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## **2009 stimulus alternative energy and the future: America is at a crossroad and N.E. is at the center**

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The American Recovery and Reinvestment Act that was recently signed will provide upward of \$80 billion toward the design and development of the national alternative energy infrastructure. Renewable energy companies have historically relied on tax credits to help them grow and prosper. This legislation will expand the government's commitment to renewable energy resources. Our country consumes massive quantities of petroleum and electrical power every day. The American Recovery and Reinvestment Act is the first step to providing incentives to help build energy independence. Certainly, we will require a sustained and significant effort to transition our country to a new clean energy economy. It is expected by 2016 renewable energy will account for over \$225 billion of new infrastructure development.

Wind, solar, hydro, and biomass will see increased tax credits that extend far beyond the credits currently available. Historical credits lapsed annually which put tremendous pressure on these industries. By extending the tax credit timeline companies will be able to invest in longer term projects with reasonable assurance of their financial stability. Conservation and retrofitting energy efficiency in our aging infrastructure will deliver additional reductions in consumption. Upgrading existing buildings with insulation, thermo pane windows and programmable thermostats can achieve energy savings of 20-30% per building. Together, these initiatives can help move our society toward energy independence.

Modernizing the electrical grid is another critical component to our future conservation efforts. Our current electrical grid delivery systems waste up to 60 million kilowatts of power, the equivalent of 30 Columbia River dams or the combined electrical needs of California, Oregon and Washington state combined! Investment in how to generate, transport, utilize and store energy is critical to our future. It is essential we modernize our aging electrical grid, design and develop widespread alternative energy generating platforms and renovate our aging buildings with an emphasis on conservation. The \$80 billion contained in the stimulus package is only the beginning. However, these efforts can and will lead to sustained change in the way we produce, distribute and utilize energy. Our society must adapt to a new philosophical attitude toward conservation and recycling.

Wind power has proven to be the lowest priced renewable energy alternative. It is estimated wind power electrical generation can provide upward of 20% of this country's electrical power over the next 10 years. This resource is not without its detractors. Issues such as NIMBY, noise, wildlife, decreased property values or nuisance could impact future development of wind farms.

Solar energy has made significant strides in the last decade. Breakthrough designs have increased the efficiency of solar power panels. Even in the temperate climates of the northeast, solar power has become viable. Projects in western Mass., Conn. and at the Cummings Trade Center 128 are examples of integrating solar and conservation into a cohesive energy plan.

Biomass is a new and exciting area of renewable energy. Companies such as Ze-Gen have developed commercially viable gasification technology for converting industrial waste into synthetic gas. This synthetic gas is a renewable fuel that can be used to generate power for the industrial grid. Biomass alternative fuels could help reduce the dependence on fossil fuels. Wood chip, corn-based ethanol, cellulose based bio fuels are being developed. In addition to reducing our dependence of fossil fuels, biomass alternatives could reduce our carbon footprint.

America is at a crossroad and New England is at the center of the alternative energy research and development. Combining the incentives of the stimulus package with our regional intellectual capital, New England could be at the center of one of the most profound changes in our lifetime: energy independence. Energy independence can be achieved by investing in abundant renewable resources and investing in advanced technology that will improve the efficiencies of alternative energy systems.

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