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carbon nation

a climate change solutions movie [that doesn't even care if you believe in climate change]

Directed by Peter Byck

Produced by Peter Byck, Craig Sieben, Karen Weigert, Artemis Joukowsky & Chrisna van Zyl

Narrated by Bill Kurtis

Production Notes 82 minutes, Color, 35 mm <u>www.carbonnationmovie.com</u> <u>www.facebook.com/carbonnationfilm</u>

New York Press

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Director's Statement

I became aware of climate change in 2006 and immediately wanted to know whether there were solutions. Along with my team, we set out to find the innovators and entrepreneurs who were laying the groundwork for a clean energy future. Mid-way through production, we met Bernie Karl, a wild Alaskan geothermal pioneer – when Bernie told me he didn't think humans were the cause of climate change, it was a lightbulb moment. A person didn't have to believe in climate science to still want clean air and clean water. And once we filmed the Green Hawks in the Department of Defense, I realized that national security was another way into the clean energy world. In our travels, we filmed Bay Area radicals, utility CEOs, airlines execs and wonky economists – and they all agree that using as little energy as possible and making clean energy are important goals; whether for solutions to climate change, national or energy security or public health. I wanted to make a big-tent film where folks of all political stripes could find common ground.

Synopsis

Carbon Nation is a feature length documentary about climate change SOLUTIONS. Even if you doubt the severity of the impact of climate change or just don't buy it at all, this is a compelling and relevant film that illustrates how SOLUTIONS to climate change also address other social, economic and national security issues.

'Carbon Nation' is an optimistic discovery of what people are already doing, what we as a nation could be doing and what the world needs to do to prevent (or slow down) the impending climate crisis. We already have the technology to combat most of the worstcase scenarios of climate change, and it is very good business as well.

We meet a host of entertaining and endearing characters along the way, including entrepreneurs, visionaries, scientists, business, and the everyday man, all making a difference and working towards solving climate change.

We interviewed over 200 people – included in the film are Richard Branson (CEO, Virgin Group), Thomas L. Friedman (New York Times), Former CIA Director James Woolsey, Van Jones (Founder, Green For All), Col. Dan Nolan, U.S. Army (Ret), Bernie Karl (Geothermal pioneer from Alaska,) Amory Lovins (Chairman, RMI), Art Rosenfeld (Commissioner, California Energy Commission), Denis Hayes (Founder of Earth Day), Ralph Cavanagh (NRDC), Lester Brown (Earth Policy Institute), John Rowe (CEO, Exelon), Jim Rogers (CEO Duke Energy), Cliff Etheredge (West Texas wind pioneer,)and more climate change pioneers.

Public opinion is sliding the wrong way - far fewer people are concerned about climate change than even a year ago. We've made Carbon Nation to give a majority of people an entertaining, informed and pragmatic primer about why it's incredibly smart to be a part of the new, low-carbon economy: its good business.

Carbon Nation's optimism and pragmatism are appealing across the political spectrum. Carbon Nation is a film that celebrates solutions, inspiration and action.

Director Interviews

Bloomberg.com interview by Zinta Lundborg

Zinta Lundborg: How is your film different?

Peter Byck: A lot of films are designed to scare people: "An Inconvenient Truth" was marketed as a horror movie. We're trying the opposite -- we focus on solutions since I believe we can do a heck of a lot better.

ZL: Your view of sustainability is business friendly?

PB: If I were a coal company owner, I'd be one of two people. I'd either be the guy fighting to the death to keep what I've got. I'm making too much money; things are too good for me.

But there's another guy, the visionary who says we have a lot of money right now, but this can't last, so we'd better be doing new things.

ZL: It's not really about global warming?

PB: It's not a political documentary. We made this film for everyone, even folks who are not worried about climate change. You can come at it from so many different positions: energy security, national security, job creation, you can come at it strictly from greed. You wind up doing the exact same things.

ZL: It's good for the bottom line in that green is the new black?

PB: We did some early interviews at a conference on energy efficiency, where companies like Goldman Sachs, Dow Chemical, Wal-Mart, Exxon, were all talking about how much money they'd saved, and how huge a revenue generator just energy efficiency could be if they could figure out a way to market it.

ZL: What's holding back progress in energy?

PB: There are a lot of old laws on the books governing utilities, which are now hurting things in a big way. It's also a patchwork across the country, so what we need are sweeping executive orders to clear the way for new solutions, just like Roosevelt did during the war.

ZL: You think there's support for that?

PB: No, I don't. That's another reason we made this film. A lot of people think clean energy is anti-business, but a lot of businesses are already doing it.

ZL: Right now, as you point out, carbon emissions have no penalty.

PB: But it's expensive. There are a lot of hidden costs to putting carbon dioxide into the air, and society pays them.

ZL: How much do we waste?

PB: Experts say 30% of energy is just tossed. It's not making your beer colder, it's not making your shower hotter, it's not making your house cooler in the summer or warmer in the winter.

ZL: So who's against the greening of America?

PB: There are huge corporate interests that will fight. If you say organic farming is best for sequestering carbon dioxide, land use practices, health; the companies that make genetically modified seeds will fight. Of course, big coal and oil will fight this. They're powerful and they're talented in moving people's opinions.

ZL: What's the biggest step we can take to move forward?

PB: Put a price on carbon emissions. It has to cost money to throw carbon in the air.

ZL: How is green power poised to be the next big global industry?

PB: I'm sure there are new solutions out there, and a large number of insanely smart people are already on it. Algae, say, may turn out to be a great bio-fuel. We're all already algae-powered; if you think about it, since the oil and coal we use comes from plant life. The criterion is that the clean, green products have to perform the same or better, and cost the same or less.

Georgia Straight Interview by Matthew Burrows

Matthew Burrows: Can I ask you some questions about *Carbon Nation*? Peter Byck: Sure. I appreciate you asking. You spend three years making a movie and sitting in an edit bay by yourself. It's nice to start talking about these things.

MB: Oh good. So have you had many people asking you about it?

PB: You're not the first one. You're the first Canadian. We had our world premiere in Washington, D.C. about two weeks ago. So I've had a handful of interviews so far.

MB: How did that go?

PB: Sold out and standing ovation. It was pretty cool. It doesn't get better than that.

MB: Was Arnold Schwarzenegger there?

PB: No, he wasn't. When we do our California push we will reach out to him. It's clear from the footage that I didn't get the one-on-one footage I was hoping to get with him, but I think after he sees this film—we are going to continue making these sorts of films but we will get the turnaround time faster. So hopefully I'll be able to spend a day with him on this subject. I think he is doing some good stuff.

MB: I also watched the [Fifth Avenue screening of] *The 11th Hour_*in 2007. It feels different to this movie, sort of the same kind of idea but different to that. Would you comment?

PB: We started making our film in the spring of '07. So early summer he was on the cover of *Vanity Fair*, on their green issue, talking about the film coming out. Obviously we were concerned, because if [Leonardo] DiCaprio was going to make a film like ours, that would have shut us down two and a half years ago. In his interviews, he said that he wanted to scare people. And we knew that we had a different product, because that was the last thing that we wanted to do. We found <u>An Inconvenient Truth</u> did the scare perfectly—it couldn't have done it better. And it got my attention. We just wanted to focus on solutions, and we just wanted to find out, 'Can you solve this thing?' That was our whole goal. Or one of our whole goals. The other one of our goals was to make a film that wasn't blaming and shaming, because we found that, just in our lives as people, that didn't really inspire us to do the right thing. Being afraid didn't inspire us to do anything. And what I am afraid of is just sitting there and shaking in the corner - Useless. So we wanted to make a film that was forward-looking, find out who was doing good things and, even if they were people who hadn't done good things in the past, we wanted to celebrate what they were doing right to help motivate. This thing is a big deal.

MB: It is a big deal. I am amazed you did it in 92 minutes. That is not easy. How did you do that?

PB: It's not easy. It is literally a year's worth of editing on my clock this last year. And another editor, a very talented editor called Eric Driscoll, did 15 months—he spent 15 months editing this whole thing. That's 24 months of editing. And that's two skilled editors who are fast. So it was an enormous amount of work.

MB: Smooth. I never got the impression that you were hacking it ruthlessly or that there are massive gaping holes of things that should have been in?

PB: I appreciate that. That took...you hear filmmakers complaining about test screenings, you know? You hear this, 'Oh, it was horrible. They made me test my film, and then they made me change it.' The problem with test screenings for filmmakers is that the filmmakers aren't in charge of the test screening. So, I am an independent filmmaker, and so there are no studios breathing down my neck and nor did they pay for it, so I get to conduct test screenings. And we did a whole bunch of them. Over 1,000 people saw this film in various shapes and sizes over the last year. And so in the screenings I got to see what would make sense. We screened it for people who weren't concerned about

this stuff, and we screened it for people who had been working on this stuff for 40 years. So we made sure we got the science right. We did incredible in-depth research, like with our script. Every single fact in our narration is backed up by at least three sources. Besides the fact of the people we interviewed teaching us and the research I was doing to get ready to do the film. We did cut stuff we loved. There's no question about that. Those will be DVD extras. But we got it down to what seemed to be the right length. What was really interesting was, the earlier cuts were shorter with a lot more information, and we sort of pulled stuff out and let it breathe some more. My sister was perfect. She said her head hurt from a cut a year ago, and she's smart. And so if her head is hurting, I've got to reduce and pull back. So I had to learn the whole "less is more" again the hard way. But I always put too much in at first. I always do that and then I pull back. I think it's easier to go that direction.

MB: It is a film for the United States right?

PB: Carbon Nation is definitely the U.S. We say that really clearly in the film. So many told me from all over the world...people who weren't Americans said, absolutely sincerely, that if America gets on board, it will change the conversation. So we just feel that, if the United States gets on board—it's such a great business opportunity—it will be a catalyst for other countries to get on board too. We can be leaders in the best sense. And now, we're falling behind both Europe and China. We're on the cusp of losing these great business opportunities.

MB: What a very interesting idea.

PB: I learned that from people. I didn't come up with it. I thought yeah, let's be the leader in clean energy. Like [lawyer and Green for All founder] Van Jones says, 'We can be the world leader in solutions, rather than the world leader in pollution.'

MB: Mountain Pine Beetle was terrifying, because we have to deal with those things too. We've had a terrible epidemic here at the same time. You may know that anyway.

PB: Actually some of the more stark photographs were from Vancouver Island. One of the things we worked really hard on in this film is, if I am saying this is Montana, then that photograph is Montana. There is very little in the film that's not exactly what we say in the photographic [credit]. You know there is no board that grants documentaries their truth label. Documentaries throw that around all the time.

MB: Were you aware of our own MPB epidemic?

PB: Yep. That's what I was saying, that the photographs that we got from British Columbia were actually more stark, but because we were talking about Helena, Montana, we stayed around there.

MB: People will be shocked when they see those scenes when the film premieres at the Projecting Change Film Festival.

PB: It's horrible. We made this film over a three-year period. The first trip I took to the Rockies was in August of '07, and I saw these dead trees, and I said, 'What is that?' You

know? When I went to Helena, Montana in '08, I still didn't know what it was. It wasn't until October of '09, when I was researching like where is it happening right now—so it needed context—I found that story.

MB: Would you be willing to give just one example of where people can make change?

PB: Yeah. It sounds redundant, but just change out all your light bulbs for CFLs [compact fluorescent light bulbs]. It is an enormous cost saving. The light bulbs will last seven to 10 times as long as the other ones. They are more expensive, but you will pay them off easily within the first year of buying them. And the 139mercury that is inside them, it is not great if you break one of those bulbs for sure—they are making them tougher so they are plastic coated. But the mercury that is inside the bulb, I did a study on this, but we didn't put it in the narration. You would have to break something like three billion CFLs a year to equal the mercury that is emitted from the coal burning that you are saving by using the CFLs. Even though there is mercury in the earth, you are saving an enormous amount of mercury from getting in the atmosphere. Even if you broke three billion CFLs a year, there would still be less mercury in the air than what is actually going up there from the burning of coal for electricity to light your light bulb.

MB: Has [President] Obama instilled an optimism that maybe wasn't there for Americans on the environment under George Bush?

PB: I think there is an enormous amount of optimism that has been instilled by people like [environmentalist and physicist] Amory Lovins and Art Rosenfeld, and both are in the film, from Ralph Cavanagh from NRDC [Natural Resources Defense Council]. A fellow that makes it in a lot of shoots is a guy named Gene Rodriguez. Those are the people who gave me optimism when I was making this film, because, I tell you, when you delve into this stuff and you start studying the truth of what is happening with the climate and energy, just even looking at what energy is about, it is really depressing. So these people kept me grounded. They spent decades learning this stuff, so it's a slower burn for them. For us, it's like, I jumped right in, and it was brutal. Those are the people with inspiration.

Obama is a bit more pragmatic than a lot of environmentalists would like, but I understand his game. He's pushing nuclear and he's pushing offshore oil, and that's bumming out some people. I look at it like; listen, if you are going to be drilling in the ocean, why not put it in our waters so we can regulate this stuff? I would just want him to be incredibly vigilant on regulation, so that it's the safest way to do it. Because when you get offshore oil from countries that we can't regulate, it's a more dangerous thing for the planet.

So personally, hey, I am flying to Vancouver. I am burning oil to get to you guys, so I am not innocent. I live in Kentucky, and 93 percent of my power in my office, as I am dubbing this file from that drive, comes from coal. So I am in no way shape or form innocent in this issue. I just know we can do it better. I've met the people who are doing it better. And they inspire me. And they can save everyone money. That's the biggest thing I learned about this.

Originally I did this movie because I was scared about climate change. I saw Al Gore's movie and I said, 'OK, what can I do?' I made this documentary on garbage in the '90s, and so I am predisposed to this stuff, and I quickly learned that, even if you're only in it for the money, you will still do the same thing. If you are in it for national security or

energy security or religious beliefs as being stewards of the earth, if you care about people's health and the health of the land and the health of cities and poverty, human rights. You can do all of these things and you'll still end up in the same spot. That, to me, was the biggest eye-opener. That was the biggest.

MB: Any particular incidents that happened to you in your three years?

PB: Meeting Van Jones was very inspiring. I knew he was star material when I did my first 10-minute interview with him. He thought he was done with me. He was like, 'Alright, next filmmaker, right?' And then I called him, and said, 'Hey, I want to film more with you.' Because you can't just have an interview. If he is actually doing stuff, then let's go and film him doing stuff. That's when he said he was going to go and visit with his parents who were ill. I said, 'Let me come down there.' He was surprised that I wanted to go down there. My point was: I know what you're doing. Let's find out why you're doing it.

MB: Very touching. It seemed to slow down.

PB: His dad inspired me quite a bit.

MB: You flew from California to Tennessee to see him, right? Quite a jump...

PB: What was really interesting about that was, it gave me the chance to come through Louisville to visit wit my dad and my family. We film Van in the summer of '07 with his pops, and then we filmed him again in June of '08, which is when his dad had passed away. Then, in August of '08, after observing this father and son thing, I started filming other people with their dads. I interviewed Richard Branson's 89-year-old dad, and I interviewed Amory Lovins's 96-year-old dad. All of a sudden in August of '08, my dad gets cancer. My dad is my best friend. Through all this film, and with all the emails and the ups and the downs, he was with me the whole way.

MB: What is his name?

PB: Dann Byck Jr. He was gone by March of '09. So that's why I've got that dedication piece at the end of the movie. So watching Van's story and seeing that as a filmmaker, all of a sudden it kicked me in my ass. I went through the exact same thing.

MB: Van's dad was inspiring, doing things [as educator] five times faster than they said they couldn't be done.

PB: That's the point. Who are these people that dedicate their lives to the betterment of others? I really didn't learn this concept of being of service until much later in life than obviously a lot of these people learned it. I was out there just trying to get my own in L.A., and trying to get a film career going and get out of my way. And, it was a rough life [in L.A.] Very oppressive and very tough stuff.

MB: Finally, why call the documentary Carbon Nation?

PB: Because it's funny and because it speaks to our country. Carbon is the issue and we wanted to be very focused on carbon.

Filmmakers

PETER BYCK | Director + Producer

Peter Byck has over 20 years experience as a director and editor. His first documentary "Garbage" won the South by Southwest Film Festival. (It screened in scores of festivals in the U.S. and Europe and played at the Museum of Modern Art and Lincoln Center). In addition, he has edited documentaries for Peter Jackson's two films, "Lord of the Rings" and "King Kong." Peter has also worked as an editor or director for documentaries and promotional shorts for Warner Bros., Universal Pictures, 20th Century Fox, MTV, Vh1, BBC, Disney and MGM, for shows and movies including "The West Wing," "The Matrix," "Scrubs," "er" and many more.

In 1986, Peter received a Bachelor of Fine Arts from California Institute of the Arts.

CRAIG SIEBEN | Producer

Recognized energy authority Craig Sieben, founder and CEO of Sieben Energy Associates, is a leading expert on energy efficiency and pioneer in the modern, rapidlygrowing field of professional energy management for over two decades. Craig traces his interest in energy efficiency, both as a business and a public policy issue, to the oil shocks of the 1970s and to the highly publicized nuclear accidents at Three Mile Island and Chernobyl. With the supply side of the international energy equation clearly vulnerable, he correctly saw that drilling the demand side made more sense and would be more profitable. The recent extraordinary bounces in oil prices, plus global warming, as urgent international concerns underscore the practicality of Sieben's insight.

During his undergraduate years at Hampshire College in Massachusetts – where he graduated with a B.A. in Energy Policy in 1983 – Craig served in Washington as a summer intern at the House Subcommittee on Energy Conservation and Power, as well as the Department of Energy's Office of Solar Energy.

Following graduation, he worked as a research and marketing assistant at Daniel Yergin's Cambridge Energy Research Associates; founded the Superinsulation Information Service, a consultancy to building professionals; and was vice president for marketing at The Lighting Corporation before founding Sieben Energy Associates in his native Chicago in 1990.

SEA continues to innovate and expand on its pre-eminence in the field that its founder pioneered. Craig has emerged as a national opinion leader, an experienced and deeply knowledgeable expert on energy efficiency and conservation in the built environment, which generates approximately 40% of U.S.greenhouse emissions.

He speaks often on what he calls the "second Saudi Arabia" waiting to be tapped in America's building stock, and on the profound potential impact that enlightened energy efficiency practices and programs could have on the economy and the environment. Craig is the Secretary / Treasurer of the Board of Directors of Leadership Greater Chicago, is a member of The Economic Club of Chicago, The Executive's Club of Chicago and the City Club of Chicago. He is also the Producer of Carbon Nation, the upcoming global warming solutions film that will be widely released in 2010. He is also a semi-professional harmonica player, having begun his musical career at 13 studying with the world's leading harmonica innovator Howard Levy, and was Levy's first student in 1972. Craig and his wife Amy live in Chicago with their two young children.

KAREN WEIGERT | Producer

Karen Weigert currently serves as Senior Vice President of Urban Partnership Bank. Urban Partnership Bank is the nation's leading community development and environmental bank. Karen's career has encompassed politics, government and private enterprise.

Karen began her career at Goldman Sachs as an investment banker after graduating Phi Beta Kappa from the University of Notre Dame. Her political work focused on the second Clinton campaign and inauguration where she served as State Director of on Indiana and Deputy Director of Operations respectively. Karen joined the federal government when she received a political appointment, serving first in the United States Department of Agriculture in the Foreign Agriculture Service and later at the Global Environment Center at USAID. After receiving an MBA from Harvard Business School Karen joined the Chicago office of McKinsey &Co. She spent over 4 years serving a range of clients across the sectors including Fortune 500, government and nonprofit. Her work included clients in the energy and transportation fields as well as land use and foreign policy. Karen branched out on her own and did independent consulting in the sustainability space where Urban Partnership Bank (previously ShoreBank) was one of her clients. She helped them successfully launch the on-line product she now runs from inside the bank.

ARTEMIS JOUKOWSKY III | Producer

Artemis Joukowsky is a venture capitalist, asset advisor, entrepreneur, non-profit activist and film producer. He has formed ten for-profit and eight non-for profit institutions and has been a founding partner in two venture capital funds. He has produced one book, and is in the process of making two movies and on-line TV projects.

Artemis is a Senior Advisor of Econergy International, a publicly traded company in the AIM market on the London Stock Market. Before the IPO, he was Vice-Chairman of Econergy, which is a diversified international energy services company, focused on clean energy markets. In addition, Artemis is Chairman and CEO of Avalon Financial Group, Union Limited Partnership and HFG Financial Group.

CHRISNA VAN ZYL | Producer

Chrisna van Zyl spent a decade traveling the world and working in the travel industry, both in Cape Town, South Africa and London, England. Chrisna landed in the U.S.A in 2006. Chrisna pursued studies in languages and creative writing.

As first time producer, she has taken on a wide array of roles and responsibilities as an integral part of the small production team.

ERIC DRISCOLL | Editor

Eric Driscoll has been editing professionally for over 10 years and has cut documentaries for Peter Jackson's "Two Towers," "Return of the King," and King Kong." Other documentary work includes programming for the National Geographic Channel and behind the scenes content for "Ugly Betty."

Eric also has extensive experience in reality, promo, and trailer work. Major clients have included NBC, Fox, New Line, TLC, ABC, Discovery Channel, Warner Brothers, National Geographic, DirecTV, Fox Movie Channel, Capitol Records, BET, and The Weinstein Company. Eric graduated Magna Cum Laude from the University of San Diego with a Bachelor's degree in Humanities / Music.

GILL HOLLAND | Associate Producer

Spirit Award nominee for Producer of the Year, Gill Holland, has worked on over 50 films, including Sundance faves FLOW: For Love of Water, ADVENTURES OF POWER, SPRING FORWARD, LOGGERHEADS, triple winner HURRICANE STREETS, the FOX sitcom GREG THE BUNNY, the Spirit Award winner and first carbon-neutral independent film SWEETLAND, Al Gore's 2008 Reel Current Award winner MOUNTAIN TOP REMOVAL, and the Emmy-nominated DEAR JESSE. He produced three volumes of cineBLAST! the short film compilations. He is partner at The Group Entertainment, the KY/NYC management/production company.

Half Norwegian, half North Carolinian lawyer and former adjunct professor at NYU Graduate Film School, Gill worked at the French Film Office. He has been on the jury for shorts at Sundance and selection committee for the Academy Awards, Student Division. His record label sonaBLAST! features Kelley McRae, Ben Sollee, The Old Ceremony and Irish star Mark Geary. (Featuring CDs made with recycled plastic and cardboard cases.) He, his wife Augusta, daughter Cora and twins Owsley and Lilla opened The Green Building, the first LEED certified platinum building in Louisville, KY and are also starting up the Jefferson Public Market, a year round public/farmers market in Louisville's East Market District. Louisville Magazine named him its "Person of the Year" in 2009.

BILL KURTIS | Narrator

At the start of his career, Bill Kurtis worked for a television station in Topeka, Kansas, before moving to Chicago in 1966 to work for WBBM-TV. In 1970, he joined the staff of a CBS station in Los Angeles and soon had his first taste of national news, serving as a contributor to CBS Reports. He returned to Chicago in 1973 to become a news anchor at his old station. During this time, he won several awards for his reporting. Kurtis covered the war in Vietnam, including the fall of Saigon, and created a documentary about the city's orphans.

In 1982, Bill Kurtis joined the national program, CBS Morning News, as a co-host. But after three years, he returned to Chicago, resuming his role as anchor at WBBM-TV. In 1990, Kurtis began a new phase of his career as a host and producer of documentary television series. Establishing his own production company, Kurtis Productions, he created Investigative Reports, Cold Case Files, and other programs for the A&E Television Network. As a producer, Kurtis earned two Emmy Award nominations for Cold Case Files for Outstanding Nonfiction Series in 2004 and 2005. He also serves as host on the popular American Justice series, which looks at famous legal cases and their impact on the law.

In addition to his television work, Bill Kurtis has written two books: Bill Kurtis on Assignment (1983) and The Death Penalty on Trial: Crisis in American Justice (2004). He also lent his deep and distinguished voice to the 2004 news comedy The Legend of Ron Burgundy starring Will Farrell.

Since 2005, Kurtis has become heavily involved in raising and marketing grass-fed beef. His 10,000-acre (40 km) ranch in southeastern Kansas was once the home of Laura Ingalls Wilder. While looking for innovative uses for his ranch, Kurtis learned about the health and environmental benefits of grass-fed beef and founded Tallgrass Beef Company. He is also an investor in the Prairie Grass Cafe in Northbrook, Illinois.

Featured Characters



Cliff Etherege, wind farmer & West Texas cotton farmer was tired of watching the large ranches to the south lease their land to wind companies while his smaller ranching neighbors got none of the business. Defying the odds, he organized scores of 500-acre farms and has now created Peak Wind, one of the world's largest wind farms. His town of

Roscoe, TX was dying – even their Dairy Queen had closed. Now, his son and many other kids from Roscoe are coming home to work on the wind farms. This is the story of green energy bringing families back together and resurrecting small towns.



Dan Nolan, former army colonel is our guide into the world of the Green Hawks – the folks in the Department of Defense who are leading the Pentagon's move towards energy efficiency and sustainable power. The U.S.'s forward operating bases in Iraq need diesel fuel for their generators. Convoys transporting this fuel are ideal targets for

improvised explosive devices. Getting these bases more energy efficient and even fully wind and solar powered will save more than fuel. It will save lives.



Bernie Karl, geothermal pioneer and wild Alaskan has found a way to use 165-degree water to create geothermal power. Up until now, all geothermal needed at least 250 – 400 degree water temperatures. At most oil wells, 95% of the liquid drilled from the ground is hot water that measures around 165 degrees. The oil industry has always considered this water as waste and a nuisance. If Bernie could install one of these new geothermal units at every oil well in Texas, he'd create the same amount of power as 10 nuclear plants. United Technologies Corp., maker of Carrier air conditioners, has partnered with Bernie – and Goldman Sachs is predicting that they will sell 250,000 units; a true game changing technology.



Van Jones, civil rights advocate turned green jobs organizer and advocate founded Green For All after a realization: "Green Jobs Not Jails." Green For All is working to get green jobs to disadvantaged communities. He was the main advocate for the Green Jobs Act, which George W. Bush signed into law in 2007. The Act was the first piece of federal

legislation to codify the term "green jobs." Under the Obama administration, it has resulted in \$500 million for green job training nationally. We share a moving moment with Van when solar panels are being installed by trainees of Solar Richmond and Grid Alternatives in Richmond CA.



economic development.

Stonyfield Farm, the world's leading organic yogurt producer and the author of Stirring <u>It Up: How to Make Money</u> <u>and Save the World</u> (Hyperion Books, 2008). Gary is a frequent speaker on topics including sustainability, climate change, the profitability of green and socially responsible business, organic agriculture, and sustainable

Gary Hirshberg, Chairman, President, and CEO of



Michael Dunham, of JACO Environmental AKA "Fridge Guy" is responsible for the successful design and implementation of JACO's energy efficiency appliance recycling programs. JACO disposes of the nasty and powerful green house gas CFC-11, in old refrigerators in a safe and sustainable manner.



Dr. Arthur Rosenfeld, the 'father of energy efficiency.' Art advocated California's building and appliance efficiency standards over 30 years ago, which have saved Californians billions of dollars. Art retired as Commissioner of the California Energy Commission in 2010 and now spends his time championing the benefits of "White Roofs." Thanks to

Art, solutions to some of the toughest climate issues the world faces have already been well tested in California.



Amory Lovins is Chairman and Chief Scientist of the Rocky Mountain Institute. For four decades he has worked in energy policy and related areas. Amory worked professionally as an environmentalist in the 1970s and since then as an analyst of a "soft energy path" for the United States and other nations. He has promoted energy efficiency, the use of renewable energy sources, and the generation of energy at or near the site where the energy is actually used. Amory has received ten honorary doctorates and won many awards. He has provided expert testimony in eight countries, briefed 19 heads of state, and published 29 books. In 2009, Time magazine named Amory as one of the world's 100 most influential people.



Richard Branson, Founder/CEO of Virgin Atlantic Airways. Adventurer. Music entrepreneur. Branson is leading the hunt for the biofuel replacement to jet fuel as well. Branson has also offered \$25 million to the first scientists who can demonstrably remove CO2 from the atmosphere. He probably will be starting another lucrative industry in the

process. Besides the aviation biofuel research he's funding, he's also looking to make his Necker Island resort completely net zero by utilizing energy efficient renovations on all the buildings coupled with solar and wind power stations.



R. James Woolsey, Former CIA director and Venture Partner, VantagePoint, is the nation's most vocal proponent for the plug-in hybrid car. He knows or nation's addiction to oil is the biggest threat to our national security and he finds it distasteful that our oil purchases fund the very nations that profess their hatred for the West.



Thomas L. Friedman is an internationally renowned author, reporter, and columnist—the recipient of three Pulitzer Prizes. The New York Times columnist and best-selling author of "Hot, Flat and Crowded," consistently rings the "green is good business" bell. Going green will save U.S. companies billions of dollars and it will also spur a whole new set of

industries worth possibly trillions of dollars.



John Rowe, Chairman and CEO of utility company, Exelon Corporation, believes the best, most effective place to deal with slowing climate change is in the inner cities, the places where buildings are the most energy inefficient, where appliances are old and in disrepair.



James Rogers, CEO of utility company, Duke Energy, wants to make energy efficiency in homes and offices universally accessible, just as there was universal access to electricity in the 20th century. He says it's cheaper to save energy than to make energy.

Credits

Director: Peter Byck Editors: Eric Driscoll & Peter Byck Writers: Peter Byck, Eric Driscoll, Matt Weinhold, Karen Weigert Producers: Peter Byck, Craig Sieben, Karen Weigert, Artemis Joukowsky, Chrisna van Zyl Narrator: Bill Kurtis Executive Producers: Paula Crown, Gigi Pritzker, Nick Pritzker, Peggy & Henry Sharpe, The Lemelson Foundation Associate Producers: Michael Cochran, Gill Holland, Jim Slama, Gueta Mezzetti, Michael Leifer, Patricia Jones Blessman, Nick Street Graphics: MFactor, Inc. Composer: Flexi P; Orchestrator: Robert Hawes Sound Designer: Robert Hawes/Neptunes Broiler After Effects Artist: Andrew Fink Animation: Six Point Harness

PRODUCTION:

Director of Photography: Peter Byck Additional Camera: Daniel Lir Camera Assistants: Chrisna van Zyl, Michael Cochran, Bill Stark, Jim Slama UDQ Wrangler: Michael Pucker

SPECIAL EFFECTS: Michael White

MUSIC & SOUND:

Supervising Sound Designer and Re-recording mixer: Robert Hawes Sound Designer: Courtney Bailey Sound Designer: Bobby Garza Jr. Additional Orchestration: Eric Lindsay Additional Orchestration: Matt Heck Post Production Music & Sound Services Provided by: neptunesbroiler.com

Musicians: Guitars: Eric Whorton, David Immerglück, FlexiP, Phil Maynes, Robert Hawes Bass: Danny Kiely, David Immerglück, Eric Garcia Drums: Paul Culligan, Ziv Keys: FlexiP Engineers: John Schroeder, Robert Hawes, Phil Maynes Voice Over engineer: Brian Leitner ASSISTANT EDITOR: Patrick Duncan

ADDITIONAL EDITING:

Nick Towle, Christo Brock, Jeff Cowan

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Cast (Titles at time of production)

Rohit J. Aggarwala, - Dir. Of Long Term Planning and Sustainability, NYC Mayor's Office Jerry M. Allums - Home and Solar Roof Owner, Richmond CA Lela Allums - Home and Solar Roof Owner, Richmond CA Peter Barnes - Economist and Senior Fellow, Tomales Institute Richard Branson – CEO, Virgin Group George Bravo - Driver, KKW Trucking Lester R. Brown - President, Earth Policy Institute Sean Casten – President & CEO, Recycled Energy Development LLC Ralph Cavanagh – Lead Attorney, NRDC Col. Jim Chevallier - Garrison Commander-Garrison Fort Irwin Army Base Roger Duncan – Deputy General Manager, Austin Energy Michael Dunham - Director of Energy & Environmental Programs, Jaco Environmental Inc Cliff Etheredge – Partner, Peal Wind LLC David Etheredge - Partner, Peak Wind LLC Bob Fox – Partner, Cook + Fox Architects Greg Franta - Senior Vice President/Chief Architect, Rocky Mountain Institute Tom Friedman – Author & NY Times Columnist

Eric Gardner - Contract Officer Representative, 916th Support Brigade, US Army National Training Center, Fort Irwin Wayne Gatlin Jr. – Solar Installer Sherri Goodman - Senior Vice President & General Counsel, CNA Eban Goodstein - Economic Professor, Lewis & Clark College Stuart Grauer - President/Head of School, The Grauer School Denis Hayes – President, Bullitt Foundation Vickie S. Haynes – Owner, Vickie's Gifts Paul Reed Hepperly – Director of Research, Rodale Institute Gary Hirshberg - Chairman, President, and CEO of Stonyfield Farm Gwen Holdmann - Vice President of New Development, Chena Hot Springs Resort David Hone – Climate Change Advisor, Shell Daryl Horne – Solar Installer Sadhu Johnston - Chief Environmental Officer, City of Chicago Van Jones – Founder, Green For All Willie Jones - Father of Van Jones Bernie Karl – Proprietor, Chena Hot Springs Resort James A. Kelly - Senior Vice President of Transmission and Distribution Business Unit, Southern California Edison Kristina Kershner – Director, Architecture 2030 M. Glen Kertz - President/CEO, Valcent Products Edward Kjaer - Director of Electric Transportation Division, Southern California Edison Timothy Lasalle - CEO, Rodale Institute Amory B. Lovins - Chairman & Chief Scientist, Rocky Mountain Institute Joel Makower – Executive Director, GreenBiz.com Col. Matthew Margotta – Commander, US Army Garrison-Hawaii Edward Mazria – Executive Director, Architecture 2030 Kevin Mccullough - COO, RWE-Michele Mcgeoy - Founder/Executive Director, Solar Richmond Jeffrey W. Moyer - Farm Director, Rodale Institute Daniel A. Nolan III - CEO, Sabot6, Inc. Dana Pittard - Commanding General/Deputy Chief of Staff, US Army National Training Center, Fort Irwin Peggy Rathmann – Carbon Farmer, Wick Farms Paul Rode - Project Team Leader, Johnson Controls Jim Rogers – Chairman, President & CEO, Duke Energy Arthur Rosenfeld – Commissioner, California Energy Commission John W. Rowe – Chairman & CEO, Exelon Corporation Lance K. Toyofuku - Director of Public Works, US Army National Training Center, Fort Irwin John Wick - Carbon Farmer, Wick Farms Tom Williams - Director of External Relations, Duke Energy

R. James Woolsey - Former CIA Director, Venture Partner, VantagePoint