



THE OPERATORS' MANUAL

YOUR PLANET
IS DUE FOR AN
OIL CHANGE



SUN



WIND



WATER



BIOFUELS



EFFICIENCY



NUCLEAR



GEOTHERMAL



CLIMATE CHANGE



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TO LEARN MORE

Visit www.earththeoperatorsmanual.com
for in-depth interviews, the annotated script,
upcoming events and more!



THE OPERATORS' MANUAL

PROGRAM 1

**EARTH:
THE OPERATORS' MANUAL**

Streaming Online at
earththeoperatorsmanual.com
and available on DVD

PROGRAM 2

**SEVEN WAYS TO
POWER THE PLANET**

Premieres
Winter/Spring 2012

PROGRAM 3

**ENERGY QUEST
USA**

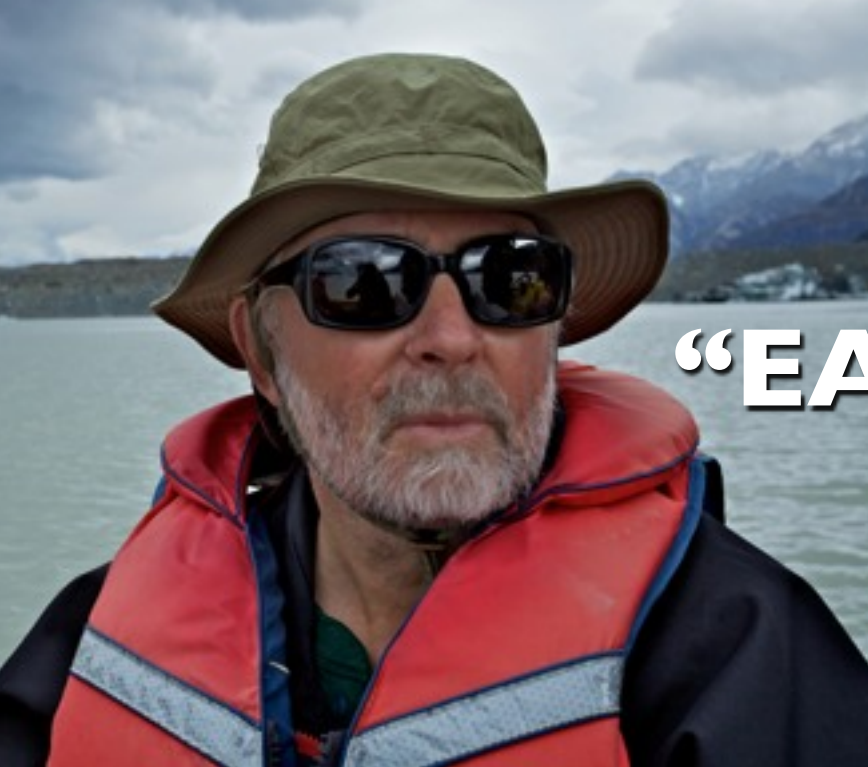
To Air EARTH Month, April 2012
Filming now in Kansas, Texas,
Maryland, Oregon, Alaska and more!



Printed using soy-based inks on 148 pounds of Sakura Silk, made with 100% de-inked recycled fiber
and 50% post-consumer waste, processed chlorine free, designated Ancient Forest Friendly™ and
manufactured with electricity that is offset with Green-e® certified renewable energy certificates.



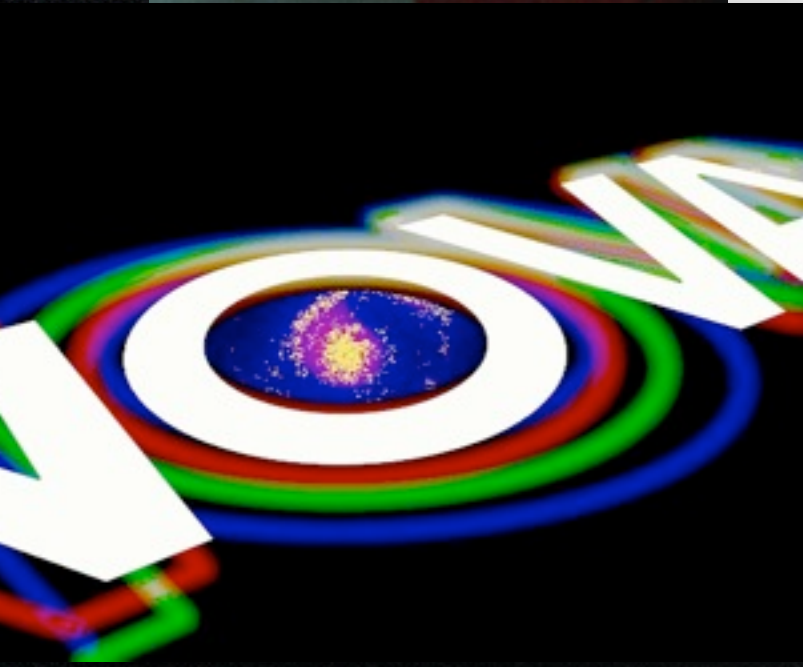
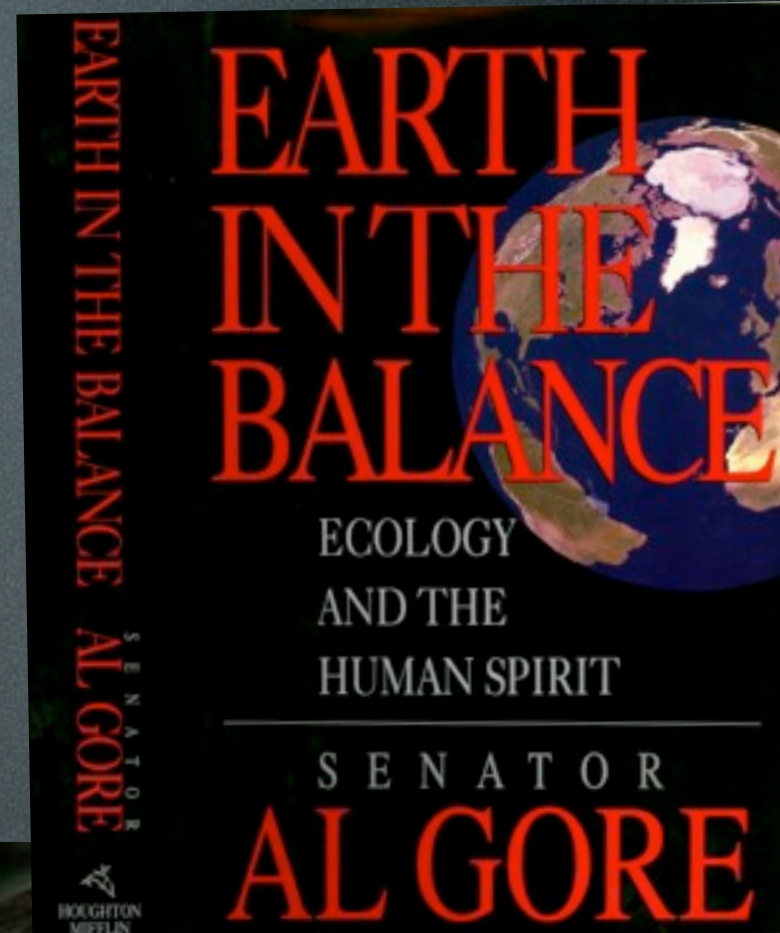
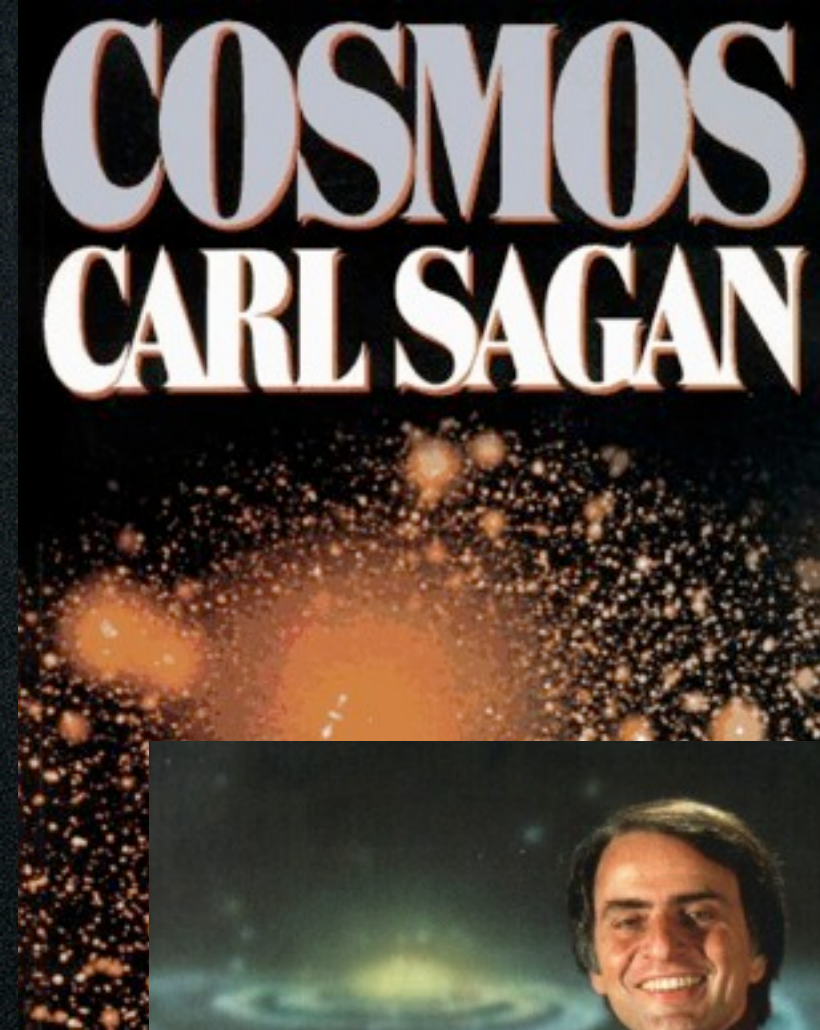
**“Your planet is due for an
oil change!”**



**The
“EARTH: The Operators’ Manual”
project: PBS broadcasts,
online/YouTube videos
& social media**

GEOFF HAINES-STILES
ghs@passporttoknowledge.com





EARTH-The Operators' Manual

TV Show · [Edit Info](#)

[Edit](#)



EARTH-The Operators' Manual

Welcome news.



Most Americans Want Scientists, Not Politicians, to Lead Climate Debate

www.reuters.com

The latest results from an ongoing Yale/George Mason study indicate that Americans want experts to explain how human activities are altering the climate By Elizabeth McGowan, SolveClimate News WASHINGTON —Americans

1,670 Impressions · 1.44% Feedback

[Monday at 9:42am](#) · [Like](#) · [Comment](#) · [Share](#)

[17 people like this.](#)

[View all 7 comments](#)



Sharon Angell Magliulo I believe this survey does not give a good cross section of American's views. I believe the majority of Americans have no idea about what climate change is. Most don't give a hoot. Most don't care about the environment.

18 hours ago · [Unlike](#) · [1 person](#)



EARTH-The Operators' Manual Sharon, we'll be addressing this shortly. Stay tuned.

7 hours ago · [Like](#)



EARTH-The Operators' Manual



How farmers are clean power pioneers

gigaom.com

When it comes to adopting new technologies, particularly

Do you agree w/ the above commenter and the many who rebutted the writer's methodology and arguments, or w/ the author? What food choices do you make?

Admins (6) [?]



[Use Facebook as EARTH-The Operators' Manual](#)

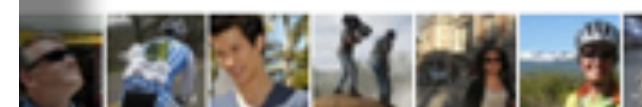
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You and EARTH-The Operators' Manual



[32 friends like this.](#)

Quick Tips

Get more people to like your Page with Facebook Ads today!

Sample Ad: EARTH-The Operators' Manual



Your ad text here.

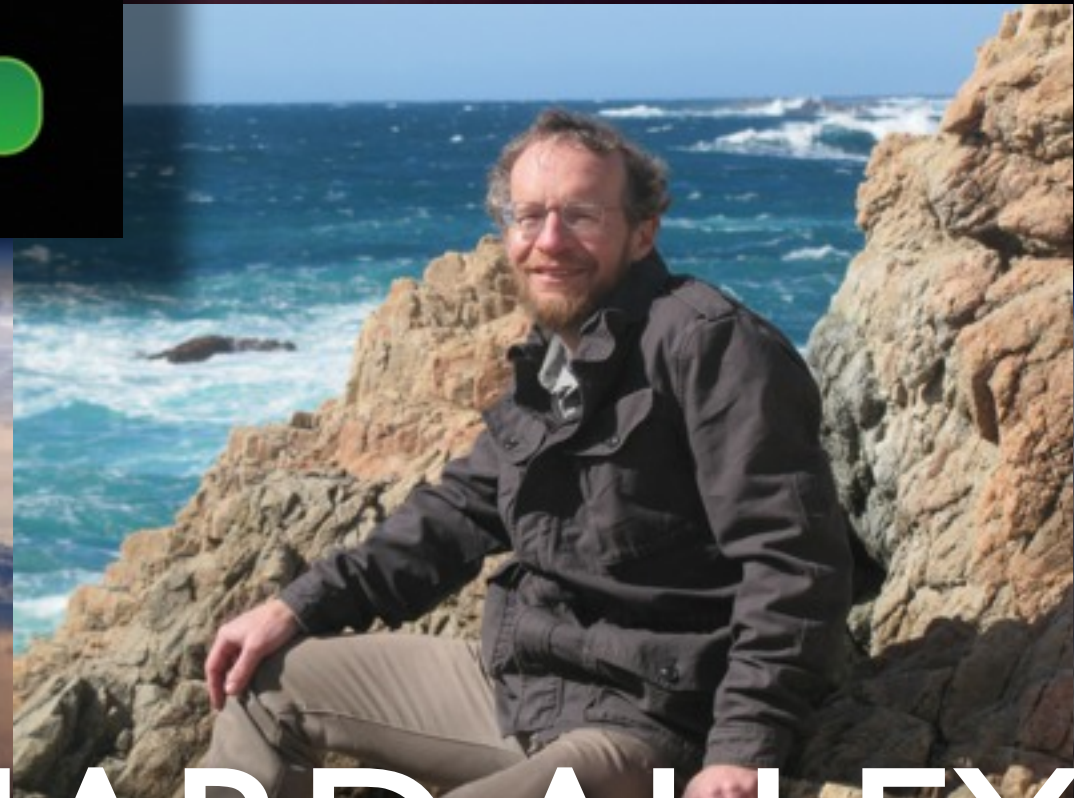
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earth

THE OPERATORS' MANUAL



with RICHARD ALLEY



PBS.

program 1:
EARTH: The Operators' Manual
(Streaming online at:
earththeoperatorsmanual.com)

Program 2:
POWERING THE PLANET

Program 3:
ENERGY QUEST USA

Sunday April 22, Earth Day
16:00 Eastern-17:00
CHECK LOCAL LISTINGS!!!



THE OPERATORS' MANUAL

#2 POWERING THE PLANET



Lightbulbs in the Desert

“Grow Your Own”

“Yes, In My Back Yard”

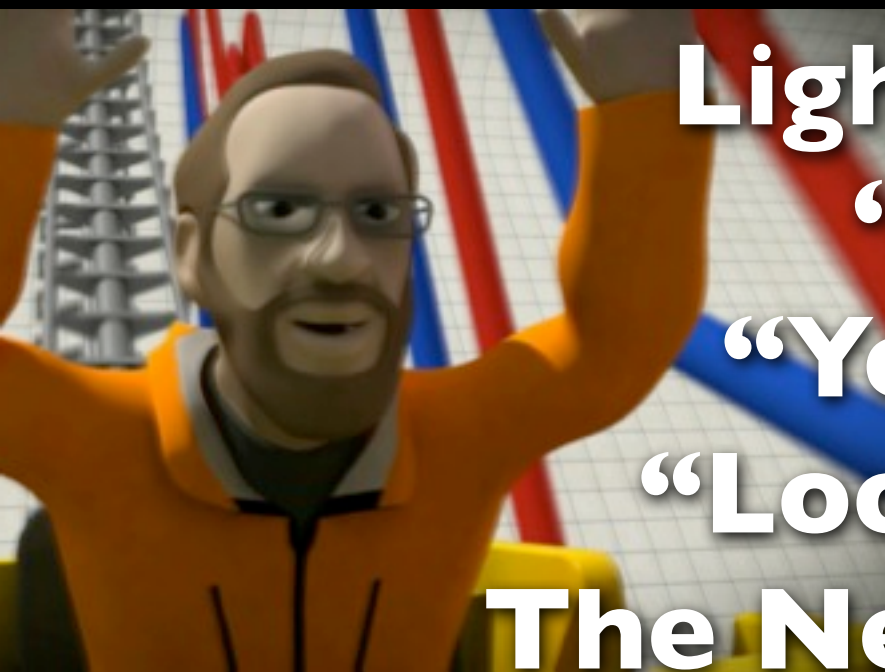
“Look Before Your Leap”

The New Empire of CleanTech

Toilets and the SMART GRID

Avoid The Energy Abyss

Laboratories of Low-Carbon Living



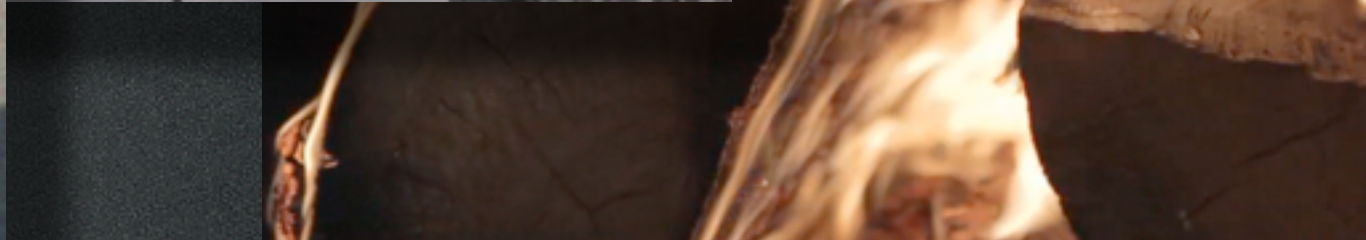
WIN
\$100,000!

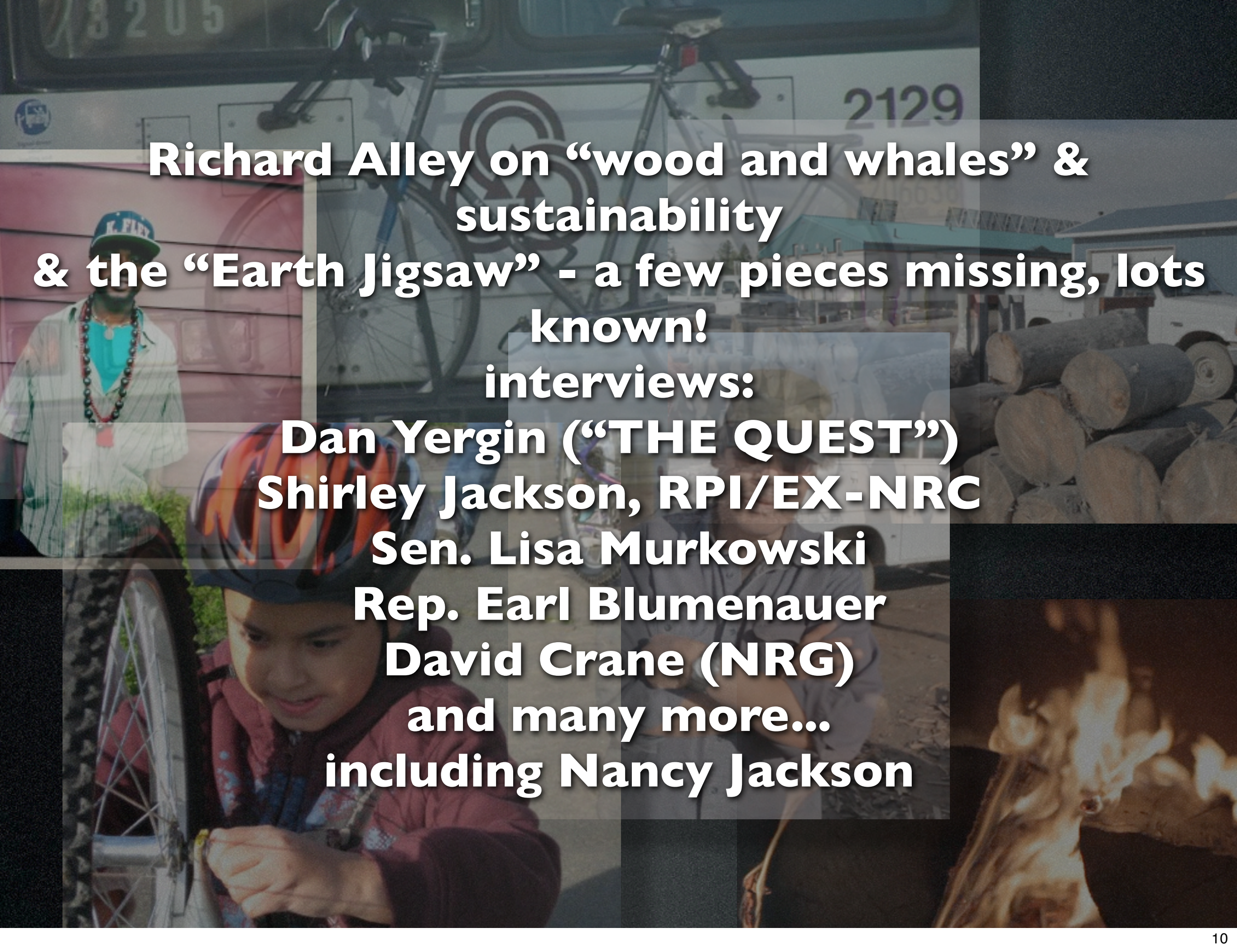
*Help Iola defeat Fort Scott,
Pittsburg, Parsons & Chanute!*



**#3 ENERGY
QUEST USA**







**Richard Alley on “wood and whales” & sustainability
& the “Earth Jigsaw” - a few pieces missing, lots known!**

interviews:

**Dan Yergin (“THE QUEST”)
Shirley Jackson, RPI/EX-NRC**

Sen. Lisa Murkowski

Rep. Earl Blumenauer

David Crane (NRG)

and many more...

including Nancy Jackson

PBS World

Earth: The Operators' Manual

4/23 – 9am ET, 3pm ET, 8pm ET

4/24 – 1am ET (10pm PT on 4/23)

4/27 – 5am ET, 11am ET

Energy Quest USA

4/27 – 9am ET, 3pm ET, 8pm ET

4/28 – 1am ET (10pm PT on 4/27)

Powering the Planet

4/27 – 10am ET, 4pm ET, 6pm ET, 9pm ET

4/28 – 2am ET (11pm PT on 4/27)

NY, LA, Philadelphia, Dallas, Boston, Phoenix, Tampa, Cleveland, St. Louis, Salt Lake City, Milwaukee, Cincinnati, San Antonio, West Palm, Norfolk, ABQ, Louisville, Jacksonville, Buffalo, New Orleans, Little Rock, Albany, Knoxville, Ft. Myers, Lexington KY, Roanoke, Tucson, Des Moines, Spokane, Omaha, Portland ME, Rochester NY, Carbondale, Champaign, Cedar Rapids, Burlington VT, Davenport

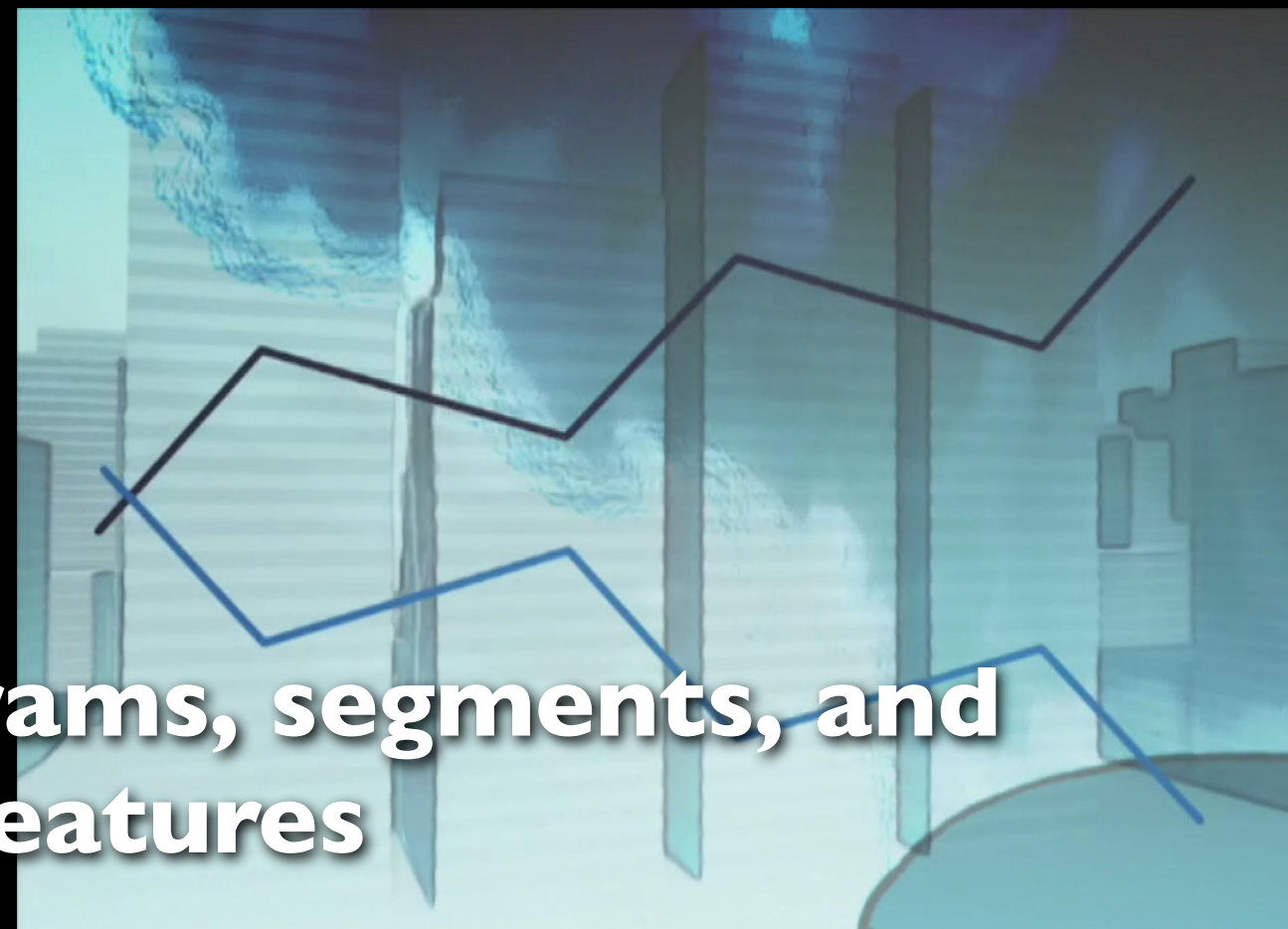


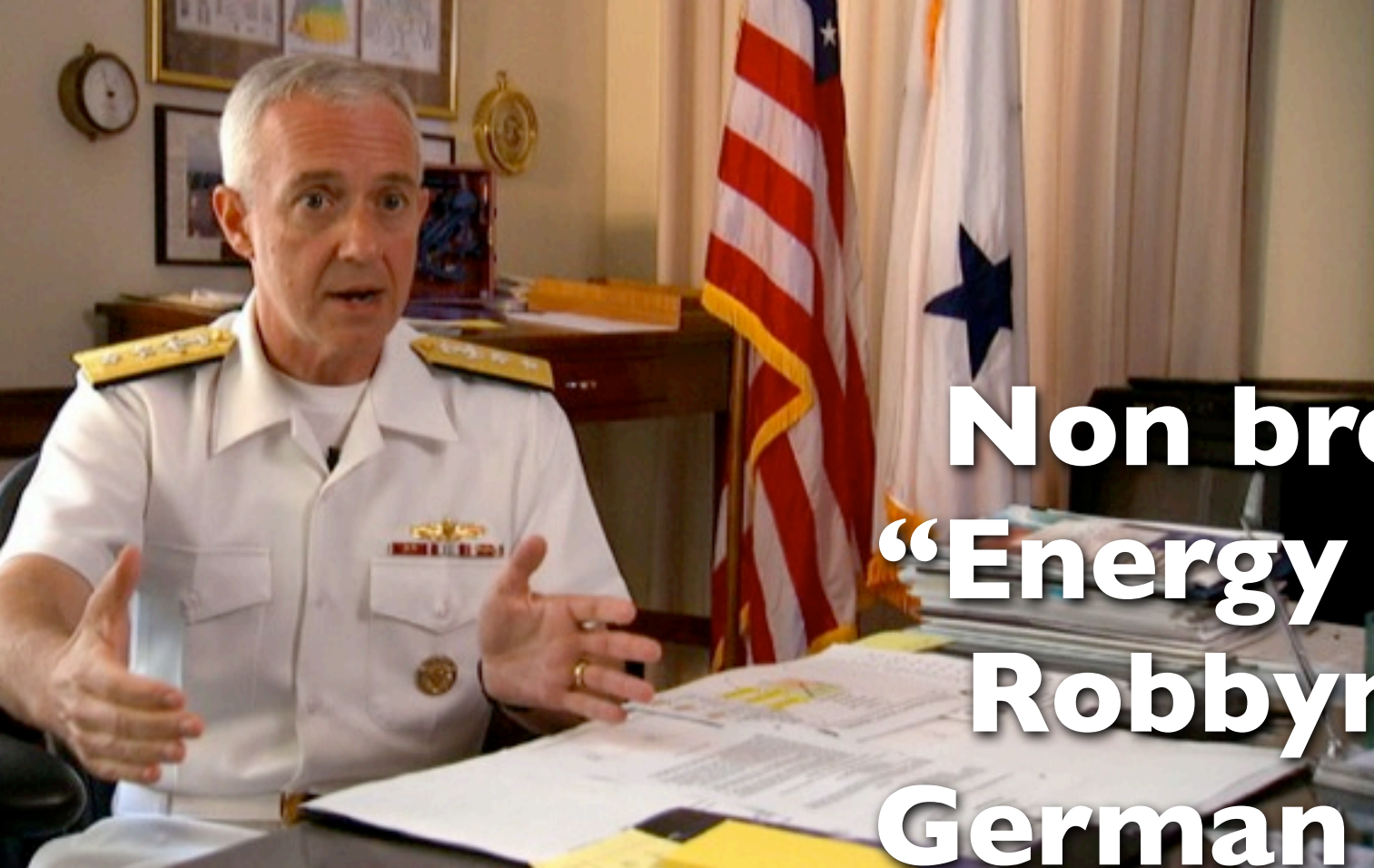
YouTube “It’s Us”

http://www.youtube.com/watch?v=jc8mUI_cMKk



**All full-length programs, segments, and
bonus features**





**Non broadcast
“Energy Heroes”
Robbyn Lewis
German Vasquez**

**Gwen Holdmann
Admiral Titley, and more...**



all “share-able”



NSF proposal involved social scientists

Now... key messages:

Rolling up our sleeves – The climate debate has made Americans feel paralyzed by uncertainty, distraction and helplessness. ETOM's message is that Americans are already rolling up their sleeves and taking control of their energy future.

It's all about practical – An "Operators' Manual" is, above all, about what works. We're about people working together to find practical, economical and even fun ways to move the Big Ball forward toward sustainable energy.

We're not red or blue, we're Americans – ETOM is not about pushing an ideology, business or political agenda. It's about advancing 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.



Nancy Jackson
Climate+Energy Project, KS

At the end of the day, I have friends who have said to me how can you sleep at night when you're not changing people's mind on climate?

My response is, "How are you doing with your attempt to change people's mind on climate?" It's a long, hard slog and we should continue the attempt. However, at the end of the day the atmosphere doesn't care one whit what people think. The atmosphere cares what people do. And so what the Climate and Energy Project is going to continue to stay focused on is what people do.

We can reduce emissions in real time. Why people do it, as long as they do it, doesn't matter to us.



THE OPERATORS' MANUAL

- THE PROGRAM
- CLIMATE CHANGE
- SUSTAINABLE ENERGY
- WHAT YOU CAN DO
- NATIONAL OUTREACH
- FOR EDUCATORS
- ETOM THE BOOK
- ETOM DVDS
- RESOURCES

Watch
**EARTH:
THE OPERATORS'
MANUAL**



PBS

FIND YOUR LOCAL SHOWTIME

BROADCAST INFO

GO BEHIND THE SCENES

ABOUT HOST RICHARD ALLEY



CLIMATE CHANGE

**WHAT DO YOU
KNOW?**

HOST RICHARD ALLEY



WHAT YOU CAN DO

HOW CAN YOU CUT BACK
ON ENERGY?

Q1: Is Earth's climate changing?

ANSWER: Yes, Earth's climate is changing. Worldwide variations in temperature are being recorded by thermometers, satellites, and other instruments. In addition, significant changes in the number of flowering plants and changes in snow cover are being observed.

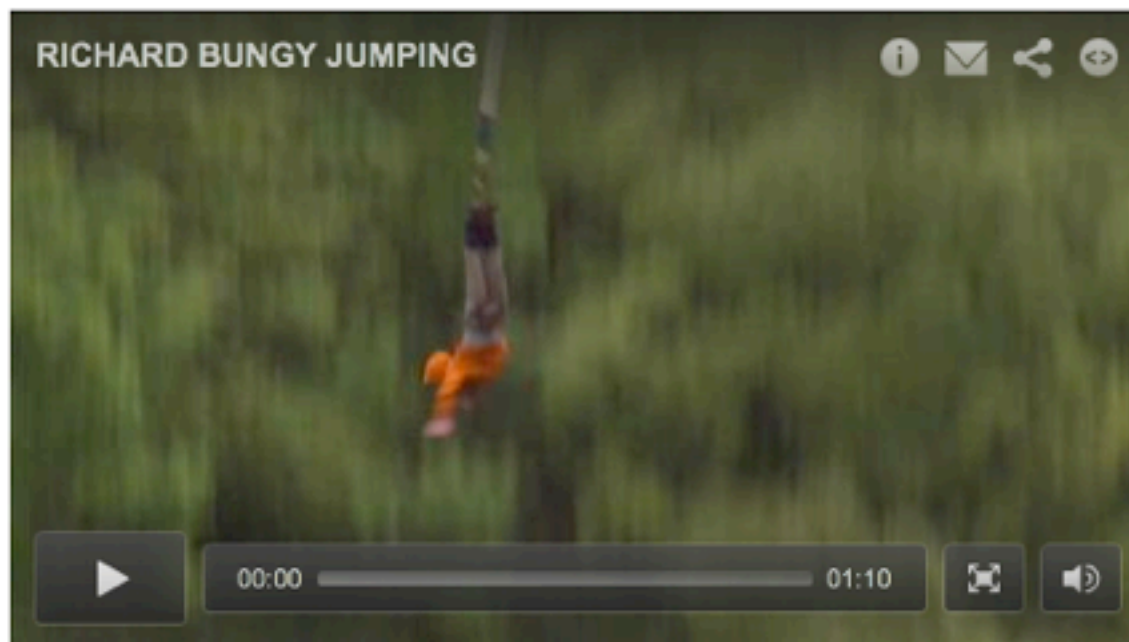
Certainly, weather is changing. Temperature and precipitation have become more variable. The rate of sea level rise is still being set. The expansion of ice sheets is making the Earth warmer than in the previous one. Sea level rise is over long enough to see the "bumps" (tides) by the weather. We can measure the temperature of the climate is warming.

Q8: Are there tipping points for ice sheets or other parts of the climate system?

intro 1 2 3 4 5 6 7 8 9 10

ANSWER: Quite possibly. Transferring an ice cube from your freezer to your glass of iced tea is surely a tipping point for the ice cube. If the climate becomes too warm, an ice sheet will melt unless you can get it back in the "freezer" in a hurry, and if the faster flow lowers the upper surface of the ice sheet into warmer air, more melting can result, lowering the surface more. At many times in the past, ice sheets have been "well-behaved," changing slowly in response to changing climate, but sometimes large and rapid ice-sheet changes have occurred and huge ice sheets have disappeared completely.

The climate may have other tipping points as well. As discussed in the next question, the currents in the North Atlantic have changed rapidly in the past, affecting climate in widespread regions. And too much climate change might cause a rapid shift in large ecosystems, such as the Brazilian rain forest.



Richard Alley, flying out toward the coast of New Zealand's South Island, tracing the route of the advancing Franz Josef Glacier—the result of falling levels of CO₂ and colder temperatures some 20,000 years ago. Photo by ART HOWARD.



THE ANNOTATED SCRIPT



CHAPTER 1 Humans & Energy

Now, we're closing in on seven billion of us...

 ...and Earth's population is headed toward 10 billion.

POPULATION COUNTER

ACCORDING TO THE U.S. CENSUS BUREAU

U.S.	WORLD
310,864,807	6,901,451,560

01:54 UTC (EST+5) FEB 22, 2011



The Growing Population

This can be additional narration about the direction of population growth and the effects it will have on our resources. This can be additional narration about the direction of population growth and the effects it will have on our resources.



Click where you see
this icon to learn more.



For Educators

After the program airs April 10th, find enriching tools you can use in your classroom.

After *EARTH: The Operators' Manual* debuts on PBS (April 10, 2011) educators can find segments of the program available for download, with rights to use them in class with students through April 10, 2012.

We'll provide **TEACHER TIPS** suggesting ways to use the videos in class, **HANDS-ON ACTIVITIES** relating to each clip, correlated **SCIENCE STANDARDS**, and segments of the **ANNOTATED SCRIPT** with links to additional background and more extensive information. Scientific and technical terms are defined in the **GLOSSARY**.

Downloadable segments will include:

TEASE AND TITLES (02:32)

A short introduction to the twin issues of climate change and sustainable energy, and to program host, Richard Alley.

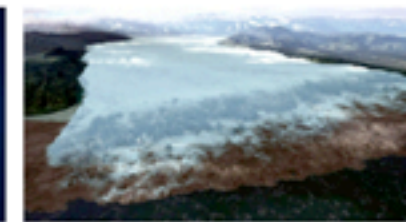
HUMANS & ENERGY (04:44)

How we use energy today, and what sources we use, and why in the future a growing population needs more, clean energy. Included are case studies of a Brazilian family living off the grid (like 1.5 billion world-wide), how rapidly-urbanizing China needs more energy to fuel its growth.



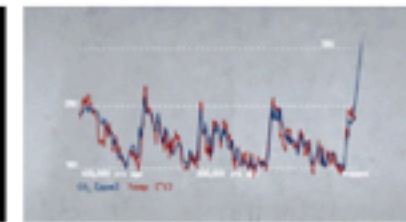
CO2 & THE ATMOSPHERE (09:03)

How the warming effects of carbon dioxide were studied by the US Air Force immediately after World War 2, and why the varying orbit of Earth around the Sun drove the cycle of the Ice Ages. Alley demonstrates, through the history of the Franz Josef Glacier in New Zealand, that orbital variations (aka "natural variation") alone did not make things cooler or warmer: that took the feedback effect of falling and rising levels of CO2.



CO2 IN THE ICE CORE RECORD (03:01)

Studying ice cores at the National Ice Core Lab, Alley shows how ancient ice traps records of Earth's past climate. Over 400,000 years, and even longer, levels of carbon dioxide have risen and fallen from about 180 parts per million to 280, colder in the Ice Ages, warmer in interglacial periods. Today, however, for the first time in more than 400,000 years, CO2 is at 390 parts per million and continuing to rise at 2ppm per year.



IT'S US (02:41)

But how do we know today's levels of CO2 are caused by humans using fossil fuel? In a closely-argued, step-by-step explanation, Richard shows that by using physics and chemistry we can analyze the "flavors" of carbon in Earth's atmosphere to detect the clear signature of humans burning fossil fuels rather than the



Join the people
who are **energizing**
America



JOIN THE CONVERSATION

Vulpes causa eu obruo neo laoreet jus
veniam sit iusto jumentum.

Join Today →

Vulpes causa eu obruo neo laoreet jus
veniam sit iusto jumentum.

[LIKE US & SHARE »](#)

Augue cogo praesent letalis melior
damnum bene.

[NOMINATE NOW »](#)

ENERGIZE YOUR COMMUNITY

Lobortis adipiscing vicis validus
consequat autem, multo praesent.

Watch Videos →

Lobortis adipiscing vicis validus
consequat autem, multo praesent.

[LEARN MORE »](#)

Et vulputate suscipere vulputate blandit
delenit facilisis defui lenis molior.

[HOST A VIEWING PARTY »](#)

DON'T WAIT DO SOMETHING NOW

Vulpes causa eu obruo neo laoreet jus
veniam sit iusto jumentum.

Get the Manual →

Vulpes causa eu obruo neo laoreet jus
veniam sit iusto jumentum.

[ASK A QUESTION »](#)

Augue cogo praesent letalis melior
damnum bene.

[LEARN MORE »](#)

**Relaunch in next
2-3 weeks**





DASHBOARD

Your annual energy bills are **87%** higher than similar efficient homes.
You could save **\$1,090** per year by making your home more efficient.

PROFILE

- [Edit My Home](#)
- [Edit My Preferences](#)
- [Edit My Utilities](#)

TOUR THIS PAGE

NEW

Compare To [Similar Local Homes](#)View [Total Energy](#)View [Cost \(\\$\)](#)

TRACK & MONITOR

☐ View last month

YOUR ENERGY RATING

- ● ● ● GOOD: Efficient
- ● ● FAIR: Room for Improvement
- ● POOR: High Energy User
- ● ● ● VERY POOR: Energy Hog

YOUR ENERGY LIFESTYLE

- Driving**
See how your car stacks up
- Air Travel**
Understand your impact
- Your Diet**
What you eat matters

[LEARN MORE](#)

SOLAR SAVINGS ESTIMATE

leasing a solar system could save you

\$216 per year and
\$7946 over 20 years

YOU ELECTRICAL BILL

Before	With Solar
\$60	\$19

[LEARN MORE](#)

ENERGY SAVING IDEAS

- Buy a Refrigerator
- Recycle Your Refrigerator
- Buy a Clothes Washer

[SEE MORE IDEAS](#)



WIDGETS & API

Add a WattzOn widget to your website or blog to improve the experience for your visitors. Want a more customized integration? Use our APIs to integrate WattzOn data and features into your website.

Hybrid Car Widget

Would driving a hybrid really make a difference?

- ✓ Compare your car to available hybrids
- ✓ See fuel cost and carbon comparison

[GET IT NOW](#)

NEW

Diet and Energy Widget

How much energy is consumed to create the food I eat?

- ✓ Choose your diet
- ✓ See the energy consumed

[GET IT NOW](#)

NEW

Rebates Widget

Place a helpful rebate finder on your website or blog.

- ✓ Lookup Rebates for any US Zipcode
- ✓ No coding necessary

[GET IT NOW](#)

Rebates Center API

Lets programmers access WattzOn data.

- ✓ Lookup Rebates for any US Zipcode
- ✓ Get results in XML or JSON format
- ✓ [API Documentation](#)

[REQUEST API KEY](#)

How I Compare Widget

See how your home's energy and bills compare to similar homes near you.

- ✓ Compares to similar local homes
- ✓ Leverages DOE LBL Labs data and analytics

[GET IT NOW](#)

NEW

Solar Home Widget

How much could solar panels save me?

- ✓ Get an estimate of costs and saving
- ✓ See financing alternatives

[GET IT NOW](#)

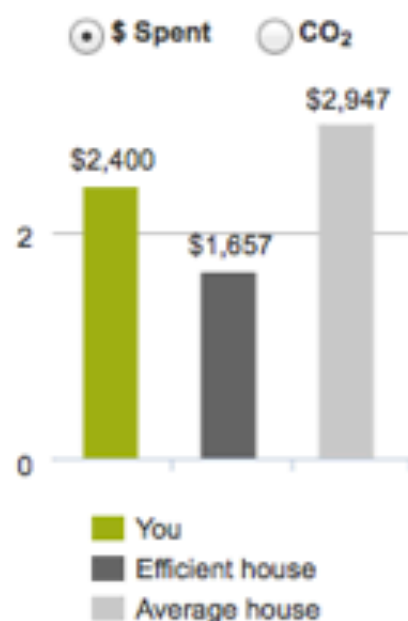
NEW

Home > Widgets and API > How I Compare Widget

How I Compare Widget

LIVE WIDGET PREVIEW

Ann Arbor, MI
Your energy bills are
45% higher
than similar efficient
homes.



[How to save »](#)

[Start over »](#)

POWERED BY  WattzOn
[Get this widget »](#)

CONFIGURE THIS WIDGET

Select a Color Style:



Width px (170-300)

200

[Show Advanced Settings](#)

[RESET DEFAULT SETTINGS](#)

COPY CODE TO CLIPBOARD

[COPY CODE TO CLIPBOARD](#)

Or copy and paste the code manually:

```
<div id="wattzon-compare-widget-wrap
```

To copy, click the box above and press "Ctrl C".
To paste the code on your site press "Ctrl V".
By using our widget you agree to the [terms of use](#).

REBATES & TAX CREDITS

86 Incentives found in **Morristown, NJ**

Zip code

SEARCH

FIND YOUR REBATES

Appliances (11)

- Clothes Washers & Dryers (3)
- Dishwashers (2)
- Refrigerators & Freezers (3)

Renewable Energy (15)

- Solar Electricity (7)
- Solar Hot Water (4)
- Wind Turbines (3)
- Geothermal (3)

Heating & Cooling (16)

- Air Conditioners & Fans (4)
- Boilers (3)
- Furnaces (5)
- Heat Pumps (3)
- Solar Heating System (1)

Sealing Air Leaks (2)

- Weatherization (1)

Insulation (2)

Windows & Doors (2)

Roofs (1)

Hot Water Heating (3)

Energy Audits & Evaluations (2)

Loan (4)

Tax Incentive (20)

Home Energy Retrofit (1)

Manufactured Home (1)

LATEST REBATES

Clothes Washer Rebate

PROGRAM: ENERGY UTILITY

Receive \$50 on qualified, high-efficiency clothes washers -- check with your in-store sales rep for qualifying products. Requirements: * Clothes washer must be a Consortium for Energy Efficiency...

Up to \$300 Water Heater Tax Credit

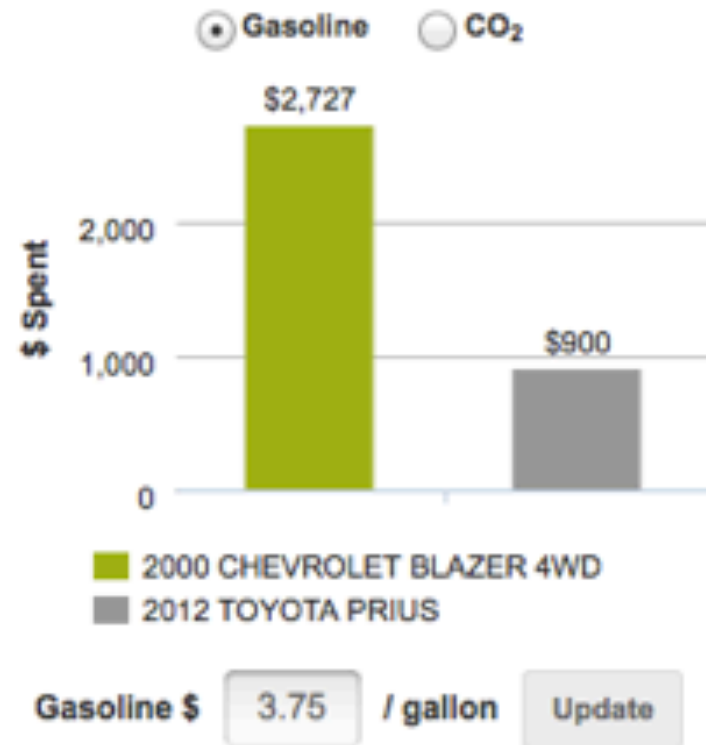
PROGRAM: FEDERAL GOVERNMENT

For equipment installed in 2010: 30% tax credit For equipment installed in 2011: 10% tax credit, up to \$300 Requirements: Gas, Oil, or Propane Water Heater must have an Energy Factor of at least...

A wide variety of energy efficiency rebates, tax credits, tax incentives and free services are available from the US federal government, Department of Energy (DOE), state and local governments, utility companies (gas and electric utilities, water utilities) as well as from manufacturers, retailers and service providers. These include Energy Star rebates, appliance rebate programs, energy efficiency tax rebates, water heater rebates, solar rebates and tax incentives, cash for appliances, and much more.

Please contact the rebate/incentive/service providers directly for detailed information and specific eligibility requirements.

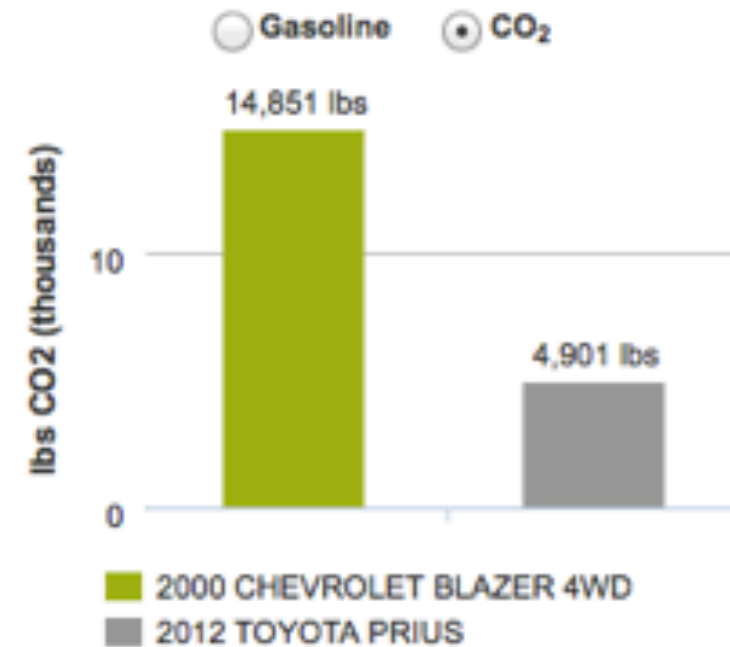
Driving a hybrid, you would spend
\$1,827 less
each year on gasoline



[Start over »](#)

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[Get this widget »](#)

Driving a hybrid, you would create
9,950 lbs less
each year of carbon



[Start over »](#)

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Watch Parties
Nominate your “Energy
Hero”

Let Educators know
Join the Conversation
Review and blog
Throw tomatoes...

Thanks to Tamara and
Scott!

Richard Alley next
week... 3/27. Please
invite any who missed
this call!



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Premieres
Winter/Spring 2012

PROGRAM 3

**ENERGY QUEST
USA**

To Air EARTH Month, April 2012
Filming now in Kansas, Texas,
Maryland, Oregon, Alaska and more!



Printed using soy-based inks on 148 pounds of Sakura Silk, made with 100% de-linked recycled fiber and 50% post-consumer waste, processed chlorine free, designated Ancient Forest Friendly™ and manufactured with electricity that is offset with Green-e® certified renewable energy certificates.



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oil change!”**