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**ACCLAIMED DOCUMENTARY ON CLIMATE CHANGE AND SUSTAINABLE ENERGY
EARTH: THE OPERATORS' MANUAL
RETURNS TO PBS FOR EARTH DAY 2012 WITH TWO NEW BROADCAST SPECIALS**

**WATCH AND MEET THE PEOPLE WHO ARE ENERGIZING AMERICA
(IF YOU'RE EXPECTING LEFTY TREE-HUGGERS, YOU'RE IN FOR A SHOCK)**

March 1, 2012, New York, NY – Across the globe, people are looking for ways to save money and conserve energy at home. They're busting the myth that the climate change debate has paralyzed us with uncertainty, distraction and helplessness. That myth-busting will be on full display on Sunday, April 22, 2012, when **EARTH: THE OPERATORS' MANUAL**, the critically acclaimed documentary on climate change and sustainable energy solutions, returns to PBS for Earth Day accompanied by two new related but stand-alone specials, **ENERGY QUEST USA** and **POWERING THE PLANET**. Watch and meet the people who are energizing America by rolling up their sleeves and taking control of their energy future.

If you're expecting a group of lefty tree-huggers, you're in for a shock. Host Richard Alley — registered Republican, geologist, former oil company employee and expert on climate change and renewable energy — heads up a diverse cast that includes farmers, military personnel, researchers, engineers, energy entrepreneurs, community leaders, government officials and regular citizens. All of them see the tremendous economic and employment potential of sustainable energy, as well as the benefits to climate. While the national media, politicians and even some frustrated advocates are caught up in a destructive election-year debate on "the reality of climate change," these folks aren't interested in polemics. As **ETOM** shows us, they aren't arguing or twiddling their thumbs — they're mobilizing to make a difference for themselves and their communities.

ETOM is not a documentary series to be passively watched; it is a movement that embodies the consensus that Earth's climate is changing because of our actions, that fossil fuels lead us down a dead-end road, and that the time to move toward a sustainable energy future is now. Through these three specials as well as a community of pragmatists on the web (at earththeoperatorsmanual.com, facebook.com/earththeoperatorsmanual.page and twitter.com/earthtom), **ETOM** replaces "gloom and doom" with the positive, pragmatic and inspiring message that a revolution in the way we think about energy is already underway, and welcomes the participation of everyone who'd rather get busy building a better future than argue with the facts. The examples showcased will resonate with climate skeptics and activists alike, inviting them to examine their own energy habits, and online companion tools make it easy to take concrete steps toward emitting less CO2 and saving more money.

The three **ETOM** broadcast specials air successively on Sunday, April 22, 2012, on PBS: **ENERGY QUEST USA** at 4:00 p.m. ET, the encore of 2011's **EARTH: THE OPERATORS'**

MANUAL at 5:00 p.m. ET and **POWERING THE PLANET** at 6:00 p.m. ET (**CHECK LOCAL LISTINGS**). **POWERING THE PLANET** also airs 10:30-11:30 p.m. ET, with an encore Thursday, April 26, 9:00-10:00 p.m. ET. Each program is designed to stand on its own, but taken together the series gives viewers an objective and optimistic account of how real people are using Earth science to find practical, economical and even fun ways to move toward a sustainable energy future.

ENERGY QUEST USA (Premiere)

ENERGY QUEST USA visits five very different American communities where citizens are making smart energy choices based on economics and the environment. Their experiences chart a path every U.S. community can follow to take charge of their energy future and adapt to the challenges climate change may bring.

In Kansas, the 2011 “Take Charge! Challenge” pitted 16 communities against each other in an energy efficiency competition, with four prizes of \$100,000 each for the winning towns. Nancy Jackson, founder of the Climate+Energy Project, says her goal is to reset the norm for energy consumption in the heartland, “putting the ‘conserve’ back in ‘conservative’” and promoting what she sees as a “win-win-win” proposition — save money, build local economies and insure a healthier energy future.

In Baltimore, Maryland, the city’s sustainability office launched a Neighborhood Energy Challenge with surprising results: last year, low-income Park Heights’ homeowners conserved more energy on average than residents of gentrified Carroll Park, saving as much as \$1,300 a year through simple measures like weather-stripping and reduced water use. The message is an important one in the economic downturn, putting much-needed money in the pockets of people in hard-hit areas like Baltimore.

In Alaska — a state known for oil drilling — diesel fuel used to heat homes and keep native communities livable can cost up to a whopping \$9 per gallon. In an interview with U.S. Senator Lisa Murkowski (R), a member of the Senate Energy Committee and a strong proponent for oil and gas, we learn why she is committed to making renewable energy — ocean power from the tides in Cook Inlet, low-emissions heating fuel created from wood waste, and innovative low-temperature geothermal turbines powered by the Chena Hot Springs — part of the state’s power portfolio.

Then it’s on to Fort Worth, Texas, a city that sits atop major natural gas reserves and has experienced a boom due to hydrofracking, yet is also invested in what locals call “cowboy sustainability.” From bike lanes that promote cycling despite the Texas heat to beautiful LEED Platinum buildings, Fort Worth is a microcosm of America’s potential for positive response to its energy challenges and choices.

The final segment, filmed in one of America’s greenest cities, Portland, Oregon, underscores the tremendous payoff we’ll earn from making smart choices now. Congressman Earl Blumenauer explains that decisive action three decades ago — trading highway funds for bikeway funds, for example — achieved the sustainability that has stimulated a vibrant economy and given residents today such an attractive quality of life.

In a political climate in which “going green” is often associated with a liberal agenda, **ENERGY QUEST USA** sends a strong message that, in the words of Republican Senator Murkowski, “We need to get beyond the political labels when it comes to energy opportunities.” We ought to get back to the all-American values of saving a buck, tackling problems head-on, working together in our communities, and looking out for the future of our kids and our country.

EARTH: THE OPERATORS' MANUAL (Encore)

An operators' manual helps keep your car or computer running at peak performance. Earth science can do the same for the planet. To illustrate the evidence and the way forward, host Richard Alley takes viewers on a High-Definition trip around the globe, from New Zealand to New Orleans, telling the story of Earth's climate history and our relationship with fossil fuels. In New Zealand, we go deep into a crevasse in the Franz Josef Glacier to understand how the advance and retreat of massive glaciers during Earth's Ice Ages are tied to changing levels of carbon dioxide. In Denver, Colorado, we peer over Alley's shoulder at the National Ice Core Lab to see how records of temperature and atmospheric composition trapped inside chunks of ancient ice conclusively demonstrate that today's levels of CO₂ are higher than at any time in the past 400,000 years, due largely to our burning of fossil fuels over the past several hundred years.

Then it's on to locations where developments in sustainable energy, and a diverse cast of inspiring Earth "operators," are already proving it's possible to do things differently.

A solar power plant near Seville, Spain, will soon provide electricity to 200,000 homes – promising news for the sunniest place in the world, the deserts of the U.S. Southwest, where solar energy could account for 80% of Earth's current use. On the North Island of New Zealand, a geothermal generating station is a reliable source of carbon-free energy. Next up, Brazil, a land of cars running on flex fuels using sugarcane ethanol; then it's on to the gas-guzzling city of Houston, which under the leadership of Mayor Annise Parker is working to support e-vehicles and get fifty percent of its power from wind by 2030. In a fascinating and surprising segment filmed at the Army's Fort Irwin and the Marine Corps' Camp Pendleton, members of the U.S. military explain why they have made it a priority to significantly reduce reliance on fossil fuels. And in Xi'an, Shanghai and Beijing, we see how China, the world's largest energy consumer, is evolving from "the factory of the world" into "the clean-tech laboratory of the world," in the words of Peggy Liu, chairperson of the Joint U.S.-China Collaboration on Clean Energy.

This special (an encore of the April 2011 broadcast) focuses on the beauty and bounty of the planet, human ingenuity, and many reasons to be optimistic about our future. As Alley says, if enough of us get involved, "we can avoid climate catastrophes, improve energy security, and make millions of good jobs."

POWERING THE PLANET (Premiere)

POWERING THE PLANET is an eye-opening look at some of the world's most important case studies in smart energy decisions, and a provocative assessment of what it takes to build a sustainable energy infrastructure — a process that spans decades and requires long-term government support.

In Spain and Morocco, large-scale solar farms and individual photovoltaic panels atop tents in the Sahara are beginning to bring the vast potential of the Sun down to Earth. In Brazil, abundant natural resources — Sun, rain and sugar cane — are transformed into efficient, sustainable biofuel, making Brazil the only nation whose cars could keep running if all gasoline were to vanish. In Samsø, Denmark, and West Texas, citizens have taken sustainability — and economic realities — into their own hands by becoming stakeholders in wind turbines; instead of NIMBY, for them it's "Yes, in my backyard." In China, the "new empire of clean tech," we witness a fast-paced, full-throttle approach to multiple sustainable energy technologies, including exclusive footage from GreenGen, the world's most advanced low-carbon emissions power generation plant.

In a dramatic illustration of the need to cut emissions worldwide and avoid the possibility of an abrupt climate shift, host Richard Alley bungee-jumps off a bridge – and his CGI avatar goes for a wild ride on the "climate roller coaster." Later, Alley walks us through Edinburgh, Scotland, to

address a common concern about renewables — cost — by relating the transition to a cleaner energy system to the revolution in sanitation. It took about one percent of the world economy to develop an infrastructure for indoor plumbing; that's roughly what will be required to get rid of "another kind of human waste" — carbon dioxide emissions from burning fuels.

But cost is only one factor, in addition to politics and psychology. The last two segments of the program look at dysfunctional energy choices made by the U.S. government juxtaposed with successful local initiatives in Alaska, Baltimore and Kansas. In the words of former head of Shell U.S.A. John Hofmeister, "You need to think of energy in a fifty-year timeframe, and our elected officials are thinking of energy in two-year election cycles. That's ridiculous."

Showcasing many ways in which great nations and small communities are finding sustainable solutions that provide for people *and* protect the Earth, **POWERING THE PLANET** asks an urgent question: is America is making the right decisions for its own energy future?

THE CAST OF ETOM

Host **Richard B. Alley** is Evan Pugh Professor of Geosciences at the Penn State University; recipient of the 2011 Stephen H. Schneider Award for Outstanding Climate Science Communication; winner of the 2009 Tyler Prize for Environmental Achievement; and a member of the National Academy of Sciences. He once worked for an oil company, is a contributor to the UN panel on climate change (IPCC), has testified to Congress about climate change, and served as a "tour guide" to senators visiting the glaciers of Greenland. As he describes himself, "I'm a registered Republican, play soccer on Saturdays and go to church on Sundays. I'm a parent and a professor. I worry about jobs for my students and my daughters' future." Alley is the author of the companion book to the documentary, *Earth: The Operators' Manual* (Norton, 2011).

"If we approach Earth as if we have an Operators' Manual, we can avoid climate catastrophes, improve energy security, and make millions of good jobs."
— Richard Alley

Other featured participants:

Daniel Yergin, energy expert and author of the *New York Times* best-seller *The Quest*.

Shirley Jackson, president, Rensselaer Polytechnic Institute, and former head of the federal Nuclear Regulatory Commission.

Cliff Davidson, board chairman, Kodiak Electric Association, Kodiak Island, Alaska. KEA is a locally owned energy cooperative that runs the Pillar Mountain Wind Project (comprising three 1.5 megawatt turbines) and the Terror Lake hydroelectric project, which contributes 84 percent of the island's electricity.

Darron Scott, president and CEO, Kodiak Electric Association.

John Whiddon, general manager of Island Seafoods on Kodiak Island, Alaska, who is interviewed inspecting salmon on the production line at Pacific Seafood, a processing plant that runs 100 percent on renewable energy.

"Bear" Ketzler, City Manager of Tanana, Alaska, a remote and mainly Native Alaskan village, located at the confluence of the Yukon and Tanana Rivers, that relies on biomass and solar power.

Gwen Holdmann, renewable energy engineer and Iditarod musher, filmed at home, on the sled and at the Chena Renewable Energy Festival.

Nancy Jackson, founder of the Climate+Energy Project, Kansas. “*At the end of the day the atmosphere doesn’t care one whit what people think. The atmosphere cares what people do.*”

Susan Anderson, sustainability director for the City of Portland, Oregon.

Alice Kennedy, coordinator of the Baltimore Neighborhood Energy Challenge.

Sen. Lisa Murkowski (R-AK), Senate Energy Committee member and a strong proponent for oil and gas. “*I’m a Republican. Republicans by definition are seemingly more conservative. What is more conservative than harnessing what is available and around us in a long-term sustainable way?*”

Bernie Karl, inventor, entrepreneur and owner of the Chena Hot Springs Resort. “*If we harness two percent of the Earth’s energy, that’s 1000 times more energy than we consume!*”

Betsy Price, mayor of Fort Worth, Texas.

Larry Brogdon, formerly a partner at Four Sevens Oil Co., an exploration and production company in Fort Worth, Texas, and currently executive director of the Energy Institute at Texas Christian University, where he teaches a course on energy, economics and environment.

Sy Sohmer, director of the Botanical Research Institute of Texas (BRIT), whose LEED Platinum building is a model of energy efficiency.

Sebastian “Buster” Ficehera, Asst. Water Dir., Water Pollution Control Division, Fort Worth Water Dept.

Rep. Earl Blumenauer (D-OR), 3rd District head of the House “Bike Caucus” and chair of the “Livable Cities” group.

Ken Wagner, mayor of Baldwin City, Kansas.

David Crane, CEO, NRG Energy. “*I think the United States, led by the U.S. consumer market, will and can exercise leadership in this area, and the rest of the world will follow.*”

Rear Admiral **David Titley**, Oceanographer of the Navy, and a contributor to the Pentagon’s Quadrennial Defense Review, which in 2010, for the first time, cited climate change as a “threat multiplier”: “[C]limate change is happening, and there is very, very strong evidence that a large part of this is, in fact, man-made.”

Annise Parker, Mayor of Houston, Texas, whose city is – perhaps surprisingly – the #1 municipal purchaser of renewable energy in the United States. “*Well, if you’re going to tackle energy efficiency, you might as well do it in a place that is a profligate user of energy. And when you make a difference there, you can make a difference that’s significant.*”

Mayor **Greg Wortham** of Sweetwater, Texas, whose community has benefited from tax revenues resulting from massive wind farms.

Rancher **Steve Oatman**, who may be uncertain about climate change but knows America needs clean energy.

Peggy Liu, chairperson of JUCCCE, the Joint US-China Collaboration on Clean Energy.

Marty Schoenbauer, Executive Director, Beijing Office, U.S. Department of Energy.

Brigadier General **Robert Hedelund**, Commanding General, Marine Corps Warfighting Laboratory.

Carlos de Brito Cruz, Science Director of the Research Foundation of Sao Paulo. *"If for some magical reason every molecule of gasoline in the world would disappear, I guess that the only country that would keep its cars running normally would be Brazil."*

Jose Goldemberg, former Minister of the Environment, Brazil, who was present at the beginning of the push for sugar cane ethanol in that country.

Søren Hermansen, director of the Samsø Energy Academy, Denmark, and a native of Samsø who played a major role in the island's transition away from dependence on fossil fuels by convincing his neighbors to become early adopters of wind energy.

Lykke Friis, former Minister of Climate and Energy, Denmark. *"As a global perspective, we simply know that the age of cheap energy is over."*

Cliff Etheredge, farmer and wind energy entrepreneur, Roscoe, Texas.

Julio Friedman, Carbon Management Program, Lawrence Livermore National Laboratory, U.S. Department of Energy.

Xu Shisen, director of the TPRI/Clean Energy Research Institute in Xi'an, China.

Albert Lin, CEO of Emberclear, a company that's trying to bring clean-coal technologies to the U.S.

John Hofmeister, former head of U.S.A. Shell. *"You need to think of energy in a fifty-year timeframe, and our elected officials are thinking of energy in two-year election cycles. That's ridiculous."*

PROGRAM CREDITS

ETOM was written and directed by Geoff Haines-Stiles and produced by Erna Akuginow. The production team also includes Art Howard, director of photography; Andy Quinn, 2nd camera and editor; and Anna Belle Peevey, associate producer. Title graphics and project logo were designed and created by Moraes, Inc. Special computer graphics come from Crazybridge Studios, 422 South, and Hive Studios International. Sound design and audio mix by Kent Gibson, Soundesign. **ETOM** was produced in high definition.

The three **ETOM** broadcast specials are part of a multiplatform initiative, supported by a grant from the National Science Foundation (NSF). **ETOM** is produced by Passport to Knowledge/Geoff Haines-Stiles Productions, Inc.

All three specials will be available to stream at earththeoperatorsmanual.com and on YouTube as of April 22, 2012. DVDs and Blu-rays will be available at earththeoperatorsmanual.com and shopPBS.org.

ABOUT THE ETOM INITIATIVE

The PBS documentary is one component of the larger multiplatform **ETOM** initiative. Through the three broadcast specials, as well as an interactive website, widgets to help track energy consumption and save energy, a social media campaign, local events and a companion book, **EARTH: THE OPERATORS' MANUAL** is living proof of a consensus that Earth's climate is

changing as a result of human activity, and the time to move toward a sustainable energy future is now. It is a community of pragmatists joining together on- and offline to share resources, inspire one another with stories and examples, and take concrete steps to make a difference in our communities.

- **The Website** – earththeoperatorsmanual.com is a content-rich interactive website intended as a significant resource for anyone interested in climate change and energy options. The site features an annotated, illustrated script of Program 1 (Programs 2 and 3 forthcoming); web-exclusive videos; behind the scenes photos; climate change FAQs with Richard Alley; an energy IQ quiz; resources for educators; inspiring case studies on energy efficiency; and, coming soon...
- **The Energy Gauge** – A major component of the website, still in development, the ETOM-WattzOn Energy Gauge is a tool for tracking personal energy consumption. A series of widgets — readily available as add-ons to other websites and blogs — cover the main categories of energy use, from cars to food to home utilities and more, enabling you to calculate your footprint and dollar costs, and suggesting ways to save both energy and money.
- **The Social Media Campaign** – ETOM's aim is to spread the word about the Earth "operators" profiled in the documentary series and inspire others to take action. We also want to arm our audience with the facts on climate change and tools to make sustainability, efficiency and conservation a part of everyday life – and we're harnessing the power of social media to do so. Check out our Facebook page (facebook.com/EarthTheOperatorsManual.Page) and Twitter account (@earthtom) to join the conversation and spread the word.
- **Events** – ETOM partners with museums and science centers across the country to host screenings and discussions with Richard Alley and the rest of the cast.
- **The Book** – *Earth: The Operators' Manual* (Norton, 2011), by Richard B. Alley, is the acclaimed companion book to the PBS documentary. Says *Publishers Weekly*: "This optimistic book ought to convince even the most obstinate climate-change denier." Booklist Starred Review. More information at: books.wwnorton.com/books/978-0-393-08109-1/.

FOR MORE INFORMATION

- **earththeoperatorsmanual.com**
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