**Alberta Energy Efficiency Advisory Panel**

**Buildings and Infrastructure Workshop**

July 12, 2016

8:30 a.m. – 3:30 p.m.

Maple Leaf Room, Lister Hall

University of Alberta

**AGENDA**

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| 1. Welcome and Introductions
 | 8:30 a.m. |
| 1. The Opportunity, Consultations, Role of Panel and Mandate
 | 8:40 a.m. |
| 1. Setting the Vision
 | 9:10 a.m. |
| 1. BREAK
 | 9:45 a.m. |
|  |  |
| 1. Confirming and Overcoming Alberta’s Barriers
 | 10:15 a.m. |
| 1. Measures of Success
 | 11:10 a.m. |
| 1. LUNCH
 | 12:00 p.m. |
| 1. Evaluating Programming Tools and Technologies
 | 12:45 p.m. |
| 1. BREAK
 | 2:00 p.m. |
| 1. Group Priorities
 | 2:30 p.m. |
| 1. Next Steps and Closing Comments
 | 3:15 p.m. |

*NOTE:* This meeting will be held under the **Chatham House Rule**, which reads as follows: *When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.*

As such, any report that is developed for the session may reflect the major themes and topics of discussion throughout the meeting, but no specific person, affiliation or company will be cited.

**Feedback Summary**

1. **Vision for Energy Efficiency Alberta Agency (5 year timeframe)**
* Reputation and Public Trust
	+ Alberta we know has changed, not only known for oil sands, but also for energy efficiency (EE) and community energy systems (CES).
	+ Agency is the champion/leader/coordinator for EE and CES, and has built trust with stakeholders.
	+ Careful not to grow too fast or become a bloated entity. Needs to remain outside of politics, and needs to be the ‘go to’ for EE and CES.
* Clear Results
	+ Agency produces concrete results, tracks and promotes results (positive and negative outcomes / impacts) to change negative perceptions of climate change actions.
	+ Program results are measured and verified, as transparency and accountability are important for public buy-in.
	+ Communicates impacts of programs (e.g., how programs are reducing GHGs).
* Focus Areas
	+ Programs have comprehensive view/systems approach (not a narrow focus), and agency understands needs of stakeholders.
	+ Important to focus on reducing environmental impacts, but also ensuring we increase competitiveness of Alberta businesses.
	+ Agency works toward building a sustainable energy efficiency industry in Alberta for products and services.
	+ Agency experiments with different programs ideas (programs types, delivery options).
	+ A focus on innovation, not just tried and tested programs.
	+ Collaborate broadly and identify program opportunities and risks.
1. **Short-term Programs**

Program Ideas

* Influencing purchasing behaviour through advertising, incentives, coupons and direct engagement at the retailer/distributer or customer levels.
* Direct install programs in homes (e.g., faucets, thermostats, kits for low-income homes), where benefits are that costs/products can be easily controlled but there are also concerns over administration costs.
* Lots of opportunity areas, including commercial lighting, building tune-ups and assessments, new home construction (beyond code), building envelope (e.g., insulation, furnace), commercial boilers, programmable thermostats, energy assessments on farms, geothermal from capped oil wells in rural communities, on-site energy managers.

Principles/Considerations when Selecting Short-term Programs

* All Albertans pay the carbon levy, and therefore programming should be available to a broad group of stakeholders to get public buy-in.
* Target the MUSH sector to show government leadership, and provide opportunities for rural and indigenous populations.
* Early programs need to have immediate, measureable gains.
* Consider criteria for testing new ideas/products.
* Programs that are known, easy to implement and low risk.

Education/Awareness

* Consumers need access to detailed information in order to drive behaviour change.
* Market awareness in the short-term will lead to market transformation in long-term.
* Short-term demand can be driven by education, literacy, awareness (e.g., energy reports).
* Promote awareness by showcasing successes (e.g., Premier’s recognition award).
* It may be unrealistic to expect big impacts from education programs in the short-term.

General Advice on Short-term Programs

* Don’t just focus on programs in the short-term, but also undertake research needed for long-term success (e.g., conservation potential review, market research).
* Focus on straightforward programs tailored for Alberta, and build on existing and past experience.
* Consider partnerships between utilities and financial institutions.
* Agency branding will be important in year 1 to build trust and awareness.
* Results need to be more than GHG reductions, where people need to feel impact (e.g., cost savings).
* Ensure funding is spent wisely using criteria for success.
* Identify champions within sectors (e.g. rural communities, commercial sector) to promote uptake
* Consider job training for the new economy (building capacity).
* Consider alternative incentive models (e.g. tax credits vs traditional rebate)

Strengths of Short-term Programs

* Can leverage stakeholder knowledge and government experience with past and existing EE/CES programs, and capitalize on experiences in other jurisdictions.
* Economic conditions may help programming in the short-term (available labour, costs, etc.).
* Funding level allocated for 2017 provides ability to do multiple short-term programs.

Jobs

* Need to be aware of dynamic between gross and net jobs.
* Strong link between new programs and new jobs.
* Investment in energy efficiency has economic impacts (cost savings from reduced energy bills will be reinvested into the economy).
* Industry capacity versus bricks and mortar capacity is something to be aware of.
* Existing capacity in electricity market can be helpful for programming in short-term. Interested and engaged retailers are a strength and can help with program design/delivery.

Weakness related to Short-term Program Concepts

* How do we define short-term/quick win?
* Agency needs to focus on most visible/impactful programs first, which may not be the most cost effective, but may be effective in attracting attention and getting stakeholders/public engaged.
* Selecting only 2-3 programs for 2017 is risky as limits market participation/public buy-in.
* Certain short-term ideas can take time to implement (e.g., building construction) and consequently, results/benefits will take time to materialize. Need to focus on quick install technologies to get quick results and quick results to share with public.
* Programs for certain sectors (e.g., MUSH) need to consider the budget cycle of large institutions and firms as may take time to get project/budget approval.
* Certain programs rely on policies (e.g. CES may be impacted by review on micro-generation), which can delay implementation in the short-term.
* Challenges facing short-term programs: weakened economy; consumers/firms have tight budgets; historically low energy prices.
* Lack of Alberta-specific data available for new Agency (e.g., limited market research, lack of information on market penetration of technologies/baseline data) needed to inform allocation of resources in 2017. We don’t want to incent status quo.
* Explicit direction needed to prioritize socially important sectors for 2017 (i.e., need to determine budget allocation for sectors/sub-sectors) as if left unconstrained, Agency may focus only on cost-effective opportunities.
* Timeline concerns for program launch early 2017 - is this realistic? Need to determine program areas and delivery mechanisms for 2017, otherwise companies/market will not be ready for program deployment. Need to clarify the role of different market actors.
1. **Long-term Programs (2018 and beyond)**
* Program Ideas
	+ In 2018, look at all sectors and provide opportunities for all Albertans (e.g. remote communities, rural, urban).
	+ Needs to be long-term support for CES programs, especially in rural areas. Can’t just focus on reducing energy use. Need to look at generation.
	+ Examine opportunities with legacy assets/unused land (e.g., brownfield sites, abandoned wells).
	+ Need pilots/demonstration projects to experiment with technologies/programs (innovative policy design). However, to save time and resources, we can look at results of pilot projects in other jurisdictions.
	+ Consider designing program roadmaps for different sectors (e.g., how to transition remote communities off diesel in five years).
* Education/Awareness
	+ Focus on data accessibility (e.g. Opower) for all consumers, which leads to consumer empowerment, which in turn leads to buy-in and then behaviour change. Ensure consumers understand data.
	+ Communication is an important tool for long-term program success (e.g., communicate to rural Albertan’s how EE and CES reduce carbon levy and provide other benefits).
	+ Eventually, need to arrive at a point where benefits of EE and CES are well understood (e.g., upgrades become a ‘no-brainer’).
* Principles/Considerations when Selecting Long-term Programs
	+ 2017 can focus on quick wins, but 2018 should focus on best practices.
	+ Long-term programming should build-off quick-win programs in 2017. That is, don’t do one-off programs, ensure consistency/continuity in programs.
	+ Short-term programs can focus on incentives (financial), but long-term programs need to lead to cultural shift.
	+ Starting in 2018 need comprehensive program design and cannot focus on a single program like lighting.
	+ Certain programs may not always be the most cost effective, but they may have important socio-economic outcomes (e.g., lower-income programs).
	+ Long-term programs need to focus on market transformation.
	+ Agency needs to undertake a conservation potential study to help determine the most cost effective opportunities, depth of opportunities, barriers, market characterization, technical/economical/achievable potential, and EE and CES targets/goals.
	+ Over long-term, don’t take cookie cutter approach to programming, but ensure programs are tailored to sector needs over time.
	+ Utilities/retailers can play an important role in program delivery, as they have relationships with consumers, seen as a credible brand, have consumption data, and have in-house expertise.
1. **Program Prioritizing Exercise**

Participants were asked to participate in a “dotmocracy” exercise, where each person was provided with 5 dots representing the money invested in the first two years of programs.

Highlights included:

* Home energy reports (residential sector), rebates (commercial sector), and energy management (commercial sector) received the highest support.
* Residential rebates, micro-generation incentives (capital), and kits for low income/general public also received high levels of support.
* Industrial sector, new building incentives, energy audits (residential) received lower levels of support.

Participants cautioned Panel to not read deep into the results as more information was needed on the various program options to make an informed decision.

General group discussion on prioritizing exercise

* A detailed conservation potential study is needed to provide detailed, scientific, data to support selection of programs. Likely have enough data today for residential programs, but perhaps not enough for small industrial/MUSH.
* Audits:
	+ Audits need to be tied to incentives, i.e. you get incentive if you do audit. Audits in isolation may not have significant impact because some consumers may not take action after they receive audit report (especially given low energy prices).
	+ Audit programs take time to implement. Not a lot ‘auditing capacity’ in Alberta.
	+ Need programs that lead to tangible results (audits may not accomplish this).
* Programs:
	+ Weatherization programs are very cost effective.
	+ Certain programs selected (e.g., home energy assessment) may not lead to tangible reductions.
	+ Behaviour programs should be coupled with incentive programs that lead to technology adoption.
	+ For CES, initial capital investment is the most important barrier to address, and long-term financing guarantees, like a feed-in-tariffs, drive uptake (based on other jurisdictions).
	+ Small industry opportunities are challenging, especially in years 1-2.
1. **Key Messages to Panel**
* Sustainability:
	+ Sustainability of programs needs to be beyond current government (ensure sustainability of Agency).
	+ Sustainability of program delivery and financing models.
* Programs:
	+ Be strategic with each program, be consistent with budgets, and focus on quick successes.
	+ Program composition: consumer products, residential, small/medium businesses, community jobs.
	+ Focus on early starts / activities that can progress quickly.
	+ Reach out on specific discussion on CES.
* Performance Metrics:
	+ Look at and build from successes and failures from other jurisdictions.
	+ Accountability (expectation vs. actual bills)
	+ Develop and implement an effective and efficient value added process that will benefit Albertans with a long-term focus.
	+ Determine success targets.
	+ Focus first on establishing criteria for program success- criteria will set direction for all else.
	+ Clearly define what success will look like in 5 years and work backwards (e.g. GHGs, KWhs, awareness brand, jobs, energy literacy).
	+ Broad reach.
	+ Cost effective programs.
	+ Social considerations.
* Education / Awareness
	+ Create continued culture of consultation.
	+ Stakeholder consultation on role of agency, utilities, retailers, others.
	+ User friendly education and program.
	+ Transparent, realistic, communication over multiple channels.
	+ Information drives behavior, drives change and drives action.
	+ Public engagement: social license, and first year results.
	+ Don’t underestimate digital engagement.
* Delivery:
	+ Energy service companies should play a role in the future of EE programs
	+ Data access is fundamental to a cost-effective delivery of demand-side management.
	+ Clearly defined roles are critical.
1. **Program Criteria Considerations**

The following are observations heard from participants on program criteria and performance metrics:

* Include criteria to enable innovation (not just known products/programs).
* Programs should lead to market transformation.
* Government leadership plays an important role in showcasing technologies.
* Programs should include education and awareness component, with the goal of creating a cultural shift (e.g. behaviour changes).
* Programs should benefit all Albertans and all sectors impacted by carbon levy.
* Program outcomes need to consider several factors: cost effectiveness, socioeconomic impacts, regional diversity (e.g. rural and urban). Simply focusing on cost-effectiveness will isolate certain stakeholder groups (e.g. lower income stakeholders).
* For short-term programming, need to consider programs that have visible impact to generate public interest.
* Programs should be tailored to specific needs of sector/sub-sector.
* When designing programs, don’t just think about individual technologies, but consider impacts on energy system as a whole (or building envelope).

APPENDIX A- CONSOLIDATED RAW NOTES

**Consolidated Raw Notes**

Most Important Messages

* Timing
	+ Be strategic with each program
	+ Be consistent with budgets
	+ Focus on quick successes
* Sustainability of programs needs to be beyond NDP
* Program composition
	+ Consumer products
	+ Residential
	+ Small/medium businesses
	+ Community
	+ Jobs
* Determine success targets
* Focus on the easy start activities that can progress quickly
* Beg, Borrow and Steal from Others
* Public Engagement
	+ Social License
	+ 1st year results
* Reach out on specific discussion on Community Energy Systems
* Focus first on establishing criteria for program success- criteria will set direction for all else.
* Create continued culture of consultation
* Ensure agency can survive a government change
* Stakeholder consultation on role of agency, utilities, retailers, others.
* User friendly education and programs
* Transparent, realistic, communication over multi channels
* Accountability re expectation vs. actual bills.
* Develop and implement a effective and efficient value added process that will benefits Albertans with a long-term focus.
* Information drives behaviour/drives change/drives action
* Sustainability of program delivery and financing models
* Don’t underestimate digital engagement
* Energy service companies should play a role in the future of EE programs
* Data access is fundamental to a cost-effective delivers of DSM
* Clearly defined roles are critical.
* Broad reach
* Cost effective programs
* Social considerations
* Clearly define what success will look like in 5 years and work backwards. KPI’s for GHGs, KWh’s, Awareness brand, jobs, energy literacy.

***Short Term Programs***

**Program Ideas:**

* Direct Install in the home (e.g. faucets, thermostats)
	+ The benefits are that the program can be very controllable in terms of $’s and products.
	+ However, the administration costs can be high.
	+ It could be utility run.
* Midstream
	+ Influence purchasing of products by:
		- Advertising
		- Incenting
		- Coupons
		- Direct engagement
	+ Could be at the retailer/distributer level or at the consumer level.
* Commercial Lighting
* Building tune-ups
* Building assessments
* New Home Construction Incentives (that go beyond code)
* Building Envelope (insulation, retrofit, furnace, etc)
* Commercial (boilers, spray nozzles for hot water, etc)
* Kits for Low Income
* Furnaces
* Water Heaters
* Programmable Thermostats
* Assessments for Farmers
* Rural turbines
* Geothermal from old capped oil wells in rural communities

**Principles / Considerations when selecting Short Term Programs:**

* Consider the biggest gaps and address them
* Consider targeting MUSH sector in the short term
	+ Government could show leadership
	+ Could be managed easier
* Address rural and Indigenous populations
* All Albertans pay in to the carbon levy – remember to consider where the money will end up. It shouldn’t just go to one group.
* Is there a process or criteria for testing new ideas, products?
	+ We could reference other jurisdictions, do pilots, etc.
* Evaluation, Measurement and Validation (EMV) will be key.
* Consider programs that are:
	+ Easily known
	+ Low risk
* Program selection needs to have immediate gains and be measurable
* Consider implications to retail, natural gas, electricity
* Consider implications of the transfer of resources to selected retailers or organizations (e.g. shouldn’t all go to Home Hardware)

**Education/Awareness:**

* For any program, there is a need for deep information for consumers in order to drive behaviour change
* Market awareness in the short term will lead to market transformation in the long term.
* Consumer Feedback Program
* Create demand in the short term through education, literacy, awareness
	+ E.g. use Energy Reports
* Customer empowerment
* Linked to social licence
* Could be unrealistic to get true impacts of education in the short term

**General Advice:**

* In parallel with implementing short term programs, do the work with identifying conservation potential studies, market research, etc. to consider programs for long term.
* Tap into existing work, build on it.
* Use existing points of contact. Use existing “moments”.
* Make it simple.
* Utilities could partner with financial institutions.
* Make it Alberta specific
* Need the wins to be more than GHG reduction. They need to be tangible for people, and have a “feel” to it so people will talk about it.
* Consider Branding in the first year.
* Don’t rush to spend the $. Spend it wisely. Don’t use amount of $ spent as a criteria for success.
* Identify champions in the rural communities; consider a “rural entity”.
* In the first year, the CEO should be out in the public and forming relationships.
* Link the program back to the people, they will buy-in
* Consider job training for the new economy – get people prepared
* There could be a dual process: short term safe programs; long term do the research for longer term
* Consider drive from tax credit side (versus incentive or direct payment)
* Personalize for the commercial sector. Have a champion for the commercial sector
* Set aside $ for long term projects
* Have a Premier’s Recognition Award
* Have a manager on-site for medium size industry

**Strengths:**

* Confirmed multi-year budget (stability)
* Blank slate, new start, significant influence over inputs
	+ Ability to re-tool and re-calibrate over time.
* Stakeholders (knowledge, experience) to leverage.
* Able to capitalize on other jurisdictions experience
* Massive opportunity
* Leadership that can support execution (expanding industry\_
* Economic conditions (Available labour, costs, skills)
* Political will to act
* National momentum on file
* Safe place to start from

**Strengths of short-term programs:**

* Ability to do pilot projects to demonstrate capacity (deep retrofit pilot, etc.)
* A brand-reaching program can engage early
* Ability to do multiple short-term programs
* Opportunities and targets and abundant
* Methodologies and experience help legitimize early efforts

**Jobs:**

* Need to be aware of dynamic between gross and net jobs
* Strong linkages between new programs and new jobs which is a strength
* Investment in EE can result in new additional funds being reinvested back into economy
* Industry capacity versus bricks and mortar capacity is something to be aware of
* Reduced energy bills can help put money back into economy
* Existing and past programs position new programs for success as there is some familiarity and experience to draw from.
* Ability to have diverse activities on ee topic at the same time.
* Interested and engaged retailers are a strength that will help success
* EE is already views as a “win” “win
* There is inevitability to action, it needs to happen eventually.
* Existing capacity in electricity market will be helpful.
* Province-wide programs all at once help with broader buy-in from the public.

***Program Prioritization Exercise***

* Participants heard that the Panel was hoping to get participants to provide direct feedback on specific early programs that should be delivered by the new Agency.
* They were provided with the context that the challenge with programs is that they would not all be geared towards achieving the maximum GHG reduction per dollar invested nor would they all be geared towards programs that would satisfy every stakeholder value, regardless of value for dollars invested. A balance will need to be achieved that will ensure successful program uptake and participation/engagement from the public.
* The following diagram was provided:



-To complete the prioritization exercise, participants were then asked to participate in a dotmocracy, where each person was provided with 5 dots representing the money invested in the first two years of programs.

- A discussion followed that examined the participants thinking in their prioritization of programs as well as cautioning the panel as to interpretation of the results without data and relevant information on specific programs.

- It was also expressed that there are significant linkages between the programs identified.

