

Alternative Energy Lesson

Resource Links:

ChooseZero Teachers Guide sponsored by Nissan Leaf

<http://TEACH.CHOOSZERO.COM>

Building Awareness component

Word Splash / Energy sources activity:

Energy Sources video (6 minutes)

<http://www.teachersdomain.org/resource/phy03.sci.ess.earthsys.energysource>

Making Electricity at a Coal-Burning Plant (5 minutes)

<http://www.teachersdomain.org/resource/ket09.sci.phys.energy.coal>

Comparing Energy Sources:

<http://www.energy4me.org/energy-facts/energy-sources/>

Greenhouse Poster Activity:

Quick Fact from NASA

<http://kids.earth.nasa.gov/faq/index.htm>

EPA slideshow

<http://www.epa.gov/climatechange/indicators/slideshow.html>

Understanding Carbon component

The 350 goal:

Because the World needs to know

<http://www.350.org/animation>

Ingredients for Life: Carbon

<http://www.teachersdomain.org/resource/ess05.sci.ess.eiu.carbon/>

NASA: keeping up with carbon:

<http://www.youtube.com/watch?v=HrIr3xDhQ0E&feature=related>

Diagram the Carbon cycle:

<http://www.teachersdomain.org/resource/tdc02.sci.phys.matter.ccycle/>

“PSA: Lost There, Felt Here”

<http://www.conservation.org/fmg/pages/videoplayer.aspx?videoid=66>

The Hamburger Cube

<http://teach.choosezero.com/files/HamburgerCube.pdf>

10g Carbon/1Kg Carbon cube

<http://teach.choosezero.com/files/1sheetCube.pdf>

Understanding Global Warming in Biosphere 2 video (4:56 minutes)

<http://teach.choosezero.com/climate>

The Physics of Global Warming Video (3:30 minutes)

<http://teach.choosezero.com/climate>

The Face of Carbon video (3:30 minutes)

<http://teach.choosezero.com/climate>

Carbon Menu research

http://teach.choosezero.com/files/Carbon_menu.pdf

CO2 Emissions per country

http://www.ucsusa.org/global_warming/science_and_impacts/science/each-countrys-share-of-co2.html

Global Warming video (2:26 minutes)

<http://www.teachersdomain.org/resource/phy03.sci.ess.watcyc.co2/>

Map of Carbon Emissions

<http://www.eas.purdue.edu/carbon/vulcan/research.php>

Consequences component

Polar Bears and Climate Change video (3 minutes)

<http://teach.choosezero.com/climate#consequences>

Inuit observations of Climate Change video (5:48 minutes)

<http://teach.choosezero.com/climate#consequences>

Arctic Slideshow

http://earthjustice.org/slideshows/campaigns/photos-visions-of-the-arctic#/sites/default/files/slideshows/08-2010/18_polarbearleapings17.jpg

Beyond Animals research

Global warming effects

<http://environment.nationalgeographic.com/environment/global-warming/gw-impacts-interactive.html>

Global warming impacts

http://www.bp.com/liveassets/bp_internet/bpes_new/bpes_new_uk/STAGING/local_assets/fla sh/secondary_resources/climate_change/activities_preview.htm

Penguin Response to Climate Change video (3:30 minutes)

<http://teach.choosezero.com/climate#consequences>

Trash of a Lifetime video

<http://www.youtube.com/watch?v=ULruDnfw0AI>

Hamster-like Pika in Peril video (4:22 minutes)

<http://video.nationalgeographic.com/video/player/news/animals-news/pika-in-peril-missions-wcvin.html>

A Way Forward: Facing Climate Change video (7:43 minutes)

<http://video.nationalgeographic.com/video/player/environment/global-warming-environment/way-forward-climate.html>

How Will Global Warming Impact Wildflowers? Video (3:37 minutes)

<http://video.nationalgeographic.com/video/player/environment/global-warming-environment/rm-wildflowers.html>

Sinking England: video (2:54 minutes)

<http://video.nationalgeographic.com/video/player/environment/global-warming-environment/sinking-england.html>

Personal Action component

Tips for Greener Living

<http://www.nwf.org/Global-Warming/Personal-Solutions.aspx>

Becoming Green Energy Experts video (3:30 minutes)

<http://teach.choosezero.com/climate#actions>

Green Home Bathroom video (3:30 minutes)

<http://teach.choosezero.com/climate#actions>

Footprint Calculator

http://calc.zerofootprint.net/youth/choose_zero

The Smarter Cooling Challenge

http://www.eere.energy.gov/basics/buildings/cooling_systems.html

<http://www.popsci.com/environment/article/2008-06/how-stay-cool-without-air-conditioning>

How does your state produce energy?

<http://www.eia.doe.gov/state/>

The Appliance “Vampire Effect”:

<http://standby.lbl.gov/summary-chart.html>

Is your city switching to CFLs?

<http://green.yahoo.com/18seconds/>

No More Plastic Bags: video

http://www.youtube.com/watch?v=4PNKD2dnmkk&feature=channel_video_title

How to Recycle a Pizza Box: **video**

http://www.youtube.com/watch?v=WHaO7KRSxDs&feature=channel_video_title

Solutions component

Build Windmill research video (3:37 minutes)

<http://www.teachersdomain.org/resource/phy03.sci.phys.matter.zmill/>

Innovation in Transportation research video

http://www.nrel.gov/learning/advanced_vehicles_fuels.html

Geothermal Energy video (2:36 minutes)

<http://teach.choosezero.com/climate#solutions>

Solar House video (3:30 minutes)

<http://teach.choosezero.com/climate#solutions>

Designing Future Cars video (2:11 minutes)

<http://teach.choosezero.com/climate#solutions>

Energy Sources video (2:11 minutes)

<http://www.teachersdomain.org/resource/phy03.sci.phys.mfe.zfuture/>

Embracing the Electric Car: video (1:50 minutes)

http://www.nissanusa.com/leaf-electric-car/tags/show/emissions#/leaf-electric-car/video/all/it_all_started_on_Tour/nissan_leaf_in_the_city

How Nissan Built Better Batteries: video

http://www.nissanusa.com/leaf-electric-car/tags/show/emissions#/leaf-electric-car/video/all/LEAF_technology/the_new_fuel

Renewable vs. Non-renewable Sources:

<http://www.eia.doe.gov/kids/energy.cfm?page=2>

High- and Low-Tech Solutions for Going Green at Home:

<http://www.sierraclubgreenhome.com/>

Advocacy component

Write a Letter: research

<https://online.nwf.org/site/Advocacy?cmd=display&page=UserAction&id=1379>

<http://teacher.scholastic.com/activities/explorations/kerc/startup.htm>

Get Involved: research

<http://www.dosomething.org/>

<http://www.350.org/>

Sad Computer (PSA):

<http://www.youtube.com/watch?v=K8C2aeVxrp8&NR=1>

Create Your Own Amateur Animation:

<http://goanimate.com/movie/0UFyrjLvNzaE>

MTV Switch:

<http://www.youtube.com/watch?v=vLtcpyY4fh4&feature=related>

MTV Switch - Lolo Unplugged:

<http://www.mtvswitch.org/en/vidLoloUnplug.shtml>

MTV Climate Change - Exhaust:

<http://www.youtube.com/watch?v=kBBYyCPhtT4>