

Sustainability & Mission: ENERGY

OVERVIEW:

Spiritual nature of energy

Around the Table – Why did we attend today?

The flip side of the coin, A World of Darkness

Our Energy Systems

Our Fears... and Our Hopes

Discussion

What is Xavier doing? Tour!

Key to resources: Shown during lunchtime **Highly recommended**

Spiritual nature of energy

<http://www.youtube.com/watch?v=Frd0CPYuZgU> *Sasquatch Dancing Man*. Let's get the Party started...

Energy is infectious. We want to be around the campfire.



Taize community in France, founded 1940. Contemplative prayer in silence. <http://www.taize.fr>

The flip side of the coin, A World of Darkness

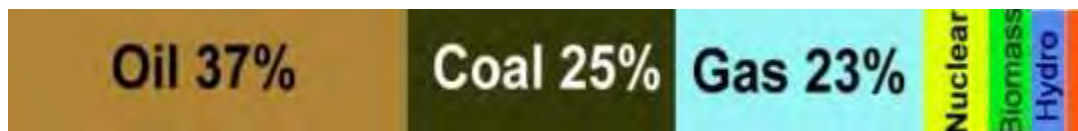
A student geography project: <http://www.youtube.com/watch?v=XzOHQ-h9grM>

A world without central energy systems: Lights by kerosene and wood, heat by firewood and coal in our homes and work places, and food refrigeration by ice and spring water. Who will supply these energy sources? Who among us will be able to afford these energy sources? Who can afford them now? **Plato's Tree Cut Down for Firewood**, January 17, 2013, Greek Reporter:

<http://greece.greekreporter.com/2013/01/17/platos-tree-cut-down-for-firewood-2/>

Our Energy Systems

From <http://planetforlife.com/> “Abundant and economical energy is the life blood of modern civilizations. The bargraph shows oil, coal and natural gas together supplying 85 percent of the world's energy supply in 2008.



“Coal, nuclear and hydro are used primarily to make electricity. Natural gas is widely used for heating. Biomass, which usually means wood or dried dung, is used for heating and cooking. The red sliver is wind and solar power, primarily. The red sliver may be small, but it is the future because wind and solar power are sustainable.

“Oil powers almost all machines that move and that makes oil uniquely versatile. Oil powered airplanes carry 500 people across the widest oceans at nearly the speed of sound. Oil powered machines produce and transport food. In North America there are many more seats in oil powered vehicles than there are people. **Oil powered machines are ubiquitous.**”

Update based on fracking from an article on www.commondreams.org: “2012’s *World Energy Outlook (WEO)* from the International Energy Agency (IEA), released mid-November, forecasts that the United States will outstrip Saudi Arabia as the world’s largest oil producer by 2017, becoming “**all but self-sufficient in net terms**” in energy production—a notion reported almost verbatim by media agencies worldwide, from [BBC News](http://www.bbc.com) to [Bloomberg](http://www.bloomberg.com)..”

“Exxon Mobil’s [2013 Energy Outlook](http://www.exxonmobil.com/energyoutlook) projects that **demand for gas will grow by 65 percent through 2040**, with 20 percent of worldwide production from North America, mostly from unconventional sources. **The shale gas revolution will make the United States a net exporter by 2025**, it concludes. The [U.S. National Intelligence Council](http://www.dodig.mil) also **predicts U.S. energy independence by 2030.**” Quoted from “The Great Oil Swindle: Scaling the Peak of Fossil Fuel Scarcity” by [Nafeez Mosaddeq Ahmed](http://www.commondreams.org/view/2013/01/13-5) <http://www.commondreams.org/view/2013/01/13-5>

Our Fears...

Spills:

Gulf Oil Spill- Spill Tracker from April-August 2010:

<http://www.nytimes.com/interactive/2010/05/01/us/20100501-oil-spill-tracker.html>

Tues Jan 22, 2013 from Father Benjamin J. Urmston, S.J., PhD www.xavier.edu/frben

"To anchor it all (fracking) in a broader context of research and citizen initiatives, see:

Fracking: Gas Drilling's Environmental Threat Series – ProPublica

<http://www.propublica.org/series/fracking>

Fracking Shale Gas: Myths and Realities - Andrew Nikiforuk - The Tyee CA 1/7-10/13

<http://thetyee.ca/Series/2013/01/08/Fracking-Myths-And-Realities/>

Heating the Atmosphere:

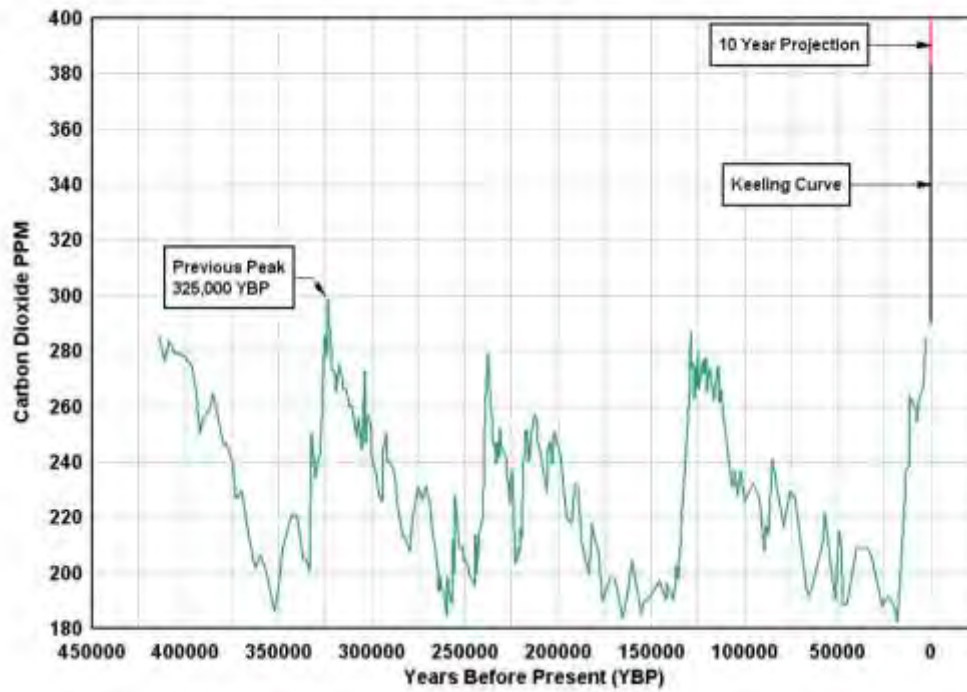
<http://www.climatechangeinfo.org/HumorClimateChange.htm>



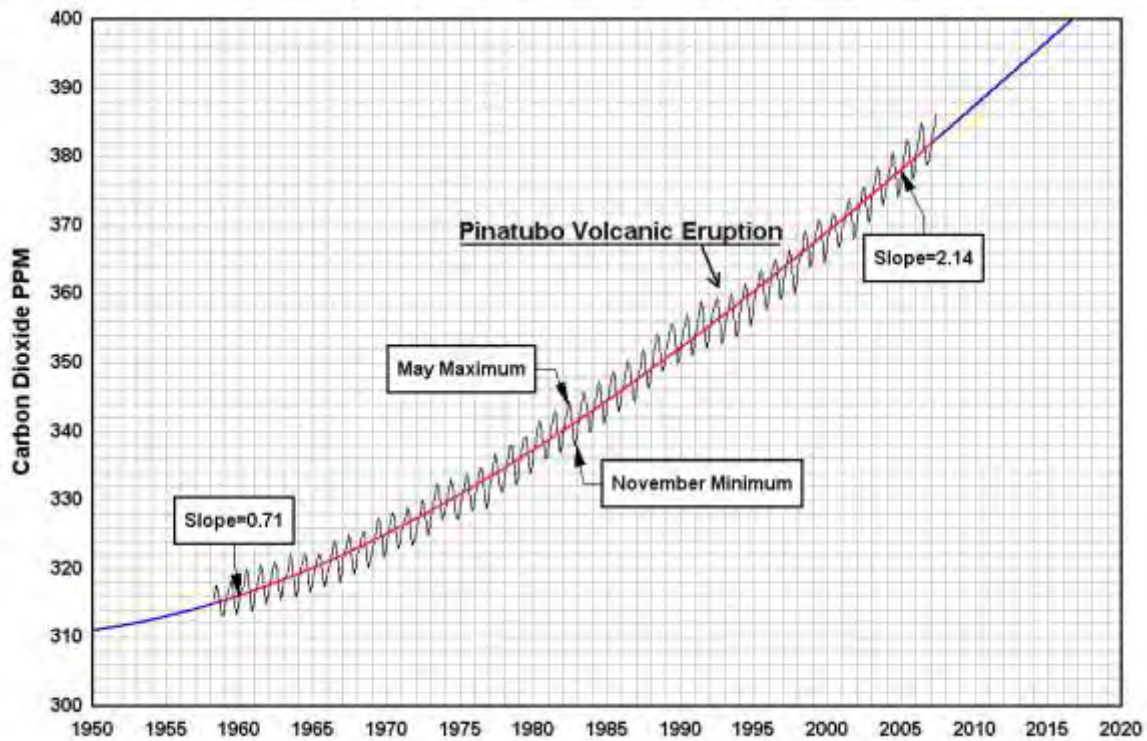
From <http://planetforlife.com/co2history/index.html> on Earth's CO2 history: "At 400 PPM, the amount of carbon dioxide currently in the atmosphere is unprecedented, at least in the past 415,000 years. The last time it reached even 300 PPM was 325,000 years ago. The amount of carbon dioxide in the atmosphere is strongly correlated to temperature and glaciation. The record is jagged, but it is easy to see patterns. When the concentration is below 240 PPM, kilometers thick glaciers cover most of Europe, Canada and the northern part of the United States. There are 4 ice ages recorded here. Note that temperatures decrease irregularly over a span of approximately 100,000 years while temperature increases are sudden and dramatic. We live in an era just after a rapid temperature increase.

If present trends continue, Earth's climate will be very different 100 years from now. Nearly all of the world's scientists agree on this. The only disagreement is about the amount and the rate of change. Climatology is a very complex subject and the preceding is only a foretaste. An in-depth report, written by 2,500 scientists from around the world, is available if you want to know more. <http://www.ipcc.ch/>. The report was written by the Intergovernmental Panel on Climate Change."

Atmospheric carbon dioxide during the last four ice ages.



Atmospheric Carbon Dioxide During the Past 50 Years



...and Our Hopes

Reconciliation with Creation: GC35. Decree 3, point 35

35.- This Congregation urges all Jesuits and all partners engaged in the same mission, particularly the universities and research centres, to promote studies and practices focusing on the causes of poverty and the question of the environment's improvement. We should find ways in which our experiences with refugees and the displaced on one hand, and people who work for the protection of the environment on the other hand, could interact with those institutions, so that research results and advocacy have effective practical benefits for society and the environment. Advocacy and research should serve the poor and those who work for the protection of the environment. This ought to shed

new light on the appeal of the Holy Father that costs should be justly shared "taking due account of the different levels of development".³⁵

From our reading this week: **Three schools of thought about what to do: 1) Relax, 2) Keep pumping, and 3) Ride your bicycle.** From *Introduction: The Coming Energy Revolution*, "Power to the People" by Vijay V. Vaitheeswaran (Farrar, Straus and Giroux, New York, 2003). One of Vaitheeswaran's heroes is Amory Lovins, who falls in a hybrid camp, sort of the *Ride your Innovated Bicycle* camp.

Comprehensive technological ideas about energy revolution from Rocky Mountain Institute, <http://www.rmi.org/reinventingfire> "Reinventing Fire" by Amory L. Lovins (Chelsea Green, 2011).

<http://www.rmi.org/Electricity>

<http://www.youtube.com/watch?v=N72FPJEceGU> Power shift to renewables, solar gets to earth in eight minutes from the Sun, "Hauling a** and a gift from God."

<http://www.resilience.org/stories-list/79716-energy> Interesting anti- oil bloggers.

http://www.ted.com/playlists/58/the_end_of_oil.html This curated Ted list of 10 speakers are all fantastic. In 2-1/2 hours, if you watched all 10 talks, you could know the latest on battery science, fusion, transportation, and much more. We watch #5, Amory Lovins, A Forty Year Plan for Energy, 0-4:45

What is Xavier doing?

Awareness is first step: <http://www.presidentsclimatecommitment.org/about/mission-history> ACUPCC website, American College & University Presidents' Climate Commitment, est. 2007. Fr. Graham signed for Xavier University in 2008, the president appointed a 12-member sustainability committee in 2009, and a full-time sustainability coordinator was hired in 2011.

Sustainability Committee leads: 2013 is our Year of Energy. Speakers in Fall 2013, Spring 2014.

Knowledge is next step: Dorm and new building energy and water use data is now on-line, for computers on the Xavier Campus. <http://energyusage.xavier.edu> Password will be given at lunch. It is important to log out properly when finished (click on the padlock icon in the upper right). Java is required for ApogeeGo to run. (Thanks to Mark Hanlon for setting this up.)

And Action is next! Freshman Senator Erin Hinson (hinsone@xavier.edu) signed up Xavier dorms for 2013 Campus Conservation Nationals. <http://www.competetoreduce.org/aboutccn/>
Ohio Spring 2013 Participants: University of Toledo- Xavier University -Bowling Green State University -Oberlin College -The University of Toledo - University of Cincinnati- University of Mount Union

DISCUSSION (Report back on One Great Idea)

Tour!

Presentation by Ann Dougherty, PE Sustainability Coordinator, Xavier University
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For more information about Xavier's Sustainability Program: www.xavier.edu/green

Central Utility Plant tour by Sustainability Ambassador Don Reichman E: reichman@xavier.edu
Office location: CUP control room, and Mark Hanlon E: Hanlon@xavier.edu T: (513) 745-1928
Office location: Physical Plant

For more information about the Central Utility Plant (CUP) and Xavier's physical plant activities: www.xavier.edu/plant

In Closing, thank you to Mission & Identity and to all participants in Lunch with Loyola's *Sustainability & Mission* this month. If you are interested and ready to take the next step:

1. What could you personally "give up" or "add in" as part of your faith-based sustainability practice this year?
2. Consider volunteering as a *Building Sustainability Ambassador*, to be the liaison between your building and the Sustainability Committee, helping to provide information and knowledge in both directions. Each building on campus is of a different age and construction, used by different people doing different things. What are the best sustainability practices in your building? Let's share knowledge and ideas.
3. Sign up for sustainability update, every 6-8 weeks. Really long email from Sustainability office, coordinating and answering the question "What Sustainability is going on at X this month?"

Thank you! Ann Dougherty doughertya@xavier.edu x. 1938