

To: Candidates for Legislature and Agency Policymakers Subject: Benefits of Clean Energy

#### Top Five Policy Benefits for Cold Fusion/LANR/LENR

A new form of energy is emerging as a usable technology. It is generated from a fusion-sized reaction between the hydrogen in water and various metals like nickel and palladium, but without the dangerous radiation that today's nuclear power. Originally called *cold fusion*, it is part of *condensed matter nuclear* science, and also called low-energy nuclear reactions LENR, lattice-assisted nuclear reactions LANR, and nickel-hydrogen exothermic reactions. Clean, abundant and affordable, it is poised to revolutionize the economy and social structure worldwide, yet the \$29 billion DoE budget has \$0 for this research.

# 1) Cold fusion is ultra-clean.

No radioactive materials are used in cold fusion. The process emits no carbon dioxide CO2. The hydrogen and metal are recyclable when spent. LENR transmutations may lead to the ability to rid the planet of the thousands of tons of radioactive waste.

# 2) The fuel is plentiful.

Hydrogen is an element of water. The fuel can be used as a gas or ordinary water. The generator uses metals like nickel, palladium, platinum, and others. Nickel is the 24<sup>th</sup> most abundant element on the surface of the Earth; if we include the interior of Earth, nickel is the fifth most abundant element.

### 3) Cold fusion has a high energy return.

The first commercial hot-water boilers demonstrated are small enough to sit on a tabletop and have thermal energy returns between 6, 10 and 20 times the input energy; only a few grams of hydrogen and nickel powder can produce 10 kW of steam power over six months time. When fully exploited, "fusing the hydrogen out of water results in 355,000 times more energy than is contained in the same volume of gasoline." -Michael McKubre SRI International. "Nuclear-like energy densities scalable from Megawatt to Gigawatt." -Joseph Zawodny NASA Langley Research Center

## 4) New energy industry will create a new economy.

New technology creates new societal roles and ways of living. Opportunities for third-party applications require participation from all levels of society. Jobs are created from a new service environment. Demand for increased efficiency of thermo-electric converters and developing new types of engines for ground, air, and space transportation create layers of jobs. LENR transmutations have the potential to change the mining industry by creating elements needed for manufacturing in the lab. Space exploration is revolutionized with LENR-based power systems. "The potential applications of this phenomenon, if commercialized, are unlimited." - Defense Intelligence Agency 2009 Technology Forecast

#### 5) Cold fusion empowers local communities.

Access to water means access to hydrogen fuel, ending resource wars. LENR technology does not need to be connected to a grid system; local communities and individuals can exercise greater autonomy over their energy choices. Clean drinking water provides a health revolution. High-density energy makes the recycling of all waste possible. It becomes economical to remove hydroelectric dams, clean up waterways and restore our wilderness, improving the quality of life for us today and for our children tomorrow.

