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PERSPECTIVES:

# Shining a Light on Alternative Energy

MARCH 2012

Around the world, market uncertainty, a sluggish global economy, and renewed interest in natural gas have weakened near-term support for alternative energy investment. Yet, the pressing need to develop new energy sources, and move toward a low-carbon economy, remains unchanged. Fossil fuels are still finite resources with inequitable geographic distribution, and the world’s reliance on them is still accelerating the pace of climate change. In contrast, alternative energy sources—such as solar, wind, and biofuels—represent potentially infinite, renewable sources of clean energy that can’t be ignored.

**A number of factors point to the possibility of strong, long-term growth momentum for this sector, including:**

- Five key macroeconomic trends favoring alternative energy growth remain intact (p. 2)
- Valuations are attractive by historical standards (p. 6)
- Alternative energy offers potential portfolio diversification benefits (p. 6)

Furthermore, the economic benefits of alternative energy investments should become increasingly self-evident as more companies exploit advances in renewable energy and energy efficiency to reduce their short-term energy costs and address the risks of climate change in their long-term business models.

We believe the alternative energy sector offers attractive upside potential to investors who can tolerate risk in their portfolios and have a long-term outlook. In this paper, we examine the current state of the industry and the specific trends and growth opportunities that could benefit investors over time.

**THE GLOBAL ENVIRONMENT: LOOKING AHEAD**

Several headwinds have slowed the pace of discovery and development of new energy alternatives. Concerns about global economic growth have preoccupied lawmakers and stalled government support and subsidies for renewable energy in key markets such as the United States, Spain, and France. At the

continued >>>

**Global energy consumption is projected to rise 45% from 2011 to 2035, with an increase of 80% in industrializing countries like China and India.** — U.S. ENERGY INFORMATION ADMINISTRATION, 2011



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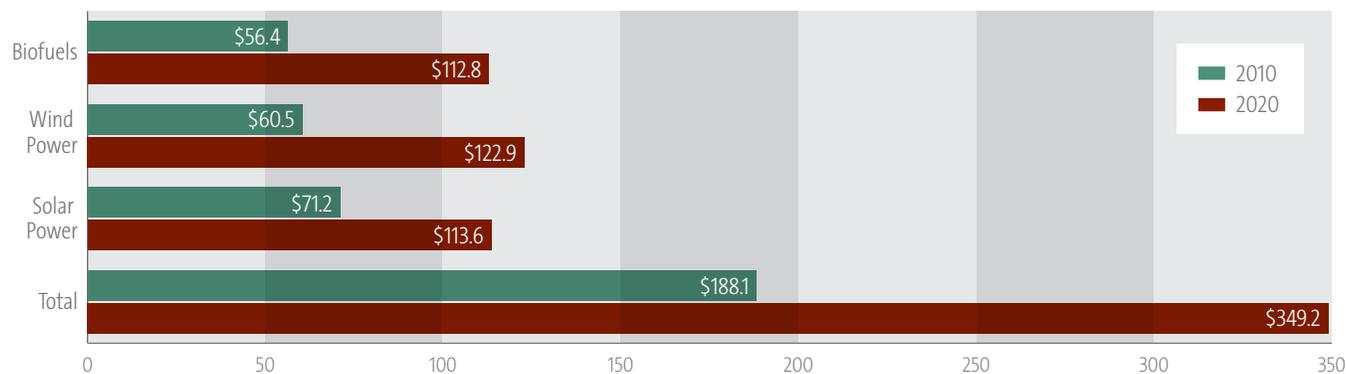


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## GLOBAL CLEAN ENERGY PROJECTED REVENUE GROWTH FROM 2010—2020 (\$U.S. Billions)

Global revenue for select renewable energy technologies will grow by 88% by 2020.



Source: Clean Energy Trends 2011.

An increase in clean energy revenue growth does not necessarily indicate positive investment results for a fund investing in energy or alternative energy. The energy and alternative energy sectors can be volatile. Investment involves risk, including possible loss of principal.

same time, a boom in North American natural gas production has contributed to a pull-back from alternative energy—despite environmental, health, and safety concerns over “fracking” and other newer drilling technologies.

On the other hand, renewed interest in alternative energy sources has been spurred by geopolitical events and concerns about the safety of nuclear energy. Turmoil in the Middle East and North Africa (MENA) region—which is projected to lead global oil output through 2035<sup>1</sup>—has heightened energy security concerns in the United States and elsewhere. Meanwhile, the devastating impacts of the Fukushima nuclear power plant leaks in post-tsunami Japan have led some countries, such as Germany and Japan, to reconsider their nuclear power policies altogether and move more aggressively to develop alternative energy.

Alternative energy companies can be defined a variety of ways. For Calvert, the term refers to companies dedicated to reducing our reliance on fossil fuels. This generally includes companies involved in developing:

- Renewable energy sources, such as wind and solar
- Conservation and efficiency technologies, such as for lighting and large engines (e.g., automotive)
- Mechanisms that store generated power for later use, including fuel cells, hydrogen generators, and batteries

### Renewable Energy Use on the Rise

Overall, alternative (or renewable) energy now meets 10% of total global energy demand.<sup>2</sup> Wind and hydroelectric power dominate, although other sources are also growing. In fact, globally, renewable energy usage is expected to nearly triple between 2010 and 2035—at which point it will represent 14% of the world’s primary energy supply.<sup>3</sup>

During this decade, alternative energy industry revenue is also expected to increase. As seen in the chart above, the combined global revenue for solar power, wind power, and biofuels is projected to grow by more than 88% by 2020. Wind power is expected to gain the most, although solar power and biofuels are close behind.

In the meantime, new global sustainable energy investment—including venture capital, public market and private equity financing, and government spending—rose 32% to a record-breaking \$211 billion in 2010.<sup>4</sup> For the first time ever, developing economies accounted for the bulk of new investments. Given these countries’ soaring energy needs, this trend is likely to continue in the years to come.

## GLOBAL MACROECONOMIC TRENDS: FIVE KEY DRIVERS FOR SUSTAINED ALTERNATIVE ENERGY GROWTH

We expect five broad macroeconomic trends to fuel sustained alternative energy sector growth:

1. Rising global energy demand
2. Increasing risks of oil reliance
3. Advances in new-energy technologies and falling input costs
4. The growing impacts of climate change
5. An evolving regulatory landscape

### 1. Rising Global Energy Demand

Growing populations and improving standards of living will continue to drive global energy demand well into the future. Between 2011 and 2035, global energy consumption will rise by 45%, while demand in industrializing and emerging countries will increase by 80%, according to the U.S. Energy Information Administration.<sup>5</sup>

In China, energy demand has more than doubled in under a decade and energy demand has risen rapidly in India as well, driven by industrialization and rapid economic growth. In fact, in 2010, China’s energy consumption surpassed that of the United States, forcing the Western world to compete for oil resources for the first time in 60 years.<sup>6</sup> Yet China’s *per capita* energy consumption remains about one-third that of the more economically developed member countries of the OECD\*—indicating the potential for even more growth. It’s estimated that combined energy use for China and India will more than

double by 2035—to account for 31% of the world’s total energy consumption.<sup>7</sup> Both countries are depending on alternative energy to help meet their growing energy needs.

## 2. Increasing Risks of Oil Reliance

While the demand for energy is rapidly expanding, the supply of conventionally available oil is contracting. As supplies decline, oil producers must spend more money to tap less accessible oil reserves and transport it from ever-more distant locations, meaning that costs for end-users will continue to climb.

The location of conventional oil supplies creates a profound issue of energy security as well. More than 80% of the world’s proven oil reserves are located in OPEC\*\* countries, with two-thirds of OPEC oil reserves in the troubled Middle East.<sup>8</sup> Furthermore, about 90% of the world’s conventional oil reserves are controlled by governments that could decide at any time to simply stop selling oil abroad.<sup>9</sup> In contrast, renewable energy sources are far more accessible and much less susceptible to political risk. A country’s ability to produce sustainable renewable energy could drastically reduce its vulnerability to policy or market dislocations.

## 3. Advances in New-Energy Technologies And Falling Input Costs

Rapidly advancing, cutting-edge technology is helping alternative energy projects tap efficiencies of scale, improve transmission and logistics, and push down costs—and this trend should continue to escalate.

Overall wind and solar costs, for example, have been declining since 2004. Per megawatt, solar photovoltaic module costs have dropped 60% in recent years and wind turbine prices have fallen 18%.<sup>10</sup> The Lawrence Berkeley National Laboratory reports that the cost to install solar power in the United States fell 17% in 2010, the fastest drop in the 13 years it has tracked costs, and should decline even faster in the future.

## AT THE HELM OF ENERGY EFFICIENCY

Johnson Controls (JCI) is providing energy-saving solutions that are cutting costs for more than one million commercial buildings across seven continents. In China, for example, where buildings account for approximately 30% of all energy consumed, JCI is converting the luxurious Hongta Hotel, Shanghai, to an energy-efficient, green property, tackling lighting, utilities and water efficiency. JCI expects to reduce the hotel’s energy consumption by 15% over the next six years.

After years of success in Europe, JCI is introducing batteries to the U.S. car market that automatically turn off idling car engines. By reducing fuel use and emissions by 5% to 12%, these stop-start battery systems are a relatively simple solution for automakers striving to meet new fuel efficiency standards.

Source: [www.johnsoncontrols.com](http://www.johnsoncontrols.com)

*As of February 29, 2012, Johnson Controls represented 2.3% of Calvert Global Alternative Energy Fund. Calvert may or may not invest in, and is not recommending any action on, company listed. For the most recently available information on individual holdings in each Calvert equity fund, visit [www.calvert.com](http://www.calvert.com). Current and future portfolio holdings are subject to market risk.*

These forces are moving solar power closer to the critical juncture of grid parity—the point at which renewable energy costs are about the same as conventional power—which will accelerate demand for solar. Wind is already cost-competitive against coal and natural gas power in some regions of the United States.<sup>11</sup>

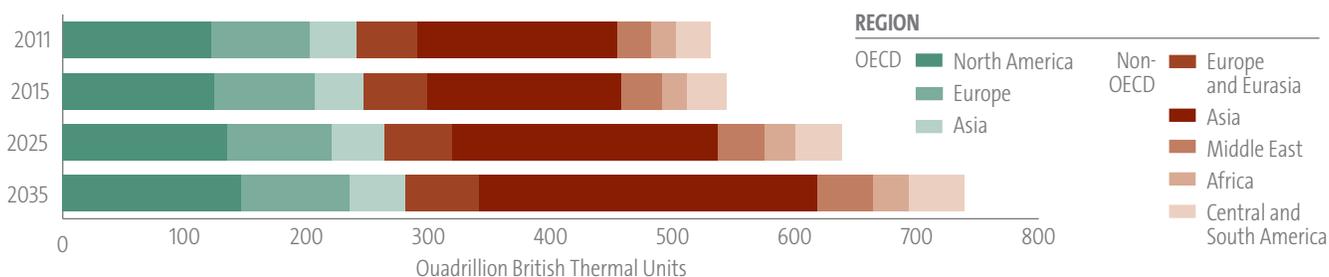
**Energy Efficiency.** Improving energy efficiency throughout the power cycle and developing ways to store excess power are important to optimizing the viability and benefits of alternative energy. Experts at global bank HSBC predict that during the

\* The Organization for Economic Cooperation and Development (OECD) is comprised of economically developed countries, including the United States, European countries, Australia, and Canada. It promotes economic and social welfare throughout the OECD area.

\*\* Headquartered in Vienna, OPEC, or the Organization of Petroleum Exporting Countries, is an intergovernmental organization of 12 oil-producing countries made up of Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

## PROJECTED INCREASE IN WORLD ENERGY CONSUMPTION, BY REGION, FROM 2011–2035 (Quadrillion British Thermal Units)

Between 2011 and 2035, global energy consumption is projected to increase 45%, with about 80% of that demand coming from developing nations, especially China and India.



Source: Energy Information Administration (EIA), *Annual Energy Outlook 2011*

next decade, the energy efficiency industry will grow even faster than renewable energy, with revenues quadrupling to \$1.2 trillion in 2020.<sup>12</sup> In fact, investment in efficiency retrofits and new construction alone could grow to \$700 billion annually by 2030.<sup>13</sup>

#### 4. The Growing Impacts of Climate Change

As energy use grows—so do greenhouse gas emissions—and they are rising rapidly, particularly in economically expanding countries. There is broad scientific consensus and public concern about the growing impact of climate change. The Intergovernmental Panel on Climate Change (IPCC) has established that the earth is warming, accelerated by human activity. This has contributed to a rise in sea levels, increased flooding, disruption of ecosystems and agricultural zones, more widespread pest infestation, and new disease patterns. As these trends continue, they will most certainly affect the security of the world’s food supply, transportation and trade, and basic water and energy infrastructure to ever-greater degrees.

In the world of commerce, climate change poses significant risks to companies across many industries. Severe weather can hamper operations and supply chains or cause higher raw material and input costs. Alternative energy initiatives help temper these risks by reducing carbon emissions, diminishing warming, and improving infrastructure.

**Businesses respond to carbon costs.** Addressing the risks and opportunities associated with climate change has become a critical test of corporate leadership and sustainability. Heightened corporate competition, rising resource costs, price volatility, and regulatory uncertainty have created an environment that demands smarter designs, leaner operations, and improved efficiencies. The traditional energy model is too large and inflexible to meet the needs of many companies as they work to become more efficient. We believe the cornerstones of more efficient systems will be found in alternative technologies.

Already, many companies’ strategic plans include cleaner, less energy-intensive technologies and processes designed to help reduce the risk of external factors, such as carbon costs.

#### CALVERT’S POLICY PRIORITIES: BUILDING MOMENTUM FOR CLIMATE CHANGE SOLUTIONS

Calvert seeks to foster the growth of alternative energy solutions through research, advocacy, and public policy efforts. Our priorities include:

- Adopting standards and incentives for alternative energy and efficiency—specifically, a national standard that requires utilities to generate at least 25% of their electricity from renewable sources by 2025.
- Adaptation measures to build resiliency in the wake of ongoing, irreversible climate change.
- Establishing a carbon price through national legislation and international negotiations.

#### 5. An Evolving Regulatory Landscape

The realities of the international and domestic regulatory environment have changed significantly over the last few years. While progress was made at international climate change conferences in Copenhagen and Durban in recent years, a binding carbon-emissions reduction agreement remains elusive. On the home front, the U.S. Congress abandoned a major climate change bill that would have capped carbon emissions. The result has been an uncertain policy environment for clean-energy technologies, as well as a lack of clarity regarding energy-mix targets for renewable and fossil fuel energy use.

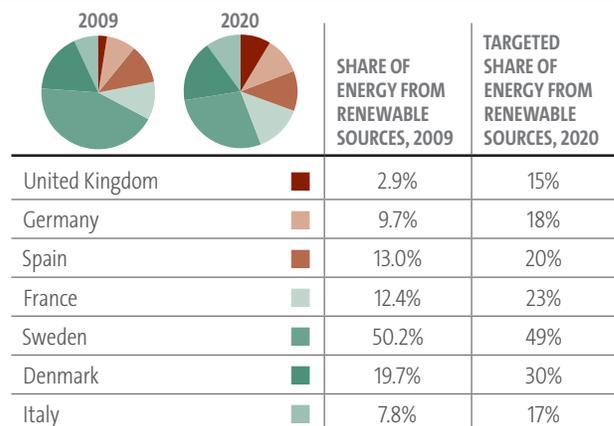
Despite the lack of new binding international or domestic commitments, we are seeing pockets of progress towards a lower carbon economy emerging from certain countries, U.S. states, and economic sectors—with initiatives increasingly funded by public and private resources.

**Regulatory Support.** Many governments are striving to develop sustainable energy policies that aim to reduce greenhouse gas emissions and foster energy independence.

##### United States

- Thirty states and the District of Columbia have renewable

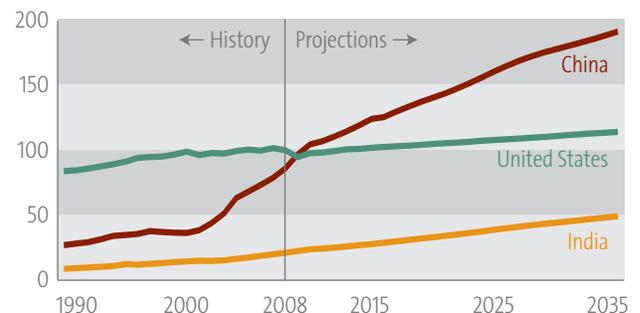
#### EUROPEAN UNION ENERGY USE AND CONSUMPTION TARGETS



Source: [http://ec.europa.eu/energy/renewables/targets\\_en.htm](http://ec.europa.eu/energy/renewables/targets_en.htm)

#### ENERGY CONSUMPTION IN THE UNITED STATES, CHINA, AND INDIA 1990–2035 (Quadrillion British Thermal Units)

Energy consumption in China has doubled in less than a decade, surpassing that of the U.S. in 2010.



Source: U.S. Energy Information Administration, [www.eia.gov/forecasts/ieo/world.cfm](http://www.eia.gov/forecasts/ieo/world.cfm).

## DEVELOPMENTS IN ALTERNATIVE ENERGY



**WIND** | Wind is one of the most cost-competitive, technologically mature, and scalable renewable energy sources available.

- In 2010, global wind power installations reached a record 32.5 GW. A gigawatt (GW) is a unit of electric power equal to one billion watts.
- Developing countries topped developed countries for the first time, led by China, which accounted for 45% of new installations.<sup>1</sup>
- Wind again received the lion's share of new investment dollars in 2010, with total investment of \$94.7 billion, up 30% from 2009.<sup>2</sup>
- Capital for new wind projects is expected to grow to \$122.9 billion by 2019.<sup>3</sup>

**SOLAR** | Solar is one of the fastest-growing alternative energy sources.

- New photovoltaic (PV) installations more than doubled in 2010 to 15.6 GW, led by the European Union and Germany in particular.<sup>4</sup>
- By 2020, solar PV systems are expected to be cost-competitive in 47 states for retail residential energy and in 35 states for commercial users.<sup>5</sup>
- Solar PVs are projected to become a \$113.6 billion industry by 2020.<sup>6</sup>
- New markets and applications will spur solar PV capacity to rise an estimated 18% annually through 2015, with one global bank predicting annual growth of 101% in India.<sup>7</sup>

**HYDROPOWER** | Hydro- or water power is a well-established, reliable technology with low operating costs.

- Advantages include minimal pollution and cost-competitiveness with fossil fuel.

Disadvantages include high capital costs and significant environmental and social implications related to large dams.

- Asia and Latin America, particularly China and Brazil, are the most active regions for new hydropower development.<sup>8</sup>

**GEOTHERMAL** | Geothermal energy, which taps the earth's heat to convert to power, is capital intensive. However, it benefits from low operating costs since no fuel purchases are required.

- This market segment grew by 44% in 2010.<sup>9</sup>
- Currently, 188 geothermal projects are in development in 15 states which will provide electricity for 7.6 million people.<sup>10</sup>

**BIOFUELS** | Biofuels, derived from a range of plant and organic materials, are currently the only renewable alternative to traditional transportation fuels.

- Biofuels could potentially meet 27% of world demand for transportation fuels by 2050, cutting greenhouse gas emissions by 2.1 billion tons per year.<sup>11</sup>
- The U.S. Renewable Fuel Standard requires that 36 billion gallons of renewable fuel be blended into transportation fuel by 2022.<sup>12</sup>
- Biofuel revenues are projected to grow to \$112.8 billion by 2020.<sup>13</sup>

**OCEAN/WAVE** | While ocean/wave power is not yet commercially viable, the potential is enormous.

- At least 25 countries are involved in ocean energy development, although all current ocean power is located in the EU.<sup>14</sup>
- Wave power could produce 40MW to 70MW of power per kilometer along

the western U.S. coastline but cost and technological improvements are needed for larger scale applications.

**FUEL CELLS** | An energy storage device, fuel cells are heralded as one of the most promising elements of a clean energy future.

- Fuel cells produce usable energy with water as the only by-product.
- Usable in applications ranging from large-scale stationary power to portable devices and cars.

**BIOMASS** | Biomass refers to organic materials used as renewable energy sources, such as wood, crops, and waste. It has the potential to yield higher energy returns, especially in heat, than other renewable sources.

- Biomass operates effectively without interruption, unlike wind and solar.
- Currently, it represents approximately 3% of U.S. energy production.<sup>15</sup>

**EFFICIENCY & CONSERVATION** | Efficiency and conservation technologies help improve the efficiency of machinery, lighting, construction, energy transportation, energy storage, and more.

- Investment in efficiency retrofits and new construction could grow to \$700 billion annually by 2030.<sup>16</sup>
- Improving energy efficiency may be the most compelling solution to reducing greenhouse gas (GHG) emissions while generating cost savings and creating jobs.
- Smart building innovations are fueling efficiency policies, incentives, and financing.

<sup>1</sup> Clean Energy Trends 2011, March 2011 <http://www.cleaneedge.com/reports/pdf/Trends2011.pdf>

<sup>2</sup> UNEP, Global Trends 2011 Datapack

<sup>3</sup> Clean Energy Trends 2011, March 2011

<sup>4</sup> Renewables 2011, Global Status Report

<sup>5</sup> Clean Energy Trends 2011

<sup>6</sup> Ibid.

<sup>7</sup> Bank Sarasin, "Solar industry: Survival of the fittest in a fiercely competitive marketplace," November 2011

<sup>8</sup> Renewables 2011, Global Status Report

<sup>9</sup> UNEP, Global Trends 2011

<sup>10</sup> Geothermal Energy Association, April 2010 U.S. Geothermal Power Production and Development Update

<sup>11</sup> IEA, Technology Roadmap: Biofuels for Transport, 2011

<sup>12</sup> U.S. Environmental Protection Agency, <http://www.epa.gov/otaq/fuels/renewablefuels/index.htm>

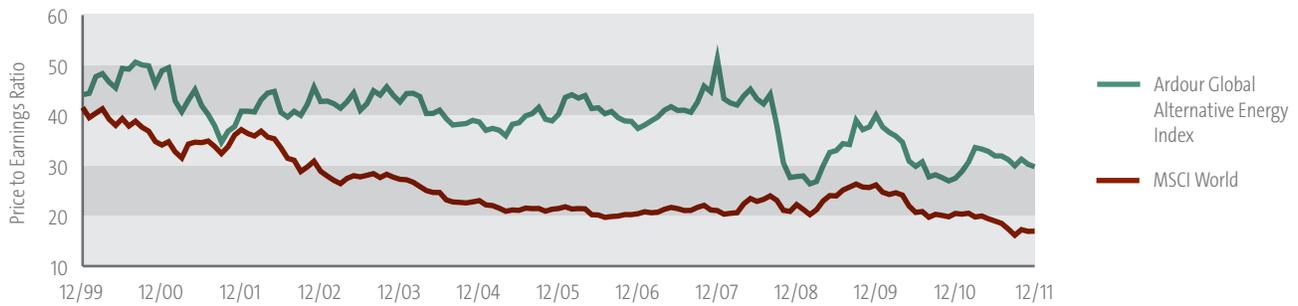
<sup>13</sup> Clean Energy Trends 2011

<sup>14</sup> Renewables 2011, Global Status Report

<sup>15</sup> Clean Energy Trends 2011

<sup>16</sup> ACEEE, "The Size of the U.S. Energy Efficient Market: Generating a More Complete Picture," May 2008, <http://www.aceee.org/pubs/e083.htm>

Decreasing valuations of alternative energy stocks have narrowed the gap with international stocks



Source: Kleinwort Benson Investors International, Ltd. and Datastream.

energy standards that establish specific, legally binding targets for renewable energy production.<sup>14</sup>

- California continues to lead the way, with its landmark Renewables Portfolio Standard (RPS) law calling for the state to generate at least one-third of its electricity from clean energy by 2020.<sup>15</sup>
- A 30% investment tax credit (ITC) grant for all commercial and residential solar applications is available until 2016.

### European Union

- Regulations vary and subsidies are changing across Europe, but core carbon reduction targets remain strong and markets are maturing in some countries.
- The European Union’s (EU) 20-20-20 initiative aims to: reduce greenhouse gas (GHG) emissions by 20% from 1990 levels; generate 20% of total power from renewable sources; and reduce energy use by 20% by 2020.
- Today, renewables represent about 20% of Germany’s energy supply and the government has targets of 30% by 2020 and 80% by 2050.

### China

- China has surged to the forefront of renewable energy leadership in recent years.
- The country’s 12th five-year plan commits billions of dollars to the environment and clean energy and projects that the nation’s installed wind power will reach 150 gigawatts by 2020.<sup>16</sup> (A gigawatt [GW] is a unit of electric power equal to one billion watts.)
- In 2010, China accounted for nearly 25% of global renewable energy investment, allocating \$49.8 billion.<sup>17</sup>

## ATTRACTIVE ALTERNATIVE ENERGY VALUATIONS

Long-term growth potential, driven by strong macroeconomic trends, is one reason to consider investing in the alternative energy sector. In addition, the sector’s current share price valuations are attractive from a historical perspective. For example, during August and September 2011, the Ardour Global Alternative Energy Index was trading at about 27 times current price-to-earnings, its lowest valuation in 10 years.

The gap between the price-to-earnings ratio of the Ardour Index and the MSCI World Index has also narrowed, as illustrated in

the chart above. We believe the low valuation of the Ardour Index, and the narrowing of these price-to-earnings ratios, fully reflects the negative sentiment in the marketplace, as well as the headwinds currently facing the sector. The uncertain environment is keeping valuations low, despite attractive long-term supply and demand fundamentals, creating opportunities for investors with a long investment horizon who can tolerate risk.

## ENHANCED PORTFOLIO DIVERSIFICATION

Alternative energy investments can enhance portfolio diversification in several key ways. First, a portfolio that invests in a concentrated, sector-specific manner generally will yield different results than funds meant to be representative of a large market segment, such as U.S. large-cap or small-cap stocks. This is partly due to the typically low overlap between alternative energy funds and broader-based equity fund holdings, as evidenced by a comparison of the Ardour Global Alternative Energy Index (Composite) and the S&P 500 Index or the Russell 2000 Index, for example.

Additionally, alternative energy investors can benefit by:

### Diversifying Globally

Energy issues are global, as are the solutions. With key sector players located around the world, alternative energy investments can provide the potential benefits of international diversification.

## THE ENERGY AND WATER NEXUS

Energy and water are inextricably linked. About 4% of the United States’ energy supply is dedicated to moving and treating water.<sup>19</sup> Of course, water is required to generate energy too. One gallon of gasoline refined in the United States uses 3.4 to 6.6 gallons of water.<sup>20</sup> As global populations grow, the efficiency of both energy production and water systems needs to improve. This demand will require better engineering, planning, and management practices, as well as create a vast market for efficiency-improving technologies, including meters, pumping systems, and more.

For some investors, an allocation to the alternative energy sector is considered a part of their international equity allocation.

### Complementing Commodities

Alternative energy also offers some diversification from commodities—which include bulk goods such as grains, metals, and foods that are traded on an exchange. The Ardour Global Alternative Energy Index and the Dow UBS Commodity Index had a 69% correlation as of December 31, 2011, for example.<sup>18</sup> Therefore, some sophisticated investors have added alternative energy companies to the commodity allocation of their portfolio to help lower overall portfolio risk.

### Hedging Against Climate Change Risk

Alternative energy technologies may also be used as an implicit hedge against environmental risk. Climate change can have a variety of negative impacts on companies. In some cases, corporations that are strongly exposed to environmental risks—such as oil drillers and refineries—may see steep share

price declines as more frequent weather-related events, such as hurricanes, shut down or damage their coastal facilities. By including alternative energy companies in their portfolios, investors can help balance the risks of environmental events.

In short, adding alternative-energy companies to a portfolio can help investors manage their overall investment risk more effectively.

### CONCLUSION

Overall, progress toward a low-carbon economy continues in the United States and abroad, through both public policy initiatives and private investment. Funding for clean technology projects remains strong and revenue growth projections are appealing.

The long-term, macroeconomic trends that support our investment growth expectations remain unchanged. In fact, with share prices trading at attractive valuations, the potential benefits for investors are significant. Therefore, we think it is a

## THREE ALTERNATIVE ENERGY LEADERS

### SOLAR

**Trina Solar** | Changzhou, China

Trina Solar is an integrated solar-power products company with a global distribution network. Recently, it was named one of six solar companies best positioned for strong photovoltaic (PV) market growth.<sup>1</sup> Efficiencies from producing its own ingots, wafers, cells, and PV modules give Trina a low-cost advantage in the falling-price solar market, and should enable it to continue taking market share from less-efficient competitors.

To break away from the solar pack, Trina is developing innovative products like its new “honey” technology platform, which recently achieved a world record for module power output. The company also signed a three-year research agreement with the Australian government to develop high-efficiency silicon solar cells. On the sustainability front, the Silicon Valley Toxics Coalition’s “solar scorecard” gave Trina high ratings for responsibly managing the potential negative environmental and health impacts of PV modules throughout their life cycle.

### WIND ENERGY

**EDP Renováveis S.A.** | Madrid, Spain

EDP Renováveis (EDPR) is the world’s third-largest wind energy company, with a diversified portfolio of more than 180 wind farms in 11 countries across Europe, North America, and South America. The firm recently formed a strategic partnership with China’s largest clean energy company to take advantage of growth in that region. Seeking markets with a stable regulatory environment and attractive growth and profit potential has helped drive robust sales growth of 20% annually over the last three years.<sup>2</sup> EDP has wind projects in various stages of construction and development in Italy, Canada, and the UK and is expanding in Europe. In 2011, about one-third of the capacity EDPR installed was located in Romania and Poland—it expects to install another 100MW in those countries this year. The firm recently entered the Italian market and has signed long-term contracts with various U.S. energy companies as well.

### ENERGY EFFICIENCY/SMART GRID

**Prysmian SpA** | Milan, Italy

Prysmian is a market leader in producing direct-current, high voltage and submarine cables for power transmission. As one of a handful of companies that builds underwater cable systems used by off-shore wind farms, it plays an essential role in connecting renewable energy to end-users. A dearth of competitors has helped Prysmian quickly secure a 50% market share and high profit margins, and its industrial profile also makes it a stable offering in the smart-grid sector.

Prysmian’s cable wind business has expanded in the high-growth areas of South America, China, India, and Australia, fueling double-digit sales growth.<sup>3</sup> The European Union’s re-stated commitment to developing renewable energy and upgrading electricity grids solidifies additional growth opportunities, with strongest demand expected in Germany, Denmark and Eastern Europe.

<sup>1</sup> Bank Sarasin, “Solar industry: Survival of the fittest in a fiercely competitive marketplace,” November 2011

<sup>2</sup> EDP Renováveis Investor Presentation, March 2012, [www.edprenovaveis.com/Investors/Publications/Presentations/Article/2236](http://www.edprenovaveis.com/Investors/Publications/Presentations/Article/2236)

<sup>3</sup> Prysmian Group, Company Presentation—November 2011, [http://media.corporate-ir.net/media\\_files/IROL/21/211070/PrysmianPresentation\\_November11.pdf](http://media.corporate-ir.net/media_files/IROL/21/211070/PrysmianPresentation_November11.pdf)

As of February 29, 2012, Trina Solar represented 2.3%, EDP Renovaveis 4.2%, and Prysmian SpA represented 3.4% of Calvert Global Alternative Energy Fund. Calvert may or may not invest in, and is not recommending any action on, companies listed. For the most recently available information on individual holdings in each Calvert equity fund, visit [www.calvert.com](http://www.calvert.com). Current and future portfolio holdings are subject to market risk.

## ALTERNATIVE ENERGY VERSUS CLEAN TECH

While they're sometimes used interchangeably, alternative energy is actually a sub-set of clean technology. Alternative energy includes efficiency, energy production, and energy storage. "Clean tech" refers to a broader set of technologies that address the management of natural resources and waste. Examples include water treatment and distribution, recycling, and waste reduction.

good time for investors to consider adding alternative energy to their portfolios and positioning themselves to reap the potential benefits from future growth, as well as enhanced diversification.

At the same time, investors must be aware that a number of factors can impact the sector, including energy price fluctuations, supply and demand of alternative energy fuels, energy conservation, and government regulations and policies. The alternative energy sector can be volatile over time. Investment in this sector involves risk, including possible loss of principal.

### The Benefits of Expert Management

The alternative energy sector is complex and rapidly evolving. Stock evaluation should be done with the help of investment pro-

fessionals who possess the skill and expertise to knowledgeably assess the future growth prospects of these unique companies.

Calvert and its subadvisor, Kleinwort Benson Investors International Ltd., focus on selecting market leaders with strong fundamentals and attractive valuations in industries supported by regulatory and fiscal stimulus. We also tend to favor sub-sectors that fully reflect current economic circumstances and regions with favorable dynamics.

In short, with energy demand expected to increase exponentially worldwide, we see compelling investment opportunities across alternative energy, energy efficiency, and energy technology companies for years to come. ■

**Calvert Global Alternative Energy Fund (CGAEX) is an all-market-cap, alternative energy sector mutual fund that invests in a globally diverse selection of companies. For more information and updates about the sector and the Fund, please visit us online at [www.calvert.com](http://www.calvert.com).**

<sup>1</sup> UNEP, Global Trends 2011

<sup>2</sup> U.S. Energy Information Administration, International Energy Outlook 2011 <http://www.eia.gov/forecasts/ieo/index.cfm>

<sup>3</sup> [www.worldenergyoutlook.org/docs/weo2010/WEO2010\\_es\\_english.pdf](http://www.worldenergyoutlook.org/docs/weo2010/WEO2010_es_english.pdf)

<sup>4</sup> UNEP and Bloomberg New Energy Finance, Global Trends in Renewable Energy Investment 2011

<sup>5</sup> U.S. Energy Information Administration, International Energy Outlook 2011

<sup>6</sup> UBS, The Decade Ahead, February 2011

<sup>7</sup> U.S. Energy Information Administration, International Energy Outlook 2011

<sup>8</sup> OPEC Share of World Crude Oil Reserves, [http://www.opec.org/opec\\_web/en/data\\_graphs/330.htm](http://www.opec.org/opec_web/en/data_graphs/330.htm)

<sup>9</sup> [www.opec.org/opec\\_web/en/data\\_graphs/330.htm](http://www.opec.org/opec_web/en/data_graphs/330.htm)

<sup>10</sup> UNEP, Global Trends 2011

<sup>11</sup> Pew Center on Global Climate Change, Wind Power Factsheet, [www.pewclimate.org/technology/factsheet/wind](http://www.pewclimate.org/technology/factsheet/wind)

<sup>12</sup> HSBC Global Research, Sizing the Global Climate Economy, September 2010

<sup>13</sup> ACEEE, The Size of the U.S. Energy Efficient Market: Generating a More Complete Picture, May 2008, <http://www.aceee.org/pubs/e083.htm>

<sup>14</sup> Renewables 2011, Global Status Report

<sup>15</sup> [www.ucsusa.org/clean\\_energy/solutions/renewable\\_energy\\_solutions/ca-passes-renewable-energy-standards.html](http://www.ucsusa.org/clean_energy/solutions/renewable_energy_solutions/ca-passes-renewable-energy-standards.html)

<sup>16</sup> ISN ETH Zurich, *China's Big Bet on Green Industry—And How it Might Green the World*, February 6, 2012

<sup>17</sup> [cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=5453](http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=5453); July 8, 2011

<sup>18</sup> ZephyrStyleADVISOR, Calvert Asset Management Company, Inc., January 2009–December 2011

<sup>19</sup> Center for Sustainable Systems, U.S. Water Supply & Distribution Factsheets, September 2009

<sup>20</sup> Argonne National Laboratories, Consumptive Water Use in the Production of Ethanol and Gasoline, January 2009

This commentary represents the opinions of its authors as of March 15, 2012, and may change based on market and other conditions. Their opinions are not intended to forecast future events, guarantee future results, or serve as investment advice. This commentary is provided for informational purposes only. Any statistics in it have been obtained from sources believed to be reliable, but the accuracy of this information cannot be guaranteed.

**A Word About the Risks.** The Calvert Global Alternative Energy Fund is subject to the risk that stocks that comprise the energy sector may fall in value, and the risk that prices of energy (including traditional sources such as oil, gas, or electricity) or alternative energy may fall. A downturn in the alternative energy industry would impact the Fund more than a fund that does not concentrate in this industry, and the Fund therefore may be more volatile than a typical mutual fund. Foreign investments involve greater risks than U.S. investments, including political and economic risks and the risk of currency fluctuations. The Fund is non-diversified and may invest more of its assets in a smaller number of companies than a diversified fund; therefore, gains or losses on a single stock may have greater impact on the Fund.

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