
Green ETFs

Now, some of the most innovative ETFs on the planet
are all about saving it



“We have come tardily to the tremendous task of cleaning up our environment. We should have moved with similar zeal at least a decade ago. But no purpose is served by post-mortems. With visionary zeal but the greatest realism, we must now address ourselves to the vast problems that confront us.”

Gerald R. Ford

Earth Day Address, Grand Rapids Michigan, April 22, 1970

Green ETFs

PBW	PowerShares WilderHill Clean Energy Portfolio
PBD	PowerShares Global Clean Energy Portfolio
PHO	PowerShares Water Resources Portfolio
PIO	PowerShares Global Water Portfolio
PZD	PowerShares Cleantech Portfolio
PUW	PowerShares WilderHill Progressive Energy Portfolio
PKN	PowerShares Global Nuclear Energy Portfolio
PTRP	PowerShares Global Progressive Transportation Portfolio
PWND	PowerShares Global Wind Energy Portfolio

Shares are not FDIC insured, may lose value and have no bank guarantee.

PowerShares ETFs are subject to special risks. Please refer to the back cover for more complete information.

Green Initiatives

More than a Trend

Investing in green ETFs gives investors focused industry exposure while helping reduce the company-specific risk that comes through buying a single stock.

Projected Revenue Growth of Clean Energy 2007-2017 (\$ billion)

	2007	2017
Biofuels	\$25.4	\$81.1
Wind power	\$30.1	\$83.4
Solar photovoltaic	\$20.3	\$74.0
Fuel cells and distributed hydrogen	\$1.5	\$16.0
Total	\$77.3	\$254.5

Source: Clean Edge, "Clean Energy Trends 2008," March 2008

A cleaner earth

Clean water. Clean air. A clean earth. These basic needs are universal for every person in every nation. We've long understood this – nearly 40 years ago Gerald Ford made a call to action to clean up the earth, and yet, the environment has remained a fringe issue. We believe that's changing.

Why now?

Today, technology, economics and politics are converging to finally push environmental issues off the sidelines and to the center of our global consciousness.

Pollution. As developing nations industrialize, pollution has come to the fore. The World Bank estimates that between 2001 and 2020, nearly 600,000 Chinese a year will die prematurely due to air pollution.¹

The Chinese government estimates nearly one-third of the country's rivers are too dirty for agricultural or industrial use.¹ In addition to the human toll, the economic toll is huge – pollution and its related health problems cost China \$54 billion a year.¹

Security. In 2007, the U.S. imported about 60% of its petroleum,² much of which came from politically unstable nations. Many in Washington view this as a security risk and want to encourage home-grown energy innovations that lessen our dependence on foreign oil.

Economic viability. Many green technologies are becoming economically viable. For example, through the development of less expensive materials and improved production and installation methods, researchers aim to make solar cells cost-competitive with traditional electricity by 2015.³

For these reasons, we believe the green movement is not just a trend – it's a global priority that will be increasingly embraced by governments, corporations and consumers.

A greener future

China has set a goal of creating 30 gigawatts of renewable energy capacity by 2020, up from 1.3 gigawatts now.¹ In the U.S., the Energy Independence and Security Act of 2007 mandates that transportation fuels must contain at least 9 billion gallons of renewable fuels in 2008 and 11.1 billion gallons in 2009.⁴

Wal-Mart Stores Inc. operates two "experimental stores" that serve as test sites for green technologies. For example, used cooking oil from the deli and used motor oil from the on-site car care facility are burned in a special furnace to heat the buildings. The goal is to develop best practices that can become mainstream.⁵

In the U.S., consumers are enamored of the Toyota Prius – sales of the hybrid car jumped 68% from 2006 to 2007.⁶

1 Source: "The Elephant and the Dragon," Robyn Meredith, 2007
2 Source: Energy Information Administration, Petroleum Basic Statistics, February 2009
3 Source: Natural Resources Defense Council, Solar Power (Wind, Solar and Biomass Energy Today)
4 Source: Energy Information Administration, Short-Term Energy Outlook, Jan. 8, 2008
5 Source: walmartstores.com
6 Source: washingtonpost.com, "Toyota Touts Strength of Prius Brand," Jan. 13, 2008

Investment Fuel that Powers Green Development

The PowerShares family of green ETFs includes funds that focus on companies working toward incremental change, as well as funds that invest in companies striving for revolutionary transformations.

New Investment in Global Clean Energy (\$ billion)

2004	\$28.6 ³
2005	\$54.6 ³
2006	\$83.0 ²
2007	\$117.2 ²

Money is required to fund research and development of green technology. Money is needed to build the infrastructure that carries clean water to families and fields. In the U.S., it's estimated that \$662 billion is needed for water infrastructure from 2000 to 2019.¹

Governments, corporations, venture capitalists and private equity companies have all poured money into green initiatives. Individual investors may see this activity and wonder, "What investment opportunities are available to me?" The answer is: plenty.

Investment opportunity

One way to participate is by purchasing the stock of companies involved in environmental projects. In 2007, for example, \$18.9 billion of new money was raised in the public markets by clean energy companies – up 80% from 2006. And more than \$6 billion was raised through the initial public offering of a single company.²

We believe a better way to invest is to buy shares of a fund that focuses on green companies. This helps lessen the company-specific risk of buying a single stock, while still offering focused exposure to the sector.

There are numerous options in the "green fund" space. Due diligence is required to find the right fit for your portfolio.

When a Fund is focused in a specific industry or sector, it presents greater risks than if it were broadly diversified over numerous industries and sectors of the economy. There is also additional risk associated with an investment concentrated in the nuclear energy industry. The energy industry can be significantly affected by obsolescence of existing technology, short product cycles, falling prices and profits, competition from new market entrants and general economic conditions.

There is also additional risk associated with an investment concentrated in the wind energy industry. The wind energy industry can be significantly affected by fluctuations in energy prices and supply and demand of alternative energy fuels, energy conservation, the success of exploration projects and tax and other government regulations. Wind energy industry companies could be adversely affected by commodity price volatility, changes in exchange rates, imposition of import controls, increased competition, depletion of resources, technological developments and labor relations.

There are risks involved with investing in ETFs, including possible loss of money. Shares are not actively managed and are subject to risks similar to those of stocks, including those related to short selling and margin maintenance. Ordinary brokerage commissions apply.

1 Source: U.S. Sen. Jack Reed, Reed Introduces Bill to Invest in Water Infrastructure and Return More Money to States, Aug. 1, 2007

2 Source: New Energy Finance, "Clean Energy Investment Breaks the \$100 Billion Barrier in 2007," Jan. 2, 2008

3 Source: New Energy Finance, as cited in International Herald Tribune, "Investment in Clean Energy Topped \$100 Billion for First Time in 2007," Jan. 2, 2008

Green ETFs

Clean Energy Industry Facts

- Some 290 million ENERGY STAR® compact fluorescent lights (CFLs) were sold in 2007 – nearly double 2006's total. The bulbs now account for about 20% of the U.S. light bulb market. CFLs use about 75% less energy and last up to 10 times longer than traditional bulbs.¹
- In 2007, the U.S. Department of Energy required all new federal buildings to achieve at least 30% greater energy efficiency than the prevailing building codes.²
- The U.S. and China took steps in 2007 to increase energy efficiency in China's industrial sector. U.S. experts will audit Chinese plants and train factory personnel. The agreement could also serve as a conduit for American companies to export equipment and services to China.³

Water Industry Facts

- The water industry is expected to be a \$960 billion market by 2020.⁴
- Global water consumption rose sixfold between 1900-1995, more than double the rate of population growth.⁵
- It takes 39,000 gallons of water to produce the average domestic auto.⁶

PBW PowerShares **WilderHill Clean Energy Portfolio**
PBD PowerShares **Global Clean Energy Portfolio**

Clean energy

Clean energy is what most people think of when they hear the word "green." Clean energy focuses on renewable energy sources beyond oil, gas and coal. Clean energy sectors include:

- **Cleaner utilities.** Companies in this sector implement cleaner methods of making electric power, including wind, solar, biofuel, geothermal and hydroelectric.
- **Energy conversion.** This sector includes developers of devices that convert fuels such as biofuels to electrical power.
- **Generation efficiency and smart distribution.** Companies in this sector work to deliver step-change improvements in the efficiency of the existing generation and distribution systems, including software to improve electricity demand management or reduce grid losses.
- **Power storage.** Companies in this sector are involved with energy storage and other enabling technologies, such as batteries and flywheels, facilitating a shift to renewable energy technologies.
- **Hydrogen and fuel cells.** This sector includes hydrogen producers, storage companies and distributors.
- **Demand-side energy saving.** Companies in this sector develop technologies to reduce energy use in homes, retail and commercial buildings and industrial processes.
- **Services and suppliers.** These companies are involved in providing resource forecasting, consultancy, contract research and development, materials, components, marketing, financial and other services.

PHO PowerShares **Water Resources Portfolio**
PIO PowerShares **Global Water Portfolio**

Water

Clean water is increasingly in demand for consumption, irrigation and industrial production. Invesco PowerShares' water funds include companies involved in all aspects of the water industry, including:

- **Water utilities.** This sector includes regulated purveyors of water directly responsible for getting supplies to residential, commercial and industrial users.
- **Treatment.** These companies apply technologies and processes to purify and treat water.
- **Analysis and monitoring.** Companies in this sector provide services, instrumentation or techniques for analyzing, testing and monitoring water quality.
- **Infrastructure and distribution.** These companies are involved in construction, replacement, repair and rehabilitation of water distribution, wastewater and storm water systems.
- **Water resource management.** Companies in this sector provide engineering, operations and related technical services that help public and private customers manage water resources.
- **Conglomerates.** Companies in this sector contribute significantly to the water industry, yet are extensively diversified in other industries or markets.

1 Source: U.S. Department of Energy, Environmental Protection Agency and Department of Energy Spread a Bright Idea: ENERGY STAR® Light Bulbs are Helping to Change the World, Jan. 15, 2008

2 Source: U.S. Department of Energy, Department of Energy Finalizes Regulations to Increase Energy Efficiency in New Federal Buildings by 30%, Dec. 21, 2007

3 Source: U.S. Department of Energy, U.S. and China Sign Agreement to Increase Industrial Energy Efficiency, Sept. 14, 2007

4 Source: Environmental-expert.com, "Global Water Industry to Reach US \$1 Trillion by 2020, New Research Says," Nov. 20, 2008

5 Source: World Resources Institute, "Will There be Enough Water?" October 2000

6 Source: msnbc.com, "Things You Didn't Know About Water," 2007

Green ETFs

Cleantech Industry Facts

- Cleantech investments in North America, Europe, China and India reached \$8.4 billion in 2008, up from \$6.1 billion in 2007.
- Of the 11 industry segments that make up the cleantech investment category, the top five categories by total financings were solar, biofuels, transportation, wind and smart grid.

Source: Cleantech Group™, Clean Technology Venture Investment Reaches Record \$8.4 Billion in 2008 Despite Credit Crisis and Broadening Recession, Jan. 6, 2009

Cleantech Investment

Combined venture capital investment in North America, Europe, China and India (\$ billion)

2001	\$0.5
2002	\$0.8
2003	\$1.2
2004	\$1.3
2005	\$2.0
2006	\$4.5
2007	\$6.0
2008	\$8.4

Source: Cleantech Group™, Clean Technology Venture Investment Reaches Record \$8.4 Billion in 2008 Despite Credit Crisis and Broadening Recession, Jan. 6, 2009

Progressive Energy Industry Facts

- Eighty-six percent of the U.S.'s primary energy – the natural resources we harness for power – comes from carbon-emitting fossil fuels.¹
- Transportation is the fastest growing source of greenhouse gas emissions in the U.S., accounting for 47% of the net increase in total U.S. emissions since 1990.²

PZD PowerShares Cleantech Portfolio

Cleantech

The cleantech industry reaches beyond energy to encompass a broad range of products and services, from alternative energy generation to wastewater treatment to more resource-efficient industrial processes.

The common thread: Cleantech companies use new, innovative technology to create products and services that compete favorably on price and performance while reducing humankind's effect on the environment.

To be considered cleantech, products and services must:

- Optimize use of natural resources, offering a cleaner or less wasteful alternative to traditional products and services.
- Have their genesis in an innovative or novel technology or application.
- Add economic value compared to traditional alternatives.

Traditional environmental technologies such as air pollution control and hazardous waste management tend to be "add-ons" to existing businesses or systems – adopted primarily to address existing problems or to comply with state or federal regulations. Cleantech products and services, on the other hand, are designed to prevent these problems from occurring in the first place, creating a unique and innovative investment space.

PUW PowerShares WilderHill Progressive Energy Portfolio

Progressive energy

Energy ETFs often fall into one of two broad categories: those that invest in traditional energy companies – emphasizing oil, gas and coal – and those that focus on clean energy companies – emphasizing wind and solar power.

But there is a third type of energy company for investors to consider: those that develop near-term technologies and processes that improve the way we use fossil fuels and reduce pollutants stemming from the major fossil fuels that are dominant today. These technologies represent an important bridge between traditional energy and clean energy. We refer to this area as "progressive energy."

Progressive energy activities can be categorized in six distinct sectors:

- **Alternative fuel.** Companies in this sector focus on innovative fossil fuel techniques such as gas-to-liquids; biofuels from renewable crops, including ethanol and alcohol-based fuels; methanol; hydrogen as an energy carrier; and lower carbon approaches based on natural gas, oil or coal.
- **Efficiency improvements.** These companies are involved in power management, demand-side end-use reduction and other energy-conservation approaches.
- **Emission reduction.** This sector includes end-of-pipe pollution-control technologies, waste reduction, and approaches for reducing contaminants from coal, oil, natural gas or biofuels.
- **New energy activity.** Companies in this sector develop innovative materials, goods or services that can improve the use of fossil fuels, some biofuels and other energy resources. New energy activity may also include new appliances, motors, hybrid automobiles or transport.
- **Utilities.** This sector includes utilities that are lowering greenhouse emissions through large-scale hydro or other technologies and that encourage end-use reductions in energy demand. This can include some exposure to nuclear generation.
- **Energy conversion and storage.** This sector includes advanced batteries, fuel storage technology and devices that convert an energy carrier to the desired power.

1 Source: Energy Information Administration, U.S. Primary Energy Consumption by Source and Sector, 2007

2 Source: U.S. Environmental Protection Agency, Transportation and Climate, March 5, 2009

Green ETFs

Global Nuclear Industry Facts

- There are 439 nuclear reactors in operation around the world in more than 30 countries, supplying 16% of the globe's electricity.⁵
- With only 11 reactors today, China intends, in cooperation with Western vendors, to build 10 times that many over the next two decades.⁶

PKN PowerShares Global Nuclear Energy Portfolio

Global nuclear energy

Nuclear power emits a small amount of greenhouse gases compared with other energy sources, and it is attracting a significant amount of renewed attention from proponents of greener energy.

The industry's sectors include:

- Reactor designs
- Construction
- Fuels
- Service providers
- Power generation

Progressive Transportation Industry Facts

- Public transportation reduces energy use in the U.S. by the equivalent of 4.2 billion gallons of gasoline a year.²
- In 2009, the Canadian government announced a CA\$10 million program to promote sustainable transportation choices.⁷

PTRP PowerShares Global Progressive Transportation Portfolio

Global progressive transportation

Energy security is a huge issue in the U.S. – a country that pays \$625 million a day for oil imports. Intercity rail, specifically Amtrak, is 21% and 17% more energy-efficient than automobile and airline travel, respectively.¹

Interest in green technology is growing worldwide, and the transportation sector may be a prime target for innovation. Transportation is the fastest growing sector for greenhouse gas production in the U.S.²

Global Wind Industry Facts

- In 2007, wind power became the first \$30 billion clean energy industry.³
- Denmark and some regions of Spain and Germany now generate 10% to 25% of their electricity from wind power.⁴
- To generate the same amount of electricity as today's U.S. wind turbine fleet would require burning 75 million barrels of oil each year.⁴
- Wind power emits no air or water pollution and does not generate radioactive or other hazardous or polluting waste.⁴

PWND PowerShares Global Wind Energy Portfolio

Global wind energy

Wind energy is an inexhaustible, global form of renewable clean energy. It requires no mining, drilling, water usage or fuel transportation. Nor does it generate air, water, radioactive or other hazardous or polluting waste.³

Wind is harnessed, converted into energy and distributed for residential and commercial use through wind turbines located around the world. In 2007 alone, global wind power installations equaled the capacity of 20 large-size conventional power plants.⁴

Energy demand is growing worldwide. As a result, attractive clean energy alternatives such as wind power have become multi-billion dollar markets.⁴

In 2007, wind power crossed a milestone, becoming the first \$30 billion clean energy industry.³ This increase in wind energy demand is due to many factors, including legislative, economic and scientific.

1 Source: Testimony of Deron Lovaas, Natural Resources Defense Council, to the Senate Environment and Public Works Committee, June 25, 2008

2 Source: American Public Transportation Association, The Broader Connection Between Public Transportation, Energy Conservation and Greenhouse Gas Reduction, February 2008

3 Source: American Wind Energy Association, The Difference Wind Makes, 2008

4 Source: Clean Edge, "Clean Energy Trends 2008," March 2008

5 Source: WNA Global Indexes LLC, "About the Nuclear Energy Industry," 2008

6 Source: WNA Global Indexes LLC, "New Index Tracks World's Nuclear Energy Stocks," Jan. 28, 2008

7 Source: Transport Canada, "Government of Canada Stimulates Economies Through Green Transportation," March 3, 2009

