Energy Literacy Town Hall

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

What? So What? Now What? of Energy Literacy Efforts

August 5, 2014

Joshua Sneideman
Albert Einstein Education Fellow
Department of Energy
Energy Efficiency and Renewable Energy

Before we get started…

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- Please dial in using your **telephone** for **best** reception.
- Please use the chat box to ask questions or report technical difficulties.
- Please address your questions to a particular speaker or organization.
- Webinar web resources, including this video and presentation are already online and available on our website www.energy.gov/eere/education/downloads/webcast-national-energy-literacy-virtual-town-hall
- Need more, email us at Energyliteracy@ee.doe.gov

Keep the conversation going using #energyliteracy

What?

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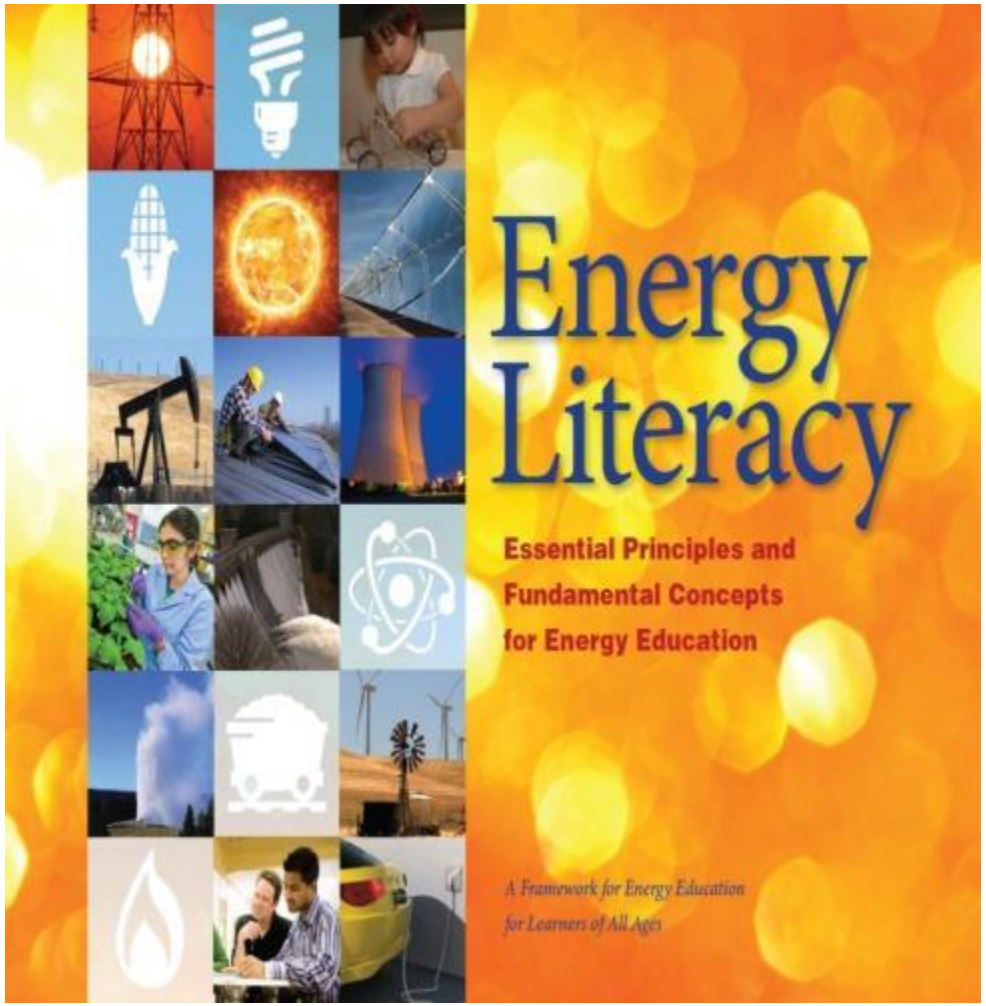
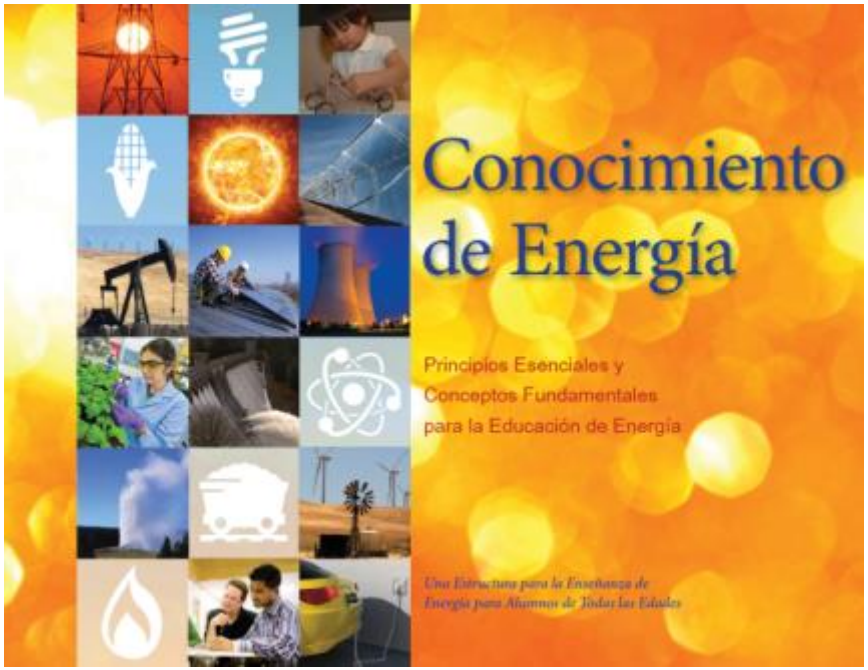
A Framework for Energy Education for Learners of All Ages



(Now available in Spanish)



Why?

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- A better understanding of energy can:
  - Lead to more informed decision
  - Improve the security of the nation
  - Promote economic development
  - Lead to sustainable energy use
  - Reduce environmental risks and negative impacts
  - Help individual and organizations save money

How?

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Natural Sciences

- Physics
- Chemistry
- Earth Science
- Biology

Engineering / Technology

Social Sciences

- Civics
- Economics
- Psychology

1. Energy is a physical quantity that follows precise natural laws.
2. Physical processes on Earth are the result of energy flow through the Earth system.
3. Biological processes depend on energy flow through the Earth system.
4. Various sources of energy can be used to power human activities, and often this energy must be transferred from source to destination.
5. Energy decisions are influenced by economic, political, environmental, and social factors.
6. The amount of energy used by human society depends on many factors.
7. The quality of life of individuals and societies is affected by energy choices.

TED Ed Energy Literacy Video

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

TED Ed Lessons Worth Sharing

Tour Blog Get Involved FAQ About

Lessons Series Community Clubs

Build a lesson around any TED-Ed Original, TED Talk or YouTube video

Create a Lesson

A guide to the energy of the Earth - Joshua M. Sneideman

TED-Ed Original

122,049 Video Views

1,238 Questions Answered

Let's Begin...

Energy is neither created nor destroyed — and yet the global demand for it continues to increase. But where does energy come from, and where does it go? Joshua M. Sneideman examines the many ways in which energy cycles through our planet, from the sun to our food chain to electricity and beyond.

Watch

Think

Dig Deeper

Discuss

Customize This Lesson 52

Create and share a new lesson based on this one.

AGI/DOE
Energy Literacy Video Series

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

- **One 3-4 minute video for each Energy Literacy Principle**
- **Each video will discuss all of the fundamental concepts**
- **Videos will also be available in Spanish**
- **Estimated Completion Date: January 1st**

Enjoy a preview

Who?

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Federal Partners

Energy Literacy Town Hall

August 5th 2014

Women @ Energy

- series links energy literacy concepts to women in the field, showing role models and jobs.

Office of Economic Impact and Diversity, DOE

- Full inclusion of diverse communities and underrepresented individuals in energy programs
- annemarie.horowitz@hq.doe.gov
- http://www.energy.gov/diversity
- #womeninSTEM --- Twitter hashtag

Current Resources (formal / informal)

- STEM events calendar– shares upcoming DOE and federal agency opportunities for teachers and students
- Member of 100kin10 – use our commitment to build the movement and partner with us
- List of STEM resources at the Department of Energy available on our website
- Director Dot Harris member of STEM Speakers Bureau – request her for an event!
- STEM Mentoring Café engagement.

Top 3 Energy Literacy Needs/Issues:

1. Classrooms and teachers to use the Women @ Energy series and give us your feedback.
2. Organizations to commit to sharing our STEM resources and participate in them.
3. Getting energy literacy information and energy job training to underserved communities.

Next: DOE –BETO – Operation BioenergizeME

Energy Literacy

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OPERATION #bioenergizeME

- BETO's educational base camp for students, educators, and others seeking better understanding of the promises and challenges in developing a thriving bioeconomy
- Website to be launched in August
- Facebook site forthcoming

Upcoming Tools and Events:

- **Infographic Challenge – Spring 2015**
- Educator's Toolbox

- Seeking collaborations and partners with formal and informal educational organizations and others who can help engage young people in the challenge

Contact Info

- Leslie Ovard (Leslie.Ovard@ee.doe.gov)
- Zac Peterson (Zachary.a.Peterson@ee.doe.gov)

Top 3 Energy Literacy Needs/Issues:

1. Increase public understanding of bioenergy potential and challenges to help them be more discriminating consumers of negative bioenergy-related media messages
2. Promote greater STEM engagement across a variety of regions, including rural students both male and female
3. Harness technology to enable students to educate themselves and others

Next: Green Ribbon Schools

U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

U.S. Department of Education Green Ribbon Schools

- Award that spotlights best practices and resources and encourages collaboration at federal, state and local levels
- www.ed.gov/green-ribbon-schools

Resources and Opportunities

- School, district and postsecondary categories
- Green Strides resources and webinars www.ed.gov/green-strides
- Newsletter, Facebook and Twitter
- Best Practices Tour

Connecting facility, health and instruction with 3 Pillars:

1. Reducing Environmental Impact and Costs (waste, water, greenhouse gases, alternative transportation, energy)
2. Improving Health and Wellness (environmental health, nutrition and fitness)
3. Teaching Environmental Education (civics, green careers, STEM)

Next: NOAA –Climate Literacy Initiative

Climate Literacy Initiative

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United States Global Change Research Program

USGCRP Education Interagency Working Groups:

Overview info about your efforts

- frank.niepold@noaa.gov
- www.globalchange.gov/, www.climate.gov
- www.facebook.com/usgcrp

Current Resources

- Teaching Climate: http://www.climate.gov/teaching
- Join the CLEAN Community: participants contribute to the CLEAN Collection and Network
- Explore http://www.climate.gov/teaching/professional-development for opportunities and resources

Top 3 Climate/Energy Literacy Needs/Issues:

1. **P**ublic-private partnerships focused on strategic educational investments promote the widespread use of effective, evidence-based educational resources and strategies
2. How do we measure climate and energy literacy?
3. How to create NGSS Resources for the Climate and Energy Literacy aligned standards

Next: Idaho National Lab and i-STEM

Idaho National Laboratory

- **INL K-12 STEM Outreach**
- **i-STEM Teacher Professional Development**
- **Contact :**
  - Anne.Seifert@inl.gov
- **Websites**:
  - http://www.inl.gov
  - http://www.sde.idaho.gov/site/istem

Current Resources

- INL Outreach Activities
  - Science expos, Career fairs, classroom demonstrations, tours, speakers, after school programs, summer camps
  - INL *Classroom, Makeover , and Informal* STEM grants
  - Internships
- i-STEM Teacher Professional Development Institutes
  - For K-12 teachers from the region to develop relevant STEM skills and content for teaching and learning
  - Annual impact: 700 educators
  - Access to resources housed in STEM Resource Libraries in 6 locations in Idaho

Top 3 Energy Literacy Needs/Issues

1. Understanding the basics of energy and helping teachers feel confident to understand and share content in this area with their students.
2. A scientific foundation to help teachers, students, education leaders. and new workforce members make informed decisions and actions in regard to energy generation, consumption, sustainability for the future.
3. Improving workforce preparedness and enabling the future workforce with energy specific knowledge and confidence.

Next: Questions

Questions for our Federal Partners

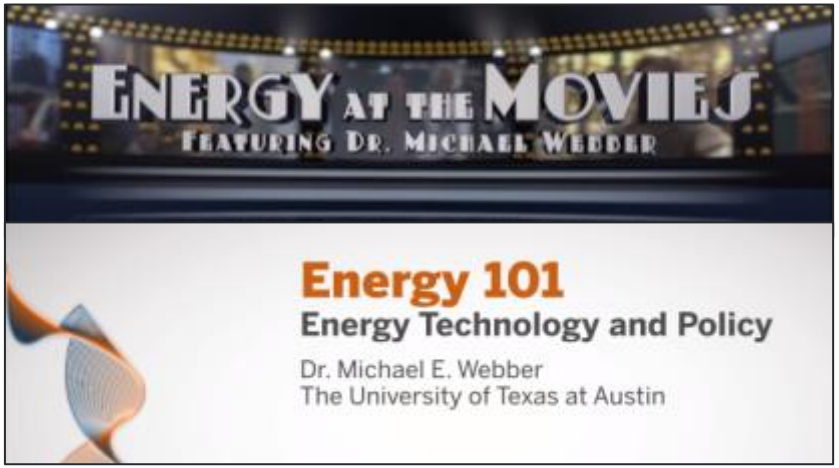
Next:

University Led K-12 Initiatives

Next: trailer for UT Austin

Check out this video :
from the Webber Energy Group at UT Austin
Energy 101 Adobe DPS Course App Trailer

http://youtu.be/O37bW8sxLF8



Dr. Michael Webber
The University of Texas at Austin

- Goal: engaging and educating the public on energy issues using high quality media (TV, web, and apps).
- webberenergygroup.com/media
- webber@mail.utexas.edu

Current Energy Education Programs

- Energy at the Movies now in syndication on PBS (check local listings) energyatthemovies.com
- Energy 101 - world's first Adobe course app - coming in September: energy101.com

Top 3 Energy Literacy Needs/Issues:

1. Changing the way the world thinks about energy.
2. Increasing public energy literacy via "edutainment" and popular media
3. Encouraging more minorities and underrepresented groups to pursue careers in STEM.

Webber Energy Group
THE UNIVERSITY OF TEXAS AT AUSTIN

August 5, 2014

Next: KQED – Stanford - IBOOK

KQED Education

&

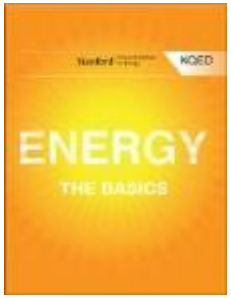
Stanford | Precourt Institute for Energy
Your gateway to energy research and education

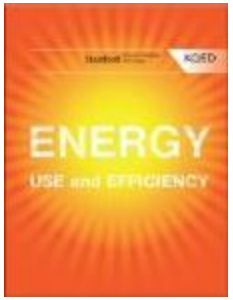
Contact Information:

- Andrea Aust, aaust@kqed.org
- Mark Schwarz, mshwartz@stanford.edu
- Matthew Inman, matthewi@spokaneschools.org
- Web Sites:
  http://blogs.kqed.org/education
  https://energy.stanford.edu

KQED Energy iBooks and iTunesU Course

- Energy: The Basics
- Energy: Use and Efficiency
- iTunesU Energy Course





*Intended for learners, high school through adult.

*A content rich, interactive exploration of energy concepts.

Top 3 Energy Literacy Needs/Issues:

1. Resources for classroom teachers.
2. Curriculum resources that align with state and national standards.
3. Professional development and training opportunities for educators.

Next: Clarkson University

Clarkson UNIVERSITY defy convention

- Product development:
  - Project-based energy and climate-related curricula
  - Assessment instruments
- Research into energy and climate education and literacy
- Jan DeWaters, dewaters@clarkson.edu
- http://www.clarkson.edu/cses/research/education.html

Current Resources

- Project-based modules on energy and climate change (middle and high school)
- Written instruments to measure energy and climate literacy (MS, HS, adult)
- Would like to collaborate on projects that apply, or explore the potential of, evidence-based enriched teaching and learning to increase energy and climate literacy

Top Energy Literacy Needs/Issues:

People need to understand:
-- WHERE their energy currently comes from and HOW it is used in their everyday life
-- the difference between primary and secondary energy consumption, and recognize that there are 'losses' as we convert from 1 form to another
-- that we need a DIVERSIFIED APPROACH to solving our energy problems
-- that we can't rely on renewables without a change in our energy consumption patterns!

Next: Journal of Sustainability in Education

Energy Literacy

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JOURNAL OF SUSTAINABILITY EDUCATION

The Journal of Sustainability Education (JSE) serves as a forum for academics and practitioners to share, critique, and promote research, practices, and initiatives that foster the integration of economic, ecological, and social-cultural dimensions of sustainability within formal and non-formal educational contexts.

- Larry Frolich, editorjse@gmail.org
- Energy Education issue editor: justin@nararenewables.org
- http://www.jsedimensions.org/
- Follow: Twitter Facebook RSS

Current Efforts

- Energy education theme entitled "Beyond Conservation: Reimagining the Purpose of Energy Education" 3000-7500 word count
  - Case studies
  - Research findings
  - Scholarly features
  - Theoretical and conceptual articles
  - Program and practice features
- Digital postcards are also being solicited from the 'Post-Carbon Future'

Top Energy Literacy Needs:

1. Articles contributed to the Energy Education Theme Issue
2. Reviewers for the Journal of Sustainability Education and the theme issue
3. Submission Deadline September 15, 2014

Next: NARA

Energy Literacy

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

NARA

Northwest Advanced Renewables Alliance

NARA WORKS TO HARNESS WOODY BIOMASS FOR AVIATION BIOFUEL

Featuring a broad alliance of private industry and educational institutions, NARA takes a holistic approach to building a supply chain based on using forest residuals to make aviation biofuel.

- General: info@nararenewables.org
- Education: justin@nararenewables.org
- http://nararenewables.org/

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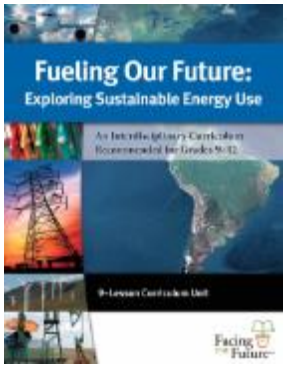

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Top Energy Literacy Issues:

1. Contribution of educational materials to www.energyliteracyprinciples.org
2. Reviewers and content experts in bioenergy literacy for assessment and curriculum review.
3. Partnerships with energy literacy teams and research projects.

Next: Washington State University

WASHINGTON STATE UNIVERSITY

NARA
Northwest Advanced Renewables Alliance

Washington State University

- Rubric-based energy literacy assessment for deliverables
  - Can be applied to past works
  - Does not require effort from assessed
  - May measure applied knowledge
- Quinn Langfitt –qlangfitt@wsu.edu
- Liv Haselbach – haselbach@wsu.edu

Current Resources

- Cross referenced to DOE Energy Literacy principles
- Applying assessment technique to **Imagine Tomorrow High School energy competition** to identify trends (May 29-31, 2015 Pullman, WA - imagine.wsu.edu)
- Approach could be used for other competitions or classroom settings
- Open to working with others who want to try using the rubric

Top 3 Energy Literacy Needs/Issues:

1. More holistic energy education
2. More avenues that draw significant female participation
3. Developing more subsets for bioenergy literacy

Next: University of Wyoming

UW School of Energy Resources

Our mission is to support an interdisciplinary and balanced approach to Energy Literacy Education.

- Dr. Don Roth & Sarah Ramsey-Walters
- www.uwyo.edu/ser/energy-literacy/
- www.facebook.com/scienceposse

Current Resources

- K12 STEM programming (Energy Summer Institute, Science Camp, campus visits)
- Teacher professional development & resources
- Integrated curriculum aligned to standards & WY Energy Strategy
- Energy field tours / Career talks
- Partner with programs across state
- **Upcoming** – Teacher Workshops (Aug, Oct)

- OPEN TO COLLABORATION!!

Top Energy Literacy Needs:

1. Coordination and extension of successful program models.
2. Continued teacher professional development and resources.
3. Integrated, systems approach to energy literacy education providing opportunities for students to develop problem-solving and decision-making skills.

School of Energy Resources
UNIVERSITY OF WYOMING

Next: University of Wisconsin

Wisconsin K-12 Energy Education Program - KEEP
Wisconsin Center for Environmental Education
College of Natural Resources
University of Wisconsin-Stevens Point

Current Resources

- Face-to-face and online course platforms
- School building energy efficiency education
- $100 mini-grants
- Tech Ed & FCS-focused teacher networks
- Cool Choices
- Energy Educator of the Year
- Energy Education Certificate through UWSP

Upcoming events

- Green & Healthy Schools WI Institute/WAEE Conf.
- WAEE Awards Banquet
- MREA Annual Energy Fair, Custer, WI
- Multiple statewide KEEP courses

Wisconsin K-12 Energy Education Program (KEEP)

- Created in 1995
- Conceptual Framework
- Teacher Professional Development
  - Graduate-level courses through UWSP
  - Ad hoc instructor network
  - ~6,000 course participants
- School-, Home-, & Community-based programming
- Statewide Energy Savings

keep@uwsp.edu
http://www.uwsp.edu/keep
Wisconsin Center for Environmental Education

Top 3 Energy Literacy Needs/Issues:

1. Evaluating Student Outcomes – Knowledge, Attitudes, Behaviors
2. Evaluating Classroom-based Behavior Change Efforts
3. Long-term Funding

Next: Questions

Questions for University Led Energy Literacy Efforts

Next:

Replicable Localized Efforts

THE STEMAZING PROJECT

Office of the Pima County School Superintendent

STEMAZing Efforts and Contact

- STEMAZing Institute for K-12 Educators
  - Energy Everywhere strand
- i-STEM Institutes
  - We NEED Energy strand
- DaNel Hogan - Director of The STEMAZing Project
  - danel.hogan@schools.pima.gov
- www.pimaregionalsupport.org/STEMAZing/

Current Resources and Efforts

- Professional development for three- or four-day energy education workshops
- Energy equipment kit lists and suppliers for either $75 or $375 kits
- STEMAZing Tuesdays

Top 3 Energy Literacy Needs/Issues:

1. Professional development for teachers
2. Resources and equipment for teachers
3. First-hand experiences

Next: NEED

The NEED Project

The mission of the NEED Project is to promote an energy conscious and educated society by creating networks of students, educators, and business, government, and community leaders to design and deliver objective, multi-sided energy education programs.

- K-12 curriculum resources
- Hands-on classroom kits
- Professional development and energy education training
- www.need.org, info@need.org

Current Resources

- K-12 curriculum resources on the science of energy, energy sources, electricity, transportation fuels, efficiency & conservation www.need.org/curriculum
- Correlations to national and state standards www.need.org/curriculumcorrelations
- Free energy workshops held around the country www.need.org/calendar_list.asp

Top 3 Energy Literacy Needs/Issues:

1. **Providing educators with a solid foundation of energy literacy concepts from which to teach.**
2. **Providing current, high quality energy information for classrooms.**
3. **Providing curriculum and activities that fit increasingly tight classroom schedules.**

Next: Maui Economic Development Board

Island Energy Inquiry

86 % lesson implementation rate among our teachers

maui economic DEVELOPMENT BOARD

Island Energy Inquiry™ is a STEM teacher professional development program using hands-on, inquiry-based labs to introduce renewable energy in culturally-relevant lessons and activities for grades 5-12 in Hawaii.

Developing Teachers and Students for Energy Careers

Since 2009, IEI has trained 322 teachers representing over 48,000 Hawaii students

- Major funding from Office of Naval Research
- Recognized Hawaii Dept Ed PD-Credit Course
- Developed by Maui Economic Development Board's Women In Technology Project
- Includes workshops, curriculum, follow-up, and refresher courses for graduates
- Statewide industry partners in energies

Top 3 Energy Literacy Needs/Issues:

1. Nurture social will to elevate renewable energy as a long-term economic, political, and societal priority
2. Educate for energy prosperity
3. Prepare STEM workforce in renewable energies

Next: VEEP

VERMONT ENERGY VEEP EDUCATION PROGRAM

- **VEEP's *Mission is to Promote Energy Literacy:*** *A deep understanding of what energy is and how to use it efficiently, to enable energy usage choices that will result in a sustainable and vital economy and a healthy environment.*

- E-mail: info@veep.org
- Web: http://veep.org
- https://www.facebook.com/VTEnergyEducation

Our Programs are aligned to NGSS standards and the Energy Literacy Framework.

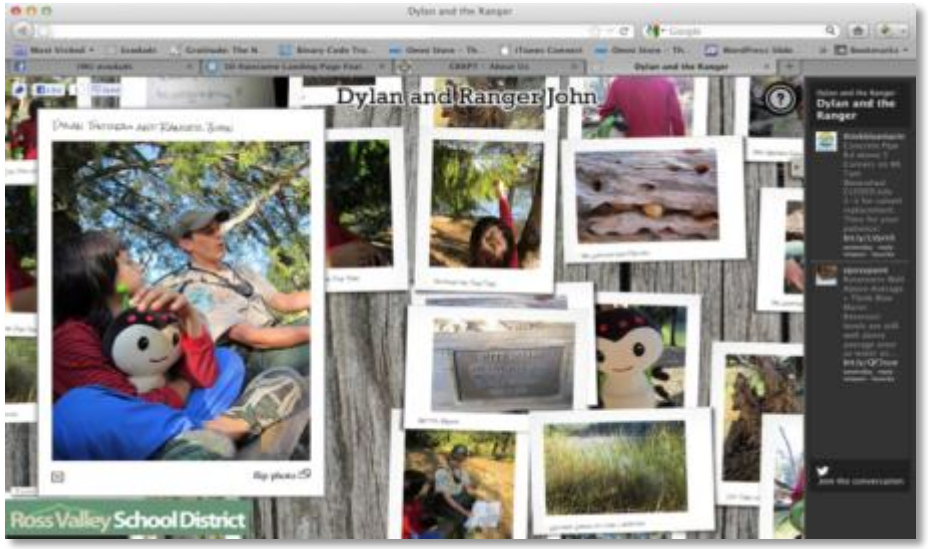
- In-class Presentations: K-12 classes
- Energy Curricula: train teachers, lend them materials and provide ongoing support
- Whole School Energy Challenge Program
- In School Consulting on Energy curriculum integration

- Events: Teacher Institute next week, public events on website, over 300 annual presentations in schools.
- Collaboration Welcome!

Top 3 Energy Literacy Needs/Issues

1. VEEP recognizes that we must deliver solutions to the multiple competing needs of teachers. In VT that includes NGSS and Common Core alignment for our programs.
2. VEEP would like to reach more under-resourced schools and communities.
3. VEEP needs more educational resources on transportation energy issues.

Next: ECODADS



Top 3 Energy Literacy Needs:

1. Help Raising Awareness and Adoption of Resources by Teachers, Students & Parents.
2. Partnering w other Ed Resource Providers.
3. Participation in the FREE Digital Education Community of Practice.

ecodads

Current Resources:

- A Student and Teacher Digital Portfolio System
- Two iTextbooks (iPad and Macs w iBooks)

- License with CALRecycle to make iTextbooks of all **85** K-12 CA State Board of Ed Unanimously-Approved Units
- Common Core Standard Aligned

Next: Columbia Water and Light

Columbia Water & Light

- Municipal utility in Columbia, Missouri
- Full-time energy educator since 6/2013

- aldzuric@gocolumbiamo.com
- www.gocolumbiamo.com/WaterandLight

/powerfulpartnership @CoMoWaterLight /cwlvideo

Current Resources

- K-12 Programs:
  - Energy Choices (6th-7th grade)
  - Saturday Science (8th grade)
  - Bottle Battle (9th grade – pilot project)
  - Budgeting for Energy (10th grade)
- Informal/After-School
  - GSLS Science Club, ASK, Adv. Club
- Adult Outreach
  - Civic groups, real estate agencies, wellness events, teacher PD

Top 3 Energy Literacy Needs/Issues:

1. Teachers literate in energy issues as it relates to their teaching assignments
2. Housing market stakeholders understanding and utilizing energy, esp. efficiency, as a valued tool
3. General citizenry awareness of the energy cycle – and that utilities are but one piece of the bigger picture

Next: LUCID

lucid™

buildingdashboard

Bistra Anguelova
bistra@luciddg.com
www.luciddg.com

What

Building Dashboard = online tool for providing engaging energy use feedback to building occupants and holding building vs. building electricity reduction competitions

Competitions increase energy literacy + motivate behavior change by building occupants

Recent Competitions

- **Washington, D.C**. – 28 schools – 3 weeks – savings of $300/school
- **Santee School District** (San Diego) – 9 schools – 3 weeks – overall electricity use reduction of 14.7%

Upcoming Competitions

- **Green Cup Energy Challenge** – any K-12 school can participate – Lucid co-hosts with Green Schools Alliance

Top 3 Energy Literacy Needs/Issues

1. Educational materials for all ages – K-12 and higher education level
2. More visibility around energy reduction programs
3. Funding for educational programs

Next: Smithsonian Science Education Center

Smithsonian
Science Education Center

Academies for Teachers

Contact Juliet Crowell
CrowellJ@si.edu

Week long energy class including:

- Generation and usage of electricity
- Possum Point Power Station, Dominion Power Staff
- Current and future energy production
- National Institute of Standards and Technology
- Solar power usage and nuclear power production
- Many other presenters:Fuel cells, wind energy, and geothermal energy

Top Energy Literacy Needs/Issues:

1. Improve teacher understanding of scientific concepts
2. Providing teachers with experiences of pedagogical approaches designed to increase student achievement;
3. Engaging teachers in dialog with scientists and engineers who are conducting research

Next: Questions

Questions

Next:

Additional Media Resources

Daltonic films

daltonicfilms.com

GLACIAL BALANCE

•Production and distribution of an educational documentary film with first-hand accounts of climate change in the Andes and the scientific study process
•**ethan@glacialbalance.com**
•glacialbalance.com
•Twitter/Facebook "Glacial Balance"

DVD & Speaking Engagements

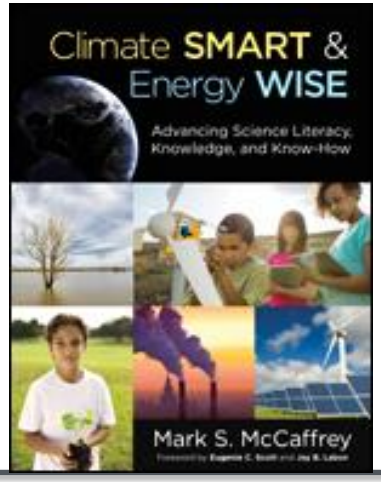
•Educational screenings and discussions at high schools and universities (Director's attendance optional)
•Seeking to further DVD and speaking engagement outreach, and open to collaboration ideas to use the film to further education and action towards policy change (e.g. interactive museum exhibit)
•Arranging screenings and speaking engagements in Perú for COP20

Top 3 Energy Literacy Needs/Issues: (as your organization sees it)

•Understanding of the scientific process
•Understanding of the human impacts
•Action to mitigate effects

Next: Climate Smart & Energy Wise

Climate Smart & Energy Wise



Mark S. McCaffrey – National Center for Science Education

- How to infuse climate & energy throughout the curriculum
- mccaffrey@ncse.com
- http://ncse.com/climate

Advancing Science Literacy, Knowledge & Know-how

Including:

- Climate and energy as interdisciplinary and integrating themes
- Leveraging Next Generation Science Standards
- Addressing denial, doubt, and despair

Top 3 Energy Literacy Needs/Issues: (as your organization sees it)

1. Linking climate and energy issues
2. Providing teachers with PD and resources
3. Transforming schools into living laboratories

Next: DICCE

Giovanni - The Bridge Between Data and Science

SRI International

NASA National Aeronautics and Space Administration

Data-enhanced Investigations for Climate Change Education (DICCE)

Our mission: to make remotely sensed NASA data useable for sparking inquiry and Earth System knowledge in gr. 6-12 classrooms

- Danial Zalles - daniel.zalles@sri.com

Current Resources

- Website: http://dicce.sri.com/
- Help make NASA data about Earth's energy balance accessible to educators and learners
- Emphasize short wave and long wave incoming and outgoing radiation of Earth System and climate

Literacy Needs/Issues:

1. Wider use of resources
2. Tie to Energy and Climate Literacy
3. Funding for expansion and dissemination beyond pilot project phase

Next: Sparticl

the best science on the web

Sparticl

- Designed for teens but free and open to all
- Sparticl hand picks the best STEM videos, games, articles, and activities.
  - Jolene Gustafson, jgustafson@tpt.org
  - www.sparticl.org
  - Facebook, Twitter, Google+

Current Resources

- More than 400 STEM topics with 4,000+ resources (still growing)
- Curated collections for solar power, hydropower, wind power, fuel cells, biofuels, fracking, hybrid cars, geothermal energy, and the power grid
- Educator portal being added this fall
- Always looking for great content to feature in Sparticl – send your gems our way!

Top 3 Energy Literacy Needs/ Issues

Teens (and adults) need:

1. Easy access to creditable, engaging information about energy
2. An overall STEM literacy that supports and fuels their energy literacy
3. Tools to make informed decisions about energy use and consequences

Next: BrainPOP

BrainPOP

- BrainPOP creates animated, curricular content that engages students, supports educators, and bolsters achievement. BrainPOP is also home to GameUp, an educational games portal for the classroom.
- carolinem@brainpop.com
- www.brainpop.com
- @brainpop

Current Resources

- Animated movies and supporting resources focusing on energy needs and issues
- Educational games to support skills and concepts
- Support materials through Educators

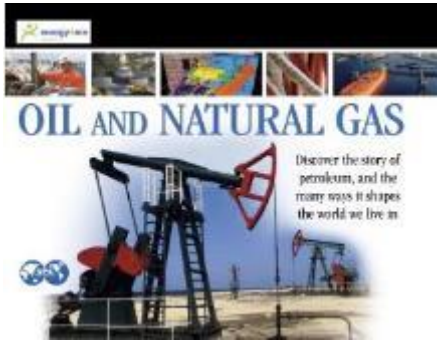
Top 3 Energy Literacy Needs/Issues:

Based on the content we've produced, BrainPOP has identified needs that address the following principles:

1. Energy is a physical quantity that follows precise natural laws.
2. Biological processes depend on energy flow through the Earth system.
3. The amount of energy used by human society depends on many factors.

Next: Society of Petroleum Engineers

Oil and Natural Gas



Energy4me – Society of Petroleum Engineers

- Discover the story of petroleum and how it shapes the world we live in
- energyed@spe.org
- http://www.energy4me.org

Advancing Science Literacy, Knowledge & Know-how

Including:

- History of oil production
- Oil formation, chemical composition, and energy content
- Petroleum products, uses, technologies
- The future of the industry and career opportunities for students

Top 3 Energy Literacy Needs/Issues: (as your organization sees it)

1. Develop awareness of energy issues
2. Engage students in career potentials of the energy industry
3. Encourage teachers to implement authentic science learning through hands-on exploration

Next: National Geographic

NATIONAL GEOGRAPHIC

CONNECT! TRANSFORM THE FUTURE

Educating youth about energy and energy solutions is necessary if future generations are going to help solve our energy problems.
www.ConnectEnergyEd.org

Free STEM Resources for Grades 4-12, designed with the energy literacy principles at their core

- Standards-Based Multimedia Activities
- Games and Interactives
- Interactive Maps
- Videos
- Student-Friendly Encyclopedic entries
- Case studies
- Posters
- Career profiles

Top 3 energy literacy needs include arming students with the ability to:

1. Make informed energy decisions
2. Consider community impacts
3. Analyze energy issues from a local to global scale

Climate
Literacy and
Energy
Awareness
Network

CLEAN

- A collection of 610+ free, ready-to-use and vetted climate and energy educational resources

- Contact: Tamara Ledley
- www.cleanet.org
- Facebook: CLEANET
- Twitter: @ClimateLit

Current Resources

Support for teaching energy science

- http://cleanet.org/clean/literacy/energy_lit.html

Rigorously reviewed educational resources about climate and energy science, including activities, videos, and visualizations

- http://cleanet.org/clean/educational_resources/index.html

Top 3 Energy Literacy Needs/Issues:

1. Clear messaging that helps people see that energy is linked to all aspects of society
2. Educational resources that demonstrate efficient and effective uses of energy
3. Coordination and leveraging between climate and energy literacy efforts to extend reach and impact

Next: Questions

Questions

Thank you to all our presenters☺

Next Steps:

Share this webinar / PowerPoint with educators
www.doe.gov/eere/education/downloads/webcast-national-energy-literacy-virtual-town-hall

Download and apply the Energy Literacy Framework
http://www1.eere.energy.gov/education/energy_literacy.html

Visit our DOE Webpage for links and resources
http://energy.gov/eere/education/education-homepage

Contact us with questions, comments or ideas energyliteracy@ee.doe.gov

#energyliteracy