

## COAL BIOTECHNOLOGY FOR 3 MILLION DIRECT GREEN JOBS IN USA WHILE LEADING THE WORLD IN ADDRESSING THE CLIMATE CHANGE BY RETAINING CARBON IN OUR PLANET FOR BALANCED SUSTAINABLE SOLUTIONS FOR US HUMANS, PLANET AND ITS OTHER INHABITANTS

A BUSINESS CASE For President Donald Trump

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The crux of climate change concern is due to continuing use of 18<sup>th</sup> century industrial era technologies of use of fossil fuels especially coal, which utilize only 35% of its carbon and releasing huge amounts of carbon in our atmosphere. This concern should not be merely addressed to curtail global warming but to eliminate wasteful release of the carbon. This carbon is not only the most abundant and lowest cost carbon available to us but it is unique to our planet and critical for maintaining our and its viability. Unites States climate change issue is intertwined with knotty challenges of large manufacturing sectors dependent upon coal, jobs and continued supply of domestic competitive clean energy and security. US Government funded program based on band aid solution of carbon capture and sequestration (CCS) especially for coal even after spending \$100 B of tax payers funds by the Government managers have not been accepted by the industry because of high costs. Thus, the current battle around Clean Power Plan and concerns of negative impact of the UN Climate Agreement on our economy which benefits from the lowest cost coal produced power. To date the huge government funded programs are not resulting in solutions and even have become barrier to acceptance of solutions being offered by the American innovators. Coal producers and users rather have Government Manager/Scientists continue to develop technology solutions and not have to adopt solutions. This has been going on now for almost 44 years since first oil embargo of 1973. With our American technology ingenuity, we can turn this into new economic opportunity frontier for us Americans, similar to led by the construction and mining boom in 1950-60's propelled by WWII mega equipment technologies, electronics in 1960-70's, pharma/agro biotechnology in 1980's, information and communication technology in 1990's. With advent of each American technology booms, others copy, manufacture and sell to Americans thus adversely impacting employment of Americans. Though each of the boon continues to employ Americans but the latest boom becomes the leading sector, as the largest service sector of today. Now business opportunity driven by the need for green solutions and green collar jobs can provide increased tax revenues while meeting our needs, protect our health and planet. Well proven "Business Mantra" is find a need and fill it. Our country's economy heavily depends upon lowest cost power produced by burning coal. Today, coal use has become at the core of the problem due to increasing concerns of pollution from its mining, use and global warming. With technology we can make coal into green solutions and foster a new era of green collar economy, produce 3 million high wages manufacturing jobs in USA. With American leadership, we have convinced the rest of the world to join us in pursuit the vision set forth in the recent UN Climate Change agreement. A

first in history when all the worldwide Governments are unanimous, as majority of the humans all over recognize this concern and are clamoring for same aspirations.

To do this, we need radically new science as recently espoused by Bill Gates but also a scientifically sound, practical, and profit producing solutions, which will satisfy the market needs. As a scientist and entrepreneur here in Virginia for the past 30+ years, I have created a step change transformational technology of coal biotechnology by fermenting coals with microbes that produce clean gas and liquid fuels along with organic humic products. We have developed commercial products from organic humic matter for growing organic foods, cleaner water, and even safe destruction of military obsolete bombs into fertilizer. This approach results in taking carbon dioxide out of our atmosphere for energy production from coal use instead of emitting carbon dioxide with today's approaches. A total value chain use of coal. NO WASTES. At the same time this approach results in creating 10-20-fold value from coal compare to today's approaches. Our approach has the potential to make global warming problem from coal use a non-issue. Coal can become the basis of green revolution for next several centuries as burning of its carbon to produce steam fostered the industrial revolution in the 18<sup>th</sup> century.

The USEPA Director of Air Pollution Control Division has stated in writing that, **Dr. Walia's biotechnology approach of use of coal "lowers the environmental foot print of coal use in a creative and value generation approach while lowering carbon emissions"**. Some time ago Senator Vance Hartke, from the coal fields in Indiana had characterized our coal biotechnology business model akin to genius of John D. Rockefeller and Thomas Edison approach of fostering new ideas into practically applied and cost competitive innovation of possibilities. Since the 1973 First Oil Embargo, myriad of technology solutions continue to fail during falling oil prices. Worldwide 70% of oil still costs less \$5 but OPEC continues to throttle its price by production quotas. Today, with lower oil prices, increasing environmental mandates, coal use is rapidly decreasing, major companies have gone bankrupt and resulting in huge hardships to many due to job loss. Mr. Trump should seek break up of OPEC monopoly as USA has continued to break monopolies even in recent years of flat screen manufacturers of China, Japan and Korea. Our technology allows to produce clean fuels from coals, which remain competitive even if oil prices fall to lowest cost of production. It addresses the challenges of today to provide for the must have needs of humans for clean air, water, food, energy and shelter while meeting must have needs of our planets and protect its other inhabitants. Our biotechnology approach of use of coal uniquely offers to provide these must haves at very low costs, while increasing huge economic value and establishing a durable green domestic manufacturing economy with huge domestic coal resources, sufficient for several centuries. Our coal biotechnology is a "Green Chip" akin to computer chip which has allowed production of myriad of information products and services now increasingly in use worldwide. Also, mindful of concerns that technological solutions can lead to unintended consequences. So we seek wisdom from the Iroquois Indians "7th Generation Principal" which looks at impacts of any decision made today on the future of the next seven generations. Our systematic quantification of impacts of using earth's most abundant resource, coal, offers future generations safer use of most abundant lowest cost coal carbon for removing excess carbon from

being emitted as well as sequestering it in useful ways. This 7th generation guide can then pass on the positive outcomes to the next seven generations, for providing for equity of resources with “Balanced Sustainability”, a durable solution

Our Government institutions are fragmented and are continuing to pursue stove piped technology solutions because of their programmatic focus required per statutory limits. Architect students of Plymouth University in UK, articulated need to change this approach with simplicity and by an example in their class project. They were assigned to use their architect knowledge and select a devastated region and rejuvenate it. They chose our coal biotechnology to rejuvenate coal mining region of Silesia in Poland. They reconfigured academics of University of Silesia to focus on advancement of our technology and integrate local institutions. In YouTube report they state” our institutions are fragmented, made case for an approach for highlighting and harnessing strengths of each to solve common problems”. Our coal biotechnology products and technologies have been proven to solve federal government needs of safe disposition of stored huge amounts of nuclear wastes, allow nuclear energy safer production, recycling of obsolete conventional munitions into fertilizer, safe destruction of chemical weapons and maintenance of vegetative growth on federal lands. These needs continue to cost several hundred billions every year to the US Government.

A mission oriented national program, like Apollo is needed to foster the advancement of this coal biotechnology to create unified solutions for fostering “Green Industrial Revolution” and leading the world with our American Ingenuity.

Biotechnology even by the high-level Government official is recognized as one of the sixteen transformational technology Our Coal Biotechnology offers to substantially increased profits from coal via creation of almost \$ 1- 4000+ per ton value, compared with the current value of only \$100 per ton from generation of electricity. For example, 100 million tons of coal from about one billion tons per year production today will result in \$100 billion yearly revenues even based on lower \$1000/ton revenues. This will amount to \$3,000 billion over 30-year life cycle providing 20% margin amounting to \$600 billion, which taxed at 20% rate, will generate \$120 billion tax revenues to the US Government. This will amount to 700% ROI from \$170 million investment by the US Government in fostering the demo and deployment of this technology.

**Note Attached one-page brief for Mr. Trump and his team to consider as they plan for leading and preparing to announce major initiatives in his new administration.**