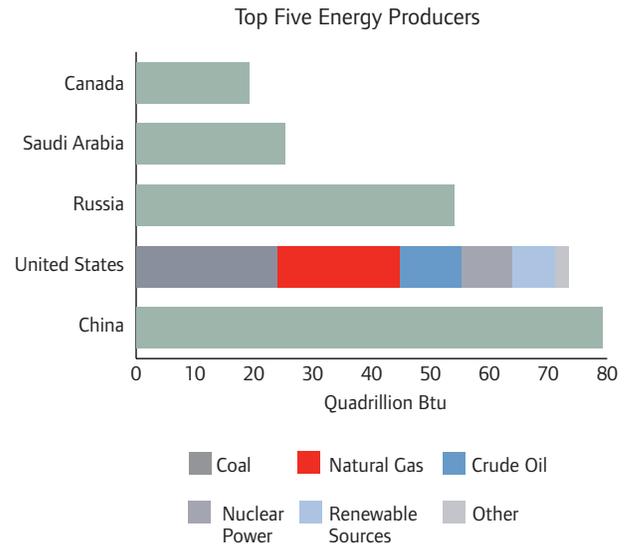




## Fast Facts

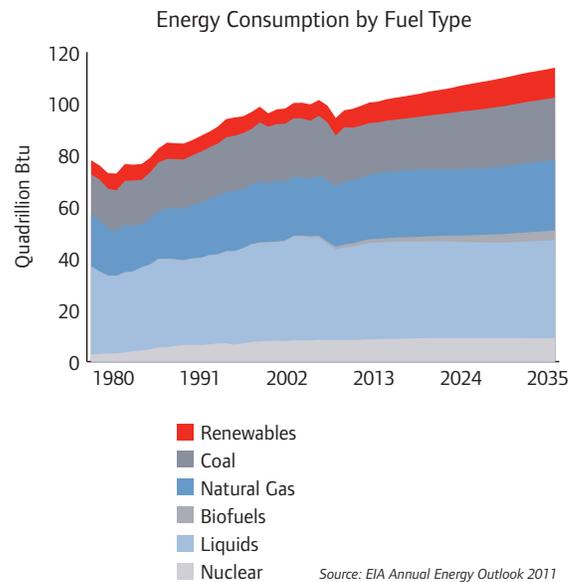
- Due to an abundant and diverse mix of energy resources, the United States is the world's second largest energy producer.<sup>1</sup>
- A 10 percent increase in the price of oil reduces U.S. GDP growth by 0.25 percent.<sup>2</sup>
- Increased generation from renewable energy in the U.S. electric power sector, excluding hydropower, is projected to account for 33 percent of the overall growth in electricity generation from 2010 to 2035.<sup>3</sup>
- U.S. oil and gas production is rising, and America is likely to become a net exporter of natural gas by 2021, largely due to the discovery and exploration of additional shale resources and other increases in domestic production.<sup>4</sup> These new resources and the growing abundance of natural gas in particular have significantly elevated the competitiveness of American manufacturing.
- Estimates suggest that the economywide net savings from energy efficiency investments could be more than a half trillion dollars over a decade as the cost of investments is more than offset by reduced energy costs.<sup>5</sup>

**Relying on an abundant mix of energy resources, the United States is the world's second largest energy producer.**



Source: U.S. Department of Energy, Energy Information Administration. International Energy Statistics; U.S. Department of Energy, Annual Energy Review 2011, Table 1.2

**The U.S. relies on a diversity of sources to meet its energy needs.**



Source: EIA Annual Energy Outlook 2011

***“In the debate of energy generation vs. energy efficiency, the answer is to do both.”***

*— David M. Cote, Chairman and CEO, Honeywell International, Inc.; Vice Chair, Business Roundtable; and Chair, Business Roundtable Energy and Environment Committee*

America needs an energy policy that ensures access to low-cost, sustainable sources of energy and power, which is key to GDP growth and job creation. Affordable and reliable energy sources can protect the environment while increasing energy and economic security, which in turn will enhance national security. This is the bedrock of a growing and competitive economy.

An effective national energy strategy must address energy supply and efficiency. Diversity of supply and greater efficiency are the two pillars of a pro-growth sustainable energy strategy. Energy efficiency — America’s great, untapped energy resource — can reduce consumption and lower cost at every step of the energy cycle: production, distribution and use. A comprehensive energy strategy should also address the aging energy infrastructure.

America has a variety of traditional energy resources, including coal, oil, natural gas, hydropower and nuclear generation. It possesses some of the best renewable resources in the world including, but not limited to, wind, solar, geothermal and biomass and first-class technology to harness those resources. America is also a leader in technologies to significantly boost energy efficiency, the lowest cost form of energy.

Additional U.S. energy resources and the untapped promise of much greater energy efficiency represent a new opportunity to dramatically improve America’s long-term access to energy. What is lacking is a coherent and comprehensive strategy to effectively leverage these advantages and realize the promise of this new opportunity.

Energy technologies will also support the “knowledge economy” by creating a growth opportunity for technology and engineering jobs. This, in turn, will make the United States more competitive on a global basis.

## **Traditional Sources**

America is blessed with large endowments of traditional energy sources, including coal, oil, natural gas and nuclear power, and through the creative power of the U.S. people and the nation’s businesses, the country is developing new energy sources for the future. Technological advances have been a key driver of the expansion of all forms of energy, including traditional energy sources. For example, today compressed natural gas is used as a viable alternative for fuel. Another important innovation known as hydraulic fracturing is fundamentally altering the U.S. energy landscape and significantly boosting domestic supplies of oil and natural gas from shale formations. Shale gas currently represents 34 percent of America’s total natural gas production, and it is estimated that, based on current consumption rates, the country has more than a 90-year supply of this clean and affordable fuel.<sup>6</sup>

This bodes well for U.S. manufacturers that use natural gas both as a fuel and as a feedstock material. This same technology is also reshaping the oil exploration industry, with domestic production increasing from 5.0 million barrels a day in 2008 to 5.6 million barrels a day in 2011.<sup>7</sup> The United States also has vast endowments of coal — the equivalent of nearly a 250-year supply at current rates of consumption.<sup>8</sup> Through the development of clean coal technologies, the country will be better positioned to use these resources in a more environmentally friendly manner. Collectively, these resources represent a new opportunity to dramatically improve the nation’s long-term energy and economic situation after a long period of limited growth in domestic energy production.

The costs and benefits of producing and using these fuels, like all energy sources, vary greatly depending on changing market conditions and a host of other factors. This makes picking the most beneficial fuels and technologies an inherently challenging task. The market is better positioned than the government to make decisions regarding the appropriate mix of different energy resources. Government does, however, have the responsibility of ensuring that energy use decisions do not result in excessive external costs, such as environmental degradation or other market failures. To fulfill this responsibility, government should set broad performance standards to facilitate clean sources of energy, rather than adopt restrictive policies that mandate the deployment of particular technologies and fuels. However, the government should ensure, for all sources of energy, that viable projects are not unnecessarily delayed through an ineffective and slow permitting process.

## **Renewable Energy**

BRT believes that renewable energy must continue to be a key component of the U.S. energy portfolio and the federal government has an important role to play in encouraging development of these technologies. New sources of energy will still be necessary to meet the needs of a growing economy. Satisfying these needs in a sustainable manner will require the deployment of technologies that leverage the nation's domestic resources, including solar, wind, biomass and geothermal.

New technologies often require government support for widespread deployment, which is the case with many new sources of renewable energy. To foster this energy innovation, the government should put in place policies and other finite supporting mechanisms that will lead to the deployment of renewable energy technologies that are economically and technically feasible.

Importantly, however, when supporting these technologies, the government should remain technology neutral — the government should not be in the business of picking winners or losers.

## **Energy Efficiency**

Energy efficiency is the lowest cost form of energy. While further discoveries of traditional energy sources and development of renewable technologies will contribute to America's growing energy base, energy efficiency technologies and practices represent many of the least costly options for meeting the country's future energy needs. Some estimates suggest that the economywide net savings from such investments could be more than a half trillion dollars over a decade as the cost of investments is more than offset by reduced energy costs.<sup>9</sup> These savings could be across sectors, including manufacturing, commercial and residential building, and transportation.

Nevertheless, many cost-saving energy efficiency improvements are unrealized due to information deficiencies, poorly matched incentives and "agency problems." For example, landlords that pass energy costs on to their renters often lack the incentive to make energy efficiency investments because they do not pay those bills. Also, renters who do not pay their own energy costs typically have no incentive to conserve energy. Meanwhile, many utilities may lack incentives to consider energy efficiency as a resource because many of their state regulators set rate structures that favor new-generation investments over demand-side efficiency improvements.

Government policies can help to better align incentives and reduce barriers to energy efficiency improvements. As major consumers of energy, local and state governments, the federal government, and the military can adopt proven cost-saving efficiency technologies, demonstrating their potential to other energy users and driving technological advancements that could further lower costs.

*In New South Wales, government-owned or -tenanted office buildings of more than 1,000 square meters must achieve and maintain a National Australian Built Environment Rating System rating of 4.5 stars for energy and water consumption.*

In Australia, the government implemented the National Australian Built Environment Rating System (NABERS), a program rating buildings' environmental performance on a scale of one to six stars in four key areas: energy consumption, water consumption, waste management and the built environment. The NABERS program is managed by the New South Wales (NSW) Office of Environment and Heritage. In NSW, government-owned or -tenanted office buildings of more than 1,000 square meters must achieve and maintain a NABERS rating of 4.5 stars for energy and water consumption.<sup>10</sup> This simple change has had a meaningful impact on the adoption of energy efficiency measures in Australia.

Also, building codes and appliance efficiency standards can accelerate the adoption of technologies that lower the net costs consumers face. Government can play an important role in advancing energy efficiency by ensuring that consumers get relevant information prior to making investments in appliances and homes, while at the same time not picking winners or losers among the various energy efficiency technologies. This can be accomplished through greater information sharing, such as disclosure of energy usage prior to the sale of a home, or by leveraging the government's unique public outreach capabilities to directly inform consumers about the potential cost savings of energy efficient technologies.

Adoption of energy efficient technologies has generated tens of thousands of new jobs in the industries that supply efficiency technologies (e.g., construction, manufacturing) over the past decade.<sup>11</sup> Energy efficiency does not, however, just drive jobs in those sectors. By making businesses more competitive and providing consumers with more purchasing power, cost-effective energy efficiency investments can unlock capital for deployment elsewhere and drive job growth throughout the broader economy, thus enhancing America's international competitiveness.

## **Solutions**

- ▶ **Implement an effective national energy strategy** that addresses both energy supply and energy efficiency. America needs a coherent and comprehensive energy policy that ensures access to affordable and reliable sources of energy, which is key to GDP growth and job creation.
- ▶ **Allow the market, not the government, to make decisions** regarding the appropriate mix of different energy resources and energy efficiency technologies. Technology neutrality is key.
- ▶ **Put in place policies and other finite supporting mechanisms that will lead to the deployment of renewable energy technologies** that are economically and technically feasible. As is the case with many new sources of renewable energy, new technologies often require government support for widespread deployment.
- ▶ **Properly incentivize energy efficiency** to ensure widespread deployment.

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