

# MHD Energy

Patented, next-generation magnetohydrodynamic electricity generation

**Stage:** Proof of concept

**Number of employees:** 0

**Market Size:** \$48B/yr savings in US.

**Investment opportunity:** \$4M

**Use of funds:**

Demonstration of open and closed cycle systems utilizing permanent superconducting magnets in close proximity to high temperature plasmas, leading to a working prototype.

**Management team:**

Pending funding, MHD has recruited the following team members:

Tom Kay, founder, CTO;

Douglas Chrisey, Prof. of Physics and Materials Engineering, Tulane University;

Gerald Habibi, Acting CEO, Chemical Engineer

**Contact:**

Tom Kay

tom@mhdenergy.com

845-679-2490

# Investment Opportunity

**What we do**

Technology to improve existing and new thermal energy power plant – coal, gas, nuclear, solar-- efficiency and reduce CO2 emissions

**Need/Opportunity**

Efficiency improvements to thermal power generation – coal, gas, nuclear, solar – are asymptotic. MHD technology offers the potential to achieve 70% thermal efficiency, double the average efficiency of all coal fired plants in the US in 2015; and 55% more than the average combined-cycle natural gas fired plant. See <https://www.eia.gov/tools/faqs/faq.cfm>

**Solution**

MHD combines breakthroughs in superconducting permanent magnets and thermal isolation technology to efficiently extract electricity from high temperature plasma streams with no moving parts. This allows MHD to be added as a topping cycle to new and existing thermal power plants, to produce a net gain in electricity generated per unit of fuel, and per unit of CO2 emitted.

**Milestones:**

Patent for high efficiency magnetohydrodynamic power generation using ultra-high magnetic fields and novel cooling.

Fabrication agreement with Brookhaven National Lab Superconducting Magnet Division

**Competitors**

The best coal-fired plants top out at 46% thermal efficiency; natural gas 60%. Future hydrogen gas turbines promise 2-4% improvements; none approach MHD's 70% efficiency. Regardless, MHD can be added as a topping cycle to all of these.

**Go to Market Plan**

Prove concept. Build and demonstrate prototype.

**Revenue Model**

License technology to turbine makers, thermal power plant builders.

DRAFT