



ENVIRONMENT

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How a Country With One of the World's Largest Economies Is Ditching Fossil Fuels

The country is headed for 80 percent renewable energy and has complete buy-in from all political parties. So, where is the sustainability Kool-Aid and how can we get some for the U.S.?

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In the shadows of what was for many [another disappointing international climate negotiation at COP 18 in Doha](#), the German energy transformation or “[Energiewende](#)” has all the signs of a modern miracle: A complete shift of the world’s fourth largest economy to 80% renewable energy and complete buy-in from all political parties—from the most conservative to most liberal. So, where is the sustainability energy Kool-Aid and how can we get some for the U.S. Congress?

The Perfect Energy Plan?

No matter who one seems to talk to in Germany, whether it’s the conservative member of parliament or the kid of the street, they all seem to agree on one thing: climate change needs to be addressed and they’re going to do it. Conflict arises, however, when asked HOW to do this and the Energiewende plan of Germany is touted as an inspirational and socially-responsible movement by one of the worlds’ leading economies, while others see it as a plan doomed to failure. According to a [2012 Economist critical analysis of the plan](#), “To many the *Energiewende* is a lunatic gamble with the country’s manufacturing prowess. But if it pays off Germany will have created yet another world-beating industry, say the gamblers.”

So, what is this transition plan and is it an energy and climate innovator or, as skeptics claim, a plan made to fail? The targets are impressive. The [Energiewende](#) includes phasing out all nuclear power by 2022 and cutting greenhouse gas emissions by 80% from 1990 levels and shifting the nation’s energy sources to 80% renewables by 2050. Additionally, the [Renewable](#)

Energy Act gives priority to renewable energy in the energy grid before dirty forms of energy, securing a place for renewables in the energy marketplace. The plan also includes major expansions of the energy grid, consumer-based incentives, market-based emissions reductions and, all in all, reads as a gigantic climate and renewable energy high five.

In stark contrast, the world is watching closely as the U.S. undergoes a climate-unfortunate “re-industrialization”. Our own domestic energy transformation includes the “shale gas miracle”—or curse—of untapped natural shale gas reserves and the increased call for hydraulic fracking—a method of natural gas extraction that has lead to dramatic health and environmental concerns by many communities and a **burgeoning anti-fracking movement**. Many speak of the “shale gas miracle” as the key to U.S. *energy independence*. The U.S. Energy Information Administration predicts a 44% increase in U.S. natural gas production from 2011 to 2040. Additionally, according to a **November, 2012, L.A. Times article**, “The U.S. will become the world’s top producer of oil by 2020, a net exporter of oil around 2030 and nearly self-sufficient in energy by 2035, according to a new report from the International Energy Agency.” The popular rhetoric of U.S. energy independence seems to be the only climate or energy discussion to have successfully infiltrated U.S. media and crossed party lines—with “energy security” as a close runner-up. However, as we learned as teenagers, all this “independence” comes with a price (think: global climate change) and increased responsibility (is it time to become a global climate player?). Germany, on the other hand, has historically been an *energy dependent* nation (**currently importing 70% of its energy**) with longtime dependency of natural gas from Russia and coal and oil imports from a diversity of countries. As the U.S. leads the way in per capita greenhouse gas emissions, our “energy independence” being centered on an INCREASE in fossil fuel extraction is problematic. No matter how you look at it, Germany is phasing out fossil fuels and the U.S. is phasing up fossil fuels.

Buying Public Buy-In

Another component of the Energiewende is an incentive-based system that’s referred to as a “feed-in tariff”. Germans who install renewable energy systems (envision solar panels on your house) can sell surplus power back into the power grid at a rate guaranteed for 20 years. The feed-in tariff rate has dropped significantly over the past few years as more and more individuals, small businesses, and pop-up entrepreneurs take advantage of the financial incentives, costing the German government increasing sums. According to a 2012 **Economist article**, “The number of ‘energy co-operatives’ has risen six fold since 2007, to 586 last year. Solar parks have migrated from farms and family houses to apartment blocks. ‘Roof exchanges’ match owners with investors.”

This tariff both engages the German public in the great “transition”, while creating a more decentralized system of energy production and increasing the independence of Germany on foreign energy sources. Importantly, Germans are making this transition through clean, renewable energy, as opposed to the U.S. energy independence scheme currently centered around dirty fossil fuels.

In the U.S., we have incentivized small-scale renewables and energy efficiency with **federal tax credits for energy efficiency** since 2006, which include tax credits for up to 30% of the cost of renewable energy and other energy efficiency measures for individuals. What we've seen in the U.S. over the past 12 years is less of an emphasis on climate or energy regulation at the federal level, with concerned states and municipalities picking up the slack. According to the **Data of State Incentives for Renewable and Efficiency (DSIRE)**, there are only a small handful of federal rules, regulations, or policies for renewable energy in the U.S., compared to over 380 of them at the state and local level. So, what's preventing our national government from joining the renewable revolution?

Energy History

In Germany, no one is arguing one thing: energy prices are going to go up, before they go down. In the U.S., where "tax" is a four-letter word and prices at the gas pump influence elections, rising energy bills are a politician's nightmare. In Germany, however, it is expected that Chancellor Angela Merkel, who spearheaded the dramatic pace of the Energiewende, is projected to easily win re-election. Why then, despite the grumbling of many from the consumer and business side on price escalations, are Germans taking the renewable energy lead?

Part of the story has to do with German history and the domestic relationship with energy. For many in Berlin, the radioactive fallout of the **1986 Chernobyl nuclear disaster** in what is now the Ukraine, still stings. Many remember it as a time where German children weren't allowed to play in the streets for fear of contamination and water supplies were suspect by a majority in the region. The 2011 **Fukushima nuclear disaster** of Japan was a sudden tipping point for Chancellor Merkel and many Germans. Although Germany was already planning a national energy overhaul, the rapidity of the national nuclear phase-out was drastically increased following Fukushima. The images and tremendous impacts of this disaster nailed the lid on the coffin of German nuclear power.

Often slated for its "clean" energy in terms of greenhouse gas emissions, **nuclear is hotly contested** throughout the world due to the danger of necessary radioactive material and the lack of safe disposal methods for toxic waste. However, some questions also arise with the sudden phase-out of nuclear energy in Germany, including: What will Germany do with the waste from its current nuclear facilities? Can Germany really claim nuclear safety on a domestic level when its neighbor, **France, is dependent on over 75% of its domestic energy by nuclear power**? And what about the increased domestic emissions from **new coal power plants being built** to counter the energy production lost by the phase-out of nuclear?

If one is to believe the market-based rhetoric on climate change and international development, then climate change presents an opportunity for new and innovative business models for nations that are fossil fuel dependent. Faced with a rapidly changing climate, the German approach has been to get in early, and stay in it for the long haul. Diametrically opposed to the long-term German approach, the U.S. is the global "risk taker", where community-based thinking and long-term planning necessary to address climate change are

nearly foreign concepts.

In terms of international cooperation, Germany has experience in collaborative sandbox play. The formation of the E.U. has forced member states to work together and confront some of Europe's long-standing domestic patterns. The strategic patience learned from negotiating economics, environment and countless complex issues amongst 27 different governments (E.U.) has matured European countries beyond the American collaborative experience. As the global teenage superpower, the U.S. is a country that still works as a political island—where cooperation is far from synonymous with compromise. From the German political perspective, the U.S. is “missing opportunities” in regards to international climate negotiations.

When it comes to their renewable revolution, Germany is convinced that being the renewable “technological front runner” is an advantage as it's rapidly growing market. When looking to German business, climate change and increases in energy efficiency and emissions standards in the U.S. and E.U. are shifting how they do business. Auto manufacturers, such as BMW, are now looking for suppliers domestically and abroad who can guarantee green energy for their new fleets of electric vehicles and they need to produce electric and hybrid fleets to comply with new [U.S. fuel efficiency standards](#). For many of these companies, it's not the “environment” or “good will” or even the market that's driving them to green: it's policy. According to a [November 2012 commentary of the Energiewende by the Center for Eastern Studies](#), “The energy transformation in Germany is not perceived as an element of protection of the natural environment but primarily as part of the state's economic and social policy.” So, is this a next step in bringing environment into the heart of social and economic systems or tossing them out of the running? And how does this discourse potentially impact the larger climate discourse?

Public Perception: It's Not “If,” It's How

As U.S. media outlets continue to ignore the clear, international climate science consensus and debate the existence of manmade climate change, the German media—and public—is on the road to energy independence AND cutting their climate impacts drastically. Even when talking with a former parliament member of one of Germany's more conservative parties, he simultaneously touted the need for expansion of the fossil fuel industry, while saying, “of course climate change is real and we need to take action”. To many U.S. conservatives, climate change has somehow become a part of the “liberal agenda” of big government, tree hugging and a communist plot to destroy the nation's economy. Regardless of party lines, there's an obvious breach of communication between climate scientists, policy makers, the media, and the American public.

The success of the Energiewende would prove, globally, that addressing climate change builds your economy, not breaks it. Additionally, the trends in energy consumption per capita in Germany shows that less can indeed be more. As the German GDP rises, energy consumption is actually dropping per capita. According to the [Post Carbon Institute](#), “Between 1980 and 2005, energy use was close to flat, while GDP rose by an average of

1.7% per year.” This means that Germans are becoming more energy efficient, and less energy intensive, as they earn more money. One key goal of the Energiewende is to show the world that jobs, growth, and sustainability are not exclusive. All eyes are on Germany and it is up to them to demonstrate that their energy transition is going to support their economy, not ruin it, through a rapid transformation to renewables.

On the other side of the ocean, as was reported [in a 2012 Guardian article](#), the world continues to be amazed by the climate misinformation campaigns and partisan reporting on climate and energy in the United States. However, according to a [2012 report from the Yale Project on Climate Communication on U.S. perception of energy and climate policy](#), “A large majority of Americans (77%) say global warming should be a priority for the president and Congress,” and, “Nearly all Americans (92%) say the president and the Congress should make developing sources of clean energy a priority.” So, perhaps Americans are waking up to the inconvenient truths of climate change when faced with increased droughts, wildfires, and strengthened storms, or are they?

Regardless of international public perception, the U.S. is not without “climate wins” and international NGOs, academic bodies, and government agencies consistently refer to learning from regional, state, and citywide case studies. Many of the more progressive climate states include [California with their recently-launched cap-and-trade system](#), and the first U.S. based cap-and-trade system, [Regional Greenhouse Gas Initiative \(RGGI\)](#) , which brings together nine Northeast states to reduce CO2 emissions from the energy sector by 10% by 2018.

Another sign of potential consumer-level buy-in to climate action is that both Germany and the U.S. are seeing the phenomenon of “social cocooning” grow, resulting in a rapidly expanding movement of people reverting to self-sufficiency and personal sustainability. The result? More urban gardens, the local food movement, small-scale energy production and increases in human-powered mobility, which some attribute to social awareness of climate change and others to economic troubles on both sides of the Atlantic. A not-so-climate-positive shared phenomenon is what’s referred to as “NIMBY” or Not In My Back Yard, where even those who support renewable energy or shifting economies towards sustainability don’t necessarily want to feel or see that shift in their daily lives. For example, you might love wind energy, but not really want one on the horizon while you’re on a beach vacation with the family.

No Country Is an Energy Island...

As far as climate change is concerned, no country is an island. We’re all in this together. So, what does it mean that a country like Germany is slashing emissions, pushing for binding emissions targets internationally, and leading the renewable revolution? Some would argue that they are setting a great example, but unless the other large global economies (and polluters) follow suit, their positive climate impact will be negligible. Whether we like it or not, energy is the backbone of our global economies, and currently that energy is based on fossil fuels.

The international impacts of the Energiewende might hit home for the American public sooner

than we think. Currently, the E.U. and U.S. are reinvigorating talks on developing a [Transatlantic Free Trade Area](#), to increase economic ties between the two regions. As was reported in a [2012 Washington Post article](#), U.S. Secretary of State Hillary Clinton, “We are discussing possible negotiations with the European Union for a comprehensive agreement that would increase trade and spur growth on both sides of the Atlantic.” Included in her speech were direct calls for an end to certain standards in the E.U., including agricultural rules, that she referred to as “long-standing barriers to trade and market access”. Putting this into layman terms: the E.U. has stricter labeling and environmental rules for consumer products and bans genetically modified foods. So, will the E.U. succumb to U.S. demands and lower their standards to increase inter-continental trade? Will these demands creep into energy policy and cater to the lowest common climate denominator—the U.S.? Or will the opposite come true: Germany and the E.U. will counter that if the U.S. wants to open economic ties, then we have to start coming together on the ethical ones, whether it’s energy efficiency, reducing carbon emissions, or having honest labels on our goods?

In a world powered by dirty energy, what will it take to make a global shift to renewables? Looking at the “bigger picture” of climate change and energy links, many see Germany’s country-by-country approach as a small, perhaps insignificant piece, in the global climate puzzle. This concern echoes the critiques by many of Germany’s neighbors—if just one country transforms their climate impacts, does it really matter? And the answer: Germany can’t do it without buy-in from other countries in the E.U. and, perhaps, even us in the United States. And they just might have the long-term planning, innovation, and determination to make it work.

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