



***“The Most Powerful Machines  
in The World”***

**2012 Edison Award**

**Water and**



**Lowest**

**Cost**

**Power**

Modular Skid



# Our Technology

<sup>3</sup>/<sub>4</sub> 5 Years Experience

<sup>3</sup>/<sub>4</sub> Generates electricity  
from waste

**heat & pressure**

<sup>3</sup>/<sub>4</sub> Utilizes helical screw  
technology

# What is the Technology?



Helical Twin Screw Rotors in casing

# Technology Comparison

Langson **Steam Machine** vs Steam Turbines

$\frac{3}{4}$  Lowest Capital cost

$\frac{3}{4}$  Lowest Operating cost

$\frac{3}{4}$  Allows changes in flow rates and pressure changes

$\frac{3}{4}$

Some renewable energy is impractical or too expensive



# DOD Report

## Manufacturing Readiness Levels in the Department of Defense

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**Level 7** – Capability to produce systems, subsystems or components in a production representative environment.

**Author:**  
**Roger X. Lenard**

- Bachelor of Science in Physics
- Master of Science in Chemical Physics
- Part of President Reagan's Defense Technology Study Team
- President Bush's Space Exploration Initiative
- Consultant to Raytheon Missile Systems on the NASA Concept Evaluation and Refinement effort



# Applications Steam

{ Geothermal & Geopressure

{ Petrochemical and Industrial Pressure

{ LNG & pressurized Gases

{ Coal and Gas-fired Power Plants

{ Biogas & Biomass

{ Oil & Gas Geopressure

# Steam Machine 1–50 MW

**¾ Low Installed Cost (less than \$1500 per kW)**

**¾ Low Maintenance (100k hrs.)**

**¾ All In Generating Cost 2 ½ ¢ per kW**

# 1 to 50 MW Modular Skids

From Steam & Gas Pressure

# Applications

- ✕ Geothermal
- ✕ Geo-Pressure
- ✕ Topping Units
- ✕ Bottoming Units
- ✕ Steam Blowdown
- ✕ Process Steam
- ✕ Paper Mills
- ✕ Fertilizer Plants
- ✕ Bio Gas Boiler
- ✕ Petro Chemical
- ✕ Food Processing
- ✕ Steam Plants
- ✕ Solar Thermal

## STEAM TYPES

- ✕ Saturated Steam
- ✕ Dry Steam
- ✕ Flash Steam
- ✕ Vented Steam
- ✕ 2 Phase Fluid
- ✕ Waste Steam



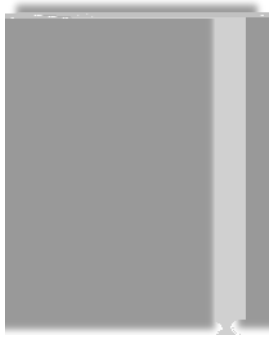


# Value Proposition Steam Machine



# Technology

	Uses Fossil Fuel	Emission Free	Base Load 24/7	Distributed Generation	Generation Cost (1) ¢ / kW
<b>Renewables:</b>					
Langson Energy	no	yes	yes	yes	1½ - 2½ ¢
Geothermal	no	yes	yes	no	5 - 7 ¢
Wind	no	yes	no	no	5 - 10 ¢
Biomass	no	yes	yes	yes	7 - 8 ¢
Solar Thermal	no	yes	no	yes	9 - 12 ¢
Photovoltaics	no	yes	no	yes	12 - 20 ¢



# History of Our Technology

- |                           |                            |
|---------------------------|----------------------------|
| • 50 gallons per mile     | • 300 MPH in 5 seconds     |
| • 0 – 100 MPH in ½ second | • 10,000 HP from V8 engine |

# Recycling energy worldwide