Energy Efficiency Advisory Panel
Energy Efficiency and Education – September 16, 2016

SESSION SUMMARY

Exploring the Links Between Energy Efficiency, Schools and K-12 Education in Alberta

Friday, September 16, 2016
12:00 – 4:00pm
Queen Elizabeth High School
9425-132 Avenue, Edmonton

Desired Outcomes

Members of the Energy Efficiency Advisory Panel understand the ways in which K-12 education is an essential strategy to support energy efficiency, climate leadership and Albertans' work to create a low carbon future. Specifically:

- Best practices by students and teachers: what students have accomplished at both elementary and secondary level – and what needs to change to help this go 'mainstream'
- Best practices by school boards (e.g. CBE): what school boards have already done to deliver on desired outcome; and what needs to change to help this go 'mainstream'
- Other best practices by stakeholders that strengthen the links between K-12 education and energy efficiency – and what needs to change to help this go 'mainstream'

Agenda

12:00 pm	Lunch
12:45 pm	Welcome, Opening Remarks • Welcome - Dr. David Wheeler, Chair of Energy Efficiency Advisory Panel • Opening Remarks – Honourable David Eggen, Minister of Education
1:00 pm	Speaker Presentations
2:20 pm	Very Short Break!
2:30 pm	Table Group Discussions Key Messages Next Steps, Thank You
4:00 pm	Farewell and Safe Travels

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Educational Practices in Energy Efficiency, Community Generation/Renewables, and Conservation Not Mentioned in Presentations (post-presentation discussion)

- Revise curriculum – incorporate climate change broadly across core curriculum, e.g. health, social), not just extracurricular; e.g. new options program focusing on natural resources; start early and have it across all grades
- Ensure student leadership, mentoring
- Use hands-on projects and learning; outdoor learning; outdoor classrooms
- Build partnerships and relationships, e.g. with industry (apprenticeships, career pathways)
- Maximize shared learning across boards and between teachers; appropriate professional development
- Provide central resources and support
- Allow flexibility, creativity
- Use school buildings as projects and demo sites (e.g. small solar panel running a water fountain)

What are the barriers to achieving the vision in which schools' energy efficiency practices and community energy systems technology – and student learning, competencies, and actions – are interwoven? What bridges must be built to overcome these barriers? How might Energy Efficiency Alberta help?

Barriers	Bridges	EEA Role
Attitudes		
• Teacher groups may typically be reactive • Teachers may not be comfortable expanding boundaries of "their subject" • Parents not fully aware / knowledgeable, especially at elementary level	• Long-term planning and sustainability policy • Increase knowledge and awareness (see below)	
Curriculum		
• Already overloaded for students and teachers • Currently doesn't allow flexibility, or for "discovery" • Project-based learning is difficult for junior and senior high schools (inflexibility in schedule) • Lack of capacity to expand	• Keep linkages to post-secondary requirements in mind (university entrance will remain a factor; innovative classes not necessarily recognized) • Develop an all-encompassing science class • Build in competency as well as creativity	• Get curriculum redesigned/changed to include sustainable development including energy efficiency • Link with Advanced Education to piggy-back on other consultations • Use existing forums and grants, e.g., ATA and Alberta Regional Learning Consortium • Annual conference for teachers, students and school district • Incorporate a Youth Council

Barriers	Bridges	EEA Role
		in the Agency; help students become informed and to communicate with each other
Funding		
• Concern that other content or equipment may have to be sacrificed – determine priorities • Currently gets pushed to teachers, parents in many cases	• Create a funding body • Explore viable sustainable funding options • Redistribute savings from student initiatives • Provide funding for projects/equipment that fall within (new) curriculum • Provide funding for building modernization (demo sites for education purposes)	• Ensure specific budget line for education and outreach • Programs should be long-term/multi-year and sustainable • Strict requirements to feed funds back to student-led programs • Provide optimal access to schools for programs to apply to
Knowledge and Qualifications		
• Schools need access to expertise and programs • Boards don't really have the big picture yet • There is so much information it is difficult to keep up • Teachers not really qualified in energy efficiency • Students not fully aware of their own energy consumption and its implications	• Database of experts/resources • Dashboard to show all schools and areas improvement is possible • Access to project coordinators and consultants (teachers) to deliver energy efficiency programs • Coordinator role across schools • Programs that empower students to learn on their own with technology (similar to BC Climate Exchange) • Teacher professional development (e.g., in summer) • Energy audits	• Agency comes directly to teacher professional development conferences • Work with external delivery agents to develop/share info • Agency has outreach role in schools and communities to help measure consumption and uptake of small scale renewables • Assist with funds for teacher professional development
Operational		
• Infrastructure, e.g., custodial services in schools • Liability, i.e. field trip limitations	• Help with adoption of practices • Need a standard fund or insurance and security plan for students to cover liability, transportation and security	• Support groups (e.g., loan specialists into schools) • Embed someone • Help boards reduce risk of taking students outdoors, e.g. special insurance fund for school boards
Policy		
• Differences / inconsistencies	• Share learnings across	

Barriers	Bridges	EEA Role
across boards	boards to understand how some have addressed risks • Work in partnerships	

Session Wrap-up Discussion

- Curriculum must be redesigned and must involve the Agency
- Energy literacy must start early and be part of the core curriculum
- Hands-on, participatory learning (field trips, building, doing) is an appropriate learning model for energy efficiency
- Need meaningful teacher professional development
- Need project funding (and/or incentives) not dependent on teachers/parents, and coordination of funding that doesn't put other funding at risk
- Need demo projects (solar, geothermal), including using schools as models for the community and for industry
- Must empower youth with opportunities

Final Key Messages for the Panel

- Make the commitment to environmental sustainability
- Demonstrate that commitment by using schools as models of behaviour change on energy efficiency, for high visibility and learning purposes
- Redevelop curriculum to focus on environmental sustainability through all years
- Ensure student leadership and involvement throughout – their voice matters
- Build capacity for teachers, schools and students
    - Ensure rural or smaller schools can participate fairly (level playing field)
    - Funding, resources, expertise needed to enable on-the-ground work
    - Enable flexibility for teachers to build in energy efficiency programs
- Have a one-stop shop funding source
- Build on/leverage existing resources, e.g. primary delivery agents (not necessary to completely re-invent the wheel)