

# Energy Efficiency Advisory Panel Technical Stakeholder Workshop – Municipalities – September 14 and 15, 2016

## RAW NOTES

Wednesday September 14, 2016

### Presentations

Edmonton and Ponoka: Energy literacy, knowledge of power use, short term and long term goals, market innovation curve, education and outreach, Edmonton revamping application process for micro gen, can't just give rebates out (education and awareness too), automated metering, get all information on one bill, important to work with municipalities, is there a provincial roadmap?, can province and municipalities work together, synergies?

Medicine Hat: E utility from medicine Hat, hourly use and rates shown on bill, Hat Smart rebate program since 2008, scratch and win gets credited on to utility bill (make it easier for customers and admin), energy audit tool kit, windows and doors closing program soon b/c admin challenging (lots of paper work but only \$40 per window), how many emissions reducing, what is pay back, consumption pre and post measurement, fridge round up program, redoing roadmap, update targets

Calgary: data is very needed but very difficult/expensive to get, corporate leadership – to provide direction must be a leader yourself, must be able to measure performance, financial impact and return on investment must be shown, GHG reductions, cost avoidance. Corporate: operations, change people's behaviour, green driver training, power contracts, how investing in new infrastructure, corporate programs. Community: transportation (how invest in energy efficiency in each project), land use and buildings (how do we give permits out, retraining of staff, help developers i.e. education), utilities and generation. Make realistic goals. Best practice pilots and innovation, education.

Black Diamond: only have three buildings, utility management – smallest impact on all they do, refrigeration, low flow toilets, look at use and help modify, energy management, reduced water consumption; alternative energy – solar on arena, office and outdoor rink, wind turbines, energy management: so items are not running all day long, i.e. refrigeration system (drops run time down), energy management system (automation system) that controls everything (i.e. circulation machines), load shaving; green fund- any green project goes into a reserve for other green projects, self-generation how accomplishing expansions.

Leduc: Environmental Plan 2012 includes waste, water, energy, energy efficiency, etc., solar through [utility company] (lease), have one on office building as well, CCEMC grant \$1.25 m grant. Energy efficiency - GHG inventory and action plan (2017), past rebates with C3 which was very helpful because of limited Leduc resources.

### **What are some themes and commonalities you see across the province in what has worked, what hasn't, and what's been learned with regards to energy efficiency initiatives in municipalities? List:**

- Caution, need to be mindful of potential impact of implementing incentives on related industry. For example, when city of Edmonton launched past residential solar incentive program, applicant intake immediately reached capacity, as a result installers ramped up delivery capacity and new companies were formed, but then pilot ended, uptake dropped, and industry and companies were now without client-base.
- Similar concern now with energy auditors ramping up to take advantage of proposed program.
- Sustainable funding is critical to long term success of program.

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- In another example, where incentives were being offered for installation of high efficiency furnaces, installers were reported to have raised their prices accordingly to maximize profits, with no savings to the customer.
- Establishing benchmarks is critical to evaluating success of any new program. Program must be measurable. Access to data is key. No point in developing program without baseline to measure success.
- Anticipate that enquiring minds will soon be asking to see measurable results from carbon pricing program.
- Huge part of any strategy is marketing to secure public support and involvement. Look at common excuses/barriers to adoption and reverse engineer program to address. Focus on identified barriers, and also demographics.
- 2 factors influencing adoption of energy efficiency: access to capital (not an issue in today's financial system with lowest loan interest rates); and allocation of capital (convincing homeowners of investing in energy efficiency). Marketing and education and key to the latter. Need to develop marketing/messaging to drive allocation of capital. Energy efficiency could be but a small portion of one's household expenses.
- Municipalities across province are doing much, but no consistency in deliverable.
- Buying community's social licence not always economical.
- Currently, no increase in (assessed) property value by adding residential solar. Not sure if would want this to influence property value as would then increase property tax. Should not be a distinctive to energy efficiency .
- Currently, many municipalities pursuing alternative energy options that they can point at, and because money is available, but forego planning for energy efficiencies. E.g. some municipalities putting solar systems on new buildings but not addressing problems with existing or older infrastructure.
- No incentive to develop environmental plans, as no provincial policy statement requiring to do so – not mandated. Nothing in MGA requiring to do so (could potentially be added to section on MDPs). Province is not driving adoption. In fact, FCM provides more of an example and ties movement to other policies. Carbon levy will be the driver to do so.
- Communities chose to be leader in energy efficiencies because of values of community, or other realities (e.g., water shortage in [xxxx]). This then became part of local culture.
- Capacity is an issue for smaller municipalities who can only dream of developing such. Perhaps regional approach for energy efficiency is an approach (like ACP grants). Could then tie in things like transit, etc. Municipalities are all very different (size, isolation, finances, interest, geography), one-size does not fit all, and any program needs to reflect this.
- Program needs to find balance and partnerships.
- Increased bill due to carbon pricing may not be enough of economic incentive. Fluctuations in rates and fixed costs can drown-out increase due to carbon pricing. Will carbon pricing be enough to promote capital expenses or simply low-cost/no-cost changes in behaviour? If the latter, what will money raised be used for?
- What if carbon levy raises more or less funding than estimated? Any good program should be revenue-neutral. Is this truly about supporting uptake and funding alternative source programs or simply a money grab into provincial coffers? What is real reason behind pursuing this?
- Reality is that energy efficiency needs to be driven by economics. Not enough to simply be the right thing to do.
- Education is key to driving behavioural change. Need to engage younger generation as adults don't always buy into benefits of energy efficiency.

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- Any incentive needs to be enough of a driver to push adoption.
- Need to define success and targets. Difficult to do so at municipal level. Can only imagine challenge of attempting to do so at provincial level.
- Consider designing a more holistic, open, flexible outcomes-based program with set targets for energy efficiency would be better than defining specifics. E.g., offer rebates/incentives if hit energy efficiency targets (10% reduction, 25% reduction ...), but leave mechanisms of achieving such up to the consumer to decide what works best for them.
- Solar on buildings and going to look at campgrounds for own use
- An example of a fail is waste generation projects, economies of scale was not there. Working with Alberta Agriculture and Forestry
- Feasibility stage for geothermal generation (geothermal approached them)
- Have looked at solar as well, but need a base load and solar only works when sun is shining
- When looking at micro generation feedstock was a challenge, contracts took over two years, also ended up possibly being a macro generator
- Education- it is in the classroom and kids bring it home. They are getting the adults to change behaviours.
- Having an engineer/ consultant helps bring down energy use (managing energy systems, GHG's etc.)
- Data is what will help make the biggest changes
  - Education and showing data
- Community projects incent citizens to make changes then individual residential projects (citizens see, learn and get interested in their own projects)
- More detailed bills needed to show energy use and costs, will incent behavioural change
- Design programs that incent market transformation (what are we moving to, what is our goal?)
- Be aware if incentives becoming punitive (what is the penetration rate)
- Change how you do business going forward i.e. land use by laws, building codes (smart wiring), where should we start moving to. Example: could have the agency provide data and information to municipal affairs to change building codes.
- Failure – door to door compact fluorescent light bulbs given to each home. No way to track use change and disposal of CF was an issue. No guarantee was installed and used, how long used for, etc. One time, no follow up.
- Who demonstrated leadership before programs were launched for citizens? Any existing policies? Would a straw dog from the province help municipalities?
  - Most won't take any extra steps unless mandated/ required. Don't want to spend more than absolutely needed
  - Should incent energy efficiency retrofits especially if it is going to cost money (even with payback)
  - Could use help with business cases (showing diff payback periods depending on the retrofits undertaken) and ensure provincial support in the long term (along with a long term plan)
  - Municipalities usually value present over the future
  - Province could provide a standard design/ model which will include payback over x number of years
  - Issue is focus is on capital and not operations, this needs to be addressed, need standardized tools to help with this.
- What is an appropriate benchmark? Don't know and this is an issue. Capacity is an issue.

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- Municipalities are trying to have better social licence – trying to build buildings right (no policy but trying to do the right thing)
- Community energy systems: issue the definition does not include municipalities as it is written now.
  - Want to demonstrate to community members, education tool
  - Definition is not inclusive of all possibilities that could occur for municipalities
  - Enable generation offsite and have net billing, this would open up more opportunities for municipalities partnering with others

#### Room summary

- Change land use bylaws
- 2006-2007 Solar program (shortened application process)
- Growing Forward Ag Solar program, municipalities looking to leverage the program by offering own program to stack
- Should follow Medicine Hat, produce own energy, have own energy efficiency program (important must build trust with citizens to develop such a program)
- Difference between payback and investment. Need long term sustainable funding/ programming for municipalities
- Partnerships – saves money, share costs
- Understanding what shareholders need to help with their return on investments
- Challenges:
  - Don't invest in small wind turbines
  - Lack of progress (spending \$ on feasibility studies verses not starting and or completing projects)
  - Don't need to do any more pilots, just get the projects done i.e. renewables; however; citizens may need an example to participate in so they are comfortable with the project, have a short pilot perhaps
  - Small community challenges, have to answer for each dollar spent (tax bills). Make changes in the homes first (see first-hand savings) then community facilities. Educate politicians first but they change every year.
  - Where is the detail from the province, how is it going to happen, what will the responsibilities be expected of the municipalities (i.e. 30% renewables by 2030, but what are the details)
  - Want to be treated like partners with the province
- Upcoming cost of carbon levy (what if have just signed up diesel city busses and levy coming into effect in 2017, need to consider this)

#### Administration and Council:

- Without the backing of administration and council, you don't get a project
- How do you convince the population that they should still pay their property taxes when they see the costs have decreased?
  - Lead by example
  - May be easier in smaller communities
- City council looks at ways to cut \$
- Public doesn't have good views of administration.

#### Administration – Paperwork:

- Solar program: Designed to shrink the application process (50 pg to 2 pg)

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### Opportunity

- Show how much GHG reduction on a big screen

### Partners can sometimes be barriers

- [utility company] trying to tie to the grid – customer service responsiveness is slow; Fortis is easier
- City has to go through [utility company] because it's their utility. There's an option for solar, but elsewhere there are different options.
- 1 supplier vs. fly-by-night solar
- Enmax customer service – uninformed, didn't understand the concepts of what's happening in the facility

### Technology

- LED lights – highly effective.
- Technology advancements – fluorescents before LEDs. What will come after LED?
- Hot water tanks
  - Have high efficiency water tank.
  - On-demand heats floor
- Thermostats – amazing savings

### Data

- Need data from utility. Can you compel or incent utilities to provide data.
- Direct Energy doesn't show the granularity of data
- Can't make an argument to council without data. Can't get council to make a decision without savings data
  - Information is out there but don't know where to look– data from solar systems + 50 other systems (panels, inverters, mounting, etc.) from online. (egauge website)
- Councils need others to come in and help with data

### Champion

- Need a champion / leader to get it going.

### Incentives - grants

- Grants are necessary to start off. Need MSI as an example.
- Collaborative grants work well.
  - Alberta Community Partnership grant - Collaboration funding. Run through MA.
    - Want to continue it
    - Want municipalities collaborating.
    - Economies of scale with partnering – makes things more attractive.
- Without incentives, there will be some rural munis will be reluctant to make that jump
- How much of an incentive? 25% - 50%

### Education

- Less concerned about muni; more concerned about the individual
  - E.g. help farmers to be efficient
- Education is a big part. Without education, most will ignore it

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- Training
- Bills are hard to understand

#### Commonalities

- Rebate programs
- On farm installation incentive program
- Solar on admin buildings
- Barriers – political will and budget
  - Smaller communities will not initiate unless legislated
  - Some communities have a funding requirement (programs must find 50% of the funds before it goes to council)
  - Municipality must lead the way
  - Small southern communities will have some debate on climate science
  - Changing organizational behavior is fundamental in changing political will and will lead the way to further policy change
  - We are further restricted by 4 year political cycles
  - “Unknowns” are not clearly identified and there are no best practices or roadmap to look to
  - Long applications
- Most communities can buy into cost savings
- Lack of staffing
- Currently, the carbon levy is a looming disincentive
- Lack of information provided to municipalities prevents them from creating policy such as energy efficiency
- Business case for energy efficiency has to be clearly demonstrated – how is the provincial government going to implement its goal of 30% by 2030.
- Social development clientele – how is this developed within municipalities.
- One of the most pressing needs applies to learning and knowledge of these systems
  - Rediversify educational curriculum
  - Energy literacy is critical
  - Using common language – how do we align the language across municipalities
  - Among rural communities, administrators are under the impression that the concept of climate change is politicized
  - Diversify skillsets of current tradespeople through programming
    - Consider how we are able to support those who supported the economy previously
- Provinces role - Filling the gap – how do we develop these strategies? How do we effectively implement these strategies
- Small-scale renewables depend on the region – there are no silver bullets when it comes to renewables

#### What has worked? What hasn't worked?

- Rebates – somewhat, need to go further
- Significant reduction in payback for solar farm installation incentive program
- Small-scale renewables – Solar PV – is easy to do. Contractor can help make the implementation seamless. Enabling contractors to educate when you “read and sign”
  - We have the talent in Alberta

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- Capacity in contractor helps a cash-strapped municipality
- Grants take a significant amount of coordination
- Municipalities almost need a sourced grant-writer to share among municipalities
- Looking sideways to other municipalities
- Sharing of best practices among economic development groups (REDA) coordinated by the provincial government

#### Learnings

- Short term rebate programs, no long term commitment to energy efficiency in the province. Have not been able to effectively make change with municipalities alone
- Endings of federal grants (growing forward) provided a gap for municipalities. When that program reemerged, the need for municipal grants went away
- It takes significant time to implement these initiatives
- EE has sort of been in hiatus for the last 4-5 years since the closing of C3.
- Municipalities are in charge of a lot of issues – energy is just one component
- In combination with regional work and participation, inter-collaboration frameworks and the MGA work could coincide with any legislation or regulation, it could bring energy efficiency to the front of mind
- Celebrate results and share requirements, best practices must be communicated by the province – they must fill the gap.
- Linkages to transportation
  - Most frameworks are in their nth iteration. We need to see what elements of the plan have been implemented among municipalities
    - Political cycles typically disrupt these plans
    - When municipalities conduct a cross-jurisdictional scan, it is hard to get very detailed when you are looking at comparisons
- Revenue from linear taxes is decreasing

#### Improving energy efficiency in municipalities (what could they do to be more energy efficient?)

- Staff energy challenges. Working from home opportunities, decrease GHG footprint
- Educate citizens so that there is a push from bottom up to municipality councils
- Look at size of work spaces, footprint of where people work. Standardize work space. They do not need to be so big.
- Understand what your energy use is i.e. energy audit. With understanding can take action to make changes to minimize energy use. Also use savings to make more energy efficient changes.
- Energy efficiency is usually never prioritized. Difficult to get support and capital towards taking actions.
- The cost of energy is low and will not increase any time soon. This is a challenge as well- difficult to foster support for energy efficiency actions with in municipalities.
- Social and financial objections are issues along with financial objections. Need help make cases to council and to citizens. Might need basic Climate Change and Energy Efficiency 101 to help make educated decisions.
- Fuel switching of municipal fleet including creating required infrastructure to support the new fleet.
- Eventually go to electric vehicles.

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- EE should be considered in landscape planning (land use planning). Also understanding what will have the greatest impact. Issue /worry is if too many caveats for planning then developers will go somewhere else.
- Have end users of energy help make decisions.
- Computer use policy, i.e. turn computers off at night. Efficiencies can be seen.
- For Community Energy Systems (CES):
  - Province can have a large roll in this
  - Difficult to get data from utilities, province could help with this. Barrier to enable CES.
- Adopt micro gen so community can see, learn, and begin to be familiar and comfortable with it.
- Help get municipalities to learn, be leaders and be prepared for CES to help citizens that are interested in it. Have showcases i.e. on community library
- Understand how it helps the municipalities' energy portfolio. Will help have a corporate approach verses one offs. Enable readiness!
- Simplify microgen application process
- Provide grants to citizens through service provider, province or agency (many smaller municipalities do not have the capacity)
- Establish a baseline of what you have right now (data) i.e. facilities, energy consumption, street lights etc.
- Communication with wire/power providers re: co-gen regulations [xxx, xxx]
- Province is carved out in to zones. Could go to the utility or go on your own or go to a co-op.
- Need to have additional financial incentives for energy efficiency made available
- Need people educated in energy efficiency to negate the “we’ve always done it that way” thinking
- Regional systems being available would be helpful (e.g. wastewater systems)
- Build more efficient buildings
- Create incentive programs
- Building retrofits for existing buildings
- LED Lighting for municipal buildings
- Includes street lighting
- Working with utilities is difficult – corporate policies for utilities are rigid and cumbersome for municipalities. Most utilities do not own their utilities
- Landfill alternatives
- Small-scale renewables, cogen, plasma, biomass
- Organic diversion and composting
- Improving water management
- Reuse (purple pipes)
- Learning from others
- Sharing of best practices, quick wins
- Managing the behavior of civic employees
- Enforcing policies
- Creating employee buy-in
- Demonstrating strong leadership
- Learning about cost models and the business model behind energy efficiency
- Access to data
- Smart metering
- Broader sustainability efforts (recycling, reuse of water)



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- Smart suppliers with a minimized environmental impact
- Assess and prioritize
- Make energy efficiency a priority
- Transportation
- Incentives for alternative transportation
- Rooftop gardens
- Current process of growing, transporting food is expensive and carbon intensive
- Stormwater management
- Alternative fuels
- Ethanol
- Small organizational changes to set an example in the community
- Supporting a trickledown effect changing mindsets
- Overcoming additional costs for materials/equipment
- Inventorying energy use/understanding what is consuming energy
- Encourage youth education
- Engaging with urban design to use best practices like LED and lightbulbs
- Treating and advising rural and urban differently
- Develop and implement community sustainability plans
- Municipalities bring in new programs, offer programs
- Delivering programs. Big vs. small communities, not accredited, need more hands on support
- Enhanced collaboration between municipal and provincial government
- Energy audits and energy literacy programs
- Utilizing multiple tax incentives and other tools, a layered organization approach to implementing new energy efficiency efforts
- Oversight in houses through inspection
- Municipal based methodology for new programs
- Positive reinforcement
- Competitive based programs
- Definitions required, target specific areas

#### How could they do this?

- Up front capital grants (not after project is completed)
- Data release from utilities (distributor) and should not have to pay for the data. Create regulation to help enable this.
- Municipalities need advanced notice to prepare for provincial programs for municipalities. Prepare citizens, council and tie into municipal budget cycles. Long term, sustainable grants and ties into budget cycle. This causes delays in municipal uptake of the program.
- Regional scale projects to be a part of and to learn from. i.e. policy directions, projects, etc.
- How to get council buy in? This is a common issue.
- There used to be a program with MCCAC for energy audits. It was helpful and useful.
- Would need government assistance to help re-negotiate with large service providers.
- How do these co-ops determine their costing algorithm of what pricing will be? Get education on that.
- Incentive program needed of some kind.
- Competitive funding internally
- New incentives

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- “My Energy I.Q.” tool (from Calgary)
- Additional grant application has to include an energy efficiency approach
- An incentive is more critical in a small municipality solely because implementing rate increases here are “the kiss of death” as opposed to large urbans
- We need to “wrap” our incentives differently so people realize how they’re saving / benefitting from it.
- People require proof of what energy efficiency is doing. Using a similar sized community are implementing power/energy savings.
- Utilizing a trusted agency or body for expert analysis or advice. Or doing an energy audit to determine what things to pursue.
- Incentive programs for developers
  - Increased funding for municipalities and MCCAC
  - Increased collaboration among municipalities – regional collaboration
  - Inter-ministerial budget
- Specialized training for developers on energy efficiency
- Increase building codes
  - Regulation could be the major policy change
  - Developers pass on costs
- Incentives for developers and residents
- Composting programs – backyard programs
- Recycling options that increase revenue
- Pyrolysis, and other technologies that can be profitable for municipalities
  - Biomass
  - Biochar
  - Gasification
  - Needs economies of scale to complete – small municipalities need larger tonnage and more garbage to be efficient
  - Trucking is the solution
  - Agriculture plastics recycling program has been lobbied for
  - No market for certain items
  - Increased collaboration on waste management efforts, taking cost into consideration for small municipalities
  - Alberta Innovates has provided capacity (for \$\$)
  - Provincial grant money has supported private facilities, and has not provided
  - Coordination among the provincial government grant-giving
- Appliance removal incentive program
  - Freon and insulation
  - Metal piles actually do provide funds – this is a recyclable that is providing
- Province can set policy for organic reuse and stage 1 & 2 recycling
- No environmental provisions in the updated Municipal Governance Act
- Even just say that you need to have an environmental strategy. Right now it can just be ignored.
- Smart metering
- Learning centre for all municipalities to enable sharing of opportunities
  - Shared point of contact
- Regional collaboration
- Education and training
  - Municipalities identify need

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- Province provides resources to municipalities
- Encourage buy-in
- Tax deduction if it runs efficiently
  - Municipal intern program to get educated people into rural areas
    - Most rural municipalities do not have a sustainability officer
    - Planning, finance and admin streams already exist. Provide an environmental stream
    - Municipal Affairs slashed budget
    - Helps brain drain from rural to urban
- Create required curriculum in elementary schools up to high school
- Province is currently hesitant to explore water re-use policies and regulations
- Extended producer responsibility implemented by the province
- Ownership needs to be taken away from the citizens and placed on the producer

1. Retrofitting and utilizing new technologies for water treatment.
2. Undertaking renewable energy projects with cost reduction and certainty as drivers.
3. Employee behavioural changes.
4. Building audits and assessments (individual buildings and building stock/systems)
5. Vehicles fleet energy optimization
6. Supply chain management – environmentally responsible vendors
7. Promote electric vehicles – municipally owned charging stations for municipal and private vehicles
8. Determine areas of highest consumption first by better data collection – energy monitoring
9. Use more efficient technology to replace existing street/traffic lights.
10. People
  - Driver behaviour
  - Marketing (competitions)
  - Building operations
- Technologies
  - LEDs
  - Procurement
  - Transit energy generation
  - Fuel switching
- Facilities
  - Windows, Roof design
  - Building envelope
  - Office reconfiguration
11. Onsite/local energy generation
12. Development of municipal/regional/provincial energy plans (embedded in MGA)

#### Point 1

- Discussed the definition of municipality
- Everything
- New technologies, employee behaviour, such as shutting off lights
- Behaviour – internal marketing to influence employee behaviour, e.g. signage
- Set up the technology to help, e.g. to shut off the lights
- Direction from management, e.g. You firefighters shut off those lights..
- Instill a new energy efficiency culture

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Point 2 Building audits and assessments

Building efficiency

- Most energy consumption is related to heating. Need to consider condition of the building. Is it windows, can the building be fixed? Tear down?
- Do an assessment of all of the buildings. On which buildings should the money be spent?

Point 3. Vehicles

- Fuel choices, route selection, employee commuting
- Set up charging stations

Point 4

What about renewables?

- Need champion and Strong Council supporting energy efficiency
- City of Leduc recreation centre... Gave some early history.
- Look for a 15 year pay-back
- Costs are usually the driver. Cost of electricity rising. Also need certainty so you can plan.

Point 6 Retrofitting and utilizing new technologies for water treatment.

**Improving energy efficiency amongst citizens:**

<b>What could they do to be more energy efficient?</b>	<b>How could they do this? What can municipalities do as well?</b>
Home owners have to require home builders to be more energy efficient	Incent residence to go with more energy efficiency home builders i.e. incentives for built green homes that are a certain EnerGuide rating. This should include educating the citizens to make these decisions. Municipality pay for a portion of the residential energy audits but funds when post audit completed. Energy labelling. Regulatory code is a provincial responsibility. What will province do to help municipalities? New energy code in November. Incent homebuilders or play with permits to encourage home builders (municipal)
Alternate transportation resources - get residence to bicycle more or use public transit	Educating the citizens on the benefits (al benefits). Build cycling infrastructure.
Homeowners aware of energy uses	Through E billing. Comparisons help to dwellings that are similar.
Focus on education of low income residence. Usually less energy efficient homes and highest energy bills. Low rise and high rise management and building owners of low income renters need to be helped/ educated.	Have social service agencies help/ educate low income citizens. Need education/ incentives to aid in retrofits. Could finance through property taxes.
Citizens adopt more Microgen.	Citizens advocating to the provincial government for more changes
Install smart meters to understand and make changes to energy usage.	Encourage distributors to install smart meters and receive detailed energy billing.

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	Can put a passive meter on the existing meter to understand energy usage.
When children come home from school with ideas and get parents to implement them	Provide citizens with energy efficiency knowledge
Having a monthly email / newsletter out to homes in our community regarding energy efficiency	Citizens need to see the actual tangible savings results. E.g. Live video feed of gas or power meter running
Series of brochures left on counters at libraries, offices etc. regarding energy efficiency	Make window retro-fitting benefits information much more widely available to citizens
Having a booth at farmers' markets to promote energy efficiency	Water operators association of Alberta made a video of waste a few years ago. This could be made available.
Community videos 30-90 seconds on energy efficiency	Leadership. Municipalities should lead first by example. When citizens see their municipality doing it/selling it, they may get on board (cost may be prohibitive)
Kids use iPhones (in 4H) to make short videos on energy efficiency	We could be more like B.C. and see electric companies fund EE
Town council sponsored video equipment for schools so kids could make videos do interviews on energy efficiency	Municipalities could do/fund highly visible pilot projects on citizens houses to educate the public
Energy efficiency challenges in schools	Municipality could research all funds available for EE projects to see if there are untapped funding sources out there
Energy efficiency apps on phones	Securing buy-in from local businesses i.e. electricians, ATCO, etc. to get them involved so they'll see the spin-off benefits
Drive less Buy EE appliances Use LED lighting Then look at power bill to see benefit	Optional visitor's feed to contribute to local EE initiatives i.e. print it on bottom of a receipt that they could contribute if they wished
Citizens need to become educated on the energy efficiency options that are available to them now	Possible universal levy at municipal level to citizens for energy efficiency improvements (i.e. like bottle deposit)
Having a scale for implementing LED lightbulb changes in your house, as opposed to doing it all at once	Black Diamond Green Policy \$ from the project goes into reserves (i.e. green project, water, electricity, something that effects carbon footprint)
Implementing a program in which a person could donate \$ in memory of a loved one...but for a solar panel in the health centre or school. Led by a non-profit society to secure buy-in.	
"Adopt a neighbour" program for energy efficiency	
Solar energy information tour ;Education on solar systems; Viewing solar systems	
Educating citizens about what they are putting down the drains. This is an EE concern too ... to the	

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energy consumed by ...	
<p>Increase energy efficiency in homes</p> <ul style="list-style-type: none"> <li>• Transmission fees</li> <li>• Deregulated market discourages citizens from reducing energy bills due to fixed charges</li> </ul> <p>Distribution and admin charges are based on capacity</p>	
Building envelope for homes and businesses	<ul style="list-style-type: none"> <li>• Use land-use bylaw</li> <li>• Energy efficiency incentives – encourage appliance upgrades</li> <li>• Provide home energy audits</li> <li>• Over usage could be charged heavily – tiered billing</li> </ul>
Enable community based organizations to participate in distributed energy	<ul style="list-style-type: none"> <li>• Preferred solar energy program for REAs</li> <li>• Will connect with contractors and provide financing</li> </ul> <p>Set up community energy generation</p>
Education – climate change science	<ul style="list-style-type: none"> <li>• School programs</li> <li>• Work with school boards</li> <li>• Scholarship programs for environmental sciences</li> <li>• Scholarships through agriculture society</li> <li>• Conservation of natural zones – carbon credits for               <ul style="list-style-type: none"> <li>○ ALUS program</li> <li>○ Riparian setbacks</li> </ul> </li> <li>• Alberta environmental stewardship program</li> </ul> <p>Municipalities could engage groups (4H groups) and provide lightbulbs</p>
Assisting low-income individuals	<p>Allowing these people to participate in programming</p>
Acknowledge the difference between urban and rural	<ul style="list-style-type: none"> <li>• Agriculture is not exempt from the carbon levy – onsite combustion of fossil fuels is done by farmers</li> <li>• Greenhouses and local farmers are pressured by carbon</li> <li>• Hutterite colonies are a positive case study for fuel switching</li> <li>• On farm solar program are great, but greenhouses are sort of forgotten in this mix</li> <li>• BC provided a rebate for rural communities that were able to transition off natural gas and diesel</li> <li>• Rebates and/or offsets for fuel switching</li> </ul>
Make it easy for people to do the right thing	<p>Cost-avoidance          People need to take the cheap/easy option, and</p>

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	<p>may alter behavior after cost avoidance</p> <p>Don't reinvent the wheel</p> <p>Use ideas that are already out there</p>
Supporting small scale renewables	
Support and endorse champions in the community	
Government should support green loans/certificates	
Ensure local participation	
Support community grants	
Focus on key priorities rather than everything	

#### Improving energy efficiency in for-profit and non-profit organizations:

What could they do to be more energy efficient?	How could they do this?
Build better, retrofit and sustainable transportation	Municipality have a voluntary program for retrofits and get bragging rights after and a certificate
Energy audits	Understand footprint and the effect of the upcoming carbon levy
Tie operational / capital funding to energy efficiency actions	Municipalities tie ee into providing funding to organizations, i.e. city of Edmonton anything funded above 50% has this stipulation. Everyone saves in the end. Savings can be passed on to the organizations
Maximize facility use by sharing with other organizations. Sharing the space.	
Reducing overall consumption (materials, water, energy, etc.)	Policy, incentives (helping with upfront costs)
Ask municipality for advice on how to be more energy efficient, i.e. municipality can provide an audit or incentives or general information (education)	
Industrial parks	Cluster together, land permits, energy mapping in industrial heartland. Edmonton eco industrial land use zone bylaw (energy efficiency, waste sharing, etc.) Savings for all involved. Energy mapping can be included.
Developers - better planning of developments	Municipalities can collaborate with developers to reach what they envision. Stipulate that developers incorporate high density living buildings before can develop a Starbucks and Original Joes.
	Municipalities advocate for provincial support to help attain/support energy efficiency decisions
Look for synergies with other organizations for resource sharing.	
Efficient transportation	Buy more efficient vehicles and have drivers training

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Embedding green practices/ energy efficiency management in business model and operations	
Organizations helping organizations (third party) i.e. companies aggregating GHG credits (aggregators)	
They are just trying to stay afloat due to economy. It's just about usage for non-profits.	Can be facilitators, can assist in bringing in the people/companies non-profits require
How do we determine if a non-profit is energy efficient or not? i.e. benchmarking	Collaborating with neighbouring municipalities to obtain purchasing power to lower costs for non-profits.
Connectivity for i.e. seniors for transportation issues for ie health appointments	Sharing of facilities and parking with religious organizations in a municipality e.g. Fort McMurray
They may require the energy audit tool to see where they stand in regards to energy efficient first and foremost	
Partnerships are a way to improve what you get when you're a non-profit	
There's a clear benefit for-profits to look into energy efficiency initiatives – so why don't they?. Income tax deductibility	
The energy efficiency discussion for businesses is still 10 years down the road. They're worried about business, not energy efficiency.	
Ag societies run most of the facilities <ul style="list-style-type: none"> <li>Indoor swimming pools are very energy intensive</li> </ul> Arenas are as well	<ul style="list-style-type: none"> <li>TAME program offered by MCCAC <ul style="list-style-type: none"> <li>Capacity issues for municipalities to assist</li> </ul> </li> <li>Energy audits are expensive, and many times these initiatives are shot down</li> <li>Facilities have the potential to be successful</li> <li>Make energy audits easy and cheaper</li> <li>Provincially-provided energy audits would enable non-profits and municipalities to further pursue energy efficiency improvements</li> </ul>
Utilize C-FIT	<ul style="list-style-type: none"> <li>C-FIT could emphasize energy efficiency aspects of the program</li> </ul>
Post-secondary institutions	<ul style="list-style-type: none"> <li>Technical aspects could be delivered by institutions</li> <li>Enable safety training programs</li> </ul> Corporate satellite programs for campuses
Mandate energy efficiency	Create policies demanding organizations demonstrate energy efficiency/incorporation of renewables for oil and gas facilities
Partnerships	<ul style="list-style-type: none"> <li>Facilitate partnerships between community groups <ul style="list-style-type: none"> <li>Much like many stewardship groups do for regions</li> </ul> </li> </ul> These committees could drive momentum



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	<ul style="list-style-type: none"> <li>• Community aggregate payment levies</li> <li>• 1% of funds get deposited into a energy efficiency fund</li> </ul>
Recognition	<ul style="list-style-type: none"> <li>• Municipal excellence program (ran by municipal affairs) <ul style="list-style-type: none"> <li>○ Environmental stream</li> <li>○ People will compete for recognition</li> </ul> </li> <li>• FCM awards</li> <li>• Municipal awards <ul style="list-style-type: none"> <li>○ Somewhat addressed through ag-boards</li> </ul> </li> <li>• Emerald awards have this capacity</li> </ul>
Education	<ul style="list-style-type: none"> <li>• Serve as the conduit between the public and other levels of government</li> </ul> <p>Disclose how property assessment is/is not tied to any existing renewable technology on your property</p>
Renewable technologies	<ul style="list-style-type: none"> <li>• Ensure permitting could allow for renewable technologies</li> </ul> <p>Ensure property taxes do not go up when solar panels do – create exception for solar panels</p>
Non-single-occupancy vehicle usage/transportation (not energy intensive)	<ul style="list-style-type: none"> <li>• Charging stations and infrastructure</li> </ul> <p>Regional and provincial strategies around fuel choices and infrastructure</p>
In-house energy conservation behaviour/technology	<ul style="list-style-type: none"> <li>• Support for windows, furnace, hot water tanks, intelligent control systems, lighting, etc.</li> <li>• Having a one-window approach</li> <li>• Capitalize on existing information that already exists</li> <li>• Utilize consistent messaging for citizens</li> <li>• Home energy audits <ul style="list-style-type: none"> <li>○ do it yourself kit?</li> <li>○ Audit companies</li> <li>○ Education as . . . of the audit</li> </ul> </li> </ul> <p>Consider home audit certification</p>
Citizens want to know their role, as well as contractor role	<p>Education contractors to new ways – work with contractor associations.</p>
Citizens need self education (knowledge, protection)	<p>Citizens know how to advocate and what for (to politicians and worksite)</p>
Being able to access creative financial approaches	<ul style="list-style-type: none"> <li>• Consider ways to reduce risk, i.e. creative insurance policies, consider municipal debt limits</li> </ul> <p>Lending for energy efficiency being able to be tied to the property , not the individual (PACE and other options could be developed)</p>
Embed experts in organizations for a set amount of time, e.g. energy efficiency agency	<p>Municipalities have a role to play in education, especially around how to access Agency programs and other available information.</p>

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Ability to host solar panels on roofs (Need to change regulations around microgeneration)	Support orgs in the form of feed-in tariff programs around energy creation.
Need to be able to show orgs “What’s in it for them.”	Municipalities can influence when support is provided (but this influence can’t be too overt) thru asset management
Explore options other than developing their own buildings	Building owners are the key – They influence energy systems more than the tenants.
<ol style="list-style-type: none"> <li>1. &lt;Added during lunch&gt; Schools are a good target group <ul style="list-style-type: none"> <li>• Roof space for panels (PV and thermal)</li> <li>• Playground for boreholde [sp??] – thermal energy storage</li> </ul> </li> </ol> <p>Education opportunity</p>	

#### Point 1. Non-single-occupancy vehicle usage/transportation

- Alternative transportation

#### Point 2 In-house energy conservation

- Both behaviours and technologies
- MCCAC gets lots of citizen enquiries
- Support furnace upgrades, lightings, windows, hot water tanks, lighting, system controls, eg. Smart thermostats
- We’ve done all of this before, but we need to bring it all together
- Need consistent messaging.
- A lot of stats are on company websites, e.g. energy efficient toilets. Info is biased to promote sales. Need third-party source of information
- Only one tax payer
- Municipalities won’t be funding these.
- Capitalize on existing information that has already been created.
- Utilize consistent messaging to citizens
- Programs need to be ready from the get go. Contractors need to know how to install new appliances/etc.
- Private charging stations of electric cars. Municipalities need to support with planning.
- Loans for large cost improvements, e.g. solar panels. In US the loans are attached to the house.
- Need to change the MGA to allow municipalities to work with citizens to finance/loans for energy efficiency. This will remove one barrier, but not the risks. Need new set of insurance tools.
- Canadian municipalities only have one source of money – taxes for operations. Other money comes from province or feds.
- Discussion re second mortgages to finance improvements
- Referred to the program called PACE, SOLAR CITY
- Taxpayers hate any hint of tax increases.
- Anytime municipalities “guarantee” a citizen financial investment, it adds to the city debt limit.
- Need better energy planning by municipalities. These plans need to be similar, use the same language, etc. Municipal Affairs should require an energy plan and an adaptation plan. Part of municipalities’ way of doing business.
- For small municipalities, province may have to offer \$\$ for consultants.

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- Will need measures for energy efficiencies. How is this measured?

#### Point 1

- The Agency could embed an expert within a small municipality to help with
- Municipalities would have to apply for an expert.
- Municipalities can play a role in education. Administering funds is a more complex matter.
- Municipalities can direct people to sources of information, including the energy efficiency agency
- As the province builds new schools, they should be incorporating solar panels, etc.
- School boards could build microgen on school properties and feed back into the grid. (Municipalities cannot tell the school boards to do anything – Provincial jurisdiction)
- City of Calgary test for green energy; energy efficiency, GHG reduction, cost. Hope to work towards, Thou shalt include energy efficiency in every city building project.
- Organizations often have empty offices for significant amounts of time. These offices are still heated. Should share office or find alternatives
- People should rent out their roofs for solar panels.
- Municipalities prepare asset management plans for their tenants. Need to include GHG reduction.

#### **How do you envision municipalities working with the Alberta Energy Efficiency Agency? List:**

- See municipalities as a collaborator and as a delivery agent, i.e. city of Edmonton is already providing front line service, keep it going. Get resources and proper authority to do so.
- Access to subject matter experts, help with feasibility study to help enable action, to make informed decisions and funding in particular for smaller municipalities.
- Have common language
- Agency should be keeper of best practices for municipalities (so everyone is not doing their own research)
- Have a library providing overview of all projects that been completed over the year through all municipalities (send summary out to each municipality)
- Municipalities already have good communication with citizens, agency send messaging through municipalities
- Municipalities are land managers, agency work with municipalities to be more energy efficient
- Municipalities work with agency to deal with single actor problems (i.e. policy changes (such as land use bylaws) to boost/support provincial policy)
- Side note: Discussion regarding that municipalities will be mandated to do something about energy efficiency with the agency (how do we do that?). Important for council not to be able to opt out of working with the agency. Municipalities sign on to a e.g. climate treaty. Can only access funds if sign a treaty. Some administrations will be put off. Agency has to facilitate cooperation.
- Mandate of agency to work with municipalities when events occur such as floods, fires, etc.
- Municipalities will be fielding calls regarding the agency. Prepare municipalities for the agency's launch.
- Municipalities want/ need information and funds from the agency. What will the agencies goals be? Must be communicated to municipalities.
- If province mandates municipalities to do something then agency will help municipalities' complete requirements by the province.
- Funding clarity

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- Education
  - Planning templates
- Lobbying, stepping into places municipalities can't get to (e.g. power distributors)
- Partnerships
  - Better communication with the municipalities
- Go to the community at existing events and discuss
- Get politicians together – mayors, reeves, CAOs
- Getting the info, templates to municipalities
- Providing data/proof of results
- Citizens need to see individual contributions
  - Here's the carbon tax. Here are things you can do to mitigate the plan (e.g. lightbulbs).
- Breakdown of what each change will result in
- People need examples, success stories
- Increase capacity of municipalities
  - Elected officials should be on board of directors
  - AUMA/AAMDC should also sit on the board of directors
  - Ministerial representation on the board as well at senior level (DM/ADM)
  - Agency could assist with staffing
    - Training and education
    - Provides commonly used language across the province
  - Could provide energy audits
  - Could assist with data collection and dissemination
    - Requiring all municipalities to provide energy data collection
  - Take the lead on granting/initiatives
  - Province could undertake a collaborative-type approach
    - Cross-ministry approach
    - Ensure questions are answered
  - Be a driver for municipalities to engage with renewables
    - Ensure that the proper mix is present
- Work with and for municipalities
  - Regional staffing/offices – helps create relationships
  - Different municipalities are brought into committees – ensure that small municipalities and urbans/rurals are at the table when decisions are on the table
  - Do so on a recurring basis to ensure that priorities are still relevant
- Quota systems
  - Cost to be compensated through the province
  - Develop codes of practice
- Create repository of information on installers, suppliers, developers, contractors that are great to work with. One website one list. This would also provide a roster of the success stories that governments can look at, which scale at different levels.
  - Clearly outline roles and responsibilities – who does what
  - Annual (or quarterly) reporting with economic modelling, illustrating road map
- Assist in creating curriculum for the public
  - Stakeholder training materials
  - Further develop role of municipalities and citizens
- Ensure linkages between Environment and Parks, Alberta Climate Change Office and the new Energy Efficiency Agency.

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- Carbon offset credits can help municipalities offset costs from the carbon levy for operations.
- Increased collaboration with utilities in communities
  - Who are the contact people?
  - What are the processes and procedures in place that organizations need to engage with?
- Working directly with the Agency
- Utilizing resources/capacity/experts
- Ensuring resident access and partnership with communities
- Ensuring that there are not onerous systems in place
- Assist in identifying key performance measures
- Direct grants to municipal governments
- Supportive collaborations

#### Other Notes

- If municipalities are told to work with the agency, they will.
- Need support at the mayor/council level
- Competition between municipalities doesn't work well. E.g. Calgary doesn't care what Edmonton is doing.
- However, large cities like Edmonton and Calgary can show leadership

#### Last Comments

- We have this Energy Agency that will stimulate municipal action. Staff within the municipality will be in charge of making this happen.
- Municipalities should run this as a utility. Need to formalize this with a dedicated group.

#### Discussed thoughts from morning session

- Smaller municipalities don't have the technical expertise in-house. Need a starter kit so they know whether they should pursue a program without doing a big feasibility study.
- Capacity is also a challenge for non-profit orgs
- Energy efficiency is a no-brainer. We are all energy consumers and can see advantages to efficiency.
- Carbon tax is coming out in January which is the peak energy use period. Why not defer to May.
- Perception that times are tough and now rolling out this new program
- May be a tougher sell in rural Alberta. Could utilize 4Hclubs, e.g. Project Porchlight to get things moving.
- Example of implementing two sides of a new policy in NWT. Banned plastic shopping bags, but then sent two reusable shopping bags to each household.

#### **What criteria, principles, and/or rationale do you think could be used by the Agency for choosing or prioritizing programming/opportunities/etc. and for allocating funds? List:**

<b>Criteria/Principles/Rationale/etc.</b>	<b>Discussion Notes</b>
Timing of when agency will be launched	Don't want programs to come out that cannot have update because of the current economic state
There has to be a return on investment	It is taxpayers money. Have to understand impacts of programing. Have provincial programs and site specific programs

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Education for all	Clear common language all of us can understand. We are restarting the conversations since 2012. Restart education. Programing needs to be sustainable. Education that ee is the way to go especially in case funding does cease.
Province needs to look at the capacity of municipalities if they are expected to roll out programs as well.	How are funds allocated (smaller communities get more because cannot compete with large cities), who has capacity, who needs to helped.
Accessibility	Programs need to be accessible to all citizens and communities
Province and agency need to listen to what municipalities are saying at tis technical session	
If provide targets to municipalities must support municipalities as well	
Provide programs ready to go for municipalities to launch (easy to use)	
Program that helps municipalities get own renewables and provide funding to incent citizen to invest in renewables in their own homes	
Help municipalities establish and administer PACE programs within own municipalities	
Diversification of programs being offered that are for both urban and rural	How do you reach the masses and help all Albertans (what urban citizens want/need may be different from what rural citizens want/need)
Have sustainable funding for municipal programs and that they be for a longer duration than 2 years.	Municipalities need time to plan and take into account for annual business planning.
Population size All Albertans will get access to the fund.	<ul style="list-style-type: none"> <li>• Smaller municipalities should have access</li> <li>• Shouldn't negatively affect smaller munis</li> <li>• Have mandated (1/3 for Edmonton, 1/3 for Calgary, 1/3 for rural). It always goes to the big cities</li> </ul>
NO! - Geography for x defined outcome (e.g. to save a town for jobs) -- no	Every municipality will say they're important E.g. [xxx] will be a ghost town, should they be prioritized. No.
Education and training	Supply information to public Curriculum development Demonstration projects set as examples
Foundational education is a consistent layer	May need to front load the \$ in education in the early days, and then have it consistent. Need to do this together. Program cannot be without education.
Metrics/Measurement	<ul style="list-style-type: none"> <li>• Not just GHG. Not everyone knows what this means.</li> <li>• E.g. Cost savings, enough GHG to run Alberta again, # of toasters</li> <li>• %reduction</li> </ul>

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	<ul style="list-style-type: none"> <li>• Green jobs – but be cautious here, because it can be seen that green jobs are replacing oil and gas jobs. Debate if this should be included.</li> <li>• Number of projects</li> <li>• Energy use reduction</li> <li>• Cost effectiveness</li> </ul>
GHG reductions	<ul style="list-style-type: none"> <li>• Should be within own bubble. E.g. Big city can reduce more than small munis. Should have a way to scale it.</li> <li>• Equitability</li> <li>• Discussion about the biggest bang is to target big cities. Compare with the argument that Canada only emits 2% so Canada shouldn't have to reduce emissions. Rural vs urban.</li> <li>• How much the muni reduces the footprint</li> </ul>
Sector impact	
Consider impacts on a program basis	
Data: audit → action	<ul style="list-style-type: none"> <li>• Province-wide audits. Not just at a local level. It will be easier to leverage # audits at a provincial level. Economies of scale of audits.</li> <li>• Audit is proof that something needs to be looked at.</li> <li>• Data drives action.</li> <li>• Auditors or energy managers embedded in the municipality</li> <li>• Training of energy auditors.</li> </ul>
Economies of scale	
Ease of use, access to information	
One stop shop	<p>EEA, ACCO, AEP, Coordination of all of the related organizations.</p> <p>Understanding of the specific region.</p>
Monitoring and reporting plan	
Ease of implementation (low hanging fruit)	
Achieving goals of projects	
Return on investment	
Affordability	Investment that municipality is providing appropriate funds
Convenience	<ul style="list-style-type: none"> <li>• Do not create large administrative hoops that Real people</li> </ul>
Ensuring government supports exist	
Short administrative processes	Timelines for decision-making
Meeting Albertans where they are at	<ul style="list-style-type: none"> <li>• Taking urban/rural considerations into account</li> <li>• Take technology into account</li> </ul> <p>Sometimes high-speed internet is not always a</p>

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	constant
Efficiency	Is efficiency going up or down (not applicable for renewables)
Cost	
Greenhouse gasses emitted	
Social benefit	
Peripheral environmental impacts (unintended consequences – life-cycle analysis)	<ul style="list-style-type: none"> <li>• Some debate</li> <li>• Some compromises will have to be made</li> </ul> Indecisiveness could lead to non-action
Policies and procedures must be in place to maintain balance in spending for energy/efficiency and renewables	<ul style="list-style-type: none"> <li>• Energy efficiency can be scheduled and the cost savings can be devoted to renewables</li> <li>• Solar is more tangible</li> <li>• Energy efficiency is the absence of something – is a value statement that speaks to the independence of land-owners</li> <li>• Having a diverse portfolio of programming can allow for flexibility</li> <li>• Rebate programs can be saturated. Once every appliance and toilet is rebated out, we can cancel the program and do something else.</li> <li>• Can you attract international development with government subsidies and abate GHG's</li> </ul>
Flexibility	<ul style="list-style-type: none"> <li>• A portfolio of programs should cater to Albertans where they are at.</li> <li>• Delivery of funding should be consistent which will create consistency across jurisdictions</li> <li>• Will enable agency to know what renewable opportunities exist and what energy efficiency opportunities exist</li> </ul>
Acknowledging what infrastructure is already existing	
Practicality	High agreement
Ensuring that a sustainability plan exists	<ul style="list-style-type: none"> <li>• Mandating the criteria that needs to be in quality plans</li> <li>• These plans require data collection</li> </ul>
Legislative reporting	Nice because it is mandated
Population distribution	
Data and Transparency <ul style="list-style-type: none"> <li>• Telling us where to best put resources</li> </ul>	
Supporting programs that have the greatest impact	
Ensuring there are non-monetary educational investments made	
Removing technical, program barriers	
Ensuring value for money invested	
Ensuring long-term sustainability	



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Ensuring that programs with tangible impact are supported	
Follow principles of good governance (openness, transparency)	
Economic development impact, keeping rural development alive	
Fairness, to be a key partner, consideration for rural entities	
Economic development impact, keeps rural development alive	
Fairness to be a key partner, consideration for rural entities	
Support the sharing of information between communities	
Convening groups of municipalities	
Importance of central resource	
Executing technical expertise, programs that are executable	
Ensuring per capital allocation for dollars	

**Primary outcomes of the agency**

- 30% renewables – provide seed funding to support renewables turning subsequently into efficiencies
- Different values will make people make decisions in different ways so ensure that access and information is relevant to all
- No consistent plans in place for municipalities – do we need them to do planning?

**Improving energy efficiency for First Nations and Metis Settlements:**

Main intent of the treaties is working towards consultation, collaboration and partnership. This leads to long term viability of the environment. How do First Nations contribute to the process? First Nations can participate as they greatly contribute to the economy. They also have knowledge of the land and bring that perspective.

How do you see municipalities working with and engaging with indigenous communities in this work?

- Education across different groups is essential as most people do not understand the concepts of energy efficiency and renewable energy. This is common across all stakeholder groups, including indigenous communities.
- Education coming from Indigenous communities is essential as we can learn where they are coming from. This will enable
- Start with the data. Benchmark and quantify energy efficiency gains with the assistance of Indigenous groups. Indigenous communities can assist with traditional ecological knowledge and the rest of this data collection.
- Jurisdictions between the federal government and municipalities and indigenous communities should be blurred in terms of power consumption between neighbours. Instead of building walls, let's reach out to various jurisdictions.
  - Energy efficiency standards should apply to all.
- Indigenous communities could be profitable through their energy efficiency improvements

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- Collaborate with indigenous communities on educational initiatives
- In order to create a dialogue with nations, we have to go in with earnest intentions to understand and build trust.
- Municipalities struggle with engagement with indigenous communities and seek further information on how to collaborate.
- Many municipalities can imagine joint ventures with small scale renewables.
  - Slow moving process by involving federal government constituents
  - Fire-service collaborative training is being completed by some municipalities
- Understanding the uniqueness of each group is critical for each municipality
  - Process can start by being active in communities and understanding the diversity in each. Differences must be respected
  - Meeting indigenous communities where they are at is critical, but it must be done at a deep level, and it cannot be done quickly.
  - Building friendships is critical
- Drawing similarities to how rural municipalities engage with the agricultural sector may be useful.
- Developing these partnerships can help build the bridges which have been previously been lost and slow to build.

#### Protocols

- Offer a gift to the chief
- Even if the conversation doesn't lead to a collaboration, it can still lead to a greater understanding.
- The understanding and trust has to be developed.
- With the UNDRIP and TRC in play, this may show precedent
- Understanding that we are all treaty people

#### General Discussion about Principles

- It's essential to benchmark where we're at; how much are we spending? How much are we wasting?
- Look at economic, social and environmental factors when assessing any town program.
- Criteria used by our city
  - Are we more efficient or less efficient
  - Percentage of our budget
  - Where are we versus our 2030 goal
- Dollars spent for each GHG unit reduced. Other things must also be considered.
- Need equal access. Big cities have more capacity/expertise to chase dollars. The Agency needs to take the capacity of the municipality into account.
- Transit is not a factor for small municipalities, but very much so for large cities. Need to
- "Per capita" measures can apply equally across the province. Consider other measures that also apply across the province.
- We're all in this together, we all need "skin in the game".
- Referred to the "MSI approach"
- Is money for energy efficiency better spent in the Third World, since we already have clean energy sources.
- Each individual needs to decide to shrink their own energy footprint.

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- The Planet doesn't care about the per capita emissions.... It's the aggregate amount that is important.
- The fact that a small municipality might not prepare a great business plan should not be a factor in accessing programs.
- Every citizen across the province should have equal access.  
Imagine you are the Panel....
- Dollar per tonne reduced (carbon emissions)
- Programs should be sustainable
- How does this accelerate the low carbon path forward
- How is the market being transformed.
- Plotting our path in different market sectors

#### Criteria for decision making if were energy efficiency panel

- Timing – projects that can start within 6 months
- Projects that are profitable (good return on investment, make jobs, etc.)
- Long term and sustainable projects
- Projects that increase capacity of municipalities (help them in the long run)
- Separate out projects based on short, medium and long term.
- Projects chosen are measurable
- Projects that have the greatest benefit
- Provide municipalities with access to date on activities taken by the agency in the municipalities
- Celebrate successes!!!

#### Final Key Message Cards

- Easy to understand program
  - Offer professional support to small municipalities
  - I like the thought of mandating municipalities to collect energy use.
1. Ensure every Albertan has skin-in the game in terms of :
    - Benefit
    - Advantage
    - Savings
    - Savings
    - Efficiency
    - Opportunity
    - Participation
  2. Consider deferring the application of the carbon tax from Jan 2017/April 2017
  3. Thank you for the opportunity to room together on this topic
  4. Offer further opportunities to come together regionally
    - I recognize that EE is one of society's "wicked problems" because it is challenging to measure, influence, and educate. But it's more important than renewables and other tech. Key Message: Look for the pathways in each major sector that will impact your reason for being. Big macro policy tools may do the bulk of the work, and individual actions might be easier once we're in progress.
    - There must be at minimum one meeting per year between panel and municipalities
    - Ensure incentives are combined with ultimately, regulations. Incentives are a short term tool to drive market transformation utilize all market transformation tools:

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- Education
- Capacity building
- Incentive
- Regulation
- Sign the end game early – sign incentives support transformation in the short term
- Accountability and transparency are key
  - Where are the \$'s going
  - How are investments being measured
  - What it means to individuals first and then communities
  - At the end of the day – has everything made a difference
- Please make energy bills clear – deregulation has left confused. Try to explain economic development investors [xxxx]
- Keep the programs simple.
  - Choose projects that will have the greatest certain impact on energy efficiency
  - Grant funding should be upfront and part of a long term strategy. That way municipalities can plan and budget for their share of the costs. The carbon tax is a good idea. This is the most effective way to make people reduce their ecological footprint.
- I hope to see small communities receive the resources that they so desperately need. By that I simply mean, small communities have long been overlooked, or don't have the ability to pull in or allocate the same type of capital as larger centers do. Thus, this program could be the sort of opportunity that actually invests in the growth and renewal of rural Alberta. Ensure the access to funds. Ensure the longevity of funds. And you will ensure rural Alberta will remain healthy and forward thinking.
- Baseline data base for where we are currently at with energy efficiency GAP analysis
- Recognizing benefits of large urban and small rural. Each brings a different benefit to this discussion
- Education of masses to help with change
- Excellent workshop! The panel has a lot of hard work ahead and I think we were able to provide perspectives from a variety of municipal sizes.
- Clarity is needed as to what services will be provided by the panel since some municipalities may be designing energy efficiency programs that we would like to align with the province rather than doubling efforts
- Municipal government act can be changed to allow municipalities to offer PACE loans (Property Assessed Clean Energy)
  - This removes upfront capital cost barriers
  - Loan is attached to the property rather than the home owner. If the home is sold, the loan remains with the property tax.
- Small municipalities may not have expertise or money to identify opportunities for energy efficiency. The panel could be a clearing house for education and tools.
- Energy storage is key to unlocking intermittent renewable energy, but is expensive. Fund the storage side and give information/calculation tools to show benefits so investment decisions can be made.
- Consider what your decisions are and base them on facts and what the people need not on political theories. We all want to protect our environment.
- Education and Training is imperative
  - How and why
  - What is the best bang for the buck

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- Measurable results need to be reported
  - What was done
  - What it cost
  - What was saved
  - How
- Collaborative approach
- Small changes with big impact
- Large changes with big impact
- Change the way we do things: i.e. landfill alternatives
- Just because an initiative doesn't have a directly attributable emission reduction doesn't mean it isn't highly valuable. Ensure there are programs to support:
  - Education
  - Training
  - Data collection
  - Benchmarking/ongoing monitoring
- This is key to generate the buy-in needed to maximize participation and GHG reductions.
- Data is powerful. How can you create, disseminate, and utilize data to drive better decision-making. The panel has a take opportunity to municipalities' access and leverage data.
  - Providing smaller municipalities with support and tools to develop programs and project plans so to have access to funding. Providing the tools to motivate change at the senior levels within municipalities.
  - Thanks for the opportunity to share our thoughts. Good luck
- Knowledge and data are the key factors in promoting energy efficiency
- Understanding that in smaller municipalities they may not have the resources (money & personal) to develop a plan. It would help to ease the pressure to have a template or be able to work with similar sized communities in the region to develop a plan.
- Also as far as spreading the message to the communities or region come to us. Come to the people don't expect them to come to you.
- Consider impacts on all Albertans (small municipalities too) And their capacity
- Consider the entire cost of a project on municipality before funding 1 portion of it.
- Consider how decisions are made by municipal councils
  - Is there a mandate to do so?
  - Is there resident need or want?
  - Is there funding available and what does it get me, and what do I have to contribute?
- Consider whether municipalities have access to the necessary data. What will it take to get this data?
- People have (and are motivated by) different values.
- Create a program that encompasses a variety of options to target different values. E.g. One program that targets greatest GHG; another that target greatest cost and another that targets most convenient or greatest efficiency. Do not simply come up with a "one size fits all" solution; give people options. And make year program easy and convenient.
- Ensure a clear mandate for municipalities (through legislation, policy, funding conditions, plans and measures) to participate in energy efficiency and renewable.
- Partners with municipalities where possible e.g. Citizen/resident and ICI education
- Provide municipalities with resources to enable actions
- Tie energy efficiency closely with economic development

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- Please consider the STARLANDCOUNTY/MOMENTUM proposal (ccore) minimal reg changes, uses community investment, builds the capacity where the load is and helps to eliminate massive transmission line builds. Also check out EQUUS program for micro generation.
- During the decision making process, always keep the end users in mind. Properly designed programs can provide the necessary education at the same time as providing a benefit (i.e. see how much money your new EE purchase is saving you). If the end users understand EE and believe in it then it won't die when the funding does.
- Also, you are not alone; munis can help get messages and programs on the ground quickly.
- Keep it simple, transparent, timely.
- "We are all in this together"
- "Taking care of future generations should be all on our mandates"
- "We are all connected" Indian Proverb
- "We are all Canadian Treaty Citizens"
- Consider long term financial
- Variability and opportunities for our creation.
- Economic development and allow Alberta to prosper
- Design your program with municipalities in mind – there is very little time to Administer these programs. Remember that smaller municipalities with a primarily residential tax base also want the opportunity to get these community energy systems.
- Continue to listen and engage municipalities throughout your process of developing the programs and function of the agency. Good Luck!