

# The World's Top 25 Eco-Innovators

*Want an antidote to the grim news about climate change? Here are the business leaders, academics, regulators, and entrepreneurs doing the most to make our world smarter and more sustainable.*

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This could be our last, best chance to preserve the planet as we know it. According to a report released in April by the Intergovernmental Panel on Climate Change, a United Nations group that periodically summarizes climate research by the global scientific community, we've reached a crisis point. The evidence cited is alarming: melting icebergs, increased droughts, heat waves, heavy rains, and dying coral reefs. (For more on the water crisis, see "What is water worth?") The good news, say the scientists, is that there is still time to counteract the worst effects of global warming. But we must take dramatic action -- now.

With that in mind, Fortune presents our inaugural list of the World's Top 25 Eco-Innovators -- individuals from the worlds of business, academia, and government who have demonstrated the creativity, drive, and know-how to be leaders in the effort to counteract climate change. To identify them, we surveyed dozens of experts in the sustainability world. And we put a special emphasis on celebrating those who have achieved something concrete and significant for the environment over the past year.

Some on our list are high-profile figures -- like Elon Musk, who has made electric cars cool. Others, like Nat Simons, are quietly funding innovative clean-tech projects. Then there are mavericks like NRG Energy CEO David Crane, who's working to transform the hidebound utility sector. If you think we missed someone, please let us know. Given the large number of excellent candidates we had to consider, we came away from the process feeling much more optimistic about our challenging future. After reading this list, we hope you will too.

## 1. Elon Musk CEO, Tesla Motors

The 42-year-old co-founder of the luxury electric-car maker is perhaps Wall Street's favorite innovator since Steve Jobs. Over the past year his now-profitable company's stock rocketed some 275%. And Musk's popular, all-electric Model S, a five-seater with a \$69,900 sticker price, has put the cool into electric cars. A Model X crossover utility vehicle is in the works. Tesla TSLA -1.47%, based in Palo Alto, is expanding into Europe and Musk hopes to start selling his EVs in China in a few years. In the meantime, he plans to build a \$5 billion lithium-ion battery plant -- the world's largest -- in California, hoping to bring the price of batteries down. As if electric cars weren't enough to keep him busy, Musk, who helped build PayPal and founded space transport company SpaceX, is also the chairman of the fast-growing residential solarpower installer, SolarCity (see No. 3), run by his cousins.

## 2. Tony Fadell CEO, Nest

The product design star, 45, who helped create the iPod while at Apple, has put the smart into "smart grid" at Nest, which he founded four years ago. The company's innovative thermostats use intelligent automation to learn your habits and adjust the heating and cooling in your home accordingly--saving money and conserving resources in the process. In January, Google GOOG -0.28% agreed to buy Nest for \$3.2 billion, a strong endorsement by the search giant of Fadell's vision of energy efficiency.

## 3. Lyndon and Peter Rive CEO and CTO, SolarCity

The Rive brothers -- Lyndon, 37, and Peter, 40 -- have seen shares of their fast-growing solar company soar more than 100% over the past year. SolarCity SCTY-0.87%, with sales growing at a 30% annual rate, is a pioneer in solar-leasing programs. In December the

company unveiled an energy storage system for businesses using battery technology from Tesla, which happens to be run by the Rive brothers' cousin and SolarCity's chairman, Elon Musk.

## 4. David Crane CEO, NRG Energy

The leader of the \$11 billion NRG NRG -0.58% is rolling out a "home energy" program featuring a Dean Kamen-designed Stirling engine, which converts natural gas and other fuels to heat, hot water, or electricity. When combined with solar, the system -- which should move out of beta later this year -- could allow homeowners to live off the grid. Crane, 55, has also started to sell a "solar canopy," a gazebo-like structure that can bring both shade and solar power to your backyard pool, car park, or yard.

## 5. Lisa Jackson VP of environmental initiatives, Apple

The former head of the U.S. Environmental Protection Agency, who reports directly to CEO Tim Cook, is working to transform the computer giant into an environmental leader. Jackson, 52, is overseeing the company's effort to run 100% of its facilities on renewable power. She is also working to address the problem of electronic waste. As of late April, every Apple AAPL 0.59% retail store will now take back any Apple products for free and recycle them.

## 6. Michael Bloomberg, Tom Steyer, and Hank Paulson Former N.Y.C. mayor, hedge fund titan, ex-treasury secretary

This power trio joined forces in the past year to produce a report called "Risky Business," due this summer, that will detail the risks that climate change poses to corporations. Former New York mayor and mega-billionaire Bloomberg, 72, also gets points for a \$50 million donation to the Sierra Club (a four-year gift, which kicked off in 2011) to support its campaign to shut down coal plants in the U.S. Steyer, 56, the retired billionaire founder of \$20 billion hedge fund Farallon Capital Management, has become active in green politics. He has pledged to raise \$50 million (he will kick in another \$50 million of his own money) to combat climate-change-denying politicians in the upcoming midterm elections. And through his Paulson Institute, former Goldman Sachs CEO and ex-Treasury Secretary Paulson, 68, is leading efforts in China to help design more sustainable cities.

## 7. Dan Yates and Alex Laskey CEO, President, Opower

Yates, 36, and Laskey, 37, co-founded the software company, which collects energy-use data on millions of homes around the world and partners with 93 utilities in eight countries. It went public OPWR in April and is now valued at \$1 billion. Opower's big idea: Tell homeowners how much energy their neighbors are using to motivate them to use less.

## 8. Zhang Yue Chairman, Broad Group

As chairman of China's Broad Group, Zhang has become a billionaire selling energy-efficient cooling systems to commercial buildings. He figures that China's urbanization drive can't be stopped, but it can be made more sustainable. His Sky City project, if built, will stand 838 meters (2,750 feet) tall, 10 meters higher than the current record holder, the Burj Khalifa in Dubai. (The project has been plagued by bureaucratic delays.) Zhang says he can construct Sky City, which he broke ground on last summer in the city of Changsha in southern China, by the end of 2014. (The Burj Khalifa took five years to build.) Why so quickly? Because his building is prefab. Zhang has already built a 30-story prefab hotel in 15 days, in the process

greatly reducing material waste and travel back and forth from the construction site. Sky City will include apartments, offices, stores, restaurants, and even schools so that residents can live, work, and play in the tower without battling -- or adding to -- the smog outside. It could be the world's tallest symbol of sustainable thinking.

#### **9. Bill McKibben President, 350.org**

The author and environmental activist, 53, has led the fight against the Keystone XL pipeline project in the U.S. And through the nonprofit he founded, 350.org, he has inspired divestment campaigns at more than 350 colleges and universities, urging them to drop investments in oil and other fossil-fuel companies. Since 2008, McKibben and 350.org have helped coordinate over 20,000 climate demonstrations in every country except North Korea.

#### **10. Ellen MacArthur Founder, Ellen MacArthur Foundation**

Nine years ago yachtswoman Ellen MacArthur achieved what at the time was the fastest solo circumnavigation of the globe, sailing more than 26,000 miles in just over 71 days. After retiring from racing in 2009, MacArthur, now 37, created a foundation to promote her vision of a circular economy, where everything is reused or put safely back to earth. She has signed up 100 companies -- such as Cisco, Philips, and Unilever -- to share best practices and spread the word.

#### **11. Greg Abel CEO, MidAmerican Energy Holdings**

Few people realize that Warren Buffett is one of the nation's biggest investors in green energy. His point man is Abel, 51, whose utility holding company is 89.8% owned by Berkshire Hathaway BRKA . When a \$1.9 billion wind-farm expansion is finished in 2015, 39% of MidAmerican's energy will come from wind turbines.

#### **12. Gina McCarthy Head of U.S. EPA**

With Congress stalled on climate legislation, McCarthy, 60, is taking the point on global warming for the Obama administration. That means cracking down on Big Coal. Emissions regulations about to be put in place will effectively keep new coal plants from being built. McCarthy is pushing new emissions rules that would likely accelerate the closing of existing plants. In April she told the Daily Show's Jon Stewart that climate change is "the biggest public health challenge that we face."

#### **13. Frans van Houten CEO, Philips**

A leader in the LED lighting revolution, the 54-year-old head of the Dutch electronics giant has already built a \$3.9 billion business out of the new technology. In addition to selling LEDs the traditional way, Philips PHG leases entire "Lighting as a Service" LED systems. The idea addresses a flaw in the LED business model: How do you make money when your product lasts 15 years? Plus, Philips can come back and sell customers new, more efficient technology as it comes to market.

#### **14. James Cameron Movie director**

In April the Avatar and Titanic director debuted a Showtime documentary series called Years of Living Dangerously that takes a hard look at the science behind the very real threats posed by climate change. Employing his power to wow, Cameron, 59, shot footage everywhere from Greenland to Indonesia to the drought-stricken American West, and recruited celebrity correspondents ranging from Arnold Schwarzenegger to Matt Damon to President Obama.

#### **15. Tom Siebel CEO, C3 Energy**

Siebel, 61, the billionaire entrepreneur who founded software giant Siebel Systems, is back with big-data startup C3 Energy. The company, which has invested \$150 million in its technology, crunches petabytes of data -- 6 billion transactions an hour -- from utilities, buildings, weather services, and other sources. Customers of utilities that hire C3 can perform energy audits and make adjustments in real time, saving money and reducing carbon emissions.

#### **16. Boudewijn Poelmann CEO, Novamedia**

Based in the Netherlands, Poelmann's company runs five charitable lotteries across Europe, all of which give about half their proceeds to charity. Taken together, they handed out \$760 million last year, making the group the world's second-largest private donor (the Gates Foundation was the first). Poelmann created the format in 1989 with the Dutch National Postcode Lottery. In 2013, it alone gave \$420 million to 95 charities in fields such as conservation and environmental protection.

#### **17. Nancy Pfund Managing partner, DBL Investors**

Pfund, 58, is perhaps the most successful venture capitalist with the lowest profile. As the founder of San Francisco's DBL, she champions eco-friendly companies that also appeal to Wall Street. Pfund was an early investor in both Tesla Motors and SolarCity, and saw both stocks take off in 2013.

#### **18. Michael Farkas CEO, Car Charging Group**

Many operators of electric-car charging stations have hit hard times. That's music to the ears of the 42-year-old Farkas. His Car Charging Group has been rolling up the industry. Over the past year he's bought four competitors, making his company the largest operator of EV charging infrastructure in the U.S. In his latest deal Farkas acquired the Blink Network assets of the bankrupt former industry leader, ECOtality, for pennies on the dollar. It's too soon to tell if his bold expansion plan will pay off, but give him points forchutzpah.

#### **19. Jay Whitacre Founder, Aquion Energy**

The Carnegie Mellon engineering professor, 42, invented a new type of long-life saltwater battery that is both low-cost and nontoxic. The technology can be used by utilities to store electricity from sources like solar and wind -- balancing out the power grid when, say, the wind stops blowing. Whitacre's company, Aquion Energy, has raised over \$100 million from investors such as Bill Gates and VC powerhouse Kleiner Perkins and is shipping products to customers such as industrial giant Siemens.

#### **20. Nat Simons President, Sea Change Foundation**

The son of legendary hedge fund manager and Renaissance Technologies founder Jim Simons, he manages billions himself as leader of San Francisco's Meritage Group. Simons, 47, is also a leading philanthropist focused on climate change. His Sea Change Foundation donated \$41 million to the cause in 2013. And he recently created a clean-tech venture fund through his family office, Elan Management. Called Prelude Ventures, it will invest in clean energy.

#### **21. Coert Zachariasse Real estate developer**

An economist by training, Zachariasse, 47, is the real estate developer behind the Park 2020 project, outside Amsterdam in the Netherlands. So far he's completed half the project -- six office buildings totaling 600,000 square feet -- including an office for FIFPro, the international soccer players union, and a new headquarters for Plantronic. Zachariasse's buildings generate more energy than they use, have rooftop farms, and are constructed of recyclable materials.

#### **22. Anders Runevad CEO, Vestas**

Earlier this year Danish wind-power giant Vestas unveiled the world's largest wind turbine -- a 305-foot-tall behemoth that can generate eight megawatts of electricity. For 54-year-old CEO Runevad, who joined last fall from Ericsson, it's a fun chapter in a big comeback story for the company. Over the past year its shares are up some 400%. Now Vestas is mapping earth's wind corridors to determine where in the developing world people can benefit most from new deployment of turbines.

#### **23. Joel Dobberpuhl CEO, Jetstream Capital**

After 20 years as a mutual fund and hedge fund manager in Nashville, Dobberpuhl, 47, recently retired from running other people's money and decided to focus on clean-tech investing through his family office. A part-owner of the Nashville Predators hockey franchise, he's made a power play already in 2014 by pledging \$26 million through his foundation to the Nature Conservancy in March and leading a \$70 million round of funding in April for solar installer Sungevity.

#### **24. Wang Chuanfu Chairman, BYD**

The Chinese battery innovator is getting traction for his electric vehicles. In March, Wang, 48, received an order from the city of Dalian for 1,200 electric buses and from Nanjing for another 1,000. Next stop: the U.S. Los Angeles last year placed a small order of 25 buses, and recent testing by New York City's transit authority found that BYD's buses can run for an impressive 30 or so hours between charges. A big U.S. order would no doubt please BYD investor Warren Buffett.

#### **25. Richard Kauffman Green Czar, New York State**

Appointed in 2013 by New York Gov. Andrew Cuomo to oversee the state's energy policy, the 59-year-old Kauffman, a onetime partner at Goldman Sachs and exec at Morgan Stanley, is putting together a \$1 billion "green bank" to catalyze more private investment in renewables across the state.