Citizens' Panel on Edmonton's **Energy and Climate Challenges**











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Leading edge citizen involvement to support City energy transition planning

Executive Summary



Je are the members of the Citizens' Panel on **V** Edmonton's Energy and Climate Challenges. We represent Edmonton's diversity in our ages, incomes, backgrounds, wards, experiences, and views on energy and the environment. We came together at the invitation of the City to make recommendations to Administration and Council, with the City's commitment that it will seriously consider our recommendations in developing an energy transition plan. We met for a total of 42 hours over six Saturdays between October 13 and December 1, 2012. This innovative public involvement process was convened by the City of Edmonton's Office of Environment in partnership with Alberta Climate Dialogue (ABCD) and the Centre for Public Involvement (CPI).

I feel responsible to contribute to the democratic decision-making process around me. It's an important part of being an active and engaged citizen.¹

We recommend:

- That the City of Edmonton take the measures needed to become a low carbon city by 2050
- That the City of Edmonton implement the following six goals and associated actions proposed in Edmonton's Energy Transition Discussion Paper, though with the conditions and concerns we detail later in this Final Report:
 - 1. Reduce the greenhouse gas intensity of the provincial electricity grid
 - Increase the proportion of development undertaken to create compact, mixedused, transit-oriented neighbourhoods within already developed areas of the city
 - 3. Reduce the energy use in industrial facilities through energy efficiency and a focus on industrial developments with lower energy use
 - 4. Increase the uptake of distributed energy generation (e.g. solar heat and power, and natural gas combined heat and power plants) through barrier removal, capacity building, incentives, and regulations
 - 5. Increase the energy efficiency of buildings (new and old) through capacity building, incentives, and regulations
 - 6. Reduce the amount of gasoline and diesel used in the vehicle fleet through capacity building, incentives, and regulations

¹All quotes throughout this report come directly from Citizen Panelists.

Background

The Way We Green, Edmonton's environmental strategic plan, identifies climate change and energy supply as the two greatest risks to the city's sustainability and resiliency. After City Council approved The Way We Green in July 2011, City Administration began working with the Pembina Institute and HB Lanarc to develop possible strategies for addressing Edmonton's major dependence on fossil fuels and rising community greenhouse gas (GHG) emissions. Aided by a stakeholder committee and an expert panel, the Pembina Institute and HB Lanarc sought to identify the most viable and effective actions the City could take to make Edmonton energy sustainable and carbon neutral, as well as resilient to continuing energy price volatility.

The results of this work were released in June 2012 as Edmonton's Energy Transition Discussion Paper. This Discussion Paper includes five policy levers found to have the greatest potential for reducing both Edmonton's fossil fuel dependence and community GHG emissions: the provincial electricity grid, urban form and transit, heavy industry, buildings, and vehicles. It also recommends a slate of actions Edmonton should undertake to achieve the goals presented around climate change and energy supply in The Way We Green.

The goal of the Citizens' Panel on Edmonton's Energy and Climate Challenges was to discover whether we, as Edmontonians, want our city to become low carbon, whether we consider the Discussion Paper to provide a good map for getting there, and how much we support particular actions proposed in it.

WE ARE THE CITIZENS' PANEL

Alexis Abenojar Syeda Akter Hasra Ali Sylvia Beaulieu Tracey Bowen Patricia Bowman Michelle Burch Dennis Chang Twilla Coates Patricia Collier Pravina Dave Paul Davis Florence Elliott James Elliott Alexander Fedko Joan Ference Val Ferrari Sarah Gee Arinna Grittani Alex Hagisavas Scott Hannah Wilson Kagabo Divleen Kang Hart Lemmle Donna Lewis Errol Lewis Timothy Lynn Gerard MacLellan

Cory Marshall Ian McCalder John McCutcheon Leon Milner Cameron Noves Paulette Paquette Na Yeong Park Colleen Peterson Nicholas Polturak Tim Pozniak Penelope Puhlmann Dhenu Ranade Cathy Shoettle Michael Seniuk Azam Siddiqui Robert Sinclair George Skulsky Cody Smith Crystal Sowan Grace Thomson Christine Tucker Lee Van Fossen Jenilee Veenstra Kari Walker Doug Warring Anna Wheeler Therese Yakiwchuk

Heather Marginet

Others who supported and facilitated our work are named in Appendix 4



About the Panel

RECRUITMENT OF PANELISTS

The City of Edmonton's Office of Environment, ABCD, and CPI carefully designed a recruitment process to ensure the Panel reflected the diversity of Edmonton. They recruited us, 56 demographically and attitudinally diverse Edmontonians. Our numbers include adults of all ages, income brackets, wards, and education levels. We came with a range of attitudes about climate and energy-related issues: some of us were already passionate about these issues, while others paid little attention to them before being recruited; some of us considered climate change to be a serious problem, while others were skeptical about whether or not it is real. Information about overall panel composition is included in **Appendix 1.**

PROCESS OF DEVELOPING RECOMMENDATIONS

The Citizens' Panel built on the City's experience and expertise with citizen involvement, and drew on local, national, and international expertise in citizen dialogue and deliberation. Great care was taken to ensure that we built our knowledge on balanced and credible information as well as the multiple perspectives and values in the room. We learned about climate change, energy vulnerability, and the particular policy options and trade-offs facing our city.

I think we were successful, in that a group of people with different heliefs were able to find common ground.

Our learning and subsequent recommendations were based on:

- Edmonton's Energy Transition Discussion Paper
- A Citizens' Handbook that gave an overview of energy and climate issues; Edmonton's energy present and potential futures; making policy decisions in contexts of uncertainty; and how to bring our own values and perspectives to these issues through a deliberative process. This Handbook was developed by academic experts and vetted for clarity and objectivity by a Citizens' Reference Group and stakeholder representatives. It gave us a broader perspective from which to assess the recommendations of the Discussion Paper and supported our learning throughout the six sessions
- Presentations from City of Edmonton staff, climate and energy experts, academics, and industry representatives
- The knowledge and experience of us, the Panelists

Sessions were carefully designed and professionally facilitated so we could explore our values and priorities in the context of Edmonton's energy and climate challenges. Over the course of the six sessions we worked to identify common ground and divergence on whether or not we want Edmonton to become a low carbon city and the extent to which the Discussion Paper recommendations are the right path. We also developed guiding principles and values that we believe will provide useful signposts to City Council and City Administration as they create and implement Edmonton's Energy Transition Plan.

The recommendations we developed underwent multiple rounds of voting (using handheld electronic voting devices), with the final recommendations being voted on at the last session.

WHAT WE HOPE CITY ADMINISTRATION AND CITY COUNCIL WILL DO WITH OUR RECOMMENDATIONS

We recognize the need for our recommendations to be realistic and achievable, and want City Administration and City Council to view them as the well-deliberated common ground reached by people with diverse values and priorities. Indeed, much of our time and effort was spent clarifying whether the goals and actions in the Discussion Paper can be understood as beneficial for multiple reasons and from multiple perspectives. We found that we didn't need to share the same perspectives or reasoning to vote for a particular recommendation, and this is an important factor as you consider the appeal of these recommendations to a broad public. The process that we have been through provides strong reasons to take our voices seriously.



I really enjoy the deliberation process. Getting to speak to other individuals with varying viewpoints was exciting and very challenging. I love to share my opinions with others and listen to their ideas. I learned things about myself and welcome this kind of challenge again.

Our recommendations provide a clear and reliable representation to you as decision-makers of what Edmonton as a whole would want if every citizen could be given the time, support, exposure to diverse perspectives, and balanced information needed to reach an informed conclusion. For all of these reasons:

- We expect **City Administration** to take our recommendations seriously as it develops an Energy Transition Plan. In the process, we hope to be told publicly which recommendations have been adopted, which have not, and why. Understanding how our recommendations are used builds both the accountability of the involvement process and our capacities as citzens. We appreciate that the Office of Environment has committed itself explicitly to these things in recruiting us to the Citizens' Panel and during the Panel.
- We expect **City Council** to take our recommendations seriously as it makes decisions about energy transition issues, and we hope that Councillors will speak explicitly about which of our recommendations are being adopted, which are not being adopted, and why.2
- We request a chance to speak to the process and reasoning of the Citizens' Panel to Council when it considers our recommendations.

Although we come from all walks of life and have very different personal values and priorities, we have developed a shared understanding that Edmonton must address the energy and climate challenges we face with an unprecedented sense of intensity and urgency. The time to act is now.

² For an excellent example of this kind of responsiveness to citizen recommendations by the City of Edmonton in connection with The Citizen Panel on Budget Priorities (2009): see the City response at http://www.edmonton.ca/ for_residents/web_version_of_panel_report.pdf

Our 'Big Picture' Recommendation



The Citizens' Panel on Edmonton's Energy and Climate Challenges recommends that the City of Edmonton take the measures needed to become a low carbon city by 2050.

We support the six goals and associated actions proposed in Edmonton's Energy Transition Discussion Paper, though with the conditions and concerns outlined later in this Final Report.

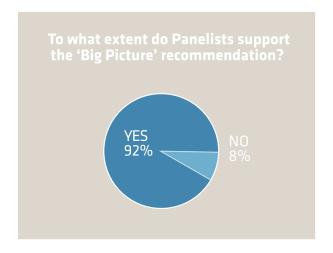
Becoming a low carbon city by 2050 will require sustained effort and long-term investment. Edmontonians are already innovating in some of the areas outlined by the Discussion Paper, and there is much we can learn and adapt from other jurisdictions. Above all, we need to move forward now, with urgency and strong leadership.

We found many reasons for the City to move toward a low carbon energy system as recommended by the Discussion Paper. These include:

- Managing the risks of climate change
- Managing the risks of fossil fuel price volatility and scarcity
- Enhancing the quality of life and health of Edmontonians over the long term
- Economic prudence and cost-savings over the long term
- Supporting innovation and economic diversity in Edmonton
- The moral imperative to show leadership on crucial challenges facing us in Edmonton, the province, and the world

We have emerged from our deliberation with a positive picture of our city on a low carbon path. In this future, Edmonton offers its citizens a superior quality of life. Edmontonians can take pride in our leadership on energy innovation and sustainability. Indeed, Edmonton's bold work on energy transition contributes to the education and actions of citizens, our economic strength, and the city's overall appeal.

Panelists voted on this recommendation in the final session of the Citizens' Panel on December 1, 2012:



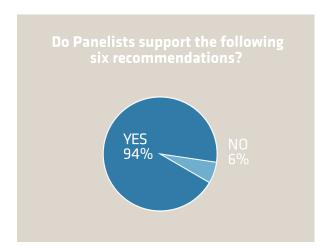
City of Edmonton should aim to transform the City into a global leader in GHG reduction.

Recommendations on Goals and Activities from Edmonton's Energy Transition Discussion Paper



The goals and associated activities in the Discussion Paper provided a key foundation for our work. We make six recommendations which taken together represent our position on these goals and activities. We have included a sample of reasons that Panelists offered for each recommendation.

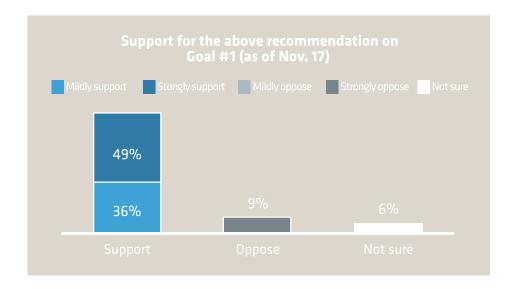
The bar graphs under each goal indicate Panel voting on our six recommendations in Session #5 (November 17, 2012). Since all six reached an agreed threshold of 75% support we did not revisit these votes in our final session. We did, however, reconfirm overall support for the package of six recommendations in Session #6 (December 1, 2012) with a further vote:



I believe [City goals] should be more ambitious and that transparency during transition will help us become accustomed to changes that need to be made.

Goal #1: Reduce the greenhouse gas intensity of the provincial electricity grid

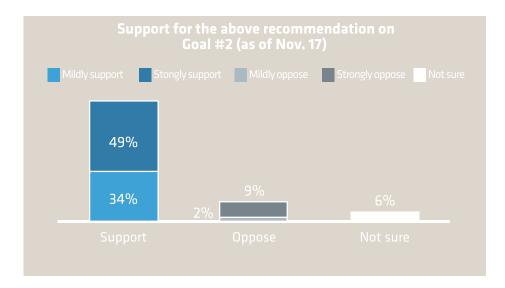
DISCUSSION PAPER'S	CITIZENS' PANEL'S	EXAMPLES OF
SUGGESTED ACTIONS	RECOMMENDATIONS	PANELISTS' RATIONALES
1. Work with others to influence the provincial and federal governments to reduce the carbon intensity of the provincial electricity grid 2. Purchase green electricity	The City should move forward with consideration of the following recommendations: ³ 1. Acting in coalition with other municipalities when feasible and practical to do so. 2. Advocating for cooperation with other orders of government when it is likely to have a positive impact. 3. Purchasing renewable energy while integrating new energy technologies as they become available and cost-effective.	 Reducing the GHG intensity of the provincial grid is the measure with the greatest potential impact on Edmonton's GHG footprint. Edmonton would save money and become more competitive in the long run. Our energy supply would be much more reliable and less volatile, especially in the context of disasters. We are technologically advanced and wealthy, but are still using old and dirty technology. We have the potential to be leaders in this area.



³ The following was decided on December 1, 2012 by a vote of 88% in favour, 8% against, and 4% abstaining. The current wording replaced a November 17 version that had made movement on the goal conditional on Edmonton being in coalition with other municipalities, the likelihood of impact on other orders of government, and assessment of the relative effectiveness of investments in green energy. Our current view (from the perspective of the 88% in favour) is that the City needs to move forward to try to green the provincial grid while also seeking coalitions, positive impact, and cost effectiveness.

Goal #2: Increase the proportion of development undertaken to create compact, mixed-used, transit-oriented neighbourhoods within already developed areas of the city

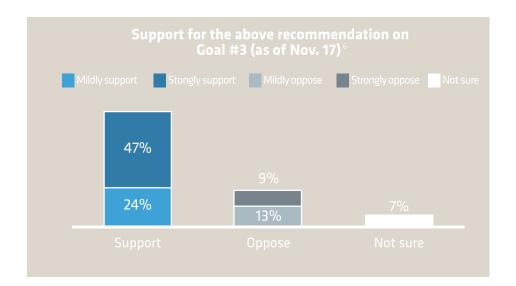
DISCUSSION PAPER'S	CITIZENS' PANEL'S	EXAMPLES OF
SUGGESTED ACTIONS	RECOMMENDATIONS	PANELISTS' RATIONALES
 Land use and transportation planning targets beyond The Way We Grow and The Way We Move Remove barriers to developing compact, mixed-used, transit-oriented neighbourhoods Provide incentives to buying/building in compact, mixed-used, transit-oriented neighbourhoods Increase the frequency, capacity, convenience, and quality of transit service in conjunction with increases in compact, walkable, and transit-oriented development Increase the amount and quality of walking and cycling infrastructure and encourage its use Work with insurance companies to develop pay-as-you-drive insurance and promote it to citizens Consider parking supply restrictions, and tolls roads or congestion pricing for vehicles 	We support the Discussion Paper recommendations to increase the proportion of development undertaken to create compact, mixed-use and transit-oriented neighborhoods within already developed areas of the city. 1. We urge the City to ensure that the impact of these actions is equitable, that development decisions are made transparently, and that public safety is enhanced. 2. We encourage the city to limit urban sprawl and design new neighborhoods to be mixed-use, transit-oriented developments. 3. There was disagreement on proposals for toll roads and congestion pricing. 4. Many Panelists believe that urban density targets in the Discussion Paper are too low and too slow. These Panelists urge the City to go farther with these targets, considering best practices elsewhere and overall feasibility. ⁴	 Edmonton would enhance its sense of community, physical and mental health, and overall quality of life. Edmonton would have safer places to walk, bike, and ride the bus. Edmonton's neighbourhoods would be more attractive. Edmonton's LRT service would provide a reliable source of consumer traffic for potential investment in surrounding neighbourhoods. Tolls roads (#7) and pay-as-youdrive insurance (#6) would encourage Edmontonians to plan their trips better. Toll roads and pay-as-you-drive insurance could unfairly disadvantage some Edmontonians.



⁴ This point was added in Session #6, after two rounds of deliberation on the theme of going further and faster than the Discussion Paper recommends. The first was on November 17 after the Panel, with 77% support, voted to advance the general sentiment of needing to go further and faster. The second was on December 1 when we deliberated around more specific details. This motion to increase urban densification targets was developed and put forward by a group of Panelists at this session. It went straight to a plenary vote (without further deliberation by the Panel as a whole) and received 63% of our votes in favour and 37% against.

Goal #3: Reduce the energy use in industrial facilities through energy efficiency and a focus on industrial developments with lower energy use

DISCUSSION PAPER'S	CITIZENS' PANEL'S	EXAMPLES OF
SUGGESTED ACTIONS	RECOMMENDATIONS	PANELISTS' RATIONALES
 Consider supporting industrial energy management systems Consider encouraging, incenting, and eventually requiring energy audits of industrial facilities Consider providing information to industrial facilities about how their energy use compares to similar facilities (i.e. benchmarking) and supporting the development of new financing tools Consider working with the provincial government to provide incentives for energy efficiency upgrades and eventually increase regulations that will further motivate energy efficiency upgrades Assess the feasibility, benefits, and disadvantages of working to have future industrial development in Edmonton focus on facilities with low to moderate energy use 	We support the actions proposed in the Discussion Paper to reduce the energy use in industrial facilities through energy efficiency and a focus on industrial developments with lower energy use. Further, 1. We urge that Edmonton play a leadership role in convening surrounding municipalities to co-create guidelines for increased efficiency in heavy industry.	 Edmonton's GHG emissions would be reduced. Collaborating with surrounding municipalities would ensure that Edmonton's current industries don't just move to a nearby municipality with less stringent guidelines/ regulations.⁵ Edmonton has the potential to create new types of jobs. Edmonton could become more competitive by attracting less energy-intensive industries.

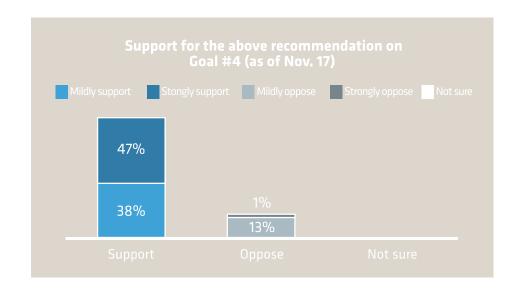


⁵ A significant number of Panelists who opposed this recommendation were concerned with the degree to which this collaboration was emphasized and/or the potential for this collaboration to be effective.

⁶ Although this Goal received less than the 75% threshold, we felt comfortable with its wording and decided not to revisit it on December 1 at Session #6.

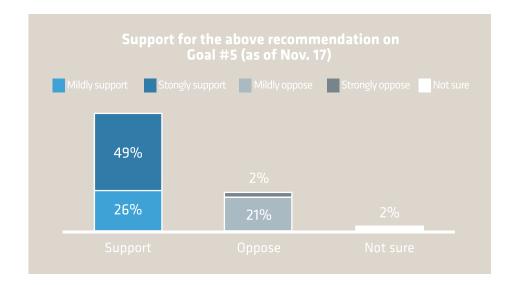
Goal #4: Increase the uptake of distributed energy generation (e.g. solar heat and power, and natural gas combined heat and power plants) through barrier removal, capacity building, incentives, and regulations

DISCUSSION PAPER'S	CITIZENS' PANEL'S	EXAMPLES OF
SUGGESTED ACTIONS	RECOMMENDATIONS	PANELISTS' RATIONALES
 Support companies providing distributed energy services Remove regulatory barriers to distributed generation Provide incentives for distributed generation Design new neighbourhoods to take advantage of free heat from the sun Require all new buildings with solar access to be built 'solar-ready' Eventually require on-site energy generation on larger new buildings Require district energy in new buildings where it is economic 	We support the actions proposed in the Discussion Paper to increase the uptake of distributed energy generation through barrier removal, capacity building, incentives and regulations. 1. We urge the City to clarify the forms of support that would be offered for distributed power services and generation, and to ensure that there is a strong business case and that financial risks are well managed. 2. We urge the City to develop policy with a particular eye to public safety and the aesthetics of neighborhoods. 3. We urge the City to consider raising the targets set for this goal, particularly around on-site energy generation in larger new buildings.	 Cogeneration facilities can be started and stopped easily, making them safe and reliable. Similarly, distributed energy generation would make Edmonton more resilient and less energy vulnerable. Edmonton would have reduced dependence on fossil fuels and lower GHG emissions. Fossil fuels, a non-renewable resource, are being depleted. Increasing our use of solar energy can help address this by facilitating our transition away from and prolonging our use of available fossil fuels. Passive solar energy is a cost-effective way for Edmonton to address climate change and energy vulnerability. Constructing new buildings to be 'solar-ready' is significantly cheaper than retrofitting at a later date. It also allows for more options later on.



Goal #5: Increase the energy efficiency of buildings (new and old) through capacity building, incentives, and regulations

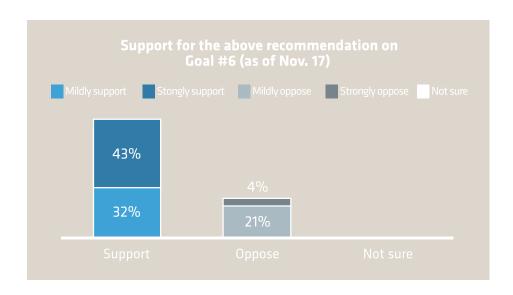
DISCUSSION PAPER'S	CITIZENS' PANEL'S	EXAMPLES OF
SUGGESTED ACTIONS	RECOMMENDATIONS	PANELISTS' RATIONALES
 Work with energy retailers to provide customers a way to compare the energy use of their buildings to that of similar buildings Support the adoption of visible meters in homes Support companies providing energy efficiency services for buildings Support building energy management systems Support and eventually require energy labeling of buildings at time of sale Support and eventually require building retrofits at time of sale Put in place a voluntary green building checklist and eventually require it Monitor the provincial and federal governments' efforts to continue to increase energy efficiency requirements in the building code Considering engaging facilities with large amounts of waste heat to see if this heat could be used elsewhere 	We support the actions proposed in the Discussion Paper to increase the energy efficiency of buildings (new and existing) through capacity building, incentives and regulations. 1. We are concerned about the very general language of 'support' in this part of the Discussion Paper. The Implementation Plan should clarify the forms of support that would be offered and ensure that there is a strong business case and that financial risks are well managed. 2. We urge the City to advocate for more energy efficient building codes as well as monitoring these. 3. We urge the City to consider the possible costs and inequitable impacts of requiring building labeling and especially retrofits at time of sale, and to address these. The Panel supports retrofit requirements for commercial buildings; however, we are divided on requiring labeling and retrofits for existing residential buildings (although education and incentives for retrofits on existing residences are appropriate).7	 Many of these actions would be relatively easy for Edmonton to implement (e.g. green building checklist, visible meters). Edmonton already has green buildings that serve as examples for what works and what doesn't. Building retrofits can save money through future energy savings for those with the upfront resources to do them. Actions #1, #2, and #4 make individuals and companies more aware of their energy use.



⁷ In a vote on December 1, 2012, 53% of Panelists favoured limiting labeling and retrofit requirements to commercial buildings only, while 47% did not want to limit requirements in this way. Those opposing the extension to residential buildings were particularly concerned about the negative impact on lower-income owners and those who own older homes.

Goal #6: Reduce the amount of gasoline and diesel used in the vehicle fleet through capacity building, incentives, and regulations8

DISCUSSION PAPER'S SUGGESTED ACTIONS	CITIZENS' PANEL'S RECOMMENDATIONS	EXAMPLES OF PANELISTS' RATIONALES
1. Encourage the adoption of fuel efficient vehicles 2. Support fleet fuel management programs 3. Support companies providing electric vehicles, natural gas vehicles, biofuels, and associated services 4. Encourage, incent, and eventually require the electrification of loading spaces, truck stops, and garages	We support the actions proposed in the Discussion Paper to reduce the amount of gasoline and diesel used in the vehicle fleet through capacity building, incentives and regulations. 1. We urge the City to consider being more aggressive with targets than the Discussion Paper suggests. 2. We urge the City to attend to individual constraints and circumstances in vehicle choices and uses, and also to be cautious that disincentives and taxes used to further this goal don't disproportionately hurt those with lower incomes. 3. We urge the City to ensure that there is a strong business case for investment in particular technologies and that financial risks are well managed.	 This is a goal that is easy to implement, and that will not significantly affect citizens' lives. This is an easy way for Edmonton to reduce its GHG emissions. Much of the technology already exists for this, but it's also recognized that some will need to be adapted to Edmonton's cold climate. This is a good opportunity for the City to lead by example. Encouraging Actions #3 and #4 can go hand-in-hand with greening the grid.



⁸ Throughout our deliberations on this goal we defined vehicle fleet as all vehicles within Edmonton. For this reason, we saw Goal #2 and #6 as intertwined, with gasoline and diesel use going down as walking, biking, and transit use go up.

Guiding Principles and Values



A key aspect of our deliberation was exploring the individual and collective values that informed our discussion of Edmonton's energy and climate challenges. The guiding principles and values outlined below are those we feel to be most important for the City to incorporate into its decision-making as we move towards a low carbon future.

These guiding principles and values support and qualify each other in important ways and should thus be treated as an interlocking whole.

Guiding Principles

- **A.** Weigh costs and benefits for each energy transition action
- B. Use public and transparent decisionmaking processes so that citizens are confident that energy transition decisions serve the public good
- **C.** Link City leadership to citizen education
- **D.** Recognize and promote multiple reasons for energy transition

A. WEIGH COSTS AND BENEFITS FOR **EACH ENERGY TRANSITION ACTION**

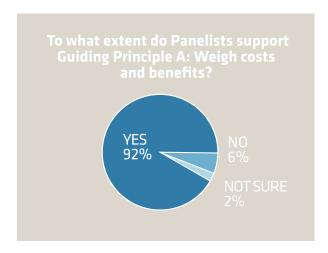
Decisions and investments resulting from Edmonton's Energy Transition Plan should be based on careful research so that public resources are used as effectively as possible.

Fiscal responsibility is not only about balancing a budget: it is also about investing in the future and will require decisions that mitigate future costs today, while also spreading the burden of costs among citizens equitably. All of this while keeping the seriousness of climate and energy challenges firmly in view.

How this can be achieved:

- 1. The City should build a careful and specific business case around each action recommended in the Discussion. Paper. These should include clear and measurable goals, a positive balance of benefits over costs, and a plan to monitor performance against these goals.
- 2. The City should be willing to cease investments that are not leading to their intended long-term value (e.g. development practices that lead to unintended problems, contexts where technologies may be changing quickly).
- 3. The City needs to weigh both tangible and intangible costs and benefits. This includes assessing economic feasibility, sustainability, public health, and quality of life. The costs and benefits of both action and inaction should be considered.
- 4. The City should clearly identify immediate, medium-term, and longterm costs, benefits, and benchmarks, then monitor and regularly report on progress to citizens.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:



B. USE PUBLIC AND TRANSPARENT DECISION-MAKING PROCESSES SO THAT CITIZENS ARE CONFIDENT THAT ENERGY TRANSITION DECISIONS SERVE THE PUBLIC GOOD

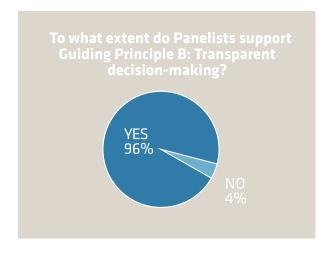
The major, long-term changes needed to become a low carbon city require cooperation and collaboration between the city's government, businesses, community organizations, and citizens. This requires trust in the integrity of decision-making processes and in the quality of the information upon which decisions are based. These changes will require a genuine commitment from the City to be transparent and honest with all decisionmaking processes.

Citizens cannot understand City decisions without this transparency. Indeed, citizens must have confidence that decisions are serving the public good and not just the interests of influential stakeholders.

How this can be achieved:

- 1. Decision-making criteria should be clear and public, as should the information upon which decisions are based.
- 2. The City should continue to innovate in how it involves the public, stakeholders, and experts in its decision-making processes. This Citizens' Panel provides a good model for such public involvement.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:





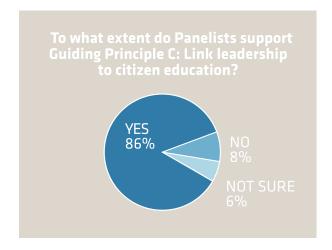
C. LINK CITY LEADERSHIP TO CITIZEN **FDUCATION**

Our ability to reach a low carbon future will depend on having an informed public that makes considered choices. Long-term success requires that the public and City be aligned.

How this can be achieved:

- 1. Many forms and sources of education including community leagues, citizento-citizen education, and social mediamust be developed in collaboration with the community.
- 2. The City should draw attention to good practices that are already happening within the city so that Edmontonians can see what's possible (e.g. fleets that have already been electrified, the University of Alberta's district energy system).
- 3. The City should communicate well about future plans including bylaws, regulations, and policies.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:



D. RECOGNIZE AND PROMOTE MULTIPLE REASONS FOR ENERGY TRANSITION

Concern about the risks of climate change was an important consideration for many of us, as was the sense that showing leadership in mitigating the effects of climate change is the right thing to do.

Not all of us, however, were convinced by arguments about climate change or about the value of investing heavily in greenhouse gas reduction. At the same time, many of us still strongly supported the goals and actions proposed by the Discussion Paper for other reasons.

The process and outcomes of the Citizens' Panel suggest that a strong majority of Edmonton's diverse citizenry will support and want the benefits of a low carbon future (e.g. cleaner water, land, and air; cost efficiency; and a healthier city) if they are well-informed about the choices we face.

How this can be achieved:

- The diversity of reasons for action toward a low carbon future should be reflected in City decision-making and communication.
- In considering the recommendations of the Citizens' Panel and deciding on Edmonton's energy future, the City should look (as our Panel did) at the diversity of reasons for pursuing a low carbon future, such as the mitigation of climate and energy risks and the improvement of quality of life and health.
- In communicating with the public about energy transition, the City should address Edmontonians in their diversity. The City should focus, in its communication, on future benefits as well as avoiding future risks. City communication should also have an ethical dimension: that energy transition is the right thing to do for current and future generations of Edmontonians.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:

To what extend do Panelists support 92%

Values

- A. Sustainability
- **B.** Equity
- C. Quality of Life
- D. Balancing individual freedom and the public good

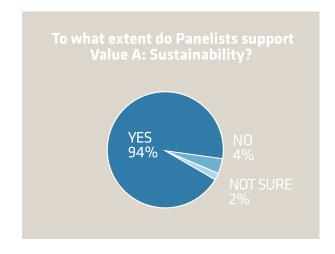
Our diversity was well represented in our individual and collective values. A key focus during our six weeks of work involved articulating and exploring our values, and looking for common ground. The values of sustainability, equity, quality of life and

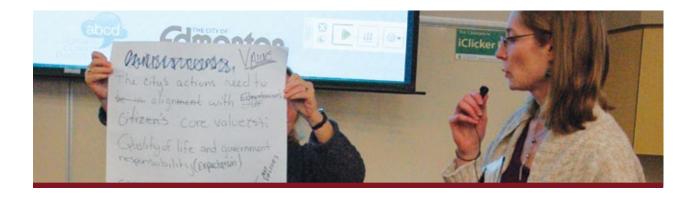
balance between individual freedom and the public good were key to our deliberations. We urge Councillors and Administration to keep these at the core of decision-making on energy transition issues.

A. SUSTAINABILITY

The Panel's support for a low carbon future is grounded in the priority of sustainability, which *The* Way We Green defines as "our society's ability to endure over a prolonged period as an integral part of the Earth's natural systems." The quality of our environment should be an important consideration in all of the City's decision-making around our energy supply and use, and the City should ensure that citizens are enabled and supported in their own actions to further sustainability.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:



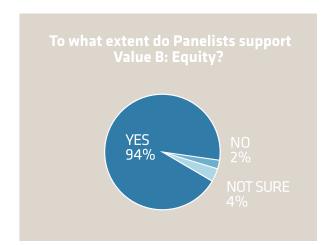


B. EQUITY

Equity was a recurring theme throughout the Panel's discussions. Specifically, we frequently questioned and discussed how energy transition actions would affect Edmonton's most vulnerable citizens (e.g. seniors, those on fixed incomes, and those with low-to-mid incomes).

- 1. The City must use energy transition measures, where possible, to positively address inequity, while also mitigating any negative impacts on the City's vulnerable.
- 2. Some Edmontonians use energy in ways that reflect circumstances beyond their control rather than choice (e.g. people whose jobs require extensive vehicle use). The City should seek to mitigate negative impacts of energy transition decisions in these cases.
- 3. The City should make decisions about energy transition with an eye to the wellbeing of present and future generations.
- 4. Equity is important between businesses and individuals: the City needs to consider the needs of businesses, but the impacts of energy transition measures should not fall disproportionately on citizens and consumers.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:

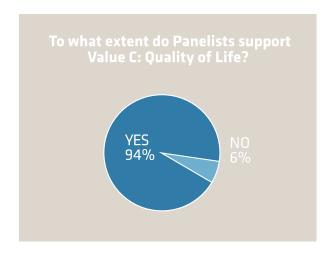


C. OUALITY OF LIFE

Moving toward a low carbon future is crucial to maintaining and enhancing our quality of life. which includes social justice, public health, safety, security, neighborhood character and beauty, and affordable living.

> 1. City actions on energy transition should aim to protect Edmontonians' quality of life in the long term, including from risks associated with energy vulnerability and climate change where there is strong and impartial evidence of such risks.

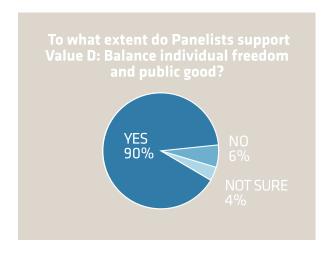
Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1. 2012:



D. BALANCING INDIVIDUAL FREEDOM AND THE PUBLIC GOOD

- 1. Moving toward a low carbon future requires City leadership, but can also be furthered by protecting individuals' ability to act in environmentally responsible ways themselves.
- 2. City restrictions that inhibit individuals from making sustainable choices should be removed wherever possible.
- 3. Regulation will be needed to reach the low carbon goals we are recommending. However, incentives and education should be preferred strategies where they can achieve the same goals in a timely way.
- 4. The freedom of individuals to satisfy their present day wants is important, but not as important as protecting the long-term quality of life of all Edmontonians. Where conflicts emerge between these two values, decision-makers should be guided by the longer-term quality of life of all Edmontonians.

Panelists voted on this guiding principle in the final session of the Citizens' Panel on December 1, 2012:





Does the Discussion Paper go far enough?

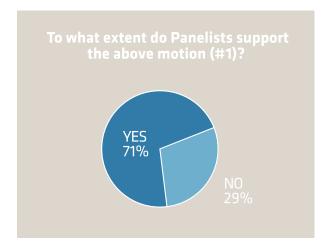


We urge the City to move forward ambitiously and with real accountability to reach the low carbon future the Discussion Paper describes (an 80% reduction of emissions by 2050).

However, a majority of us feel that the goals set in the Discussion Paper are not ambitious enough and that we need new ways of looking at the problem. We want to stress the urgency of energy transition, and want to see an even stronger commitment to systematic changes in energy use than are captured by the recommendations above.

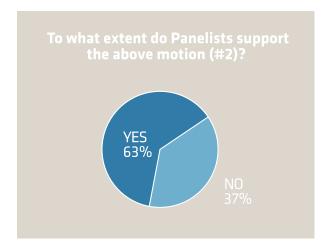
In Session #6 this view that the City should move further and faster than the Discussion Paper recommends (which had woven in and out of group discussions in earlier sessions) was tested with two votes.

1. Speed is essential, and the Panel wants the City to set strong, measurable targets for energy transition in a five-year time frame. In other words, it is important not just that the City seek ambitious changes in energy use by 2050, but that there be aggressive short-term targets so that transition begins quickly.



This was a fair and democratic process with a disparate group of randomly gathered citizens. I would like to see some stronger language but I respect the recommendations.

2. The 'Low Carbon Case' in the Discussion Paper, which the Panel as a whole supports, sets a good but minimal standard for energy transition. The City should aim to move further and faster with energy transition than outlined by the Low Carbon Case.



These votes in the final session of the Panel gained weaker majorities than those supporting the Discussion Paper's Low Carbon Case.

- Some of us felt that this 'further/ faster' view could have been subjected to more thorough deliberation if it had crystallized into a recommendation before the final session.⁹
- Some of us wished for more time to articulate and vote on further ways in which the
 City should be more ambitious than the
 Discussion Paper lays out.

Our overall votes on the above motions show that the Low Carbon Case is by no means the limit of possibility or proper ambition to many Edmontonians: the majority of us in fact believe that the Low Carbon Case represents a compromise between an unsustainable status quo and the leadership the City should take.



⁹ The 'further/faster' theme was first deliberated on November 17 at Session #5, where Panelists voted on the draft statement: "The City needs to act with urgency and take a leadership role in creating a sustainable city. Including creating high density, mixed-use, integrated neighbourhoods though the use of regulations, incentives, etc., as necessary. We expect a transparent action plan that is measurable with timelines & report backs and that shows a strong commitment to systematic change towards sustainability." 77% of Panelists supported this statement, 22% didn't, and 2% were unsure.

Our Intentions about Future Involvement



The recommendations of this report reflect the careful deliberation of each Panelist involved in this process. Using the information provided by the City, ABCD, and CPI, as well as a number of presentations by academics and industry stakeholders, we have created a set of recommendations that correspond with our values and principles, and also represent the pragmatic middle ground that City Administration and City Council should find desirable and achievable.

We recognize our continued support throughout the City's assessment of our report will help our fellow citizens and City decision-makers better understand our decision-making process and recommendations. For this reason, many of us have committed to leading or supporting a number of post-Panel actions and initiatives such as:

- Supporting the Office of Environment in its presentation of our recommendations to the City Corporate Leadership Team, Executive Committee, and/or Council, including by preparing and/or presenting materials
- Attending and speaking at all public meetings where our recommendations are discussed
- Sharing our recommendations and this Panel process with our families, friends, and networks, and recruiting them to attend public meetings where our recommendations are being discussed

- Speaking to the media about this Panel and our recommendations
- Ensuring that candidates in Edmonton's upcoming municipal election are given access to our report and are encouraged to respond to it
- Continuing to be involved in other City initiatives

We anticipate being kept informed about the entire decision-making process around our recommendations and want the City to understand our willingness to support our recommendations as much as is needed. We wish to express our appreciation for the City Administration's leadership and support in co-convening this Panel with CPI and ABCD. We view this collaboration as a formal commitment on the part of City Administration to seriously consider our recommendations and as recognition by the City of citizens' desire to contribute constructively to decision-making. We are deeply grateful for this opportunity to demonstrate that citizens are ready, able and, willing to contribute to Edmonton's wellbeing and to tackling our energy and climate challenges.

> I'm willing to back my words and get the message out to others.

These technical appendices describe the Panel process in more detail, from the perspectives **Appendices** of Alberta Climate Dialogue and the Centre for Public Involvement.



Appendix #1: Overview of the Citizens' Panel on Edmonton's Energy & **Climate Challenges**

LEADING EDGE CITIZEN INVOLVEMENT TO SUPPORT CITY ENERGY TRANSITION **PLANNING**

The City of Edmonton believes a key element of representative democracy is that people have a right to be involved in decisions that affect them.¹⁰ This commitment includes innovation in 'citizen deliberation', which brings a cross section of Edmontonians together to learn about an important issue, weigh choices and trade-offs facing the City, and make recommendations that will be taken seriously by decision-makers.

The Citizens' Panel on Edmonton's Energy and Climate Challenges builds on a number of other citizen deliberation exercises held by the City in partnership with the Centre for Public Involvement (CPI):

- The Citizen Panel on Budget Priorities (2009)
- The Edmonton Citizen Planning Circle on Sustainable Communities (2011)
- The Citizen Panel on City-Wide Food and Urban Agriculture Strategy (2012)
- The Citizens Jury on Internet Voting (2012)

These citizen deliberation exercises have helped to establish the City of Edmonton as a leader in citizen involvement practice, and each has been carefully documented and researched. Other Canadian municipalities, the Province of Alberta, and the federal government have begun to look to Edmonton as a jurisdiction to learn from and emulate as they seek effective ways to engage citizens.

The Citizens' Panel on Edmonton's Energy and Climate Challenges has a prominent national and also international profile. By partnering with Alberta Climate Dialogue (ABCD) and CPI, the City obtained design insight and advice from a range of leading public involvement organizations that in turn want to learn from us, including:

- Alberta Culture and Community Services
- AmericaSpeaks (US)
- Canadian Coalition for Dialogue and Deliberation
- Deliberative Democracy Consortium (US)
- Everyday Democracy (US)
- Involve (UK)
- National Coalition for Dialogue and Deliberation (US)

¹⁰ The seriousness of this commitment is reflected in a number of policies and tools, including the Involving Edmonton Handbook (City of Edmonton, 2008): http://www.edmonton.ca/for_residents/Involving_Edmonton_2008.pdf and City of Edmonton policy C513 (2006): http://www.edmonton.ca/for_residents/C513.pdf.

RECRUITMENT AND COMPOSITION

The integrity and legitimacy of Citizens' Panel processes depend on participants reflecting the diversity of the population. This does not mean a sample that precisely *mirrors* the general population, but rather having significant representation of forms of demographic and attitudinal diversity judged to be important. The representative character of the Citizens' Panel can give confidence to elected representatives, senior municipal administrators, and other citizens that the recommendations developed are substantively the same as if a much larger group of citizens had been offered the opportunity to become informed about the issues at hand, and to deliberate systematically and carefully to formulate recommendations.

Alberta Climate Dialogue (ABCD) and the Centre for Public Involvement (CPI) worked closely with the Office of Environment and with Probit (a division of the public opinion research firm EKOS) to establish the demographic and attitudinal indicators most relevant to the Panel, to measure these through both a general population survey and during Panel recruitment, and to adjust recruitment as it proceeded to get the broadest possible sample given time and resource constraints. Our goal was to 'bring Edmonton into the room' by ensuring diversity in terms of a range of demographic indicators, and to ensure that participants had a wide range of attitudes on energy and climate issues.



The process to recruit 66 Citizen Panelists, led by the Centre for Public Involvement, was as follows:

1. Establish representation targets

ABCD, CPI, and the City developed targets for representing Edmonton's demographic and attitudinal diversity. Targets were based on data from Statistics Canada, City of Edmonton census data, and a general population survey with questions developed by the project team in collaboration with researchers. The target size of the Panel was 55-60, and 66 people were recruited to compensate for anticipated attrition.

2. General population survey

An automated telephone survey of the general Edmonton population by Probit was undertaken to define baselines for the attitudinal questions in each demographic target. 1297 Edmontonians completed this general population survey.

3. Create an initial pool of prospective

Prospective participants were contacted through an initial automated recruitment call by Probit to random Edmontonians (total contacted: 2397). Data was gathered using survey questions (demographic and attitudinal) with phone key responses; willingness and availability to take part were also recorded. Additional follow-up was completed with a pool of those who provided telephone responses (total of 317). Those willing and able to take part were asked to complete a consent form and a more detailed survey.

4. Refine and adjust the composition of the Citizens' Panel

Final recruitment was completed to establish a Citizens' Panel that was as representative as possible of interlocking demographic and attitudinal criteria.

5. Targeted outreach

Additional youth outreach was undertaken by CPI to recruit participants in the age 18-29 category.

6. Finalize composition

Sixty-six Panelists were invited to participate in the 2012 Citizens' Panel on Edmonton's Energy and Climate Challenges. Each was provided with a participant resource package and letter of participation prior to the Panel's first session.

7. Supporting participation

Weekly communications and support were provided to ensure positive and effective participation by all Panelists; Panelists also had access to an intranet site to support their overall learning and experience. Those who left the Panel early were contacted: reasons for leaving included illness, family circumstances, and work out of the city.



I was surprised how many people don't believe global warming is an issue, but still agreed with same decisions as those that do.



Tables 2.0 and 3.0 below show the demographic and attitudinal diversity of the Panel relative to the general population of Edmonton. We believe that we achieved a level of diversity that allowed a wide range of perspectives to be represented and taken up in deliberation.

TABLE 1: DEMOGRAPHIC COMPOSITION OF THE PANEL

KEY INDICATORS	PROPORTION OF POPULATION (and corresponding number on Panel of 66 to match this) ¹¹	ACTUAL
Gender–Male	32 (49.85%)	32
Gender–Female	33 (50.15%)	34
Age-18-29	16 (25.35%)	17
Age-30-49	24 (36.82%)	20
Age-50+	25 (37.83%)	29
Education—High school or less (calculated for those 20 or older)	28 (43.43%)	19
Education—College or apprenticeship or trades diploma (calculated for those 20 or older)	20 (30.06%)	20
Education—University certificate or degree (calculated for those 20 or older)	17 (26.51%)	27
Ethnicity—South Asian or Chinese	8 (11.57%)	9
Ethnicity-Other visible minority	7 (11.34%)	7
Ethnicity-Aboriginal, Inuit, Métis or First Nation	3 (5.28%)	2
Ethnicity–Not a visible minority	50 (77.09%)	47
Disability—Activity difficulties/reductions	11 (17.60%)	8
Households with children	27 (41.00%)	17
Household income\$0-\$29,999	13 (20.29%)	23
Household income\$29,999-\$59,999	18 (27.20%)	18
Household income\$59,999-\$89,999	14 (21.38%)	23
Resident–Ward 1	Minimum 3-4	9
Resident–Ward 2	Minimum 3-4	3
Resident–Ward 3	Minimum 3-4	3
Resident-Ward 4	Minimum 3-4	5
Resident–Ward 5	Minimum 3-4	1
Resident–Ward 6	Minimum 3-4	10
Resident–Ward 7	Minimum 3-4	10
Resident–Ward 8	Minimum 3-4	7
Resident-Ward 9	Minimum 3-4	2
Resident–Ward 10	Minimum 3-4	1
Resident–Ward 11	Minimum 3-4	4
Resident–Ward 12	Minimum 3-4	5
Employed or family member employed by energy industry	Minimum 3-4	9

¹¹ Proportion of population derived from Statistics Canada's 2006 and 2011 census profiles for Edmonton. Target numbers reflect joint recruitment decisions by City of Edmonton, Centre for Public Involvement, and Alberta Climate Dialogue

TABLE 2.0: ATTITUDINAL COMPOSITION OF THE PANEL

SCALE	GENERAL POPULATION ¹²	CITIZENS' PANEL ¹³		
How much do you like living in Edmonton?				
Not much (1-2)	10%	1.5%		
Somewhat (3)	18%	12.2%		
Like (4-5)	72%	86.4%		
Generally speaking, how much trust do	you have in the municipal government	in Edmonton?		
Little trust (1-2)	23%	4%		
Some (3)	44%	50%		
Trust (4-5)	32%	46%		
In general, do you think that politicians	s care what people like you think?			
Few (1-2)	36%	10%		
Some (3)	43%	47%		
Many (4-5)	21%	42%		
You may have heard about the idea the years. What is your personal opinion of	at the world's temperature may have be f this?	en going up slowly over the past 100		
Happening (1)	83%	87%		
Not happening (2)	16%	11%		
Do you think a rise in the world's temp or about equally by things people do a	nd by natural caused mostly by things	s people do, mostly by natural causes,		
People (1)	37%	32%		
Natural (2)	11%	8%		
Both equally (3)	52%	46%		
In general, how much attention do you	personally usually pay to environmenta	l issues?		
Little (1-2)	11%	6%		
Some (3)	42%	30%		
Much (4-5)	46%	64%		
In general, how much attention do you	ı personally usually pay to energy issues	?* ·		
Little (1-2)	12%	3%		
Some (3)	40%	20%		
Much (4-5)	48%	71%		
How much responsibility does the Government of Canada have when it comes to actions related to climate change?				
Little (1-2)	11%	5%		
Some (3)	42%	34%		
A lot (4-5)	46%	61%		
How much responsibility does the Government of Alberta have when it comes to actions related to climate change?				
Little (1-2)	12%	5%		
Some (3)	41%	29%		
A lot (4-5)	46%	66%		

 $^{^{12}}$ Target numbers are derived from a survey of 1279 Edmontonians conducted by EKOS prior to the Panel convening.

¹³ These numbers reflect 65 participants as data was not available for one of the targeted youth.

¹⁴ The questions marked with an asterisk (*) were not answered by all Panelists and therefore the results presented do not add up to 100%.

SCALE	GENERAL POPULATION ¹²	CITIZENS' PANEL ¹³		
How much responsibility does the City of Edmonton have when it comes to actions related to climate change?				
Little (1-2)	22%	11%		
Some (3)	44%	47%		
A lot (4-5)	34%	42%		
How much responsibility do private corp	orations and industry have when	it comes to actions related to climate change?*		
Little (1-2)	16% 11%			
Some (3)	32%	26%		
A lot (4-5)	50%	61%		
How much responsibility do you and individuals like yourself have when it comes to actions related to climate change?				
Little (1-2)	10%	8%		
Some (3)	36%	24%		
A lot (4-5)	54%	68%		

CITIZENS' PANEL PROCESS

Over the course of six full day sessions, the Panel was given the task of providing recommendations to the City of Edmonton about future energy use. In order to do this, Panelists were supported in their learning about key issues and given copies of Edmonton's Energy Transition Discussion Paper and a participant handbook. The handbook was produced by the Panel's organizers and vetted by industry stakeholders, City staff, and a Citizens' Reference Group (a panel of ten citizens recruited for diversity to give feedback on the document and proposed process).

Panelists also heard presentations from City of Edmonton staff, energy and climate experts, academics, and industry, representing different perspectives and positions on climate change and energy vulnerability.

Questions from Panelists were gathered during each of the six sessions, and a team of experts, City staff, and research assistants answered these on the Panelists' intranet site.

Deliberation and Developing Recommendations

Sessions were designed to support Panelists in working together to develop awareness of and communicate their values and priorities concerning Edmonton's energy and climate challenges. The diversity of the overall Panel was evident in all sessions as a wide range of perspectives were heard by all Panelists and shaped their reasoning. Panelists wrestled with the trade-offs required by their values and the goals and actions recommended by the Discussion Paper. They also worked to find where different values and priorities could come together to achieve the same goals.

Table 3.0 below includes a summary of the main objectives of each of the six sessions as well as the votes held. A number of decision-making processes were used to capture the collective thinking of the Panel at different points in time. A range of voting techniques (from keypads to straw votes to shows of hands) was used to advance the process towards a final decision. The recommendations included in this Final Report were voted on using anonymous electronic remote keypads (called iClickers).

TABLE 3.0: OBJECTIVES AND VOTING DURING THE CITIZENS' PANEL

SESSION	OBJECTIVES	PRELIMARY VOTING	FINAL VOTING
#1 – Oct 13, 2012 9am-4pm	 Help Panelists get to know one another and plan their work together Help Panelists to learn about energy and climate challenges Help Panelists begin to think about their values and concerns 	N/A	N/A
#2 - Oct 20, 2012 9am-4pm	Deepen Panelists' understanding of the key energy and climate issues and the complex nature of their interactions and impact Help Panelists learn about different values and perspectives people bring to the issues Begin the development of a shared set of guiding values important to the Citizens' Panel	Two rounds of voting on the Panel's guiding values: 1. Small group voting to determine 10 guiding values for the work of the Panel 2. iClicker voting to determine common ground on each of the 10 values	N/A
#3 - Oct 27, 2012 9am-4pm	 Key stakeholders provide information and context critical for Panelists' deliberations Initial assessment of the Discussion Paper's goals & levers Revisit, assess, and clarify Panelists' values (from Session #1) taking into account Session #2's learning and insights 	N/A	N/A
#4 - Nov 3, 2012 9am-4pm	Explore what is being learned about getting societal change on energy issues Deliberate on the goals and activities proposed in the Discussion Paper and determine:	Small group voting to assess how Panelists currently feel about the Discussion Paper's goals and activities	N/A

SESSION	OBJECTIVES	PRELIMARY VOTING	FINAL VOTING
#5 - Nov 17, 2012 9am-4pm	Take stock of and reassess preliminary recommendations Clarify Panelists' direction on a burning question: O How important is it that Edmonton adopts the measures needed to achieve a low carbon future by 2050 – and why? Go deeper on key messages for inclusion in the Final Report O Common ground and any related conditions O Areas of divergence and why	iClicker voting on draft Panel recommendations on the Discussion Paper's six goals and corresponding activities Small group deliberations and iClicker voting on whether Panelists feel it is important for Edmonton to become a low carbon city by 2050 iClicker voting on small groups' work to craft more detailed recommendations, including the Big Message, value statements, and post-Panel actions described in the report	N/A
#6 - Dec 1, 2012 9am-4pm	Validate draft report recommendations o Key messages o Principles and values o Recommendations on six goals/actions o Other important points for inclusion Where possible, strengthen and deepen recommendations Identify, explore, decide, and plan Panel actions going forward	N/A	iClicker voting on the Big Message, values, guiding principles, and recommendations included in this report

Supporting participation

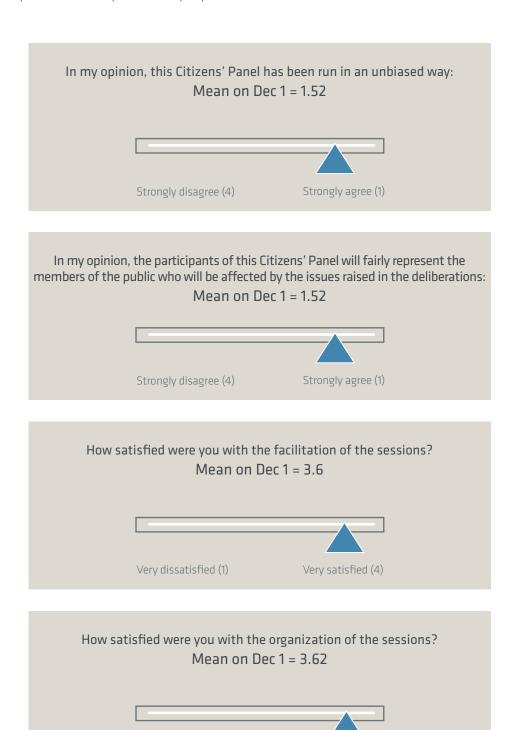
To support learning and reflection between sessions, a summary report capturing the high-lights of each session was emailed to all Panelists and posted to their intranet site. The intranet site also hosted all relevant materials used throughout the process and was a place for Panelists to ask questions of each other and the organizers.

Creating the final report

This Final Report has been authored by a Citizens' Writing Group of eight Panelists who worked from October 2012 to January 2013 to capture the Panel's recommendations and rationale. Drafts of the report were circulated to the whole of the Citizens' Panel twice for comment and validation.

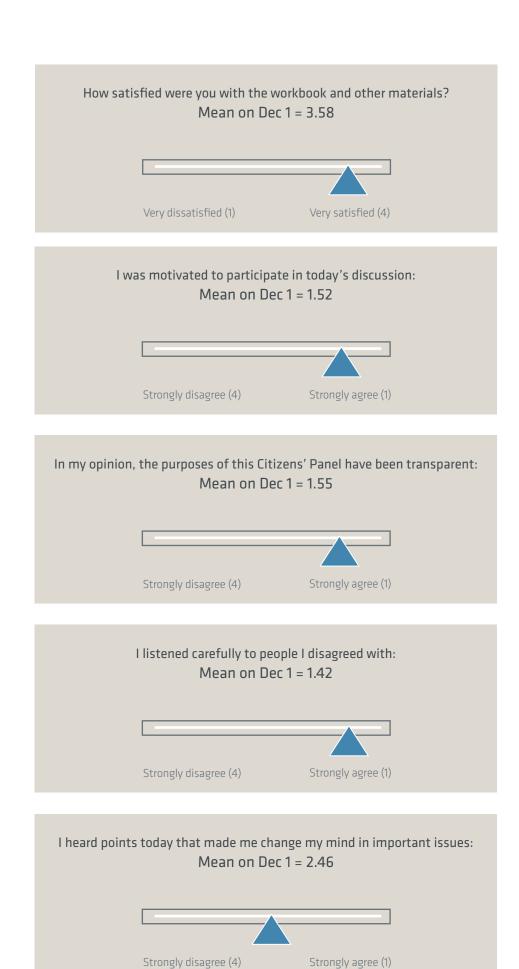
Appendix #2: Overview of Panelists' experiences

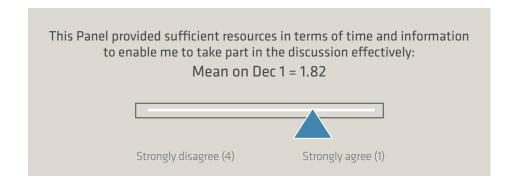
The Citizens' Panel process is being supported by rigorous evaluation and research, undertaken by an international team of researchers and practitioners under the guidance of David Kahane, Project Director, ABCD. While data analysis is at an early stage, we have pulled out some information that gives a sense of Panelist perspectives on the process they experienced.

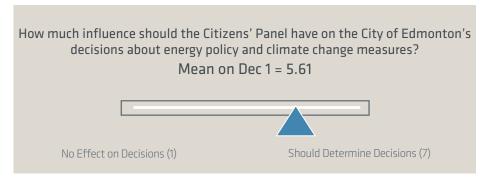


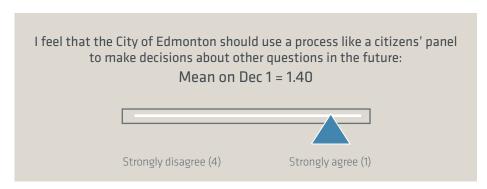
Very dissatisfied (1)

Very satisfied (4)









Appendix #3: Table of Contents of Citizens' Handbook

The full Citizens' Handbook is available at www.edmonton.ca/energytransition

What are climate change and energy vulnerability?

Overview: Five key energy opportunities for Edmonton

- 1. Alberta's electricity grid
- 2. Edmonton's urban form and transit
- 3. Heavy industry
- 4. Buildings
- 5. Vehicles

How these opportunities could lower Edmonton's emissions

How will this Panel work?

What will this Citizens' Panel do?

What difference will this Citizens' Panel make?

How will we decide together?

At-a-glance agenda for Citizens' Panel

Why work on energy policy at the municipal level?

Four Edmontonians' stories

Two scenarios for Edmonton's energy future

Scenario 1: No effort is made by the municipal government to change the way energy is used and where it comes from

Scenario 2: Most opportunities to change the way energy is used and where it comes from are aggressively pursued by the municipal government

About climate change and energy vulnerability

What does recent research say about climate change and energy vulnerability?

What is "energy vulnerability"?

What is "climate change"?

What impacts will climate change have?

How quickly and how much do emissions need to fall?

How much is Edmonton emitting now?

Edmonton's energy present and possible energy futures

How do we use energy in Edmonton right now?

Three possible carbon futures

Five opportunity areas under each of the threecarbon cases

The Discussion Paper's recommendations

Thinking about risk, uncertainty, and values

Risk and uncertainty

Values

What values do people bring into the discussion of energy policy?

What do we know about Edmontonians' views on energy and environment?

Why we don't always act on our values

Deciding what scientific and technical information to trust

Glossary

Acronyms

Definitions

More details on our policy opportunities

What are we already doing about climate change?

Scientific method and scientific uncertainty

What is scientific inquiry and peer review?

What is scientific uncertainty?

Endnotes

The Discussion Paper

Appendix #4: Acknowledgements

ABCD, CPI, and the City of Edmonton's Office of Environment would like to acknowledge and thank the Citizen Panelists for the time and effort they put into this process and its recommendations. Initiatives like this reinforce Edmonton's leadership in the area of citizen involvement. They also help demonstrate the capacity and desire of Edmontonians to make our city stand out amongst its Canadian peers.

We also would like to thank the Citizens' Writing Group, eight members of the Panel who took the time for an additional five meetings to compose and edit the contents of this Report: Twilla Coates, Pravina Dave, Paul Davis, Scott Hannah, Hart Lemmle, Gerard MacLellan, Cameron Noyes, and Paulette Paquette.

This Citizens' Panel couldn't have happened without the leadership and support of the following people:

City of Edmonton:

- Iim Andrais
- Mark Brostrom
- Barbara Daly
- Mike Mellross
- Mary-Ann Thurber
- Heather Wheeliker

Centre for Public Involvement (CPI):

- Marco Adria (University of Alberta)
- Fiona Cavanagh
- Al Cook (University of Alberta)
- Kalina Kamenova (University of Alberta)
- Michael Phair (CPI)
- Cathy Raftis (City of Edmonton)
- Adèle Wakaruk

Alberta Climate Dialogue (ABCD):

- David Kahane
- Sue Cole
- Eric Abrahams (University of Alberta)
- Laurie Adkin (University of Alberta)
- Edward Andersson (Involve)
- Gwendolyn Blue (University of Calgary)
- Shelley Boulianne (Macewan University)
- Pieter de Vos (Alberta Culture)
- Gloria Filax (Athabasca University)
- John Gastil (Penn State University)
- Susanna Haas Lyons (AmericaSpeaks)
- Janette Hartz-Karp (Curtin University)
- Lyndsay Hobbs (University of Alberta)
- Matt Leighninger (Deliberative Democracy Consortium)
- Kristjana Loptson (University of Alberta)
- Peter Muhlberger (National Science Foundation)
- John Parkins (University of Alberta)
- Greg Powell (University of Toronto)
- Geoff Salomons (University of Alberta)
- Dave Sauchyn (University of Regina)
- Deborah Schrader (University of Alberta)
- Miriam Wyman (Canadian Community for Dialogue and Deliberation)

Lead designers and facilitators:

- Jacquie Dale (One World Inc.)
- Mary Pat MacKinnon (H+K Strategies)

Writing support and information management:

Ian Moore (ABCD and CPI)

Table hosts, note takers, and runners:

- Iulia Babitski
- Nancy Balcom
- Jennifer Beyer
- Warren Bowen
- Ashley Casovan
- Jill Clements
- Salvatore Cucchiara
- Pieter de Vos
- Lisa Dockman
- lenna Frost
- Kim Ghostkeeper
- Debbie Hagman
- Tolga Karabulut
- Tsubasa Koga
- Joseph Luis
- Stephanie Mah
- Jackie Mechlaoui
- Shadi Mehrabi
- Mohsen Mojiloo
- Anita Moore
- Jillian Richman
- Maura Roberts
- Julianna Sookraj
- Lynda Vang

Presenters and observers:

- Debi Anderson (City of Edmonton)
- Heather Carmichael (Government of Alberta)
- Michelle Chalifoux (City of Edmonton)
- Jason Darrah (City of Edmonton/CPI)
- Graden Dej (City of Edmonton)
- Keith Denman (Government of Alberta)
- Daniel Eggert (Melcor)
- Justin Evans (Avatar Media)
- Aaron Franks
- Bob Hawkesworth (Municipal Climate Change Action Centre)
- Ben Henderson (Councillor, City of Edmonton)
- Cressida Heyes (University of Alberta)
- Emily Huddart Kennedy (University of Alberta)
- Erin Isaac (City of Edmonton)
- Don Iveson (Councillor, City of Edmonton)
- Simon Knight (C3: Climate Change Central)
- Sara Lundy (City of Edmonton)
- Becky Machnee (ISL Engineering)
- Jaro Malanowski (Avatar Media)
- Vik Maraj (Vik Maraj Consulting Inc.)
- Nancy McDonald
- Laura Milroy (City of Edmonton)
- Jocelyn Muir (Epcor)
- lesse Row (Pembina Institute)
- Amarjeet Sohi (Councillor, City of Edmonton)
- Rhonda Toohey (City of Edmonton)
- Jon Weller (Avatar Media)
- Gary Woloshyniuk (City of Edmonton)

Appendix #5: Project Partners

ALBERTA CLIMATE DIALOGUE

Alberta Climate Dialogue is a community-university research alliance, based in Alberta and drawing on international expertise, that explores how skilful citizen engagement practices can enhance responses to climate change. It is convening leading-edge citizen deliberations on climate issues in partnership with governments and other organizations, carefully evaluating impacts and success factors, and building tools and research that enable these to be shared in Alberta, across Canada, and internationally.

CENTRE FOR PUBLIC INVOLVEMENT

The Centre For Public Involvement is a community-university partnership whose founding partners are the City of Edmonton and University of Alberta. The Centre for Public Involvement provides leadership in understanding and applying innovative public involvement ideas, practices, and technologies, for citizen participation and deliberation. The Centre will build, advance and apply evidence of effective practices of public involvement through conducting research, synthesizing state-of-the-art knowledge from existing bodies of evidence and facilitating networks of practitioners, researchers, policy-makers, educators and citizens.

CITY OF EDMONTON, OFFICE OF ENVIRONMENT

The Office of Environment at the City of Edmonton works with City Council to help develop the growth and environmental vision for the City, shaping how Edmonton will feel, operate and interact within the region 30 years from now and beyond.

