Community Viability Committee

Councillor Mike Petryna, Chair
Councillor Louise Portelance, Vice-Chair

Request for Recommendation
Priorities Committee

Greater | Grand Sudbury
www.city.greatersudbury.on.ca

Type of Decision

Meeting Date	November 27, 2002					Report Date	November 22, 2002				
Recommendation			Yes	x	No		Priority	x	High		Low
			Direction Only				Type of Meeting		Open		Closed

Sub-Committee Check-Off

Please indicate which sub-committee will deal with this issue

x	Community Viability		Public & Intergovernmental Affairs		Financial & Program Accountability

Report Title

Alternative Fuel Sources

Policy Implications + Budget Impact

	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified

n/a

x	Background attached

Recommendation

FOR INFORMATION ONLY

	Recommendation attached

Recommended by the General Manager

D Bélisle
General Manager of Public Works

Recommended by the C.A.O.

M. Mieto
Chief Administrative Officer

Report Authored By	Division Review
J Paul Graham, P Eng Plants Engineer	

In June 2002, a Select Committee on Alternative Fuel Sources presented its final report to the Ontario Legislative Assembly. This Report contains 141 recommendations. It promotes the development of potential alternative energy sources including water power, wind power, biomass, solar power, transportation fuels and fuel cells. The Report's recommendations also places a strong emphasis on energy efficiency and conservation. We attach a copy of the recommendations.

The Select Committee's Report is ambitious and visionary. It is very supportive of our Community Energy Planning Approach and presents a substantial opportunity for our community. While the recommendations are numerous and all should be reviewed in order to get a total appreciation for the scope, we wish to highlight a few which particularly relevant.

Recommendation #3 calls for the establishment of an Ontario Energy Research Institute to advance the manufacture and use of alternative fuel and energy products in Ontario.

Recommendations #9 to 15 outline Principles and Provisions for Financial Assistance to Alternative Fuels and Energy.

According to a recent discussion with Mr. Steve Gilchrist, the newly appointed Commissioner of Alternative Energy, a "Renewable Portfolio Standard" as outlined in Recommendation #16 will be an important early action. This initiative will require Ontario power producers to have a percentage of their portfolio based upon alternative fuel sources; thus creating a market.

Net marketing requirements as outlined in Recommendation #22 will facilitate individuals to install equipment like solar panels and smaller scale wind turbines and enable them to be compensated for access power that would discharge onto the electrical grid.

Section A.9, Energy Conservation and Efficiency Measures are important; particularly Recommendation #40 which would require local utility distributors to pursue programs to promote the use of alternative fuel and energy sources.

Recommendation #54 suggests that all new Ontario Government/Agency buildings, all "SuperBuild" projects and all buildings constructed by the broader public sector conduct an alternative fuel/energy audit to make provisions for applications of such technology including co-generation systems.

The Select Committee's plan anticipates requiring municipalities in the Province to play a significant role in promoting the use of alternative fuels and energies and related technologies. We refer you to Recommendations #61 through 75 in Section A.11 entitled "The Municipal Sector".

Part B of the Recommendations from #89 onward deal with specific alternative fuel/energy sources and technologies. According to Mr. Gilchrist announcements supporting wind power and hydro power will come before Christmas.

Minister John Baird, Minister of Energy and Steve Gilchrist the Commissioner of Alternative Energy, on November 13, announced that the government is taking decisive and immediate action to promote conservation and to encourage alternative fuels and to support clean energy production. We attach a copy of that News Release for your information.

It appears that the Provincial Government will make a strong commitment to the use of alternative fuel sources. We will monitor these developments closely and attempt to take advantage of them as opportunities are presented.

Attachments

LIST OF RECOMMENDATIONS

The following is a complete list of recommendations, organized under the heading titles as they appear in the text of the report.

A. POLICY FRAMEWORK FOR ALTERNATIVE FUELS/ENERGY

A.1 Ontario Government Policy

1. The Ontario government shall develop an alternative fuel and energy strategy to establish a framework for a coordinated approach to: (a) increase the use of renewable energy and fuel sources in both the immediate and long-term; (b) reduce Ontario's reliance upon carbon-based fuel sources; (c) reduce adverse impacts upon the environment; (d) ensure that the relative cost of different energy sources, fiscal implications, energy security, impact on job creation, export development and the provincial economy are all considered; (e) support innovative research and development in alternative energy fields that yield long-term economic, environmental and social benefits; (f) and ensure that energy conservation and efficiency are improved.

2. The Ministry of Environment and Energy shall be the lead in formulating an Ontario Alternative Fuel/Energy Strategy. Other pertinent ministries and agencies shall be consulted including: Enterprise, Opportunity and Innovation; Agriculture and Food; Training, Colleges, and Universities; Education; Finance; Management Board; Municipal Affairs and Housing; Natural Resources; Native Affairs; Northern Development and Mines; Transportation; Ontario Power Generation; Hydro One and/or successor companies; Ontario Energy Board; Independent Electricity Market Operator; and Natural Resources Canada. A coordinating Branch shall be established within the Ministry of Environment and Energy to deal with alternative fuel/energy policy and programs. An independent Technical Advisory Group reporting to the Minister of Environment and Energy shall be appointed to advise on alternative fuel/energy technologies and levels of assistance to individual technologies.

3. An Ontario Energy Research Institute shall be established by March 1, 2003 to advance the manufacture and use of alternative fuel and energy products in Ontario. The Institute should have responsibility for oversight of all alternative fuel/energy projects and be a Schedule 3 Agency reporting to the Ministry of Environment and Energy. It should have an annual budget of $40 million and a guaranteed minimum 10-year lifespan. Its functions should include: policy development and implementation, including product specifications and standards in conjunction with the Technical Standards and Safety Authority; development of partnerships with the private sector and post-secondary institutions; testing of technologies at a demonstration site, with a $10 million funding commitment over 3 years; development of an educational program, including a comprehensive website and alternative fuels/energy component within the elementary and secondary educational science curriculum, in cooperation with Ministry of Education; securing of matching federal and private sector funding; funding

programs to promote alternative fuels/energy installations at Ontario universities, community colleges; working with municipalities on energy planning; and monitoring and assessment of worldwide developments in alternative fuels/energy.

4. The Ontario government shall undertake a comprehensive legislative and regulatory review to consider amendments to legislation/regulations regarding alternative fuels/energy, including energy efficiency and conservation by June 30, 2003.

5. The Ontario government's 'Core Business' and related 'Core Activities' within all relevant Ontario ministry and agency Business Plans shall be revised to establish priorities for alternative fuel and energy, including energy efficiency and conservation. Performance measures shall be developed for the increased use of alternative fuels/energy in Ontario ministry/agency operations.

6. The Committee supports the development of a registry for airborne contaminants by the Ministry of the Environment and Energy that includes annual reporting of greenhouse gas emissions and other smog forming pollutants by large and small emitting sectors. Relevant work of Environment Canada, the U.S. Environmental Protection Agency, and the North American Commission for Environmental Cooperation should also be consulted.

7. The Ontario government shall use a 'Life Cycle Costing' approach to assess costs and impacts of new fuel/energy technologies. In assessing the costs of new alternative fuel/energy sources, comparisons should be made with the costs of new conventional sources of fuel/energy.

8. With respect to fuels: propane, natural gas, methanol, biofuels, ethanol, hydrogen, hythane (hydrogen and natural gas/methane mixture) and electricity are generally considered alternative fuels. With respect to energy sources: hydraulic, wind, solar, biomass, hydrogen/fuel cells, earth energy and co-generation are generally considered renewable. Where suitable federal definitions exist for alternative and renewable fuels/energy, and related terms, they shall be adopted by the Ontario government for use in appropriate legislation/regulations, standards, policies and programs. Environment Canada's national *Ecologo* certification program should be used as a basis. Where a suitable definition does not exist, Ontario shall develop its own. Definitions shall be used consistently for all aspects of Ontario legislation/regulations and alternative fuels/energy policy and programs. Any alternative fuel/energy certification program should be 'self-sustaining' through the levying of appropriate certification fees upon proponents.

A.2 Principles and Provisions for Financial Assistance to Alternative Fuels/Energy

9. The Ministry of Finance shall offer flexible and effective tax incentives for investment in alternative fuel/energy technology. This will include a tax deduction called the Ontario Renewable and Sustainable Energy Development Tax Incentive whereby companies investing in equipment relating to renewable

and alternative fuels will be permitted to deduct from taxable income 25% of the capital cost in each of the three years following the purchase of such equipment. A similar tax incentive will apply to capital investments made by manufacturers of renewable and alternative fuels.

10. Ontario government financial programs and incentives for alternative fuels/energy should be structured to not interfere with the operation of the competitive commercial market and should not favour one technology over the other. Wherever possible, programs should serve only as bridge incentives and only offer assistance for a specified time period.

11. The Ontario government shall establish a dedicated alternative energy/technology demonstration fund to support results-oriented outcomes associated with proven technologies. The purpose of the fund shall be to assist alternative technologies to gain public acceptance and achieve significant market share, but should not favour a specific technology. Such a fund should include appropriate cost sharing by private or other public sector partners.

12. The Ministry of Finance shall issue specific bonds to finance alternative fuel/energy investments by the province.

13. The Ministry of Finance shall review the *Assessment Act* and give consideration to full or partial exemptions under the Act for alternative fuel/energy installations, equipment, or improvements to buildings, other structures or property. Specific provisions should be developed to deal with wind, solar, biomass and earth energy installations and related modifications and equipment. Consideration should be given to full or partial provincial compensation for such exemptions within municipalities, where there is a significant concentration of alternative/fuel energy installations.

14. The Ministry of Finance, in consultation with the wind industry, shall establish a standardized property assessment method for windfarms and wind turbine equipment and report by December 31, 2002. Consideration should be given to the impact on adjacent property values. The Ministry of Finance should consider a property tax holiday for new windfarms, similar to the 10 year tax holiday offered for new, rebuilt or expanded hydraulic stations.

15. The Ministry of Finance should examine other tax incentives or exemptions to encourage the production and installation of new alternative fuel/energy equipment in Ontario.

A.3 Renewable Portfolio Standard and Related Measures

16. The Ontario Government shall convene a Task Force with representation from all relevant stakeholder groups to determine a Renewable Portfolio Standard (RPS) for Ontario. The Task Force shall report its findings by March 1, 2003, and the RPS shall be in place by June 30, 2003, for all new renewable power sources. The RPS shall be amongst the most aggressive in North America and shall include provisions to eliminate carbon-based electricity generation in Ontario by

2015. The RPS shall include a renewable energy accreditation system, and an aggressive timetable and targets for the contribution of renewables. The operation and targets for the RPS shall be reviewed by the Ministry of Environment and Energy every four years. All local electricity distribution companies shall be required to develop compatible local renewable portfolio plans.

17. The Ontario government shall mandate the Ontario Energy Board to establish a Systems Benefit Charge for Ontario, as a nominal charge of 0.1 cent per kWh to be applied to electricity bills, to fund an Ontario renewable energy trust to support renewable electrical energy programs and projects. Funds may be allocated as subsidies to manufacturers, utilities and customers.

18. The Ontario government shall commit to developing a carbon tax (a tax based on the carbon content of the fuel consumed) in conjunction with an RPS, with a target implementation date of July 1, 2005.

A.4 Role of Ontario Energy Regulators and Utilities

19. The Ontario Energy Board and Independent Electricity Market Operator shall develop non-discriminatory interconnection standards for independent alternative electricity generators by July 1, 2003. Interconnection priority shall be given to renewable power.

20. The Ontario government, in conjunction with the Ontario Energy Board, shall act to remove barriers and restrictions on the use of district energy systems by local electrical distribution companies.

21. The Ontario government shall expand electricity labelling to include the requirement for mandatory disclosure by electricity retailers of the fuel/energy source(s) used to generate power, including disclosure of pollution emissions from generation sources. This information shall be provided on electricity bills by July 1, 2003.

A.5 Net Metering

22. The Ontario government shall require the Ontario Energy Board, Independent Electricity Market Operator and local electricity distribution companies to develop supportive policies, practices and appropriate technical/safety standards, including CSA or UL rated-meters, to permit net metering across Ontario by December 31, 2002. All meters sold in Ontario before December 31, 2006, shall be exempt from provincial sales tax. Net metering should be available for all applications up to 60kW, including community energy co-ops. The Ontario government shall require that all electrical distribution companies offer net metering, consistent with safety and operational requirements within their service areas, by July 1, 2004. Net metered power purchases shall also be recognized as part of an RPS.

A.6 Transmission and Powerline Connections

23. The Ontario government shall review and revise policies to facilitate non-discriminatory connection to the transmission grid by alternative energy generators and local distributed generation, including conservation and co-generation projects.

24. In place of new high voltage power lines or major extensions in the north, on Crown land, and in non-urban settings, the Ontario government shall establish a policy that electricity needs, where technically feasible, shall be met by alternative supply such as wind, solar, local small hydraulic, fuel cells, or distributed power sources.

25. Transmission inter-connections with neighbouring provinces or states should be utilized for the sale/purchase of renewable sources of power.

A.7 Emissions Trading and Renewables 'Set Aside'

26. The Ministry of Environment and Energy shall monitor and assess NO and SO_2 take-up under the renewable 'set aside' component of the emissions trading regulation. The 'set aside' shall be adjusted where appropriate to reflect actual activity. Measures shall be put in place to prevent parties from being credited multiple times for the same renewable transaction.

27. The Ministry of Environment and Energy should consider increasing the renewable 'set aside' provisions under the Emissions Trading Regulation to further encourage conservation and renewable energy. The operation of the emissions trading system shall be amended to be compatible with any future renewable portfolio standard adopted for Ontario. The Ministry of Environment and Energy shall develop a carbon trading system in conjunction with an RPS, with a target implementation date of July 1, 2005.

28. The definition of renewable energy project in the *Ontario Emissions Trading Code* (December 2001) shall be expanded to include new power generated from the use of biomass, such as methane from landfill and/or anaerobic composting, use of agricultural or wood wastes, and stacked fuel cells connected to the power grid.

29. The Ontario system of emissions trading shall be revised to ensure that pollution cannot be increased in certain geographical areas on the strength of reductions in other areas. There must also be an enhanced ability to verify that "traded" reductions in other jurisdictions actually occur and that the reductions are real and not changes that would have happened even without the emissions trade.

A.8 Operation of Traditional Carbon-Based Fuel Generating Stations

30. The Ontario government shall complete, within 12 months, an assessment of the feasibility and cost of converting all Ontario Power Generation coal and oil-fired generating stations to natural gas.

31. The Ontario government shall set stringent emissions limits that are no greater than the emissions limits for natural gas-fired generating stations for the operation of all current coal and oil-fired generating stations.

32. The Ontario government shall mandate the closure of the Ontario Power Generation Atikokan and Thunder Bay coal-fired generating stations no later than July 1, 2005. This capacity shall be replaced with a windfarm(s), possibly on the plateau adjacent to Thunder Bay. Consistent with recommendation 16, the Ontario government shall mandate the closure of all remaining coal or oil-fired generating stations by 2015.

33. Any requirement(s) to convert/replace current carbon-based fuel generation shall responsibly manage debt obligations associated with the original construction of these stations.

34. The preferred long-term goal is to eliminate traditional carbon-based fuel generation and, wherever possible, all new renewable power sources in Ontario shall be used to displace traditional carbon-based fuel generation.

35. The Independent Electricity Market Operator shall give preference to the sourcing of economic renewable power in the bulk dispatch of power. Coal-fired generation shall be given the lowest dispatch priority.

36. The Independent Electricity Market Operator shall take into account power dispatch policies in neighbouring states and provinces to ensure that Ontario does not import/export unwarranted amounts of non-renewable power.

37. The Ministry of Environment and Energy should work with Environment Canada to ensure that air quality impacts of traditional carbon-based fuel generated power in other provinces and states are equitably mitigated.

A.9 Energy Conservation and Efficiency Measures

38. The Ontario Energy Board shall require all local electrical distribution companies to operate demand-side management programs in their own operations and for their customers by July 1, 2003. A system of incentives and penalties identical to those for the natural gas industry shall be put in place. A specified portion of their revenues shall be allocated to demand-side management programs.

39. The Ontario government shall require that all electrical utilities commit to spend a set percentage of their gross revenue (0.2%) to promote energy

conservation. A partnership with the proposed Ontario Energy Research Institute shall be considered to include conservation as part of an overall education strategy.

40. Local electrical distribution companies shall aggressively pursue programs to promote the use of alternative fuel/energy sources. Such measures are particularly attractive within urban service areas.

41. Local electrical distributors shall undertake programs to establish 'time-of-use' rates for their customers by December 31, 2002 as a way to encourage energy conservation.

42. Management Board shall implement a 'house-in-order' energy conservation and efficiency program for its properties and operations. Specific targets and efficiency measures shall be developed within 12 months.

43. The Ministry of Environment and Energy shall review, update and expand the application of the Ontario *Energy Efficiency Act* to a broader range of electrical appliances and equipment within 12 months.

44. Within the Ontario government and Broader Public Sector, actual energy and efficiency savings from conservation shall be measured. These savings should be directed to defray the costs of conservation and efficiency measures.

45. The Ministry of Environment and Energy shall consult with local distribution and generation companies and major power consumers to assess and recommend solutions to barriers to conservation and efficiency programs in Ontario within six months.

46. The Ministry of Municipal Affairs and Housing shall work with stakeholders to assess opportunities for energy conservation and efficiency measures in the development, construction, and renovation industries.

47. The Ontario government shall commence a review of the *Ontario Building Code* to incorporate the most advanced science with respect to energy generation and conservation, mandate the use of co-generation units, and establish an objective for energy self-sufficiency in all residential and commercial construction. Technologies such as solar wall cladding heating applications, or equivalent, for commercial and multi-residential buildings will be mandatory, wherever feasible. Renewable energy audits using the Natural Resources Canada RETScreen (Renewable Energy Technology Screen pre-feasibility analysis software for renewable energy projects) or similar software, where feasible, will also be mandatory.

48. The Ontario government under the "Ontario Clean Development Program" shall establish aggressive targets for energy conservation, for fixed and mobile applications, that are the toughest in North America.

49. There should be a mandatory evaluation of energy efficiency and conservation measures prior to approval of major new generation projects.

A.10 Government Procurement Programs

50. The Ontario government shall establish commitments and targets for alternative fuel/energy, including energy efficiency and conservation for universities/community colleges, public and separate schools, and the hospital/health care sector. Energy plans for individual institutions shall be prepared and shall include targets for alternative fuel/energy use and/or energy efficiency and conservation measures by December 31, 2003.

51. The Ontario government shall conduct a complete assessment of all government buildings, vehicles/equipment ('on and off-road' vehicles, boats, airplanes and stationary generators) to determine the extent and potential for alternative fuel/energy utilization by December 31, 2002.

52. The Ontario government shall undertake alternative fuel/energy 'pilot' projects within its operations, and the Broader Public Sector. Wherever possible, private or transfer-partner financial participation shall be encouraged. The practical results of these applications shall be assessed and applied.

53. Provincial operating and capital funding programs to the Broader Public Sector shall be revised to require the use of alternative fuel and energy applications and technologies, including efficiency and conservation measures. Programs should encourage assessments of the broader environmental, social and economic benefits of such applications. The Broader Public Sector should consider public private partnerships to bring alternative fuel/energy applications on stream.

54. Effective immediately, all new Ontario government/agency buildings, all 'SuperBuild' projects, and all buildings constructed by the Broader Public Sector must conduct an alternative fuels/energy audit to make provision for the application of such technologies, including co-generation systems. Wherever possible, life-cycle costing shall be employed in such evaluations. An objective shall be: to make every government building, and government funded building, energy self-sufficient (see glossary for definition).

55. Management Board shall establish a retrofit program to convert all government buildings to alternative fuels/energy use by July 1, 2015.

56. Management Board shall establish an immediate program for the use of low-level ethanol and biodiesel-based fuels by the government fleet. Fuelling depots should be established to support this policy as public-private partnerships.

57. Management Board shall mandate that 10 % of the government vehicle fleet, and 30% of the Ministry of Environment and Energy fleet, shall be electric or fuel cell/hythane-powered by July 1, 2005.

58. GO Transit and the Ontario Northland Transportation Commission shall be required to utilize low sulphur fuels (gasoline and diesel) in their operations by July 1, 2003.

59. The Ministry of Natural Resources shall undertake to make all provincial parks, preserves and conservation areas energy self-sufficient by July 1, 2006.

60. The Ontario government shall establish an objective, and work in cooperation with affected stakeholders, to covert petroleum-based electricity generation, where technically feasible, on all Crown lands and lands that fall within provincial jurisdiction north of the 52nd parallel of latitude to renewable electricity generation by July 1, 2007.

A.11 The Municipal Sector

61. All municipalities in Ontario shall be mandated to develop policies and programs to increase the utilization of alternative fuel/energy in their operations by December 31, 2003. These policies should include conservation and efficiency measures.

62. All provincial funding programs, cost-sharing arrangements and grants to municipalities shall be reviewed to establish incentives for the use of alternative fuel/energy sources and technologies.

Vehicle purchases

63. The Ontario government shall provide a 25% provincial contribution toward the purchase of alternative-fuelled municipal vehicles (except garbage trucks, which must compete on a even basis with the private sector).

64. The Ontario government, boards of education and school bus operators shall establish a program to utilize alternative fuels, including ethanol-based gasoline and biodiesel fuels for their fleets, with all vehicles to be converted to use these or other alternative fuels no later than July 1, 2007. An accelerated depreciation allowance shall be made available for the purchase of new school buses powered by non-diesel alternative fuel.

65. The Ontario government shall mandate that public vehicles be converted to 100% clean fuel technologies according to the following timetable: all airport equipment by July 1, 2007; all municipal heavy vehicles (sweepers, garbage trucks, fire engines, etc.) by July 1, 2008; and all other municipal cars and light trucks by July 1, 2012. All new vehicles in these categories purchased after January 1, 2005 must be alternative fuel powered with standards equivalent to or tougher than the leading jurisdiction in North America.

Land use planning and development

66. The Ministry of Municipal Affairs and Housing shall review the 'healthy environment component' of the municipal Smart Growth initiative to include

measures to promote the use of alternative fuels/energy, including efficiency and conservation measures.

67. The Ministry of Municipal Affairs and Housing shall review the *Building Code Act, Municipal Act, Planning Act, Social Housing Reform Act,* and other pertinent legislation, to make provision for alternative fuel/energy and application of the most advanced technology, including efficiency and conservation measures. Where appropriate, Ontario should specify the Natural Resources Canada R-2000 (residential) and C-2000 (advanced commercial buildings program) standards in the *Building Code* and other acts and regulations.

68. Effective immediately, energy self-sufficient newly built homes will be eligible for a maximum of $4000 land transfer tax refund (double the current provision).

69. The Ministry of Municipal Affairs and Housing shall seek to amend the *Planning Act* by July 1, 2003 to include the requirement of sustainable development.

70. The Ministry of Municipal Affairs and Housing shall incorporate alternative fuel/energy standards and applications in its five-year review of the *Provincial Policy Statement,* issued under the *Planning Act.*

71. All municipalities in Ontario shall incorporate policies within their Official Plans, zoning by-laws and other land use control documents to make provision for alternative fuel/energy.

Public Transit

72. Effective immediately, provincial operating and capital funding to municipal and regional transit (GO Transit) services shall be restricted to the acquisition and operation of alternative fuel/energy technologies, including the use of alternative-fuelled vehicles. The Ontario government, municipalities, transit and ferry operators shall establish and fund a program to expand alternative fuel use including ethanol-based and biodiesel fuels for the transit fleet across Ontario.

73. Effective immediately, all future provincial support to municipal transit systems must be applied to alternative-fuelled vehicles. No municipal transit system will be allowed to purchase non-alternative fuelled vehicles after January 1, 2005, and 100% of municipal bus fleets must be converted to 'clean' technologies (preferably hydrogen) by January 1, 2015. All municipal electrically-powered transit services (subways, light rail transit services, streetcars and trolley buses) must be 100% 'green' electrically powered by July 1, 2004.

74. The Ontario government shall commit to the full 'hydrogenization' of the GO Transit rail and bus fleets by December 31, 2006.

75. Local municipal transit and ferry operators shall be required to utilize low sulphur fuels (gasoline and diesel) in their operations by July 1, 2003.

A.12 Relationship to Federal Energy Policies

76. The Ontario government, led by the Ministry of Environment and Energy, shall actively participate in, and where appropriate augment, federal alternative fuel/energy initiatives.

77. The Ministry of Enterprise, Opportunity and Innovation shall consider participation in Industry Canada's Technology Partnerships program where these investments augment an enduring renewables industry.

78. The Ministry of Environment and Energy shall work with Environment Canada to accelerate the requirement for the use of low sulphur 'on-road' and 'off road' gasoline and diesel fuel for all uses, including railway locomotives.

79. The Ministry of Environment and Energy should encourage the Federal Government to apply the same air emissions and sulphur content standards to railway diesel fuel and locomotives as for 'on road' diesel fuel and engines.

80. The Ontario and federal governments, and relevant stakeholders, shall develop codes and standards for alternative fuel/energy technical applications including fuel cells.

81. The Ministry of Environment and Energy shall work with federal departments to better disseminate public information on viable alternative fuel and energy options, including conservation and energy efficiency.

A.13 Consumer Awareness and Education

82. The Ministry of Enterprise, Opportunity and Innovation and the Ministry of Environment and Energy shall establish a program with Ontario-based manufacturers and distributors of alternative fuel/energy products to increase public awareness of technologies and applications.

83. Government and industry shall launch energy efficiency and conservation information programs directed at specific sectors of the economy. Performance evaluations should be employed to measure the effectiveness of these programs.

84. The Ontario government, in partnership with the federal government and key stakeholders, shall prepare public information on assistance available to purchasers of alternative fuelled vehicles, and in concert with manufacturers, actively promote these programs. Enhanced consumer and public awareness about potential and uses of clean energy sources, including wind and solar power, should be encouraged.

85. The Ontario government shall update the elementary and secondary educational curriculum to include relevant content on alternative fuel and energy. Opportunities shall be pursued to establish coverage of alternative fuel/energy and related technologies in university, community college programs and in the trades, in cooperation with industry. Training on installation and repair services shall

also be covered. Appropriate use should be made of online educational resource and instructional methods.

86. The Ministry of Municipal Affairs and Housing, in cooperation with the Ontario Energy Research Institute, shall develop a curriculum and training program on a complete range of environmentally sustainable subjects relating to residential and commercial construction, with particular emphasis on new building regulations and environmental technologies.

87. Educational and research partnerships on alternative fuels/energy shall be established involving government, industry and post-secondary educational institutions.

88. The Ontario government shall fund centre(s) of excellence within the public post-secondary system for all aspects of alternative fuels/energy research and development, including manufacturing, and sales and service. Wind energy, solar energy, biomass and hydrogen/fuel cells are considered to be promising areas for research and potential partnerships between the education sector, government and industry.

B. Specific Alternative Fuel/Energy Sources and Technologies

B.1 Water Power

89. The Ministry of Natural Resources, along with pertinent stakeholder groups, shall undertake an assessment of the available waterpower potential in Ontario within 12 months. The analysis should assess potential upgrades of existing hydraulic stations, as well as the potential of undeveloped water power sites.

90. Using a watershed-based planning approach, priority shall be given to hydraulic upgrades and modifications that increase the waterpower potential of existing generating facilities or other water control structures. Hydraulic power upgrades should conform with run-of-the river hydraulic design principles. Requests for proposals should be issued by the Ministries of Environment and Energy and Natural Resources for the development of priority undeveloped waterpower sites within 12 months.

91. Hydro One and/or successor transmission company(ies) shall investigate transmission grid extensions or upgrades to enable the connection of existing or new hydraulic generating stations and report back within 12 months.

92. The Ontario government shall assess incentives to encourage upgrading of existing hydraulic generation sites or other existing water control structures with undeveloped water power potential. All feasible upgrades and renovations shall receive accelerated approval by July 1, 2004. Such upgrades shall receive complete property tax relief for five years.

93. New hydraulic power capacity in Ontario shall be recognized by the Ontario government as new renewable power. All of this new capacity should be assigned to displace existing coal-fired generation.

94. The Ministry of Natural Resources shall assess wind energy potential in the vicinity of hydraulic generation sites at remote locations to determine whether windfarms may be developed at these locations to power pump storage facilities.

95. The Ministries of Environment and Energy and Natural Resources shall designate the Beck 3 generating site as a priority for development. The output of the Beck 3 project shall be recognized as renewable power.

96. The Ministry of Northern Development, in conjunction with stakeholders, shall expand capital support for small-scale hydraulic developments in remote communities.

B.2 Wind Power

97. The Ontario government shall respond to the recommendations of the Ontario Wind Power Task Force by December 31, 2002.

98. The Ministry of Natural Resources, in conjunction with stakeholder groups, shall assess priority sites for wind power development on Crown land. Proposals for development should then be considered by December 31, 2002.

99. The Ministries of Environment and Energy and Natural Resources shall develop a standardized policy for wind energy development sites on Crown land by December 31, 2002.

100. The Ministries of Finance and Natural Resources shall develop a resource revenue policy for new wind farm developments on Crown land by December 31, 2002.

101. The Ministry of Finance shall match the Federal wind power production incentive for new wind power projects. Consideration shall also be given to expanding this incentive to a similar incentive for new solar, biomass and small hydraulic projects within Ontario.

102. The Ministry of Municipal Affairs and Housing shall amend the *Planning Act* by December 31, 2002 to apply a provincial standard to zoning for windfarms/wind turbines and solar energy systems to make them immune from local municipal prohibition, and thereby allowed across Ontario 'as of right.' Municipalities shall be allowed to specify reasonable conditions, such as spacing of turbine units or siting of solar panels, as part of site plan approval.

103. The Ontario government, in cooperation with their federal counterparts, First Nations and remote communities, shall assess the renewable energy potential, including wind, solar and biomass in the vicinity of remote communities by July 1, 2003.

104. The Ministry of Environment and Energy, under the *Environmental Assessment Act*, shall develop a standardized environmental assessment process for windfarm proposals, and other emerging renewable energy sources by December 31, 2002.

105. The Ontario government, in association with the federal government, shall compile and make available comprehensive GIS (geographic information systems) wind energy data on a cost recovery basis to wind power developers, and other stakeholders by December 31, 2002.

106. The Ontario government and the wind industry shall prepare a public information package on wind turbine technology and its applications by December 31, 2002.

B.3 Solar Power

107. The Ontario government shall establish a 3-year program to provide a rebate of up to 25% of the purchase price, up to a set maximum, for the installation of solar panels on up to 100,000 homes including new, existing and multi-family dwellings, across Ontario. The program will be monitored by the Ontario government to ensure that solar panels continue to be offered at competitive rates.

108. The Ontario government, in association with the federal government, shall compile and make available comprehensive GIS (geographic information systems) insolation data on a cost recovery basis to solar power developers, and other stakeholders by December 31, 2002.

109. Local electricity distribution companies across Ontario should consider 'pilot' programs to promote solar PV installations. Photovoltaic installations should be considered at electricity distribution facilities and on private, commercial, institutional, industrial, and residential dwellings.

B.4 Transportation Fuels, Vehicles and Engines

110. The Ontario government shall work with stakeholders including agricultural producers, the petroleum industry and federal representatives, to assess the potential to expand ethanol and biodiesel production and availability in Ontario by July 1, 2003.

111. The Ministries of Environment and Energy; Enterprise, Opportunity and Innovation, and their federal counterparts, shall work with the renewable fuels and petroleum industries to establish a low-level ethanol content requirements for 'on road' gasoline in Ontario.

112. The Ontario government, in cooperation with industry, shall work to establish a province-wide network of ethanol-based fuelling stations along major provincial highways as soon as possible. For general usage, E10 (10%) ethanol mixture gasoline should be readily available, fleet uses require E85 (85%) ethanol mixture gasoline.

113. Ontario shall adopt the Auto Makers' Choice Gasoline specification by December 31, 2003. As an incentive, the provincial gasoline tax shall be reduced by two cents per litre on all 'clean' gas sold, defined to include gasoline meeting the Auto Makers' Choice or equivalent specification, and gasoline with at least 10% ethanol content. Any retailer not vending gasoline which meets the defined specifications by that date will be required to pay an additional five cents per litre "pollution tax," thereby creating a considerable price spread between the "dirtiest" and "cleanest" grades of gasoline.

114. By July 1, 2006, all diesel sold in Ontario must either be biodiesel, contain ethanol or an additive package, or a combination thereof, and be formulated to meet the shall adopt a renewable fuel standard specifying that 6% of fuels by volume should be from renewable sources by 2010.toughest fuel standards in North America.

115. Ontario shall adopt a renewable fuel standard specifying that 6% by volume of all transportation fuels should be from renewable sources by July 1, 2010.

116. The Ministry of Finance shall exempt biodiesel, hydrogen as a fuel, and hydrogen fuel cells for use in Ontario from provincial fuel, sales, and retail taxes. The Ministry shall also assess the cost of exempting other fuel additives that enhance fuel efficiency and emissions performance by December 31, 2002.

117. The Ministry of Environment and Energy, through the Drive Clean program and in cooperation with Environment Canada, should assess the emissions associated with expanded ethanol based fuel and biofuels use in Ontario. A database on the emissions characteristics of alternative fuels use should be developed.

118. The Ministry of Environment and Energy shall not require hybrid vehicles to undergo Drive Clean inspections for six years, and electric and hydrogen/fuel cell vehicles shall be exempt from Drive Clean.

119. Provincial sales and fuel tax incentives should be equitably applied to all alternative-fuelled vehicles, whether original equipment manufactured, or converted to alternative fuel use.

120. The Ontario government shall expand retail sales tax incentives for selected alternative-fuelled vehicles including all motorized two-wheeled and four-wheeled (or more) vehicles, for 'on road' or 'off road' use, as follows: natural gas vehicles will have the sales tax reduced to 6%; hybrid vehicles reduced to 4%; and all electric vehicles and fuel cell vehicles reduced to 2% for a period of no less than five years. There shall be an additional $2000 grant for pure hydrogen cars/trucks/off-road vehicles up to 25% of the value of the vehicle.

121. Ontario retail, fuel, and sales tax policy shall be coordinated with taxation policies of the federal government to encourage alternative fuel and vehicle use. Due to changes in motor vehicle aerodynamics, the Ontario government, in

cooperation with the federal government, shall assess the removal of the $100 tax on air conditioners in motor vehicles imposed under the federal *Excise Tax Act*.

122. The Ontario government shall require all railroads operating in Ontario to utilize "clean" diesel according to the following schedule: 'road grade' diesel by January 1, 2004 and diesel-ethanol (or diesel with similar technical specifications) by January 1, 2005. The Ontario government shall offer significant assessment relief (set at a fixed rate per kilometre below the current average rate) for any rail system that completely converts to hydrogen fuel cell motive power. All locomotives must be converted to hydrogen by January 1, 2015.

123. Due to the high air emission characteristics of older 2-cycle engines, only the latest technology (fuel injected, catalytic converter equipped or equivalent) 2-cycle engines shall be offered for sale in new mobile applications (snowmobiles, all-terrain vehicles, propelled mowers, etc.) within Ontario effective July 1, 2004; and marine engines by July 1, 2006; and in new portable equipment (mowers, trimmers, blowers and other landscaping equipment, chainsaws and cutters, etc.) effective July 1, 2007. The Ministry of Environment and Energy shall monitor pertinent air emission and technical requirements developed by the U.S. Environmental Protection Agency, California Environmental Protection Agency, and other leading North American jurisdictions to ensure that Ontario's requirements match, or exceed, these standards. The Ministry of Environment and Energy, in cooperation with manufacturers, major retailers, marinas, dealers and other stakeholders, shall develop financial and other incentive programs to encourage the retirement of older engines, as well as an outreach, education, and labelling program to promote this transition to clean technologies.

124. The Ontario government shall establish a program that matches, up to a maximum of $500, financial incentives provided by motor vehicle manufacturers or retailers to encourage the retirement of 1987 model year and older automobiles and light trucks.

125. In the formulation of Ontario alternative fuels and vehicle policy, provision shall be made for appropriate exemptions to accommodate major classes of vehicles, equipment, or engines that cannot operate on mandated alternative fuels. Consideration should be given to phasing-in the introduction of alternative fuels/engine requirements for new vehicles, equipment and engines used in Ontario in these cases.

B.5 Fuel Cells and Hydrogen

126. The Ontario government shall join and actively participate in the Canadian Fuel Cell Alliance.

127. The Ontario government shall, under the auspices of the Ontario Energy Research Institute (proposed in recommendation #3), take an active role in public-private partnerships to promote research in the application of fuel cell technology in motor vehicles, including railway locomotives, and in stationary applications within Ontario by July 1, 2003.

128. The Ontario government shall undertake a public-private partnership in conjunction with bus and fuel cell manufacturers, and transit and motor coach operators, to operate fuel cell powered buses in Ontario. As part of the requirement to move to 100% clean technologies outlined in recommendation 73, a 25% capital grant for the term of five years shall be offered to municipalities for the purchase of hydrogen-powered buses.

129. The Ontario government shall establish a program to rapidly acquire and test a number of hydrogen powered light and heavy-duty vehicles for the government fleet. Provisions should be made for government to share in any commercially viable modifications that result from such tests.

130. Management Board shall establish a program to install and test stationary fuel cells in public institutions and buildings. Provision should be made for government to share in any commercially viable modifications that result from such tests.

131. The Ontario Energy Board and Independent Electricity Market Operator shall ensure that there are no barriers to the connection of stacked fuel cells to the power grid as outlined in recommendations 19 and 23.

132. The Ontario government shall ensure that commercially available fuel cell vehicles and power sources are offered appropriate incentives *or* exemptions under the Ontario *Retail Sales Tax Act.*

133. The Ontario government shall undertake an assessment of the long-term potential of using off-peak nuclear power for the production of hydrogen in Ontario and report its findings by December 31, 2002.

B.6 Biomass Fuel/Energy

134. The Ontario government, in conjunction with stakeholders, shall examine opportunities for increased landfill gas collection and use from existing or abandoned landfill sites.

Biomass-derived Power

135. The Ontario government, in association with the agricultural industry including livestock producers, shall commit to a demonstration program for the collection and use of livestock-derived biogas as a power source by December 31, 2002.

136. The Ontario government, in conjunction with the agricultural industry, shall assess opportunities to make use of energy crops, such as switchgrass and crop wastes, for fuel or power generation in Ontario.

137. The Ontario government, in cooperation with the forest industry, shall assess opportunities to make greater use of wood wastes for heat or power production.

138. The Ministry of Environment and Energy, the Ontario Energy Board and the Independent Electricity Market Operator shall review policies to facilitate the connection and supply of biomass-derived power sources into the transmission grid.

139. The Ministry of Finance shall establish a financial incentive program that provides tax benefits to producers who install and utilize technologies that enhance the use of biomass fuel/energy in industrial operations by December 31, 2002.

Other Energy Sources

140. The Ministry of Environment and Energy in conjunction with affected municipalities, shall investigate the technical merits of deep lake water cooling for Thunder Bay and other Lake Superior communities. The Ministry and other lakefront municipalities across Ontario should assess other opportunities to utilize deep lake water cooling technology.

B.8 Commitment and Funding

141. The Ontario government should establish an appropriate commitment to and funding support for the recommendations of the *Final Report* of the Select Committee on Alternative Fuel Sources within the time frames put forward in the *Report.*

news releases

NEWS RELEASE

13 November, 2002

EVES GOVERNMENT TAKES ACTION TO PROMOTE GREEN ENERGY, ALTERNATIVE FUELS AND CONSERVATION

OAKVILLE — John Baird, Minister of Energy, and Steve Gilchrist, Commissioner of Alternative Energy, today announced further details of the government's action plan to lower hydro bills. The government is taking decisive and immediate action to promote conservation, encourage alternative fuels and support clean energy production.

"Our Government will make sound investments and offer strategic support to make clean energy cheaper and affordable for everyone," said Baird. "We think that this is the responsible approach instead of imposing expensive clean-energy strategies on consumers as some have proposed."

The Government's plan includes the following, some of which will require legislative approval:

- Through conservation initiatives the Government proposes to reduce electricity consumed in its own operations by 10 per cent. We challenge all consumers to match this reduction.
- We also believe that it is important that we make a commitment to purchase "green electricity". To show the Province's leadership we will target 20 per cent of the provincial government's electricity usage from renewable sources. We challenge all electricity consumers to take advantage of opportunities to buy "green power".
- We commit to the goal of ensuring that every newly constructed government and other institutional buildings are energy self-sufficient using alternative or clean sources of energy. We will start now in order to achieve this objective within a reasonable time frame.
- We are establishing a Centre of Excellence for Alternative Energy, jointly located at Queen's University and The University of Toronto. Its goal will be to make Ontario the leading North American jurisdiction for research and development of clean energy technologies.
- The Ministry of Energy will launch a public education campaign that shows electricity consumers how to reduce their consumption and thereby their electricity bills.
- We will support measures that allow residential and small commercial customers to take initiatives to conserve energy and achieve more efficient use of energy supply.
- We propose to encourage large consumers to take advantage of the electricity cost savings available through such initiatives as retrofitting commercial buildings.
- In recognition of the need to encourage the conservation of our valuable resources the government proposes to enhance the corporate income tax treatment of expenditures made by businesses to conserve electricity. Legislation will be introduced to allow new investments in qualifying electrical energy efficient equipment to be eligible for a 100 per cent write-off in the year of acquisition.
- We propose to allow individuals to claim a tax credit for the cost of solar panels. We urge the federal government to follow suit. Our goal is to convert 100,000 homes to solar power within five years.
- We believe that every new home should have the opportunity to take advantage of interval meters. We propose that all local hydro companies should be required to offer this service. The Commissioner of Alternative Energy will begin discussions with the Electricity Distributors Association and the Home Builders Association on this proposal.
- We propose that the Ontario Energy Board be given an additional mandate: ensuring local

electricity distributors reward and encourage consumers who conserve power (i.e. demand side management).

- We plan to support the marketing of "green power" by creating an electronic information system that will provide generators with a transferable electronic certificate showing the environmental characteristics of each megawatt hour of generation.
- Yesterday, we proposed that the threshold for the environmental assessment exemption for clean generation be raised to 100 MW. We will be directing the Red Tape Commission to work with relevant ministries to eliminate any red tape that acts as a barrier to the development of clean generation.
- We propose to move towards using wind power to provide electricity to First Nations and other remote communities currently using diesel generation. We are seeking Federal commitment for this initiative and will work with First Nations towards this goal.
- The Ministries of Energy, Education and Training, Colleges and Universities will work together to have our schools place greater emphasis on training in alternative fuels and energy conservation.

"We believe that any plan to ensure a stable long-term supply of electricity at reasonable prices must also be a responsible plan," said Gilchrist. "The steps we are announcing today acknowledge our responsibility to future generations — to protect the environment and to promote sustainable development."

- 30 -

Contacts:

Dan Miles
Minister's Office
(416) 327-3373
(416) 330-1731 (pager)

Backgrounder(s):
ENCOURAGING ENERGY CONSERVATION, CLEAN ELECTRICITY AND ALTERNATIVE POWER
