

peak
scenario
agriculture planning
development rural permaculture
regional oil implications
descent prices change
gas energy
climate

A Survey of
Community
Understanding &
Responsiveness
To the Twin-
Challenges of Climate
Change and Rising
Energy Prices
(Peak Oil):
Perspectives of
Municipal Leaders
in Ontario

August

2011

Rural Ontario Facing Climate Change and Rising Energy Prices (Peak Oil)

Prepared by:

- ✚ Wayne Caldwell, PhD (Project Director)
- ✚ Amy Lejcar, MSc candidate
- ✚ Erica Ferguson, MSc candidate
- ✚ Paul Kraehling, PhD student

Table of Contents

- I. Background..... 3
- II. Survey Instrument 4
- III. Discussion 5
 - Background Information 5
 - Community responses to Peak Oil and Climate Change 11
 - Geographic Information 24
- IV. Analysis..... 28
- V. Conclusion 29
- VI. Appendices..... 30
 - Appendix ‘A’ Survey Instrument..... 30
 - Appendix ‘B’ Map of Municipalities..... 31
 - Appendix ‘C’ Written responses to Community Questions 32
 - Question #1 32
 - Question #2 34
 - Question #3 36
 - Question #4 38

I. Background

A questionnaire was devised to gauge community leader understanding and receptiveness to discussing issues associated with the twin challenges of climate change and rising energy prices (peak oil).

The questionnaire was intended as an initial step in identifying Ontario municipalities' capacity to respond to climate change and the impact of rising oil prices (peak oil). It was hoped that the survey would uncover innovative practices, and future-oriented strategies to dealing with these challenges.

Over the month of June 2011, the survey was sent out to 444 municipalities in Ontario via Survey Monkey, an online web survey service. One hundred and one (101) responses were received, of which 86 municipalities were named. This generates a response rate of 19%. Appendix B shows a map of all of the municipalities in Ontario, in which the municipalities who responded have been highlighted.

Confidentiality was promised in the survey instrument (see Appendix A for copy). The survey was sent to planners within each municipality who were presumed to have the best knowledge of local climate change/peak oil resiliency issues. For small municipalities without planner resources, the contact person was the CAO/municipal clerk. Sixty-four percent of respondents were municipal planners.

As an incentive to participate in the survey, a small 'cash inducement' was provided with the winner selected at random from the survey respondents providing contact information.

The survey was funded through the OMAFRA University of Guelph Partnership Agreement.

II. Survey Instrument

The Survey as outlined in Appendix 'A' consists of both closed and open-ended questions exploring the general topic of climate change and peak oil (rising energy prices). The survey was directed at the municipal planner who was thought to have the best understanding of both the municipality's understanding and mechanisms to address the issues under discussion, as well as provide general feedback on the broader community.

The survey took approximately 10 -15 minutes to fill out, and included responses from a variety of municipal regions in Ontario. The primary respondents (79.3%) classified their municipality as 'Rural/Small Town.' The responses to each one of the eighteen questions asked were compiled together using Survey Monkey and then analyzed in the Discussion section of this report.

The Discussion section of the report provides the results for each question expressed in percentages and charts for those questions that were not open-ended. A summary analysis comment has also been provided for each question, which will be used to interpret the results from the entire survey in the Analysis section of this report. The responses for the open-ended questions have been compiled anonymously in Appendix C, and provide examples of some of the actions that municipalities are focusing on which either directly or indirectly address a response to climate change and rising energy prices (peak oil).

In the Analysis section of the report, common trends in the results of the survey have been identified. These have been interpreted as they relate to the goals of the report. The capacity of Ontario municipalities to respond to the dual issues of climate change and Peak Oil will be expressed in strengths and weaknesses, and opportunities will be identified for the future.

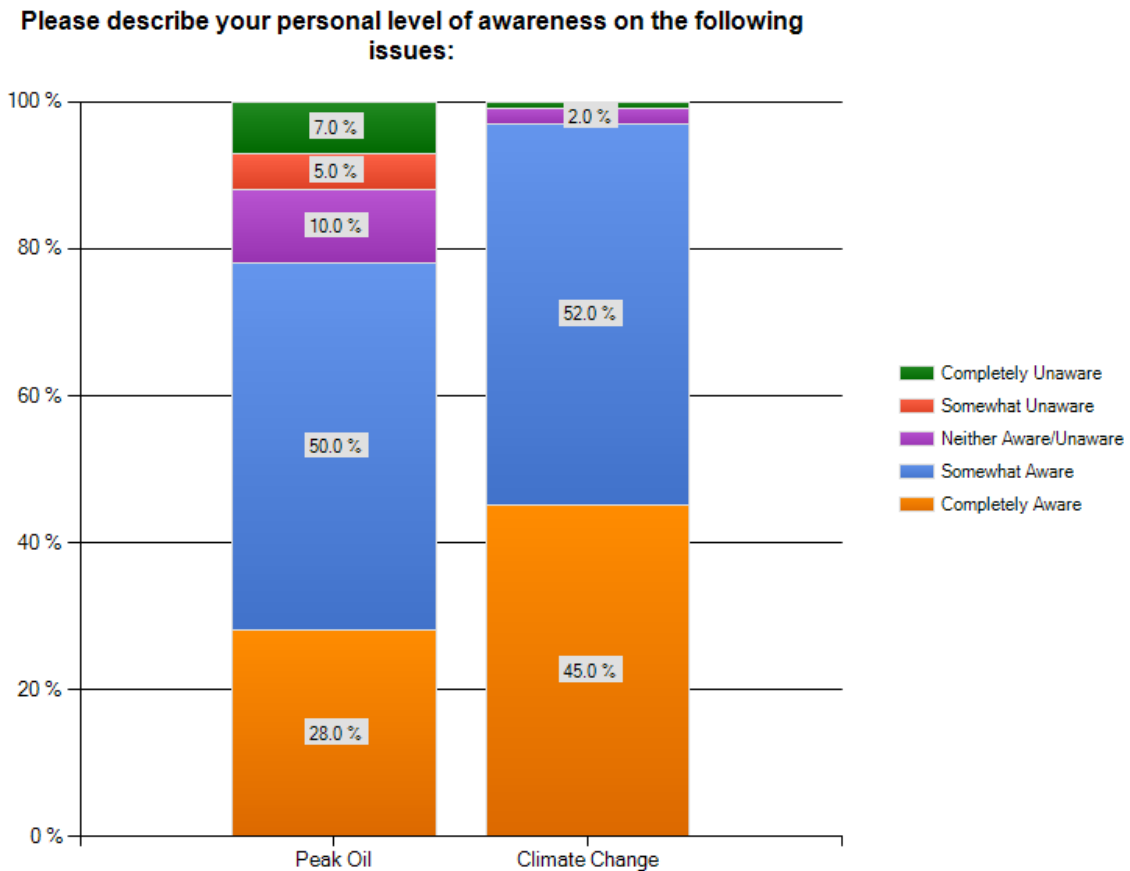
III. Discussion

Please refer to Appendix 'A' for a copy of the survey that was circulated. In the following survey categories; Background Information, Community responses to Peak Oil and Climate Change, and Geographic Information; we will review and summarize the survey results for each individual question.

The survey also asks respondents to identify their municipality, identify any staff persons within their municipalities responsible for awareness on climate change and peak oil, and to supply their contact information, which for reasons of confidentiality have been excluded from the discussion.

Background Information

Question #2:



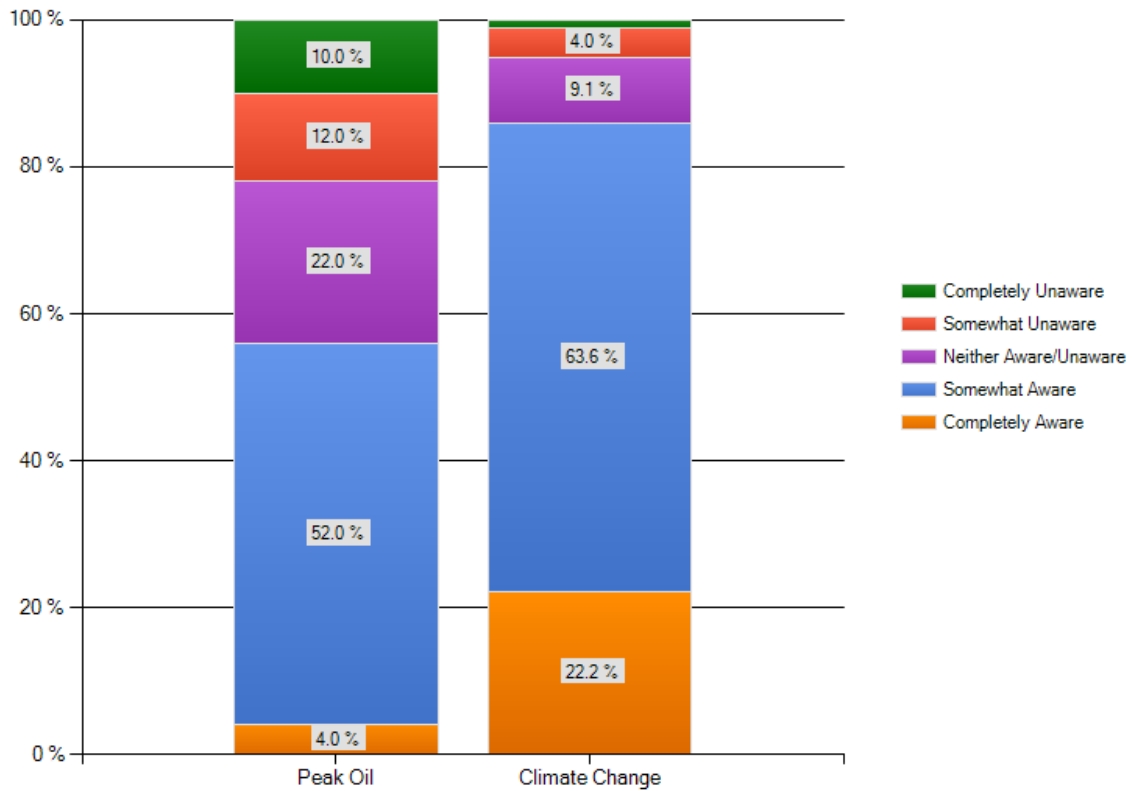
Respondents who answered question: 100

Respondents who skipped question: 1

The highest percent of respondents were 'somewhat aware' of the combined issues of climate change and peak oil, and the majority of all respondents were 'somewhat aware or completely aware'. There was a higher level of awareness on climate change than peak oil.

Question #3:

Please describe your municipal government's level of awareness on the following issues:

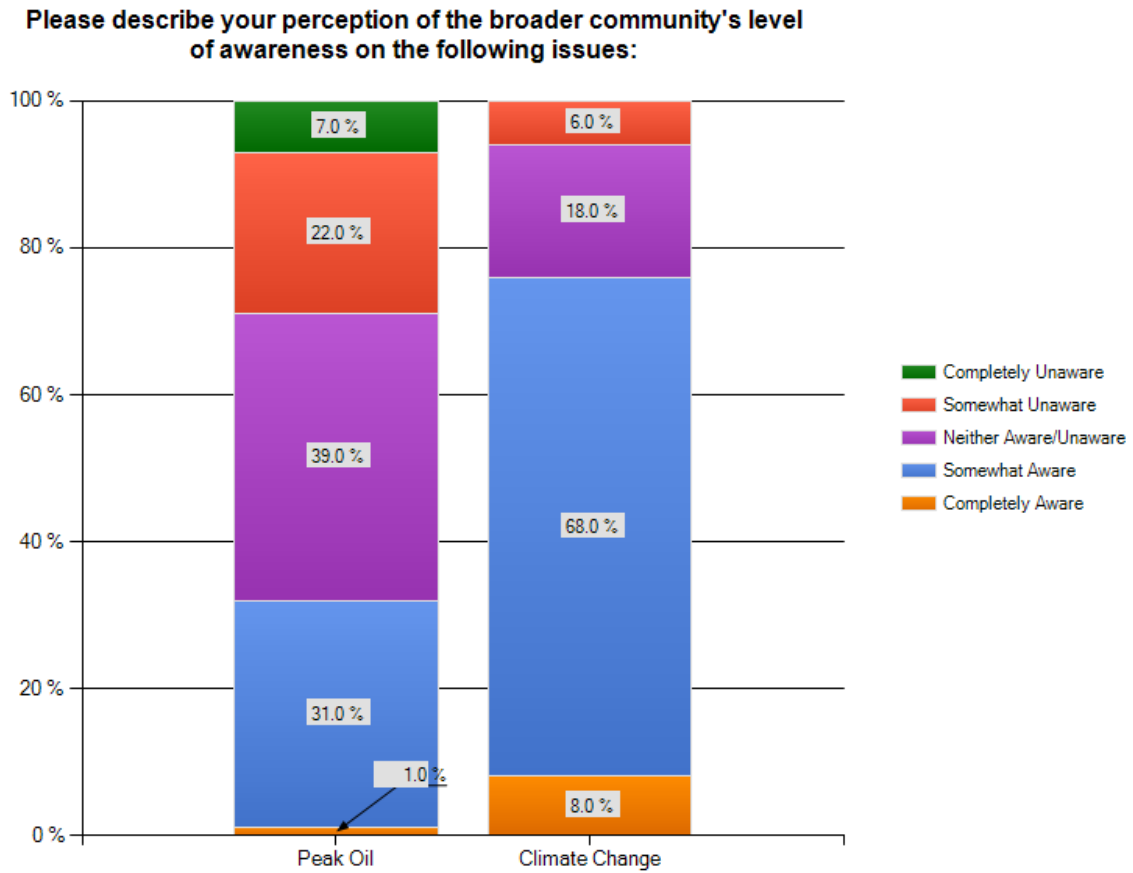


Respondents who answered question: 100

Respondents who skipped question: 1

The largest percentage of respondents indicated that their municipal government was 'somewhat aware' of the issues of peak oil and climate change. There was a higher level of awareness on climate change than peak oil.

Question #4:



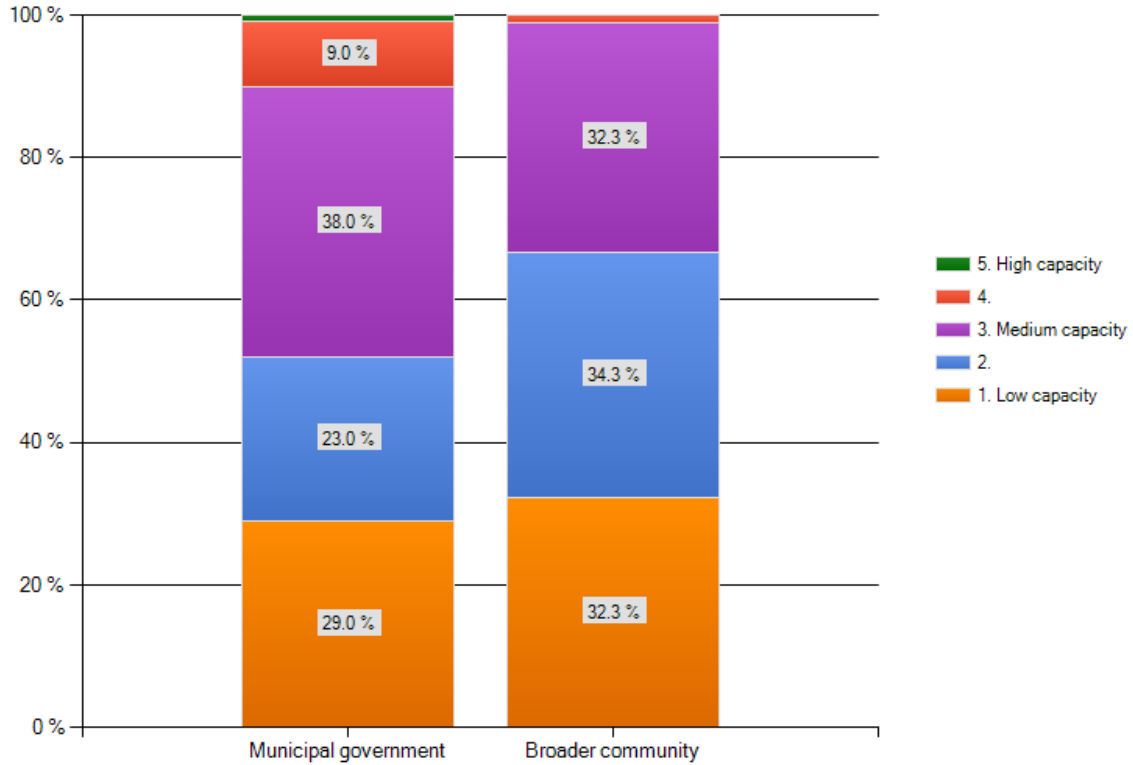
Respondents who answered question: 100

Respondents who skipped question: 1

The highest percentage of respondents indicate that the broader community is 'neither aware/unaware' of peak oil as an issue, but are 'somewhat aware' of climate change.

Question #5:

Please rate your municipal government's capacity and the broader community's capacity to respond to the threats and opportunities presented by climate change and peak oil:



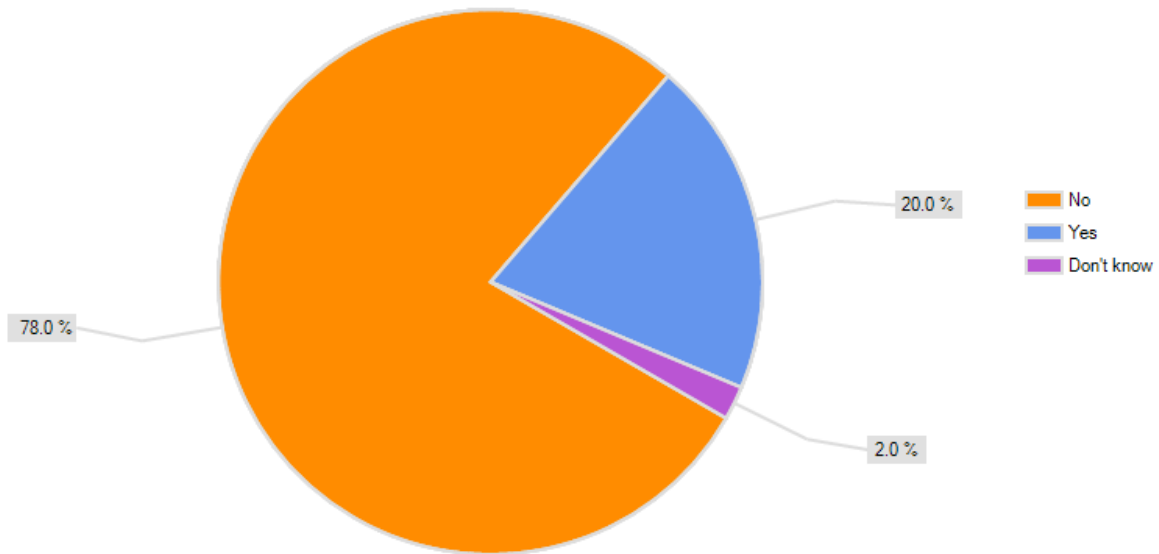
Respondents who answered question: 100

Respondents who skipped question: 1

There was an almost even distribution of responses ranging from 'low capacity to medium capacity' for the municipal government and broader community to respond to the threats and opportunities presented by peak oil and climate change, with a slightly higher degree of confidence in the municipal governments' ability to respond to the issues.

Question #6:

Is there a staff person within your municipal government who is responsible for awareness on climate change?



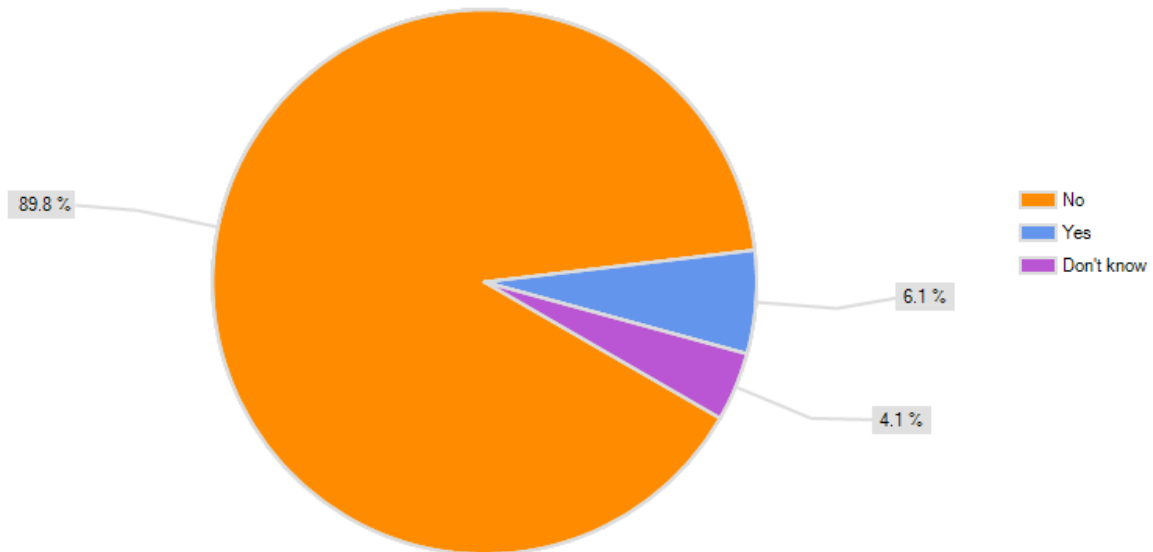
Respondents who answered question: 100

Respondents who skipped question: 1

Seventy-eight percent of respondents indicated that there was not a staff person responsible at the municipal government level for awareness on climate change, with only twenty percent indicating that there was a staff person.

Question #7:

Is there a staff person within your municipal government who is responsible for awareness on peak oil?



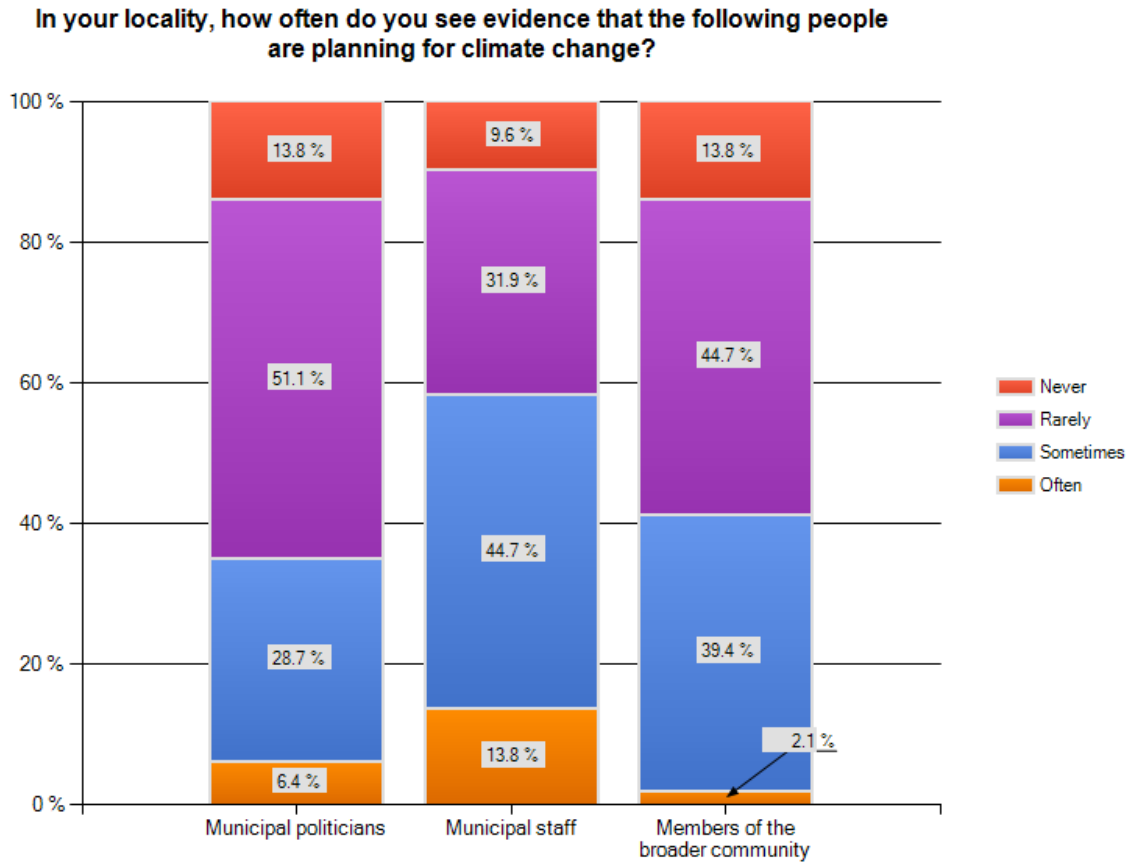
Respondents who answered question: 98

Respondents who skipped question: 3

An overwhelming 89.8% of respondents indicated that there was not a staff person responsible at the municipal government level for awareness on peak oil, with only 6.1% indicating that there was a staff person.

Community responses to Peak Oil and Climate Change

Question #1:



Respondents who answered question: 94

Respondents who skipped question: 7

The results show that the majority of respondents consider that municipal politicians and members of the broader community 'rarely' plan for climate change and municipal staff 'sometimes plan' for climate change. The majority of responses were 'rare and sometimes' plan in all the categories. However, many examples were provided detailing planning for climate change representing all members of the community.

Please describe any evidence you see:

Please refer to Appendix 'C' for a list of the written responses received for the above question. The following table summarizes the responses into general categories to identify trends within municipalities for planning for climate change. Trends are listed from the highest number of responses to the least.

Municipal Climate Change Trends	No. of Responses
1. Sustainability Planning (storm reserve fund, stormwater management strategy, environmental committees, walkable and transit-supportive community planning, heat islands and shade structures, renewable energy projects)	11
2. Planning policy	8
3. Minimize carbon footprint within municipal structure (operations, municipal buildings, staff, recycling, composting, etc.), risk assessment	7
4. Emergency plans/response to weather	7
5. Community Action, Adaptation and Mitigation Plans	5
6. Education and Awareness	5

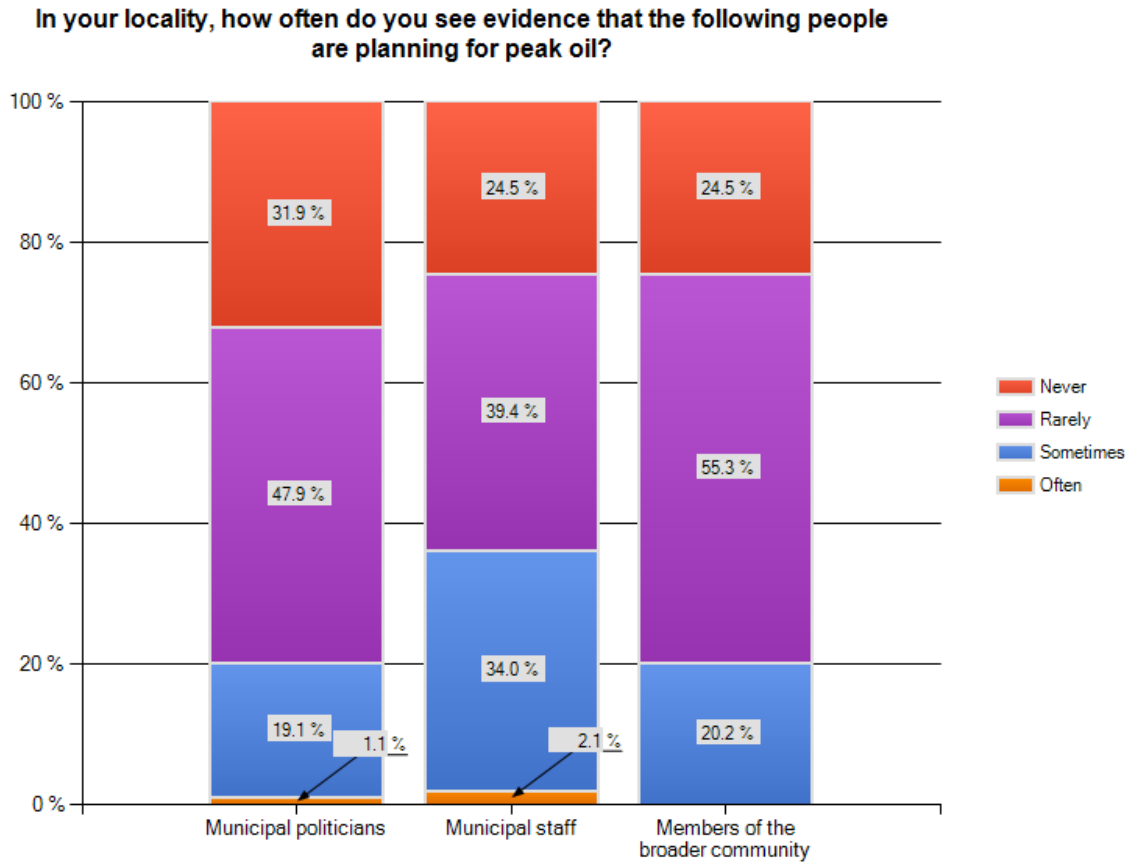
The following table summarizes the responses into general categories to identify trends within communities for planning for climate change. Trends are listed from the highest number of responses to the least.

Community Climate Change Trends	No. of Responses
1. Environmental initiatives and Green Energy	3
2. Community Sustainability Programs	2
3. Education and awareness	2
4. Transition Towns	1
5. Local Food Production	1

In addition, several respondents indicated that they saw evidence of organized groups responding to climate change, but did not specify how, and others noted that they thought some people believed there was still a debate about climate change, and that their Councils had either not addressed or focussed on the issue. One respondent thought that "Engineering, Master SWM Plans - however, do not go far enough," and actually included suggestions for the future; "examine 500-year, etc. planting

Carolinian species, instead of ‘traditional native species’ using the NR Can. climate modeling for native species in anticipation of climate change”.

Question #2:



Respondents who answered question: 94

Respondents who skipped question: 7

The highest percentage of respondents indicated that ‘rarely’ was there planning for peak oil in any of the above represented categories. The majority of responses for municipal politicians and members of the community were ‘never and rarely’ plan, while for municipal staff it was ‘rarely and sometimes’ plan. Written responses do indicate that there is some planning taking place for peak oil, though many admit that this is indirect planning, and not necessarily arising from a direct analysis of the issue.

Please describe any evidence you see:

Refer to Appendix 'C' for a list of the written responses received for the above question. The following table summarizes the responses into general categories to identify trends within municipalities for planning for peak oil. Trends are listed from the highest number of responses to the least.

Municipal Peak Oil Trends	No. of Responses
1. Minimize carbon footprint within municipal structure (operations, municipal buildings, staff, etc.)	8
2. Sustainability Planning	6
3. Planning policy	3
4. Community Action, Adaptation and Mitigation Plans	1

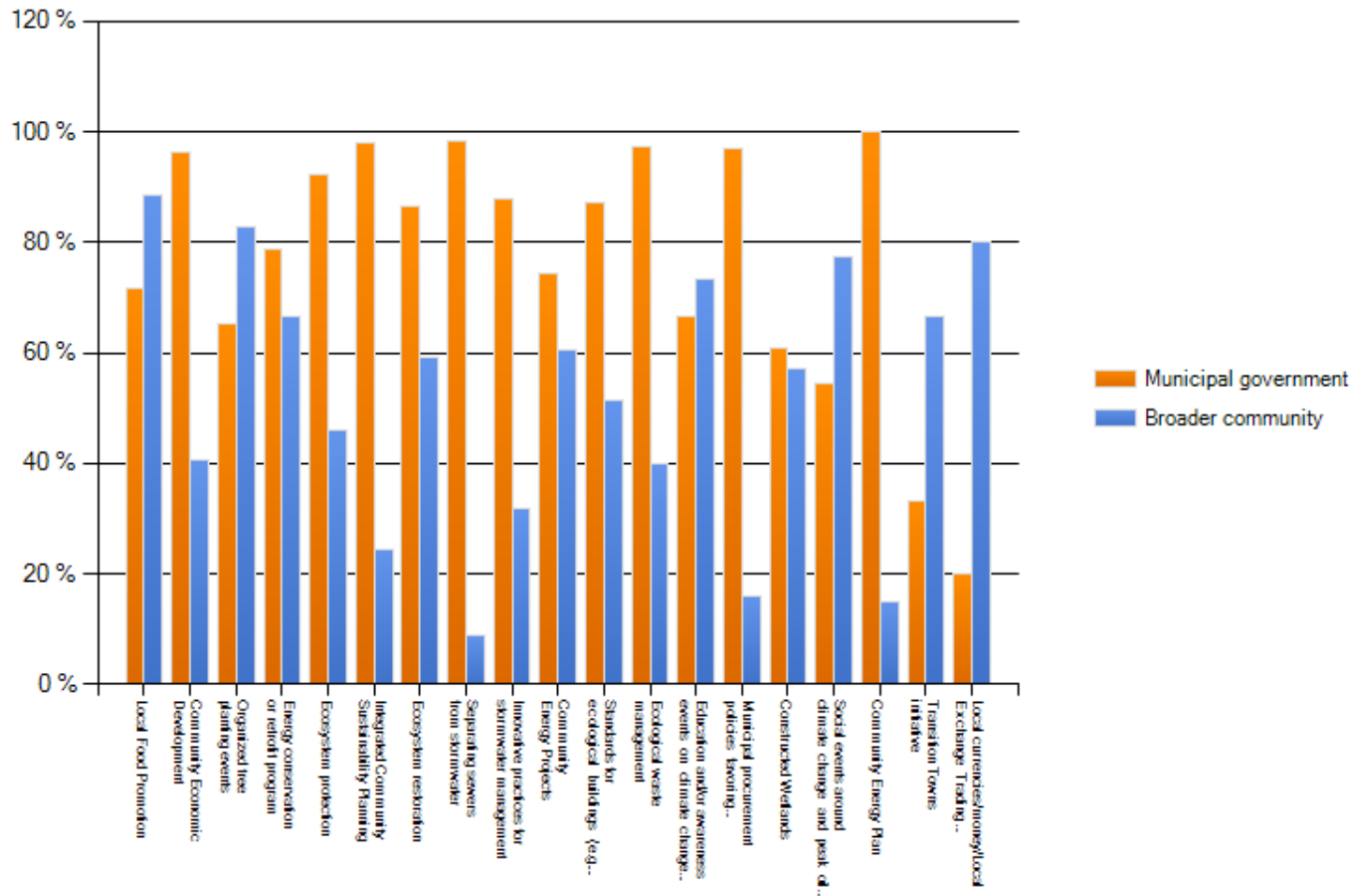
The following table summarizes the responses into general categories to identify trends within communities for planning for peak oil. Trends are listed from the highest number of responses to the least.

Community Peak Oil Trends	No. of Responses
1. Sustainability Planning (renewable energy projects)	4
2. Energy efficient transportation (more cyclists, hybrid cars, electric bikes)	2
3. Education and awareness	1
4. Transition Towns	1

In addition, eleven respondents indicated that peak oil was not being addressed or discussed, and that there was a lack of knowledge on the subject. A few of these respondents indicated that actions being done to address peak oil by their municipality were indirectly linked, and do not intentionally address peak oil as the problem.

Question #3:

The following activities are associated with creative response to climate change and peak oil. Please identify all that apply to your local government and/or broader community:



Respondents who answered question: 93

Respondents who skipped question: 8

There appears to be a wide range of answers with regard to creative response to climate change and peak oil. In addition, the majority of respondents contributed written responses related to local initiatives, either expanding on existing categories or contributing new ideas. Both the municipal government and the broader community are contributing to creative responses. The municipal government has a slightly higher response in all categories except local food promotion and organized tree planting events, in which they are exceeded by the broader community. The municipal government had the highest number of responses for community economic development and ecosystem protection.

Please explain any particular municipal or community activities that you are aware of in your locality:

Please refer to Appendix 'C' for a list of the written responses received for this question. In the following table, the written responses have been organized into the categories presented in this question, and found in the above bar chart. The highest number of responses are in the categories of Integrated Community Sustainability Planning, Local Food Promotion, and Ecosystem Protection.

Category	Responses
Local Food Promotion	<ol style="list-style-type: none">1. One municipal and community activity that I am aware of is our Farmer's Markets which encourage the purchase of locally grown foods2. Buy Local Buy Fresh food campaign3. Farmers Markets for locally grown organic foods4. Market garden promotion5. SAVOUR Muskoka (encourages buying local and supports farmers)6. Good Food Box through Libraries7. Community gardens are expanding8. There is a local farmers market supported by the Town
Community Economic Development	<ol style="list-style-type: none">1. Community Improvement Plan and Tourism Brochures and Tourism Information Kiosks and Downtown revitalization investments2. Planning documents are aimed at Community Economic Development

<p>Integrated Community Sustainability Planning</p>	<ol style="list-style-type: none"> 1. Brock University - Environment Canada Climate Change Collaborative as part of Brock's Environmental Sustainability Research Unit. Initially started as research project in 2010 (assessing community capacity in dealing with climate change locally), but has now shifted focus to developing a local action plan (both mitigation and adaptation focus) 2. The County of Frontenac has a sustainability plan -- Directions for Our Future --which is supported by Council and by the community. We are in our second year of implementation and promoting community awareness. Please see www.directionsforourfuture.ca 3. There are numerous municipal and community activities associated with our Sustainable Pickering program. Please go to our website sustainablepickering.com for more information 4. County is coordinating the development of a Sustainable Community Plan 5. Some area municipalities are developing sustainability plans 6. Sever Sounds Sustainability Plan - 9 partner municipalities 7. A not-for-profit, regional community group called Heardwaters Communities in Action are working to come up with sustainability practices that transcend political boundaries - they are working on a quality of life report card (benchmarking) now 8. Planning documents are aimed at Integrated Community Sustainability Planning 9. Promoting sustainable development through Official Plan policies
<p>Community Energy Plan</p>	<ol style="list-style-type: none"> 1. Active transportation initiatives 2. Enviro-credits for carbon off-sets 3. The City's energy management program is a leader in the province
<p>Community Energy Projects</p>	<ol style="list-style-type: none"> 1. Local LIFE Co-op looking to construct a wind turbine
<p>Innovative practices for stormwater management</p>	<ol style="list-style-type: none"> 1. Updated stormwater management strategy 2. Town staff are working with CVC staff to implement low impact development guidelines that address stormwater management in innovative ways 3. Level 1 quality storm water management with native plantings versus fences - Water conservation programs - low flush toilet subsidy
<p>Separating sewers from stormwater</p>	<ol style="list-style-type: none"> 1. Just some extra notes: Burlington's storm sewers are already separate from the sanitary sewers 2. Municipal activities are generally based more on cost/benefit of the bottom line then on climate change impacts. Separating stormwater sewers from sanitary reduces the amount of flow that the municipality must treat at sewage treatment facilities

Ecosystem protection	<ol style="list-style-type: none"> 1. Ashfield-Colborne-Wawanosh Increasing setbacks for buildings away from areas prone to erosion like gullies and the lake bank. The rate of erosion may be increasing due to climate change. 2. The local Hunters & Anglers organization does a lot of work with the MNR to assist with Ecosystem protection/restoration. 3. Habitat maintenance for various wildlife- fishery- turtles, deer feeding stations 4. Maintaining and adding to County Forest inventory 5. Planning documents are aimed at Ecosystem Protection 6. Promoting environmental protection through Official Plan policies
Ecosystem restoration	<ol style="list-style-type: none"> 1. The local Hunters & Anglers organization does a lot of work with the MNR to assist with Ecosystem protection/restoration 2. Shoreline renaturalization in municipal parks and on private property 3. The Friends of the Second Marsh have restored this vital wetland through partnerships with the City, GM and others
Ecological waste management	<ol style="list-style-type: none"> 1. Waste management programs to divert items from landfilling are promoted due to government funding for these programs through Waste Diversion Ontario. 2. The municipality does have a recycling committee and has been budgeting towards recycling for the past few years. 3. The town was one of the first in the area to move to curb side compost collection
Standards for ecological buildings (e.g. LEED, Net Zero)	<ol style="list-style-type: none"> 1. Energy efficiency for municipal buildings
Organized tree planting events	<ol style="list-style-type: none"> 1. Wellington County's Green Legacy Programme is the most significant example. It is the largest municipal tree planting programme in North America. We planted our millionth tree last fall - over a period of 6 years. There is strong school and community engagement in the program. We also have exhibited extensively at Good Roads, AMO, FCM conference and local fairs, etc. 2. Tree plantings were held at the Pumphouse Marsh to commemorate Earth Day this year 3. The Town's sustainability action team has partnered on a number of tree planting events over the past 4 years 4. Working with Tree Canada and TD-Green Streets
Energy conservation or retrofit program	<ol style="list-style-type: none"> 1. Energy conservation plans by local utilities (offering incentives) 2. The City is developing an innovative trails plan to promote cycling and is a member of Smart Commute - a trip reduction program for employees
Education and/or awareness events on climate change and rising oil prices	<ol style="list-style-type: none"> 1. Environmental lecture series 2. The City is working with community partners and other municipalities to educate the public about climate change/adaptation through film events, Earth Hour events, Earth Day promotion. The City is a member of the Greater Toronto Area Clean Air Partnership and will be hosting the 2011 Mayors' Summit

Social events around climate change and peak oil (festivals, celebrations, etc.)	<ol style="list-style-type: none"> 1. Municipality held a Eureka Exchange - An Eco Fair broadcast globally 2. A local ecological/green sustainable living festival for several years
Municipal procurement policies favoring local/sustainable products	<ol style="list-style-type: none"> 1. Ontario Law prohibits the awarding of municipal contracts and work based on locality, therefore this is not practiced 2. Municipalities aren't able to favour local purchasing through policies - as this would be in contravention of the Discriminatory business practices act (provincial legislation) - due to discrimination based on geography. investing in a hybrid fleet, etc. 3. Shop local policies

Question #4:

Are you aware of creative responses to climate change and peak oil undertaken by other municipalities that you think we should be aware of? If so, please name them.

Respondents who answered question: 15

Respondents who skipped question: 86

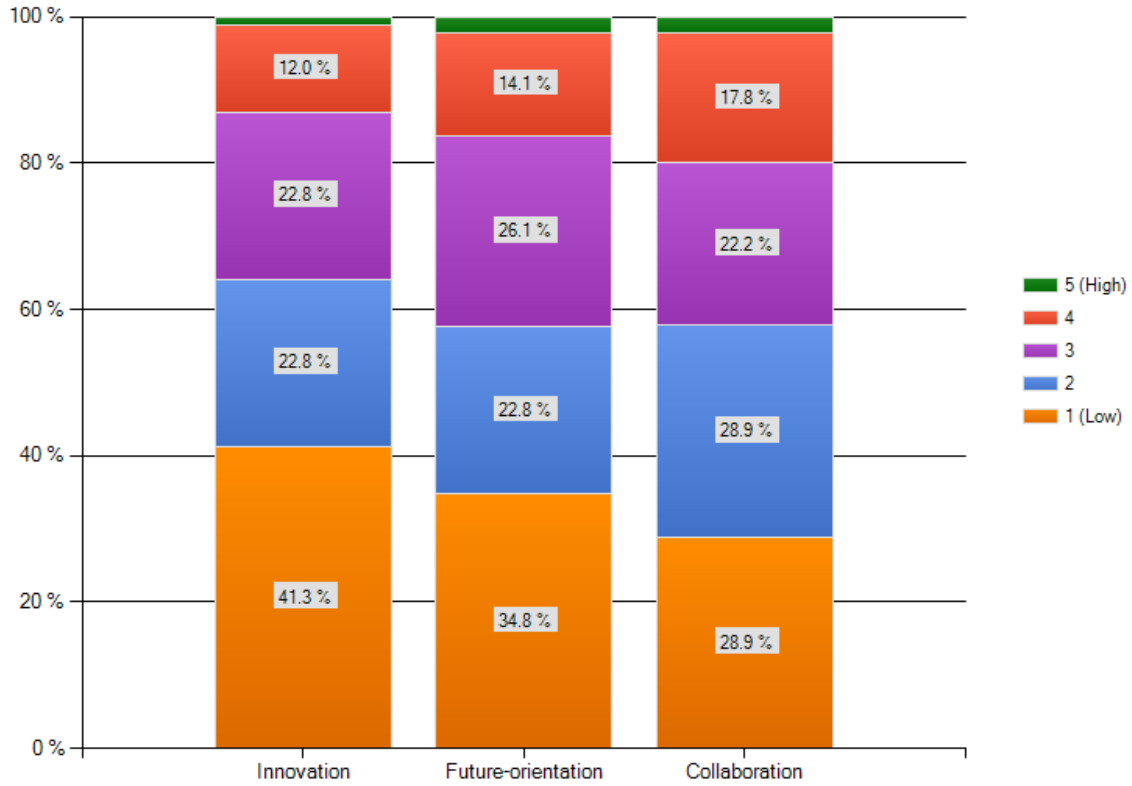
Please refer to Appendix 'C' for a list of the written responses received for this question.

Answers vary from the local, to the regional to the international in terms of creative responses to climate change and peak oil.

Highlights from the responses include by-laws pertaining to Climate Change, Peak Oil and air quality, a community that is aiming for carbon neutral, a municipal roundtable on climate change, a regional staff person assigned to deal with climate change, and the promotion of locally grown produce.

Question #5:

In responding to CLIMATE CHANGE, please rate your MUNICIPAL GOVERNMENT on the following:



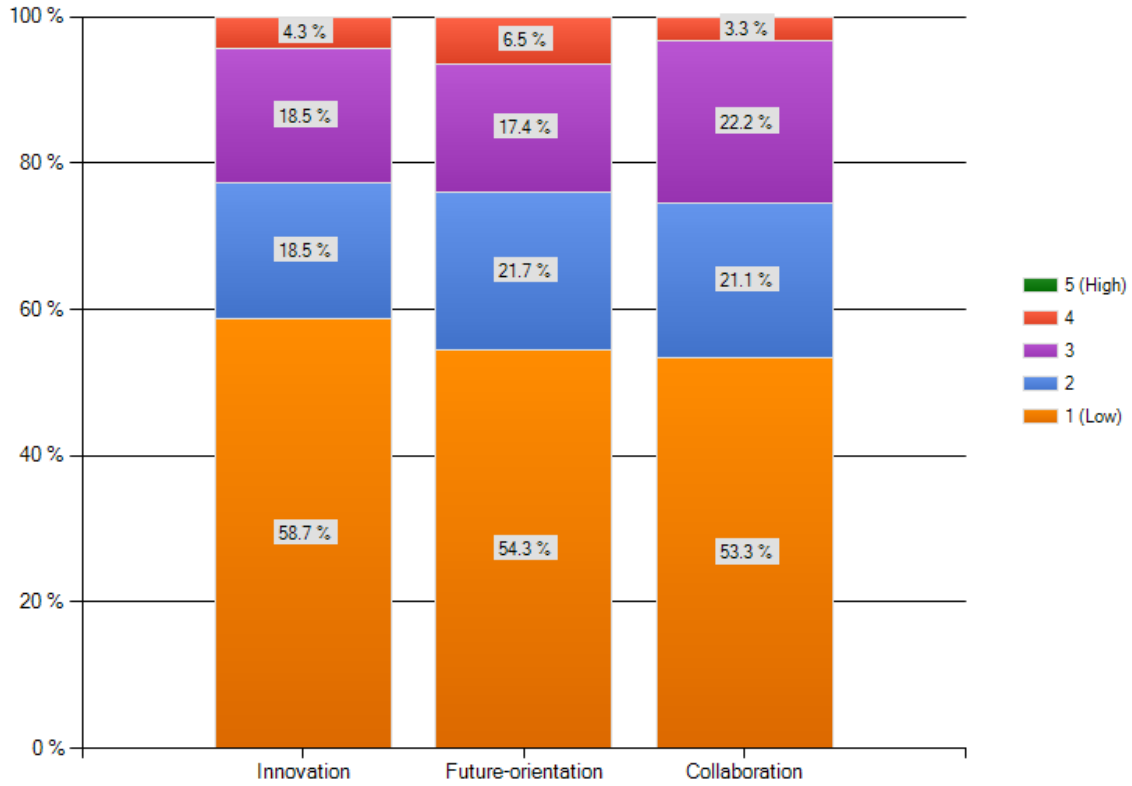
Respondents who answered question: 92

Respondents who skipped question: 9

In general, the municipal government was ranked low in all three categories (innovation, future orientation, collaboration) with collaboration having a slightly higher outcome.

Question #6:

In responding to PEAK OIL, please rate your MUNICIPAL GOVERNMENT on the following:



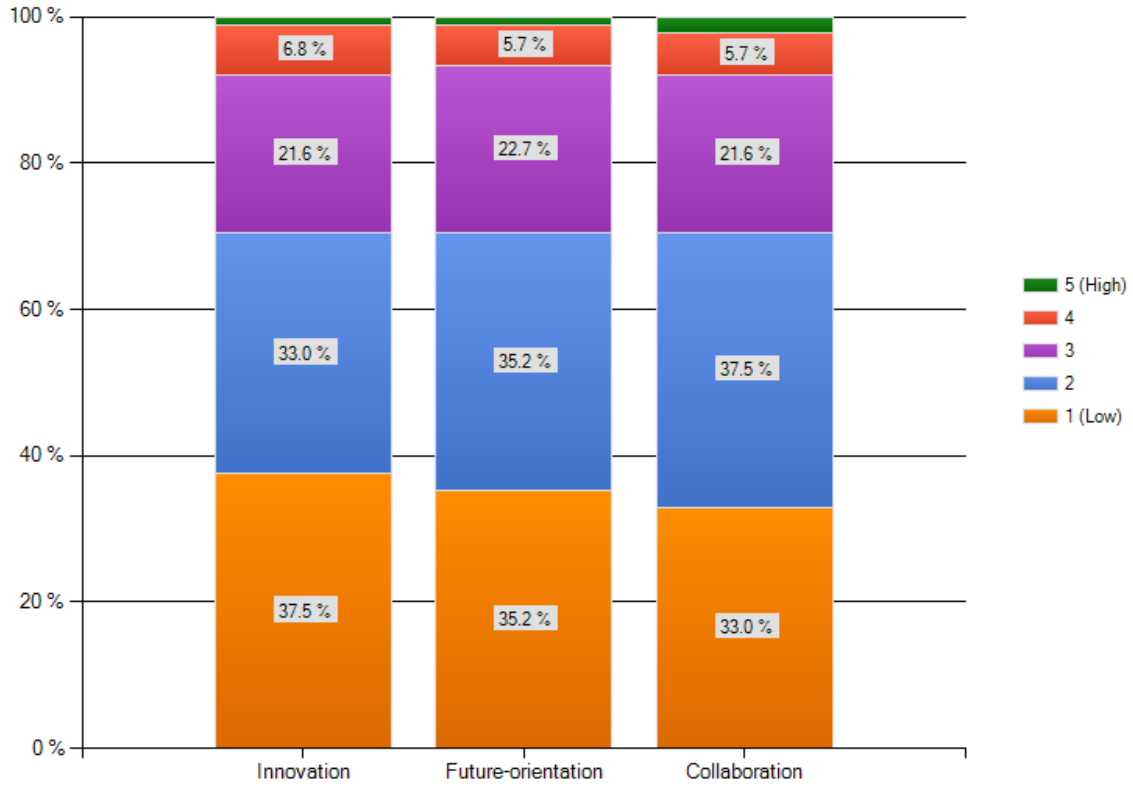
Respondents who answered question: 92

Respondents who skipped question: 9

In general, the municipal government was ranked low in all three categories (innovation, future orientation, collaboration) with collaboration having a slightly higher outcome.

Question #7:

In responding to CLIMATE CHANGE, please rate your BROADER COMMUNITY on the following:



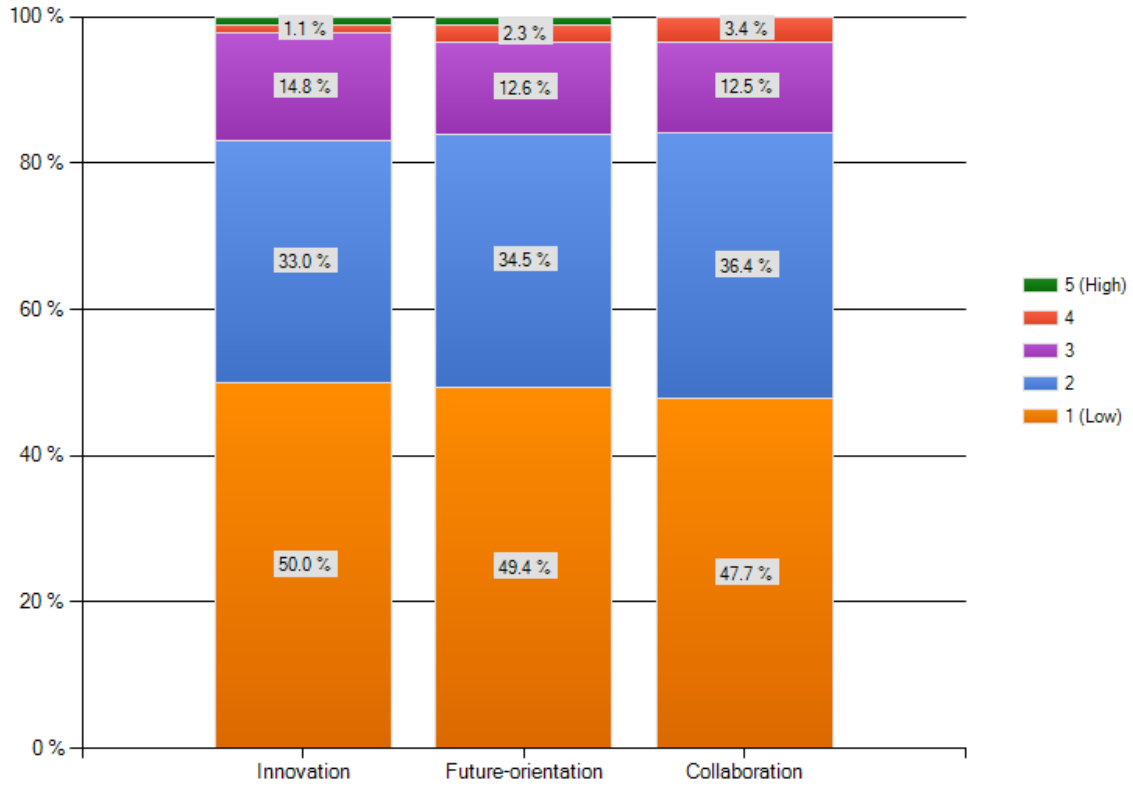
Respondents who answered question: 88

Respondents who skipped question: 13

In general, the broader community was ranked low in all three categories (innovation, future orientation, collaboration).

Question #8:

In responding to PEAK OIL, please rate your BROADER COMMUNITY on the following:



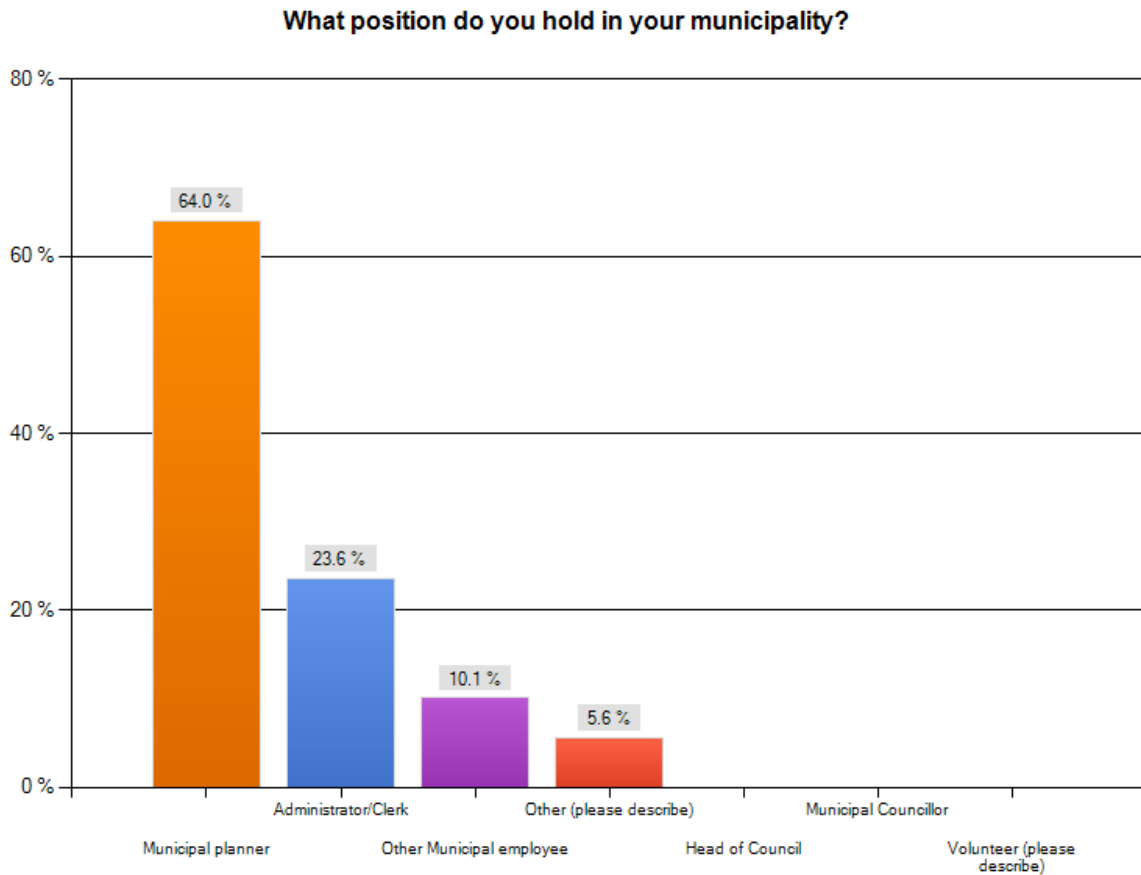
Respondents who answered question: 88

Respondents who skipped question: 13

In general, the broader community was ranked low in all three categories (innovation, future orientation, collaboration).

Geographic Information

Question #1



Respondents who answered question: 89

Respondents who skipped question: 12

What position do you hold in your municipality?

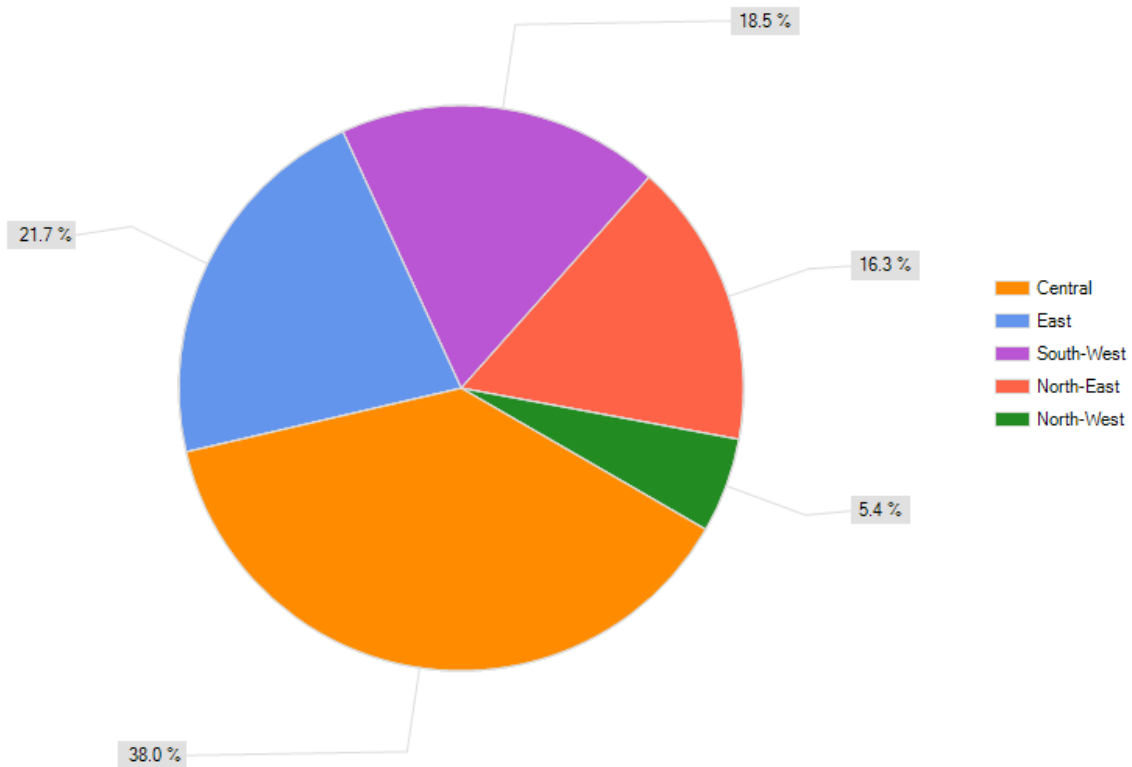
- Department Head
- Clerk
- Project Manager
- Senior Planner
- Clerk
- Manager of Sustainability Planning
- Sr. Environmental Planner
- Director, Office of Sustainability
- Environmental Planner

- Senior Environmental Coordinator
- chief building official
- Sr. Sustainability Coordinator
- County Planning Director
- Deputy Clerk
- Planner
- Director of Planning
- Director of Planning and Development
- CAO
- Lower-Tier Municipality

The vast majority of respondents were municipal planners, with many of the written respondents indicating that they held a planner-related position. There were no volunteer or municipal government positions represented in the survey.

Question #2:

In what Ontario region are you located?



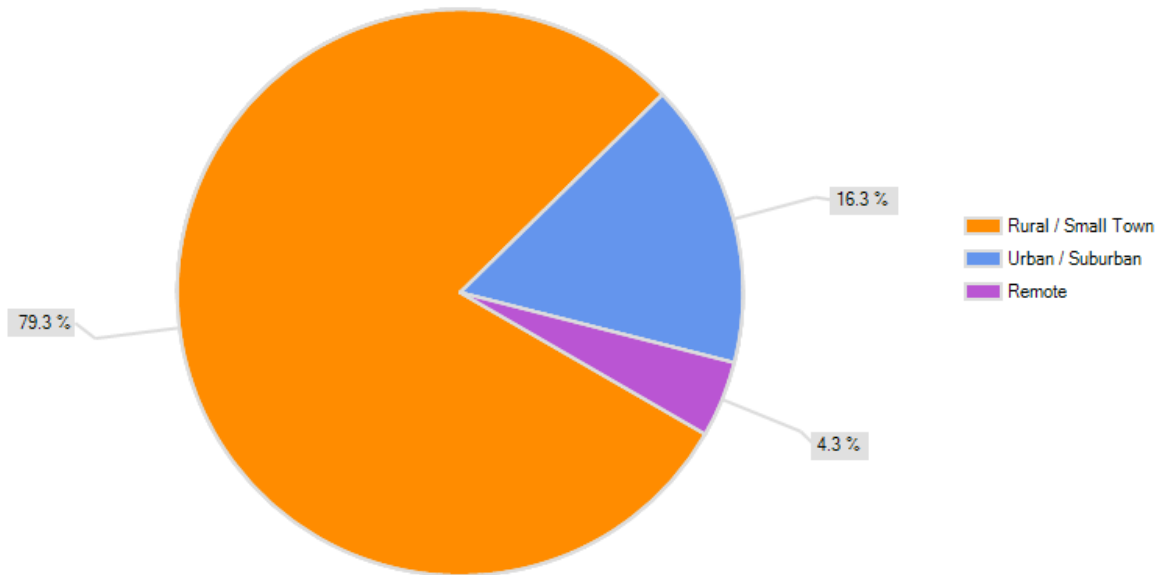
Respondents who answered question: 92

Respondents who skipped question: 9

Central region was the best represented with 38% of respondents. East, South-west and North-east regions are evenly represented, while the north-west region had the least representation with only 5.4% of the respondents.

Question #3:

How would you describe the municipality you work for?



Respondents who answered question: 92

Respondents who skipped question: 9

The majority of the respondents are from rural / small town municipalities. The next most predominant category is urban / suburban, with only 4.3% being described as remote municipalities.

IV. Analysis

The following section will utilize and compare the summaries in the above Discussion section, to identify any similarities of opinion gathered in the survey. In this way, we may be able to identify a general consensus on trends relating to the climate change and peak oil issues as perceived by our respondents.

While the general awareness of both issues appears to be good, personal awareness of both issues has been rated highest, then municipal government, with the broader community being regarded as having the lowest awareness of the issues. Across all categories, there appears to be a greater awareness of climate change than peak oil as an issue. Limited staff persons were identified across the municipalities as being responsible for awareness on climate change and even less for peak oil.

When asked about the municipal government and the broader community's ability to respond to both issues, the most confidence was shown in the municipalities. This, as well as the higher personal awareness staff appear to have, suggests that there may be a leadership role for municipalities on these issues. This could also be interpreted as an under-utilization of the broader community in responding to both issues, and integrated community planning and education could be opportunities to explore in the future.

Overall, both the broader community and the municipal government are seen to have a low ability to respond to both issues. Gains need to be made in both innovation and future-orientation.

Several respondents also indicated that an existing policy 'the Discriminatory business practices act (provincial legislation)' was preventing municipalities from favouring local purchasing, due to discrimination based on geography. In the future, opportunities may exist to change/amend policies to favour response to climate change and peak oil.

The Municipal government's ability to respond to peak oil is even lower than to climate change, though both are seen as low. Generally, there is a consensus that municipalities are unprepared for the peak oil issue. Climate change appears to be an issue that is more widely discussed. Opportunities most definitely exist for preparing peak oil specific mitigation strategies.

While climate change does seem to be garnering more attention as an issue, many of the mitigation and response strategies for climate change would also apply to peak oil. It just appears as though the issues have not been considered in tangent.

On the positive side, there does appear to be a variety of creative responses to climate change and peak oil that municipalities have begun to initiate, across a wide range of sectors. Sustainability initiatives seem to have entered the consciousness and policies of communities across Ontario. There were more written responses for local initiatives than there were for respondents being aware of issues outside of their communities. This may suggest that there is an opportunity for improved cross-municipality sharing of information and response strategies.

The following is a summary of what could be considered opportunities for the future based on the information that was gathered in the survey:

Opportunities:

- Education/raised awareness on peak oil (especially in the broader community)
- Municipal leadership in responding to both issues (peak oil and climate change)
- Opportunity to implement integrated community planning
- Improving all levels of the communities' ability to respond to both issues.
- Change/amend existing policies to favour response to climate change and peak oil.
- Opportunity for municipalities to consider peak oil as an integrated issue with climate change
- Improved communication across municipalities and sharing of response strategies

V. Conclusion

Community leaders proved to be responsive to the survey, and had a good general understanding of the issues of climate change and peak oil.

The municipal sector was well-represented in the survey, and this has provided some valuable feedback in identifying Ontario municipalities' capacity to respond to climate change and the impact of peak oil.

A wide range of responses were gathered indicating creative solutions to both climate change and peak oil, indicating that there are efforts being made towards both issues. However, it was indicated that many of the creative responses may not have been directly linked to the issues and may be in response to other stimulus.

Overall, while there seems to be general awareness of the issues, most especially Climate Change, respondents indicated that they perceive that municipalities and communities only 'sometimes' and 'rarely' plan for these issues, and that they have 'low capacity to medium capacity' to respond to the threats and opportunities presented by peak oil and climate change.

Information gathered from the survey revealed some perceived strengths and weaknesses in planning for resiliency to climate change and peak oil. With this information, we have identified some potential opportunities for future resiliency planning.

VI. Appendices

Appendix 'A': Survey Instrument



Developed with Émanuèle Lapierre-Fortin, MSc candidate

Appendix 'B': Map of Municipalities

Appendix 'C': Written responses to Community Questions

Question #1

In your locality, how often do you see evidence that the following people are planning for climate change? (Municipal politicians, Municipal staff, Members of the broader community)

Please describe any evidence you see:

- The municipality is looking at initiatives to minimize the carbon footprint, by acquiring hybrid vehicles, energy retrofits, using pool vehicles and investigation of solar retrofits.
- locally, Transition Town Peterborough has been established as a community group however I don't believe they have a very large following at present.
- The Town is currently involved in the development of the Caledon Community Local Action Plan and has worked closely with the Region of Peel on its Adaptation and Mitigation Plan.
- several organized groups
- This topic/issue has not been discussed at a Council meeting.
- Emergency exercises based on varying, increasingly severe weather patterns across the municipality. Local food production is being promoted across the County
- County Green Legacy Programme - 2 Tree Nurseries - target 250,000 trees per year Strong community engagement at nursery and tree planting.
- Solar arrays and wind turbines have become an important local issue in West Lincoln.
- On the climate change end mostly in emergency planning. More actively planning for bad weather.
- The City of Toronto just recently had a change in Council who is less focussed on climate change at this time. However municipal staff are in the process of conducting a risk assessment of City operations as it relates to climate change adaptation. The City has aggressive GHG reduction targets and programs related to achieving those objectives.
- Sustainability is one of our strategic priorities, emergency planning, storm reserve fund, stormwater management strategy, and a number of other strategies that touch on sustainability that may impact climate change preparedness. Attempts to increase public and Council awareness of the issues and promote actions, both at a municipal level and individually. Area municipalities may also have environmental committees that would provide input on applications or proposals.
- The City requires compact, walkable and transit-supportive neighbourhoods to be built as part of its Sustainable Pickering program.
- Official Plan policies
- most could be considered to still believe there is a "debate" ongoing about climate change Engineering, Master SWM Plans - however, do not go far enough, examine 500-year, etc. planting Carolinian species, instead of "traditional native species" using the NR Can. climate modeling for native species in anticipation of climate change
- City is a member of FCM's PCP program, Office of Energy Management Program is successfully reducing the City's GHG and energy consumption through innovative programs and staff education and training, Planning staff are being trained in climate adaptation, resilience is a key driver behind the Corporate Strategic Plan (in development)

- THE EVIDENCE I SEE AS THE BUILDING OFFICIAL IS THAT YOU HAVE TO BE VERY ASSERTIVE TO GET PEOPLE TO BUILD TO A HIGHER ENERGY EFFICIENCY LEVEL.
- Emergency plans are taking into consideration new types of risks. Recreation Services are concerned with heat islands and providing additional shade structures.
- Although many of our actions support the reduction of GHG emissions or adaptation measures, the primary purpose of the action may be to save \$\$ or is a required action (Emergency preparedness legislation). The city is greening its fleet (use of hybrids; rightsizing vehicles, etc., has implemented a corporate energy conservation and management program, has implemented renewable energy projects, adopted a green building policy, restricted the sale of plastic water bottles, implemented a corporate zero waste strategy and supports intensification and mixed use land use policies, etc.
- the actions of municipal colleagues; newspaper articles
- Installation of alternative energy generation systems in response to the Ontario Government's Green Energy Act and Ontario Power Generation's MicroFIT program
- Energy Management Plans, sustainability requirements for new development, flood planning.
- 2011 approvals for sustainability co-ordinator in Planning Department
- Is becoming more and more of an issue. Organizations such as OPPI are raising it
- City has created a Green Committee which has undertaken numerous energy reduction projects.
- Request for more recycling, possible solar power retrofit, etc.
- solar power conservation methods building initiatives
- Some landowners have installed solar panels on their homes and/or farms, creek restoration projects, wind turbines are in the planning stages, new Official Plan has principles of sustainability embedded in it, energy retrofits, new high efficiency insulation being installed in homes, various innovative low energy use home heating technologies
- Concern that the cooler weather is more frequent and lasting longer
- Within the broader community, there are community groups that are somewhat aware and produce literature to make the rest of the community aware. Municipal staff attend conferences, further education themselves and keep up to date on information related to climate change (this information is then passed onto politicians).
- This is not a frequent issue but is regularly considered. The Town has supported water conservation measures, has introduced a composting program, has supported a variety of green initiatives and has adopted an anti-idling by-law. It has supported sustainable development practices through its development charges by-law and in its recently adopted Community Improvement plan and will be considering new sustainability policies during the current Official Plan review. It has undertaken a sustainable housing development pilot project on surplus municipal land.
- Working with the University of Ottawa on a Climate Change project
- Investigation of "green" initiatives
- Durham Region has established the Durham Region roundtable on Climate Change to advise on steps to engage the community on mitigation and adaptation initiatives. Durham has also established a corporate climate change initiative through annual business planning initiatives.
- Planning seeking to incorporate in planning documents/policies etc
- Intercity transit proposals, bike lanes, trail linkages between communities, interest in wind and solar power generation etc...
- Decisions around energy consumption/efficiencies (capital purchases – variable frequency drives (VFDs), water and wastewater plant equipment). Participation in the Local Authority Services (LAS) Audit++ program. Development of Integrated Community Sustainability Plans. Concerns /

research on local food production/food security issues for Emergency Planning. New building construction methods to maximize energy efficiencies (use of a solar wall)

- idling by-laws....

Question #2

In your locality, how often do you see evidence that the following people are planning for peak oil?
(Municipal politicians, Municipal staff, Members of the broader community)

Please describe any evidence you see:

- The same references as above apply. The municipality is looking at initiatives to minimize the carbon footprint, by acquiring hybrid vehicles, energy retrofits, using pool vehicles and investigation of solar retrofits.
- As above, locally, Transition Town Peterborough has been established as a community group however I don't believe they have a very large following at present.
- Looking for employment opportunities locally to avoid long commutes. Not buying recreational properties so far away from home, or perhaps factoring costs of commute into sale price.
- County established an Energy Task Force in 2006 to determine ways to reduce usage County has established its own LEEDs building specifications
- Likewise, discussion about higher fuel and energy costs happen but they are rarely if ever linked to peak oil.
- Increasing population of cyclists on the roads. The "peak oil" terminology is not part of regular dialogue yet. It translates to public speak as high gas prices at the pumps. In our municipality we talk about preparing for climate change and have not focussed on a point in time of dramatic shift away from oil yet.
- General policies and procedures for conserving fuel, anti-idling, and conserving energy (electricity), but not necessarily as a preparatory measure for peak oil.
- Peak oil isn't often discussed. The City's programs and initiatives focus on "sustainability" not peak oil (although many of us recognize that our efforts on sustainability are also effective in addressing peak oil).
- Official Plan policies guide development to settlement areas and development standards to increase in sidewalks and trails in developments.
- decisions, issues, etc. are all based on the assumption that the conditions today will be the same forever.....i.e. gas prices will go up, (and so we complain) but there is no 1) linking fossil fuels with climate change 2) adaptation plans for either climate change or peak oil (and the impacts that peak oil may have upon urban fabric, and every aspect of life.....perhaps it is assumed that a new fuel will allow for business as usual(?) (e.g. lithium, biogas, hydrogen.....) But the larger context of "limited resources" whether it's oil, electricity, uranium, etc. etc. and time limits to each resource inventory, and what should be done locally to plan and address and adapt to

changes is just not on the radar or in the collective consciousness of the community, its leaders, or its technical specialists and staff (and if it is, they remain silent, and / or await retirement and let it be someone else's problem).

- It comes up during budget reviews.
- Establishment of efficiencies committee to look at fuel consumption of municipal vehicles.
- Again, the primary reason may not be for Peak Oil, but we still consider alternative fuels, conservation measures, intensification, mixed use land use policies, promotion of local food, support of transit, and promotion of active transportation measures, etc.
- purchase of more efficient vehicles
- People are aware of rising fuel costs but have not attributed this to the peak oil issue.
- People looking at more efficient heating systems, alternative energy, renewable energy sources.
- acknowledgement for need of corporate and community strategic plans.....communication plans.
- As above. City has created a Green Committee which has undertaken numerous energy reduction projects.
- I don't think people are informed enough to see any planning at the moment
- some idea on pedestrian friendly communities, ideas on fuel conservation and water conservation.
- People driving hybrid cars, electric bikes, cycling and various energy efficiency initiatives. However, I think some of these are done without making the connection to peak oil. . . .
- The town has taken steps to improve energy efficiency in buildings and updated some heating systems. It has supported a local solar farm proposal for Town owned land for which provincial approval is pending. It has started a sustainable housing demonstration project on surplus municipal land
- interest in solar energy production
- Very little actions being taken either at the informational level or implementational level
- Purchasing fuel efficient vehicles; retrofitting buildings/facilities for energy efficiency; building in renewable energy generating capability.
- Intercity transit proposals, bike lanes, trail linkages between communities, interest in wind and solar power generation etc...
- We've seen increased readers of environmental literature/books. I don't think that would be considered "planning" for peak oil, but perhaps just research/information gathering.
- with soaring energy prices, solar panels particularly on farm parcels are becoming more prevalent

Question #3

The following activities are associated with creative response to climate change and peak oil. Please identify all that apply to your local government and/or broader community: (refer to chart shown in the Community responses section, under Question #3)

Please explain any particular municipal or community activities that you are aware of in your locality:

- Ontario Law prohibits the awarding of municipal contracts and work based on locality, therefore this is not practiced.
- One municipal and community activity that I am aware of is our Farmer's Markets which encourage the purchase of locally grown foods.
- Brock University - Environment Canada Climate Change Collaborative as part of Brock's Environmental Sustainability Research Unit. Initially started as research project in 2010 (assessing community capacity in dealing with climate change locally), but has now shifted focus to developing a local action plan (both mitigation and adaptation focus).
- Wellington County's Green Legacy Programme is the most significant example. It is the largest municipal tree planting programme in North America. We planted our millionth tree last fall - over a period of 6 years. There is strong school and community engagement in the program. We also have exhibited extensively at Good Roads, AMO, FCM conference and local fairs, etc.
- The County of Frontenac has a sustainability plan -- Directions for Our Future --which is supported by Council and by the community. We are in our second year of implementation and promoting community awareness. Please see www.directionsforourfuture.ca
- No unified plan, but many smaller initiatives at the regional level of government. Some area municipalities are developing sustainability plans. Examples of activities include SAVOUR Muskoka (encourages buying local and supports farmers), enviro-credits for carbon off-sets, updated stormwater management strategy, shoreline renaturalization in municipal parks and on private property, energy conservation plans by local utilities (offering incentives), energy efficiency for municipal buildings, environmental lecture series, investing in a hybrid fleet, etc.
- There are numerous municipal and community activities associated with our Sustainable Pickering program. Please go to our website sustainablepickering.com for more information.
- Good Food Box through Libraries - Community Improvement Plan and Tourism Brochures and Tourism Information Kiosks and Downtown revitalization Investments - Sever Sounds Sustainability Plan - 9 partner municipalities - Level 1 quality storm water management with native plantings versus fences - Water conservation programs - low flush toilet subsidy
- Community gardens are expanding, the City is working with community partners and other municipalities to educate the public about climate change/adaptation through film events, Earth Hour events, Earth Day promotion. The City is a member of the Greater Toronto Area Clean Air Partnership and will be hosting the 2011 Mayors' Summit. The Friends of the Second Marsh have restored this vital wetland through partnerships with the City, GM and others. Tree plantings were held at the Pumphouse Marsh to commemorate Earth Day this year. The City is developing an innovative trails plan to promote cycling and is a member of Smart Commute - a

trip reduction program for employees. The City's energy management program is a leader in the province.

- The Town's sustainability action team has partnered on a number of tree planting events over the past 4 years. Town staff are working with CVC staff to implement low impact development guidelines that address stormwater management in innovative ways. A not-for-profit, regional community group called Heardwaters Communities in Action are working to come up with sustainability practices that transcend political boundaries - they are working on a quality of life report card (benchmarking) now.
- Active transportation initiatives
- Just some extra notes: Burlington's storm sewers are already separate from the sanitary sewers.
- Municipal activities are generally based more on cost/benefit of the bottom line than on climate change impacts. Separating stormwater sewers from sanitary reduces the amount of flow that the municipality must treat at sewage treatment facilities. Waste management programs to divert items from landfilling are promoted due to government funding for these programs through Waste Diversion Ontario.
- There are several initiatives which serve several purposes, including climate change e.g maintaining and adding to County Forest inventory, promoting sustainable development and environmental protection through Official Plan policies
- the municipality does have a recycling committee and has been budgeting towards recycling for the past few years.
- Municipality held a Eureka Exchange - An Eco Fair broadcast globally.
- There is a local farmers market supported by the Town, there has been a local ecological/green sustainable living festival for several years. The Town and local ecological NGO's have supported a number of the initiatives noted above. The town was one of the first in the area to move to curb side compost collection.
- Market garden promotion, shop local policies, working with Tree Canada and TD-Green Streets. New recycling programs, waste diversion,
- Farmers Markets for locally grown organic foods, habitat maintenance for various wildlife- fishery- turtles, deer feeding stations
- County is coordinating the development of a Sustainable Community Plan
- Planning documents are aimed at these three items (Community Economic Development, Integrated Community Sustainability Planning, Ecosystem Protection)
- Staff currently researching.
- My answers are focused on Ashfield-Colborne-Wawanosh Increasing setbacks for buildings away from areas prone to erosion like gullies and the lake bank. The rate of erosion may be increasing due to climate change.
- Local LIFE Co-op looking to construct a wind turbine. Buy Local Buy Fresh food campaign.
- Municipalities aren't able to favour local purchasing through policies - as this would be in contravention of the Discriminatory business practices act (provincial legislation) - due to discrimination based on geography. The local Hunters & Anglers organization does a lot of work with the MNR to assist with Ecosystem protection/restoration.

Question #4

Are you aware of creative responses to climate change and peak oil undertaken by other municipalities that you think we should be aware of? If so, please name them.

- air quality by-law
- Durham Region has a municipal roundtable committee on Climate Change
- King County, Washington State Chicago's Climate Action Plan
- The Region of Niagara currently has a Staff person assigned to deal with Climate change initiatives on a Regional Level.
- Climate change -lots, peak oil- no
- JOHNSON TOWNSHIP
- Eden Mills, ON has a plan to go carbon neutral
- Waterloo Region- New plan for the promotion of locally grown produce, Oxford County and Perth Country Food Festivals
- City of Toronto, City of Kitchener, City of Hamilton
- FCM has descriptions of projects and a list of by-laws supporting climate change / peak oil.