SBI Energy market studies answer the pressing industry questions you need to know. From product trends and research and development to competitor profiles and market values, SBI Energy is the knowledge source for investors, manufacturers and marketers in the energy industry.

SBI Reports has been leading industrial market research reporting for more than a decade. The brand established SBI Energy to address the complex nature of the Energy and Resources industry. SBI Energy reports capture global data vital to emerging energy market sectors. Growth of energy technology, manufacturing, construction, transportation and investment is exciting in its innovations and opportunities, and integral to the advancement of security and science.

SBI Reports also provides research in established industrial areas of materials and chemicals, equipment and machinery, and building and trades. This comprehensive catalog features our new and recently released research as well as SBI Reports’ bestselling backlist and upcoming 2010 titles to aid you in planning your information needs.

Once you’ve had a look at what we’ve got to offer, we hope you’ll consider SBI Energy your source for market intelligence and analysis.

Sincerely,

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Scope & Methodology

SBI Energy market intelligence reports aid executives by providing essential data and concise analysis.

Reports are written by subject matter expert analysts with years of industry experience. The result is authoritative analyses second to none in the business.

Our market studies include primary and secondary research. Primary research sources vary from executive interviews to proprietary data surveys. Secondary research data have been obtained from government sources, trade association publications, business journals, and company literature. Statistical data are included for industry revenue, both globally and for the United States.

From identifying the effects of emerging markets across major industries to covering the trends in niche markets, SBI Energy's top-level research and raw data interpretation make our reports relevant and useful to you.
Fuel Cell Technologies Worldwide

Fuel cells are favored as a “green” technology for their low emissions, quiet operation and high efficiency. They can be fed by fuels that are readily available, including biofuels, thus reducing reliance on foreign oil and an electric grid that is aging and in many places pushed beyond capacity. Furthermore, they can operate continuously as long as the necessary flows of fuel and oxygen are maintained, and they produce only water as a byproduct.

Although it is a relatively young industry, fuel cells have shown vigorous growth in the past few years. SBI Energy research estimates that the market grew from $353 million in 2005 to $498 million in 2009. Global sales are forecast to reach $1.2 billion by 2014.

In this dynamic and rapidly changing marketplace, SBI Energy’s new report, Fuel Cell Technologies Worldwide, provides clear guidance and insight on various technologies and end-use markets.

The report zeroes in on the historic growth (2005-2009) and growth potential (2010-2014) of the global market for fuel cells and discusses various fuel cell technologies currently used. Market size and growth are broken out by major country and by world region. The report also segments the market by technology (type of fuel cell as defined by the electrolyte used) and application (stationary power, portable electronics, motor vehicles, backup power supplies, military & aerospace, and others) and provides detailed profiles of companies that are leading the way in the industry.

The information inside this report is based on interviews with industry leaders and fuel cell researchers, as well as primary and secondary data from industry sources such as Fuel Cell 2000, Fuel Cell Today, and the US Fuel Cell Council. Research also includes company literature and websites, news reports and research services such as OneSource.

SB2625062
September 2010
$4,800
Involvement in the algae biofuels industry shot up by companies 550% between 2005 and 2007, driven by environmental concerns and high crude oil prices. So what is the near-term outlook for the algae biofuels production technologies market?

Algae biofuels production technologies are currently undergoing substantial development and scaled testing. As demonstration and commercial implementation move forward, emerging algae biofuels production technologies will garner up to about a third of the total market by 2015, as some current technologies are rendered obsolete or under performing in terms of cost and production efficiency.

This market study from SBI Energy covers total market and growth for algae biofuels technologies between 2010 and 2015, with focus on informative technical reviews of the operational principles, advantages, potential, and challenges facing the industry. The report also analyzes the energy market trends for petroleum, natural gas, ethanol, and biodiesel as well as, the effects of these trends on the algae biofuels market. Industry trends and opportunities for original equipment manufacturers (OEMs) and suppliers to the algae biofuels industry are also reviewed as are current marketing, promotion, regulatory support and distribution programs. Profiles of leading and pioneering technology developers and manufacturers active within the market for algae biofuels technologies are examined at length.
Energy Storage Technologies in Utility Markets Worldwide

Energy storage systems provide the ability to balance power demand and supply, reduce electric surges and sags, maintain power frequency, and ensure power remains available for critical loads when power outages occur. They can also provide enough power to maintain operations until systems can be shut down in an orderly fashion or provide enough power until other on-site generation sources come on-line. Energy storage solutions additionally afford several strategic benefits such as improved flexibility for grid operators, increased national energy security, and reduced environmental impact.

Ongoing growth in renewable generation, the emergence of microgrids, substantial public and private investments, and continued R&D that improves the cost/performance of energy storage technologies are expected to drive even stronger growth over the next several years. The global market for energy storage solutions in the utility sector is expected to grow by 15.8% per year to over $10 billion in 2015.

This market research report provides both the comprehensive analysis and data. Subscribers will benefit from extensive data, presented in easy-to-read and practical charts, tables and graphs. This study includes a broad review of the market for energy storage technologies applied in the global utility sector. The report examines opportunities for energy storage systems to beneficially impact the generation, distribution, and transmission of electricity. Front-running energy storage technologies for such applications are discussed. Specific applications in the utility sector and their benefits to value chain participants, including end-users, are highlighted. Profiles of key suppliers of energy storage technologies are also included.

SB2435740
August 2010
$4,800

Water conservation technologies (WCTs), also referred to as water saving technologies, include water recycling or reuse systems; rainwater harvesting or stormwater retention mechanisms; irrigation system equipment, such as micro irrigation valves and drippers, water control software and water flow meters; residential and commercial point of use products, including low flow showerheads, waterless urinals and high efficiency clothes washers; and water infrastructure repair technologies, such as pipe inspecting robots and injectable pipe lining material and crack-filling products. Other technologies within the WCT market include sand dams, swine lagoon conversion systems and waterless purified air cleansing processes for industrial use.

The market’s exciting growth over the past few years is expected to continue, with its water recycling and reuse sector alone experiencing a near 91% increase in market value between 2009 and 2015. Some of the major factors fueling the growth of the WCT market include a growing global demand for fresh water, increasing drought in many areas of the world, government economic incentives and project funding; more developed and less costly water conserving technologies and a strengthening of international alliances to propel water conservation around the globe.

Global Market for Water Recycling & Reuse: Filtration Systems contains comprehensive historical (2005 - 2009) and forecast (2010 - 2015) data. This report identifies key trends, regulations, new technologies and economic and geographic factors affecting the direction and size of market growth in more than 25 countries. Profiles of major and cutting edge companies using WCT are also included.
The lighting industry is abuzz with new technologies to meet energy savings requirements. Compact fluorescent lights, CFLs, light emitting diodes, LEDs, and organic light emitting diodes, OLEDs, are becoming familiar terms.

All of these competing technologies have advantages and disadvantages. As of now the markets are wide open and can accommodate many participants. Because the entry cost to some of these technologies is fairly low even small operators have chances to make big profits. However, once a 15% reduction in energy is achieved advanced lighting controls, smart grids etc. will offer less savings.


The report contains comprehensive data on the U.S. and international market for lighting elements of all types. Historic data goes back to 2005 while projections are made through 2014. Data is presented on value and volume of shipments and estimates made of future market size for established and developing technologies. A key chapter discusses the many influences on the market and their interaction. The study profiles major marketers and companies to watch as this shakeout continues.
Cleantech Energy Investing

Energy consumption is rapidly growing around the world. The modernization of emerging economies (such as India and China) has increased pressures on traditional energy providers (as well as increasing environmental concerns). As fossil fuel reserves dwindle, Investments remain a key growth factor, as many technologies present technical limitations to practical use. Many existing cleantech technologies cannot compete with coal energy, with is used as the current benchmark when evaluating feasibility. Subsidies are an important key of the clean technologies puzzle, but if these technologies are unable to develop long-term comparables, they run the risk of being relegated to niche products. This is especially true of renewable technologies.

This new SBI Energy reports delves into the global investments patterns dedicated to developing and commercializing these technologies. It covers a significant range of technologies and geographies to gain a greater understanding of the global investments market. After interviewing close to a dozen key stakeholders of the clean energy technology sector and doing extensive documentary research, we were able to build this report.

Exploring investment growth in seven energy producing technologies (solar, wind, biofuel, hydro, geothermal, nuclear and clean coal) and eleven geographies (the United States, Canada, Brazil, Spain, Germany, the United Kingdom, France, China, India, Japan and Australia), it is an essential tool for any manager looking for a global clean energy investment perspective within a single document.
High Speed Rail Infrastructure Component Manufacturing

Many nations will increase their roll out of high-speed rail (HSR) initiatives, making them an integral part of their overall transportation infrastructure throughout 2010. Several countries in Europe have expressed their commitment to begin construction on an HSR system by the end of 2010. Asian nations alike, have begun HSR development projects that will be completed by 2015 or 2020. Meanwhile, manufacturers of required HSR components are diligently waiting for their opportunity to capitalize on this market growth.

Nations with little or no HSR infrastructure, such as the United States, are closely weighing the benefits of HSR adoption and the initial and long-term financial commitments. Much of the debate is centered around the types of HSR infrastructure to implement. Traditionalists of HSR manufacturing advocate a wheels-on-rail system while futurists prefer the more costly magnetic levitation (maglev) system.

This SBI Energy report analyzes the market opportunities that global HSR manufacturers are eager to embrace through the next decade. We examine the critical trends driving HSR growth by region and forecast the value of this growth by each of the manufactured HSR components. Finally, we look at the socioeconomic and consumer-based trends affecting the HSR industry, such as the development of next-generation HSR products, safety issues, and long-term effects of HSR on a transportation economy.
Smart Grid and Consumers

The zone of interaction between the smart grid and the consumer has been characterized as “the great unknown.” Yet ready or not—with the smart grid rapidly taking shape, a rush of companies swarming the market, state mandates kicking into effect, and actual deployments being built out—the smart grid is now poised to plunge headlong into this largely unexplored land of consumer demand.

Currently valued at over $20 billion in the United States and $70 billion globally, the smart grid needs to establishes positive two-way communications between utilities and consumers to achieve mainstream success. This means that residential applications and services must necessarily gain significantly in share before the smart grid can realize its visionary promise.

This study presents a wealth of insights into smart grid/consumer dynamics. It examines the issues involved in building positive two-way communications interactions, and the intrinsic negative resistance that can be expected. With a focus on residential applications and services, it provides an in-depth analysis of advanced metering infrastructure, smart meters, demand response, dynamic pricing, home energy management systems, home area networks, smart appliances, popular communications platforms, and futuristic technologies.

The competitive situation is also discussed, showing how giants like Cisco, Duke Energy, and Google are entering a fledgling field so far dominated by relatively recent startups, such as Enernoc and Control4. Other areas covered in this study include product and marketing trends, recent smart grid deployments, and consumer surveys regarding smart grid acceptance.
Liquefied Natural Gas Market Worldwide

LNG has assumed an increasingly significant role in the energy security of several nations around the world. Over the past five years, significant investments in the LNG supply chain have been made around the world and global liquefaction capacity has increased by 40%.

LNG markets are expected to continue robust growth over the next several years, driven largely by supply push. Driven by relatively low prices and a global economic recovery, LNG demand is expected to catch up with supply-chain capacity by 2014.

Liquefied Natural Gas Market Worldwide includes a broad review of the global market for liquefied natural gas. Key technologies leveraged within the LNG supply chain, including liquefaction, shipping and regasification technologies are discussed. An overview of the LNG market structure, mechanisms and key participants is provided. Additionally, recent investments in LNG liquefaction capacity, shipping capacity, and regasification capacity across regions and major participating nations are discussed.

The report provides historic and forecast global energy demand 2005 to 2015 and energy demand drivers and trends are reviewed. Further, world energy supply sources 2005 to 2015 are discussed and the linkage between domestic natural gas production, import dependence and LNG trading are outlined. Finally, historic and forecast international LNG trade volumes and values are presented for the period 2005-2015.

Worldwide, the U.S. still has the greatest potential to increase its position in the solar market. SBI Energy foresees 900 MW of PV installations in 2010, rising to 7,600 MW of PV installations in 2014 building on renewed interest in solar from utilities and the extension of the solar tax credit. While the ST market will show only moderate growth in the U.S., the PV market segment will continue to shine in the U.S. and the concentrated solar power (CSP) market is set to explode. SBI Energy estimates the U.S. solar panel market will reach $34.5 billion in 2014.

U.S. Solar Energy Market World Data, 2nd Edition by SBI Energy analyzes the manufacturing and sales of the U.S. solar photovoltaic and solar thermal markets within the context of other key solar countries such as the Germany, Spain, Japan and China. The analysis will include definitions, current product offerings and market detail on the following segments:

- Photovoltaic cells and modules
- Vacuum tube and flat-panel solar thermal modules
- System components including inverters, frames, batteries and charge controllers
Global Green Building Materials and Construction, 2nd Edition

This research report about Green Building Materials and Construction presents an in-depth analysis of the development, applications, products, technologies, manufacturers, and trends for products that help conserve energy in homes and buildings, reduce harmful environmental effects, and are themselves sustainable in terms of their composition and manufacturing. Rising costs for electricity, concerns about greenhouse gas emissions and global warming, diminishing fresh water supplies, deforestation, scarcity of raw materials, and a rapidly growing global population are among the key drivers of the development of new building designs, new construction techniques, and alternative building products and materials that are sustainable and minimize adverse environmental impacts. Although green building materials and green construction only represent a small fraction of the entire building industry, these segments have shown themselves to be resilient during the current economic recession and have actually gained market share during this period.

This report provides a comprehensive assessment of both green building materials and green construction, cost considerations that have limited their growth, government incentives that have spurred their growth, consumer and business demand, potential opportunities for additional growth, and an assessment of developing technologies that are making green building products and green construction the “new normal”. Projected growth through 2015 for both of these markets is provided including discussion of economic conditions, environmental impacts, consumer-business-builder acceptance, stakeholder concerns, and government activities as they affect growth rates.

The report also profiles manufacturers and marketers of green building products and materials and the strategies they have adopted to maximize growth and profitability.

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May 2010
$3,800
CAES Compressed Air Energy Storage Worldwide

The global market for compressed air energy storage (CAES) sits at a turning point. Since its introduction as a utility scale electricity storage technology in the 1970s, low energy prices and a proliferation of cheap natural gas fired peaking power plants slackened demand for energy storage, and CAES never got off the ground. Over the following decades, only two plants were built, one in the US, and one in Germany. And although these facilities provided effective energy storage capacity at reasonable cost, the need for utility scale energy storage was insufficient to kick start the CAES market.

CAES components also have the advantage of being, for the most part, readily available and mature. Gas turbines, air compressors, recuperators, injection and extraction wells, and other CAES components represent mature technologies that already operate under streamlined economies of scale. Other, more experimental storage technologies, such as fuel cells, flywheels, or massive batteries, are not close to reaching cost parity with CAES installations. In sum, these trends act as drivers in support of a developing and persistent CAES market. Viable CAES markets will re-emerge in the near term, gaining stability as the technology gains traction, and additional projects come on line, through 2014.

CAES Compressed Air Energy Storage Worldwide contains comprehensive data on the global market for CAES technologies, including historic (2004-2009) and forecast (2010-2014) market size data, broken down in terms of CAES components - including the CAES compression subsystem, storage subsystem, and the expansion/generation subsystem. The report identifies key trends affecting the marketplace, along with trends driving growth, and also profiles major technology providers, and end user characteristics.
Enhanced oil recovery (EOR), also referred to as improved oil recovery or tertiary oil recovery, is most often achieved by injecting a liquid or gas into an oil reservoir, thereby lowering oil viscosity and increasing the amount of oil available for production. Some of the more common EOR methods include CO2-EOR, thermal EOR and chemical EOR. Microbial EOR and seismic EOR also hold a strong niche in the EOR market. While only about 10% - 30% of oil is typically extracted by conventional oil production processes, EOR methods can enhance these recovery rates by an additional 5% to 20%, on a conservative average.

The global market for EOR, estimated at nearly $62.5 billion (for barrels of crude oil) for 2009, has shown exciting growth since 2005, when it totaled $3.1 billion. Technological challenges, hazy regulations, and costly implementation have often kept oil companies from using EOR. However, EOR is quickly becoming more feasible, due to rising government interest and investment, new technologies, and increased availability of required materials (such as CO2). It is expected EOR will continue to perform extremely well in the world marketplace.

EOR Enhanced Oil Recovery Worldwide contains comprehensive historical (2005-2009) and forecast (2010-2015) data; plus EOR's share of overall standard oil production, market size in terms of barrels of oil, and dollar value. This report identifies key trends, regulations, new technologies, economic factors, environmental factors, and industry hurdles affecting the direction and size of market growth, and discusses market size and growth in various countries. Profiles of major - or simply interesting - companies using EOR are also included.
ICT Energy Efficiency: Commercial and Industrial

While global energy consumption is high and rising, conventional fuel sources are becoming increasingly scarce and expensive. Further, emissions resulting from the use of fossil fuels have been linked to global climate change and, within a rising number of countries, are subject to regulation. Consequently, governments, businesses and consumers around the world are seeking products and services to improve energy efficiency.

The global value created through energy efficiency gains enabled by energy-smart ICT products and solutions across all sectors is projected to grow from $170 billion in 2010 to over $478 billion in 2015. Concurrently, the global value created through the potential monetization of emissions reductions is expected to reach $70 billion by 2015. This substantial value creation represents the impact of incremental adoption of energy-smart ICT products and solutions across several energy intensive sectors that are improving their energy efficiency relative to a 2005 baseline.

ICT Energy Efficiency: Commercial and Industrial includes a broad review of the global market for information and communications technologies which enable conservation of energy. The report examines opportunities for the ICT sector to improve the in-use energy efficiency of its products as well as the ability of the sectors’ products to enable energy efficiency across other sectors. Select ICTs which enable energy efficiency are discussed. These ICTs are categorized into 4 sectors: the ICT sector, power sector, logistics sector and industrial sector. Three cross-sector opportunities for efficiency enabling ICTs, buildings, dematerialization and travel substitution, are also discussed.
Offshore Wind Farm Manufacturing Worldwide

The global move to offshore wind farm development is enabling nations to accelerate wind energy adoption while reducing reliance on land-based power grids. Offshore wind turbines are subjected to fiercer winds and require larger turbines than land-based wind initiatives. But these benefits typically can increase the overall cost of offshore manufacturing and maintenance of wind turbines. Capital costs are approximately 30-50% higher than onshore, due to larger machine size and the costs of transporting and installing at sea. These expenses are partially offset by higher energy yields - as much as 30%. But many countries are finding the benefits to offshore outweigh these added expenditures. Offshore wind energy has a reduced effect on the environment and higher wind speeds at sea result in increased energy production.

Leading wind energy producers in Europe, Asia, and the Americas are embracing offshore as an important component of future expansion and adoption of renewable energy use. The first large offshore wind farms are well in development in several European countries. Developing offshore wind can enable these nations to achieve competitive electricity markets, reach a larger degree of energy independence, and ensure lower and more predictable overall project costs.

This SBI Energy report, Offshore Wind Farm Manufacturing Worldwide explores the revenue generating potential for companies involved in this burgeoning renewable energy area.
Electric Vehicle (EV) and Plug-In Hybrid Electric Vehicle (PHEV) Markets Worldwide

Hybrids have always been a niche market, capturing one percent or less of the world passenger vehicle market through the first decade of the millennium. But in 2009, SBI Energy estimates that just over 700,000 electric vehicles were sold worldwide, with 99% of those being hybrid electric vehicles. With hybrids hitting the mainstream, plug-in hybrid electric vehicle (PHEV) and BEV models are not far behind. But the lithium-ion battery technology required to make PHEVs and BEVs with a sufficient driving range is expensive, leading to a cost premium for plug-in vehicles that will keep sales minimized over the next four to five years. This leaves the road wide open for hybrids to continue to dominate the EV market.

Electric Vehicle (EV) and Plug-In Hybrid Electric Vehicle (PHEV) Markets Worldwide by SBI Energy analyzes the manufacturing and sales of electric based passenger vehicles throughout the world with a particular emphasis on the United States and Japan as the leading markets for electric vehicles. The analysis will include definitions, current product offerings and market detail on the following segments:

- Hybrid electric vehicles (HEV)
- Plug-in hybrid electric vehicles (PHEV)
- Battery electric vehicles (BEV)

Each category evaluates both current offerings and anticipated models.
Electric Vehicle (EV) Infrastructure Manufacturing

Electric vehicles, including cars, buses, and trains, are being developed around the world. Optimal engine and battery operating efficiency is tantamount, both during discharge and recharging.

The combination of high oil costs, concerns about oil security and availability, and air quality issues related to vehicle emissions are driving interest in EVs. However, many nations lack a sustainable EV infrastructure to support the growing use of electric vehicles. Established electric infrastructure is inadequate to anticipated use and capacity planning involves myriad components.

This report uncovers the burgeoning global market of EV infrastructure manufacturing, including the production of rechargeable batteries, electric smart grid adaptation software and technologies, centralized charging and refueling stations, at-home charge points, and battery swapping stations.
Advanced Storage Battery Market: from Hybrid/Electric Vehicles to Cell Phones

The world wants a battery that has the highest energy density, best safety factor, and longest life in term of discharge cycles and ease of maintenance while still being environmentally friendly. These drivers are boosting rechargeable battery research around the world. The market for rechargeable, advanced storage batteries will rise to $51 billion by 2013.

Lithium-ion is the battery chemistry of choice for future generations of portable electronics and hybrid and plug-in hybrid electric vehicles. In 2008, lithium-ion battery research had more funding than all other battery technologies combined. Nanotechnology and chemistry advances in electrode design are the key research topics that companies are using to push lithium-ion to be the dominant energy storage technology in the future.

Ni-MH hybrid vehicle batteries will grow to hold 4.2% of market share by 2013 and will be shared by Ni-MH and lithium-ion batteries. Large scale batteries, particularly sodium sulfur (NaS), will grow to $900 million a year in 2013 on the growth of increased renewable energy power generation.

*Advanced Storage Battery Market: from Hybrid/Electric Vehicles to Cell Phones* contains comprehensive data on the U.S. and world market for storage batteries, including historical (2002-2008) and forecast (2009-2013) market size data. The report identifies key factors driving battery research, trends affecting the marketplace and market growth, and profiles major marketers and consumer demographics.
Smart Grid Micro Grid Energy T&D and Storage

T&D system automation is vital to smart grid development, is badly in need of repair, and has not been designed for the power needs of high technology systems. Battery storage systems can improve power quality and reliability and improve the effectiveness of intermittent renewable energy sources but are not yet cost effective. Microgrids could serve the specific needs of localized electric loads and become proxies for smart grid development but lack a common set of standards that could drive their growth.

This research report presents an in-depth analysis of the development, applications, products, manufacturers, and trends in the development of transmission and distribution (T&D) system automation, energy storage, and microgrids in the United States and around the world. The report provides a comprehensive assessment of all three areas focusing on cost and regulatory concerns that have limited their growth, the potential opportunities for new applications (particularly for integrating intermittent renewable energy sources into the grid), and developing technologies that make the grid “smart”.

*Smart Grid Micro Grid Energy T&D and Storage* includes projected growth through 2014 as well as a discussion of energy demand, environmental impacts, economic conditions, consumer acceptance, stakeholder concerns, and government activities as they affect growth rates. The report also profiles manufacturers and marketers of technologies in these areas and the strategies they have adopted to maximize growth and profitability.
The U.S. HVAC market grew 41% in heating systems and 45% in air conditioners from 1997 through 2006. This period of growth hit a wall, however, with the housing and credit market collapse of 2007 and the historic rise in unemployment. From 2006 to 2007 heating system installations dropped 24% and air conditioners saw a similar decline of 23%. As the housing market starts to pick up again, the credit crisis subsides and unemployment figures begin to drop, economic conditions will once again lead to increased growth in the industry. The green HVAC market should benefit in particular from federal and state support of more energy efficient homes and buildings.

*HVAC, 2nd Edition, Green and Global*, makes important predictions and recommendations regarding the future of this market, and pinpoints ways current and prospective players can capitalize on current trends and spearhead new ones. No other market research report provides both the comprehensive analysis and extensive data on the growing green and global aspects of the industry than you'll find in this report. Plus, you'll benefit from extensive data, presented in easy-to-read and practical charts, tables and graphs.
SBI Energy estimates total wind energy market value in the U.S. at $151.3 billion. Rapid expansion of the U.S. wind industry was fueled by three key market drivers:

- Skyrocketing fossil fuel and oil prices for commercial and home heating
- Long-term demand for renewable energy sources domestically
- Improvements in technology that streamlines the manufacturing of wind turbines, especially for larger machines required for offshore wind farm initiatives
- Positive employment outlook in turbine manufacturing sector

Companies involved in the manufacturing and distribution of products related to wind energy saw steady interest in 2009 as a new base of customers pursued wind as their primary source of energy. Manufacturers with an eye towards expanding market presence in the U.S. cheer the ARRA investment of $15 billion a year in renewable energy sources through 2018 and a program to spend $150 billion over 10 years to develop renewable energy sources, like wind, and to encourage energy conservation.
The electric grid is over a hundred years old, has changed little in the way it operates since its inception, and will not be able to support future electric demand without substantial new and costly infrastructure. However, technologies exist that can improve efficiencies and moderate electric usage which will largely offset much of the need for new power plants, transmission lines, and other electric grid components. An “intelligent” or “smart” grid will provide improved service reliability and more stable electric rates at a lower cost than simply building all the infrastructure that would be required to meet future demand for electricity using the current electric utility business model. *Smart Grid Technologies, Markets, Components and Trends Worldwide* presents an in-depth analysis of the development, applications, products, manufacturers, and trends in the deployment of the Smart Grid in the United States and around the world.

The report provides a comprehensive analysis of the current market for smart grid enabling technologies and projects future market size through 2014. Concerns including energy demand, environmental impacts, economic conditions, consumer acceptance, stakeholder concerns, and government activities are discussed in relation to their impact on market growth for the Smart Grid and its enabling technologies. The report also profiles major manufacturers and marketers of smart grid technologies and the strategies they have adopted to maximize growth and profitability.
This research report presents an in-depth analysis of the development, applications, products, manufacturers, and trends in the development of the hydropower resources in the United States and around the world. Topics include the full gamut of hydropower generation, from conventional hydropower to newer wave energy and hydrokinetic technologies, from very large systems providing electricity to millions of people to the smallest systems suitable for a single family. Accounting for over 70% of renewable energy today, hydropower is poised to increase growth over the next five years.

The report provides a comprehensive assessment of the current hydropower market, the environmental concerns that have limited its development, the potential opportunities for new development, and an assessment of developing technologies that harness the power of the ocean. Projected growth through 2013 for different sized hydro systems is provided including discussion of energy demand, environmental impacts, economic conditions, consumer acceptance, stakeholder concerns, and government activities as they affect growth rates. The report also profiles manufacturers and marketers of different hydro technologies and the strategies they have adopted to maximize growth and profitability.

Potential hydro power applications, buying trends, environmental issues, and energy considerations are also reviewed and analyzed as is the impact of factors such as government grants and incentives, environmental concerns, fuel and energy prices, economic considerations, and demand for renewable energy sources.
Energy-Efficient Home Renovations Market

Home energy efficiency analysis now uses a ‘whole building’ approach, affecting all categories of building materials from windows and doors to insulation to completely eliminating air leaks. This report looks at the impact of energy-efficient building products in three parts:

- Part 1 explores the market for energy-efficient doors and windows, caulking and weather stripping, and insulation used in home renovation projects.
- Part 2 examines the energy-efficient appliance and lighting markets for home remodeling.
- Part 3 looks at energy-efficient heating and cooling systems and the growing trend of energy-efficient roof renovations.

Home builders and remodelers have been quick to provide remodeling services focused on energy conservation and green building practices. Retailers and manufacturers of building projects, residential builders and remodelers, and even state and federal organizations now must provide knowledgeable energy conservation

Purchase options are available for the Energy-Efficient Home Renovations Market reports:

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Biofuels Global Market: Opportunities, Emerging Technologies and Production

This report is the most comprehensive treatment of the biofuels market available. Worldwide data is provided on biorefineries, conversion and separation technologies, manufacturing, research and development, organic biofuels, consumption, capacity, components and competition. This report delves into the global efforts to develop technologies that improve the refining processes associated with many different types of biofuels and its growing consumption among nations throughout the next few decades.

Biofuels are expected to become a major renewable resource to produce fuel, electricity, heat, and other sources of power. To compete with other energy types will require development and implementation of an enhanced biorefinery process that minimizes its impact on local environments. Developing sustainable fractionation and separation technologies will be a key factor for the success of refining biomasses into renewable energy.

Biorefinery technology differs from traditional oil based refinery technology because it is mainly water-based. Today’s biofuels involve either ethanol or diesel, with the former accounting for roughly 90 percent of the market. Brazil, the United States, and China are the greatest producers. More than half of the world’s bioethanol is generated from sugar cane; the rest comes mainly from corn. Biodiesel is mostly derived from rapeseed and sunflower.
Ocean Energy Technologies and Components Worldwide

Ocean waters covering more than 70% of the earth present significant opportunities for renewable energy systems. Ocean Energy Technologies and Components Worldwide contains comprehensive data on the U.S. and world market for the three primary ocean energy technology systems: Tide Energy, Wave Energy and Ocean Thermal Energy. The report also addresses the emerging potential of Salinity Gradient systems. The report identifies key trends affecting the marketplace, along with trends driving growth, and also profiles major domestic and global marketers and geographic hot spots for ocean energy technology implementation.

This SBI Energy study presents a comprehensive overview of the growing global market for ocean energy technologies. Falling within the parameters of this study are all ocean energy technology systems and products. This study includes both public and privately funded systems in development or already installed.

Global energy consumption amounts to over 17,400 Terawatt hours per year, with United States’ use alone accounting for approximately 11,200 Terawatt hours per year. Ocean energy technology has the potential to generate over 93,100 terawatt hours/ year with the two most viable options being wave technology and thermal gradient technology. Given the Obama administration’s commitment to green technology and renewable energy alternatives, the outlook for increased investment in both domestic and global ocean energy developments is bright.
Clean Coal Energy Technologies: Markets and Trends Worldwide

Coal is the most abundant and economical fossil fuel in the world. More than 80% of the world's coal reserves are located in the United States, China, India, Russia, Australia, and South Africa. Coal produces about 42% of the world's electricity. On a levelized cost of production basis, the global market value of coal-fired electricity exceeds $400 billion.

Coal is an important fuel source and will likely remain so due to its low cost and abundance. However, the use of coal in combustion to generate electricity leads to various environmental challenges. The coal industry continues to develop various clean coal technologies to address these challenges. Electricity generation using clean coal technologies is valued at over $61 billion.

*Clean Coal Energy Technologies: Markets and Trends Worldwide* includes a broad review of the market for clean coal technologies in coal-fired electricity generation. The report provides a discussion of several of the technologies employed or in development to address the environmental impact of coal. The market demand for coal, electricity, and clean coal-fired electricity is quantified and projections for growth are provided along with the key factors influencing this growth. The report also profiles 14 companies active in clean coal.
Nuclear Energy Technologies Worldwide: Components and Manufacturing

Manufacturers of nuclear reactor components are entering a pivotal period as the new landscape of global nuclear energy production takes shape. Nations committed to constructing next-generation nuclear facilities that leverage the latest technologies will depend on manufacturers to provide high quality products that foster a safe, secure, and enduring environment for nuclear energy production.

Governments challenged by the weak global economy that has tightened credit needed to fund long-term nuclear energy initiatives. Suppliers to the nuclear energy construction market are also attempting to keep pace with increased demand as they struggle to stay afloat with a reduced labor force. The companies, which include Areva and Mitsubishi, are leveraging their economies of scale in energy markets by collaborating and aligning with competitors to gain market share and increase their installed base of customers.

The U.S., France, and Japan comprise more than half of the global value of nuclear energy technology manufacturing. SBI Energy estimates that market value in France will grow from $28.9 billion in 2009 to $34.8 billion in 2013 (3.4% CAGR) and Japan will grow from $19.6 billion to $23.7 billion (3.4%) in 2013. On a share basis through 2013, the top three manufacturing nations will maintain their leadership positions, although they will lose share to other nations such as China and South Korea, which will accelerate their manufacturing efforts.
Sustainable ("Green") Packaging Market for Food and Beverage Worldwide, 2nd Edition

Food and beverage packaging is one of the most significant components of the packaging market, for which the U.S. is the largest global market. Growth of food and beverage packaging is approximately 3% annually, with the market being driven by important innovations and technological developments. Packaging for foods and beverages is primarily designed to preserve and protect the contents; secondarily, it serves as a marketing tool to attract consumers. Today's innovations add a new dimension—environmental concern.

Sustainable ("Green") Packaging Market for Food and Beverage Worldwide, 2nd Edition includes the following five packaging material categories:
- Paper
- Plastic
- Metal
- Glass
- Flexible

The report presents industry historical statistics (2003-2008) and forecasts to 2013 for sustainable food and beverage packaging production for both the U.S. and international markets. It also includes data on global municipal waste production and recovery data. The report identifies key drivers of and trends affecting the marketplace, discusses marketing and distribution challenges, profiles major manufacturers, and examines end user attitudes and behaviors.
Carbon emissions have been traded at minor levels since the 1990s. Recent and significant global governmental involvement in the reduction of greenhouse gases has facilitated tremendous growth in the market for carbon emissions trading. The value of the carbon market grew from $727 million in 2004 to $118 billion in 2008.

In addition to the foundational regulatory organizations that have established the framework of the market, and the pre-requisite buyers and sellers, the magnitude and evolving complexity of the global carbon markets has attracted numerous intermediaries, such as brokers, exchanges, aggregators, and financiers, as well as other peripheral participants such as validation and verification, information and analysis, legal, and consulting service providers. Opportunities for market participants are expected to continue to increase as the value of global carbon markets are forecast to grow by 68% per year to $669 billion in 2013.

*Carbon Emissions Trading Markets Worldwide* provides a discussion of the mechanisms employed in the carbon market and details of the market structure and participants. Market demand for carbon emissions allowances and offsets is quantified and projections for growth in demand are provided along with the key factors influencing this growth. The report also provides profiles of companies active in the carbon market.
Advances in geothermal technology position renewable geothermal energy systems as a clean and economically viable alternative. Geothermal electric generation systems are increasingly leveraged to supplement and substitute conventional fuel sources around the world.

Compared to conventional natural gas or fuel oil heat and air heat pumps, geothermal heat pumps offer many advantages. They have low operating, maintenance, and life cycle costs and a longer life expectancy than most conventional systems. Geothermal heat pumps leverage a renewable resource and are environmentally friendly. The global installed base of geothermal heat pump systems increased by nearly 61% from 1.065 million units in 2004 to 1.712 million in 2008.

*Geothermal Energy Markets: Technologies and Products Worldwide* includes a broad review of the global geothermal power systems and geothermal heat pump markets. The report provides a discussion of the technology utilized in geothermal energy production and recent technology enhancements. Historical and forecast (2004-2013) demand for each product type in power systems and heat pumps is quantified and projections for growth in demand are provided, along with the key factors influencing this growth. The report also provides profiles of companies active in geothermal energy production and geothermal heat pumps.
Electricity is a basic necessity and is critical for the safety, comfort and convenience of modern households. Widespread use of electronics and information and communications technologies for entertainment and work by residential users has further increased the dependence on electricity. Homes reliant upon grid electricity often experience power failures due to disruptions caused by supply shortages, equipment failure or weather related outages. Residential users are increasingly investing in back-up or standby power generators to provide electricity during such events.

Driven by population and income growth, increasing urbanization and electrification and an increasing dependence on electrical appliances and devices, global residential electric consumption continues to grow. Further, residential demand for electricity in developing nations has grown by over 40% since 2000. However, the generation and supply of electricity in many of these nations has not kept pace. More than eighty countries around the world, including major economies such as India and China, are currently experiencing significant, long-term energy shortages.

This report includes a broad review of the global market for residential generators. The report provides a discussion of residential generator products and technologies as well as technologies which compete with traditional combustion engine-driven gensets. Global market demand for residential generators is quantified and projections for growth in demand are provided, along with the key factors influencing this growth. The report also provides profiles of 10 residential generator manufacturers.
Best-selling SBI Backlist

World Market for Food Service Equipment, 5th Edition
SB1926701
September 2009
$3,500

Garage and Storage Shed Trends in the U.S., 3rd Edition
SB1924903
April 2009
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Roofing Materials in the U.S., 2nd Edition
SB2092665
March 2009
$3,500

Asphalt Manufacturing in the U.S.
SB2088212
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Landscape Services Market in the U.S.
SB1804487
January 2009
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Emerging Trends and Opportunities in the World Pesticides Market
SB1928574
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SB1806300
January 2009
$3,995

The U.S. Solar Energy Market in a World Perspective
SB1610062
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Polystyrene and Polyurethane Foam Insulation Products in U.S. Building and Construction
SB1711123
August 2008
$3,000

The U.S. Market for Titanium Dioxide (TiO2)
SB1808242
July 2008
$3,000

Jobsite and Standby/Emergency Commercial and Industrial Generators in the U.S.
SB1646836
June 2008
$3,000
Robert Eckard has over a decade of energy and environmental sector experience and leads a small industry research and technical consulting company. Robert has provided global, regional, and local market analysis and economic assessments; environmental analysis; and technical water and energy reporting to clients ranging from consulting firms, private companies and government organizations. Mr. Eckard is also pursuing a PhD in water and energy resources at the University of California, Davis.

Darren Bosik is a veteran analyst and business journalist with more than 15 years of related experience. He has written a multitude of in-depth, data-intensive research reports that have impacted the business decisions of corporate leaders at Fortune 500 companies in many industries, including technology, manufacturing, financial services, and e-commerce. He is credited with authoring several thought leadership reports for such noted research firms as eMarketer, Gartner, Peppers and Rogers Group, and PQ Media. He recently completed an SBI Research report on Electric Vehicle (EV) Infrastructure Manufacturing.

Shannon Shuflat (Panama City, Panama) has over fifteen years management and consulting experience. Recent consulting projects have included programs in the energy, building products, specialty chemicals, polymers and green technologies sectors. Energy sector projects have focused on geothermal energy technologies, fuel cells, wind, clean coal technologies and carbon emissions trading.

Norman Deschamps (New Brunswick, Canada) holds a Bachelor of Science in Physics and a Masters in Aerospace Engineering. His research work has included developing a mathematical model to quantify anthropogenic environmental disasters, quantifying window energy loss, and analysis of magnetostrictive materials which was published in the Journal of Condensed Matter Physics. Norman now works as a science writer and as a consultant to businesses who are interested in obtaining independent scientific analysis for their products.

Jean-Francois Denault has worked for the last 10 years as a freelance consultant for companies of all sizes, from small start-ups to Fortune 500s. He frequently works with emerging technologies companies. As such, he has worked with green / clean technology companies in Canada, the United States, India and Australia. He has also worked with investors specialized in this field to assess the feasibility of new technologies. He holds an MBA from the University of Quebec in Montreal, as well as a graduate degree in communication from the University of Montreal.

Robert Eckard has over a decade of energy and environmental sector experience and leads a small industry research and technical consulting company. Robert has provided global, regional, and local market analysis and economic assessments; environmental analysis; and technical water and energy reporting to clients ranging from consulting firms, private companies and government organizations. Mr. Eckard is also pursuing a PhD in water and energy resources at the University of California, Davis.
**SBI Energy Analysts**

**Akash Shah** (Panama City, Panama) holds a Bachelor of Technology in Chemical Engineering from the Indian Institute of Technology, a Masters in Finance from the Indian Institute of Management and a Masters of Business Administration from Southern Illinois University. Akash now works as a management consultant and has worked with various industry leaders and published reports in the fields of energy and environmental technologies.

**Nana Lapham** wrote her first report for MarketResearch.com in 2001. Since then she has also conducted and analyzed environmental research in the Pacific Northwest, where she currently resides. Clients have included both the Packaged Facts and SBI divisions of MarketResearch.com; Oregon Websites and Watersheds Project, Inc., an eco-consultancy; and the Pacific Northwest Research Station, an arm of the U.S. Forest Service. From 2002-2003, she was commissioned to research a biography of Oregon logging industry pioneer Ralph Hull. Her hands-on experience with environmental science gives her a unique perspective on the enhanced oil recover (EOR) industry.

**J. Carlos Perez** has worked as a consultant for consumer electronics companies for over a decade. He has inspected factories in China, promoted green technology and worked as a professional writer in New York and Los Angeles. Carlos received his BA with High Honors from Wesleyan University and did his graduate work in Comparative Literature at UC Berkeley.

**David Cappello** is a senior market analyst who in over 20 years has authored and edited scores of studies on a vast range of consumer and financial products markets. In 2000 Cappello began researching alternative energy and green economics in order to apply his understanding of market dynamics to these emerging sectors. The first result was a report on the solar power market, published in 2004 by ARS Insights. His most recent studies in these areas, published by imprints of MarketResearch.com, include Renewable Energy Investment in the United States, The U.S. Solar Energy Market, and Trends in Organic Lawn and Garden Products.

**Jean Diener** (Golden, CO) holds a Bachelor of Science in Chemistry and Biology and a Masters of Science in Chemical Engineering. Her research work has included modeling of the glass tank reactor in a beer bottle glass plant by statistical analysis; flow properties of dewatered coal from coal slurry and pilot plant scale chemical production processes reactor design for lactide, the monomer in direct polymerization of poly lactic acid (PLA) a biodegradable polyethylene-like plastic.
Upcoming Titles 2010:

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