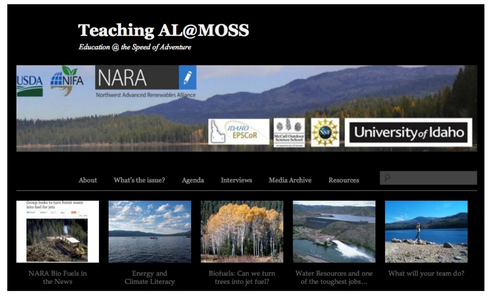
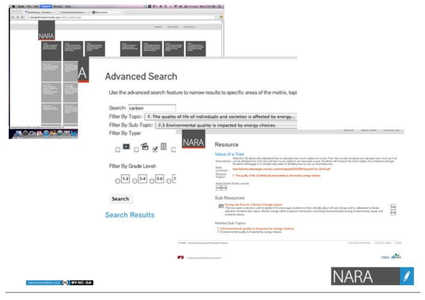
Teacher Professional Development: An Energy Literacy Supply Chain

Karla Eitel[1], R. Justin Hougham[2], Jenny Schon[1], Ashlee Fliney[1], Aaron Boyles[1], and Steve Hollenhorst[3]
[1] University of Idaho, [2] Washington State University, [3] Western Washington University

Energy literacy curriculum development → Face to face and online workshops → Curriculum and resources available online → More energy related curriculum taught in schools → Increased energy literacy



teachingadventurelearningatmoss.wordpress.com



energyliteracyprinciples.org

Online Engagement

Sample comments from the blog

Not being at the presentations, I still get the big picture thanks to the clear presentation resources. These days researchers are doing a much better job analyzing the entire picture of a new resource. Awhile back when fuels based from corn were all the rage, we forgot to look at the whole picture in cost production, environmental impact, efficiency comparisons to fossil fuel, distribution costs, etc., and then we learn that it is not as great as it seemed. These presentations clearly show we have learned since then and making progress.

Thanks for these resources. In my Earth Science class there is a great deal of content I try to squeeze in within a school year. Through these presentations, and the other information shared in this workshop, I have been given some great ideas and issues that I can incorporate in the curriculum. When demonstrating how interrelated the various fields of study are (climate change, alternative resources, etc.), ecology definitely cannot be ignored.

I have learned so much from reading the blog posts, and from the presentations. I am excited explore some of these topics with my students, especially those in 5th and 6th grade. Thanks to everyone for making this learning possible for me!

I wasn't able to be there learning with all of you, but still received information about bio jet fuel vs. fossil jet fuel and all the considerations involved when thinking of alternative uses for biomass. As Dan said, we want our students to begin thinking of potential solutions. By exposing them to these topics and getting them to develop a question(s), we can get them to do that "deeper thinking" on topics that their generation needs to be thinking about and finding solutions for.

Webinar Series

- **26** high school teachers from Idaho, Washington, Oregon, and Montana interested in coaching teams for the Imagine Tomorrow (IT) problem-solving competition.
- **6** 1-hour monthly webinars (December '14 – May '15) for teachers to expand their knowledge of current renewable energy research, along with guidance on coaching a team in the IT Competition.

- 1- Northwest Advanced Renewables Alliance overview, mission, goals
- 2 – Coaching a team for the Imagine Tomorrow Competition
- 3 – Guest Speaker Dr. Scott Holub presentation on Soil Productivity and Impacts of Biomass Removal
- 4 – Guest Speaker Dr. John Petrie presentation on River Morphology and Impacts of Forest Mgmt.
- 5 – Guest Speaker Dr. Indroneil Ganguly presentation on Life Cycle Analysis and Biofuel Sustainability
- 6 – Preparing a team for effective competition communication: A Presentation on Presenting

- **Webinars** are digital seminars where teachers can participate in practical professional development opportunities remotely in real time. Teachers attending the MOSS Imagines Tomorrow Webinar Series engage with science and industry experts on exciting bioenergy research.

Summer Workshop

- **15** onsite participants experienced field-based curriculum and created content for an online blog followed by the offsite participants.
- **45** offsite participants follow along and participate in active discussions with onsite participants.
- **380** comments posted on blog (see column on right side of poster for highlights)
- **2600** Number of students served by these teachers per year
- **33% Increase in Energy Literacy**

  Mean pre-test score on test of bioenergy content understanding = 10.86/20 (54.3% correct); Mean post-test score = 16.4/20 (82% correct)

- NARA research articles, newsletters, conference presentations provide content resources

Imagine Tomorrow - A problem solving competition for 9th-12th graders in the Pacific Northwest that focuses on sustainable energy and creating solutions to problems connected with transitioning to sustainable energy sources. There are four categories (Design Challenge, Behavior Challenge, Technology Challenge, and Biofuels Challenge) in which the students can compete in.

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