

CITY OF HAMILTON

PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT
Strategic Services and Special Projects

Report to: Mayor and Members Committee of the Whole	Submitted by: Tim McCabe General Manager Planning and Economic Development Department
Date: November 18, 2008	Prepared by: Heather Donison 905 546-2424, Ex 1276

SUBJECT: Peak Oil Study Terms of Reference (PED08310) (City Wide)

RECOMMENDATION:

- (a) That a volunteer-based Peak Oil Task Force be established, and renamed the Community Energy Collaborative, with the purpose of identifying and recommending response actions to the issues outlined in the *City of Hamilton Peak Oil Study Terms of Reference* attached as Appendix "A" to Report PED08310.
- (b) That Item B be removed from the Committee of the Whole's Outstanding Business List.

Tim McCabe
General Manager
Planning and Economic Development Department

EXECUTIVE SUMMARY:

Peak Oil refers to the point at which total global oil production cannot grow any further and begins to decline¹. Oil is the fundamental building block of our industrial economy. Our industries, businesses, homes and cities have been built with the assumption that oil will be readily available at affordable prices. However, world oil supply and demand are rapidly changing and the price and on-going supply has become uncertain.

The City of Hamilton has established a number of policies that will reduce the City's risk of exposure to increasing and fluctuating oil prices. These include the Corporate Energy Policy and the City's Green Fleet Policy. The City has also established some policies that will help to protect the community from the risks of oil supply constraint. These policies include the Hamilton Transportation Master Plan (HTMP) and the "LEEDING the Way Community Improvement Project"

Scientists debate when peak oil will occur and economists debate future oil prices, however, there is little denial that peak oil is a reality that will challenge our social and economic stability unless we prepare appropriately. The risks include business bankruptcies, job loss, poverty acerbation, increased pollution and food insecurity.

A Community Energy Collaborative (Peak Oil Task Force) is recommended to be established with the purpose of evaluating City-wide vulnerabilities by examining the most recent predictions with respect to peak oil and evaluating Hamilton's energy profile. Vulnerable people, services, geographic areas or sectors will be identified as well as challenges and opportunities provided by the predicted changes in oil availability and price. The Collaborative will examine challenges and opportunities in terms of four themes:

- Growth and Sustainable Urban Planning;
- Economic Sustainability;
- Social Sustainability; and,
- Environmental Sustainability.

A budget of \$35,000 for the Community Energy Collaborative will be required to provide facilitation services and technical support for research.

BACKGROUND:

In June 2008, Council requested that staff prepare a terms of reference for a City-wide peak oil study designed to evaluate the City's vulnerability to an energy conservation culture i.e.) peak oil issues. The recommended Terms of Reference is attached as Appendix A.

¹ Daniel Lerch Post Carbon Cities: Planning for Energy and Climate Uncertainty 2007

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Peak Oil refers to the point at which total global oil production cannot grow any further and begins to decline². In 2005, the City of Hamilton contracted Richard Gilbert to prepare a study on Peak Oil.

Richard Gilberts states in his report:

“If this argument that higher prices is accepted—and it warrants far more elaboration than there is space for here—a reasonable conclusion is that the City of Hamilton should transform rather than merely add to its current planning processes. The transformation should be one that puts energy concerns first and centre in all its planning.” “Even if the argument that fuel prices are likely to be very high is not accepted, the City may find there is good reason in what follows to given more attention to energy conservation and production.”

Upon receipt of this report, Council directed staff to undertake a series of actions that will help Hamilton prepare for the threats posed by increasingly limited oil supplies. The list of these directions and progress to date are included in Table 1.

Table 1 Peak Oil Committee of the Whole Report 06-007	
Council Requests	Progress
(a) That the “Peak Oil” report be referred to the General Manager of Public Works in order for Staff to further investigate and report back to the Public Works, Infrastructure and Environment Standing Committee on the following:	
(i) That the General Manager of Public Works be directed to develop an Energy Management Policy, and forward to Council for approval;	Approved by City Council on November 14, 2007.
(ii) That the Energy Management Policy:	
aa) Recommends targets for reduced energy use in City Facilities and timelines for achieving same;	The Energy Policy calls for targeted energy reductions in energy intensity of City owned facilities and operations of: 20% by 2020, 3.0% by 2009, and 7.5% by 2012. These targets equate to about a 1.5 % reduction in energy per year. The report recommends that 2005 be used as the base year for measuring results.

² Daniel Lerch Post Carbon Cities: Planning for Energy and Climate Uncertainty 2007

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<p>bb) Recommends strategies to achieve those targets;</p>	<p>Strategy for Achieving Energy Reduction Targets a) Monitoring and Targeting of Existing/New/Retrofitted Buildings b) Conservation and Demand Management Investment: Existing Buildings: c) Conservation and Demand Management Investment: Major Renovations / New Construction d) Implementation of Eco-Responsive Energy Management Policies-- for details see section 2.0 Energy Policy.</p>
<p>cc) Recommends a framework for the use of renewable technologies in supplying energy to new City Facilities; and</p>	<p>With the current production of clean and green power and the premium cost of buying green power the Office of Energy Initiatives recommends that the City delay purchasing any new Green Power at this time. The cost premium for Green Power is approximately 3 cents per kilowatt-hour greater. This is a 50% increase in the current commodity rate the City is paying for electricity. It is recommended that Green Power be considered as part of the LEED evaluation for major retrofits or new construction (50% Green Power for a facilities provides one LEED credit). Green Power can be considered at a later date if necessary to supplement target shortfalls in CDM initiatives.(Section 4.3, Energy Policy).</p>
<p>dd) Provides recommendations to Council on the feasibility of designing new City Facilities to LEEDs standards, or equivalency, including a policy to encourage LEED certification for new buildings to be constructed in Hamilton and that new buildings constructed by the City of Hamilton continue to include requirements for pricing and analysis of LEED certified consultant services within the request for proposal specifications until such time as the design standards are approved by Council;</p>	<p>The Energy Policy recommends that the City conduct a 3-year pilot program to evaluate the financial, energy and environmental impacts of various levels of LEED certification.(for more details see Energy Policy 2.3.1 Strategy: Evaluation of LEED and Green Building Design Options – Major Renovations and New Construction of City Owned Buildings.</p>

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<p>ee) Provides recommendations to Council on the feasibility of producing energy to operate City Facilities and/or partner facilities (e.g. co-generation facilities, district energy facilities).</p>	<p>The City of Hamilton is one of the Provinces leading municipal producers of Clean and Green Power. Currently a portion of the Central Utility Plant's electricity, which is supplied by Hamilton Community Energy, is EcoLogo Certified as Clean Energy. The power produced by burning methane at the City's Woodward Co-Generation Plant is considered green. Glanbrook's Landfill Gas generation project will also produce green power when it comes online in 2008.(Energy Policy Section 4.2).</p>
<p>(b) That the General Manager of Public Works investigate the feasibility of applying energy conservation measures currently being employed by HES for use in the City's Central fleet;</p>	<p>The strategy being followed by the Public Works Department for the corporate fleet is outlined in the Green Fleet Implementation Plan (report PW03147b). The tactics chosen for this plan include greater use of hybrid vehicles, renewable fuels such as biodiesel, and reduced engine idling. New technology and products reaching the market will be considered if properly qualified. As we do not have the resources or capabilities to perform extensive testing of after-market solutions we rely on the approach supported by Council in report PW03147b (Green Fleet Implementation Plan) where we specify ETV Canada verification appropriate for the vehicles we have in our fleet.</p>
<p>(c) That the General Manager of Public Works investigate the feasibility of using trolley buses as part of the HSR fleet.</p>	<p>The rapid transit feasibility study will include assessment of electric rapid transit options.</p>
<p>(d) That staff report to the Planning and Economic Development Committee on the following:</p>	
<p>(i) The feasibility of establishing a policy to encourage LEED certification, or equivalency, for all new buildings constructed in Hamilton;</p>	<p>A pilot LEED incentive program has been approved for business park development. The bylaw designates the Industrial Business Parks and the Bayfront and East Hamilton Industrial Areas as the LEEDING the Way Community Improvement Project Area for which community improvement is desirable and outlines a proposed financial incentive program that encourages LEED building design.</p>

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<p>(ii) That staff investigate the feasibility of including an Energy Cluster as a major component of the Economic Development Strategy and that this feasibility research and analysis be conducted as part of three year update and review of the Economic Development Strategy and that it includes Hamilton Utilities Corporation/Horizon Utilities Corp. and all other community stakeholders</p>	<p>The new Multi-Year Economic Development Strategy will be completed in 2009. An Energy Cluster will be considered as part of the new “Environmental Technologies cluster”. Report PED08310 setting out the parameters and process for the new strategy will be considered by Committee of the Whole at its December 8, 2008 meeting.</p>
<p>(iii) A joint investigation by Planning and Public Works Departments on the feasibility of preparing the Glanbrook Business Park as an Eco-Park, involving possible use of a district energy system, and the re-use of waste materials amongst industries etc.</p>	<p>Road design for Glanbrook Business Park is environmentally friendly with storm water infiltration swales and environmentally friendly features. Eco-Industrial Park Standards are being investigated for the Airport Secondary plan.</p>
<p>(e) That the Peak Oil report be forwarded to Hamilton Utilities Corporation (HUC) and Horizon Boards for their consideration;</p>	<p>Report was forwarded to Horizon. No response was received to date.</p>
<p>(f) That the General Manager of Planning and Economic Development be directed to investigate the feasibility, cost and timelines for the preparation of:</p>	
<p>(i) economic development options based on principles outlined in the report “Hamilton: Electric City” prepared by R. Gilbert, to diversify the Hamilton economy (i.e. maximizing employment lands in the Port area, the Downtown area or attracting energy service and energy manufacturing businesses); and,</p>	<p>These options will be considered as part of the new Economic Development Strategy.</p>
<p>(ii) the development of a community energy plan.</p>	<p>No progress to date.</p>
<p>(g) That staff be directed to report back on available federal or provincial funding for projects, which may emanate from any actions that City Council might take.</p>	<p>Included with each project/initiative.</p>

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These actions include the creation of the Office of Energy Initiatives and the Corporate Energy Policy, passed by Council in November 2007. The Corporate Energy Policy is specifically designed to facilitate the achievement of energy reduction targets of 3.0% by 2009, 7.5% by 2012, and 20% by 2020 in energy intensity of City owned facilities and operations. It is also intended to provide for ongoing energy monitoring utility usage and define policies regarding capital investment related to energy.

The City's Green Fleet Policy continues to be implemented. It includes the use of biodiesel for the entire City fleet and hybrid electric vehicles for the Corporate Fleet. Participation in anti-idling campaigns has also proven to be successful.

The Hamilton Transportation Master Plan (HTMP), completed in May 2007, defined a plan to reduce Hamilton's dependence on cars through increased transit and active transportation. It envisioned that Bus Rapid Transit (BRT) lines would be used in Hamilton, with the potential to move to Light Rail Transit (LRT) in the long term. Due to the Metrolinx regional transportation plans and investment strategies, accelerated rapid transit planning in Hamilton has been made possible. The Metrolinx funding may also make LRT, in the short term, more feasible than when it first appeared when the HTMP was prepared.

In 2008, the City introduced Phase 2 of the Corporate Air Quality and Climate Change Strategic Plan. The plan set targets of a 10% reduction of 2005 greenhouse gases levels by 2012 followed by a 20% of 2005 greenhouse gases levels by 2020. The plan identified both the actions undertaken by the Corporation as well as the next steps needed to meet the Corporate emission targets. In September 2008, the City of Hamilton issued a request for proposals to complete a greenhouse gas and air quality inventory for the City of Hamilton and a detailed inventory specifically for municipal operations. This inventory will be available in July 2009.

In September 2008, a pilot program to encourage energy efficient development called "LEEDING the Way Community Improvement Project" was approved. This program is designed to encourage private investment in energy efficient and environmentally sustainable buildings. This may result in reduced municipal servicing costs for these buildings.

Food production and distribution have become highly dependent on fossil fuels. The recently formed Community Food Security Stakeholder Committee has the following mandate:

To develop a food continuum policy and strategic action plan that will move Hamilton towards being a place where all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes self-reliance and social justice.

By supporting local food production through agricultural and 'Buy Local' policies, the city will be less dependent upon fuel to supply food for the population.

ANALYSIS/RATIONALE:

This Terms of Reference is proposed to evaluate City wide vulnerabilities by examining the most recent predictions with respect to peak oil and evaluating Hamilton's energy profile. Vulnerable people, services, geographic areas or sectors will be identified. The study will examine challenges and opportunities provided by the predicted changes in oil availability and price. Challenges and opportunities will be examined in terms of four themes:

- Growth and Sustainable Urban Planning;
- Economic Sustainability;
- Social Sustainability; and,
- Environmental Sustainability.

Oil is the fundamental building block of our industrial economy. It is also the key raw material for gasoline, diesel, jet fuel, home heating fuel, many chemicals and almost all plastic. Transportation, modern food production and most manufacturing are critically dependent on oil. Our industries, businesses, homes and cities have been built on the assumption that oil will be readily available at affordable prices. However, world oil supply and demand are rapidly changing.

Naturally occurring oil is an infinite resource. Extraction from each oil well generally becomes more and more difficult and expensive until the well is exhausted. Peak oil refers to the point at which total global production cannot grow any further and begins to decline. Exactly when this will occur is unclear, but it is clear that production has been exceeding the discovery of new sources for quite some time. A significant proportion of oil production is centered in countries that are unstable or adverse to western economic interests.

In addition, demand has been rapidly increasing, particularly in the rapidly developing economies of China and India. There are currently no viable substitutes for oil at current rates of consumption. As demand outstrips supply, oil prices are expected to rise. However, the factors affecting oil production, alternatives, and use are so complex, including huge technical, political, and economic uncertainties, that the concern becomes not just the expected rise in the price of oil, but the uncertainty of when, by how much, and whether it will remain high.

During this past year, the price of oil exceeded the \$100 per barrel limit in January 2008 and soared to a high of \$147 per barrel in July 2008. By November 18, 2008, oil had dropped to \$55 per barrel. Analysts argue about the reasons for the price volatility, but generally agree that it is due to speculation and limited supply. The extreme economic uncertainty and expected recession complicates any analysis.

While scientists debate when peak oil will occur and economists debate future oil prices, there is little denial that peak oil is a reality that will challenge our social and economic stability unless we prepare appropriately.

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Ultimately, peak oil and the uncertainty of the changes that will ensue create a wide variety of risks and vulnerabilities. In order to prepare for uncertainty in oil supply and price, the City of Hamilton needs to examine where our community is vulnerable and identify challenges and opportunities for our community. Hamilton is ahead of most communities in considering this problem. This is an issue because there are no standard peak oil risk assessment frameworks for municipalities.

The Terms of Reference attached as Appendix "A" provides a framework based on Richard Gilbert's "*Hamilton the Electric City*" report, consultation with City staff, peak oil "experts", Vision 2020 and the City's new Strategic Plan. The study is to be completed in three phases. The first Phase will evaluate vulnerabilities and risks through examining the most recent predictions with respect to peak oil and evaluating Hamilton's energy profile. Hamilton's energy use profile will be examined in light of predicted constraint or disruptions and price increases or price uncertainty. Vulnerable people, services, geographic areas or sectors will be identified.

The second phase will examine challenges and opportunities provided by the predicted changes in oil availability and price. Challenges and opportunities will be examined in terms of four themes:

- Growth and Sustainable Urban Planning;
- Economic Sustainability;
- Social Sustainability; and,
- Environmental Sustainability.

Growth and Sustainable Urban Planning

Growth plans for housing, commerce, transportation, public services and urban form have impacts that last for a hundred years or longer. The study shall recommend criteria that should be considered in Hamilton's growth plans. The study will identify model policies or approaches for considering uncertainty of energy price and supply in growth plans.

The study will examine the impact of peak oil on transportation systems including air, rail, road and water. It will provide approaches for considering changing energy supplies and costs in the development of transportation infrastructure.

Economic Sustainability

The study shall examine how peak oil may affect businesses and jobs in Hamilton. The study shall consider the types of industries and businesses that will be affected negatively or positively by increases in the price of oil or constraints in its supply. The study shall answer the question: *How can the Hamilton economy build resilience with respect to changes in the energy market and how can Hamilton capitalize on the expected changes?* Municipal Economic development strategies to build resilience and capitalize on the expected changes should be identified.

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Social Sustainability

The study shall consider how jobs may be impacted by the changing energy markets. As well, it shall identify training and educational opportunities that should be developed in Hamilton to prepare the workforce for potential opportunities.

The study shall consider what the impacts of Peak Oil might be on the clients served by municipal social services. Vulnerable and marginalized populations are likely to grow and will be the first and hardest hit by rising oil prices. Heating, maintenance, and monthly housing costs may consume a larger share of household budgets and push people towards lower-quality housing choices when auto transportation costs increase.

The study shall answer the question: *How can municipal social services prepare to meet the challenges of changing energy markets?*

In co-operation with the Community Food Security Stakeholder Committee, the study shall evaluate the effect of increasing oil prices and on the availability, the accessibility, acceptability, and adequacy of food available to the City's residents, including those in low-income households. The study will examine how municipal policies can be used to support a sustainable food system.

Environmental Sustainability

The study shall evaluate the potential impacts of a constrained oil and natural gas supply on the global and local environment. The study shall identify opportunities to reduce greenhouse gas emissions and improve local air quality while mitigating the impacts of peak oil. However, not all alternative energy options are clean renewable sources. The study shall also examine the environmental risks associated with alternatives such as coal, wood, nuclear power and other options.

The final phase of the study will recommend the next steps the City Of Hamilton should take to prepare for peak oil.

The total budget for this study is estimated to be \$100,000, primarily required to hire expert consultants. However, upon review of Report PED08310 by Senior Management Team, they could not recommend the release of the Request For Proposal (RFP) and allocation of \$100,000 for the study with the magnitude of the budget pressures currently facing the City of Hamilton.

Consequently, staff are recommending that a volunteer based Peak Oil Task Force be established to inquire into the vulnerabilities the City faces with respect to peak oil and to develop recommendations for response actions. The Terms of Reference for a Peak Oil Task Force is included as Appendix B to Report PED08310. Further, that the membership of the Task Force be broadened and the Task Force be renamed the Community Energy Collaborative.

This approach was used in Portland, Oregon. This will benefit the study by providing first hand information to the community members that are engaged in identifying the problem and the solutions. This approach will likely provide less opportunity for objective and detailed analysis of trends and projection. The outcome of this approach

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will be an action-oriented plan for the community. A budget of \$35,000 is required to provide facilitation services and technical support for research and Task Force support.

ALTERNATIVES FOR CONSIDERATION:

The first alternative is that the City proceed with the release of the RFP and the approval of \$100,000 to hire expert consultants to complete Phase II of the Peak Oil Study.

Another alternative is to take no action at this time. However, there is little denial that peak oil is a reality that will challenge our social and economic stability unless we prepare appropriately.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Financial: That an upset limit of \$35,000 as identified in the “Alternatives for Consideration” section be approved for facilitation service and technical support for research of the Community Energy Collaborative. Since this is not a routine study, the estimated expenditure of \$100,000 should be deferred until such time as the City’s budget pressures are more manageable.

Staff: This study will require input and review from across the Corporation. A cross-departmental steering committee should be formed with representatives from Planning & Economic Development, Public Works, Emergency Services, Public Health and Community Services Departments.

Legal: N/A.

POLICIES AFFECTING PROPOSAL:

N/A.

RELEVANT CONSULTATION:

This recommendation reflects input from representatives from Public Works, Public Health Services, Community Services, Emergency Services, Planning and Economic Development.

CITY STRATEGIC COMMITMENT:

By evaluating the “**Triple Bottom Line**”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

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Community Well-Being is enhanced. Yes No

The Peak Oil Study will identify and assess the risks to community well-being associated with oil constraints. Strategies for reducing these risks will be identified. This information will help the City and community members make decisions that will enhance Community Well-Being.

Environmental Well-Being is enhanced. Yes No

The Peak Oil Study will identify and assess the risks to environmental well-being associated with oil constraints. Strategies for reducing these risks will be identified. This information will help the City and community members make decisions that will enhance Environmental Well-Being.

Economic Well-Being is enhanced. Yes No

The Peak Oil Study will identify and assess the risks to Hamilton's economic well-being associated with oil constraints. Strategies for reducing these risks will be identified. This information will help the City and community members make decisions that will enhance Economic Well-Being.

Does the option you are recommending create value across all three bottom lines?

Yes No

Do the options you are recommending make Hamilton a City of choice for high performance public servants? Yes No

The Peak Oil study will provide staff with information and resources to help them do their jobs better. This information has not been developed in other municipalities and will provide staff an opportunity to use groundbreaking resources to inform their policies and projects.

HD/dkm

Attachs. (2)

The City of Hamilton

Peak Oil Study

Terms of Reference

1) Purpose

To evaluate the potential economic, social and environmental impact of "peak oil" on Hamilton and identify the associated challenges and opportunities for Hamilton.

2) Background

In 2005, the City of Hamilton contracted Richard Gilbert to prepare a study on Peak Oil. The complete report titled *Hamilton: Electric City* can be found at www.richardgilbert.ca. Upon receipt of this report, council directed staff to undertake a series of actions that would help Hamilton prepare for the threats posed by increasingly limited oil supplies.

These actions include the creation of the [Office of Energy Initiatives](#) and the [Corporate Energy Policy](#), passed by Council in November 2007. The Corporate Energy Policy is specifically designed to facilitate the achievement of energy reduction targets of: 3.0% by 2009, 7.5% by 2012, and 20% by 2020 in energy intensity of City owned facilities and operations. It is also intended to provide for ongoing energy monitoring utility usage and define policies regarding capital investment related to energy.

The [City's Green Fleet policy](#) is continually being implemented. It includes the use of biodiesel for the entire City fleet and hybrid electric vehicles for the Corporate Fleet. Participation in anti-idling campaigns has also proven to be successful.

The [Hamilton Transportation Master Plan \(HTMP\)](#), completed in May 2007, defined a plan to reduce Hamilton's dependence on cars through increased transit and active transportation. It envisioned that Bus Rapid Transit (BRT) lines would be used in Hamilton, with the potential to move to Light Rail Transit (LRT) in the long term. Due to the [Metrolinx](#) regional transportation plans and investment strategies, accelerated rapid transit planning in Hamilton has been made possible. The Metrolinx funding may also make LRT, in the short term, more feasible than when it first appeared when the HTMP was prepared.

In 2008, the City introduced [Phase 2 of the Corporate Air Quality and Climate Change Strategic Plan](#). The plan set targets of a 10% reduction of 2005 greenhouse gases levels by 2012 followed by a 20% of 2005 greenhouse gases levels by 2020. The plan identified both the actions undertaken by the

Corporation as well as the next steps needed to meet the Corporate emission targets. In September 2008, the City of Hamilton issued a request for proposals to complete a greenhouse gas and air quality inventory for City of Hamilton and a detailed inventory specifically for municipal operations. This inventory will be available in July 2009.

Another City initiative which addresses potential Peak Oil related vulnerabilities is the Community Food Security Stakeholder Committee. The mandate of this committee is:

To develop a food continuum policy and strategic action plan that will move Hamilton towards being a place where all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes self-reliance and social justice".

The committee has not yet investigated the vulnerability of our food supply to oil constraints.

In June 2008, Council requested that staff prepare a terms of reference for a City-wide peak oil study designed to evaluate the City's vulnerability to an energy conservation culture i.e.) peak oil issues. This terms of reference details the required study.

3) Scope of Study

The study shall be completed in three phases. Each phase will involve consultation with local stakeholders including city staff, businesses and citizens together with secondary research.

Phase 1 – Vulnerabilities

Constraint and Price

The study shall consider rising world oil prices driven by supply constraints including, but not limited to, the potential peaking of world oil supplies caused by natural field decline. Other constraints that should be considered include natural disasters, political action, and military or terrorist activity. Detailed analysis such as the substitution effects of various proven and evolving alternative energy technologies will be included. The study shall review existing expert analyses and present the most likely scenarios and the uncertainty associated with various projections.

Energy Use

An assessment of Hamilton's current energy profile based on the 2006 census and consumption data and the community greenhouse gas inventory currently being undertaken by the City of Hamilton will be done. The profile should include energy use in buildings and for transportation.

Energy use in buildings shall be examined in the following sectors.

- Residential
- Commercial and Institutional
- Industrial

The study shall consider factors affecting energy use in buildings such as age and design.

Energy use for transportation of people and of goods shall be examined. The energy for transportation of people or goods for trips starting, ending, and within Hamilton shall be included. The study shall consider factors affecting transportation energy use such as neighborhood density and available transportation options.

The assessment shall include fossil fuels, electricity, and alternative energy sources.

Hamilton's energy use profile shall be examined in light of predicted constraint or disruptions and price increases or price uncertainty. Vulnerable people, services, geographic areas or sectors shall be identified.

Phase 2 - Challenges and Opportunities

Growth and Sustainable Urban Planning

Growth plans for housing, commerce, transportation, public services and urban form have impacts that last for a hundred years or longer. The study shall recommend criteria that should be considered in Hamilton's growth plans. The study will identify model policies or approaches for considering uncertainty of energy price and supply in growth plans.

Economic Sustainability

The study shall examine how peak oil may affect businesses and jobs in Hamilton. The study shall consider the types of industries and businesses which will be negatively or positively affected by increases in the price of oil or constraints in its supply. The study shall answer the question: *How can the Hamilton economy build resilience with respect to changes in the energy market and how can Hamilton capitalize on the expected changes?* Municipal Economic development strategies to build resilience and capitalize on the expected changes should be identified.

Social Sustainability

The study shall consider how jobs may be impacted by the changing energy markets. The study shall identify training and educational opportunities that should be developed in Hamilton to prepare the workforce for potential opportunities.

The study shall consider what the impacts of Peak Oil may be on the clients served by municipal social services. Vulnerable and marginalized populations are likely to grow and will be the first and hardest hit by rising oil prices. Heating, maintenance, and monthly housing costs may consume a larger share of household budgets and push people towards lower-quality housing choices when auto transportation costs increase. The study shall answer the question: *How can municipal social services prepare to meet the challenges of changing energy markets?*

In co-operation with the Community Food Security Committee the study shall evaluate the affect of increasing oil prices and constraints on the variety and availability of food available locally and on how the ability of low-income households to put food on the table will be affected. The study will examine how municipal policies can be used to support food stability.

Environmental Sustainability

The study shall evaluate the potential impacts of a constrained oil and natural gas supply on the global and local environment. The study shall identify opportunities to reduce greenhouse gas emissions and improve local air quality while mitigating the impacts of peak oil. However, not all alternative energy options are clean renewable sources. The study shall also examine the environmental risks associated with alternatives such as coal and wood.

Phase 3 - Next steps for City of Hamilton

The study shall make specific detailed recommendations for the next steps that the City of Hamilton should take to prepare for peak oil. Approximate costs for these steps shall be included.

4) Project Deliverables

- Interim report on Phases 1 (electronic copy)
- Interim report on Phase 2 (electronic copy)
- Draft Final Report containing: (electronic copy)
 - Interim Reports 1 and 2 and Phase 3 recommendations
 - The successful proponent will allow sufficient resources to make any necessary changes to the draft final report to produce a final version acceptable to the City.
- Final Report (electronic copy)

5) Project Timeline

Phases 1 and 2 shall be completed by July 2009. Phase 3 and the final report shall be completed by September 2009.

6) **Submission Requirements**

a) **Proponent's Competencies**

Proponents responding to the Peak Oil Study must demonstrate the following competencies for the personnel and firm. The submission must indicate which personnel completed the projects identified to establish the competencies listed below:

- i) Expertise and knowledge in global energy economics and policy
- ii) Expertise and knowledge in community energy use and planning
- iii) Experience and knowledge in urban land use policy development
- iv) Demonstrated experience and knowledge in local economic development
- v) Demonstrated knowledge and development in community development and affordable housing
- vi) Expertise and knowledge of global and local food systems
- vii) Expertise and knowledge of transportation systems and planning

The Proposal must address:

- i) Completeness of the team and identify team members and task assigned to individual team members
- ii) Qualifications/experience of individual team members.
- iii) Adequacy of human and technical resources to meeting the time frames in the work plan.

b) **Work Plan and Schedule**

Proponents are asked to provide timelines and the proposal work plan with costs in their submissions to the City. The work plan must take into account:

- i) The time required to collect and analyze data and information
- ii) Preparation of an interim draft report on phases 1 and 2
- iii) Preparation of a final draft report
- iv) Presentations to City Staff and City Council

c) **Budget**

- i) A budget is to be established as part of the Successful Proponent's submission for this project. The budget shall incorporate Phases 1, 2 and 3. Any disbursements (i.e. charge for travel time, mileage to and from meetings or computer time) must be called out separately. The proposed budget should also incorporate any sub-consultants

proposed for the RFP, including a detailed breakdown of their consulting fees

- ii) This information shall be submitted with your Form of Proposal – Pricing Information in a separate envelope
- iii) All work related to this RFP and materials supplied by the Proponent will be without cost to the City. This proposal call does not commit the City to Award a contract
- iv) Additional cost over and above those initially indicated on your Form of Proposal would not be considered unless approved by City Council and the City of Hamilton will advise you in writing

d) Management of the Services

- i) The Proposal must outline how the consultant/team will be organized and how the tasks and overall project will be managed.

e) Time for Completion

- i) Proponents will indicate the timetable, in working days, to commencement of the project after the date of award of the contract and the number of working days to complete the tasks for Phase 1 and 2 as outlined in this document from the day of commencement.

Comment: Change to the?
(Personal pronoun)

f) Proponents are required to submit:

- i) Five relevant references shall be provided for work of similar scope completed by the firm, including contact information (name, telephone number) and a brief project description for each reference
- ii) Resumes for each staff person (including sub-consultants) shall be submitted under a separate appendix and shall be a maximum of TWO (2) pages per person. Resumes must include project specific to this assignment.

Terms of Reference for Peak Oil Task Force

The Task Force’s charge will be:

- a) To acquire and study current and credible data and information on the issues of peak oil and natural gas production and the related economic and other societal consequences;
- b) To seek community and business input on the impacts and proposed solutions;
- c) To develop recommendations to City Council in 2009 on strategies the City can take to mitigate the impacts of declining energy supplies in areas including, but not limited to: transportation, business and home energy use, water, food security, health care, social service, communications and land use planning. These recommendations will be considered and integrated into citywide long term strategic planning; and,
- d) To propose methods of educating the public about this issue in order to create positive behaviour change among businesses and residents that reduce dependence on fossil fuels.

Membership:

Stakeholders (8-10) representing, but not limited to:

- energy utilities
- the business community
- the agricultural community,
- local environmental groups
- social service advocates and/or providers
- researchers
- labour organizations
- education or training providers
- construction/building sector

City Councillors (3)

City of Hamilton staff (6 – 8) non-voting members/technical support representing:

- Planning (1-2) including land use, development and building expertise
- Public Health Services (1)
- Community Services (1)

- Economic Development (1)
- Public Works (1-2)
- Emergency Planning (1)
- The Food Security Committee (1)

Each stakeholder group will assign a member to sit on the committee. At maximum, membership term coincides with the term of City Council. A person's membership ceases if three consecutive meetings are missed.

In the event that there are more than 10 interested representatives from the stakeholders group, members will be selected through an application and interview process and approved by the Committee of the Whole.

Alternates may attend when necessary, with voting privileges. Sub-Committees and/or Work Groups will be struck and appointed by the Stakeholder Sub-Committee as per need to address specific topics, issues or questions.

Chair:

The Committee will have two Co-Chairs, one a community representative and one a Councillor.

Minutes:

Minutes will follow the City of Hamilton template. Clerical support from Planning and Economic Development will compile and circulate minutes to members within seven days of the meeting. Minutes will be included on the Committee of the Whole agenda for information and any recommendations needing approval would be included in a report from the committee Chairs.

Reports to:

Committee of The Whole

Frequency of Meetings:

Monthly, or at minimum quarterly and at the call of the Chair. No meetings to be held during the months of July, August and December unless called by the Chairs. Work Group or Sub-committee meetings will be scheduled as required.

Review of Terms of Reference:

To be reviewed on an annual basis, at a minimum.