

City of Edmonton The Way We Green Public Questionnaires #1 and #2

REPORT OF RESULTS
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Introduction

From May to August 2010, two questionnaires were made available to the general public through the City of Edmonton's *The Way We Green* web site. The questions posed to the general public were similar to those posed to the representatives of stakeholder organizations through both stakeholder questionnaires and participatory workshops. The purposes of the public questionnaires were two-fold:

1. To provide members of the general public with an easy mechanism to contribute to the early stages of discussion of the City's strategic plan for environmental sustainability.
2. To allow the City of Edmonton to compare the response from members of the general public to that of representatives of stakeholder organizations.

Questionnaire #1 was available from May 20, 2010 to June 15, 2010 and requested feedback on:

- A. Defining an environmentally sustainable city
- B. Establishing sustainability principles

Questionnaire #2 was available from June 16, 2010 to August 20, 2010 and requested feedback on possible challenges Edmonton might face in the future, specifically:

- A. The probability that the challenge would become a serious concern within 30 years if no changes are made
- B. Whether an effective response would require major changes to infrastructure and/or our lifestyle

This report presents the results of the response gathered through the on-line questionnaires made available to the general public.

Note: For all tables in this report, N=number of respondents; Percentages may not equal 100% due to rounding.

Participant profiles for public questionnaires 1 and 2

Gender

	N	Male	Female
Questionnaire 1	87	39% (34)	61% (53)
Questionnaire 2	201	44% (89)	56% (112)

Age group

	N	Under 35 years	36 - 65 years	Over 65 years
Questionnaire 1	87	52% (45)	46% (40)	2% (2)
Questionnaire 2	201	54% (109)	44% (89)	2% (3)

Interests

Note: Ranked from high to low based on times chosen. Participants could choose all areas of interest to them.

Questionnaire 1	
Land use	53
Water	47
Energy	46
Biodiversity	40
Air	34
Other	16

Questionnaire 2	
Energy	116
Land use	110
Water	99
Biodiversity	74
Air	67
Other	28

"Other" interests were described as:

Questionnaire 1	Questionnaire 2
<ul style="list-style-type: none"> • All the reasons cycling as a lifestyle focus affects sustainability • Transportation, food security • Putting together a statement to work toward a goal is fine, but until the city can put its money where its mouth is, it is just that -- words. Until there are positive steps toward creating a city that promotes environmentally healthy alternatives, 	<ul style="list-style-type: none"> • Alternative Energy Sources • animal protection • Bicycle infrastructure development, Nuclear energy development • bike lanes and LRT • Cities spray schedules • citizen encouragement of 'green behaviour' to cycle, conserve and conscientiously act with the environment in mind • City density/public transport

Questionnaire 1	Questionnaire 2
<ul style="list-style-type: none"> • Trees and plants - as green infrastructure • Food, community infrastructure, buildings, transportation • Transportation & education • Cultural change/ adaptation to green policies • Any and/or all! • Effects of cosmetic pesticides on water, air, land, biodiversity and human health. • Living simply • Urban food security • Recycling by businesses • Ecological Education • Natural areas in the city like mill creek ravine and mature trees • Food sovereignty • Gardening/local food/organic farming • Building codes and housing • Natural space conservation • Social sustainability, minerals sustainability • Teaching residents about plant biodiversity • Permaculture, children, healthy communities • Agriculture • All this planning is great, but specifically and immediately, please have city council get rid of any "snob" bylaws on the books: a bylaw that does not allow a homeowner to have a clothesline, raise a few fowl or bees, or reuse their grey water. • Biodiversity, because to sustain it means everything is considered as a whole rather than separating things as you have done in your question here. 	<ul style="list-style-type: none"> • Community Engagement • Composting • Density and an aim not to grow but to renew • education • Environmental Engineering • Expanding public transit incl. bike lanes/trails • Food (mentioned 6 times) • Food security (mentioned 2 times) • Food Supply - supporting vegetarianism and small local farmers • Food supply sustainability. • Global climate change • Global scorching/climate change • Growth • Issues the city is actually responsible for. • Keeping Scona pool open for us to use. • LRT & self electricity generation • LRT development and planning • Public engagement, education • Public Transportation • resource allocation and the socioeconomic effects of consumer patterns on sustainability of production, health and environment • responsible government • special mention for urban chickens • sprawl, local food, public transit • Sustainable Design • sustainable human powered transportation • Transit • Transportation / Sprawl • Transportation planning, especially cycling related issues. • transportation, which is linked to the others i chose • Unlocking human potential, responsibility & consciousness • urban design and Housing • Urban planning! • Waste

Questionnaire 1 Result

A. Defining an environmentally sustainable city

<i>Do you find this statement easy to understand and support?</i>	N	No	Yes	No opinion
from <i>The Way We Move</i> (Edmonton's Transportation Master Plan) and <i>The Way We Grow</i> (Edmonton's Municipal Development Plan): 1. Sustainability is a way of living which meets the needs of the present and does not compromise the ability of future generations to meet their own needs. It requires an integrated, holistic view of urban environments and defines sustainability in the context of interrelated ecosystems encompassing environmental, financial, cultural and social sustainability, and recognizes the long term and indirect impacts of current decisions.	86	23%	71%	6%
from <i>Wikipedia</i> (May 2010) 2. Sustainability is the capacity to endure. A sustainable city implies the long-term maintenance of the society's wellbeing, which in turn depends on the wellbeing of the natural world and the responsible use of natural resources.	86	19%	74%	7%
from <i>The Natural Step</i> 3. Sustainability refers to the ability of human society to continue indefinitely within natural cycles.	86	38%	52%	9%

Comments:

-the ability of human society to continue "indefinitely"..... Human society cannot make a conscious decision to; "have the ability to continue indefinitely". There are too many variables on the planet acting upon it. We have no control over the earth's environment. Society could disappear in 50 years or last another 1,000 years. Variables, famines, disease epidemics, world wars, earthquakes, volcanic eruptions, over population, massive climate changes, etc. You can't make a statement like this. It's ridiculous.
- I think that there are a few key concepts that need to be captured for this definition to be meaningful: 1. Sustainability is something we do on a day to day basis; 2. It looks to the future such that we are not limiting the options of a future generation to live in a clean, productive, diverse (economic, social, cultural, natural) environment. 3. That Urban Ecosystems can be a tool to manage human activity so that it meets the criteria that we define as being sustainable.
- The term itself is vague and has many slightly varying interpretations. For that reason, I prefer the complex and specific definition in #1.
- Definition 1 is best, but could also include detail on ecological and environmental with specific reference to air quality, water supply and quality, biodiversity, land toxicity, and the economics of the population - (i.e. ability for the population to pay necessary taxes to support sprawl, etc.).
- I think this is the critical part: Sustainability is a way of living which meets the needs of the present and does not compromise the ability of future generations to meet their own needs.
- The definitions of sustainability listed are utterly lifeless. The first definition, taken from "Our Common Future", the Report of the Brundtland Commission, published in 1987, is vague, mind-

- The first statement is too complicated -- just use the first sentence for a succinct statement. The word, "implies" in the second statement is not positive, and with the wellbeing of the city

- Sustainability is a tough word to define. The classic definition of sustainability is used in the first definition but the question is how do we know the needs of future generations? We don't. But from a planning standpoint it is a general definition that gets the point across to the public and that is all that matters, so this definition would be useful in that regard. As for the second definition, economic sustainability should also be part of the equation. If we can reduce extra-municipal dependence, that would go a long way in being a more self-supporting city (which is admittedly a very difficult task). I would say a blend of all the definitions would be sufficient. They all have good points but by themselves may not be as effective.
- The key to the first definition is the first sentence. However, 'future generations' implies only humans when truly sustainability is ensuring that all species are indefinitely able to meet their future needs.
- Too many buzz words in the first definition. The first definition could be good if you made it say what it means without so many of the current buzzwords and jargon.
- The first definition is jargon-laden and only understandable to those who have read Our Common Future or work in environmental policy. The second is fine and captures many of the same ideas. My only concern is: do we want to endure? Or do we want to thrive? At the heart of sustainability is the notion that the environment, economy & social choices are not either/or. There are ways to build a thriving community that meets all those goals.
- Sustainability means re-discovering the art of living in rhythm with the heartbeat of the earth
- it should be thought of as a way to educate humans to be responsible for their own actions, for every person, animal, plant and biological system on the planet
- Definition #1 is too long, abstract and complicated for the average person to understand. A general guideline suggests that wording for the consumption of the general public be written at a Grade IV reading level.
- The current and past policies of the city are completely unsustainable and are probably the most regressive strategies conceivable in maintaining any sort of ecological or cultural balance in the region.
- (Re) defining sustainability seems like a Sisyphean task. What is the intent behind seeking feedback on this, to see how much the audience has read? Or if they like short definitions? Personally, I like Brundtland.
- First statement is great in that it is detailed and all-encompassing, but too long for clarity.
- The first definition is the most comprehensive, the others, while true, are somewhat simplistic and could be used outside of the intended context
- #1 is easiest to support
- The first definition is the strongest as it is most specific. The last is so wishy-washy that it could be interpreted in many ways and easily co-opted.
- It has become a buzz word. I believe that very few people understand what it actually means.
- Please include statements about using fewer resources than that which we are able to provide for ourselves i.e. local renewable power production is greater than what we use. Collectively sharing the responsibility for our footprint - community look at power consumption and local small scale power production and sharing. This can also be applied to other areas such as local food or green manure production and water usage and clean water production. Getting people to stop and reflect on the consequences of their choices. The City should be a leader including reducing its energy consumption through renegotiating its leases with property owners i.e. light and air conditioning usage.
- Abuse of nature is death to people, plants and animals. We cannot eat tar sands nor survive with polluted water, land or water. We need to ensure we have a government that puts people first not big industry.
- I find definition #1 the most complete and clear. The other two seem vague and blurry. For people who are not well-read on sustainability, I'd think definitions #2 & 3 would be quiet meaningless. Definition #2 is clearer than the third one though.

- Of equal importance is the concept of resilience.
- #2 is simple and makes the most sense but I am not crazy about the wording
- Although I better understand the final example, I think it needs to be spelled out in more detail for some people as in the case on statement #1
- Yes, I find all the statements easy to understand and support; however I find the first statement the best at trying to explain sustainability.
- The third sets the bar awfully low. Humans will "endure" even if we severely damage the planet. The first has the right ideas, but is overly wordy and bureaucratic. The second strikes a reasonable balance. ("B" always wins!)
- Yes, I understand this, as a person with a graduate degree. However, it isn't exactly "man on the street" English. I wonder what kind of response you'd get if you read it out to passers-by on Jasper. Eh?
- I think the first one captures the definition of sustainability the best.
- In first paragraph, I would suggest that it would be more meaningful to put the second sentence first starting with Sustainability and then put the first sentence starting with It. 2. I don't agree with the first sentence. I believe that sustainability is a value which describes a way of thing and being. 3. I disagree with calling sustainability an ability. Again I believe it is a value that needs to be honoured, espoused and taught.
- The first sentence in definition one is the most important part of any definition of sustainability. It is a paraphrase of the original definition in the Bruntland report (the UN report that first floated the idea of sustainability). Any definition of sustainability has to include the idea that we have a reciprocal relationship with the natural world. The natural world provides us with the things we need for life (air, food and water), in return we need to look after the natural world by not polluting and by not over-using its resources. Ultimately, we are an integral part of the natural world and we have to recognize this. It is hard to answer your questions about the definition because you are asking if we understand each definition and if we support it at the same time.
- Statements 2 and 3 place no obligations on society - they are too passive.
- Definition 1 is comprehensive, very academic, and kind of difficult to follow. I think we understand what it means to endure, thus I prefer the Wikipedia definition. It also directly relates to the city. Often when we hear about the balance of economic, social, and environmental sustainability the environment is treated as an add on. The economy is still seen as prime, and the co-dependence of the three legs of sustainability is not communicated. That said, referencing the wellbeing of peoples children is effective. People often have difficulty visualizing and personalizing sustainability for anything greater than one generation. I am not sure how long indefinite is, nor do I know what natural cycles means.
- Sustainability is not just the capacity to endure; endurance takes strength, but does not necessarily mean something is sustainable. Sustainability implies a sense of responsibility, both in principle and action.
- Definition #1 is good. It could be made even better by simplifying the words "integrated" and "holistic".
- It may be true or maybe not, depends on conditions and situation these things handles
- add a stronger emphasis on conservation of natural ecosystems
- #1 option is too "wordy" and long. While it is easy for me to understand, I do not think it will be easy for others to understand. #2 is alright. #3 is too short and not detailed enough to give much for someone to understand.
- I don't like the word "endure" in the middle one. It has the tone of just barely surviving. Sustainability needs to be about thriving within natural limits.
- Natural cycles is too vague and "wellbeing" is not the right word to use in my opinion. I like the use of the word holistic.
- I like the first one the best; I think it manages to encompass more aspects of the definition. The other two, especially the last one are more limiting in scope. The only problem with the first definition is its wordiness and use of jargon, but I do like its broad scope.

- Further to my previous submission, which observed that the definitions are too abstract and wordy: The sustainability principles will be used to "develop criteria that will allow Edmonton to measure progress toward sustainability". The principal weakness of the definitions is that they contain no metric or standard by which we could measure our progress. There is no way or incentive to gauge performance. The definitions do not refer to concrete realities and measurable quantities.
- A potential caution in using the word indefinitely. Human society will not survive indefinitely within natural cycles (maybe 100-1 million generations), but not indefinitely. The Native Americans use a seven generation principle, where the elders must think of the needs of the seventh future generation. Having a politician or administration play prophet looking 100 generations into the future is not feasible. Especially when most only look to the next election.
- Do not go for short and sweet hoping that it will be easier to understand for the public. The top definition has a clearer explanation and the length should not matter.
- There is a traditional native saying, that I have heard somewhere that refers to not making any choice that negatively impacts for 7 generations. Something briefer and simpler for #1 would be preferable, but with a second reading it was clearer.
- "Urban environments", should be changed to Urban and Native Environments. 3) Natural is ambiguous; consequently it should be changed to native environments within their own cycles.

B. Establishing Sustainability Principles

	N	Mean out of 5	Strongly or Moderately DISAGREE	Strongly or Moderately AGREE	Neither Agree or Disagree
1. Biodiversity: Recognize the intrinsic value of biodiversity and natural ecosystems and protect and restore them.	86	4.8	1%	97%	2%
2. Model cities on ecosystems: Build on the characteristic of ecosystems in the development and nurturing of healthy and sustainable cities.	86	4.5	2%	92%	5%
3. Renewable resources must be consumed at a rate less than or equal to the rate of natural replenishment.	85	4.7	2%	93%	5%
4. Use of non-renewable resources must decline at a rate that is equal to or greater than the rate of depletion.	84	4.1	12%	70%	18%
5. Substances introduced into the environment from human activities must be minimized and rendered harmless to biosphere functions.	84	4.8	1%	98%	1%
6. Population growth and/or growth in the rates of consumption of resources cannot be sustained.	85	4.0	17%	72%	12%
7. Nature is not subject to systematically increasing concentrations of substances extracted from the earth's crust.	85	3.8	14%	62%	24%
8. Nature is not subject to systematically increasing concentrations of substances produced by society.	86	4.1	14%	74%	12%
9. Nature is not subject to systematically increasing degradation by physical means.	85	4.3	11%	78%	12%
10. People are not subject to conditions that systematically undermine their capacity to meeting their needs.	83	4.0	15%	74%	12%

Comments:

1. Biodiversity: Recognize the intrinsic value of biodiversity and natural ecosystems and protect and restore them.

Generally or Strongly Agree

- I am all for biodiversity and ecosystems. Obviously if they have to be removed for good reason then that is acceptable, but we shouldn't be tearing them down to build big box power centers, either.
- This should be an overarching statement that governs several actions from removing lawns/grass that the City power-mows to not using pesticides to setting incredibly high standards for conserving natural and green areas.
- Planting trees and vegetation that are drought resistant. Edmonton seems to be losing a lot of trees each year and don't seem to be re-planted.
- Protecting and expanding natural space and animal habitat should be a priority.
- The city of Edmonton should stop using toxic herbicides on dandelions that cause cancer, and that pollute our air and water....Stop spraying toxic pesticides just to try and reduce mosquitos. I would rather have dandelions and mosquitoes, than illness and cancer for our neighbours and families.
- Australia's approach to biodiversity is rooted in a love of and healthy respect for the wild. It focuses less on necessity and more on wonder.
- The city identified several rare and important ecological areas in the 1993 Geowest study "Inventory of environmentally sensitive and significant natural areas". None of these areas were protected and suburban development and freeway construction in the perimeter of the city has created a wasteland of very low density housing and completely stripped forests and farms and draining of wetlands.
- It is important that we protect and care for our ecosystems and biodiversity!
- Part of what makes Edmonton such an attractive city to live in is the amount of green space and park areas, incorporating naturally existing ecosystems into the development can only make things better
- A city should not be cookie-cutter houses with prim and perfect lawns as far as the eye can see. This is unsustainable, and up to this point the ideal for development has viewed biodiversity as a bad thing.
- Or death of people, plants, animals, and the environment is guaranteed. We are waiting for????
- Biodiversity can also be applied as an analogy to the social and physical structure of a city.
- This is so absolutely obvious... the only problem is that when human needs are considered above those of the natural world....human development has historically always won out... the challenge to us is to be creative enough to take the ore long term choice or the more expensive choice....
- Cities must protect and restore what they have destroyed. Protecting the land and its species is our responsibility.
- Of course! But like all of these, it isn't an absolute to be used in isolation.
- For clarity, please give an example of what this would look like in practice.
- I would like to see "the need to" added after and.
- Even an ecosystem that does not contribute directly to the support systems of human society still contributes indirectly. For example, an undisturbed, remote forest means that the stream that flows out of that forest is clean, has non-"flashy" hydrology, and can support a healthy fish population.
- Biodiversity is key to a healthy, adaptable, enriched human sustaining world. Life is far too complex for us to decide what species to keep and what not to. It is foolishness to act with such arrogance and contempt for life.

- Once lost, the combination of plants, supporting tiny organisms, bacteria and fungi in the soil, mammals and birds may be impossible to restore. Make sure that natural forests, wetlands are protected
- Protect biodiversity and natural ecosystems from what?
- Natural ecosystems are vital to a healthy city and it is important to preserve, protect and expand them.
- Our lives depend on the biodiversity of the planet. Sure humans COULD pollinate all the grains & flowers of the world, but it would be very challenging. By protecting biodiversity, we can utilize the benefits that other creatures bring to the Earth's productivity.

2. Model cities on ecosystems: Build on the characteristic of ecosystems in the development and nurturing of healthy and sustainable cities.

Neither Agree nor Disagree

- This is the newest, coolest idea in urban planning. It would be doable for new development, but not help transform existing neighbourhoods.

Generally or Strongly Agree

- Citizens need constant reminder that we are integrated and essentially connected to Nature. That we are not separate from it and that we should work with it and not against it in our daily lives. We have become alienated from nature and fearful of her changes and cycles.
- everything depends on human beings to save our ecosystem
- "Survival of the fittest" was once described as nature's maxim so let's be careful! A sense that we don't have to control everything (humility) is important. Also a sense of responsiveness, some crops that do well in rain, some that do well in drought.
- This could be cleaned up a little; Ecosystem Approach - Develop and nurture a sustainable city by respecting and emulating natural systems
- It's a good idea
- While a good idea that should be incorporated into future development, I do not think it is immediately feasible to reconstruct existing areas
- It's a useful concept that may push us in positive ways we would not otherwise have considered. The specific application needs to be critically reviewed, though.
- Build on which characteristics of which ecosystems?
- Nature is not always right - maybe we can design better in some instances.
- I agree that natural areas should be present in the city, but to mimic nature in cities is not realistic in my opinion. Cars, buildings, roads, trash cans, etc. are never going to mimic nature.
- Integration is something that should be done more. Our built environment is too fake and concrete. Having a blended environment of built and natural would go a long way in increasing the environmental, social, and aesthetic appeal of the city.
- This is very true, there is a reason that nature has succeeded so well. Only humanity would be ignorant enough to think that they can design it better. When designing streets with tall buildings we should at examples in nature such as valleys, in order to avoid wind tunnels etc.
- The habitat loss in Edmonton has been catastrophic over the last 10 years with zero concern for protection of biodiversity. The new development has clearly been "engineered" and not planned.
- Edmonton is far from a model city in this regard. The fact that backyard chickens, for instance, are so hotly debated when other cities have easily embraced them is telling of this.
- Not sure if this is the place to say this, but I like what Portland has done. Clear city limits to stop the urban sprawl.
- Farmland has to be valued and held in trust for future generations. We cannot eat tar sands and big industry farming is not sustainable.

- Very important.
- I have been working at a local Edmonton High School on a permaculture project (<http://permaculture.jasperplace.ca>) and have been learning to apply concepts and principles found within ecology to the social and physical structures of an educational institution. I am more than confident that ecology applies to the cities as nature is the foundation upon which everything else is built; work with it, and amazing things can happen.
- If more developers understood basic principles of ecosystems, perhaps they would make better long term decisions.
- I definitely agree, but looking at what's happening in Edmonton at the moment, I can't imagine it being put into practice.
- This is an important principle because it gets away from the "parks" mentality, which says that as long as we preserve nature "over there" it is OK to continue to destroy nature "over here". We need to preserve nature everywhere, even where we live. We can only do this by integrating ourselves into the local ecosystem. This means tolerating skunks and magpies, growing native shrubs instead of introduced ones, and a transit system that is so good that it is easier to take a bus than to take the car.
- In order to be sustainable it is imperative that we relearn how to mimic natural systems. In an increasingly crowded world human systems need to adapt to a new reality of scarcity. It is our cumulative impacts that must be accounted for and mitigated. This will require a rethinking of the current human systems.
- provide more info to public on what this means

3. Renewable resources must be consumed at a rate less than or equal to the rate of natural replenishment.

Generally Disagree

- Perhaps replenishment can be enhanced (i.e., don't need to be tied to natural replenishment rates). The statement would read better without the word "natural". Certainly consumption should not exceed replenishment rates.
- Renewable resources have been over consumed for so long! In the short-term, they should be consumed less than the rate of natural replenishment to allow for 'healing'.

Neither Agree nor Disagree

- first the current wording overemphasizes the necessity of consumption; second the boundary problem with rates of consumption and the intent of a City sustainability plan - the hinterland to serve the City spreads well beyond the City's boundaries and vice versa, this interrelationship is further complicated with globalization. The example provided, the forest being over logged, to me is a more rural resource stewardship issue that would be addressed by a regional or provincial authority
- This would be an ideal situation, but realistically is it possible? I think that this would be a long term goal but perhaps a more gradual approach should be done. People do not respond well to immediate change but do respond well when they can get used to it in increments.

Generally or Strongly Agree

- The standard for rate of consumption should be much higher. Not equivalent but much less. We are globally depleting natural resources; significant amounts are not renewable on their production and acquisition is devastating to the planet and to peoples we exploit in the process.
- How is this achievable in a local economy using global product? This may be difficult to measure . . .

- Generally I agree strongly with position. However the current use of renewable resources may be such that restoration is required before the bar is set. In other words more replenishment is required to gain on an already near exhausted resource.
- It would be hard to do but if possible yes
- This seems to be at the heart of the notion of sustainability. My only qualification is that there are situations where we legitimately replace one form of capital (a renewable natural resource) with another form of capital (financial or built). This happens every time we expand the city on to agricultural land, for example. (In policy wonk terms, the extreme form of "strong sustainability" won't work in practice.)
- It is not so much the rate of consumption but the means of consumption that matters. For example, selective logging instead of clear cutting, eggs from free range or even backyard chickens rather than factory chickens, etc.
- We should also consider the use of fire as a natural force to regenerate habitats such as meadows, patches of forest. In Winnipeg there are professionals who guide small burns, training fire-fighting teams at the same time. get training from these people plus Barry Irving of the U of A agriculture faculty
- A key idea here is efficiency, not only whether or not to use or conserve a renewable resource.
- We have enough "stuff." Green businesses can go for generations on recycling the glass, metal, tires, fabrics and paper we already have. Water used for showering can be re-used for the toilet, or for watering plants so long as you use soap which is safe.
- For instance farm land needs not only to be protected but maintained is sustainable production not taken over by urban sprawl and being taken out of production by industrial companies.
- Every effort needs to be made to keep our land fertile and producing.
- Encourage farmers around Edmonton to grow hemp. Hemp can provide food, clothing, paper, and does not require any toxic pesticides or herbicides to grow.....Also, encourage Edmontonians to plant gardens in there yards.
- I strongly agree in principle. In practice right now that would devastate our society - but i think it's a very important goal we should start working toward seriously now.
- This is common sense, if it isn't being replenished fast enough how can we justify our rate of consumption. this will lead to depletion and the end of ourselves, by moderating our intake to such levels we can ensure our survivability as well as natures
- The energy utilized for the devastation of forests and farms and the reshaping of the land for water "management" and earth berm overpass construction is massive. The city of Edmonton probably uses more energy per hectare of development that any other city in North America.
- Or death of plants, animals and people is a certainty. We would live on????
- Makes sense: simple math
- Reducing consumption will be a longer term solution than substituting other resources to feed our current "Needs". e.g. more home grown food instead of more solar powered trains to get our mutant strawberries from California....strawberries grow here... we just need to sun dry them or preserve them in honey, etc. etc.
- Who could argue? We were teaching this to elementary students in the 70's.
- Ensuring that civilizations are able to endure will likely require some pause, recalibration, and immediate remediation.
- I strongly agree with this statement, but in the current social framework this is highly highly unattainable. How fast is the natural rate of petroleum replenishment??? Very slow. We are extracting and using this resource at an unprecedented rate, which increases every day. Be careful not to make 'non-starter' statements, where politicians/administrators/citizens look at it and say there is no possibly way of achieving that goal, so why even bother taking the first step.

4. Use of non-renewable resources must decline at a rate that is equal to or greater than the rate of depletion.

Generally or Strongly Disagree

- I work in non-renewable resources and I have no idea what this statement means. Stocks of few non-renewable resources are actually in decline (exploration and discovery continue to increase stocks), although this must happen eventually. The focus here should be on recycling and re-use; i.e., conservation of current stocks.
- The use of non-renewable resources should continue to lessen. One day these resources will be gone, and for true sustainability we need to eliminate our use of them and truly focus on resources that are sustainable and the least damaging to the environment.
- There are many other disadvantages to non-renewable resources than running out of them. Their use should be stopped completely as fast as feasibly possible.
- This is a complex statement. Use of non-renewable resources set the rate of depletion. Therefore use and rate of depletion of the non-renewable resources are always equal. Heinberg's statement speaks of "rate of use" whereas this statement only speaks to "use".
- The goal should be to phase out the use of non-renewable resources.

Neither Agree nor Disagree

- See 3b regarding the 'boundary problem'. Both 3 and 4 could be combined into a single point - Respect the ability of our planet to provide renewable and non-renewable resources by avoiding consumption that is not sustainable.
- As mentioned earlier, this would be an ideal situation, but realistically is it possible? I think that this would be a long term goal but perhaps a more gradual approach should be done. People do not respond well to immediate change but do respond well when they can get used to it in increments.
- This suggests that the decline and use should always be something like an exponential. I don't see the logic, especially where the natural capital is replaced with some other form. e.g., I think it is less important that Alberta follow such a curve than that we replace the natural resource capital (the petroleum resources) with other forms of capital (Heritage savings, long-term infrastructure, etc.)
- I don't understand the math in this principle. If, say, the rate of depletion of a resource is 100 units per year, and you want the decline in the use of the resource to equal the rate of depletion, then the decline has to be 100 units per year. This take you straight to zero, which is not reasonable, and I'm sure this is not what is intended, but I cannot figure out what is intended. This principle needs to be re-written for clarity.
- While nice it involves too large a cultural change to be truly implementable
- I agree with the statement but don't find it necessary to add to as a principle; of course resources will be unavailable at a rate equal to or faster than we're using them.

Generally or Strongly Agree

- Set the rate to decline greatly rather than equal to.
- How is this achievable in a local economy using global products? This may be difficult to measure . . .
- It is pointless to have a strategy plan that will have no chance of implementation.
- especially with regard to the oil industry
- It is good to try and find renewable resources as soon as we can
- Again, efficiency is key. Energy efficient, closed loop systems (for energy or water) can yield huge gains without sacrificing economic or social objectives.
- This means that the rate and impact of population growth has to become an important part of our discussion and education.

- Similarly to the renewable resources, i agree strongly in principle though i recognize the potential impacts on economy and lifestyle if this was to happen all at once. This is an important goal that we should start thinking about now to make our city one that would work without non-renewable resources (particularly energy sources). This means city infrastructure planning as well as diversifying our economy away from oil and gas!
- again common sense
- Of course.
- This one confuses me...re - word it... I think it means we need to stop using non-renewable resources if it looks like they are being depleted??? Obviously!
- This, of course, means a change in life style for most of us. And change is not easy. Thought needs to be put into how those life style changes can be encouraged.
- See 3b comment. *I strongly agree with this statement, but in the current social framework this is highly highly unattainable. How fast is the natural rate of petroleum replenishment??? Very slow. We are extracting and using this resource at an unprecedented rate, which increases every day. Be careful not to make 'non-starter' statements, where politicians/administrators/citizens look at it and say there is no possibly way of achieving that goal, so why even bother taking the first step.*

Not rated

- The question is hard to understand. We should not use non-renewable resources beyond their capacity (meaning, they should be able to remain intact and part of the ecosystem - since they contribute to it).

5. Substances introduced into the environment from human activities must be minimized and rendered harmless to biosphere functions.

Strongly Disagree

- I firmly believe in nature's ability to repair itself; there are some fantastic things being done using fungi to consume hydrocarbons and eliminate pathogens (See Mycelium Running).

Neither Agree nor Disagree

- Nothing is absolutely harmless - everything interacts at some level. It is not possible for life to exist without impacting the environment at some level. As for Heinberg's statement below, he is wrong. So called renewable resource exploitation, especially agriculture, forestry, fishing, have impacts that change entire environments and ecosystems, and on a much larger scale than non-renewable resource exploitation. People are distracted by climate change - other impacts are far greater.

Generally or Strongly Agree

- Humans are part of the bio-sphere, therefore not all of the substances they introduce need to be necessarily minimized and rendered harmless.
- Sure. "Minimized" sounds easy, though. In practice, it will always be a balance. An activity that causes some degree of pollution even under best technology can only be minimized by stopping the activity. We need to focus on the cumulative effect of all sources and ensure that the result is what we want as a balance.
- Who is going to pay for this? It should be the polluter.
- We should be able to keep human waste out of the environment until it is no longer harmful to nature. We should not be using water and a cleaning solution; a material to carry away many pollutants that we will later drink. I think that we not put any substances into the environment - set the standards higher.
- You mean like road salt, toxic pesticides and industrial pollutants. Oh yeah those will not be regulated here.

- With Alberta's growth and new babies, one of the easiest ways to eliminate human impact on the environment is to offer an incentive to parents to choose cloth diapers. This would allow more space in landfills (1.7 billion disposables are put in landfills every year in Canada) and ensure proper disposal of human waste. Certain municipalities in the province of Quebec offer families a monetary subsidy for those using cloth diapers on their children. This is how it works: You purchase a minimum amount of diapers, send in a receipt and a proof that you are a resident of the participating municipality and you will receive your subsidy. The subsidies range from municipalities but most of them offer \$100 when you purchase a minimum of 25 diapers. I read that even a couple of municipalities reimbursed 50% of the cloth diapers purchase, up to \$200.
- It's a given our planet is being destroyed from our human activities; we are suffering the devastating effects to our health, air, water; not to mention the animals. If we want to achieve any sustainability we need to stop the use of such harmful chemicals.
- We need to live, eat, sleep, and drink where we live. I don't want my home to be a heap of garbage with air/water/soil pollution.
- We should minimize our footprint whenever possible.
- This is important. Edmonton already has a start on this with our sewage treatment plant and our landfill program with all its composting and recycling. A better transit system would work; Edmonton is focused on the glamour part of the system (the LRT) but is ignoring the workhorse of the transit system (the busses). We need to reorganize the bus system from the ground up to produce one that is easy, even inviting to use. My young friend who likes skateboarding once decided to take the bus from Old Strathcona to a skateboard park on the outskirts of town. He took the route recommended over the phone by the city. It took him seven hours; this included several hour long waits at transfer points. Any system that produces results like this is simply not working.
- the thing that we have an effect so we have to do the right things
- I am concerned about fragile ecosystems in an urban setting. for example the frog depletion in mill creek ravine
- due to pressure from the agri business and pharmaceutical sector, consumption of pesticides since the 1940's (read SILENT SPRING) has polluted waterways, soils, and is linked to high rates of cancer, attention deficit, Parkinson's disease et etc. . LET US START with eliminating this source of pollution (almost 80% Canadians protected by legislation but none in Alberta)
- Would anyone disagree with this? :) It would require significant cooperation with surrounding communities.
- Saying minimized and rendered harmless is important because both are needed.
- Encourage Edmontonians, and businesses to use environmentally friendly plastic shopping bags, and garbage bags, that decompose after a few months. This type of plastic is also a by-product of hemp.
- Even if we don't know what impact if any some emission will have, we should reduce all emissions, to air, water or landfill, as much as possible with a goal of zero waste.
- it's time for companies to be accountable and transparent not only to the environment but also to people that they lay off during economic crisis
- Air that is heavily polluted is good for??? And there is no way to renew it following heavy industry pollution.
- As a statement of their sustainability principles, one of Washington states is proposing to ban Alberta tar sand oil import. And even though, oil is a major Alberta resource, surely there are ways to reduce the impact on the environment.
- Obviously this has to be looked at from a systems perspective. System improvements must be demanded, however, there ought to be flexibility built into how our biosphere is protected. Edmonton's high tech has an opportunity to create the environmental solutions that can sustain their economies with green jobs. In order for Edmonton to be a leader our standards must be based on the best evidence available.

- I strongly agree with this pollution endangers everything from human health to the health of our planet.

Not rated

- Particularly, chemical pesticides and fertilizers should be banned.

6. Population growth and/or growth in the rates of consumption of resources cannot be sustained.

Generally or Strongly Disagree

- Exponential growth (as in population grown and resource depletion) is very important to factor in.
- Population growth can obviously be sustained with use of birth control and education. Consumption of resources can be sustained. Of course, the levels of both at this moment are not sustainable; however, if we drastically changed our way of living then I believe both population and consumption could be sustainable. I believe there's a shift happening AWAY from consumption, and I can only hope that this shift will continue to grow.
- We can sustain far more than we do now, the problem is that the existing systems are inefficient
- This statement is out of context with what Edmonton is trying to accomplish. This overall goal that must be considered nationally if not internationally.
- Edmonton is a major city in the region. Population growth is a given.
- The 'simple arithmetic' described below has been used since Malthus to create fear of the future. Why is this document discussing population growth as this is beyond the realm of the 'city'?
- Proper planning has to be done to anticipate fluctuations in population growth even if population growth has been sustained and relatively constant until this point. Edmonton really needs to stop catering to developers that want to build new low density neighbourhoods in the outskirts of town. Even the city planners know this should be curbed. Focus on infill development to increase density so the outlying land can be saved for when it is really needed. Consumption of resources ties into this to a degree - if we expand the city horizontally, we are going to consume more to build it and to maintain it. The city should reduce this horizontal growth and build vertically instead to use what it already has.
- I agree with the consumption of natural resources component, which is already above. Population growth rates, particularly in Alberta, are a political red herring that could jeopardize the plan. Also, for a city as spread as Edmonton, there is room to grow...just up, not out.

Neither Agree nor Disagree

- i don't know
- This could be quite alarming to some people. What exactly is this suggesting?
- Maybe not the way to put it when it's already been discussed how the over-consumption of the wealthy is impacting the poor world-wide. Let's be positive and note how those who have a large impact in their wastefulness can have a large impact when they see the light

Generally or Strongly Agree

- Assuming that "sustained" means "maintained at the current level" in this context, then the statement is obviously true. It's a finite world. I'd be concerned that putting the statement in the ESP might imply to some that Edmonton cap its population. As has been shown elsewhere (Okotoks?), such an approach just squeezes development outside the boundaries and leads to further sprawl.

- We should be encouraging people to adopt children rather than adding more people to the planet selfishly. I know that this is politically a sensitive area but we as a planet need to start the conversation about being responsible in terms of our numbers. I adopted as a first choice and have no regrets.
- I think this is a global statement not a local one particularly in reference to population growth. It is true on a local level that our consumption of resources cannot be sustained.
- True on a macro level, but population growth in a sustainable community can be positive if new residents move from less sustainable ones.
- I think it is better to encourage urban growth within a small area than spread it out over a large area. Dense cities surrounded by farm land are much better than every person getting a small piece of land.
- I'm not sure how Edmonton can begin to tackle population growth and I think it can be a pretty tricky issue to take on. What we need to do is insist that we stop consuming resources the way we do now. Issues of population control almost always end up creating situations where women are disempowered and discriminated against.
- Population growth MUST be decoupled from growth rates in consumption in this statement. While I do believe that we can significantly decrease the growth rates (even go the negative growth) with respect to resource consumption, I do not believe that it is within the purview of the City of Edmonton to restrict family sizes. Perhaps city population limit, but people would just move to St. Albert. Take population growth out, and focus on consumption rates.
- Yes, this is the root of the problem. Have cats (neutered) not kids. And if you believe in climate change, then Heinberg is wrong again, because human population growth and consumption has caused lasting damage to the environment (i.e., has NOT been sustained).
- City encroachment must be minimized. A lot of 'space' is not properly used within Edmonton. Focus on permaculture within this 'dead' space in the city.
- Albertans top the world for energy and water use per capita.
- ...especially with rates of consumption.
- Solutions are needed. Energy conservation and renewable energy sources must be heavily invested in.
- I am so glad that you included this principle, addressing population growth is vital to any serious attempt to address environmental problems. However, it is often overlooked because of the scary implications. For example, take real estate prices. Under the current system real estate is a sure bet for investment because as the population grows real estate becomes more and more scarce, this drives up the price in the long term. If population growth levels off or declines this trend in real estate prices will also level off or decline. It will no longer be possible to get rich in real estate. Despite this and related economic problems, population growth must be addressed because it is the underlying cause of every environmental problem from global warming to habitat destruction.
- We cannot continue at this level of North American consumption - it is impossible to maintain. Unfortunately, the bars have been set so low (in terms of financial costs of things) that people are not willing to pay more for more sustainable products.
- It is important that population growth rates and their impacts must become part of our education process and our discussions. This message was made loud and clear in the original Club of Rome Report: Limits to Growth published in 1972.
- Edmonton can consider replacing old energy consuming street lights, with modern LED lights. LED lights use very low energy, and have a much longer life span.
- I get caught myself in the trap sometimes of wanting people to like Edmonton and move here, of wanting a bigger city with more restaurants and night life... but i don't really think that unending population growth is what's best for the city in the long run.
- as dictatorship as it sounds, we need to limit our child bearing down to two children per family, we simply can't support a world anymore where every family has 5 children, people should consider adopting since children are being born in third world countries at an unprecedented rate

- We should choose to limit population growth and urban sprawl in cities to reduce our consumption of resources.
- Zero growth may be desirable
- Yes, people should start slowing down consumerism and living more simply. It will help lower the use of resources as well as might lower the debts people carry these days.
- It's obvious. Every major ecosystem is in severe decline.
- Edmonton certainly needs to take this to heart. The city has expanded and sprawled at an alarming rate within my lifetime and I'm greatly disturbed by all the new subdivisions I see being built outside the Anthony Henday every time I leave the city. This is not sustainable (and it's also pretty ugly).

7. Nature is not subject to systematically increasing concentrations of substances extracted from the earth's crust.

Generally or Strongly Disagree

- This concept is too difficult for many people to understand.
- I don't understand this statement: if it is a statement of fact, then it is incorrect; if it is a statement of ideal, then it's unrealistic. The explanation below is overly simplistic. For example, gold is benign, and its accumulation in nature (if this were to happen) would have no effect on anything. Modern society cannot survive without resource extraction - this is a ridiculous notion that would see us return to caves.
- Properly extracted and used resources from the earth's crust may provide the opportunities to reduce reliance on the other non-renewable resources therefore being more sustainable. As a poor example using uranium instead of coal and gas for power generation may be more sustainable if it is properly and safely deployed and used.
- as much as I love this from the natural step, the 'not subject to' wording is not helpful for this exercise - there should only be a single point on resources, prefer #4
- Unless steeped in the Natural Step, the statement is obscure and ambiguous. Clearly at the moment, "nature" IS subject to this, along with other assaults.

Neither Agree nor Disagree

- Nature does what it's supposed to do; it's not supposed to increase more than it should naturally.
- Again a nice concept but how would you begin to implement a policy around this?
- I think this was pulled out of context and doesn't quite make sense as a stand-alone statement. "Nature is not subjected?"
- ?
- There are a lot of things that we extract from the earth that are fully integrated into our daily lives. This statement would be great to support but I am unsure as to whether this can be achieved through local action - needs to be addressed on a much larger scale.
- I'm not sure I understand this statement.
- Perhaps the questions could have been written so that a layman can comprehend the issues.
- is difficult to understand
- This statement is very similar to the previous statements.

Generally or Strongly Agree

- We should have enough materials pulled out of nature that we can mine our landfills for materials rather than from pure locations.
- Hard to verify. Ask a geologist, the inter-earth substances do get blown to the surface (volcanoes, earthquakes, mudslides) occasionally. This is something I don't have expertise in.

- This statement sounds awkward to me and I believe it is covered by "4a. Use of non-renewable resources must decline at a rate that is equal to or greater than the rate of depletion." which sounds more elegant to me. Another way of approaching stockpiling and creating tailing ponds could be "Stockpiles, waste dumps and tailing ponds of by-products and wasted resources cannot be left to pollute and damage the environment. Strict limits to accumulations and serious ongoing recovery operations must be part of the licence and process.
- I would like to see the reuse of existing extracted materials, which might mean mining garbage dumps, and i would like to see more efficient use of extracted materials. But I am ok with extraction of materials for use in constructing things. It would be nice to rid the world of useless plastic crap though.
- I would rather extract steel than produce plastic, however I agree with this for fossil fuels since we are adding more carbon dioxide to the atmosphere that used to be contained in the earth's surface, we are essentially throwing the makeup of our environment out of balance
- I think we need to talk about decreasing gradually. WE are very wrapped up in the use of petro-chemical products, for example and need to be weaned off them.
- Particularly when WATER is used to do so.
- Continuously destroying mountain ranges and other precious ecosystems for consumer goods is not sustainable. Especially when you consider that 'consumers' will buy a new one for replacement of their good within 6 months.
- Again, necessary but extremely difficult to implement. Needs to be done in steps, first a better transit system, then more sustainable fuels for the transit system, then sustainable fuels for the remaining cars, then what do you do when the petroleum processing plant to the east of town are no longer needed? Like a junkie going off drugs, only we have no counsellors or clean junkies to turn to for help. We need to figure it out as we go along. To make things worse, many people are still convinced that there is no problem. Again... difficult but necessary.
- What does this mean? oh, explanation below
- Nature has put those substances inside the earth's crust for a reason - if they were meant to be found in higher concentrations on the surface (i.e. in water, soil, etc.) then I'm sure they would be.
- Hemp is the most useful plant in the world for humans. Hemp really can provide all the basic necessities of life: food, shelter, clothing, fuel and medicine. It has been said that, "anything made from a hydrocarbon can be made from a carbohydrate."
- Nor should the earth's crust be inundated with our waste...e.g. co2 sequestration... let the grass soak it up and stop cutting it and spraying it.
- We must start to imagine a future in line with natural processes if we ever hope to live in a sustainable world.
- Suggest changing to "nature should not be subject to human induced concentrations of substances extracted from the earth's crust". Reason: Volcanic eruptions are natural and excrete concentrations of substances from the earth's crust.

8. Nature is not subject to systematically increasing concentrations of substances produced by society.

Generally or Strongly Disagree

- Too wordy.
- If this is a statement of fact, then it is incorrect for some substances, correct for others. If it's a statement of ideal, then it's a reasonable goal.
- Ditto. *Unless steeped in the Natural Step, the statement is obscure and ambiguous. Clearly at the moment, "nature" IS subject to this, along with other assaults.*
- Change to what the Natural Step says, it is less ambiguous about humans contributing to concentrations of substances.

Neither Agree nor Disagree

- I prefer the wording in #5 and feel these are quite similar, maybe add the 'increasing concentrations' into the point #5.
- ?

Generally or Strongly Agree

- Perhaps "harmful" or similar meaning word should be added in front of "concentration".
- Great in principle, but given Edmonton's reliance on industry and the modern fascination with synthetic electronics, etc., this is a principle that is, at best, a guiding star. The idea is captured elsewhere and could be implemented through municipal procurement & "soft" tools. The results of which would be harder to measure & hold up as a success vis a vis this principle.
- If we produce it and waste it, we should be expected to live with it - not bury it, not wash it away, not ship it somewhere overseas.
- We overproduce junk right now. We should be more careful of what we use and what we expose ourselves and the environment to, but I would be ok with continued use of synthetics - in fact i think some synthetic production can prevent the destruction of natural resources.
- Some synthetic products we cannot do without, for example antibiotics or drywall. However, the vast majority are mere conveniences and we should work to eliminate them.
- Increasing concentrations of substances produced by society creates significant cumulative effects that have negative consequences on the health of the ecosystem and threaten our ability to thrive.
- Our ancestors did not leave us with heaps of garbage and polluted air, lakes and rivers. And we should not keep producing persistent toxins and leaving mutated and polluted nature for our children. Only in the last half a century we have created piles of garbage that will stay for years to come. Edmonton is located in the beautiful area, surrounded by miles of splendid land - we should thrive to keep it that way for generations to come.
- We need to immediately begin to proceed to a zero waste city.
- we should only produce products that come from naturally occurring processes
- No question.
- Humans are at the top of the food chain. Synthetic chemicals in our food supply become highly concentrated in our bodies.
- See my pesticide comment. *Due to pressure from the agri business and pharmaceutical sector, consumption of pesticides since the 1940's (read SILENT SPRING) has polluted waterways, soils, and is linked to high rates of cancer, attention deficit, Parkinson's disease et etc. . LET US START with eliminating this source of pollution (almost 80% Canadians protected by legislation but none in Alberta).*

9. Nature is not subject to systematically increasing degradation by physical means.

Generally or Strongly Disagree

- Too wordy.
- If this is a statement of fact, then it is incorrect: rates of physical erosion vary over time. If it's a statement of ideal, then it's a reasonable goal.
- Ditto. *Unless steeped in the Natural Step, the statement is obscure and ambiguous. Clearly at the moment, "nature" IS subject to this, along with other assaults.* Also, what is "nature"? Some would argue that when we bring in the bulldozers, it's no longer nature (so it doesn't count!)
- Again, stick to what Natural Step says, it is less ambiguous.

Generally or Strongly Agree

- Just the 'not subject to' wording problem - see comment on 7. *As much as I love this from the natural step, the 'not subject to' wording is not helpful for this exercise - there should only be a single point on resources, prefer #4*
- The systematic idea here is important to me. This principle should be mainstreamed into all facets of the city's plans.
- One of the worst culprits of this is transportation which moves incredible amounts of earth to make fancy roads. As well, we should not be disrupting anymore arable land for the development of buildings and definitely not for parking lots. All parking including on private lands and sidewalks and paths and lanes should be made of permeable materials so storm water can be soaked up locally rather than having it wash away.
- There should be limits. In Edmonton there should be an absolute moratorium on housing development in the river valley and possibly even the creation of some off limits areas where cyclists and joggers aren't allowed to go.
- Yes we can do this by growing up and not out, but in the end it can only be accomplished when the population growth levels off or declines.
- We must ensure wilderness systems stay intact to support biodiversity. Moving away from sprawl will enhance the urban, rural, and wilderness places.
- Large scale restructuring of the environment such as mountain-top mining and increasing intrusions by roads, distribution mechanisms and recreational activities must end.
- Take Europe as an example (build up, not out). Urban sprawl has taken over too many forests/wet lands/etc. already. Yes it is cheaper to build our sprawling cities, but they are not an ideal place to live either. Limiting physical encroachment also bodes well for green transportation and more functional cities.
- Hemp is a sustainable, annual crop that is ready for harvest just 120 days after going to seed, compared to trees which take tens or hundreds of years to reach maturity. Further, harvesting hemp doesn't destroy the natural habitats of thousands of distinct animal and plant species. Historically, hemp was an important source of paper fibre until the early 1900's when chemicals were developed to advance the wood paper pulp industry. Wood pulp paper rode the chemical revolution to its apex before the public health hazards of toxic chemicals were an issue and before the environmental consequences of clear-cutting forests were appreciated.

10. People are not subject to conditions that systematically undermine their capacity to meeting their needs.

Generally or Strongly Disagree

- Too wordy.
- If this is a statement of fact, then it is incorrect because some societal groups are being undermined (e.g., Amazonian Indians). If it's a statement of ideal, then it's a reasonable goal. As a general comment, statements 7-10 make no sense as written. They should be written as goals, not statements of fact (which are mostly incorrect or at least ambiguous). E.g., instead of "People are not subject to..." it should read "People should not be subject to..."
- Human leisure, identity, meaning and participation contribute substantively to the degradation of the environment. Subsistence, protection and security are a different matter!! Read papers on how human identity striving contributes to all kinds of social and environmental maladies!
- I think that this is particularly important when it comes to issues of food security: land access, urban agriculture, poultry, etc. Encouraging urban agriculture and increasing land access is increasing the capacity of Edmontonians' to meet their needs.
- We believe that we need to live at this artificially high standard and that we will not manage without our cars and TV and huge houses. We can dramatically change our standard of living and have a great reduction of our impact on the environment.
- I think the idea is better covered above in the concept of "sustainability."

- Should be "basic needs"

Neither Agree nor Disagree

- Build up, not out. Yes, suburb growth should be strongly discouraged.
- People are very good at putting their needs at the forefront. I am unsure whether it should be encouraged in a document requesting a change in lifestyle - this may be used against the plan.
- Perhaps this needs to be reworded a little bit to make it clearer. But yes, human needs should not be compromised on a general level. We should be less entitled to extravagance and be informed of better decisions, but that doesn't mean that we should not have things (e.g. we may not need a Hummer, but we may need a car depending on where we live).

Generally or Strongly Agree

- Yes, of course human needs must be met - however who determines what those basic needs are? Some will say that it is their human need, indeed their human RIGHT to have the latest iPhone whenever they want it, and toss the year-old one in the landfill.
- just the 'not subject to' wording problem - see comment on 7; maybe more positive wording that focus on the ability of the City to enable people to meet their hierarchy of needs
- The only thing I would note is that these are almost all phrased in the negative. Celebrate Alberta's cultural and biological diversity, encourage it, make note of it so that our children don't have to mindlessly repeat our mistakes, encourage learning about and respect for our natural world in a way that celebrates earth's resilience and strength and warmth and bounty, and practice stepping off the beaten track.
- The needs of people cannot be ignored. When people are living pay check to pay check, when they are worried about feeding the kids or getting out of debt, they have no time to worry about the environment, no matter how important it is to them in the long term.
- An important point.
- Living in a more sustainable society would provide many benefits listed below. I think that stronger communities will ensue from working together to build a better future. Knowing that we as a city can be part of the solution and not the problem would bring a great deal of pride/meaning (and more) to everyone involved.
- Citizens are subject to exposure to harmful toxins (pesticides) applied by their neighbours (or their hired lawn companies) or the city. this MUST END
- A general comment - I think that we need to go further and apply notions of sustainability to culture/social, economic as well as environment. I like Anielski's GPI as a tool to measure these ephemeral things such as culture on equal footing with the very tangible economic. Keeping in mind that we will achieve sustainability with economic and social tools (such as changing behaviours towards driving with a true cost accounting of the price of gasoline - an economic tool) we need to design milestones and performance measures to help us ensure that we are on the right road. The bottom line for me is that we achieve sustainability while caring for the most needy in our society.
- Community involvement in food production, small farmers supported and not forced to incur huge amounts of time and money when their products don't even come under the same threats as larger food industry models and yet are forced to follow the same regulations and inspections.....relationships between consumers and producers....ongoing will ensure safety and continued learning and no further loss of food knowledge....probably applies to building homes, child care, schooling education and health as well... all interconnected.... like an ecosystem!

Not rated

- The ability to produce your own food, for instance, on land you own is a good point to raise in this regard. If one wants to have two chickens and a corn field instead of a lawn, they should be allowed.

- How we build our roads impacts our environment, society and economic base. More sprawl = higher taxes, higher air pollution concentrations, more potholes, more alienation from fellow Edmontonians. Systems need to be holistically planned.
- Not clear.

Questionnaire 2 Results

Focus for Edmonton's Strategic Sustainability Plan

When asked to indicate the THREE focus areas most important for the City to address in its strategic sustainability plan, respondents indicated the following:

CHOICE 1	N	CHOICE 2	N	CHOICE 3	N
Energy	102	Energy	23	Energy	26
Water supply	42	Water supply	57	Water supply	27
Water quality	17	Water quality	34	Water quality	45
Food	15	Food	26	Food	31
Ambient air quality	11	Ambient air quality	27	Ambient air quality	26
Biodiversity	9	Biodiversity	19	Biodiversity	18
Extreme weather	1	Extreme weather	2	Extreme weather	10
No response	4	No response	13	No response	18
Total	201	Total	201	Total	201

Respondents provided the following comments on their choices:

Comments on Energy as a first choice

- ENERGY: Edmonton's dependence on fossil fuels will become a serious challenge (due to resource depletion and/or need to reduce greenhouse gas emissions/climate change). No doubt, fossil fuel is very hard on the environment, both burning it and refining it; very polluting to the water, air and soil and hard on people's health. Getting more expensive to obtain as the cheap-to-obtain stuff is running out. So much poison associated with petro-carbons, including plastics. At least we could be doing as well as Germany has already demonstrated and switched to obtaining at least 25% of using solar energy. Geothermal, as I noted above. Better city density coupled with better mass transit: Fewer cars on the roads (fewer roads to have to maintain!!!); shorter distances to travel; cities and neighbourhoods where people could easily walk to do errands, go to work and go to recreational places. Bylaws re light pollution and lower energy usage there. Of course, supporting electric vehicles as much as possible coupled with clean electrical generation.
- I believe that a lot of the other focus areas are directly impacted by energy consumption and generation. Renewable energy and energy efficiency should be the primary concern of the strategic plan.
- Fossil fuels burned within the city are likely our number one pollutant. They are also some of our most significant costs.

- Renewable resources are the only ones that will be around in the future, and a focus should be spent on finding other ways than using oil, coal, etc. before there is a very high demand and then high prices, before people can't afford to heat their homes.
- Energy consumption is expensive and will only be more so in the future. Addressing this issue first will effectively cover the options of water consumption and quality, extreme weather, and air quality at the same time.
- At this point, the way Edmonton is laid out and the current transportation system makes it next to impossible to not need a car, unless you live in a few key areas (all of which are way too expensive for many families - downtown and the university area). Many neighbourhoods don't even have grocery stores within walking distance to people's homes. Even if a large part of the population wanted to make the choice to use less energy, many wouldn't be able to do it very well. Also, if there is an energy shortage in the future, the less dependent we become before then, the more prepared we will be to deal with a shortage and not totally disrupt our industry and lives.
- I wish to emphasise that ALL 7 of the above issues are of great importance, because all are necessary for our society to survive, prosper, and mature. However, our choice of energy source is of overarching importance, since it has such a profound effect on the other 6 issues. Reducing our dependence on fossil fuels is critical because the waste products produced directly poison the surrounding ecosystem in addition to more widespread environmental effects. Next generation nuclear technology will be safer and more reliable and should be considered as a solution to humanity's long-term energy needs.
- Making the right choice in energy use has impact on our overall carbon footprint. Alternative sources of energy (wind, solar) need to be used, developed and fostered.
- Energy is like the top of the pyramid. We need energy to maintain water supply, purify water, provide heat, light etc. Since most of our electricity comes from burning coal (although water is required for the turbines) this should be the top priority. The situation would be different if we used hydroelectric generators.
- We need to use greener transportation, building, etc. methods to conserve energy. High energy use contributes to almost all of the problems above. This also requires an education push.
- Let's get on cleaner energy. It's time. There's much genius being created around alternative resource. I don't know who's going to break the trend. I cross my fingers that the City of Edmonton will be a leader. We consume so much here. Sure it's cold. It's also a lack of consciousness & appreciation for what's happening in the world. Stewardship!
- Our huge energy use in this country and province is a major issue. We waste so much power to begin with, and then there is the issue that we are so dependent on non-renewable energy sources such as coal. Curbing our energy use and using greener energy sources would have a huge impact on global warming from my perspective. It seems like a logically starting point. Using clean energy would have a cascading affect on other areas like air quality.
- Hard to choose one from the above list. However, our extraction, refining and use of fossil fuel energy has such a serious impact on all of the other issues and is so central to the economy in our region that making it our focus is unavoidable. The energy issue is the driver that will affect all other areas and requires strong government action and the ability to make decisions which will undoubtedly be unpopular with certain sectors of the economy but will be in the best interest of the public at large.
- Climate change tells us to stop using fossil fuels soon. Edmonton should start moving to a low carbon economy.
- We place far too much importance on the oil and gas industry. Our society has complete dependence on it. It is a dirty energy source and should be phased out as renewable energy takes over.
- Increasing Energy costs increase the cost of everything, food, goods, transportation, housing, and will lead to hyperinflation, then deflation.
- It seems to have the most impact on our environment.

- Energy is, and will be the deciding factor behind our lives and our economy. Lowering our energy usage and investing in alternative sources will pave the way for all the other areas of the sustainability plan.
- Because of our climate, we cannot rely on outside energy sources to survive for 5 months of the year. This choice and the next one I think are of equal importance
- Energy is what makes society run. Energy is what makes everything move. It is almost the keystone to all the other problems. It sometimes is that if you through enough Energy at a problem, you can fix it. It's strange, but true.
- WE must alter our addiction to use of non-renewable resources. There are alternates that will affect the quality of life in every one of the focus areas above
- Energy has the most pervasive influence on all the other sustainability issues. If we have to choose one (we don't) then Energy provides the most comprehensive approach to the long-term goals of the City. It also offers both short term gains (efficiency, economic development, lifestyle education, consumer feedback loops, community involvement) and long-term gains (economic competitiveness, economic diversification, resiliency for business, government, and community, positive branding on national and international levels, retention of investment capital and business talent, and protection of our lifestyle and values).
- One of the biggest challenges facing the North America is the end of cheap carbon-based fuels. Change is imminent.
- Planning and bylaws should be developed and/or strictly enforced to eliminate sprawl.
- All of these must be integrated, no one is sufficient.
- This relates more to the region's dependence on fuels as an economic stimulus. Research is critical in this area to ensure we are looking at more effective extraction methods. Not only are we dependent on this for our economic purposes but also we have a responsibility as users to be good examples of energy usage.
- As the City of Edmonton continues to promote sprawl (as the land use practices/policies too little to reduce our internal greenfield growth), our over dependence on energy will impact our fiscal sustainability and our ability to attract investment. This will eventually lead to impacts on our tax role, our health and air quality. We seem to be focused on a 30 year policy... however I am more concerned Edmonton in 50 years, after the oil has been tapped out.
- This is really hard to answer because all of these issues affect one-another. Once some change has been implemented into one issue, then the ball of change has already started rolling in regards to the others.
- Energy can relate to most categories you identify.
- Our entire system is based on the use of very large quantities of relatively cheap energy. Any decrease in the supply and/or increase in cost of energy, such as those imposed by climate change, will have major consequences for urban populations. I believe this is the only major issue, all the others are overblown and minor in comparison
- This is a no-brainer- our economy and way of life is based on a system of energy extraction that is not going to last. For sustainability, Edmonton is one of the least progressive cities that I have ever lived in. Even the polluted cities in Asia have taken major steps in planning and visioning to prepare for this eventuality. I'm shocked (but not really) that we're just starting the process now.
- We have already reached critical points in oil consumption no longer being able sustain the human demand. What will happen when oil runs out?
- The sprawl of the city is inefficient and cannot be supported long-term. Need to invest in renewable energy sources both at the municipal level and for the city supporting individual homeowners and small businesses to improve energy use at home and work.
- We have become an energy hungry society for our electricity, transportation, and heating. That should be our #1 goal as it ties directly into our air quality, our biodiversity/habitat, our water quality, etc. This is the very heart of the furnace driving climate change or global scorching. If this can be battered back, I have no doubt our water, air, biodiversity, food, will all improve. I noticed how in your description that you've put climate change last. If you think about it though, your number 1 or 2 descriptions under each heading are not due to some freak-of-

- Energy choices impact on climate but are rapidly approaching tipping points related to geopolitics, tipping points, high costs to move goods, etc.
- Fuel usage is rising but supply is shrinking. Fuel will get more expensive, so weaning off it would be expensive now but could be very cost-effective in the long term. Fossil fuels also cause a lot of pollution, in and outside of Edmonton.
- As more and more people come to the city, demands will increase. Do we need another power plant? I think this is where the province should look into nuclear power as a very viable option.
- Energy and Edmonton's dependence on fossil fuels touches many parts of our lives. The rate of use and way we obtain energy impacts all other areas of concern: water supply (water is needed to produce and process the energy sources we currently depend on), food (transportation, maintenance), air quality (the burning of coal, gas and oil puts pollutants into our air), Biodiversity (the way in which the resources are extracted and used puts stress on our ecosystem), extreme weather (linked to climate change caused by increased greenhouse gases, to which traditional energy use contributes).
- I think that pollution that comes from the energy industry affects a lot of these focus areas in this list. If people reduce energy use and industry is improved to find innovative ways to be more environmentally friendly, the air and water quality as well as biodiversity will benefit from these changes.
- These areas are highly inter-related. How we use energy is one of the main contributors to air quality. How we design our city, and get from place to place within it affects our energy use, local food production and biodiversity space. Energy use also affects climate change globally which is the main driver for water supply and storm water management, as well as extreme weather.
- Edmonton's economy is based almost exclusively on oil or oil related industry. We need to come up with a different economic resource or we will face extinction as a booming metropolis.
- Edmonton is a car dependant city. If we don't change infrastructure to allow us to shift away from the personal automobile, we'll be caught paying the price when oil prices skyrocket. We need to shift to a transit oriented community (bike paths, walking, an extensive LRT system).
- Peak oil
- This is a defining element that has impact on all other options for the plan to focus on.
- We must shift our dependency on fossil fuels to alternative methods, plain and simple. Edmonton has so much talent in engineering it's time for us to shift into R&D. It will also attract attention to our city as self-sufficient and looking to the future, instead of extracting resources from our beautiful land.
- Energy is the ability to do work - the natural currency. Improvements in energy acquisition and use have cascading effects on other areas - air quality, climate change, habitat loss and water supply (e.g. oil sands). Energy conservation pays for itself. It's better to have the city's involvement because market driven change is too slow.
- Being the oilsands is Alberta's main exportable resource it's of vital importance that Energy be a focus in the strategic sustainability plan. We as Albertans need to learn to be less dependent on oil and gas, the City of Edmonton is going in the right direction by expanding the LRT system.
- A focus on Energy with the aim to reduce the cities dependence on fossil fuels will also have spin off benefits in other focus areas like Air quality, food security. If there is a focus on

- It addresses the most important crises of peak oil and climate change, as well as improves our current quality of life.
- I feel that energy is a great way to reach several people, without creating the most resistance
- Energy. Better public transport, better city planning and shaping living patterns can have an enormous effect in this crucial area.
- We live in a cold climate. Fossil fuels will someday be gone. If we don't have a replacement, we will be cold, maybe frozen...
- The City of Edmonton has been extremely short sighted and completely irresponsible in the areas of urban design (controlling sprawl) and public (mass) transit for her citizens. The City needs to improve transit by cutting service to the suburbs and strengthening service to more central neighbourhoods. This will, with the rise in price of oil and dropping demand for large suburban developments, attract people to the better served areas of the city. In the meantime more efficient service for the central and established neighbourhoods will help to equalize and improve transportation options for lower income areas, areas which need better social support to enjoy a decent lifestyle. The reduction of transit service to far flung communities will encourage growth and development where services exist, and consequently improve density and liveability in those areas for all residents of the City.
- Switching to renewable forms of energy is the most important priority in my opinion, although I do consider all of the topics above to be very pressing and urgent issues (that are serious concerns NOW, never mind in 30 years from now!!!!)
- the city can make real change in the way we use energy, especially by pursuing eco-friendly transportation and designing walkable / bikeable neighbourhoods
- Energy and water are the most fundamentally important issues. Surely we have the wherewithal to address both of these. By improving energy efficiency and reducing consumption we help mitigate climate change (extreme weather), buy time for alternatives and save money.
- This is the root problem - it has to be addressed as a top priority. We're wasteful of energy, and we're also dependent on a single source. Let's work on efficiency, eliminating waste, and diversifying so that a single-point failure won't cripple us.
- This city cannot exist without heating in winter and transporting food and other goods into the city. We need to find alternatives to fossil fuel for these areas.
- Consumption of energy drives demand for fossil fuels which in turn impacts the other areas listed. If we can reduce our overall demand on energy we stand a greater chance of expanding without further impacting our environment
- We need more focus on alternatives like hybrid vehicles, bicycle lanes, public transportation, etc.
- Energy is the "big one"; its effects trickle down and affect the other focus areas: water supply and quality, air quality, food, weather, etc. I think if focus is made in this area, only positive effects can trickle down to the others. May as well start at the top.
- Edmonton has an opportunity to turn a threat into an opportunity. We have most sunshine hours for a city over 500,000 in Canada; we have wealth of technological and research capacity and a mobilized population. This would represent major lifestyle and infrastructure changes but also the most significant impact and transformation potential, could put Edmonton as world leader.

- Alternate choices are needed. Planning takes time. We need to put better thought and more funding into planning alternative transportation (LRT stations are an egregious example of not thinking ahead - Southgate bus station has no cover for bad weather so everyone crowds into the LRT terminal). Grid roads make a healthier population. New neighbourhoods are not being planned as grids. Why not? Walking is not made a priority (wide sidewalks everywhere are needed - one cannot walk from Riverbend to Southgate safely). Malls are constructed for car rather than pedestrian access (check out how they do it in BC).
- Energy, how we source it and use it will affect the other areas that we see problems in
- We need sustainable power. Hydro, solar, geothermal, wind... Also we can help prevent brown outs by encouraging people to install solar panels. Net zero homes help Edmonton's power grid.
- Mostly because this is very easy, with immediate results. Invest in geothermal energy. Invest in convincing people to change away from single-paned windows. Replace burnt out light bulbs with compact fluorescent bulbs in government offices.
- We rely too much on non-renewable energy sources such as oil, natural gas and coal. It's not sustainable and it has a very negative effect on the environment by its impact to the air quality and to the land by the mining/drilling operations.
- If we have a good system to reduce the use of energy, it will solve most of the problems. e.g. with good mass transport system, bike route, side walk, will encourage people to use the mass transportation, bike and walk instead of drive. Result better air quality. This is only one e.g. other like better heat system, stay in the basement instead of install AC - AC should cost more to discourage people to buy... Car - environmental fee sellers and buyers have to pay - fees can go toward to reduce carbon gas
- As a city, we waste a lot of energy. The continued development on the edge of the city and the waste of energy from buildings is not only expensive but it means that we are contributing more than our fair share of greenhouse gases.
- just look at our existing methods of extracting fuel(s) there is already an impact a social and environmental impact
- Energy will likely become more and more expensive as peak oil sorts of scenarios play out. Cities as spread out as Edmonton require more energy just to maintain basic transportation infrastructure, so this is more of a concern. 2. Edmonton has experience with the energy industry w.r.t. fossil fuels. If the city takes a leadership role in transitioning to renewables (in whatever way) then perhaps we can leverage this expertise to transition our economic base away from fossil fuels and become more of a global leader in providing renewable energy sources over all.
- Everything required to remediate every other issue will require abstention of the activity, major changes in infrastructure or lifestyle, or a great deal of energy that could be derived from clean sources economically.
- Because we depend on finite resources to satisfy our infinite wants, and because our dependence on fossil fuels is extremely detrimental to the environment.
- We have taken 80 years to evolve our lifestyle to this point in the hydrocarbon economy. To adjust to the depletion of those sources once they become scarce will be catastrophic.
- This is important because it impacts other areas such as air quality and land use. For example, if the City used more solar energy, there would be fewer emissions from burning fossil fuels and we wouldn't have to use up land to mine coal, extract tar sands, or build refineries. That land could be used to grow food or protect biodiversity.
- We need to focus on other sources of energy rather than relying entirely on fossil fuels. The city should consider solar, thermal and wind power and how it can incorporate these types of energies to subsidize growing energy requirements.

Comments on Energy as a second choice

- Develop a LRT network plan that minimizes track length and thereby related energy costs, and maximizes ridership to get Edmontonians out of their cars and on to LRT.
- Reducing greenhouse gas emissions will help to slow global warming. The City has a huge fleet of vehicles and equipment that can be used more effectively and efficiently.

- Long past due to change over to environmentally friendly energy sources. The environmental cost of not switching overrides the financial cost.
- Energy is doubly important for the reasons listed above, as it represents a 'double whammy' for most people in our car-centric city.
- I can't imagine the price of fuel going down much any time soon. So get your best planners on it and I'll try to use public transport and cycle and grow my own veggies!
- We need to strive to be self-sufficient. This will help us guard against fluctuations in energy price and availability and will also help those of us who can least afford energy at its current prices to have a better standard of living.
- We're used to using fuels as if they will last forever. It won't, and even if we are the last to have it, we are the caretakers of the earth and need to live within the means of the earth. It's difficult for citizens to continue to cut down. Alternative energy needs to be supported by government because it is still cost prohibitive for most of us. Wind and sun are readily available here in Edmonton and we should be using it. I'd love to attend a hands-on workshop where we create our own DIY windmills or DIY solar panels.
- We are in a province that produces the dirtiest energy (tar sands, coal- CO2 sequestration is a false solution) in the world. The world will turn away from this before our provincial government starts to diversify its energy portfolio. Relying on dirty energy is looking backwards.
- Encouraging alternative energy sources, there is some wind power in Edmonton but more can be done to promote that and other renewable energy sources is something that the City can actually do. Also making it harder for people to drive, forcing them to find other ways of getting around, decreasing the cost of the ETS while increasing the cost to drivers will go a long way in lessening our dependence on oil.
- Greening our energy requirements will reduce the negative impact on air, water, biodiversity, food supply and extreme weather.
- Energy is a double edged sword. With the local economy so entangled with the energy sector it drives our ability to maintain economic stability in times of bust. Diversifying our economy is essential to maintaining a more stable economic condition in the region. Our dependence on energy will also make us leaders in research and development as depletion and/or greenhouse related restrictions come into effect.
- We need energy.
- If we can effectively address the energy problem then we will also go a long way to solving the air quality problem. Again, without a reliable long-term source of clean energy, our city will not last. Since we live in a fairly sunny part of the world, I suggest we focus on solar power as a solution to our energy challenge.
- Addressing this should also resolve concerns with air and water quality, as well as extreme weather.
- New sources of energy are important so that we can get off oil and coal.
- The energy we use comes from non-renewable resources

Comments on Energy as a third choice

- Unlike some places in the world, we can't live here in the winter without energy for heating. We NEED clean, renewable sources of energy.
- begin building energy efficient government buildings, or retrofitting old ones... lead by example@
- Energy is part of our lives, we are dependent. However, we need to find alternatives and less polluting sources of energy to remain the leaders for the next decades - we can't assume that oil will always be used...
- Because it gets pretty nippy in the winter and thus Edmonton's energy usage must be massive per capita. Initiatives to help people save energy would be great.

- What happens when more and more people can't afford to pay their energy bills? Rising energy prices are going to exacerbate a whole new set of problems (homelessness, rundown communities, unhealthy eating, etc.)
- Oil and gas supplies are decreasing. Fossil fuels also contribute to climate change. We live in a cold country. We need to prepare for the future by retrofitting and creating new infrastructure to heat our homes and to power our industries. We need to invest in renewable energy. This will create jobs and will eventually save money. Savings can go toward other projects such as water quality.
- We have to change our technologies; we are falling behind other more progressive nations and even states.
- Sustainable choices by the city - transit, rapid and collector systems, discouraging use of personal vehicles, higher density development and district power and heating plants and cogeneration need to be focused on so the city becomes less reliant on outside sources of energy and so that we can contribute effectively to reductions factors contributing to global climate change
- We live in Canada and if we run out of energy to heat our homes and move about we will perish.
- Edmonton should reduce its use of Energy and push its citizens to use alternative energy sources at home and at work.
- We need more renewable sources of energy. Solar panels, please.
- I realize we're the capital of Alberta, but we need to look ahead in an aggressive manner. We are dependent on fossil fuels, but why can't we change that? How else can we reduce our energy use and what other sources are there? Solar panels should be mandatory for all city buildings. All new buildings should be built using strict green standards, and old ones should be retrofitted to be more energy efficient. Change is needed!
- Continued reliance on fossil fuels and the infrastructure necessary for its 'success' is a recipe for urban sprawl, increased pollution and loss of a sense of community.
- Other than food and water, energy governs everything we do in our lives.
- In 30 years, most Albertans will no longer be able to afford food or water, never mind energy. We continue to sell the rights to our natural resources (i.e. natural gas, tar sands, water) to other nations, primarily China and the U.S. If we are to prevent hundreds of thousands from perishing in the cold, we must develop a sustainable energy strategy of passive solar design and renewable energy micro-generation.
- We need clean, sustainable energy that does not depend on the goodwill and supply of outside sources. We live in Canada. If we don't keep warm in winter, we die.
- There's no reason we should not be actively pursuing renewable energy opportunities, and utilizing every opportunity within the city for small-scale solar and wind and other renewable to make our system as robust as possible.
- Edmonton should award property tax breaks for those businesses/households that install solar or wind energy systems, or for large buildings that install gardens on top of the buildings.

Comments on Water supply as a first choice

- N. Saskatchewan river capacity
- If we use up our water supply where will it come from?
- As human being we cannot live more than a few days without consuming water. Without water, there would be in short order be no Edmontonians to govern. But much can be done to reduce the need for potable water (xeriscaping, rain-water collection, grey-water collection) so the efforts on clean water can be more focussed. Water supply and water quality must be linked - the one without the other makes little sense.
- We use far more water than we need to and this will have a long term impact on citizens, but also on the ecosystem
- We are a river city and our water supply is a key focus

- This is one of the easier ones for the city to control. Also, water supply affects energy, biodiversity and food.
- Water is an essential element to supporting the city. If our supply of clean water is compromised it will seriously affect the entire city.
- Water is the essential ingredient for life, without it a steady supply of it, the city will cease to function. It's imperative.
- We all need water to survive. Our food sources rely on the water source.
- The city dictates where these resources go...
- Water is life. Access to fresh water undergirds all life on this planet, including our own. Without water we perish. Water scarcity is the major issue for the 21st century. We can prepare for a post-oil economy but there is no such thing as a post-water economy. When it's gone, it's gone. "We will learn the value of water when the well is dry." -Benjamin Franklin
- I think when looking at how to supply the community with water the issue of Quality can also be addressed.
- We cannot survive without it.
- We are highly dependent on water shed and the North Saskatchewan River for water supplies. If global climate change disrupts rainfall and glacial supplies - the river may not be able to sustain the population and the industrial base that makes Edmonton a viable population centre.
- Heavy agricultural use and industrial use would drain the North Saskatchewan and other water tables. Worldwide countries have seen their rivers and water tables reduce significantly because of intensive agriculture and industrial use.
- Water is required for growing grain, and providing food sources.
- Without water there is no life.... as the river is the primary source and derives from glaciers which are melting at an alarming rate around the world....where will Edmonton derive its water when the river runs dry?
- We waste huge amounts of water unnecessarily. We need proper measurement systems in the household to become more aware of waste and conservation needed. We need grey water systems to recycle water appropriately and reduce the burden on the water system.
- All these categories are almost equally important and ultimately connected. Improvements in one will tend to lead to, and in some cases require, improvements elsewhere. Water supply, air quality and food all rate equally.
- without clean water... we die
- For some reason it is easy to forget that the southern half of Alberta is a semi-arid climate that could easily revert to a near-desert with a relatively small decrease in precipitation. Without a water supply, none of the other issues are even relevant - the city will simply not exist if there is no water here for us to drink, grow crops and keep ourselves clean.
- Addressing this should help with biodiversity and food supply issues as well as water quality.
- Water is our most important resource. Without water, there is no life. It is more valuable than oil and should be treated as such.
- Water demand exceeds the city's (and earth's) supply
- Water is essential to life - it doesn't get more basic than that.
- Clean water is already an issue globally. Other countries are facing shortages now as they did not prepare for the future. We have a great opportunity to make long-lasting impressions on our water supply

Comments on Water supply as a second choice

- Water is a necessity, so obviously the supply issue is important.
- It is our basic human right to clean water, and no one has the right to own our water. Ever. Bottled water should be banned/taxed. Bottled water should at least not be sold/supplied at city sanctioned functions/property. Encourage support for tap water.
- Again this is where we have the more control over an issue. Without water there is no life.
- Water supply will soon become one of the key issues that municipalities will have to face. Taking the long view now will help prevent future calamity.

- See earlier comments
- Water is essential to life. We must have access to a source of water; some purification can be accomplished by individuals if necessary. Citizens can be encouraged to use less water for less necessary purposes.
- We cannot keep using the world's water resources as though they are unlimited. Drinking water is scarce across the world, and just because we live in Canada doesn't mean we are entitled to using a large share of freshwater.
- See above - water is essential to life. It's 80% of our human make up.
- Water is so vital to life therefore we need to be proactive in dealing with any water issues up front. Citizens need to be less wasteful. I would hate to wake up one day and not be able to drink quality water right out of the tap.
- With more and more industrial development that requires more water use and decreasing run-offs from the Rockies as a result from climate change, the city should think hard before approving new industrial developments that will increase the water use.
- Water supply is a worldwide issue, and Edmonton is currently taking its availability for granted. It is also linked to the issues of Food supply that will be on the rise in the future.
- Water supplies will continue to decline as our population grows.
- Lawns and lawn water should be illegal, as should lawn herbicides and pesticides. This should include golf courses. Violators should pay very large fines.
- All of these must be integrated, you cannot pick a priority "area" it is not a discrete issue.
- Like I stated in #1 it's all related but if I have to choose, it's H₂O. No water, no city. Simple as that. If river cannot supply our future water needs due to drought/flash-flood-causing-crazy-rain-in-short-period, then explore other methods of H₂O retention. Change the way buildings are made in our city & how the water is used in our city (the rain water thing mentioned above to ensure good H₂O is not wasted flushing human crap & watering our gardens. I think they like rain water better). Again, without enforcement, this will come to nothing.
- Similar to Choice #1 - population increases will tax the water supply. More efficient water treatment will be needed.
- A basic need that we take for granted.
- Easy and cheap access to water is a necessity for life's basics. Water infrastructure, if necessary, takes a long time to put in place. Citizens may not pay attention to water use (low price) until the situation is critical without city guidance. Water security is necessary for food security.
- As stated above, if we keep consuming as we are there will not be fresh water for generations to come.
- Water is necessary for life. reducing the water consumption of Edmontonians as well as incorporating best management practices for storm water and waste water will ensure more biodiversity and reduce the pollution entering the river as well as encourage healthier lifestyles for its citizens
- Speaks for itself. Climate change causes drought, drought reduces water supply.
- Our river is scary when compared to seeing it elsewhere, and it travels
- Careful stewarding of the river and other water use is a clear responsibility for this city and will have important effects on the city and beyond.
- Without water, we all die.
- Because without clean, drinkable water people die? The Province is not doing anything to ensure adequate control on fresh water in Alberta, most of it is being ruined by livestock farming and petroleum. These issues need to be addressed locally so the Province has no choice but to assist.
- Again, the city should be fully invested in exploring and implementing smart water choices and should be in control of our water supply ... not privatized!
- They aren't making any more water so we'd best do a good job with what we have.
- Since no one's intention is to supply bad quality water, I think this issue must go together with WATER QUALITY. In Canada, we are among the fortunate few who will not be faced with truly

- Overuse of the river system has to stop. This issue goes hand in hand with water quality. I'm not sure why the two issues were separated.
- How we use water is of major concern, use in the oilfield and refining areas is huge and effecting our aquifers, the public needs to be educated on the long term effect this will have
- Pressures such as population and economic growth, rising demands for water and the impacts of climate change have put a strain on Alberta's water resources. The strain is most evident in the South Saskatchewan River Basin - which has been closed to new water licences since 2006. It is critical for municipalities in other basins - including the North Saskatchewan - to start thinking about the future of water supply and demand.
- Largely because the city's own development of infrastructure (i.e. storm water lakes) has contributed greatly to the problem, and they need to do something about it.
- Fundamental life requirement.
- See notes above.
- Water is another thing we need to survive. Protect our river and aquifers from pollution, from being poisoned and from being wasted.
- The river and river-valley are an invaluable resource to the city and its citizens, and there's no question that we need a reliable source of clean water to survive.
- Water supply is highly variable, and often taken for granted.
- This is very important if we don't have water we can't achieve #1.
- There is some indication that water supply will be the issue that the next generation of wars will be fought over, and we're not likely to be involved in a war, that tells us that water supply is critical the world over. We need to conserve, and protect, our water supply, and since water is becoming more commercialized all the time, we need to make sure that our water supply is guaranteed, and not allowed to be commercialized for public use. This is one of the things that government must handle.
- The demand for water will exceed supply (due to a growing population, receding glaciers at the headwaters of the North Saskatchewan River, and/or the general effects of climate change). A global problem associated with climate change and scarcity in many parts of the world already, as well as in our own province of Alberta. Why squander water EVER when we live in a drought-prone prairie province?

Comments on Water supply as a third choice

- I am not sure how to change this but it is important. I. Suppose encouragement to use rain barrels for lawn watering.
- While most Edmontonians are no doubt aware this is an issue, there is virtually no Canadian data on this subject, so we frankly have no idea what the situation is. We are so far behind on this subject that public education and monitoring of water levels and pollution levels is vital.
- I am more concerned about the water supply for 3rd World Countries than I am for Canada but we should be finding ways to maintain or increase our water supplies to accommodate everyone in the world and the increasing population.
- Failure to finance water and sanitation will cost a notable portion of its GDP. Scientific studies show that access to sanitation and water not only improve quality of life, but also bring tangible health, environmental and economic benefits, and contribute to poverty reduction. The rate of return of spending on sanitation and water can exceed other public investments such as in infrastructure, transport, health or education. While data are still incomplete, this

- The supply of water from glaciers will not last forever, so we need to devise ways to use less water without reducing the quality of life.
- Currently, we are very wasteful with water and there are so many simple solutions to improve our use water. Potable water should not be allowed for landscape irrigation - more non-potable water trucks should be on the roads. AWWA states that irrigation systems use 35% more water than surface irrigation. Storm water should be held onsite, not lost into pipes to prevent erosion and pollution and recharge our GW. Watering driveways and plastic siding? These people should have their water turned off, seriously. Water supply is so perfect to focus on because of the tangible benefits, simple solutions and vast cost savings to our community. There are too many small barriers standing in the way that our community needs to overcome. So many possibilities!
- Water shortages are already occurring in much of the world and we must protect the water that we have from becoming a larger Canadian export as well as become more sustainable in our approach to using water, particularly in industrial uses like upgraders and in the oil sands.
- Lack of water = lack of life
- Dr. David Schindler and other experts have predicted water shortages for Alberta in the next little while; it would be foolish to ignore their warnings. As well, the Alberta government has plans to make water even less accessible to those who have little money. Water should be a right, not a privilege. I hope that Edmonton will strive to protect its water supply for the well-being of its citizens.
- With the threat of the oil industry wanting to put upgraders on our only source of water, it is necessary to prioritize water supply to meet basic human needs FIRST.
- teach public about water conservation and respect for natural resources
- Growth in local industry especially is concerning for drawing water out of the waterway (I'm thinking refinery row here). As the local population and industry grow even more water will be withdrawn. I think if we want to prevent the North Sask. from becoming a slow trickle, and if we want to maintain the watershed downstream from here the municipal and prov. governments need to keep a close eye on the degree of water withdrawn and look at strategies to reduce water usage over all.
- Growing populations. Melting glaciers. Lack of policy regarding rainwater collection and use.
- We have experienced a number of years of drought recently and if climate change persists, we will face ever shorter supplies of water for a growing population.
- Duh!
- Water is essential to life. When there isn't enough water it places a strain on the community, which wouldn't make Edmonton a nice place to live. I also think there is joint responsibility between government, business, and citizens to protect water. Government and businesses need to be more accountable to protecting the quality of water in the North Saskatchewan River while citizens need to change their water-use habits.
- It is important that the city focus on the water usage to make sure that the water is not being used inappropriately. It is also important to monitor any waste water that is being put back into the river to make sure that it meets water quality control tests, as they say "sh*t flows downstream."

Comments on Water quality as first choice

- Urban life and development is one of the greatest threats to water quality in the North Saskatchewan River and small tributaries, lakes and wetlands in the Capital Region. Implementing low impact development, water quality retrofits at end of pipe and continuous improvement on storm water and sewage treatment is the highest priority.
- Both quality and supply will be a global issue, if we can improve the quality of the water we do have at least that's something.

- Water is our most basic need and our health and lives depend on the quality of our water. Stop the damn dams.
- Water quality is the thing that most immediately and drastically affects human and animal health. We have people and companies that throw tremendous amounts of toxic chemicals down the drain, without a care, and that has to be stopped.
- Our drinking water comes from this place, it needs to be clean. This water feeds our soil, our urban animals, it feeds into our rain. Healthy river water means a more secure supply for many years to come
- It is important to keep investing in research and innovation to maintain or improve water quality in the capital region. Our water is some of the cleanest in the world (even for how much people complain about it). This is something all should take pride in and protect
- First, water quality used to fall within the cities mandate, and still does to the extent that EPCOR is a city owned corporation. Second, a river flows right through the city, so we have a responsibility to make sure that it is not overloaded with pollutants as it passes through the city. We are doing that. Lastly, it would be refreshing to see the city of Edmonton stick to its knitting, by focusing on those issues that fall within its scope.
- The water quality around Edmonton area is already a problem. The lakes and rivers are full of sludge and scum. I moved from BC to Edmonton, but was born in Ontario, so for me, personally, living in Edmonton has had its challenges due to the cold temperatures and lack of clean bodies of water to swim in that are located within a reasonable distance of the city.
- Water is life. All of our services and ultimately our quality of life depend on clean, healthy drinking water. Protecting our water sources impacts not only our health, but also biodiversity, recreation opportunities, soil/crop improvements, water availability, energy and chemical use, and relationships with neighbouring communities, first nations, Prov/Fed depts. and industrial partners.

Comments on Water quality as a second choice

- Water quality has implications for water quantity, biodiversity and ecosystem services, as one of the ways of ensuring water quality is maintaining natural systems that can help to filter contaminants. Again, water quality is also important for public health.
- This directly impacts the health of all, (we cannot solve anything as well if we are sick) and the solutions to it will take care of many of the other items on the list (i.e.: reducing car use reduces pollution and fuel use)
- Water is not a resource like wood or oil or uranium. Water is essential for all life on the planet, as such it is essential that it be protected and preserved at the highest level of quality. Rivers and ground water must not be our dumping ground for our waste products. The City must be able to ensure that any water it releases is of a quality suitable to drink, anything less is a crime against humanity. At current standards, the City cannot even bring itself to say it's safe for dogs to swim in the water it spills from storm water ponds into the North Saskatchewan River.
- Because without the best quality and supply of water we will die.
- I wish to emphasise that ALL 7 of the above issues are of great importance, because all are necessary for our society to survive, prosper, and mature. As with ambient air quality, keeping contaminants from entering both our water supply and the surrounding ecosystem is very important because of the immediate effects on humans and all other species. Industry should be subject to far stricter regulation in order to keep pollution to a minimum.
- We need clean water to sustain life (Human, animal and vegetation)
- We have a lot of water by comparison to the rest of the world, and this water needs to be valued in the same way oil seems to be. We need to take care of it.
- It is important that we maintain high standards for our drinking water. The water in the North Saskatchewan River needs to be protected at all costs from contamination as this is our life source. Without clean water we cannot survive as a species. This water is also utilized by plants and animals both of which are our food sources. If the water should start to kill either of these off, then humans will have a lot more to be worried about other than gas prices.

- We keep hearing that the water from our taps is full of chemicals and the water in plastic bottles is just as bad due to their plastic containers. Water is essential and should never be taken for granted. It should also be clean and healthy to drink. I believe this is one of the biggest global problems that needs to be addressed
- As above, a safe and steady supply of clean water is essential to all life. Without it a city will cease to exist.
- Chemical discharges from manufacturing, fertilizers, and other industrial uses could be damaging to the population, natural vegetation, and wildlife.
- You must have good water to provide to everyone.
- Water quality is vital for sustaining life, of all kinds, and for agriculture. Currently water is being irresponsibly abused. Shale gas hydraulic fracturing near the city could taint aquifers. Vital watersheds are being drained for industrial use. Residential water quality needs to have the utmost priority over commercial and industrial sectors.

Comments on Water quality as a third choice

- Good water quality is critical for our longer term survival. As we grow our industrial base the use of the river water will increase.
- Need to realize that water supply is not endless - how can we save water and reduce consumption?
- We rely on the North Saskatchewan River, and will continue to in the future while the population grows. We need to ensure this resource remains renewable.
- pesticide/herbicide runoff into water...accumulation.
- Education about water quality in the River, reducing the pollutants our drainage puts in the river, and increasing the purity of our systems like Mill Creek, will increase sustainability of this vital ingredient of our lives.
- Prevention and good planning is invisible. When no one gets sick, it isn't noticed. Please keep concentrating on the best possible handling of fresh water.
- Since it has multiple uses, poor water quality will affect our health, the food we eat, and also our city's quality of life.
- Once again, water quality is taken for granted. Especially with increased industrial activities, water quality as a priority should move ahead quicker than industrial activities.

Comments on Food as a first choice

- As the price of oil climbs and food prices rise as a result, more and more people and municipalities will need to seriously examine the role local food economies play in their long-term security and sustainability.
- I love gardening. Lots of others do too but have little time or mobility or knowledge to start a whole plot by themselves from beginning to end. I dream of seeing at least one gardening club in each neighbourhood, perhaps attached to a community league or school, where young and old could sign up for shifts and share the produce at the end of the season, perhaps with a harvest meal. Is that not idyllic?
- Both for its impact, and the ability for the city to do something about it quickly and without major changes in politics, or infrastructure. Simply forbidding residential or industrial development on prime agricultural land would have a huge positive impact.
- City sprawl is rampant in Canada and needs to be curtailed.
- Fundamental life requirement.
- See notes above.
- There are only a few things we actually need to survive. Food is one of them. We need to develop a system of food supply within the city's limits. An independent-from-oil food supply. Biodiversity also affects the food supply for humans, non? Protect our land. Enough houses already, enough industrial parks.

- Prioritizing the farmland around the city is an issue that everybody can understand, and will also help to curb the sprawl of the city which will begin to force improvement on other environmental issues like density and transit which will affect environmental quality.
- The supply, quality and cost of food is dependent on all the other factors. Example, if oil costs go up, food will be more expensive and there will be less variety. Food quality will be affected by less and lower quality water, and may require more pesticides which will wash off into our water supply.
- As previously discussed, consumption of agricultural land for urban sprawl.
- It is easy to solve - we encourage people to sustain the land resources in order to grow our own food supply. We also need to discourage cheap food products from being imported from beyond our 100 mile limit - tariffs seem harsh but they are an idea.
- A focus on food will result in focus on all the other areas noted above. Local food production can increase air quality by decreasing emissions needed to transport food from far away. Local food production can increase biodiversity, especially if the city encourages the use of endangered heritage varieties. Water quality could improve if people use the rainwater landing on their roofs for vegetable production. Extreme weather cannot be controlled, of course, but if we have secure local food production we do not need to worry as much about extreme weather events occurring outside our boundaries.
- I think because it's the easiest. It means preserving our agriculture, supporting our local agriculture and farmer's markets, growing our own food, putting chickens back in our yards. It helps out in most of the other areas as well: saves fuel, saves water, improves the air quality and biodiversity. It also improves health and creates community, which in turn makes us all happier. It does mean a shift in thinking, but not much change in infrastructure. It's cheap, easy and natural.
- Food connects us all to the environment. The soil requires nutrients to grow food and we require food to get our nutrients. Edmonton is paving over one of its most necessary natural resources: class 1 and 2 soils. These soils are rare and cannot be "put back" or reclaimed. Soil takes many years to build. If Edmontonians can rely on locally-made produce, meats, and dairy, there will be social peace. A healthier, more connected population is of great importance to a vibrant city.

Comments on Food as a second choice

- Industrially produced food flown in from thousands of miles away is just crazy. Perhaps having the Strathcona farmers' market open more than a single day per week could make healthy foods somewhat more accessible. Also, educating people about the origins of their food will make them seek out ethically produced products. Have you seen Food, Inc. or Jamie Oliver's campaigns in the UK?
- As food prices catch up to the rest of the world, we're going to regret building/paving over prime agricultural land. Being able to produce and purchase local foods is very important.
- We have an abundance of great farming land all around our city that could probably feed the population of the city and surrounding areas if need be. Yet we choose to build more and more sprawling suburbs. While shelter is also very important, the houses won't be any good if we have no food (obviously an extreme case). The more food that is grown locally the more we will also cut down on energy costs and air quality costs of transporting the food around the globe.
- With increasing energy prices food prices will rise and put a strain on budgets. Not only this but the unique and priceless farmland in Northeast Edmonton needs to be preserved for market gardening which will enhance our food security.
- With most of our food sources being imported, we are in a vulnerable situation, depending on cheap transportation, world stability. We should be able to feed ourselves at least at a subsistence level using local sources, while importing specialty luxury items.
- This is tied to extreme weather. Though also the Americans insistence on ethanol fuel (what a bone headed idea that is). But this all is driving up prices. Also, with rising prices on fuel, all

- We must support our local economy and provide our city with food that isn't transported from over 2000km. When energy becomes even more expensive our quality of life will decrease radically. In the long term, we must get distribution networks of currently grown food and use all available agricultural land and parkland to promote local and market gardens and greenhouses.
- Water is more basic, but the City has done a very good job in protecting the quality of our water and maintains extremely high standards. Staying the course on water seems to be a good and sufficient plan. Regarding food, we are vulnerable to global commodity prices and simultaneously rely on imported food from thousands of kilometres away for most of our needs. Food production and quality is an area that we can and should be self-sufficient in and it seems an easy choice to maintain the ability to feed ourselves should we choose to do so. We cannot easily and quickly re-make local food supplies once they are gone. Whom would we rather be responsible for our choice on what, when, and how well we eat? Ourselves, or regulators, politicians, and big agri-business in US and other foreign markets?
- City sprawl is over-running prime agricultural land. The further we have to go to transport our food, the higher the energy costs, environmental damage, etc.
- please don't view any of these elements in isolation, examine the new social order and view it in light of global trends
- Currently we live on imported food. Many of the vegetables in my local grocery store are imported from the central valley of California. This is not sustainable in the long run: it requires energy intensive farming (fertilizer, etc.), excessive irrigation, and a large transportation system to get it to us. If we expect energy prices to rise, the price of food will rise as it costs more and more just to get it to us. That said Edmonton sits in a prime location: Alberta is an agricultural hot-bed. We *can* promote local food; we can reduce our energy dependence by reducing our dependence on massive food imports.
- Agriculture Industry is wasteful with energy and petrochemicals/fertilizers. Too much food goes to waste.
- Because Edmontonians have the right to access to locally-grown, sustainable sources of food, both as a lifestyle choice and as a practical response to the harm caused to the environment by shipping food over long distances. Not to mention the quality of locally grown food is better because it is fresher. This also supports local farmers, grocers, etc.
- Local naturally grown food as well as the local manufacture of other necessities will be necessary as global transportation becomes costly.
- Being able to buy locally grown food improves the quality of life of Edmonton citizens. It also helps reduce pollution because there's less transportation needed and it supports the local economy. If the amount of land available for growing food keeps decreasing and we can't feed people, why would anyone want to live here? Food is vital to maintaining quality of life.
- Food is becoming ever more expensive and exotic as local agriculture dies for lack of support by all levels of government (i.e., it is becoming ever more evident that 'big' agri-business has never been effective; but family farms and small-plot farmers are finding it ever more difficult to make a living). Both local (surrounding) family farms and in-city food production must be encouraged if we are to have a viable city. And the city must educate its citizens and join them in lobbying provincial and federal governments to change their attitudes regarding food-production.
- With an ever-expanding city, we need to stop growth to ensure a local, sustainable food source. Build up not out!! We can't rely on global food supplies in the long-term. We also need to encourage community gardens and other innovative ideas for local food sources
- Having a local food supply is important to keep costs low and to provide healthy, nutritious food for the residents of Edmonton.
- Access to food that is grown in sustainable ways and locally is necessary for the long-term health of the city. The industrial food system is a major contributor to climate change, soil depletion, and polluting of our waters. By eating locally and organically, we reduce carbon

- Everyone should have access to food period.
- Self sustainability is a target for the food staples - again as global climate change progresses, traditional sources of supply may become disrupted; as evidenced by recent trends for frost in Florida, drought and torrential rain in California, drought in the prairies...
- We are losing our local food sources due to urban sprawl. This cannot be allowed to continue. When the energy supply becomes unstable it will be critical to have a stable local food supply.
- Hard to find local food supplies large enough and close enough for the COE

Comments on Food as a third choice

- Food Water and shelter are the three most basic necessities; if our local food production is strong and healthy then in a time of crisis we could support not only ourselves but potentially others. Not to mention the direct environmental impact of our food travelling less distance. We become a strong solid community if we have strong solid basics. People are happier, healthier and more productive and creative in whatever they do if their basics are secure. Food water shelter.
- All these categories are almost equally important and ultimately connected. Improvements in one will tend to lead to, and in some cases require, improvements elsewhere. Water supply, air quality and food all rate equally.
- I think that people have a lot to learn about using the spaces they have to grow healthy, organic food. Good food seems to be a lot harder to find than unhealthy food. Communities need easy access to good food and when people have healthy food, they often have healthy minds.
- We need to start focusing on buying locally to support not only the livelihood of those within the agricultural industry but also the health of our citizens and our planet (transportation related pollution and gas/oil consumption)
- By not allowing any new ASPs to go forward until at least 2020, premature fragmentation of agricultural land will be prevented. The City should also drop its plan to develop a massive new industrial area in NE Edmonton until the existing SE and NW industrial areas are more fully developed, as well as existing industrial brownfield sites such as the old Canada Packers site are redeveloped.
- The city must control its tendency towards urban sprawl. This will protect a local food supply through maintaining agricultural lands in and around the CMA.
- As North America's northernmost major city, we have a relatively large population fed by a relatively short growing season. We need to reduce our reliance on imported foods, both to reduce greenhouse gases and to ensure that we are not overly reliant on outside food sources, in case those sources are interrupted for some reason. We could possibly increase the use of greenhouses and create more community gardens within the city in order to move towards a greater degree of local food production.
- To meet this challenge we will need consider biodiversity, air and water quality issues, so really all the issues are related.
- In earlier years we grew a much higher % of our food locally. We could do this again. With the high cost of fuel and transportation and the uncertainty of both in terms of global changes, it is very important to place more effort in this area.
- Focus more on vegetarian, local farm choices
- While food is likely not an immediate concern, agricultural lands need to be retained so that it does not become a concern and so that we can support our local economy. Retaining agricultural lands also supports biodiversity.
- Factory farming and monoculture have reduced our food quality and our health. We cannot solve anything as well if we are sick.

- Shifting our diets to local and hopefully organic can help reduce our dependence on fossil fuels. If our food is locally grown we will be guaranteed a stable supply of food when world markets get shaky and oil prices sky rocket.
- After water, food security is critical to all life.
- Again vitally import to our livelihood in the city, in terms of the rural land that surrounds the city, but also the potential to grow food within the city.
- With increasing scarcity of resources, the world trade we depend on for food may become unreliable. Growing local saves energy, creates jobs, and promotes economic stability. City zoning, taxes, development all have a strong impact on the viability of local agriculture.
- Farmers will be forced out of work if we continue to keep importing the vast majority of our produce into Alberta.
- Ensuring that there are green spaces within and surrounding the city for food production will help in many ways to make Edmonton a friendlier city as well as ensure that there is a sustainable and attainable food supply for all citizens. It will also encourage biodiversity and healthier living for the citizens of Edmonton
- Nothing is more important than food security. Reducing food miles also addresses the crises of peak oil and climate change.
- our food is scary
- Food is now and will be a central issue. The city is already taking part in some exciting directions here with various food bank gardens and community supported agriculture.
- We can live longer without food than we can without water, but not by much.
- Imported foods cost in transportation, pollution, and quality. Edmonton should be able to supply locally almost all of the fresh food required for her citizens. CSA's and Community gardening along with strategic development of vertical solutions will go a long way to ensuring food security in the future. Because Edmonton is geographically remote we suffer a double whammy with rising oil prices - it costs more to make food and more to transport it, meaning the farther away you are from the best locations for food production the more expensive it gets.
- Local food production is a huge part of living a sustainable lifestyle. How can I be a smart and green consumer if the city makes it difficult or impossible for small farms to flourish within city limits?
- As energy prices rise and farm land becomes more used up, it's important to have a local food industry.
- When the day comes that we do face food security issues, we have very poor excuses for allowing it to happen. We're surrounded by food-production capability. Can we stop, or limit, the City's sprawl? It swallows up food producing land. Is food security an Essential Service? Like water supply, waste management, transportation infrastructure management? Why can't the City run a for-profit farm? - employ Edmontonians - feed Edmontonians - educate Edmontonians at the same time (good education outreach potential) - could be built and operated on city-annexed land - fertilizer provided by city Waste Management produced compost - water supply could be an innovative partnership between city, the farm, and a wetlands management project - a certain percentage of the produce could be reserved for an affordable-food initiative. Something like the "Social Market" in Austria. (see: www.tiso.at/konzept.html)
- Local food production on small and large scale needs to be supported and increased, to reduce dependency on food that is transported over great distances.
- Edmonton will experience food security challenges (due to a growing world population, vulnerable supply lines, loss of local agricultural land, and/or the effects of climate change both here and around the world). Again, over 30 years ago, I have been hearing how cities are constantly devouring farmland for city development and how the percentage of arable land is shrinking. This seems like a no-brainer in so many ways. We have known of this danger for decades. Why the snail's pace on planning to preserve this as a priority? The solution is not that hard and helps the city on so many levels: Better density and doing lots of infill development instead of opening up pristine agriculture or forest land for more city.

Comments on Ambient air quality as a first choice

- We have an important rate of asthma in the province, cars and trucks pollute a lot... we need to improve air quality and change our lifestyle for our health benefits.
- Because when I lived in London I used to blow black soot out of my nose each day. I don't want to be doing that in Edmonton too, nor would I like my kids to.
- It hasn't been a high priority in the past and increased refinery expansion and population levels (i.e. more cars on the roads) make this a looming problem.
- All of these are important to focus on (except "extreme weather", which is not something we as a city can so easily alter), and I hope that my selection order doesn't imply preference. Air quality affects health directly, creating more of a burden on the healthcare system (see: rising levels of asthma).
- This is important because if it's not closely monitored, it could rapidly spiral out of control. Limits need to be placed on both individuals and companies for overall carbon footprint and direct air pollution. We need to be proactive and anticipate the worse in order to attain the best result possible - clean air that EVERYONE can be proud of/enjoy. Please tax/ban/phase out drive thrus. Environmental education programs should be mandatory in grade school.
- Focusing on air quality automatically has implications for energy as well. Public health should be a priority and both air quality and water quality are critical to supporting health.
- This directly impacts the health of all, (we cannot solve anything as well if we are sick) and the solutions to it will take care of many of the other items on the list (i.e.: reducing car use reduces pollution and fuel use)
- More refineries, more people, more cars....more air problems.

Comments Ambient air quality as a second choice

- Heavy industry and associated trucking north east of the city will probably be an increasing source of air pollution. We should keep raising awareness and setting a higher standard here to keep the pressure on them to clean up their acts.
- Refineries and vehicle use may create future issues. Indexes currently show higher lung issues in the region and of course the concern with greenhouse gas effects on world environment.
- A lot of our generally "good air quality" relates to strong westerly winds that tend to blow pollution out of the city and dilute it more broadly - this can't go on forever. As population and GDP rises, air quality will decline and no one wants Edmonton to become another Los Angeles!
- Air quality is a reflection of emissions. High emissions cause environmental issues, primarily global warming. Our emissions do not only affect the Edmonton area but the entire world. Smog also greatly increases various health risks in the people that live in it.
- Our asthma rates are atrocious.
- Without quality air we directly impact our lives.
- Climate change is a significant concern.
- This is something the whole population can do their part with. And the city can make this easy for its citizens. ETS is being revamped, so let's make it affordable for people to make the green choice.
- Because it is the most basic of resources with the highest amount of possible improvement. I Speak of the LRT.
- While there are many areas that individuals can make a large difference, this is one that requires government leadership: Edmonton is a poorly planned sprawling city. Unfortunate. This won't change, however, until the city takes action. High asthma rates in the city need to be addressed - tougher regulations on industrial pollutants. Better public transit and more focus on cycling lanes. Just because everyone here has a giant truck doesn't mean they need to use it every day, except that, at the moment the other options are not in the least attractive.
- There are too many emissions from vehicles and from industries. There are no incentives to change anything and the regulations need to be more strict so that the level of acceptable emissions is lower.

- Single driver cars need to become a thing of the past. ALL city officials and employees need to use public transit as an example for the citizens. If they refuse to use transit why should the residents use it? Bob
- How many times a day do we breathe? Healthy air means healthier lungs. Our bodies have less pollutants in them. I have seen air quality in other areas of the world effect vegetation. Trees stunted etc. these are all part of the filtering process in our immediate environment. Many people would have their health directly impacted just by having cleaner air.
- In 30 years our population and industry will be much larger, thus affecting our air quality. We don't want our air to be like Toronto's is now. Improving air quality takes a long time. It also takes a long time to get people and industry on board with changes. Air quality also affects biodiversity.
- unsure
- All these categories are almost equally important and ultimately connected. Improvements in one will tend to lead to, and in some cases require, improvements elsewhere. Water supply, air quality and food all rate equally.
- too much cancer is already spreading because of poor air quality and toxins in the air

Comments on Ambient air quality as a third choice

- This is the #1 pollutant affecting us. We breathe and filter the air through our body every minute of every day. This can be as simple as shovelling the gross smokers from downtown into a box and shipping them away. Or as complicated as increasing limitations on vehicles & industry within the city boundaries. By the way. The smokers downtown really are out of hand. Our "littering" bylaw does nothing to stop them. Take a walk around down there, cigarette butts EVERYWHERE, and if you walk down 102 Street, there are one or more smokers in every nook and cranny. Maybe we should have a "Begin to hold breathe here" sign at the start and end of 102 Street! Enbridge Tower seems pretty clear of smokers, but they have no nooks to hide in, and big "NO SMOKING" signs all over the building! Bravo!
- This one relates to energy consumption as well, and also kills two birds with one stone. Reducing our emissions makes sense from a health and environment perspective.
- Air quality improvements make the city more liveable. Period. I prefer to ride my bike or walk along routes not choked with pollution, and I worry about the costs to my health of exercising when there is so much ground level pollution, not to mention the health of everyone living along the east side of the city and towards the Industrial Heartland! I feel we need better monitoring and a concerted effort to reduce pollution from transport and other sectors - making a good connection to other components of the strategic plan.
- Health and vitality of all life forms
- This is something the City can actually have an effect on. By encouraging people to use alternative forms of transportation and making driving a car less convenient and more expensive we can make a difference in how people move around Edmonton. Also by regulating industries we can make a big impact to air quality.
- Our kids need good air.
- I think this is also linked with energy use. The less energy-dependent we are, the less pollutants we are creating, and perhaps the less major industry we need to have taking up our farm land. There is also an ever-growing number of health problems linked to poor air quality and that is a serious concern not only for the people who become ill and their families and friends, but also for the already burdened health care system.
- Again, air quality and energy are inextricably linked; the one cannot be discussed without the other. Energy issues need to be addressed, not just because sources as we know them are on the decline, but because we need to clean air to breathe!
- The more we expand as a city, the worse our air quality will be. Without focusing on sustainable development, the health and standard of life of Edmontonians will be at risk.
- Why is it important to sustain air quality???...really? That is a stupid question. Like water, breathable air is another of the essential elements of life. It is intolerable to allow its continued pollution. We are no longer ignorant of air qualities effects on our health or our

- I wish to emphasise that ALL 7 of the above issues are of great importance, because all are necessary for our society to survive, prosper, and mature. As with water quality, keeping contaminants from entering the atmosphere is very important because of the immediate effects on humans and all other species. Industry should be subject to far stricter regulation in order to keep pollution to a minimum.
- We need clean air to sustain life. The better the air quality the less impact on our health care system, global warming, etc...
- Air quality is related to global warming therefore we need to manage our air quality for the health of citizens
- The city can use its power to control the actions that adversely affect air quality.
- It seems trite to say, but we do need to breathe to live. An unpolluted air source is an important key to a healthy and productive population. Although air quality has been identified as a priority, I don't think everyone realizes the number of things they do that impact air quality. Public education is key to promoting better air quality.
- Poor air quality causes diseases. Also, improving air quality can be done through the use of plants, which addresses other problems listed above.
- If we can't breathe nothing else matters. This was a slogan at the lung association; still might be. Either way it says it all.
- Air quality is also vital; having poor air quality will make citizens sick and drain our health care system further. We can focus on stopping the sprawl of the city, promote more dense living. Stop the car habit and promote and develop mass transit. Also provide more green spaces. Finally by changing our energy habits, this will also have an effect.
- With more upgraders likely to go up, increasing car traffic and asthma rates in Edmonton already high in Edmonton, air quality is a key concern that the city should keep an eye on.
- The industry in the area of Edmonton as well as the peak hour traffic pollution effects rural air quality. I enjoy being outdoors and staying physically active, however this is becoming a concern as the quality of the air diminishes.
- The rise in industrial development (e.g., Industrial Heartland) and non-point sources of pollution (e.g., rise in personal vehicle use) will have impacts on ambient air quality.
- Air quality is being increasingly tainted by our energy generation and production sectors. AB and Edmonton need to address this directly. As CO2 concentration is shared globally, our actions are directly impacting the rest of the world. In addition, AB is gaining a horrible international reputation.

Comments on Biodiversity as a first choice

- Implementing planning and practices that meaningfully preserve biodiversity will likely improve ambient air quality, water quality and provide buffers against extreme weather.
- I think this is where the city has the most control to affect change and sustainability.
- Maintaining biodiversity and healthy ecosystems should be the #1 criterion for any plans in the other focus areas. Protecting biodiversity is protecting resources.
- Degradation of the few remaining biodiverse areas within and surrounding the city would be a tragedy. We need to preserve key areas NOW with strong inviolate legislation that cannot be rendered toothless by the almighty dollar, by those whose vision extends no farther than their wallets.
- Prevent premature fragmentation of land for urban development. Change the MDP to not allow any new ASPs to be developed for the SE, SW, and NE areas at least until 2020.
- Please see earlier comments. By properly managing and respecting wetlands, leaving them untouched, or restoring them where they've been destroyed, will in turn have an effect on

- A relatively small investment in increasing the health of our urban forest creates a much larger positive impact via ecosystem services. Trees are on the job 24 hours every day working for all of us to improve our environment and quality of life. If people were better informed about the benefits the their urban forest provides and realized that their investment in Edmonton's urban forest is less than the amount they spend on adding a specialty channel to their Cable TV they would want to invest more. It may be a huge investment to change our fossil fuel driven world but it's relatively inexpensive to ensure that we take care of the green assets that offset the impacts of fossil fuels.
- Biodiversity impacts all areas of our lives, and the lack of it will cause havoc with the City's sustainability.

Comments on Biodiversity as a second choice

- suburban sprawl impeding biodiversity
- It's important to be exposed to wilderness and nature. By promoting biodiversity we create "safe havens" within the city for people to experience the outdoors, without having to take a trip 3 hours west.
- The sooner we are decreasing our dependency on foods brought to us from faraway lands at great expense and fuel consumption, the sooner we will be improving the local environment (air Quality, soil and water quality), the better. Further, in the event of drought or extreme weather in other parts of the world, we will have some forms of local expertise and stocks to depend on.
- We as a province have lost 60 percent of our natural drainage areas. I have not seen a policy from the City of Edmonton which even begins to address this problem.
- I think that the city often prides themselves on having a lot of green space but we forget that they are much more than beautiful places. We have to remember that it's not just our home. By living in cities people often forget the importance of the creatures that share the world with us.
- protecting and restoring wetlands, and increasing the space for and re-planting of local plants as the foundations for functional ecosystems and natural water management is very important and we are way off track because of the last hundred years of development in the area. In the short run all we can do is mimic and create space, but in the long term hopefully we can get back to some semblance of the natural hydrology and biology for the area, with Edmonton's human population treading lightly within the natural constraints.
- I selected biodiversity because LAND not available. Why have Land issues above in the survey, then delete and only have one aspect of Land (Food). Biodiversity does not accurately capture land issue of constraining urban sprawl and fostering maintenance and growth of local natural ecosystems for the benefits they provide in terms of air quality purification, CO2 sequestering, water drainage. The Focus option of LAND should be included or Ecosystem.
- Greed causes disaster (houses dropping over the riverbank in Riverbend). We have to create real safety for our natural systems (trees, swamps etc.).
- Biodiversity boosts ecosystem productivity where each species, no matter how small, all have an important role to play. For example, a larger number of plant species means a greater variety of crops Greater species diversity ensures natural sustainability for all life forms Healthy ecosystems can better withstand and recover from a variety of disasters. A healthy biodiversity provides a number of natural services for everyone: Ecosystem services, such as Protection of water resources Soils formation and protection Nutrient storage and recycling Pollution breakdown and absorption Contribution to climate stability Maintenance of ecosystems Recovery from unpredictable events Biological resources, such as Food Medicinal resources and pharmaceutical drugs Wood products Ornamental plants Breeding stocks, population reservoirs Future resources Diversity in genes, species and ecosystems Social benefits, such as Research, education and monitoring Recreation and tourism Cultural values

- We are losing valuable habitat by the rapid pace of development. Native plants and animals have an intrinsic value that should be respected.
- Biodiversity ensures that we have an environment that will not be as heavily impacted if there is a bug infestation or other plant diseases. It also ensures the survival of animals that are necessary for our well-being.
- Healthy ecosystems and biodiversity are key drivers for and indicators of quality of life in urban areas, as well as for intrinsic value. Nature in the city belongs as the keystone of our city's amenities, not only in the river valley but across the table lands through the industrial areas and vast suburbs.
- Everything in moderation. Biodiversity offers a tool to achieve balance and resiliency within our communities. Controlling pests, clarifying air and water, improving crops, are services provided by a diverse ecological system. I've lived in Edmonton 30 years and my favourite moments are experiencing diverse wildlife and landscapes in the river valley. It provides a priceless educational opportunity for our children and instills a sense of connection and respect for nature and the services it provides to us.
- Resilience in variety.
- The best thing about this city is its unmatched expanse of green space in along the river... We would be crazy to not think about providing an urban habitat for the creatures and plants that enrich our world.
- Biodiversity or lack of it is a reflection of the ecosystem as a whole and is affected by a whole range of development decisions including densification or lack of it, which the current municipal plan does little to encourage by continuing the illusion of "cheap" land at the cities perimeter.

Comments on Biodiversity as a third choice

- It's expensive and hard to restore habitats once they're gone. One of the great things about Edmonton is the river valley and other protected areas. It makes us stand out from other major cities. It would be tragic if we destroyed those areas for the sake of progress.
- Biodiversity needs to be maintained as this will affect environment and food security / productivity.
- Long live the Seed Bank! And insects and birds and an education packet to tell us how useful they are to us. Not only do we need a resilient ecosystem to filter our air and water, we really do need to keep a stock of heirloom food crops and livestock in case one heavily bred type catches a spreading disease.
- In order for Edmonton and surrounding communities to have better air and water, we need to preserve our natural resources.
- Biodiversity adds to the ecological services and beauty of our city. People won't move to Edmonton just for a job, beauty and quality of life play a huge role in this. Biodiversity will add to our draw as well as contribute to a thriving ecosystem.
- This is partly a quality of life issue. But important for the overall ecosystem as well. And I would like to see less of a monoculture to our farming.
- We have lost so much of this. It's what gives stability to the ecosystem. The city should only be planting native species when doing its landscaping.
- AS we preserve the natural ecosystems we will automatically improve our air, water. We will be obligated to make responsible choices in all of our building and zoning decisions.
- Again, once lost, how do we gain it back? Biodiversity at its current levels represents millennia of nature's best efforts. It is easy to destroy and difficult or impossible to create. The only way we have to solve issues around biodiversity are to proactively take a stand that biodiversity comes in at the very top of our decision making processes around urban planning, transportation, population density, which sectors of the economy we support, and how we design our lifestyles.

- Biodiversity is important to help keep both the water supply clean and provide a healthy environment for the people of Edmonton. It will help clean the air of our city, provide us with food, and keep our city beautiful and a great place to live.
- The services provided by a healthy and intact ecosystem are immeasurable. Without biodiversity, other environmental issues, such as air quality, water quality, will also diminish. Although often overlooked, one cannot overlook the added economic value of maintaining natural biodiversity.
- Loss of habitat due to continued urban growth is a growing issue that must be addressed.
- I chose "biodiversity," because "sprawl" is not one of the dropdown choices. We MUST stop immediately the creation of monster subdivisions on the outskirts of the current boundaries. MacEwan and Terwilligar, for example, are untenable.
- Biodiversity will be an indicator regarding the other two.
- Preserving natural areas and protecting our region from invasive species will have additional benefits in improving water quality, air quality, and monitoring that biodiversity will give additional information on the effects of climate change.

Comments on Extreme weather as a first choice

- Ensuring that there is appropriate levels of emergency response in place, and resources to clean up from such an emergency (EG: Snowplows, etc.)

Comments on Extreme weather as a second choice

- Extreme Weather is a sign that we are pushing earth's limits too far. Addressing this concern is important because it encompasses all environmental aspects.
- The increase in incidents of extreme weather is significant and we are putting the city and surrounding areas at risk if we do not act upon it immediately.

Comments on Extreme weather as a third choice

- Weather and climate are different, but at the same time they are linked. As the atmosphere continues to warm, meteorological changes will take place including more severe weather - witness the extreme heat waves in Russia and floods in Pakistan this past summer that have been boosted by global warming. Extreme weather can kill thousands if we are not prepared.
- Extreme weather will only get continually worse as time goes on and climate change worsens.
- Everyone individually and the city collectively needs to take into account their actions which contribute to global warming and the extreme weather it engenders. Leaving city buses and vehicles idling for example shows the lack of responsibility the city workers have towards the problems their actions create.
- Lots of budget money will go to fighting fires (figuratively) because we have a brittle societal structure that can't adapt to changing conditions.
- These extreme weather events happen more and more. The 100 year storm is happening at decade spans. If you look at my next box, I expand on some thoughts. Adapting to climate change is starting to gain momentum.

No Response

- Why is one more important than the other??? They are all areas that the city should be looking at and planning for. If the sun can't get through the toxic clouds that hover over the city polluting our water through acid rain and nothing will grow, what good is energy???
- City administration need to examine how they can reduce their dreams of hosting money losing events and remember that things like the wasted money for art building will not cause a business to move here.

Environmental Challenges

<i>Challenges:</i>	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Energy:</i> Oil supply and price (used primarily for transportation).	201	4.6	6%	92%	3%	201	2%	96%	3%
<i>Land:</i> Maintaining high quality agricultural land in, or near, the city.	199	4.5	6%	88%	6%	200	5%	88%	8%
<i>Beyond Edmonton Borders:</i> Global changes in supply and demand.	201	4.4	6%	89%	5%	201	4%	84%	12%
<i>Water:</i> The demand for water might exceed the available supply some or all of the time.	199	4.3	10%	83%	7%	200	5%	91%	5%
<i>Water:</i> Maintaining good water quality in the North Saskatchewan River.	200	4.4	7%	88%	6%	199	5%	87%	8%
<i>Land:</i> Maintaining biodiversity in the City of Edmonton and region.	201	4.2	9%	80%	12%	199	8%	74%	18%
<i>Land:</i> Maintaining local natural ecosystems and the ecosystem services they provide.	200	4.5	6%	88%	7%	201	5%	85%	11%
<i>Land:</i> Maintaining food supply.	200	4.2	13%	82%	6%	201	10%	81%	10%
<i>Land:</i> Demand for renewable resources might exceed supply some or all of the time.	200	4.3	11%	82%	8%	200	6%	88%	7%
<i>Energy:</i> Natural gas supply and price (used primarily for heat and industrial processes).	200	4.1	12%	79%	10%	201	10%	84%	6%
<i>Beyond Edmonton Borders:</i> Extreme weather.	201	4.1	12%	77%	11%	199	10%	72%	18%
<i>Air:</i> Maintaining good air quality.	200	4.3	7%	88%	5%	200	5%	90%	6%
<i>Energy:</i> Coal supply and price (used primarily for electricity generation).	201	3.9	17%	69%	14%	200	10%	77%	14%

Note: Percentages may not equal 100% due to rounding.

Comments on water-related environmental services:

Challenge	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Water:</i> Maintaining good water quality in the North Saskatchewan River.	200	4.4	7%	88%	6%	199	5%	87%	8%
<i>Water:</i> The demand for water might exceed the available supply some or all of the time.	199	4.3	10%	83%	7%	200	5%	91%	5%

Note: Percentages may not equal 100% due to rounding.

- Water pollution is decreasing in this province, not increasing, due to existing environmental regulations. Water supply is a little harder to predict going forward, but there is little to be concerned about in the next 30 years.
- Water is cleaned and delivered so well in Edmonton - I'm really impressed! A rain barrel initiative or penalty for wasting water on the lawn might not go amiss though.
- Minor changes to infrastructure and lifestyle will more than save enough water to combat water deficiencies. Changing to low flow toilets and other fixtures would save a massive amount of water. Edmonton has a world class water treatment facility with the Capital region sewage treatment plant falling not far behind it. The work being done by these facilities to reclaim water and nutrients will continue to protect the North Sask. as well as contribute to industrial water needs.
- Water quality in the N/Saskatchewan has more to do with resource industry upstream, than it does with the city. It is beyond the scope, and ultra-jurisdiction of Municipal government.
- I don't know enough about the water quality of the North Saskatchewan (nor how our infrastructure interacts with it) so I don't feel entirely qualified to offer my opinion on how best to address pollution.
- I am willing to make significant changes in my day to day life in order to reduce our environmental footprint as a city
- A huge obstacle is getting Edmontonians to recognize the need to make environmental changes to our daily habits. Being this is a goal for 30 years, people in my age category (25-40) and younger are very aware of environmental issues and are more flexible/willing to change.
- To ensure a sustainable water supply of good quality. Protect and use in a sustainable manner the ecosystems that naturally capture, filter, store, and release water, such as rivers, wetlands, forests, and soils. Create education programs for schools, public awareness for citizens of how to conserve water and protect our water. Develop sustainable solutions for water-related management problems. Develop a system that includes people. A System that recognizes that water has social, economic and environmental values, and should therefore be managed so as to create the most acceptable and sustainable combination of those values. Multidisciplinary teams are needed to develop a shared vision of the desired conditions of water and other related natural resources and their sustainable use.
- Keeping lawns green is a waste of water. We should find alternative plants that require very little water for our yards, or look into other alternatives, such as xeriscaping.
- I think all the water that goes down sewers is wasted, when we pump water back up from the river. I realize that it may be polluted, but from my understanding, natural drainage also has a filtering effect.
- Stricter bylaws on non-essential water usage such as watering lawns may be needed.

- Demand management should be first and foremost. My family uses Bricor 1.1 gallon per minute showerheads (the showers are still very comfortable) and dual flush toilets. There should be a massive campaign, including higher water prices after a basic minimum of usage, to get these installed in all Edmonton households. Cosmetic watering (lawns) should also be targeted with higher water prices after a given maximum usage threshold is crossed.
- There should be more incentives and regulations regarding capturing rainwater for gardening, etc. and using grey water for water in toilets, etc.
- Our current residential expansion (along the upper edges of ravines and over top of wetlands) will serve only to dry the aquifer, as water gets culverted and sent to the river instead of into the ground. New communities are filling/paving natural wetlands to build artificial ones. This is stupid and very risky as far as water conservation is concerned. Urban sprawl MUST be curtailed, and any new developments must allow for existing water systems to go unmolested. It would also be prudent to "daylight" culverted creeks and streams such as the Mill Creek, whether entirely or partially, thereby allowing for water to flow naturally where nature intended, enriching the surrounding ground, and the flora and fauna.
- Let's get some good grey-water management and reuse policies in place.
- Too often, I've seen city staff running fire hydrants. Or if one leaks, they just let it run. To me this just seems wasteful, when a hydrant runs for 10, 20, 30, 60 mins. I know that they're often "cleaning out the line". That's fine. At the same time, where's the vision for sustainability, when we run thousands of gallons of water into waste? It will be awfully embarrassing, when the next generation comes along and asks "why didn't you do anything"? And we don't have any good answers. Also, Commonwealth Stadium is a void of water waste. Urinals that flush endlessly, every minute or two. All 300 hundred of them. And I've been to the Stadium on non-game days & this happens. Where's the accountability? Especially when citizens are encouraged on to water on Tuesdays & Thursday in the summertime. Water is a precious resource. We NEED it. We must take more care of it, because it takes care of us (hydration, cleaning, etc.).
- Globally, access to fresh water is likely to become a larger issue than oil resources are now. Securing fresh water will be a major security issue, and potentially a very valuable resource. Locally, our usage (and tremendous wastage) of fresh water will need to be examined. From a municipal standpoint, the infrastructure of our storm sewer system (especially the storm water retention pond system) has little or no plan for the ongoing maintenance issues that will hit almost all of the lakes built in the last ten years at the same time.
- I believe a great deal of water can be saved by allowing feces & bodily wastes to be flushed using rain water; I think it's not allowed in our city yet. I think it's a huge waste of good tap water to flush wastes; why not allow people to use rain H₂O to do that? Same with urinals; they clog up don't flush very well & stink. Go with those flushless urinals to save water, save our noses from the odour, and save our water. Also, I think there needs to be a "lawn police"; I see too many people who water their lawn too frequently even when they are advised the reservoir is running low. Sure they pay for the H₂O (that's their reasoning) but in the end, we may pay for their selfishness. For water quality, instead of wasting money building non-essential buildings like the art gallery (as a Joe with wife & 2 kids, do you honestly think I can take kids to the art gallery for a family outing? Those who can are the rare exceptions not the norm), the downtown hockey arena (look, I love Oilers, but I WILL NOT pay for an arena; get the rich private investors/loyal ticketholders to do that themselves i.e. let them pay more for tickets not me!) OR waste money with signing recycling bins & yoyos at Washington DC. Our tax money is important; use it wisely for critical services like our ETS & building more safe guards so that partially treated water doesn't go into river (the stories about this has been big in media). Also, please explore viable methods other than putting more & more salt on the road; it's killing our vehicles & our water.
- It is my opinion that our water treatment plants will need to be equipped to isolate and remove the increasing levels of hormones (and substances that can mimic hormones), antibiotics, pesticides etc. that make their way to our water table via. Overuse and/or improper disposal. Public education may result in lifestyle changes that will reduce the impact.

- I see the city needing to step up more aggressively in supporting things like per-lot cisterns, large rain collection systems and promoting grey water handling within homes to reduce our load on water supplies.
- Naturescaping needed to cut down lawn watering
- Industrial toxins don't seem to be a major problem. The biggest problem seems to be pesticide/herbicide runoff.
- Limited supply and over consumption with pollution on the rise is not entering the consciousness of the average person.
- I use rain barrels for gardening. I would like to see good quality rainwater catchment information and workshops available through the city, as well as subsidized rain barrels. It saves tremendously on the need to treat water that goes to lawns and gardens. As well, I would like to see bylaw changes to allow people to use grey water for gardening.
- We are immensely fortunate as a city that we really have no major center before us on the river. This gives us access to large amount of unpolluted water. Yet we are then given the responsibility to give on what we have been given. Not just to urban centers down river, but to the farmers, wildlife and other users of the water. One of Canada's major selling points is our 'cleanness', let us not destroy that. Also for water usage... why so many lawns? With the major push into 'local grown food', perhaps there should be push to people once again growing gardens.
- We need a more educated population who understands the need for water conservation and how small changes at home can make a big difference. Infrastructure changes should include smart metering technology that allows citizens to SEE how much water they are consuming and at what cost.
- A concept I think is worth exploring is that of grading and separately handling waste water. "Grey water" from most household sinks, tubs and showers really doesn't need the same level of treatment as toilet sewage, and grey water could even have secondary uses. Yes, separating the two would involve expensive infrastructure changes, and extensive lifestyle changes (avoiding use of toxic cleaning products, etc.). Perhaps a more realistic approach is to encourage the development, installation, and use of grey water re-use systems IN private homes and buildings. Internal plumbing systems could be retrofit to use grey water for flushing toilets.
- Water issues will continue to be an issue for Edmonton and this province. The City along with the Province need to work together to ensure Alberta's water resources are maintained at levels required to support our ecosystem.
- Awareness of all river-related activities and dialogue with communities, business, and farms along the North Saskatchewan River north of Edmonton. • Audit of how the river is used/affected by various interest groups as listed above as well as recreational groups (fishing, water sports, etc.) • More pressure on Alberta Government to investigate and enforce water pollution standards.
- Subsidize the Epcor rain barrel program. Use the "1/4 turn" idea...when you set your water to shower, turn it down by a 1/4 turn.
- I believe the City must consider rain water harvesting and green roofs in all possible scenarios... from the parks, to homeowners to commercial businesses. The oil companies must be held accountable to higher standards to stop using potable water. It's a complete disgrace and disrespect to nature and our environment. The distaste in so many people's mouths from the profits these companies are making vs. what advances they are making is not even close. Money, profit and alliances are drivers that tend to shut up the politicians.
- While the demand for water from the North Saskatchewan is currently manageable, I think that if the Industrial Heartland takes off, water demand may become an issue. I think that water quality in the North Saskatchewan could already use improvement.
- There are many issues affecting our water supply that are outside our control (glacial melt) and many that are inside our control, such as population density, urban planning, waste management, toxicity of the materials we choose to consume and discard within our city, and

- Our water supply is in jeopardy. We are fortunate to still have a relatively clean and safe and accessible water supply here in Edmonton, since so many people already don't. However, we mustn't squander this resource. I would also like to see a re-evaluation of fluoride in our water.
- Clean water is a basic human right, and our water should never be sold to corporations - ever. More bylaws/campaigns on what goes down the drain - similar to the grease down the drain campaign, but for toxic chemicals/cleaners indoors/outdoors.
- Need bylaw/legislation/rules on grey-water systems, and must be promoted heavily.
- I am prepared to support whatever it takes to take on these challenges. .
- We need to find ways to conserve, recycle and reuse our potable water. Places like Las Vegas recycle a major portion of their water. We need to research best practices for recycling and reusing water to use for secondary uses such as washing clothes and dishes. This would require major infrastructure changes. The city should practice xeriscaping (water wise landscaping). In terms of household use, perhaps the first 200 litres of water should be free and then water use should be discouraged through increased costs per litre.
- I am one of many, many people who believe that access to clean, drinkable water is an unalienable human right and who are concerned about the increasing privatisation of water for profit throughout the world. PLEASE do not sell our water rights to unregulated private industry!
- Given the potential impacts of climate change, it would be prudent for the city to do some modeling on what the river will support as far as population for Edmonton into the future and take steps to live within what the ecosystem will support. Restrictions on growth in other words.
- The complete ban of sale and use of all pesticides and herbicides in the city, and by the City, would be a good way to help safeguard the quality of water.
- Innovative infrastructure and a respect for natural hydrological systems and native landscaping are key to manage healthy water resources. In order to build support for these systems, public lifestyles require significant improvements in social norms and convenient, simple practices for people and businesses to adopt. Enforcement in Alberta for water management requires more resources and more support. And health dept. needs to get on board to support water reuse options in Alberta communities - there is no excuse for our wastage of water here.
- We know for sure there will be less water from the melting glaciers. Increases in population will require more water if we continue to use at present rates. And Industry and commercial uses will also have an increased need for water at present rates....and for Northern Alberta the oil sands and the here the Heartland Area with all of its expansion will take huge amounts of our water. Clearly all of this will not be sustainable at present usage rates.
- Edmonton and Alberta needs some strong and innovative action-oriented legislation to protect air and water quality. These changes can only be realized through strong government legislation and consequences for violation of these statutes.
- Water should be priced such that amounts for cooking and drinking are affordable but bulk amounts or amounts over a base level are priced high enough to deter waste.
- Water quality already is a problem, in terms of what is allowed to be dumped down the sewer. I'm also concerned over weather things like psychoactive drugs can be filtered out.
- We need to start now to make sure our children have a good life style.
- I support that both commercial and residential buildings be built/retrofitted (building codes provide) for grey water. It sounds like a relatively easy retrofit for residences. 2. I notice some cities have building codes for mandatory low-water toilets. 3. I am aware that in the Niagara Peninsula in Ontario, structures (e.g., retreats and other buildings) are required to build their own water-cleaning plants. Why not here? (I guess that may not be municipal but provincial?) 4. Also, maybe in future, both residential and commercial buildings will have to collect at least a portion of their water use from rain and snow and store it (e.g., grey water uses.) Partially "get off the grid" for water and recycle and reuse what they have over and over. 5. Compost toilets

- Major life-style change required for all generations. Father-in-law has a PhD in agriculture and worked with drought related research. He's already concerned.
- All of the above need to be looked into. Dr. David Sauchyn from the U of Regina has done some tremendous work at the PARC with regards to droughts and water issues. It will be problematic in the future and needs to be addressed ASAP.
- Concerns over head water source, probable development of untreated water reservoirs to ensure adequate supplies during low water times, particularly as headwater glacier sources diminish with global warming.
- This is being address with the control of pesticides and the recent upgrade in the water treatment facilities but more needs to be done to see that chemicals and raw waste does not end up in the river upstream of Edmonton, from Edmonton and as well downstream of Edmonton.
- Effective immediately, all new development assessments must be based on the carrying capacity of the land they are built on re: water (supply and treatment), food and energy. If a development proposal cannot be proven to be self-sufficient in these three areas, deny the building permit. This will lead to massive housing shortages, which will lead to more humans living in smaller spaces, and dissuade immigration to the region. As the population begins to understand that there is no more capacity to house, feed and supply energy and water to more people, birth rates will drop, leading to the ultimately necessary condition for a truly sustainable society: a stable or decreasing human population.
- Rain collection systems could be made a required part of new-home construction. Rain barrels could be a required part of older-home ownership (including rented properties) ... water used for gardens would be considerably reduced. Stronger enforcement of laws already in place regarding dumping of pollutants by industry or commercial ventures. Recreational use of the river must be protected.
- The rising delivery charges from the utility companies are also of concern.
- I'm concerned about the use of cosmetic pesticides by Edmontonians and the impact these chemicals are having on our water supply
- Most people do not know that major improvements in downstream river water quality have been made over the past 50 years. Continued investment in infrastructure will be needed to maintain or possibly improve water quality in future. The response options seem to be designed to exaggerate the responses. Why is there not gradation between little or no change and major changes??
- Automobile maintenance should be required in order to renew vehicle insurance. Leaky oil tanks are a source of pollution which get washed into the storm sewers and go straight into the river.
- I am concerned about the increase of industrial operations around Fort Saskatchewan, which may have an impact on water quality in the river. I am also concerned about a decrease in water supply due to more frequent droughts, less snowfall and decrease of glaciers (global warming).
- I assume the "no changes" scenario still has scaling and updating of infrastructure at a similar rate to past. The challenges can be addressed in a variety of ways it is more an issue of finding the most appropriate way. For example we could build massive storage to bridge supply for low flow times but this might be very expensive and inappropriate when we could just have better precipitation management and use rain and melt water for the majority of our watering needs. For water quality ceasing the dump of raw storm water and improving storm water management generally is the priority area.
- I think to maintain water quality in the Saskatchewan River will also take changes to policy, by-laws, and business licences. Business need to be held more responsible for dealing with the waste they produce, instead of dumping it in the river. History has shown that most businesses won't change unless they are required to by legislation. If a business isn't prepared to deal with

- The amount of water used on golf courses is an issue with a lot of people i know.
- WE need to shift from the short term thinking driven by profitability toward longer term sustainable thinking in Alberta. We need to ensure that industrial water users are doing everything they can to improve the efficiency of their processes so they are not wastefully consuming water in order to drive profitability without regard for the future. Also people living in Highlands and other areas of the City where EPCOR has not replaced the lead lined water pipes that supply water to their houses are wasting a tremendous amount of water each day to avoid high lead concentrations in their drinking water from the pipes. EPCOR told me that I need to run my sink for 3 minutes each time I haven't used my water for a number of hours because water sitting in pipes will have higher likelihood of lead in it.
- The prevention of contaminants into the river as well as conservation will be of prime importance. There are several known sources of poison, such as mineral leeching from mining tailings to lawn fertilizer and pesticides that can easily be stopped. The melting of the glaciers from climate change will change the availability of water.
- Everything about the way we build will need to shift to low impact development. Existing urban areas will need to be retrofitted to reduce storm water quality impacts. Lesser changes will be needed for individual water consumption and water quality impacts, though still significant.
- Industry uses and polluted more water than the local population combined. Industry is where the major changes need to happen. Do not sell water as if it were a commodity, because it is not. It is a necessity for humans, plant and animals alike for survival. Change our energy production to wind and solar, no nuclear or oil and the need to use so much water would drastically diminish. And don't worry I am sure the powers that be can find some way to still charge the public and turn a profit with these new energies.
- Not sure how chemical discharge or seepage from factories and farms (fertilizer) is controlled.
- I think infrastructure change needs to be mainly in our homes. What about grey water? The traditional design of homes only allows for water to be used once. The city should educate Edmontonians and create policies that allow and promote grey water usage.
- I think that it is people (each individual) who need to think and act differently and that is going to be the most difficult change to make because you cannot make it for others.
- Lawns should be discouraged. Watering lawns should be illegal.
- I do worry about all the easily available chemicals we use washing off the streets into the drains and eventually the river. More environmentally friendly practices and less available chemical products would reduce what's running into our drains and off the streets into the river.
- The current City practices for water are very responsible from the Drainage perspective especially the current monitoring and water treatment practices are state of the art.
- I'd love to see grey-water systems made mandatory in all new buildings and some incentive scheme available for others in older buildings.
- Citizens who preserve their water supply should get a break on their utilities bill and tax bill. People who live in low income housing with water, heat and power included in their rent are the biggest users of water in my eyes, because they don't even understand how much taking a 10 min shower opposed to a 30 min changes your monthly utilities bill. People in Edmonton should stop doing things like excessively watering their lawns during dry periods etc. We definitely use more than we need to.
- Water is a fast becoming a precious commodity with industry in need of licensing near an established work force which has led to questions about land-use and priorities. Bottom Line:

- Water metering and a user pay approach would embed the environmental costs of supplying clean water to the user and thereby encourage conservation.

Comments on air-related environmental services:

<i>Challenge</i>	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Air:</i> Maintaining good air quality.	200	4.3	7%	88%	5%	200	5%	90%	6%

Note: Percentages may not equal 100% due to rounding.

- Again, due to existing regulations, air quality has been improving over time.
- We're on the prairies. Air pollution largely blows away, and becomes someone else's problem.
- Major concern may be on the east side of the City (refinery row) since the Strathcona region has high incidences of lung related complications.
- Instituting an emissions law whereby older vehicles with inefficient catalytic converters are removed from the road would contribute significantly to improved air quality. Continued cooperation and work with industry will also continue to reduce their emissions.
- We are very lucky and have set ourselves up quite well to maintain the good air quality we have.
- fuel pricing regulations, standards, emissions charges demand management transport planning appropriate technology building codes public education tax hazardous products and processes
- Edmonton and area is a perfect example of a contaminated air shed, we need to do something quickly. To have our CO2 levels go from 300 ppm to over 500ppm in the last 14 years is a significant indicator of other contaminant issues as well.
- I love that the LRT is expanding, although it is a large financial project, as well as infrastructure redevelopment. However, if we don't continue to expand more green methods of transportation 30 years from now we will be shaking our heads and asking "why?"
- We can motivate industry to reduce greenhouse gas emissions through government incentives to use new technology in production, such as lower taxes. Those companies that cannot lower greenhouse gasses should then have to pay higher taxes to compensate for the toll they are taking on the environment.
- Asthma rate in Sherwood Park are far higher than those of people upwind from the refineries... the effects of the northern oil and gas developments may become a serious consideration in the future.
- Encouraging people to bike rather than drive might help to at least marginally reduce air pollution. I recommend making Edmonton more bike-friendly by including room for bikes in new road designs (e.g. bike lanes). I see the number of bikers increasing in the city, especially downtown, but I don't see many infrastructure developments to support this change. Whatever changes are made have to be very carefully thought out, to ensure that people will use them once they are completed.
- without changing transportation modes to more active modes such as bicycles and trains, the air quality will suffer
- Only in certain areas.

- Get everyone out of their cars and onto public transport, seriously. People's attitudes need to change.
- MORE BICYCLE INFRASTRUCTURE IS NEEDED!!!! Also, better public transport options. Too many cars on the roads and too much urban sprawl.
- Changes will need to be made to city planning, roads and public transit system to make it easier for people to choose to drive less and walk, bike, take the bus/train more often.
- Again, education on what pollution is causing harm. We also need a bylaw on idling your vehicle.
- City should make commitments to: green buildings eco-industrial parks public transportation
- While some have complained about the recent extension of the LRT, it is one of the best moves our city has made. I fully encourage and support the expansion of this system. Far beyond even what is planned currently. The more mass transit we have the better. Give it every priority over personal vehicles. It's okay if those in personal vehicles suffer a bit for ETS, it will push more people into using ETS and just improve our city dramatically.
- Much of Edmonton lifestyle is driven by our infrastructure. Our excessive sprawl forces heavy use of vehicles.
- Need more public transit, and especially transit available at low cost.
- The private car simply has to go. It's received an enormous subsidy over the last decades in terms of the harm it causes and infrastructure it requires compared to the low taxes paid to operate it.
- This issue will take care of itself as we transition away from burning fossil fuels.
- Better use and development of the LRT. The LRT needs to be expanded and made more attractive to use that it is to drive and try to find parking. The schedule and the size of train should remain constant throughout the day i.e., a four car train every 10 minutes from 5:00am through till closing everyday on all lines. (See Singapore it has a great transportation system and moves millions of people per day) If we have to guess when the train is going to come or how long we're going to have to wait and if there will be room then driving becomes more attractive. I've been to special events and the train frequency and size doesn't change if it's after rush hour. This makes me consider driving my car instead of taking the LRT. It can be a great way to go green if it's planned properly and made attractive to take both in convenience and price.
- Unlike St Albert, when the City of Edmonton puts in an anti-idling bylaw - please enforce it. The education they've done in St Albert has done little to change habits of residents. City officials suggest otherwise, but it's in their best interest to say that. It's not reality.
- An increasing number of citizens are showing signs of lung-related illnesses such as asthma. We need to: STOP THE SPRAWL; encourage use of public transit; require clean emission checks on vehicles; and build more bike paths and/or sidewalks that allow multiple uses. Workplaces should be encouraged to "go green". Scent free products should be promoted.
- Since our city continues to sprawl outwards, more and more cars are on the roads and this will reduce air quality in the future.
- My same comments for water pollution apply for air pollution as well - businesses should be more accountable and have the forced responsibility to deal with their waste (whether the waste is put into the water, air, or landfill). If a business isn't prepared to deal with its waste, then it shouldn't be in business.
- Further development of Transit and making car commuting more difficult.
- Oil dependency is the problem...isn't the Industrial heartland responsible for the most pollution of our air and water?
- We need to adopt electric cars, electric rail cars instead of buses and so forth.
- land use key
- In my opinion air quality is already a serious concern. Edmonton needs bike lanes, bus lanes, an east-west LRT line. The city needs to focus on higher density housing, more parks, etc. Stronger regulation of industry is important as well.

- I commend the current administration's focus on increasing public transportation. Keep it up!
- Taking ETS is a good way to reduce air pollution. However, the bus fare prices make it more affordable to drive for those who already own a car. I had the choice to drive myself and two friends to downtown, or to bus. Gas \$2.00 (max); Bus fare \$16.50 (for three of us, round trip). It would be great to encourage people who own cars to make the choice here and there to take the bus instead. This is an important population in Edmonton (may I say, the majority?) that can be targetted. Not to ditch the vehicle (those advertisements are harsh), but to make the affordable choice when it's convenient. But really, my point is that I won't be able to make that choice financially if ETS leaves its bus fare prices as is. It seems so important to encourage Edmonton to be green and take ETS, but so completely backwards of council to keep upping the prices. Imagine the eco-impact on Edmonton if Bus fare was back to \$1.00 a trip.
- Need to reduce urban sprawl and reduce dependence on automobiles to address this issue. We've already seen some smog days this year; we will start to see more if we don't act.
- Diesel particulate and other transportation-based emissions are killing people today. Anti-idling and other measures (pollution control devices, if possible at the municipal level) should be aggressively pursued.
- I feel the city should revisit an "idling by-law" again, as well as minimising urban sprawl, increasing bicycle/pedestrian only roadways to encourage such modes of transportation, change existing zoning by-laws so that businesses and people co-habit more closely to reduce travel.
- Transit powered by electricity should be made a priority in this city, and efforts should be made to reduce reliance on personal automobiles.
- Probably need changes in legislated clean-air requirements for industrial and commercial ventures. It can't be up to just the private citizen.
- Where is the anti-idling bylaw??? Where are industry-independent measurements that tell the truth about industrial emissions?
- As the economy grows, more cars will follow, and in turn, air pollution will get worse. Policies to get people out of cars and at the federal level raise fuel efficiency standards seem the only way out.
- We all know driving a car is the easiest form of transportation and the most socially comfortable. We need to get on our bikes and start taking the bus in order to change this. My idea is to have one large bike route going through the city, like the LRT line, and people can branch from their house right onto the one bike trail which will eliminate many problems with bike/car confrontations and accidents. The path could have a walking path also with nice scenery and recycling/ garbage cans along the way. Many people don't know the rules of the road and should not be riding their bikes on them.
- Idling bylaw and awareness of air pollution campaign (compare us to Toronto where they frequently have air quality warnings-i.e. don't leave the house-and ask Edmontonians if that's a future they want). • Limit further development on Refinery Row. Tougher standards and monitoring of refineries. Air quality reports and their relation to local respiratory/cancer/etc. rates should be made more public (transparency). • More frequent air quality testing. Tougher emissions penalties.
- I believe major steps should be taken to reduce dependency on fossil fuels. Next generation nuclear technology will be safer and more reliable and could be the answer.
- Edmonton and Alberta needs some strong and innovative action-oriented legislation to protect air and water quality. These changes can only be realized through strong government legislation and consequences for violation of these statutes.
- Like all modern societies, we rely on fossil fuels to drive our economy and our lifestyles. Within Alberta, we have local choices to make around biodiversity vs. urban sprawl, protection of farmland vs. traditional energy exploration and value-added services, and urban planning regarding transportation systems. All of these choices will affect the quality of the air in our city and neighbourhoods. The cost of prevention is much less than the cost of clean-up.

- I don't have a car but there are many parts of the city that are not built for walking or biking or bus taking! What is this low-density city-sprawl city planning mess? When I was in my twenties, over 30 years ago, I heard all kinds of speakers on the success of higher-density, mixed-use neighbourhoods and how it was much cheaper to service with water, electricity, mass-transit, mail delivery and emergency services. Why did Edmonton (and other cities) ignore this common no-brainer knowledge that already existed? Isn't it time that any current development be guided by proper density? It's getting URGENT!
- I live on the 18th floor of a downtown apartment and can totally see the "smog line" on the western horizon already... it is sad :(
- Especially with the significant oil and gas industry presence, we are creating significant problems if we don't address this issue with strict limits and vigilant enforcement. Idling is another aspect of this that we have been too soft on.
- There are already many days per year when a yellow/grey pall is visible over Edmonton. Much more emphasis on walkable communities, in-fill, public transit, bike trails, etc., is necessary, now.
- Make more efficient public transportation.
- Urban forestry offers a carbon sink and improved air purification. Sod is known to have a larger carbon footprint than native plants. This involves updates to land use bylaws and architectural guidelines in new areas. Industry is highly regulated for air quality and innovative scrubbing systems help, but hummers and gas mowers require a lifestyle change. Need to connect hospital stay (asthma, etc.) Costs of reduced air quality to achieve buy-in for air quality improvement practices.
- We need to stop expanding the city outwards and focus more on things like new apartment complexes in the core areas as opposed to the suburban nightmare that continues to spread like a cancer. This ties into air quality control as if there is more emphasis on core housing where public transit is more readily available there will be less need for private automobiles for everyday commutes. I would love to see a vehicle tax and a toll for vehicles to operate in core areas, thusly encouraging public transit in the areas at the very least, and the parking lots in core areas turned into housing developments, and parking lanes turned into bicycle lanes. we also need to work past our reliance on fossil fuels for energy and heat, there are alternatives that we should be exploring that are far less damaging to the environment to both cultivate and to use (wind, solar and geothermal power for example).
- Increasing accessibility to roads is less desirable than increasing infrastructure for effective and efficient public transportation system, sidewalks, and cycling.
- Little or no care is taken with preserving purity of air, or of water. We live in an isolated bubble of excess. One need only look at what is happening with the rest of the world to see what is to come if we do not effect change.
- Ensure more trees and green spaces. Bicycle paths throughout major areas. Let me bike on the sidewalk, as the roads are crazy!
- Edmonton has the worst city planning I have ever seen, and encourages some of the unhealthiest lifestyle choices I have ever seen. Any changes made along these lines would indubitably lead to positives.
- Decisions that promote industry growth in sectors such as the petro chemical industry could have serious impacts if they aren't accompanied by energy descent plans, zero environmental impact building and manufacturing guidelines, and long term plans to replace the product with one based on renewable resources that generates employment after the decline of petroleum.
- We already have very poor air quality. This is apparent when approaching the city - there's a definite brown haze obvious from a great distance. What do you expect with industry like a pulp processing plant located in the inner city?
- The city should look at the impacts of industrial development, quantify the future impacts of industry on air quality and take proactive and appropriate steps in planning to avoid future problems. Industry (oil specifically) should not be permitted to obfuscate about future cumulative emissions not to externalize future costs whether they be in quality of life or health

- For sure we need higher emission controls and limits for homes, autos and industry.
- More cost effective and better transit would help reduce air quality issues. Currently it the LRT does not expand far enough to the southwest and does not go northwest or southeast and it should. It's too expensive and time consuming to consider transit over driving. Also there should be more incentives and regulations for industries to reduce their emissions.
- Increased population can lead to increased air pollution, unless Edmonton take really focus on alternative transportation and walkable areas.
- I think this will be a challenge in getting people to understand that air-related pollution is a combination of industry and traffic, as well as others. I think Edmonton is heading in the right direction in terms of increasing public transportation, buses and LRT, but I am hopeful that the people who make these decisions are looking at other effective models, and adapting them to Edmonton.
- The air quality is definitely a major concern already, especially with the number of children who have asthma and sensitivities to pollutants, etc.
- Asthma is more common now. As the population grows, there air problems become more apparent. We need to make clean air a priority and have the proper plans to deal with industry and transportation challenges that affect air quality and our health as a population.
- Automobile maintenance should be required in order to renew vehicle insurance. Poorly maintained engines are a source of urban air pollution at ground level. No oil & gas upgraders should be allowed in the Northeast and Strathcona Industrial Area requires much stricter limits and enforcement.
- Promoting travel that takes people out of their private vehicles is key.
- Edmonton needs to promote (and provide infrastructure for) active and mass transportation options. Urban planning needs to support different types of housing available with greater density in the core of the city to reduce dependence on private vehicles. Family housing options need to be available in the core.
- This is already a serious problem. Vehicle use is the main challenge here. This is an infrastructure, lifestyle and urban planning issue. We have to limit the outward expansion and continue to improve our transit system, and create incentives to change habits (make it illegal to subsidize parking without subsidizing transit, change property taxes to a cost of service based calculation rather than a property value based calculation)
- It would be nice to see green roofs in the downtown area. This would lower the temperature and humidify our city centre. There are lots of flat black rooftops that do us no favours. I don't know if they are built to stand the extra weight though.
- The city MUST get rid of their antiquated road system. Let us get some one way streets with computer controlled lights. If 111 Avenue is one way eastbound and 107 Avenue is one way west bound we could at least triple if not quadruple the volume of traffic reducing fuel consumption and noise pollution. One going east from Mayfield road to 124 street, with driver speed at posted rate you will be surprised at the improved result after week #4
- Industry and personal transportation must be held responsible for dumping waste into the atmosphere.
- Stop cutting the forests down that clean the air and that also produce
- Public transit needs continuing improvement and expansion.
- The continuing work to expand LRT and bus services is a great step in the right direction. The City should implement and enforce a no-idling bylaw. We should require all malls, food stores, large apartment complexes, and other large retail and commercial buildings to post anti-idling signs.
- Enforce the anti-idling bylaw, please! It's good to have rules but there doesn't seem to be consequences for those who blatantly disregard the law out of their selfishness to keep warm or cold. Edmonton is blessed with open places & plenty of Sunshine (we're the sunniest province). Use it to advantage; get wind/solar on seriously big scales to wean us off old coal

- Car idling bylaw should be enforced - no idling until -15 and never for more than 5 minutes. Drive thru's should be banned/phased out and/or taxed. I pay with my lungs every time someone uses a drive thru, and they need to pay for polluting my environment unnecessarily. Tax car drivers/owners more, and add more public transportation.
- Not sure what type of pollution control measures are required for new and existing manufacturing plants.
- By all means think up ways to penalize heavier pollution and reward purification, but I don't think of it myself, as I usually only concern myself with the energy use side of the question and let emissions fall where they may.
- Air is interesting. We are situated in a unique geographical area where wind and air work positively. We can't really use the air to pure advantage in a sustainable way - i.e. windmills. Yet, we're from north enough where it is clean. Winters help too.
- Indoor or outdoor air quality?
- I am not sure if vehicle or industry is the major cause but I have noticed a marked difference in air quality over the last 5 years. Before that the differences were not something I could see or smell, if there where changes at all.
- Upgraders pose a serious risk to air quality and human health. If the city has authority to disallow future upgraders or other industries that diminish air quality, they should do so.

Comments on land-related environmental services:

<i>Challenges</i>	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Land:</i> Maintaining high quality agricultural land in, or near, the city.	199	4.5	6%	88%	6%	200	5%	88%	8%
<i>Land:</i> Maintaining local natural ecosystems and the ecosystem services they provide.	200	4.5	6%	88%	7%	201	5%	85%	11%
<i>Land:</i> Demand for renewable resources might exceed supply some or all of the time.	200	4.3	11%	82%	8%	200	6%	88%	7%
<i>Land:</i> Maintaining food supply.	200	4.2	13%	82%	6%	201	10%	81%	10%
<i>Land:</i> Maintaining biodiversity in the City of Edmonton and region.	201	4.2	9%	80%	12%	199	8%	74%	18%

Note: Percentages may not equal 100% due to rounding.

- Unlike the pessimistic, almost end of the world doomsday figures in the environmental movement, I have confidence in a market economy being able to adjust to supply and demand. I also believe a market economy will innovate when and where needed to deal with shortages. Perhaps it is worth asking why a city needs agricultural land in its boundaries. Have we forgotten that the most polluted country in the world in 1989 was East Germany? If I'm not mistaken, it was a command economy, much like what our esteemed panel desires.
- Food costs will vary with world prices, farmers local or not will charge the highest price they can. Intensive farming is not the answer. Edmonton farmers grow bedding plants in greenhouses and charge high prices in farmers markets to the more affluent. It is better to change people's lifestyles and have them grow their own produce instead of restricting land. Restricting land will only cause less affordability to housing. Satellite communities will continue to sprawl and at a faster rate if Edmonton starts to restrict land use.
- designate special areas for management local participation clarify property rights economic resource pricing land use controls internalize ecological value in land prices internalize costs of loss in redevelopment planning tax incentives for preservation zone and building codes pollution control public education
- Again, this is somewhat beyond the scope of municipal government. The largest concern ought to be real estate speculators leaving productive agricultural land to brownfield, as they wait for the suburb to expand that far. Much of this land is outside of city limits, and thus, beyond scope.
- Food supply is a global issue now and any risks will be related to security of global trade in food.
- Some of these are already major challenges. We have very little functional ecosystem space in Edmonton now and this is a very hard thing to put back after it is gone. These challenges are provincial and global as well. Food security will not likely be a huge issue but quality, responsible, local food availability is already an issue. Things we can do: limit and reverse sprawl, regenerate our wetlands, plant natural and diverse plants in green spaces, waste heat greenhouses, urban agriculture, increased community garden space, etc.
- I am responding in a regional context. If you are looking at a specifically City of Edmonton response (not capital region), then the City of Edmonton will have no chance at supplying its own food supply due to continued sprawl and a higher priority on industrial use. Because of this, the whole region will have to contribute to supply the CoE with its food supply, and exports to other areas (international) will be impacted.
- We need to build up, not across. A lack of agricultural land around the city is a HUGE concern. Edmonton city planners are great at leaving green space such as parks, this needs to continue.
- Sourcing our food is a huge area of concern, we have some of the most fertile land in the world, let's use it!
- We need to make a much stronger effort to combat urban sprawl. At the moment, the city's footprint is far larger than it needs to be for its population. Efforts must be made to stop Edmonton's sprawl in the future. These could include tax rates that increase as the distance from the city centre increases, transit zone fees, and making the central areas more attractive to families.
- Only time will tell what our City's environment will be like in 30 years. I think if environmental changes are implemented now than risks of floods, and other eco threats, will hopefully decline. However, if we don't invest in time and money for that now, who knows what our ecosystems will be like 30 years from now.
- Revision of taxation policies to encourage high density inner-city live as opposed to making new, outlying developments more financially realistic to young families. Oversized houses are being built on some of the most fertile agricultural land on the planet, and makes little sense. To encourage centralisation, offer lower taxes the closer to the core one is, perhaps including additional fees or tolls on those that choose to live outside the city and contribute to sprawl and car congestion.
- The high rate of development is using up some of our best agricultural lands and wildlife habitat. We need to curb urban sprawl before we lose too much valuable land.

- Urban sprawl and outward expansion are the biggest problem across this entire category. Upward growth should be promoted instead of continued outward growth.
- Much of our food supply is still obtained from other countries so world issues would definitely impact us.
- Too much agricultural land is owned by developers now, the damage is done. I don't think developer investment in the future is driven by the needs of the environment, their prime motivation is profit.
- Increasing the growth and consumption of locally grown food is probably beneficial, if we haven't already reached the limit of our local agricultural production capacity.
- Further development of industrial property on farmland/grasslands/forested areas (as is happening in Alberta and in the Edmonton area) will certainly affect our natural ecosystems substantially. When communities protest such development, it would be prudent to listen to them a bit more.
- I believe the rezoning of farmland into suburban sprawl around Edmonton and other cities is a dangerously irresponsible practice, mainly due to the related increased cost of transportation infrastructure. A less energy-intensive practice would be to build "up" by increasing existing residential zone density rather than build "out" by creating new residential zones.
- City needs to grow back inwards - maintain buffer zones to re-establish biodiversity and protection of landforms and runoff - 100 mile challenge for food - stop the urban sprawl, revise transportation routes to favour public transit and rezone to allow community level access for essential food and daily supplies - develop high density mixed use light industrial, commercial and residential for brown field redevelopment.
- We need to create and maintain green spaces. Perhaps a green belt around the city to contain growth and maintain and protect farm land. Trees need to be planted, disease control for trees needs to be maintained to ensure older trees are surviving.
- I would like to see an increase in urban food production though such things as community gardens, backyard bees and chickens, and edible landscaping on city property. There is no reason why land that happens to have houses on it cannot also produce food. The beautiful lawns and flowers throughout the city attest to that. We need to keep an open mind and look for effective and environmentally-friendly ways to use our space. Many cities are letting their citizens use urban agriculture, including backyard hens, to make their lifestyles more sustainable.
- One of the "easiest" solutions is to limit the growth of the city. The arable land already used for building new housing far outside the core service area simply increases the need for cars, new bus routes, new parks, new schools and recreation centres. Let's maintain and make better use of what we already have so that we can maintain biodiversity, keep local farms productive, lower pollution levels, and maintain (if not lower) the cost of providing services to the citizens of the city.
- I think it is high time to put an end to the city/town, urban/rural dichotomy and integrate aspects of both modes. There is no reason why we can't grow crops in the city, which would be good for the environment, good for the economy, good for our health (provided we reduce greenhouse gas emissions and soil contamination as well) and good for our children's intellectual growth.
- A relatively small investment in increasing the health of our urban forest creates a much larger positive impact via ecosystem services. Trees are on the job 24 hours every day working for all of us to improve our environment and quality of life. If people were better informed about the benefits the their urban forest provides and realized that their investment in Edmonton's urban forest is less than the amount they spend on adding a specialty channel to their Cable TV they would want to invest more. It may be a huge investment to change our fossil fuel driven world but it's relatively inexpensive to ensure that we take care of the green assets that offset the impacts of fossil fuels.
- As the city sprawls there is less arable land to produce food. Let's fill close in vacant areas for tall buildings planned rather than unplanned growth. Accommodation up anmo horizontal. Bob

- Number 8 is a strange question. I think we eat beyond ourselves as it currently stands, and we should be eating things closer to home (at least within North America). I don't think we need to worry about maintaining the variety and worldliness of our diets; we need to worry if our diets continue to be as worldly as they are.
- Respect for natural spaces is shown with our gorgeous river valley system, but other tributaries and urban nodes have a strong disconnect from natural corridors. Communities must be built around existing wetlands and uplands and must retain at least some tree lots for water, air, noise, energy and wildlife management. Low impact development practices are essential for moving forward, especially since our City is built on an old lake with glacial till soil. Respecting groundwater and healthy soil structure may prevent future damage to infrastructure and buildings.
- Edmonton needs more effective growth plans to provide infill housing as opposed to urban sprawl. It is irresponsible to not build/rebuild internally and continue to build outwards into agricultural lands.
- As many natural spaces as possible should be retained and connections between these spaces/recovery of lost spaces should be developed to ensure that both biodiversity and ecosystem services are maintained. The City should avoid developing on agricultural lands and instead promote local farmers and urban farming. Energy consumption associated with shipping food may make food prohibitively expensive to low income residents in the future and only contributes to climate change.
- We need to preserve local agricultural land to prepare for a post-oil economy and to reduce green-house gases. These do not require major inputs of capital but it does require bylaws that serve to conserve and protect the "green" capital that we have. We need to give priority to food and local ecosystem health in order for the city to thrive. Up until now we have given priority to development and industry. However, our natural capital needs to be valued if we want to have a sustainable and vibrant economy and future.
- Urban sprawl is a serious problem, especially when speaking of sustainability of the city. The system that is currently in place holds far too many incentives for families to live in the "suburbs" or further away from the core. The further from the core, the higher the per capita cost to provide services; however, the current tax system (based on property value) rewards people for living further away from the city core and to have larger land area per capita. The agricultural land surrounding Edmonton, especially to the south is far too valuable to strip and build houses. Maybe a tax system where there is incremental rise as properties are further from the city core?
- We HAVE TO stop our sprawl. Since we drive out of town and see lots of space, we think we can expand into it. But this is destroying our fine city. Absolutely destroying it. We are also paving over some of the best farm land in the world. We need to put hard stops on all urban sprawl in the capital region, though this will take provincial action or the cooperation of all towns and cities around Edmonton. But this is one of the most vital things that our city has to do.
- Food and environment are again controlled by our urban design choices. More promotion of centralised spaces (such as a large indoor farmers market space where the city center airport is, with good transit/LRT access) would go a long way to improving lifestyle alterations.
- Some ideas: - Provide financial incentives to support the use of land immediately surrounding the city for vegetable/food production (i.e. low or zero land taxes for vegetable farmers, higher taxes for grain/commercial farming ("food" not necessarily for city markets), highest taxes for industrial/commercial/residential development) - Allow, encourage, and create zones for urban community garden projects in residential and inner city spaces - especially high-density housing areas. Community garden cooperatives can be very successful, but they NEED support from the city.
- Limit urban sprawl. • Encourage creative land use (basement suites, rooftop gardening on downtown buildings, etc.) • Discourage lawns, encourage alternate landscaping options (native Alberta plants, gardening, etc.) • Urban farming-allow for chickens and goats in the city (could be limited to certain areas or certain size yards, etc.)

- We currently have some of the best agricultural land in Canada right here in and around Edmonton. It provides us with low cost, healthy, nutritious vegetables that are not transported long distances and also helps support our local farmers. Zoning this land for development would be a serious mistake, and cause irreparable damage to the local food sources.
- It will be of utmost importance to ensure that backyard agriculture (both plant and animal based) be permitted within the cities bylaws (e.g. - gardening, backyard chickens, goats, etc.)
- Grade 1 farmland cannot be reclaimed after it is lost. Biodiversity is extremely difficult to recover. Choices that are made purely based on economic considerations conveniently ignore externalized costs, long-term impact, and true total cost of ownership to focus on short-term gain and expediency. Short term gain in these areas leads to long-term pain.
- I'm encouraged by the "eat-local" movement and the refocus on creating sustainable farms and food cycles, but I'm really concerned for those that aren't a part of this movement or who don't see the value in eating and supporting local products.
- We need to stop thinking that we NEED huge houses far from the inner city, and that we NEED to eat strawberries in January and asparagus in November. We need to support our local agriculture and local market gardens, or grow our own. It uses less fuel, less water, less building materials, less land, and it builds happier people in community.
- More support for farmers markets/eating locally. Reward businesses for buying local with a rebate. Reward business that can prove they are going green.
- The City needs to curb residential development into agricultural lands and increase development of its core. Why don't we have stricter bylaws preventing developers from running rough-shod over the city?
- Encouraging local farms to market their products directly to consumers by providing a market dispersed throughout the city could create a change in lifestyle and an opportunity for those to have a choice other than the big grocery food chain. With multiplier effect in the local economy spanning the region.
- Please see earlier comments on wetland/water use. There was a study done several use ago that mapped out Edmonton's culverted and paved wetlands/waterways. About the same time, research was being done into the concept of "daylighting" culverted streams and water ways. In Toronto and Vancouver it was tried, with much success. Along daylighted streams and creeks, plant and animal life was rejuvenated, as the water was allowed to flow above ground instead of below ground in culverts. We should do the same wherever it is possible in Edmonton.
- Effective immediately, all new development assessments must be based on the carrying capacity of the land they are built on re: water (supply and treatment), food and energy. If a development proposal cannot be proven to be self-sufficient in these three areas, deny the building permit. This will lead to massive housing shortages, which will lead to more humans living in smaller spaces, and dissuade immigration to the region. As the population begins to understand that there is no more capacity to house, feed and supply energy and water to more people, birth rates will drop, leading to the ultimately necessary condition for a truly sustainable society: a stable or decreasing human population.
- Urban sprawl and a continued policy of virtually unregulated growth are totally unsustainable. The continued development of irreplaceable rich agricultural lands for more McMansions is insanity. Changing this will require not only changes in how we build and live, but also in how taxes are assessed for municipalities. As long as taxes are based almost entirely on property values, there is little incentive for cities to curtail wanton growth.
- Our convenient and consumerism culture/society is to blame and we need to promote local production and distribution via community garden networks, slow food movement, 100 mile diet etc. I believe one of the biggest obstacles to this is our capitalist society and focus on bottom line by big grocers. A shift in thought is necessary.
- Land use and food security go hand in hand...why do we get most of our food trucked from say Mexico when we live in the area surrounded by farmland? Permaculture...we are turning our yard into a garden...with food security in mind.

- Oil is finite, and peak oil has hit. We need to do everything in our power as a city to ensure food security. This means stopping urban sprawl COMPLETELY RIGHT NOW. No more paving over farm land. Let's develop the huge amount of underdeveloped land within current city limits.
- All informed research supports the pressing need for strong action in these areas.
- It is imperative that we become more self-reliant and more wholistic in our thinking around what our planet can provide and what we need to do to protect it for future generations. We need to get off oil and start enjoying and nurturing the incredible abundance we have here at home.
- Paving over of prime agricultural land must stop. We put ourselves at risk by destroying the soil/humus that has taken eons to develop.
- We need to look at our agriculture and make changes now.
- this is such a huge area of contention and it encompasses everything from housing/commercial developments, industry, how and what we farm, transportation, resource cultivation, waste management, etc. and I think that we need to focus less on profit margins and more on sustainability. We need to implement harsher environmental regulations and actually enforce them, and in that make the punishments for violation severe. Whether it is jail time or seizure of properties/businesses which would then become crown corporations I do not know, but the current trend needs some drastic measures to be righted.
- We have class one soil between Edmonton and Calgary. Have you noticed how much this farmland has been developed in the last five years alone? It is disappearing. On the outskirts of our city I see horrible, ugly, cookie cutter homes that have no art, no design. I also see large single-story industrial buildings going up. Why on earth is this allowed? Is there no vision? How do these developers get permission to do these things to the land around the city? Some call it land development. I call it land murder.
- Stop the urban encroachment on farmland! Encourage young families to move into established neighbourhoods
- Curb urban sprawl! Don't just say you will, actually do it! Encourage backyard gardens and animals like chickens to create local food sources.
- This section of the survey is something that we can really do something about - no more infrastructure in the areas where there is arable soil (or wetlands or forest) would solve all these problems. The City of Edmonton needs to be the catalyst for communities to protect this vital resource for all of our sakes!
- Comment above relates to recent designated use of some good agriculture land for petrochemical industry. Tsk tsk City government. We need to build capacity for living locally and providing a local economy and food supply.
- People in Edmonton care about food issues. Let's catch up with other major North American cities and finally allow folks to raise chickens in their yards. Edmonton is also one of the few major Canadian cities without weekly compost pick-ups, and our plastic recycling is far more limited than in neighbouring Sherwood Park. Where Edmonton was once an environmental leader in Canada, it has now become an environmental laggard.
- Edmonton has followed a growth first policy in land use, taking away top quality agricultural land for badly planned box store malls and new developments. This not only increases the city's large footprint and makes it difficult to provide services for all of the city but also seriously endangers our food security.
- Ecosystem services in the form of natural areas, water treatment, waste disposal, air purification etc. become much more important as the population grows. Consider establishing and maintaining a per capita quota of natural areas into the future. Adequate natural areas to provide necessary services means the city will need to curtail sprawl. Sprawl is really the most serious issue that needs to be addressed right now. It makes public transit not viable, destroys necessary habitat and ecosystem services, is expensive and unsustainable. The city must densify.
- The City has made a small start with the new MDP and the requirement that land be looked at in terms of its best use, including its agricultural value, before it is turned into more housing or

- Non-renewable resources are just that. From the moment extraction began they have been depleting. All the easily accessed sources have been exploited. Local food is necessary. As the price for transportation fuel increases so will the cost of food. Local closed loop production is a matter of survival. We have become a part of the ecosystem again and not just exploiters of nature.
- I would love to see land zoned for community gardens with rain collection, particularly in high-density residential areas. Perhaps a school garden initiative too. We may also wish to consider renovating and refitting existing residences and capping the amount of single family homes in new developments as a way to combat urban sprawl, which is particularly rampant in Edmonton.
- I think lack of biodiversity is an issue now, not just in the future. I would rather see more than grassy boulevards in public areas, and I don't think we should have to travel far (say, the river valley or city limits) to see a variety of natural plant and bird life.
- Stop urban sprawl and build dense, towering communities.
- I just wanted to comment: How about making it an aim to build the municipal airport lands as "off-the-grid" housing and commercial buildings? How about municipal projects to retrofit neighbourhoods block-by-block to be off-the-grid, especially in poorer neighbourhoods? For example, a start would be to build geo-thermal heating and cooling systems that would service a whole block or a group of homes. In Canada, heating is a big carbon-emitter and something people cannot easily cut back on in our cold winters.
- We must always be re-planting and considering the natural life cycle of trees. We must insist that new developments have the infrastructure and landscaping that promote healthy lifestyles and eco-friendly investments. Without it there should not be developmental approval.
- We have precious farmland that is literally disappearing under concrete. The further away our food must come, the more it costs. There is no reason that our residents can't buy the majority of their food from farms around Edmonton. Farmer's markets are one way to encourage this. Like farmland, important wetlands in Edmonton's city limits have been lost forever to industry land development. The cost of the damage to our ecosystem is difficult to measure, but the effects are developing over time. Further development of land must consider the balance of the ecosystem and make allowances for preserving areas critical to biodiversity.
- Strategies for reducing suburban sprawl are definitely required. A small denser city reduces the costs to provide infrastructure, while preserving vital agricultural land.
- The work that "Live Local" is doing around local food production and consumption is amazing, we need much more of that plus urban poultry, more community gardens, efforts to densify and reduce sprawl, etc., etc., etc.
- Urban Sprawl. When I look at Edmonton that is the word that comes to my mind. Having lived in Seoul, Korea until Gr.5 I have full appreciation of high-tech chic yet high-density cities (not low-tech like say Bangladesh or Chang-Mai, Thailand). The service industries there are great & their public infrastructure is truly great. It's really no problem to go anywhere due to excellent public transit & high density city planning. I live near the new Century Park LRT station. Yet, to get a decent meal or hang-out with friends at South Edmonton Common or even go grocery shopping, I have to walk anywhere from 10-30 minutes. Why can we not have chic concrete high rises (stylish, much less prone to H2O damage, plus I don't get to hear my neighbour upstairs or next door which is a great plus; FYI, I live in town-house style wooden condo) with entertainment & supermarkets much closer? Those condos @ Century Park come close to what I think Edmonton should be, not this urban sprawl. I honestly cannot see how Edmonton can hold itself together in the next 30 years if it continues to build more 'burbs (e.g. Windemere, &

- City of Edmonton should fix city limits to current borders and deny any new applications for suburban developments. Developers can build up in existing neighbourhoods or they can get lost.
- We need to advertise our local produce more. People are used to going to the grocery store for everything. Why not buy their produce another day at the farmers market. I love fresh local food and completely support it, but I don't even know where I can go locally to get these things. I would like to see more of Alberta's meat, produce and other products in more stores and clearly labelled as locally grown and farmed.
- One study showed Vancouver was 1120 square km, and Edmonton 850 square km. Yet, that same study shows Vancouver has 1.83 million people and Edmonton only 782000. What this means is that Edmonton needs to stop giving land developers so much leeway in using huge tracts of land for low density development, and charging land based on the true value that includes considering environmental damages caused. We should also require all developers to include a bike path on all new paved streets.
- Preserving good farming land for farming and not housing or industrial development will require policy and regulation on one hand, but I think many Edmontonians also need to be reminded of where exactly food comes from before it gets to the grocery store.
- Food imports will become more and more expensive due to rising production and transportation costs. We need a reliable local agricultural backbone to reduce our dependency on imported foods (even from BC). Prime agricultural land must not be paved over for new subdivisions.

- Ensuring we have agricultural land nearby in the years to come is an issue of growing importance to Edmontonians. Increasing costs of transporting food and growing interest in the local food movement will mean that Edmonton will face increasing pressure to protect natural areas and provide local foods for its citizens.
- What is meant by 'renewable resources' (q. 4a & 4b). Questions too vague to answer. Governments at all levels do not encourage sustainable agriculture. We (as a culture) are far too happy pave over good agricultural land; as well, the loss of top-soil in new residential areas under construction should be of much greater concern to our city government. Protection and maintenance of ecosystems seems more a matter of education and legislation than infrastructure and lifestyles. Maintenance of food supply is strongly related to protection of agricultural lands in and immediately around the city, and encouragement of their use. We ALL (city government included) need to think differently about this ...
- I answered question #4 as if the question was asking about non-renewable resources because those are in limited supply. Renewable resources, such as the wind and sun, are always going to be around. For this entire category most of my responses focus on changing infrastructure because I'm unsure what kind of lifestyle change can be made around food and land use. If we can't grow food locally, do people just choose to stop eating? Also, the public doesn't decide to cut down a forest or pave over a wetland - the government with businesses make those decisions. The City needs to stop allowing developers to pave over and build on land that is used to grow food. Being able to grow food locally is important to food security. When you look at other countries, riots occur when there is either a lack of food or water. Edmonton will not be a nice place to live if we can't feed people. Another way to look at it is my quality of life (and the quality of life of other Edmontonians) is improved by being able to buy locally grown food (it keeps money in the community, reduces pollution and the cost from long distance transportation, and plants help clean the air) but my quality of life is not improved by having another strip mall or box store. There are already lots of areas within Edmonton that need revitalization. Put the strip malls, box stores, and condos there. Why are we paving over new land that can be used to grow food when we have blocks and blocks of City areas that are paved and have utilities but are just run down? People seem to forget that land is a limited resource. There's only so much on the planet and all municipalities have a tendency to keep creeping onto agricultural land. That means that our overall ability to grow food is decreasing. If Edmonton took a different strategy and protected the food supply, it would be a great place to live because we could feed our citizens.
- Great questions. Thinking globally, this has already come to pass, and we as Canadians are leading the charge at living well beyond the planet's carrying capacity. This goes beyond local quality of life and addresses the very core of the way we obtain our standard of living and what we stuff ourselves with. I don't know how much CoE can shape this aspect, though!
- Start using environmental economics. Natural resources are not free and their use (misuse) have massive repercussions (economic, social, environmental, psychological).
- An enforced policy to protect healthy, beautiful, mature trees on public and private land would be a big step in helping to clean the air as well as provide cooling. With all the forests we have here, we still have smog. What would it be like without them? Common sense would suggest that a 5 year old self-seeder covered in aphids, etc., wouldn't be on the protected list; 100 year old elms would.
- Support vegetarianism. Eat less meat! Livestock require huge amounts of land and to raise meat such as beef is highly inefficient compared to the amount and variety of vegetables and grains that can be grown on the same amount of land.
- One issue that affects me directly relating to land is the cities chemical spraying. I believe this to be affecting our pets and our children the most. Only Adults have the capacity to read and avoid areas sprayed with pesticides or herbicides. Children do not, and run around freely in sandals getting chemicals on their skin and in their mouths often before I as a parent have noticed the warning sign. I cannot be expected to keep my children only on the sidewalks at all

Comments on fossil fuel-based energy systems:

	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Challenges:</i> <i>Energy:</i> Oil supply and price (used primarily for transportation).	201	4.6	6%	92%	3%	201	2%	96%	3%
<i>Energy:</i> Natural gas supply and price (used primarily for heat and industrial processes).	200	4.1	12%	79%	10%	201	10%	84%	6%
<i>Energy:</i> Coal supply and price (used primarily for electricity generation).	201	3.9	17%	69%	14%	200	10%	77%	14%

Note: Percentages may not equal 100% due to rounding.

- We have an abundance of oil in the oil sands. We also have more than enough coal, and new supplies of natural gas are being discovered all the time.
- The effects of burning these fuels is a far more urgent issue than their dwindling supply, as the reserves are still large enough to sustain us for quite some time. We should look into alternative sources of energy, but for the sake of the atmosphere, not because we are concerned about running out of fossil fuels.
- I'd like to get out of the coal-using business for electricity generation, period. There are so many clean alternatives, including just plain increased energy efficiency and lifestyle changes of going back to lower rates of electricity usage. Here's one relatively easy change: All those buildings could turn off their interior (and some exterior, e.g., signage) lights!!! Maybe that could cut the city's electricity usage by a huge percentage.
- Renewable energy - solar, wind Alternative Energy Conserve Energy - public education Bike route Mass transportation Incentive programs
- Away from coal and oil towards an energy infrastructure built on the newest solar technology, once it is capable of meeting our demands (hopefully within 5 years). Aggressively moving away from oil transport - the new smoker - publicly ostracized. Plan for next generation energy infrastructure, rather than react to it.
- Regardless of whether peak oil is here or not, population pressure alone will stress our energy systems past their present capacity. Filling that gap with increased coal-fed electricity, gas based heating, and oil based transportation will continue to multiply the present problems we are trying to solve. Driving the current system until it completely breaks down and demands radical, disruptive change will be immensely painful and chaotic on local, national, and world-wide societal levels. The technology for smart grids exists now. Technology for clean energy exists now. Alberta already understands energy and faces a choice as to how to apply that to

- We will not have supply problems with any fossil fuel, however cost may rise. We need to better educate the population in terms of use and sustainability
- The supply issue is not the problem. It is the current perception that our Province produces dirty oil with large environmental impacts. It is important that new research looks at extraction processes that have less environmental impact.
- Shale gas extraction is going to ensure supply of NG for some time; likewise coal is unfashionable, and plentiful. Quality petrol will likely become problematic as time goes on. Still, this is beyond the scope of municipal government (apart from increasing density to reduce consumption.)
- The main thing to do at a city level to prepare here is reduce our reliance as much as possible - mainly for transportation fuels.
- The coal issue is really about associated CO2 emissions - there is a 200 year supply of coal, so supply is not the problem. I am not sure that clean coal or carbon capture and storage will ever be applied to new coal plants due to the high costs.
- COAL? Are you kidding me? We have known with certainty for some time that we must stop burning coal IMMEDIATELY if we are to stand any chance of delaying catastrophic climate change long enough to plan a peaceful transition to a sustainable society. A stable human population and decreasing the environmental footprint of every human is now widely understood to be a pre-requisite for our survival as a species on this planet.
- While I imagine coal will remain cheap and plentiful, the environmental cost of coal is too high, as is that of oil & gas. In general, Alberta is well positioned to make use of geothermal energy for heating and needs to investigate and act on this option. Long term this is actually a cheaper option, even at current prices. Stronger regulations are needed to improve the efficiency of industry, and perhaps incentives for individuals and corporations to improve insulation and energy efficiency
- Again, if we invest in reuseable energy technology, 30 years from now hopefully we will have transitioned onto other resources and be far less dependent on coal, oil and natural gas.
- We have better technology for the use of our energy sources, let's use them!
- Just to reiterate that we need to look at alternates to fossil fuels as the cultivation and consumption of them at the current rates is short sighted and irresponsible.
- I am not against fossil fuels, but while exploring them we should also be transitioning to green renewable energy. Relying on worldwide supplies of energy is not wise. Even having 10% renewable sources would make a big difference in cushioning price shocks from reduced supply.
- It is impossible to tell how much of a problem this will become with the fear mongering by gov't, environmental lobbyists and resource companies.
- MORE BICYCLE INFRASTRUCTURE!!!!
- Using up 100 million years' worth of fossil fuels in 150 years is folly. We need to transition away from these as soon as we can, even if it causes inconvenience for some.
- Too much natural gas is being used to fuel oil sand growth. I think this will cause severe shortages within the next 30 years.
- Again, if we live in community supporting our own enterprise and agriculture, we wouldn't use as much fuel on a more global basis. If we didn't heat our huge new homes and went smaller, we could make use of some of the larger community buildings for events that need more space. We wouldn't use as many fuels to rebuild or heat or ship materials from far away. It's a change in the way we think though. We should really cut down on our usage of plastics as well. It's a very disposal usage of petroleum that never degrades and there are usually options.
- Need more transit to cut down on the usage (and pollution created by) non-renewable resources.
- Diversifying energy sources and developing strategies for renewable energy use will only benefit the city and its citizens.

- How can a citizen know the future of fossil fuel, in 1973 we were told there was an oil shortage - that was clearly not the case; price will be a concern in north America, we'll no doubt pay much more as a method to encourage us to change our life styles. Of course as our demand goes down the energy supply companies will then sell to other counties.
- I live in a house built in the 70s. It takes major amounts of fuel to heat it every winter. Heating costs are not a major issue for me, but they could be to someone of lesser income. I would like to see the city examine ways to help people insulate or otherwise make their houses more energy-efficient.
- If the sources of the energy we consume are depleted and become increasingly expensive, people may be forced to alter their usage patterns or switch to alternate sources. This might require changes in the infrastructure for the city and/or building owners. I wonder if it might be worthwhile encouraging citizens to have, for example, more than one method of heating their homes.
- Edmonton needs to invest in energy sources of the future. Not only is it better for the environment, but it's tomorrow's economy, and area of invention and innovation. Instead of being a dinosaur with wide streets, more hummers than pedestrians and slow buses, we could be a city the world looks to for inspiration.
- This is a dead end, this is why we need more ETS and we need it faster than we are getting it. This is not a 30 year problem; this is a 5 year problem. Well, maybe 10 if we get lucky. This is also why we need to stop the sprawl now. Also, a push away from coal for power production. I know people hate it, but nuclear is actually a pretty good option. Though better than that is a thorium reactor, but that needs more R+D, but could be a huge solution. But this is a federal/provincial thing. That being said though, Canada needs to get on the fusion bandwagon and fast.
- We can certainly do more in this area; it just takes time to integrate the many available options. We probably won't completely replace natural gas for heating, and coal for electricity generation, however: - Improved insulation, glass, vapour barrier (etc. etc. construction quality) can help reduce consumption of natural gas for heating. Can the city enforce "Green" building codes? - Geothermal heating can help offset natural gas demand. - Much more can be done to establish local scale electricity production, which reduced demand on coal power generation plants. Self-imposed sane limitations on private housing SIZE would be sensible, but seems to escape many people who "have the choice to exercise their options". Without becoming really draconian, I don't think the city can impose size limitations on new home construction projects. But can the property tax structure be adjusted to "strongly discourage" gigantism?
- We need to get creative and think about the big picture as related to our energy needs. Costs aren't always obvious or measured in dollars. Health and environmental effects can be attributed to many causes. The cumulative effect of our energy consumption and use of our limited energy sources is becoming more of a concern for citizens. We must be innovative, as we have been with the award-winning recycling program, and encourage alternative energy sources and energy savings. Many other cities offer incentives for their citizens to purchase products that reduce energy consumption. Edmonton could improve in this area.
- Other means of producing electricity must be explored to replace Coal as a method.
- Major change referred to need not be complicated or extremely disruptive. They will require changes in attitude and outlook and boldness on the part of legislator's to enforce new infrastructural standards and norms.
- WE need to reduce our addiction to non-renewable resources and stop the dependence. Coal generated energy is not an option, since it is one of the world's dirtiest energy sources. Tar sands projects are not an option. We have to be a leader in innovative energy and show the rest of Canada how even oil rich Alberta can manage its dependence and begin its energy descent plan. Funnel profit not to infrastructure to support oil, such as roads, rather infrastructure and technology that reduces our need for non renewable resources such as wind energy and recycling hot water from manufacturing plants for radiant heat.

- Right now, Capitol Power is trying to get the rules changed so that it will be exempted from the new emission rules. This was a City owned utility that is now working against a Greening Edmonton!! There should be no government support for the oil and coal industry. Instead this support should go to solar, wind and other sustainable and clean energy sources. These are the kinds of "major Changes" that are needed.
- Requires more government control if changes will happen - incentives or penalties???
- Phase out coal use • Encourage the use of electric vehicles in the city as they become more readily available • Improve bike paths and add bike lanes
- The cost of energy will only increase over time and all of these resources are non-renewable. Alternative, clean energies need to be supported and their technology adopted not only for environmental considerations but also economic diversification and moving us away from reliance on a non-renewable fuel source.
- Pursuit of alternative (renewable) energy sources is vital and should be seen as an economic opportunity.
- Natural gas is being horribly squandered to make dirty oil. Coal is abundant, but will always be a dirty fuel to use.
- As of today the city wastes a lot of resources and a fair percent of their revenues and expenditures by urban sprawl without any thought to the outcome, creating wastage of power for commuting, utilities, roads, and health costs due to needed travel cost. Edmonton employees need to get out of their cars and walk, take the ETS and then they can assess the problems better. Bob
- The City should continue its good work at building up LRT and bus transit options.
- We need to reduce energy use from fossil fuels to reduce carbon emissions which contribute to climate change. Oil and gas supplies are decreasing and will rise in price as the economy recovers. New infrastructure using renewable energy is needed.
- Alberta has been a leader in the fuel industry for years; it now needs to widen its definition of fuel to include renewable energy source, and other natural sources (ethanol, wind, water, etc.)
- Incentives for reducing use, more support for public transit and alternative modes of transportation.
- These problems are all intertwined. Peak oil will make natural gas and coal harder to come by. Let's build biking infrastructure, LRT, passenger train infrastructure. Let's densify existing areas. Let's stop all freeway construction immediately.
- Since the price and supply of fossil fuel based energy systems is bound to be determined by the externalities it has avoided I believe this is the area where the most work and effort will have to be put in.
- Nuclear power please.
- We must move away from this and pursue alternative energy sources. Encouraging solar panels on civic buildings and expanding electrically powered transit (why were trolleys eliminated?!) would be a start.
- It is a highly polluting source of energy... what are the alternatives?
- I believe that reducing dependence on fossil fuels to be of utmost importance and that next generation nuclear technology could be a good solution.
- "Walkable" communities may have a trail or two, but point-to-point destination routes are rarely considered by city planners. The LRT expansion is a great step forward, but narrow streets and more pedestrian access might help Edmonton become less car-centric. This area receives so much sunlight, it makes sense to invest in solar, or at least to design homes for passive solar. Coal does not make sense to me. It is dirty and inefficient and not sustainable.
- We need to start looking at other energy options, and see if there is a way to provide the energy we need as a city with other sources of fuel (solar, wind etc.).
- Stores should never have an open-air freezer section - they should not be allowed to waste our energy. Companies should get rewarded for reducing their footprint, and taxed for not changing/creating a bigger footprint.

- Using non-renewable resources is unsustainable and produces excess in our consumption. McMansions, big roads, encouraging sprawl.
- Let's get rid of this nasty coal resource. It's so dirty.
- Even though I am working in the petrochemical industry, I ride my bike 20 minutes to work. We are transitioning to be a one car family.
- Fossil fuels are a finite resource and their extraction is the most significant contributor to climate change which is already leading to significant changes in weather patterns. We need to completely transition away from fossil fuels if we want to be a vibrant sustainable and humane society for future generations.
- We waste a lot of fuel.
- In Africa they have AIDS. In Canada we have cancer. Lots of cancer. Can we not use the precautionary principal? First, make sure something does no harm before allowing it to become commonplace. The burning of fossil fuels and the petrochemical industry are making us sick.
- If I knew the answer, I would be running for Mayor!
- All of Alberta must move quickly towards green energy and eliminate our dependence on fossil fuels. This needs to happen today if not yesterday. The Alberta government is not acting in the interests of the people of Alberta. Big American oil is driving this government and the people of Alberta will end up paying the price. Alberta has begun the slow decline in the economy and the prosperity of average Albertans. Albertans will remain in denial until the decline has firmly taken hold. We cannot sustain our lifestyles relying on fossil fuels for our energy and wealth.
- Begin to phase them out.
- Let's look beyond fossil fuels. It's time.
- Innovative ways to have citizens use energy have not been tried at all in this city. For example, there could be cheaper rates for energy use at non-peak times, thus making it possible to stretch our energy sources further.
- Peak oil production in North America has long passed and is close if not past worldwide. Economies will not support the prices that are coming. Alternative energy sources will be necessary. The city should be implementing strong effective policies to foster solar, geothermal, district heating, cogeneration, run of river hydro etc. Transportation systems will not be available to feed a dense urban population 2000 miles away from where food is produced. Start setting up local means of food production and supply or you will eventually have a hungry population to deal with. Hungry people are not happy people.
- Again, there should be more incentives for industries to create alternative energy and fuel supplies that are renewable and don't take non-renewable resources to create, higher building standards like using thicker glass and insulation, solar energy panels, wind power would also help reduce energy and fuel usage.
- We have been living beyond our boundaries on the stored energy of hydrocarbon fuels. Sustainability means that we survive on the energy coming to us on a day to day basis. Once hydrocarbon fuel demand outstrips the supply we will be forced to change. If we wait until then the cost of converting will be very high.
- I'm happy to see the LRT plans getting underway, and I think it's time to jump on building an extensive electric rail network in the city. (With lots of security and no fare-beating of course!) There should be information campaigns letting home owners know how to save fuel by insulating and augmenting their power with solar technology (or maybe a very small windmill).
- Time to switch to renewables! The City of Edmonton could be the first municipality to go totally wind-powered through Bullfrog..?! ;)
- I will rehash what I have stated above. I'm glad that you are looking at this separately as this is an issue that deserves to be thought due to its immensities. However, if you have read my responses above, our long-term issues/problems cannot be solved working them separately. We need integrated solutions as I stated above. Please switch ASAP to wind-power (birds getting killed? *sigh* those sceptics will use anything to further their employers (big oil/coal/gas et al)...the newest generations are even safer than before & I think more birds are ultimately killed from habitat loss & climate change due to coal use than wind/solar power). We have lots

- We need to stop the sprawl so people drive less. We need better public transportation. We need alternatives to coal fired power plants. Invest in a state-of-the-art waste-to-energy plant. It is done in so many European cities with no impact on air quality. We need a national energy policy that prevents the sale of our resources to other countries until we are sure we have enough fuel to get through Alberta winters for another 100 years or so.
- Basing our energy system on a non-renewable resource represents extreme short-sightedness. These resources will one day become too expensive to harvest profitably. Period. Even if the city isn't concerned about the horrendous environmental impacts of burning fossil fuels (which it absolutely should be), there is a clear practical need to explore other energy options. We have to start planning for this now so that we are ready to adapt to what will certainly be a dramatic shift in the way we live and design the city.
- I really like the idea of the bio-diesel plant that is being built at the waste management centre. The City could stop relying on fossil fuels if every building had solar panels and geothermal heating. I think every City owned building should have solar panels on the top. There is an initial up front cost to buy solar panels but when factored out over the life of the

- We have the tools to avoid these products but it is easier for everyone to just buy the gas powered car because it is cheaper.
- There are many strategies to lessen our need for fossil fuel - the Waste Management Centre is an excellent example of using waste towards this goal - biofuels.
- The switch to solar and wind sources for electricity need to be made as soon as possible. Continuing to rely on coal is outdated thinking.
- These are all non-renewables. Edmonton needs to get into renewable, non-polluting sources of energy as soon as possible. Solar, wind, geothermal. Energy conservation and education.
- Like water, fossil fuels are the only thing that makes it so we can survive winter. This is a commodity that our very survival as a city depends on. Industry usage of fossil fuels is something to consider cutting back on in order to reserve enough for the citizens until an alternative is found.
- Again it amounts to personal responsibility. Very hard to change people who won't admit what they are doing is wrong.

Comments on environmental events beyond Edmonton's borders:

	How probable is it that this will be a serious concern within 30 years if we make no changes?					Will an effective response to this challenge require changes to our infrastructure and/or lifestyles?			
	N	Mean out of 5	Somewhat or Highly IMPROBABLE	Somewhat or Highly PROBABLE	Unsure	N	Little/no change required	Major changes required	Unsure
<i>Challenges:</i> <i>Beyond Edmonton Borders:</i> Global changes in supply and demand.	201	4.4	6%	89%	5%	201	4%	84%	12%
<i>Beyond Edmonton Borders:</i> Extreme weather.	201	4.1	12%	77%	11%	199	10%	72%	18%

Note: Percentages may not equal 100% due to rounding.

- To the extent that there may be famine or other disasters in the next 30 years, I am prepared to say that the blame can be placed on corrupt leaders, and/or totalitarian governments. As for the weather, the warmest movement is on the ropes, although it is not acceptable for politicians to admit it yet.
- Recycle, Reuse and Reduce public education about global environmental issues be a leader of other cities in protecting our earth and environment Educate each individual to adopt a more responsible lifestyle: starting from little, everyday things - buy green products, recognize green business - incentive? Protect and conserve forest, water worldwide
- We are already seeing the effects of environmental damage so I cannot imagine what it will be like 30 years from now if we do not start making changes - personally, professionally, community, city, etc. - now.
- Though it is certain that human activity is having an effect on climate, I believe that there's no need to panic; climate change is a natural process which has occurred at many times throughout the history of the Earth and which will require all forms of life to adapt as it has

- All other factors in this survey will effect this area and all of them have to be taken into consideration to correct the effects that we're seeing now and will see in the future
- It is hard to control other countries actions and environmental or natural events. If prices increase globally, the prices will increase in Edmonton. Edmonton has to strengthen its economy and make its economy more diverse and competitive.
- The most likely kind of extreme weather we are likely to face is high winds and tornadoes. The best defense against this is to ensure that building codes take this possibility into account. (Last July two windows in car were broken after a large HVAC duct blew off of a nearby apartment building in a windstorm. This could have caused serious injury if it had hit a person instead of my car).
- Although I admit that I am not totally convinced of the reliability of the global warming data, I am of the opinion that we should make every effort to reduce our consumption, and thereby our emission, of greenhouse gases. I believe there are also factors outside our control that also affect warming.
- We have no control over global issues
- We really have no control over environmental events beyond our borders. But with a strong food production system within them, we can at least mitigate the effects of food shortages. Edmonton is very large compared to other cities with the same population size. Why don't we capitalize on the available space and make use of the wonderful soil beneath us? A couple of generations ago, people knew how to garden. Let's teach our citizens once again. Let's use this wealth we are sitting on. If there are no food shortages in general, at least an emphasis by the city on gardening (including workshops, greater access to community gardens, for example) could help some of the less fortunate among us achieve a greater degree of food independence - and quality. People who cannot afford good quality food should at least have the right to raise their own.
- Issues now - like declining bee populations, are a cause of concern. Organic farming should be encouraged, as well as small scale and specialty farming. It seems like the very large scale factory farming receives the most government incentives right now.
- It's very selfish to only think of our own situation in Edmonton. Just because we have oil and water, why should we waste it when others have to do without? What we do here in Edmonton affects others and we should always remember that, even within our own homes.
- Education in developing countries about birth control and conserving resources is key.
- In all of the above questions on this questionnaire, I put down "major changes required in both our infrastructure and lifestyles" when asked about who will be required to make effective change. Whether the situation ranges from highly improbable up to highly probable, action won't occur unless people make life-style changes and the infrastructure provides the infrastructure to support those changes. My response was always the same to "b" because I don't think you can have one without the other.
- We need plans for when this all goes straight out the window, because it really is looking like it will. This is why I love our recycling program. We need to become a society with a closed loop for production.
- There are no borders.
- Tornadoes, droughts, floods, many of these already are happening with greater frequency. Do not make the mistake however of exchanging the term weather with climate. Arguments can be said we have had droughts before. That is weather. Climate is about the 2 degree average increase worldwide, the changing of ocean currents as the temperatures continue to drop which alters weather patterns, and the destruction of forests that replenish the moisture in the appropriate regions.
- Thomas Friedman's "Hot Flat & Crowded" speaks to what's happening in the world as more people. Was 1 billion, now moving to 2 billion, live "American lifestyles", i.e. massive

- It is in our best interest to invest in local infrastructure as much as possible to ensure that we can provide for ourselves if disasters occur elsewhere, and to maintain our economy by creating products for export.
- Surely there will be unplanned events, but here's where I plug school gardens, community gardens, and community organizations (crafting guilds, nature clubs and so on) as a way to strengthen human ties and teach skills. May I suggest that the city commission a one-stop-shop (updated!) listing of all the Edmonton networks of clubs with green priorities on the internet? Searchable by area and interest, and advertised in libraries, train/bus stops and other public places! I believe people are interested, just busy.
- Local resiliency and diversification is the best, surest way to weather global crisis and events that will begin outside of Edmonton, but be felt here nevertheless.
- 13b. Unsure if there is little to nothing we can do to prevent extreme weather therefore effective response is not something that can be addressed
- We should be pro-active. PLEASE ban plastic bags, or tax them enough that no one wants to use them. Think of all the money spent cleaning Edmonton up - we could be using that for more libraries!
- That Edmonton's weather is changing isn't in doubt. Mental shift towards conservation and "green Living" should be taught in grade school to change the way we work,
- The impacts of climate change are being felt now around the world and are likely to accelerate in frequency and severity. More effort on adaptation will be necessary in addition to mitigation (reducing GHGs)
- All you have to do is listen to the CBC news for a week to understand that there are already innumerable examples of unprecedented extreme weather events and shortages of natural resources causing widespread human suffering all over the world. 2010 is on track to be the hottest year, globally, on record. Russia is burning. Pakistan is flooding. Crops are failing around the world as a result. Russia no longer exports grain. Pakistan's rice fields have been wiped out. China, Indonesia and other countries are buying up massive tracts of agricultural land in other countries because they are aware that they are already unable to supply enough food to their population. We are not immune. 2010 has given us a respite from 7 years of drought, but one of the wettest years on record in Alberta has done little to raise lake and river levels in the province: the glaciers and aquifers that supply those bodies of water are shrinking rapidly. Storms causing crop damage are now more frequent and violent because we have disrupted the natural weather patterns globally. Global food and water shortages are here already, and we have a diminished capacity for growing our own food. Only our immense wealth due to our natural resources has cushioned us thus far; but eventually the citizens of other countries that supply the majority of our food will rise up and demand that the limited food grown domestically in their country be distributed to the citizenry before it is exported to us -at any price
- While Edmonton can no doubt make contributions to these areas, they are more global in nature. In my opinion, the most important thing we can do is invest more heavily in the world-wide education of women. Better education for women is likely to reduce birth rate statistics (reducing the increase in overpopulation) & increase income level (allowing people to make better environmental choices).
- It doesn't matter if climate change is anthropogenic or not; we need to stop wasting/polluting anyway, because we are soiling our nest. The climate change argument is divisive and takes away focus on what we can all agree on - that we only have one planet and we shouldn't treat it like a garbage can.
- I think these events will greatly affect food supply among other resources and that's why it is so important for Edmonton to think about preserving farming land, encouraging community gardens and investing in local food production industry.

- It is something we have to prepare for. The signs are already here.
- The ongoing "debate" about whether climate change is anthropogenic or not is both ridiculous and completely missing the point. The climate WILL change. There is no rational way to claim that it won't. It has before and it will again. Regardless of WHY the change is occurring, we need to figure what we're going to do when it does. A minor rise in global sea level of only 10 m would have catastrophic impacts on the millions of people who live along coastlines. Without any plan as to what to do with the displaced, the disaster will make Katrina look like a spilled kiddie pool.
- This is why we need to push for clean local sources of energy and more emphasis on local food. This also strengthens the local economy, which will be a powerful support as global uncertainties increase.
- We are already seeing the effects of both of these global changes. It is better to take the precautionary approach and be prepared.
- We can continue to be a leader in terms of composting garbage. severe weather will impact the increasing cost of insurance
- Extreme weather is the Earth's way of correcting the imbalances that the human population has caused. If we don't do something, the natural disasters that we have seen over the last few years will increase and become more deadly.
- Climate changes effects are here right now. Pine beetle and drought have both affected Edmonton significantly. See all of the above suggestions for mitigation, as well as net zero energy houses and insulating of older houses.
- It's only a matter of time to acknowledge what is in front of us with extreme weather conditions. Call it what you will, but there is a definite change in weather patterns. We should build a resilient city where infrastructures are built to withstand worst case scenarios and not the middle ground.
- What's with the chem trails over the city??? Manipulating the weather is stepping on Mother Nature's toes isn't it?
- We are already seeing extreme weather and global supply issues. This is only going to come home to roost even more severely over the coming years. Right now we are seeing the impacts of emissions from the 80s. Our children and grandchildren will need a vibrant and diverse and sustainable local economy and social network to withstand the changes that are coming.
- Most people do not care about what is going on around us.
- The world runs low on oil. Demand outweighs supply. Prices go up. 90% of global agriculture depends on oil. Food prices go up. People starve and die. Weather continues to destabilize. Environmental refugees are everywhere. Crops fail. Food becomes scarce. People starve and die.
- Be part of the solution, instead of the problem, like our federal government. Don't wait for the feds to tell you what to do. Prod them to action by setting a great example.
- We need to focus on what we CAN change: ourselves, our city.
- Clearly changes due to climate change will have serious effects on the city. Of course, citizens of the city are also responsible (due to our extreme energy demands) for some of these conditions.
- Climate change is a reality. Right now it does not look like humanity will adapt in time to avert it. Adaptation is warranted to try to stave off some of the worst effects.
- We belong to the global ecosystem. What we do affects everyone and we are affected by everyone else's actions.
- If you look at several books that deal with Alberta's water, one can easily find out that Alberta has not been traditionally a very wet province. People need to get rid of their Edmontonian mentality (hey, I'm all for the city pride) and think of ourselves as global citizens. Though its meaning has been twisted & people have deliberately sabotaged its meaning by putting positive spin on the word "warming," global warming is exactly that. And no, it's not "warming." It'll be more like "global scorching." Despite the shortfall, this word clearly captures that this concerns the entire globe, including us. I wish that we'd be serious about preserving our water quality,

- This is very hard to predict and solve as the whole world needs to be involved but we can be ambassadors to the world.
- The City must commit to doing everything in its power to protect itself while being aware that most things are out of the city government's jurisdiction.
- We have to be part of the solution on the mitigation side which is a major lifestyle and infrastructure challenge. As far as adaptation we can do things to prepare our infrastructure to survive in a changing climate. For price swings and supply concerns maximizing local food production will help but in any highly integrated free market system the consumers will still see the price swings.
- The City should continue and expand its good work on educating the public on environmental issues.
- I think Edmonton has the opportunity to do some really great things that are innovative and progressive. I think Edmonton can then partner with other municipalities to show them what's possible and help them make better policy and infrastructure choices.
- Edmonton must think in terms of becoming self-sufficient in all areas. Dependence is risky.
- Not sure how to stop it but global warming is here. Weather patterns have been pretty consistently more extreme the last 10 years. Working together with other nations to make the changes needed to halt this would be the only way I can see the weather issue being resolved. And simply burying our CO₂ is not a solution, a potentially huge problem later when the method fails. Nature is about balance. If there is an overabundance of CO₂ buried or not, the earth will find a way to redistribute this so it can balance out and return to acceptable levels. In this circumstance it would mean some kind of leak or failure of the containment. I believe only actually reducing our greenhouse gasses will be effective. Hiding these kinds of problems has never worked as a full proof method in history that I know of and no matter how advance we think we have become, we underestimate nature's ability to balance and redistribute if we think we can outwit her.
- The elephant in the room is the issue of population growth. This certainly is a "changes required in lifestyles" situation, but I don't think it's something that Edmonton's Strategic Development Plan can address...
- I like to think positive and I recall how significant CFC use was with depletion of our ozone layers. A collaborative plan to phase out global CFCs resulted in repair of the ozone layer.

- Climate change is already affecting us in all of the points above.

What's missing?

When asked if there were an important challenge the City should focus on in its strategic plan that had not been identified in the questionnaire, respondents provided the following suggestions:

- "Wild cards" and "Black Swans" - environmental and ecological issues that arise with little warning - the City and Province need some strategic intelligence gathering effort to try and watch for these unknowns. For example, some parents in Ontario are starting to complain about WiFi internet transmitters in schools - students coming home with headaches and other symptoms. Are they over reacting, or will this become a new black swan issue for the 2010's?? Who knows, but it warrants some monitoring and perhaps research.
- A program that allows property owners to sell electricity back to the grid.
- Accountability and awareness through education. I see the biggest hurdle is making people aware that this is a crisis, not merely a 'change the light bulb' kind of issue. Obviously that takes time, but let's make that change now so that the next generation doesn't hate us for in-action. Change MUST be made now, and while it won't be popular, it is NECESSARY. Let's be LEADERS! Thank you!
- Addition of green corridors throughout the city to promote active transportation via bike/X-country skiing. Trails should be joined, and landscaped to make walking a pleasant experience.
- Amend Building Bylaws - include green roofs etc. Ensure concepts are second nature in the way we design. The South Edmonton Common area is a tragic scar on the landscape. Image green roofs or rainwater harvesting for all the buildings as an alternative? Infrastructure - in my opinion, we create urban sprawl to create jobs in infrastructure which in turn devastate our landscape. Alternatives must be sought.
- Back to food - please consider the urban chicken movement for Edmonton! I suggest a one-time inspection fee to keep chickens legally and a basic care course to be completed before homeowners could be issued with a permit. But fresh eggs in the city could really be a useful resource, both for education and in case of the odd emergency.
- Building codes and suburban sprawl. The city is not very attractive once you have wandered too far from the river valley and university grounds. If my family weren't so entrenched here, I would move.
- Continued landfill diversion through recycling and composting programs and facilities
- Economic growth will be greatly affected by the reduction of our stored energy resources. Don't borrow money for any none necessary window dressing.
- Educate citizens. Inspire positive change. City of Calgary's water centre staff are extremely successful at public engagement and influencing positive behaviour for water and energy management. They involve local businesses in pilot projects, they partner with various groups for innovative studies, and they listen to the public and adjust their programs to decrease any barriers to positive action toward sustainability. Obviously, Edmonton is different as we have EPCOR - but EPCOR could have the same success if they are given the right support and resources.
- Focus on those activities assigned to it by the municipal government act.
- General sustainability of systems and efficient and accessible transit.
- Get rid of the growth at all costs mentality. Growth quite simply cannot be sustained forever, eventually you run out of resources and that time is nigh. Clean up politics. Govern in the public interest, not to satisfy influential industrial interests.

- Getting a Greater Edmonton Area made. Have decisions made that affect everyone in a 50km range around the city.
- Helping people become more real. Thousands of people in Edmonton live in a mystery. A mystery of life. They have no purpose. They don't have true self-respect. We've moved out of a 40 year cycle that was all about "fast this, fake & short term need". We're now into a 40 year cycle of authenticity. Reference: Generations by Strauss & Howe. The world will change when people are empowered & have the ability to live authentically and consciously from the inside out.
- I also like the fact we have Scona pool in our area so we can walk to it. Very covenant for us.
- I get two things: 1. Just the bottom line philosophy of building or retrofitting to "get off the grid" in a whole neighbourhood's vision. 2. A big discussion around the philosophy that growth is not always good. Sometimes "growth" is actually cancerous and self-destructive and brings many problems. Less is more. Nature doesn't keep on growing (or it destroys itself and its food supply or disease turns up to kill off a population.) Instead, within the complete system, a balance is kept, with some parts dying off as some parts renew. I'd like to see the city planning to NOT GROW but instead to constantly renew.
- I think the biggest impact on the environment in a city is urban sprawl. We need to control development in new areas and work to build mature neighbourhoods; it is the best way to be more sustainable.
- I think there needs to be a focus on getting stuff done or implementing the strategic plan (as opposed to just thinking about it, consulting about it, planning it, and writing it). What can often happen is that the planning process takes on a life of its own, which causes the City (or any large organization) to be slow to move to action and implementation. The strategic plan needs to include an accountability piece to ensure stuff gets done.
- I think you've got it all. My uppermost thoughts: Please don't let bureaucracy mire this down. Please don't make committee after committee. Please don't do a five year study. Please don't hold focus groups. Please let this be the last online survey. Everyone knows what needs to be done. Just do it already. If I'm wrong in cleaning up this town, which I doubt, then we will just be that much more a city of the future. If I'm right, it could mean our very survival.
- Increased effort should be made to develop bicycle-friendly transportation infrastructure, especially in industrial areas where existing roads exhibit an appalling bias towards motor vehicles, making it extremely dangerous for bicyclists who either choose to ride instead of drive or are compelled to do so for financial reasons.
- Infills vs. new development on the edges, and the changing focus of living small vs. living large. That would help most other areas (energy, water, infrastructure, loss of agricultural land, etc.). The infrastructure and schools are already in the city and I hate to hear of them shutting down in support of schools further away. Kids should be able to walk to schools, so people should move and built near the infrastructure that already exists.
- Infrastructure and technology. Also, neighbouring municipalities. We can't do it alone. Further, if we clean up our city but Sherwood Park and Fort Saskatchewan don't...
- Instead of focusing on issues largely outside the jurisdiction of the city government, the city can do a lot with amending building codes, improving transportation infrastructure for bikes and light rail, preserving natural areas and agricultural land and IMPROVING AND RESTORING WHAT HAS BEEN LOST, including passing bylaws and investing in sewer and water infrastructure allowing urban agriculture, requiring compost toilets, and investing substantial sums in the remediation of contaminated sites. The city must be prepared to disallow sprawl and wasteful growth and must also be prepared to tell people how they can use their property. People do not have the right to destroy other people's environment.
- I've mentioned before my thoughts on Edmonton's transit system, and in specific, bus fare. Edmonton's transit has been given a bad reputation lately with the recent violent acts by commuters. It isn't far out either to admit there can be a generalization that only bums, addicts, and young students take the bus. I think Edmonton needs to turn things around, and fast, as there can be a huge environmental benefit here. There's a huge population that already

- Leadership is required. We need to choose our future not wait to be reactive.
- Mental health will be impacted by poor quality water, air and food. You need better education on what we are achieving i.e.: more adult tours to show off the amazing recycling/composting system)
- More infilling and less expansion...even more than is proposed in the new MDP is needed. More bike trails and bike paths to encourage less use of cars and a healthier lifestyle.
- More sustainable human powered transportation routes. Make this a bike/walking friendly city so that more people will WANT to get out of their cars and onto their bikes and running shoes, increasing their fitness, reducing pollution and making Edmonton the best place to live.
- No mention has been made of the homeless population. Homelessness is a symptom of a city not functioning in a way that is humane and healthy. All discussions about any and all of the issues above need to keep in mind the dynamics that result in homelessness (at the same time recognizing that a few people WANT to be foot-loose, fancy-free - and homeless)
- Our land use practices. Until we stop growing and investing in our lands which have already been developed (aka regeneration) we will continue to contribute to all the above problems... no matter how good the policies are.
- People need to be shown that changing our lifestyle from a fossil-fuel, car-centric one to a more local, community-based existence is a good thing, and doesn't have to be scary.
- Population growth. There is an implicit assumption that population will grow and impose significant additional demands on our urban systems and their sustainability. We need to think very seriously about this.
- Population. How large can Edmonton become before it starts to lose the quality of life it provides to its people? Part of the charm of Edmonton is its size. I don't think we can afford to become too much bigger without sacrificing quality of life, and Edmonton identity.
- Possibly an educational focus, especially in our schools.
- Public transportation!!!! The LRT is expanding slowly which is great but it seems to be that we are very behind other cities of equal population and economic status. Adequate and ubiquitous public transportation will lessen our reliance on oil and gas, increase the air and therefore water quality which will have a positive impact our biodiversity and ecosystems, and possibly in some small way have a positive effect on the increasingly extreme and severe weather.
- Role modelling for citizens. Making often difficult/controversial decisions that put people and environment over profit and power. Stopping sprawl effective immediately.
- See 2 B - eco-system/Land management
- Smokers. Make it illegal, tax them heavily, and offer incentive packages for them to move to the US and stop burdening our healthcare.
- Stricter punishment for animal abusers
- Suburban sprawl is out of control. Edmonton is one of THE MOST SPREAD out cities in the world. The city needs to become more dense in order to be more sustainable, akin to metropolitan Toronto. Sprawl affects everything, less land for farming, less land for biodiversity, energy efficiency decreases exponentially with distances, more roads = more cars, spend longer time on the road, which requires more fossil fuel use, which requires more water, which decreases air quality, which brings about more severe weather, which impacts food

- Sustainable growth and preventing rampant urban sprawl. Focusing on transportation options that lighten our carbon footprint (making more room for bikes on our roads, LRT, walkable neighbourhoods, eliminating the extremely wasteful Airport taxi service).
- The city is spreading too far outwards. Urban sprawl is mucking up too much of the city. Traffic is getting absurd in some areas and it makes public transit almost useless in a lot of areas. There should be more focus on growing upward and increasing density instead of just constantly expanding into poorly planned suburbs. I also think sustainability should be a higher focus than growth, because constant growth is unstable and cannot continue indefinitely.
- The City NEEDS to focus on bicycle transportation as a viable way to get around. No more project proposals being deferred because of their "high" costs... they're not high in comparison to a lot of other projects that are absolutely horrid for the environment!
- The grotesque urban sprawl that has been a burden on the city not just momentarily but also in terms of destruction of agricultural land and increased driving needs to stop. We have to learn to build up and live in closer quarters in more central areas.
- The issue of what to do with our garbage has not been addressed as far as I can tell. While we do have a good recycling program and excellent facilities, we still put a lot of garbage in the regular landfill, and we will eventually run out of space. We need to look at packaging products so that the packages can easily be re-used rather than thrown away.
- The promotion of net zero energy houses, renewable energy and housing insulation retrofits.
- The questions are "loaded", are there policies and practices in place now that will lead to each question's conclusion. Why not stop growth & sustain what we have and please don't use terms like "smart" growth etc. The City used the term "smart" debt, now the Citizens are one billion in debt, to the average citizen that's not "smart".
- The strategic plan has to include long term outlooks if we do not do anything. It can be looked at as fear mongering but things need to be marketed to the public in a way that will really make it real to them. extreme weather in coastal areas may not convince people in Edmonton to adjust their lifestyles, but figures on how much less food can be produced per city block of new suburban housing developments over farmland might or how certain actions upstream affect the north Saskatchewan river water quality and the health implications on a population that is reliant on it as its primary water source, for example.
- The use and promotion of new tools and approaches relating to territorial governance and urban planning processes at local, regional and national level to improve urban transformation processes. Environmental trends with impact on our city are not identified Operate reactively rather than proactively to change Planning is short term, for e.g. our transportation system, too short term, never plan beyond even 10 years Create meaningful opportunities for participation in government
- Transportation / Sprawl. The City of Edmonton needs to immediately establish a 'development exclusion zone' outside of which development will not be allowed. The City also needs to immediately develop and enforce Service and Transit exclusion zones which are smaller than the development exclusion zone and limit municipal services (Transit, Snow Removal, Infrastructure construction, etc...) to within that zone (suggestion - north from 23rd ave, west of 184 street, east of 34th street, south of 167 ave).
- Transportation. i.e.: LRT
- Transportation: We must plan for a city 30 years from now where the privately owned automobile is extinct. Only the uber-wealthy will be able to afford gasoline, or the fare on

- Turn in-efficient land and land uses within the city's core into some productive form. Parking lots is not the answer to sustainability. Creating an attractively designed medium to high density developments are better than the mc mansions you see in the outskirts of the city.
- Urban planning! (As described under energy)
- Urban sprawl and new rural developments contribute to many of these issues. It should be addressed and slowed.
- Urban sprawl is a key issue that relates to all the above identified issues. Continued development away from the core will have negative impacts on all the above, everything from habitat encroachment to over-reliance on fossil fuels to compromised well-being. A healthy city is a city with a sustainable vision, a city that keeps sprawl in check and doesn't bend over backwards for the short-term gains of developers.
- URBAN SPRAWL! It must cease. Build up, not out! Stop building enormous houses, and instead build smaller homes! NO more low density housing.
- Urban sprawl, and working with surrounding areas to address this! See above.
- URBAN SPRAWL. If there was one strategy that could combat a number of these challenges simultaneously, it would be to stop approving new developments at the edges of the city and to start increasing density in the city. Create more mixed-use neighbourhoods so that people can rely on active transportation more and resource-sucking, pollution-creating, single-occupant vehicles less. Sprawling neighbourhoods require more infrastructure than denser neighbourhoods. We cannot be sustainable if we continue to develop far-flung neighbourhoods.
- Waste management. Composting. Pickup/delivery of waste.
- We should be charging businesses/households that generate a lot of garbage much more in fees. The system that was proposed some time ago that tried to levy more charges per bag should be implemented. Yes, some people will try to get around it by dumping their garbage elsewhere, but most won't, and killing a viable system because of some bad apples doesn't help all the people that will follow the rules. All apartment buildings, malls, food stores, retail buildings, commercial buildings, and industrial sites over a certain size should be required to have recycling bins for cardboard, plastic, and/or other easily recyclable items. Many of the items above have been addressed over the years in "voluntary" programs. However, these "voluntary" programs just don't work because too many people are either too lazy, greedy, or stupid to follow them. It's time for the City to get a bit more militant and start requiring people to comply. Sometimes people need to be forced to do what's right.
- What are the City's future plans towards Climate Change Adaptation? I work at APEGGA (Assoc. of Professional Engineers, Geologists and Geophysicists of Alberta) and we are developing a Climate Change Adaptation program for our members. Notwithstanding that the causes of climate change continue to be debated, engineers and geoscientists recognize the need to take into account the effects of the changing climate by adapting the design of works and processes for which they are responsible. To that end, APEGGA has embarked on a climate change adaptation program to assist its members. APEGGA's professions also acknowledge their dependence on the scientific community for dependable climate data and support/encourage any additional effort in that area to improve the reliability of such information. Contact me with any questions or feedback >> gsorokan@apegga.org (Glenn Sorokan, P.Eng., Asst. Dir. Prof. Practice at APEGGA)
- While it is probably integrated into each of the strategic areas, behaviour change and public education needs to occur on a massive scale. Edmontonians need to be directed to or given resources to cope during his transitional period.
- Yes...I wrote about the cities pesticide herbicide use above but I will repeat. This city has a great amount of local abundance right in our wild spaces that is being poisoned so often I dare not harvest anything. My children cannot pick a dandelion and make a flute, because it could be poisoned and putting it in their mouths could harm them, non-the-less they will play and roll around and eat from the land, it is in all children's natures to explore. I often cannot get

- You do not mention waste. Even though Edmonton has a good track record in this area, I think that most citizens' lifestyle is still very wasteful. I also think that waste-to-energy options should be looked at to address both the waste and energy issues.
- Yup. The City needs practice saying NO to developers. Business does not need municipal support. The City needs to think of quality of life for citizens.