Efficiency, innovation in the age of energy transformation

By Reese Halter

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I've spent the past two harrowing months covering America's worst ecological disaster. Children and adults across our nation and the Western Hemisphere want to know what can be done to address an antiquated and toxic energy source.

Humans are remarkable problem solvers. We have found cures for polio and smallpox, landed on the moon and likely within a decade humans will visit Mars. There is every reason to believe that also within the coming decade we will make a remarkable transition away from being totally dependant upon fossil fuels by entering the Age of Energy Transformation.

Plumes of crude oil filled with 40 percent methane, which are still gushing one mile beneath the ninth-largest body of water on the globe, have killed at least a trillion forms of life — and this senseless and deplorable destruction bitterly reminds us that oil and gas are toxic and finite.

For any addiction, and make no mistake we are all currently addicted to oil, gas, coal and plastic (a petroleum byproduct) — we must first admit it. The second step is remembering that for every problem there are at least three solutions.

There are more than 6.8 billion people on Earth, and unless our species carefully plans for the future we will be exposed to risks that threaten our existence. At this very moment we have left deep footprints all over the globe from the Gulf of Mexico to the tar sands of northern Alberta to the deforestation of the Amazon and the dismantling of the largest remaining temperate rain forest along the coast of British Columbia.

Necessity is the mother of invention and if $18 billion per annum tax credits are directed away from the offshore drillers and coal producers and redirected to kick-start renewable, green energy technologies, we have not only a very bright future, but millions of jobs to look forward to in the next 10 years.

Let me remind you that disruptive technology has occurred at least twice in the past 100 years benefitting humankind.

For instance, Ford's Model T disrupted the horse and buggy and the silicon microchip disrupted millions of stenographers, enabling each of us the opportunity to own a personal computer. Renewable, green

technologies will disrupt our oil, gas and coal energy dependencies.

Change is opportunity in disguise. Business leaders like Microsoft co-founder Bill Gates, Bank of America's Chairman Chad Holliday and top venture capitalist John Doerr and many others in the American Energy Innovation Council all agree that the U.S. government needs to significantly increase funding for more efficient green technologies and develop a national plan to deploy it.

The United States has excellent colleges with access to a potent pool of brainpower. Centers of Excellence marrying corporate America with strategic college alliance will work toward replacing our current carbon-based oil and gas energy sources.

Coal-fired power plants each use at least 2.2 billion gallons of fresh water each year, and the southern half of America is drying out rapidly. Moreover, each year between 5 and 10 tons of mercury vapor are entering Earth's atmosphere from burning coal; 18 months later, it rains onto the Arctic ice. More ice than ever is melting and a known deleterious toxin — mercury — is entering our oceans and our food chain. More than 3.5 billion people rely on fish as their only source of daily protein.

Plastics are choking the Pacific and Atlantic oceans. The U.S. produces 15 billion pounds of plastic annually, and only 1 percent is recycled. The chemical titan DuPont is using corn-based polymers as a substitute for conventional plastics. The international agriculture conglomerate Cargil has developed a replacement for oil-based foams in cushions from soybeans.

A landmark decision earlier this year enabling offshore wind farms to be deployed across America opens up a brand new horizon to capture wind and power our cities. This will enable 27 coastal states that use 73 percent of the energy in America to begin harvesting renewable wind power. A recent study clearly showed that by connecting wind farms with long-haul DC transmission lines, they could overcome the biggest downside of wind power: intermittency.

Every hour the sun bathes the Earth with as much energy as all human civilization uses in an entire year. Innovations in the burgeoning solar industry have an enormous role to play in the carbon-free, green-energy field.

General Electric and Google have partnered together on a "smart" electricity grid including storage points with computerization management overlays allowing the new grid to intelligently deploy the energy along the way, enabling users to manage electricity more efficiently, with significant lower emissions, while America begins changing over its petroleum-based energy to green technologies.

Efficiency is an essential short-term bridge to innovation, which requires a federal government capital investment of at least $18 billion a year.

There are many lessons we have learned from the BP Deepwater Horizon blowout; it's time to put aside partisan investments and make a strong, bold commitment to a made-in-America solution.

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beginning.
