FERC Conduit Exemption

Targeted System Economics:

- \$3,000/kW installed
- 4-9¢/kWh LCOE

* Lower cost than alternative wind and solar solutions

LucidEnergy™

Water is Big Business and Getting Bigger



- US Water Market is \$44B and the world market is \$220B
- 17% of water (7 billion gal/day) is lost from dilapidated infrastructure and decaying pipes
- The EPA has called for \$650BN in new investment for water infrastructure

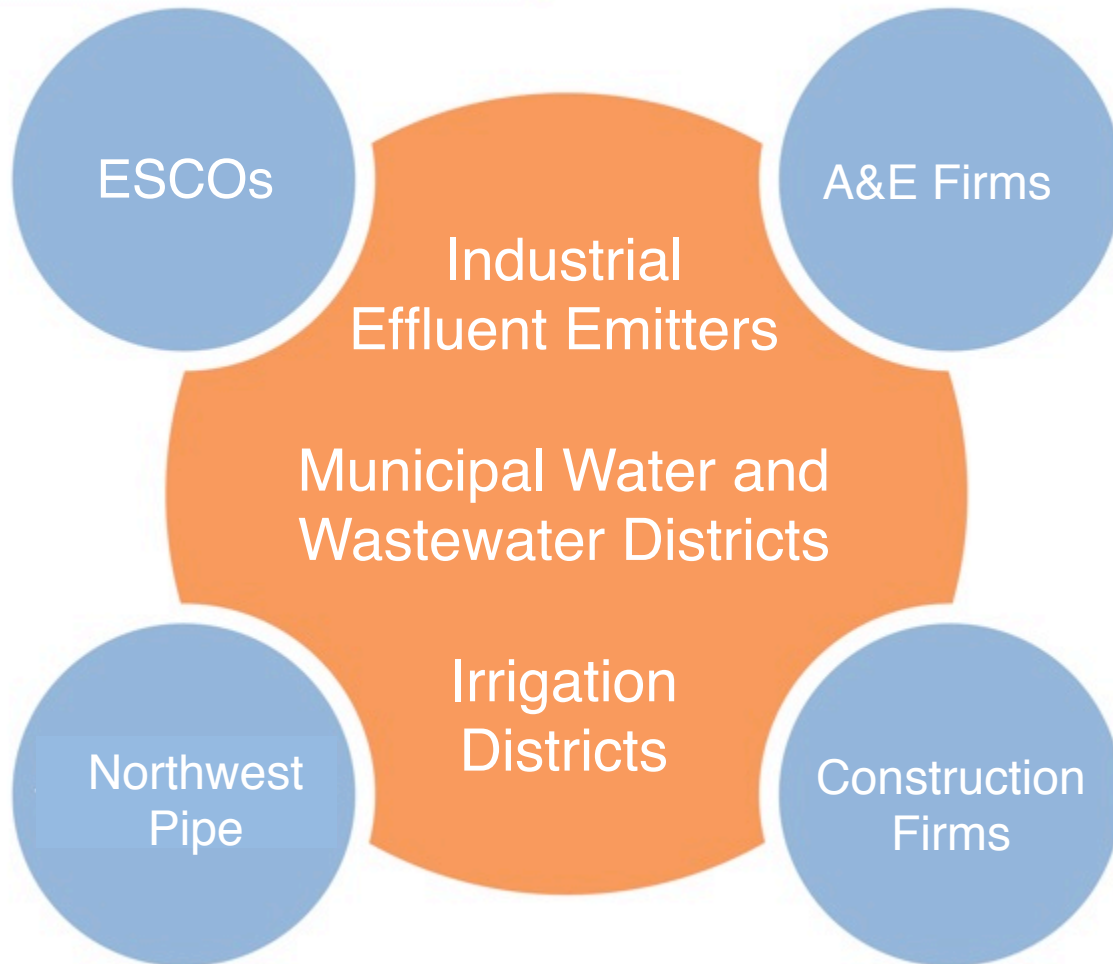
Estimate Sources: GWI, EPA

Key Market Drivers



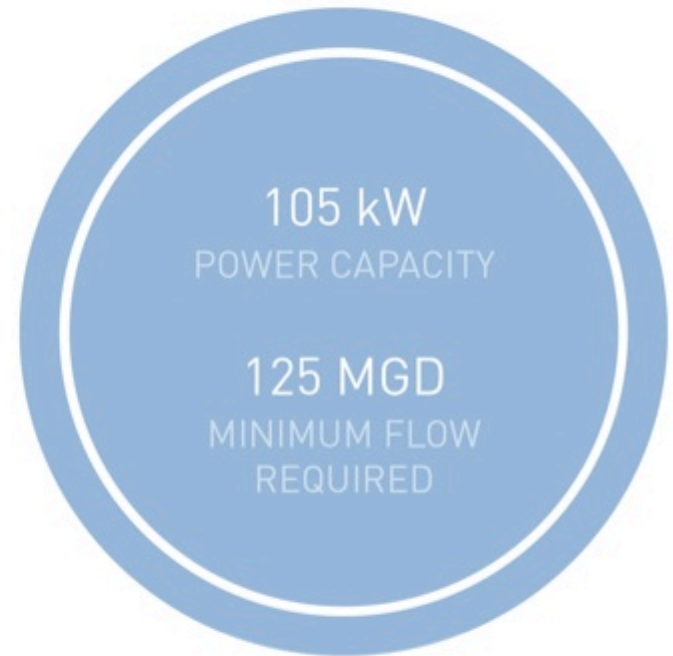
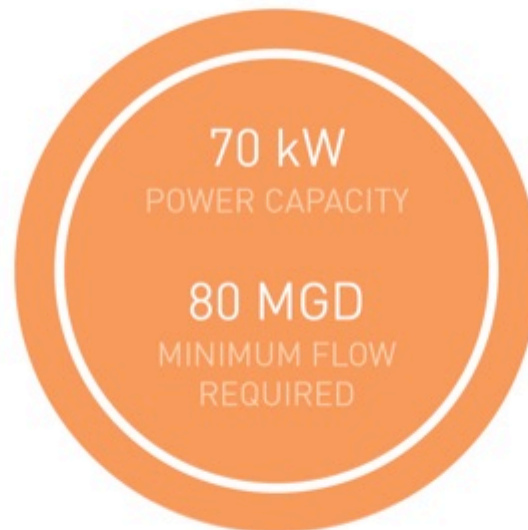
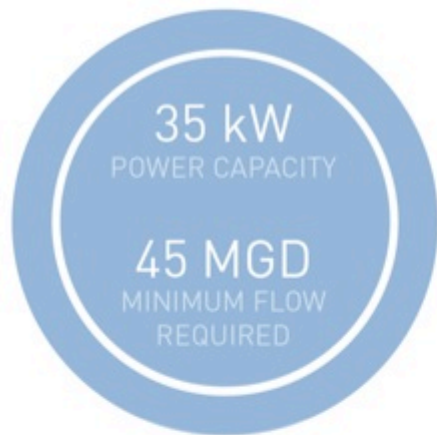
- Increasing and volatile energy prices
- Federal and state energy savings mandates
- Lack of capital and maintenance budgets
- Growing awareness of the need for large-scale action to limit greenhouse gas emissions

Customer Engagement



Power Output per turbine

Pipe sizes range from 24" and up



- LucidPipes are placed in series, 3-4 diameters apart for maximum energy potential
- In some cases energy generation can be increased by necking down the pipe section around the turbine

Site Conditions

PIPELINE CONDITIONS

- Pipe diameter: 24 to 96+ inches
- Excess head: > 20 PSI (3 turbines in series)
- Velocity: 4-9 FPS avg
- Flow: 38 CFS minimum
- Pressure Drop: < 5 PSI when operating; <1 PSI when stopped

SITE CONDITIONS

- Behind-the-meter or grid connection nearby
- Gravity-fed

FPS = Feet per second

CFS = Cubic feet per second

PSI = Pounds per square inch

Site Estimating Tips

EXCESS HEAD ENERGY

- Excess head determines the number of LucidPipe Power Systems that can be deployed in a given pipeline
- Allow for 3-5 PSI of head loss/LucidPipe Power System
- Energy capture increases as velocity increases
- Head extraction can be controlled remotely through braking system and control system

IMPACT OF VELOCITY

- Power is a cubic function of water velocity
- As velocity increases, head extraction increases and thus, power production
- LucidPipe can operate across a wide range of velocities & site locations

Partner Value

Compelling Economics

- Win bids and fulfill performance contracts
- High IRR returns to improve overall return on performance contracts
- Help clients meet federal and state energy savings renewable energy mandates
- Generate a new revenue stream with high returns & short payback
- Significant international market opportunity

Enhances Reputation

- Be viewed as an innovative leader in the smart water and energy nexus
- Bring new innovation to customers, energy savings, water and energy security
- Increase exposure to municipal and industrial customers

Customer Value

Compelling Economics

- Reduces largest operating cost
- Generates a new revenue stream from water infrastructure projects
- Economics provides them with important source of capital to invest more in their system or pass the savings on to be more efficient

Builds Reputation & Water Security

- Be viewed as a leader in the smart energy and water nexus
- Provide increased water and energy security

LucidEnergy™

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