

Confidential

Harnessing Fire—The Global Energy Independence Program (GEIP)--Saving \$2-3T/yr = PROFOUND GOOD

“Just as JFK pledged to “Land a Man on the Moon by the End of the Decade,” President Biden can set the goal of providing >50% of the World’s need for clean, renewable energy by 2030--SAVING \$2-3T/yr and achieving PROFOUND GOOD in the Process. This is VISION and LEADERSHIP in ACTIONS, not Words.”

From well before the recording of history, Mankind learned to Harness Fire for the Profound Good of All. But, as with all things, there was and is a Learning Curve to do so safely and reliably. Even today, we must still learn to better Harness Fire -- safely and cost-effectively -- if we are to truly Grow as a World.

According to the US Department of Energy, the World used 23,000 TeraWatt hours (TWh) of energy in 2018.<sup>1</sup> In the US alone, in 2018, Energy Consumption was 4222.5 TWh (or 475 PetaJoules (PJ)) costing >\$1 Trillion or 5% of the US GDP.<sup>2</sup> (Note: 1 Watt = 1 Joule/sec; 1 KW hour (KWh) = 3.6 x 10<sup>6</sup> Joules.)

As large as these numbers may seem, however, it is worth noting that the Earth core generates 44 TW (10<sup>12</sup>) of Energy or 44 x 10<sup>12</sup> Joules/sec most of which is currently dissipated in the form of Tectonic Plate movement often resulting in destructive Earthquakes, Tsunamis and Volcanic Activity.<sup>3\*</sup>

Simply put, Geothermal Energy can potentially provide a clean, renewable energy source if we can only learn to Harness the Fires at the Core of Mother Earth. Since the Countries of the Earth currently spend \$5-7T/yr primarily on carbon-based energy sources (i.e., oil, coal and gas) with the emission of greenhouse gases, SAVING even 50% as clean energy could do PROFOUND GOOD around the World.

Just as JFK pledged to “Land a Man on the Moon by the End of the Decade,” President Biden can set the goal of providing >50% of the World’s need for clean, renewable energy while SAVING \$2-3T/yr and achieving PROFOUND GOOD in the Process. This is VISION and LEADERSHIP in ACTIONS, not Words.

A simple FACT is that, the deeper you dig, on average there is a gradient of approximately 33 degrees Centigrade per Kilometer increase in temperature.<sup>4</sup> Thus, the simple equation underlying GEIP is:

$$100\text{ }^{\circ}\text{C} = 33\text{ }^{\circ}\text{C}/\text{km} \times X\text{ km}$$

$$X = 100/33\text{ km} = 3.33\text{ km} = 2.7\text{ miles}$$

Thus, anywhere and everywhere around the World, if you dig a hole 3.33 km (2.7 miles) deep, you can Harness the Fire of the Earth sufficient to boil water and generate steam. If we can build rockets to travel 239,000 miles to the Moon and back, we can figure out how to dig holes less than 3 miles deep. And who better than America to LEAD this effort?

While digging holes around the World to Harness the Fires of the Earth is both DOABLE and an Ecological Imperative, an early priority could, in fact, be much “easier” and even more important.

While Yellowstone National Park is best known for the “Old Faithful” Geyser, it sits atop a “Super-Volcano” that has been dormant for 640,000 years. Were Yellowstone to erupt, it could kill millions. But using GOOD SCIENCE, it has been estimated that cooling the Yellowstone Super volcano 1000°C could generate 2.52x10<sup>22</sup> Joules of energy or more than enough to power the planet many times over!<sup>5</sup>

A similar super-volcano in Italy, Campi Flegrei, has similar potential for both Good and Harm. It is theorized that an explosion of Campi Flegrei some 40,000 years ago may have hastened the demise of

the Neanderthals. Simply put, NOT safely Harnessing Fire also has its risks. It is HOW you do this that is the difference between a Safe and Efficient system and one prone to many problems.

Already, the Department of Energy is funding a program through a company named Fervo that seeks to harvest steam in the Geysers Fields of California. But, injecting water into the ground to Capture Steam is both inefficient and dangerous. Fracking is already known to potentially cause earthquakes and utilizing this approach anywhere, let alone near volcanoes, is neither efficient nor potentially safe.

An alternative to Fracking is to use self-contained systems that can be both safe and efficient. Having water or other fluids heated in pipes to generate steam which is then recycled within the same system is both safe and efficient and could in time supply a large amount of energy in the US and beyond. And, just as with the Manhattan Project or Landing a Man on the Moon, with LEADERSHIP, we can make it so.

While, over time, it may well be possible to draw off the Energy that now moves Continents, GEIP's goal of Global Energy Independence by 2030 is both DOABLE and could SAVE \$2-3T/yr in the process.<sup>6</sup>

In the United States, such SAVINGS could be used to achieve BIPARTISAN Universal Healthcare and Education. Globally, a PEACE Paradigm in conjunction with Safe Haven programs could be used as LEVERAGE to Cut the Curves of Crime, Drugs and Joblessness in the US and far beyond along with Improving Standards of Living and Human Rights including Free Speech and Democracy in return for clean, renewable energy.<sup>7</sup> And what Country better than America to accomplish such goals? As Dr. Ladien ended his book, The Chicago Project:

“With GEIP-powered desalinization plants, we can turn deserts into Gardens in the Middle East and far beyond. With Safe Haven, we can transform Violence and Despair into JOBS and HOPE throughout the World. And in the process, PROFOUND GOOD will have been done for the Benefit of ALL.”

Let these be goals truly worthy of us All. God bless you and God Bless America.— Kimball Ladien, MD

\* Just as Lasers and Particle Beam Accelerators can be used to shoot down satellites and missiles, large-scale accelerators could be used to shoot heavy cargoes into Space at a fraction of the cost of today's technologies. Thus, colonies on the Moon and Mars could be accomplished even sooner than expected. And ending Volcanoes, Earthquakes and Tsunamis? Harnessing Fire is as important today as always. The uses for 44 Terawatts of energy are as vast as the Human Imagination and Spirit itself. -K

1. “Global energy demand rose despite 2.3% in 2018, its fastest pace in the last decade,” EIA, 3/26/19
2. “In 2018, the US consumed more energy than ever before,” EIA, 4/16/19
3. Davies, JH and Davies DR, “Earth surface heat flux,” Solid Earth, 2010, 1 (1), 5-24
4. Encyclopedia Britannica, “Volcanoes and Geothermal Energy”
5. Andrews, Robin, “Yellowstone Super-Volcano could power the entire planet twice over,” Science, 2019
6. Wilcox, Brian, “Super-Volcanoes, Asteroids, Climate Change,” NASA/JPL, 2017
7. Kimball Ladien, MD, The Chicago Project, 2018
8. Kimball Ladien, MD, Safe Haven — Breaking the Cycles: Towards a Gang-Free, Drug-Free, Full-Employment Economy in America by 2020, 1993, 2018 (25<sup>th</sup> Anniversary Edition) KLGEIPSum27Jul20

## Brief Description of the Drawing -- Appendix A-- Components of GEIP System

Note: Components are Summarized in Figure 1 and are listed as follows:

<u>Component</u>	<u>Description</u>
A	Square Tube divided into a Left (A1) and Right (A2) section separated by a Common Wall (A3) Note: A2 is slightly larger than A1 so that the Turbine (C) can recycle any condensation in A2
B	Fluid used in Contained GEIP System can be water or other liquids and is stored in A1 Note: Reservoir in A1 must be large enough that fluid remains liquid
C	Turbine-- Driven by Steam generated from Geothermal Source
D	Steam from heated fluid drives turbine with steam rising on the Right Side (A2)
E	Shaft (of varying lengths) transfers energy from Turbine to Generator via gears
F	Generator driven by Shaft generates Electrical Energy
G	Large Fan covering both sides of Square Tube draws steam from A2 and allows it to condense back to liquid in A1 to repeat the cycle
H	Pipe to fill A1 if A1 does not go all the way to the surface
I	Geothermal Heat Source

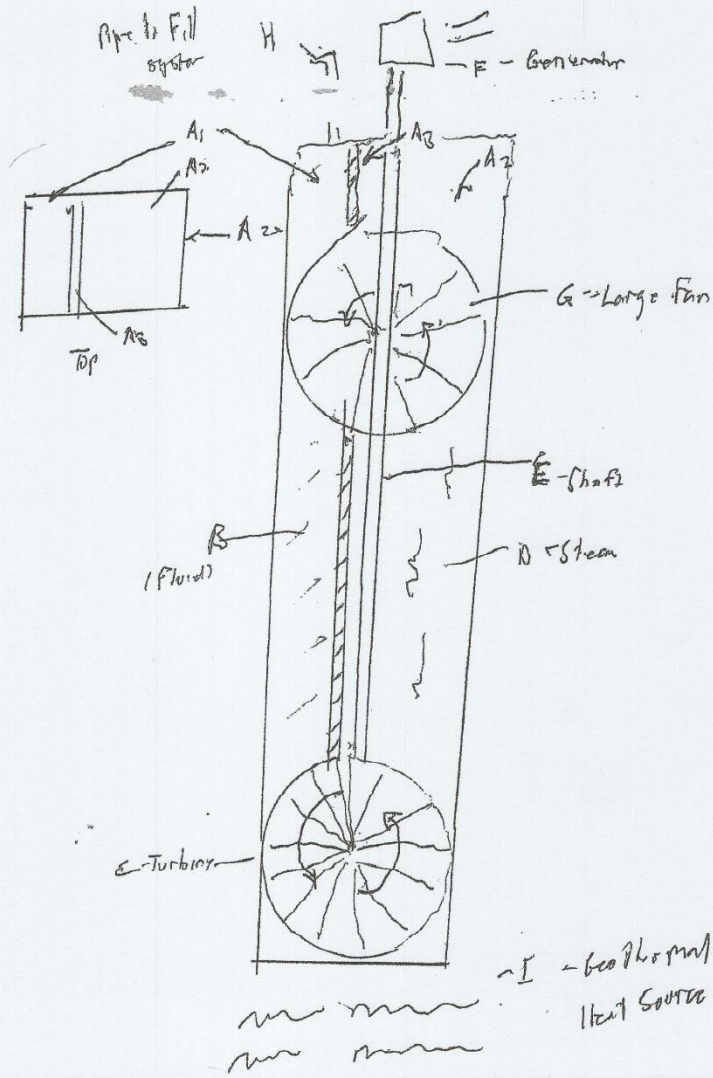
## Detailed Description of the Invention -- Appendix B-- Steps in GEIP System

While many other	<u>Step</u>	<u>Description</u>
1		Square Tube (A) at, e.g., 30° angle might be the most efficient design for a Self-Contained GEIP System divided into Left (A1) and Right (A2) sides divided by a common Wall (A3)
2		Liquid pumped into A1 to such a height that geothermal heat turns liquid into steam at the bottom of the Tube but the fluid in A1 remains liquid that is turned into gas in A2, thus driving the Turbine (C)
3		Turbine (C) drives a Shaft (E) (variable length) that turns a Generator (F) to generate electricity
4		Steam rises on Right Side of Square Tube (A2)
5		Large Fan (G) at top of Square Tube (A) covering A1 and A2 draws steam in A2 and allows it to condense back to Liquid in A1
6		Any water condensing on the right side of shaft (A2) rolls down the inner wall (A3) and is captured by the counterclockwise rotating turbine along with fluid in A1 so that geothermal heat drives a Self-Contained GEIP system generating clean, renewable, Constant Energy

Note: While other designs are possible, the fundamental concept of a Self-Contained System would allow GEIP-powered to be used in a wide range of settings as described above.

Drawing

Figure 1 -- Summary Diagram of Self-Contained GEIP System



## Summary of the Disclosure

Enclosed are: 1) a brief two-page summary of my Global Energy Independence Program (GEIP); 2) A copy of Robin Andrews article "Yellowstone Super volcano Could Power the Entire Planet Twice Over" (9/29/17) to establish "Proof of Concept" related to Geothermal Power; and 3) the answers to the questions related to a Patent. For Clarity's sake, I have added Appendices A and B and Figure 1 below. Beyond this information, however, the three immediate key points are:

1 GEIP requires a Self-Contained System in order to be both safe and efficient;

2 GEIP can make Europe, NATO and the Ukraine Energy Independent of Russian Gas and Oil Permanently which is the reason that there is Urgency in Expediting this Process (GEIP and 30 K Switchblade Drones are the ONLY things that could bring a CEASE FIRE about by 5/8/22); and

3 As a Brilliant Genius Builder, Elon Musk is not only the ideal person to implement GEIP, he can also apply GEIP to everything from Stopping Wars, Earthquakes and Volcanoes to returning people to the Moon and on to Mars much sooner than he might otherwise have done.