Engineering a Sustainable Future
RadMax Technologies, Inc.

Interview with RadMax Technologies, Inc. CEO


Paul W. Chute, CEO & Chairman
RadMax Technologies, Inc.

Every minute of every day as we all go about our lives powering the devices we rely on to make a living and those that keep our spaces lighted and comfortable, our networks connected, our loved ones fed, healthy and protected, we are also contributing to a growing global problem, the inefficient use of the energy we produce and consume. The sad reality is that we will never succeed in conserving massive amounts of energy simply by using energy-efficient light bulbs and driving smaller cars. Only by tackling energy inefficiency will we ever attain serious conservation goals. Toward that end, RadMax Technologies is developing a family of patented, broad scope, axial vane, rotary core devices engineered to not only improve the efficiency of existing systems but opens the door to breakthrough power generation systems capable of extracting energy from low quality heat sources not viable for incumbent technologies. The overwhelming interest in this technology from all corners of the planet and from virtually all industries validates the intense global interest in conserving billions of kWh of energy each year while eliminating the greenhouse gas emissions associated with its production and use. RadMax is an up and coming company we all need to track over the next several years.

RadMax envisions its proprietary technology applied extensively in transportation, aerospace, air conditioning, oil & gas, power generation, and military sectors.

In conversation with Paul W. Chute, CEO, and Chairman of

RadMax *Q. What is RadMax's core technology?*

RadMax, a family of unique axial vane devices built around a patented *"common rotary core",* can be easily configured into a broad range of innovative products that includes gas expanders, compressors, pumps, and internal/external combustion engines, etc. These devices, utilized across numerous global markets and applications, help reduce energy consumption, costs and greenhouse gas emissions (GHG's) by *"using less energy, more efficiently".*

Q. What differentiates RadMax's technology and products from the competition?

To answer this question let's look at our first product, the RadMax Expander / Generator (TPXG) is a breakthrough in lost energy recovery and re-utilization of power in applications that are not viable with incumbent products. We refer to this otherwise lost energy as *"Free Energy"* which the TPXG converts to electricity, saleable for profit, used to power parasitic electronics or to offset operating costs.

Q. What are the markets which your company is currently targeting?

Our immediate focus is on the use of RadMax expanders to extract *"free energy"* from gas pipelines as well as industrial /residential cooling and refrigeration systems, such as:

- The TPXG is being engineered into several breakthrough power generation systems that are designed to extract and generate power from low-quality heat sources like solar and geothermal that are not viable with incumbent technologies.
- Used to recapture up to 20% of the pressure-volume energy lost during the depressurization of gases at letdown stations along the entire length of natural gas pipeline networks.
- To generate power in any industrial setting where pressurized steam, natural gas, refrigeration, and A/C systems are in use.
- And as a *"power module"* along natural gas pipelines and on well heads to generate electricity, eliminating inefficient devices that vent greenhouse gases.

Q. How do RadMax's products impact the environment?

By capturing and reusing lost energy, we offer the opportunity for customers to use *"less energy more efficiently",* dramatically reducing overall consumption, which in turn, dramatically reduces greenhouse gas emissions. Examples:

- The US A/C & refrigeration industry consumes 900 billion kW of electricity annually. We offer the potential to save up to 150 billion kW of electricity and eliminate up to 150 million tons of $C0_2$ and other GHG's.
- The global natural gas industry operates approximately 3 million gas wells which vent an estimated 1 billion scf / year of methane and other GHG's. We offer the opportunity to capture, compress, and inject these GHG's back into the pipeline.
- The US Oil & Gas industry generates millions of horsepower to compress and transport natural gas. We offer the potential to recapture up to 20% of this energy at existing letdown stations which represents billions of kWh while eliminating millions of tons of GHG emissions.

Q. Are you currently working with any major corporations or research institutions?

We are working with several international companies in the oil & gas, food & beverage, refrigeration, cooling, geothermal, syngas, and liquid natural gas storage industries and two Department of Energy (DOE) national laboratories.

Q. Can you elaborate on your project for DOE National Labs?

We recently delivered our TPXG (expander / generator) product to the Pacific Northwest National Laboratory (PNNL) for inclusion into their patented Harmonic Adsorption Recuperative Power System (HARP). The HARP system opens the door to the use of low-grade heat sources such as solar, geothermal, or even waste process heat to produce electricity by driving a thermal compressor. The outflow vapor from PNNL's patented thermal compressor is routed through our TPXG to produce electric power.

Q. Can you tell us about current projects and their status?

Collaborating on three DOE grant projects or proposals with two National Laboratories.

- Collaborating with two major A/C and refrigeration OEM's and equipment suppliers on multiple applications.
- Finalizing a contract with an International brewery to recover energy from steam and CO_2 systems.
- Negotiating multiple demonstration projects with US & Canadian O&G companies for emissions reduction and energy recovery/ power generation from natural gas wells and pipeline distribution systems.

- Partnering on an International heat pump project to increase cooling and drying process efficiencies in remote agricultural areas.
- Collaborating with a Canadian syngas waste heat recovery company to convert landfill, agricultural, and biowaste into electricity.
- Evaluating International Liquid National Gas (LNG) compressing and storage applications.
- Evaluating the RadMax turbine and internal combustion engine technology for applications of interest to the US Aerospace industry and the US Military.

Q. Do you intend to sell the company?

Yes, our objective has always been to rescue the company, revive the technology, build prototype devices to demonstrate proof-of-concept and then sell the company. Specifically, we are looking for a partner that has the expertise and resources needed to rapidly commercialize the technology on a global scale, participate in the growing list of proof-of-concept projects, assist with the global expansion of our patent portfolio and position the company for sale within the next two years.

Meet the stalwart behind RadMax's innovations, Paul W. Chute

Paul is a skilled executive with over 40 years of senior-level executive experience building or restructuring over 25 private and public companies. He specializes in governance, business strategy, finance, fundraising, operational management, and functionality. He earned his MBA in Business Management from Husson University and a BS in Accounting from the University of Maine.

"The possible applications are mindboggling. The impact is game-changing."

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