

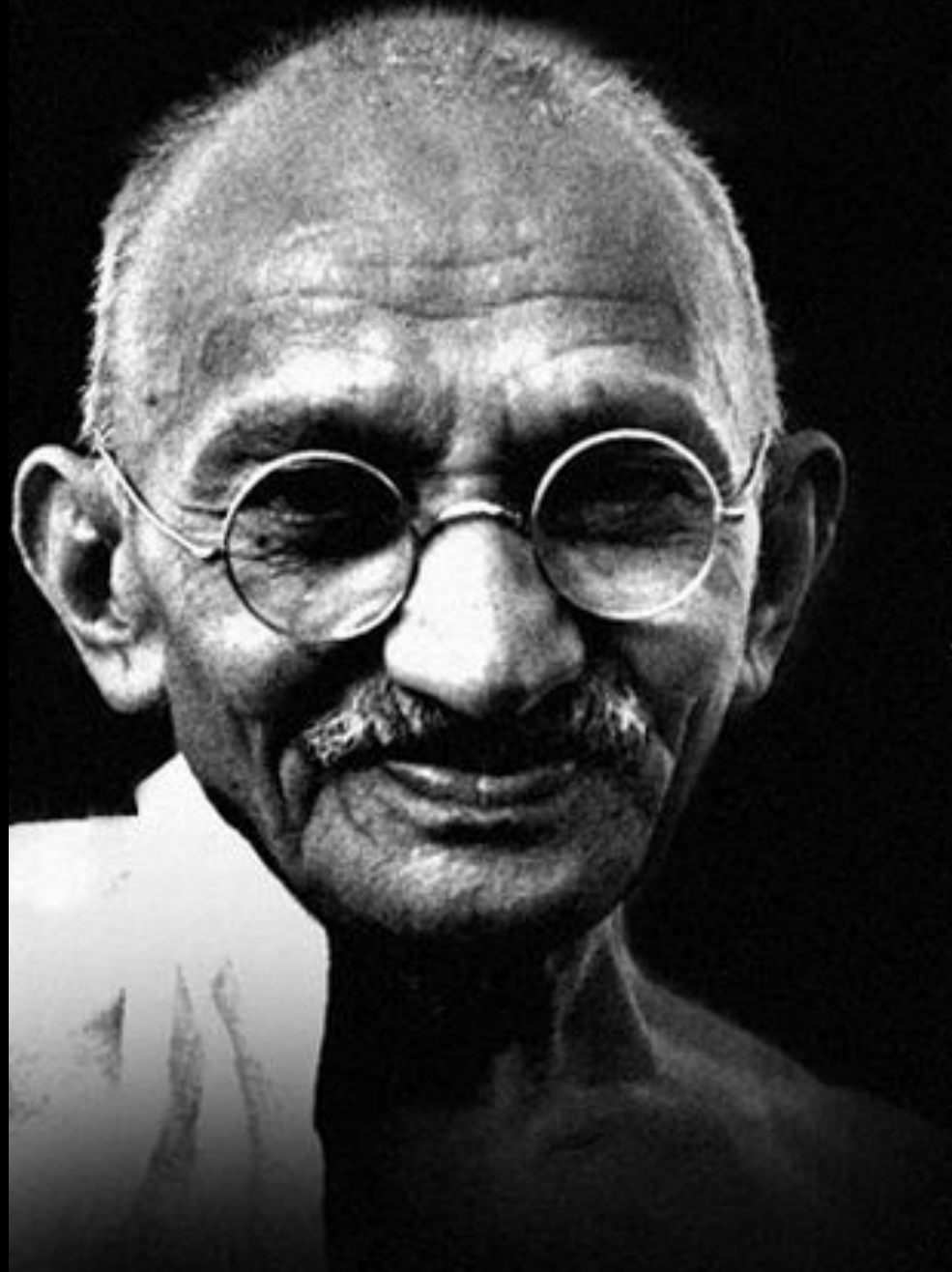


Student-driven behavior change with real-time energy data

Brooks Winner

BECC 2013

November 19, 2013



The bumper sticker

Be the change you want to see in the World.

-Mahatma Gandhi

The real thing

- “If we could change ourselves, the tendencies in the world would also change. As a man changes his own nature, so does the attitude of the world change towards him. ... We need not wait to see what others do.”

- Gandhi

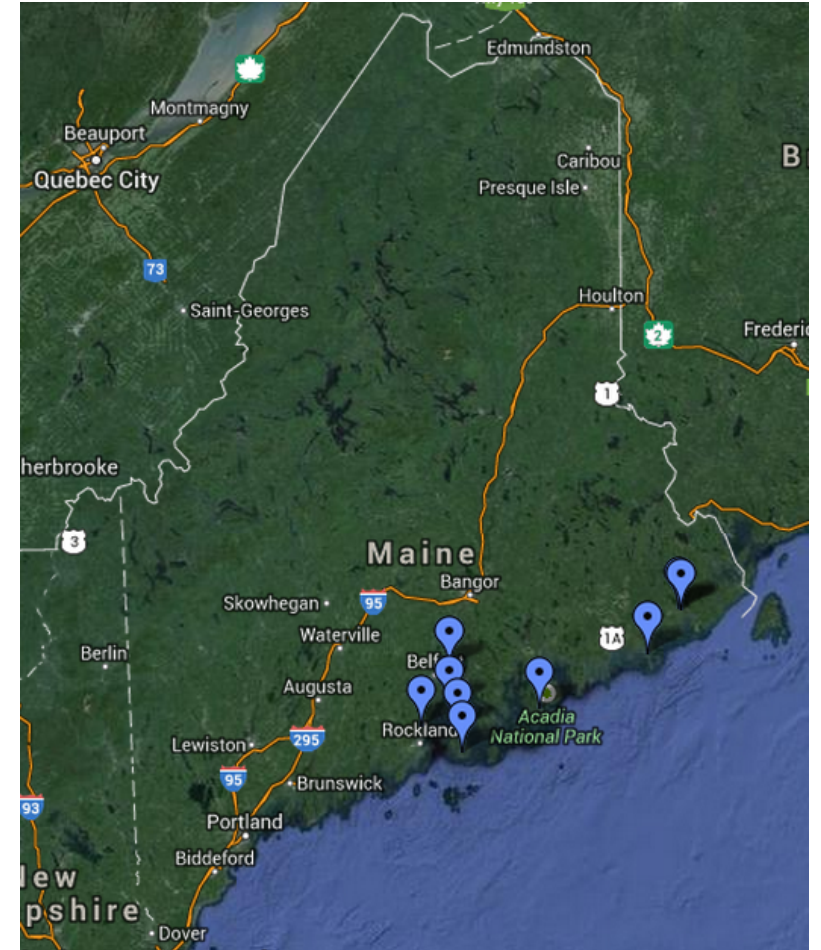


The Island Institute works to sustain Maine's island and remote coastal communities, and exchanges ideas and experiences to further the sustainability of communities here and elsewhere.



Behavior Change and Energy Education in Rural Communities

- Teaching STEM, energy skills
- 9 schools, 6-12 grade students
- Remote island and coastal communities
- Non-hierarchical learning
 - Teachers, Administrators, facilities staff
 - Families and community members
- Place-based learning
- Technology integrated into curriculum

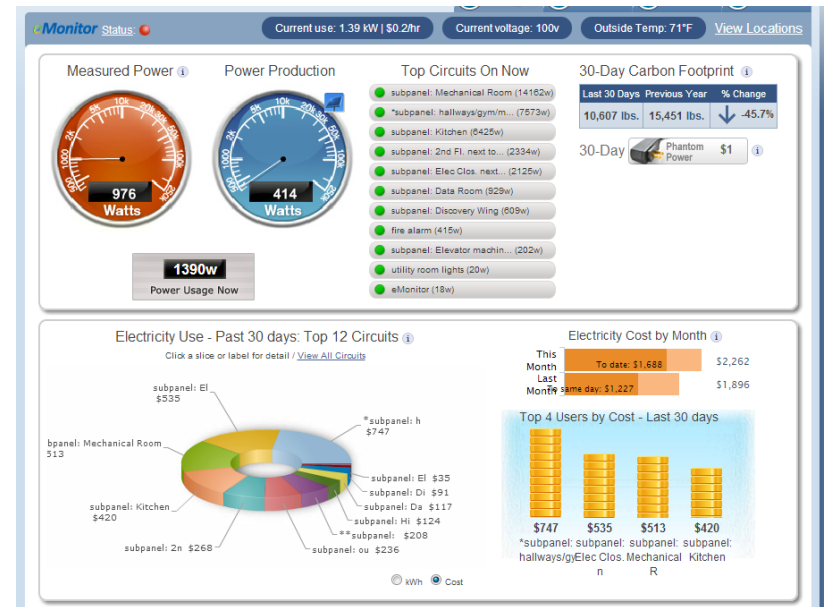


Real-time (and real!) energy data



The eMonitor:

- Circuit-by-circuit, minute-by-minute electricity data
- Interactive portal
 - (Somewhat) accessible data
- Competition dashboard
- Data as a teaching tool and as a motivation for change
- Still a developing technology



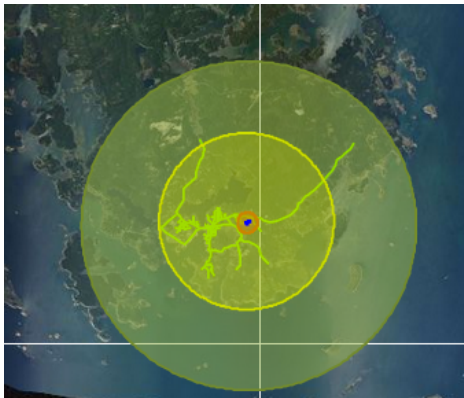
Real-time (and real!) energy data

- Real tools
- Learning from energy professionals

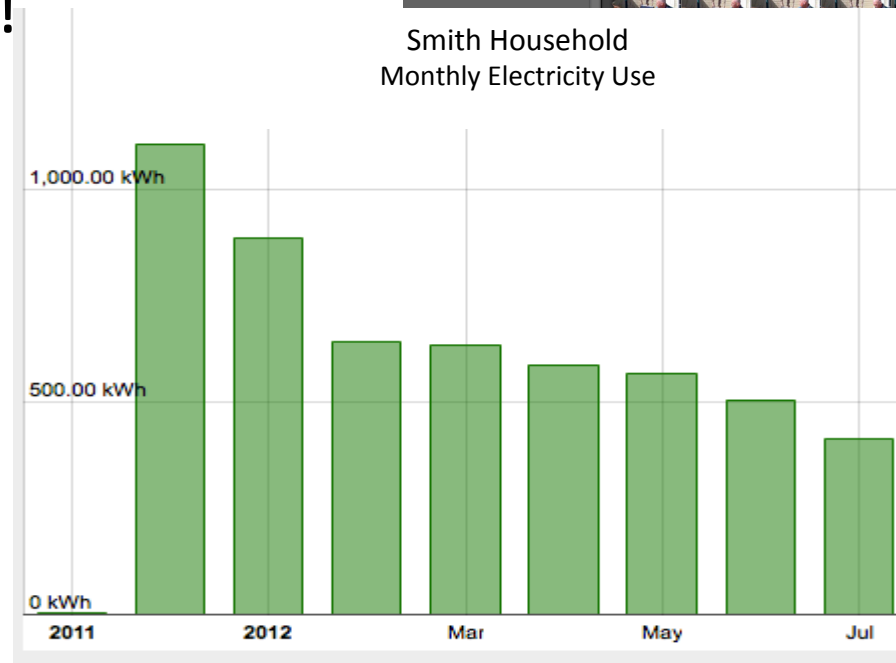


Data is not enough

- It needs to tell a story
 - OR, we need to tell a story with it!
- We need reminders that it's there!
- We need motivation to use it



Smith Household
Monthly Electricity Use



Energy Competitions

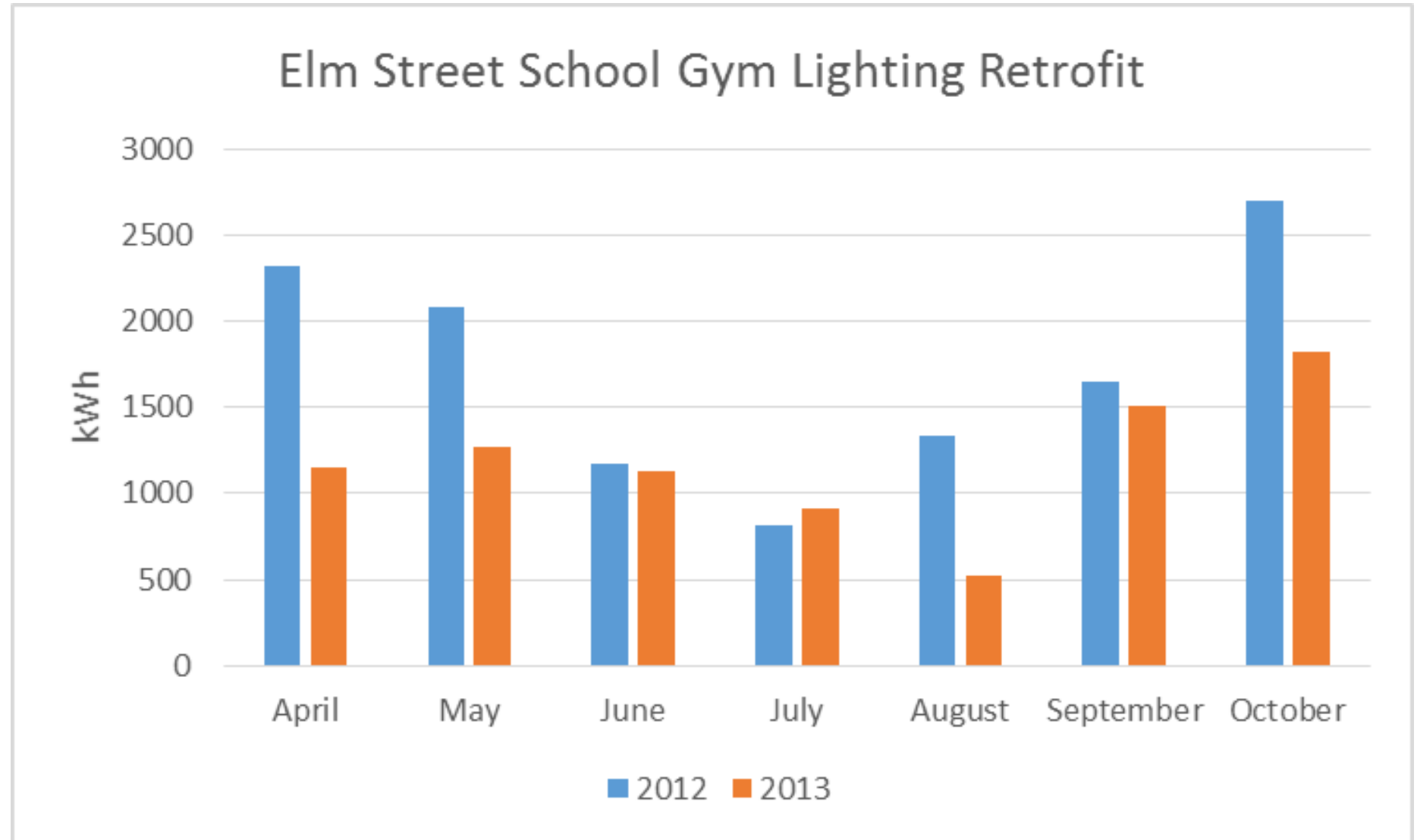
- Leveraging competitive spirit, school rivalries
- Month-long competitions
 - Subpanel & school-wide level
- Thousands of dollars in energy savings
- Up to 58% kWh reduction (or more!)
- Reminder that data is there



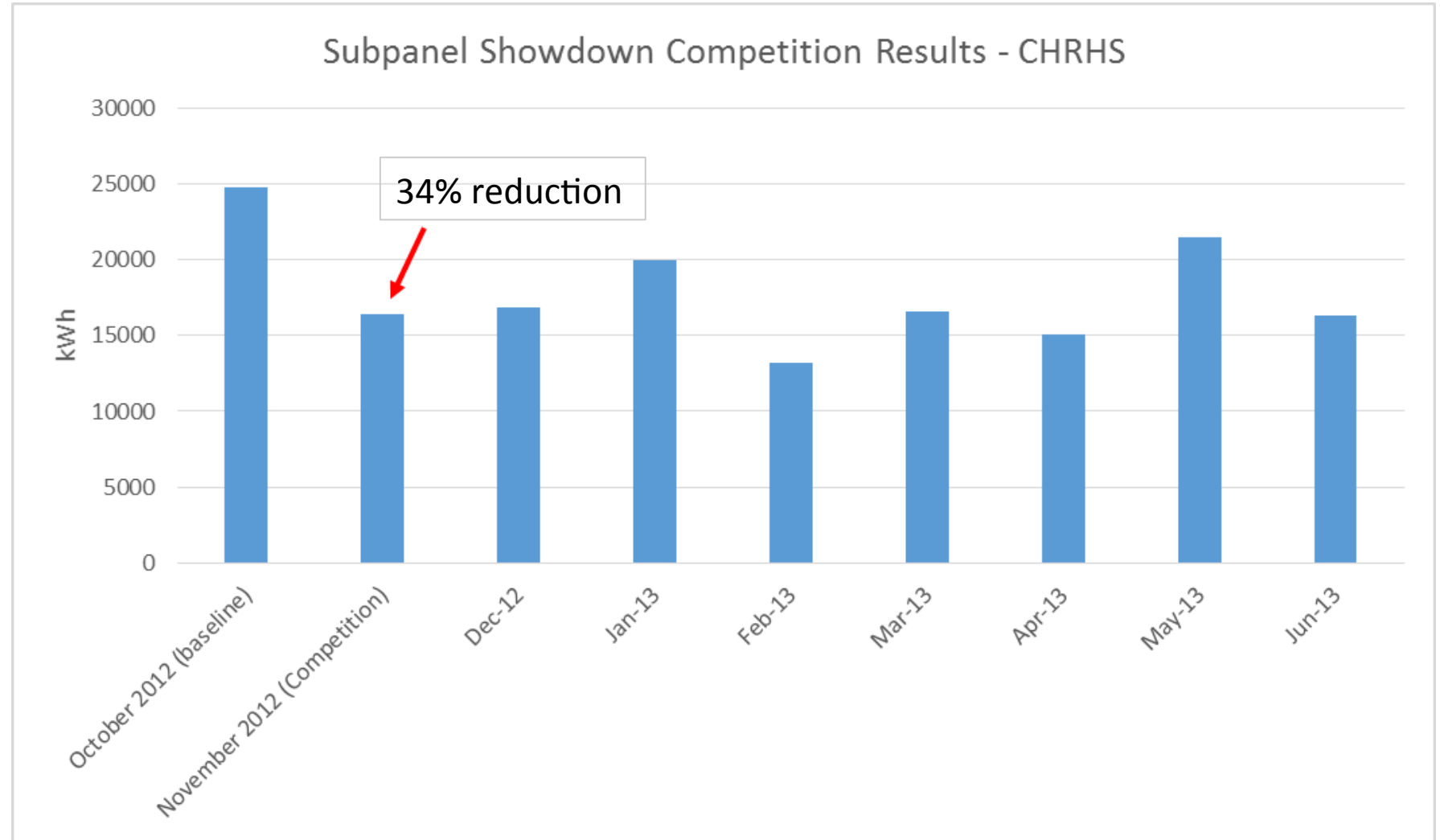
Student-driven change – The Elm Street Story



Results



Results



Impacting Change?



E4ME students

A word cloud with the following words: community, think, ideas, recommendations, help, energy, might, save, likely, money, try, lower, listen, people, saving.

Non-E4ME students

A word cloud with the following words: not open to change, no follow through, adults, don't, listen, to, kids, don't care.

Lessons learned

- Access to data is not enough – need motivation to use it!
 - Competitions
 - Dashboards
- Place-based, applied energy education works
 - Especially in rural communities
- Students can drive change
 - Need support
 - Real data, real tools



Be
THE
Change

Next Steps for Energy for ME



- Community focus in 3rd year
 - Engaging homes, community buildings
- Scale Up
 - Replicate in new communities w/ new audiences
 - New data sources?
- Evaluate results
 - Energy savings
 - Learning results



Thank You!

<http://www.islandinstitute.org/energyforme.php>

<http://dev.intellergy.us/islandinstitute/dashboard.php>

<https://www.facebook.com/energyforme>

Brooks Winner

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Support Provided by:

