

A PETITION TO THE AUDITOR GENERAL OF CANADA

pursuant to s. 21.1 of the *Auditor General Act*

respecting

Reforming Laws and Policies to promote Property Assessed Payments for Energy Retrofits and other related measures aimed at encouraging sustainability and community economic development, protecting human health and fighting climate change.

for the Ministers of Finance, Environment, Natural Resources, and Public Works and Government Services),

March 1, 2012

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A. PETITION SUMMARY

We are requesting a review pursuant to s. 21.1 of the Auditor General Act (AGA) in order to facilitate the use of Local Improvement Charges enabling Property Assessed Payments for Energy Retrofits, and other related measures, to:

- address climate change mitigation and adaptation challenges
- promote energy efficiency and health in residential properties
- provide an economic stimulus
- save tax dollars and increase federal tax revenues through job creation
- provide a better world for future generations.

We also are requesting the following policy and legal reforms to current federal energy conservation programs in all jurisdictions in Canada of: Finance, the Environment, Public Works and Government Services, and other departments as appropriate, as follows:

1. A review of existing policies, legislation, regulation and/or technical guidance relating to the use of Local Improvement Charges (LICs) to enable their use for Property Assessed Payments for Energy Retrofits on private properties - in particular, single family dwellings - on a cost-neutral (or slightly revenue-positive) basis to municipalities.

The arguments and underlying rationales for our proposed reforms stem in major part from three 2011 reports by Sonja Persram of Sustainable Alternatives Consulting Inc.:

- 1) *Property Assessed Payments for Energy Retrofits: Recommendations for Regulatory Change and Optimal Program Features*
- 2) *Property Assessed Payments for Energy Retrofits and Other Financing Options,*
- 3) *Strategic Recommendations for an Optimal “PAPER” Program*

These reports together provided an analysis of the barriers to energy retrofits, a comparison of LICs and other financing mechanisms regarding their appropriateness in funding energy improvements on private properties, rationales for municipal engagement in this activity, the roles of higher level governments and other stakeholders, regulatory changes that would be required, and strategic implementation recommendations for an optimal program. This use of LICs is called *Property Assessed Payments for Energy Retrofits*, or “PAPER.”

Additional prior and subsequent Canadian and US validation for the PAPER concept is also noted in the supporting material of the petition.

2. We further are requesting federal support from the petitioned departments for a PAPER program based on the following:

- a. A collaboration with provincial, municipal, non-government, etc. stakeholders to develop PAPER programs including providing appropriate technical assistance to enable optimal energy savings per dollar spent
- b. Low interest financing; loan loss reserves based on expected defaults; and support for addressing the scalability of energy savings guarantees for the residential sector
- c. Providing incentives like energy efficiency income tax credits

We believe a comprehensive review of the application and expansion of Local Improvement Charges represents a singular and vital opportunity for all levels of government in Canada, and would be consistent with the federal government's stated policies of supporting energy conservation and environmental protection. We look forward to responses from your departments to this application and welcome the opportunity to make Powerpoint presentations to you and your staff on the tremendous benefits that a fully developed LIC program could provide to Canadians. We also would be honoured to participate in any consultations that the affected departments might undertake on the issues described in this petition should the federal Cabinet decide to move forward on the initiatives described.

This petition is directed primarily at the following departments:

Minister of Finance
 Minister of the Environment
 Minister of Natural Resources

Minister of Public Works and
 Government Services

WE PETITION THE COMMISSIONER FOR THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT TO REQUEST THAT THE MINISTERS NAMED BELOW RESPOND TO THE FOLLOWING QUESTIONS AND ISSUES.

REQUESTS TO MINISTERS

The Hon. Jim Flaherty, Minister of Finance, the Hon. Peter Kent, Minister of the Environment, the Hon. Joe Oliver, Minister of Natural Resources, and the Hon. Rona Ambrose, Minister of Public Works and Government Services, to state their departments' positions on:

- a. Supporting a collaboration with provincial, municipal, non-government, etc. stakeholders to develop *Property Assessed Payments for Energy Retrofits* (PAPER) programs using LICs for energy retrofit financing.
- b. The associated public benefits of PAPER programs.
- c. Including within the upcoming budget, the provision of collaboration and technical support for PAPER programs, as well as low-interest startup financing, loan loss reserves and energy efficiency income tax credits, in recognition of the budgetary benefits arising from the economic stimulus associated with these programs (which

include increased direct, indirect and induced jobs, and resulting reduced unemployment expenses and increased income tax revenues).

d. The use of Mirror Laws for PAPER.

Conclusion

The above information supports the Applicants' petition request for reviews of existing policies, legislation, regulation and/or technical guidance relating to the uses of Local Improvement Charges pursuant to the AGA to enable their use for Property Assessed Payments for Energy Retrofits on private properties, in particular, single family dwellings.

B. Introduction

S. 21.1 of the *Auditor General Act* provides that:

The purpose of the Commissioner is to provide sustainable development monitoring and reporting on the progress of category I departments towards sustainable development, which is a continually evolving concept based on the integration of social, economic and environmental concerns, and *which may be achieved by, among other things,*

- (a) **the integration of the environment and the economy;**
- (b) **protecting the health of Canadians;**
- (c) protecting ecosystems;
- (d) **meeting international obligations;**
- (e) promoting equity;
- (f) **an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options;**
- (g) preventing pollution; and
- (h) **respect for nature and the needs of future generations.** (Emphasis added)

We believe that the federal departments should undertake this review of federal laws and policies because:

Local Improvement Charges and Property Assessed Payments for Energy Retrofits

Local Improvement Charges are a key method by which the federal government could leverage substantial public benefit by facilitating the municipal financing of energy retrofits. Using a simplified, amended instrument, a collaboration among all government levels would enable municipal governments via an energy retrofits financing program to contribute to achieving federal targets for reductions in energy use and greenhouse gas emissions while providing an economic stimulus and multiple benefits to federal budgets. Given anticipated value differentiation for green and energy efficient homes and buildings over conventional ones, as the federal government would be assisting in protecting homeowners' property values and vulnerability to rising and volatile energy prices. This initiative would also benefit current and future generations by protecting the environment and reducing energy use and greenhouse gas emissions on a mass scale.

The federal government would benefit through savings on unemployment insurance costs, and the Consolidated Revenue Fund could also benefit from increased income tax revenues arising from the economic stimulus. All of the above would comprise public benefits.

We believe that there are significant policy and technical support deficiencies that currently limit the ability of municipalities to facilitate local improvements on a cost-

neutral basis, and which therefore curtails federal government benefits from this economic stimulus potential.

The arguments and underlying rationales for our proposed reforms stem in major part from three 2011 reports prepared as part of a project funded by the Ontario Trillium Foundation. These reports together provided an analysis of the barriers to energy retrofits, a comparison of LICs and other financing mechanisms regarding their appropriateness in funding energy improvements on private properties, rationales for municipal engagement in this activity, the roles of higher level governments and other stakeholders, regulatory changes that would be required, and strategic implementation recommendations for an optimal program. This use of LICs is called Property Assessed Payments for Energy Retrofits, or “PAPER.”

Additional prior and subsequent Canadian and US validation for the PAPER concept is also noted in the support material.

Canadian authorization of LICs for this purpose originated in Yukon Territory in 1998 for solar photovoltaic installations in outlying regions and now includes other standalone renewables providing much-needed, off-grid electricity service for rural: residential, small-load commercial, and other non-industrial property.¹

Authority was also enabled recently for solar thermal installations in Halifax Regional Municipality via the province of Nova Scotia’s charter change which will provide substantial savings on residents’ utility bills. The City of Windsor recently passed a resolution requesting regulatory change in support of a PAPER program, and King Township passed a resolution in support of a recent request for review of the Environmental Bill of Rights in favour of using LICs for energy improvements on private property.

Programs using a similar financing mechanism called “Property Assessed Clean Energy” (PACE) in the US receive bi-partisan support in the 27 states with legislative authority, because of their enormous benefits, including significant job creation potential; contributing to \$3,500 in federal tax income and, \$2,400 in state and local tax income as well as \$55,400 additional economic gains per home with a \$21,000 project; lender risk reduction; and achievement of energy and greenhouse reduction targets.² Residential PACE includes a stellar program called *Long Island Green Homes* which has financed over 600 energy efficiency retrofits thus far and provides homeowners with almost twice as much annual savings on their energy bills as their annual retrofit repayments while making their homes more affordable.³ Mortgage default rates in homes with PACE financing has also been found to be one-thirtieth that of local, non-PACE homes. Development of commercial PACE programs is also growing, enabling similar benefits including achievement of significant reductions in energy use and greenhouse gas emissions.

In a Property Assessed Payments for Energy Retrofits program, municipalities would be able to utilize LICs to facilitate energy retrofit programs at a net zero program cost. They

would assess energy retrofit financing costs plus program administrative expenses against the benefiting private properties whose owners opt-in to the energy retrofits program. Like LICs, repayments would be on the property tax bill, with recourse being that any defaulted payments would be subject to encumbrance via a priority lien. The goal would be to structure the measures financed to be based on optimal energy savings via recommendations from energy evaluations, and so that the annual savings exceed annual investments. The priority lien provides a measure of security for investors enabling lower interest rates.

Another useful mechanism in use and in development elsewhere in Canada is utility-based on-bill financing – described in the second, financing report. This mechanism could potentially harmonize with an LIC program, but as of June 2011, major Ontario gas and hydro utilities had not been considering implementing on-bill financing. Furthermore, in Ontario, large-scale utility on-bill financing of energy retrofits would be complicated by the multiple LDCs and gas utilities. And, according to BC's Ministry of Energy, Mines and Responsible for Housing, their new Pay As You Save program providing on-bill, utility financing apparently does not preclude developing a dovetailed Local Improvement Charges program.

We believe that the federal Departments and Agencies should undertake this review to protect municipalities' rights to facilitate energy retrofit financing and enhance residents' quality of life because it addresses the following barriers:

- Home owners often plan to move before they believe they will recoup their investment in energy improvements (for instance, this likely would be a factor in members of the military who move domicile approximately every two years). This mitigates the business case for homeowner investment in costly energy improvements that would reduce energy use and greenhouse gas emissions. PAPER would allow any financing balance to be continued to be repaid by a new owner on sale of the property.
- Low interest loans need to be available on an equitable basis, particularly in the current scenario of rising and volatile energy prices. However, the private sector tends to provide lower interest rates to people with higher income levels. Having security would enable banks to finance municipalities in a PAPER program at lower interest rates, which would be passed on to the owners.
- Owners may have competing uses for their available cash or financing, and may not want to add to their debt load. LICs (and PAPER) would provide dedicated financing that is not reflected on owners' personal debt totals since it is associated with the property. This was a major benefit in the US Long Island Green Homes initiative.
- Private sector lenders are not focused on optimizing energy savings per dollar spent, but on the ability to repay. Owners have knowledge gaps about the kinds of measures that would result in optimal energy savings, and tend to focus on (for example) window replacements – which have a long payback period. On a mass scale, money spent on such retrofits would not leverage optimal reductions in energy use and GHG emissions to help

achieve municipalities' – and federal – targets. This mechanism would allow the private sector to participate in energy retrofit financing at a more affordable scale.

In a PAPER program, municipalities would have control over the measures financed and therefore over the attainment of targets. The focus would be on financing (non-portable) energy efficiency measures that would result in a net annual savings on homeowners' energy bills from the first year.

- Private sector (or most utility-based) financing allows a maximum five year term – and therefore, predictability of interest rate. This makes it less affordable for homeowners for whom the payments would exceed energy bill savings. Market research conducted in 2010 for the City of Toronto on this mechanism found that 82 per cent of homeowners financed their energy retrofits with cash or savings. Of homeowners who conducted energy improvements in the previous 5 years, about one-half had spent \$5,000 or less. And, of homeowners who did not do all of the energy improvements recommended from an energy assessment, 66 per cent (57 per cent of all homeowners) had found them too expensive. Affordability and available financing also limits the level of energy savings and GHG emission reductions that could be achieved with the energy improvements.

A PAPER program would allow for longer financing periods (e.g. 10-20 years) at a fixed interest rate, as this is a feature of LICs. It also would allow closer matching of the financing term with the useful life of the asset. Mortgage re-financing could fold in energy retrofit financing however the interest rate is not predictable beyond a 5-year duration and this makes payback difficult to calculate. Moreover, LIC-based financing, with the added security afforded by a priority lien in case of default, allows investors to finance municipalities at much lower interest rates, which would be passed on to homeowners. 42 per cent of homeowners in the City of Toronto's market research said they would be interested in purchasing an energy efficient home with an outstanding energy efficiency loan, lower monthly bills and higher resale value.

- Non-turnkey programs require homeowners to hire and oversee workers and work, for which they may not feel sufficiently experienced or knowledgeable. A municipally-facilitated PAPER program could allow turnkey, neighbourhood-scale retrofits, and provide a level of quality assurance which could result in as much as 30 per cent cost savings arising from economies of scale compared to other programs. These savings would be shared between the municipality and the homeowner.

As well, when municipalities obtain financing for LICs via general obligation bonds these funds are adjusted from municipal debt totals due to the income stream.

Since most of the research has been related to single family dwellings, and the institutional, commercial and industrial as well as multi-unit residential building sectors have different characteristics, requirements and challenges, we have requested of one provincial government⁴ a three-phase approach in order to:

1. Implement regulatory change for Local Improvement Charges to enable LICs to be used for energy retrofits on single-family residential properties immediately by municipalities (all tiers).
2. Regulate to allow LICs (or another financing mechanism with a priority lien) to be used for property assessed payments for energy retrofits in other sectors. This would require time to conduct research to:
 - a. Assess the applicability of this mechanism for and confirm optimal changes needed regarding energy retrofits to the small business, multi-unit residential building and commercial/industrial sectors.
 - b. Ascertain the applicability of this mechanism for financing municipal infrastructure energy improvements in municipally-owned homes and buildings that are rented, and determine what changes would be needed for these purposes. Since municipal owner-occupied properties would not be subject to rent or payments in lieu of taxes, it may be appropriate to determine the suitability of the mechanism in this separate case as well.
 - c. Ascertain the applicability of this mechanism for financing institutional infrastructure energy improvements. [Some properties make payments in lieu of taxes which are current-value assessment based. Others like universities and hospitals make “heads and beds” payments (based on enrollments and the number of available beds respectively).]
 - d. Ascertain the applicability of this mechanism for district energy systems.
3. Create the opportunity for developing a Canada-wide PAPER program for one or more sectors.

Items 1, 2 a) and 3 would mirror the introduction of regulatory / legislative changes in other jurisdictions, such as the State of California. (In some California programs, both homes and commercial properties could participate. In the case of Berkeley, the program was offered to both but taken up only by homeowners. The Long Island Green Homes initiative served only homes.)

C. Actions needed

The general legal and policy changes that are required to implement Property Assessed Payments for Energy Retrofits for private homes are summarized below:

- 1) Recognize the public benefit of the private property energy improvements. PAPER-like programs in the US were criticized on the grounds that the municipal programs’ activities on private property were not deemed a public benefit – despite the benefits to all levels of government including to federal government budgets – and therefore, to taxpayers; and the resulting energy savings and greenhouse gas emission reductions.

- 2) Contribute to a collaboration with provincial, municipal, non-government, etc. stakeholders to develop PAPER programs including providing appropriate technical assistance to enable optimal energy savings per dollar spent.
- 3) Include within the upcoming budget, the provision to PAPER programs of collaboration and technical support, low-interest financing, loan loss reserves based on expected program defaults, and energy efficiency income tax credits in recognition of the federal budgetary benefits arising from these programs (including direct, indirect and induced jobs producing reduced unemployment expenses and increased income tax revenues).
- 4) Contribute support for research to assess the applicability of this mechanism for and confirm optimal changes needed regarding property assessed payments for energy retrofits of other sectors.
- 5) Contribute to developing a Canada-wide PAPER program for one or more sectors.
- 6) Contribute support for federal provision of mirror legislation for provinces and territories, to help provide clear authority to municipalities for utilizing Local Improvement Charges to finance Property Assessed Payments for Energy Retrofits on private, single family residential properties.

D. Value differential between energy efficient and green homes compared to conventional ones

There is an anticipated value differential between energy efficient and green homes compared to conventional ones due to a home appraisal addendum recently introduced by the US Appraisal Institute with sample guidance to be published in the March 2012 issue of the Appraisal Journal. Commercial case studies and a course are also expected soon from the US Appraisal Institute, with an eventual impact on Canadian appraisals of both homes and buildings anticipated in the future.

Consequently, as value impacts property taxes, homeowners looking ahead may find challenges to today's business case for home energy retrofits due to an anticipated, associated property tax increment. Given that energy retrofits uptake would be expected to positively impact federal budgets, uptake could be facilitated by providing federal tax credits for homes with an enhanced energy efficiency rating in an economic stimulus similar to the successful home renovation tax credit.

E. The Urgent Challenge of Climate Change

It has been argued that "Climate change is one of the most significant environmental challenges the world has ever faced. We are already seeing the effects of climate change in Canada. The potential impacts on our health, economy and environment require us to take action."⁵

In commenting on Canada's environmental performance in 2004, the Organization for Economic Cooperation (OECD) noted:

The high priority [Canada] gives to climate change is based on the widely shared public perception that vital national interests are at stake, given the potentially adverse effects of inaction on, for example, coastal cities and wetlands, commercial agriculture and the viability of forestry, Arctic culture, and ocean circulation patterns and other global life support systems.⁶

The United Nations Intergovernmental Panel on Climate Change (IPCC) in commenting on the rise in GHG emissions noted that:

[t]he amount of carbon dioxide, for example, has increased by more than 30% since pre-industrial times and is still increasing at an unprecedented rate of on average 0.4% per year, mainly due to the combustion of fossil fuels and deforestation. We know that this increase is anthropogenic...⁷

F. Are Mirror Laws Part of the Solution?

One of the most important conundrums related to preventing and controlling environmental problems is the lack of a coherent constitutional framework to regulate trade and economic activities and promote national policy development.

One of the most effective ways to respond to the coordination problems posed by the Canadian Constitution is the passage of mirror laws based on a shared understanding of what needs to be done. Thus, if a consensus can be developed about what is required our federal, provincial, territorial, aboriginal and municipal governments, it should be possible, at least in theory, to sit down with other stakeholders and develop a coherent policy and process framework within current constitutional framework. This obviates the need to re-open the Canadian Constitution, an untimely proposition during the next four years of a Conservative Majority government.

Key Precedents for Mirror Laws in Canada

There are a number of key precedents for mirror laws in Canada, including:

- Canadian Environmental Protection Act, 1999
- Species at Risk Act, 2003
- Transportation of Dangerous Goods Act, 1984
- Workplace Hazardous Waste Information System, 1986

Mirror laws provide an opportunity for our federal, provincial, territorial, aboriginal and municipal governments to sit down with other stakeholders and develop a coherent policy and process framework within current constitutional framework. Developed properly, the framework can arguably provide a chance to ensure that important public policy goals are

achieved. Without doubt mirror laws are an effective and proven way to address gaps and overlaps in the Canadian constitutional framework.

G. REQUESTS TO MINISTERS

WE PETITION THE COMMISSIONER FOR THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT TO REQUEST THAT THE MINISTERS NAMED BELOW RESPOND TO THE FOLLOWING QUESTIONS AND ISSUES.

The Hon. Jim Flaherty, Minister of Finance, the Hon. Peter Kent, Minister of the Environment, the Hon. Joe Oliver, Minister of Natural Resources, and the Hon. Rona Ambrose, Minister of Public Works and Government Services, to state their departments' positions on:

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- c. Including within the upcoming budget, the provision of collaboration and technical support for PAPER programs, as well as low-interest startup financing, loan loss reserves and energy efficiency income tax credits, in recognition of the budgetary benefits arising from the economic stimulus associated with these programs (which include increased direct, indirect and induced jobs, and resulting reduced unemployment expenses and increased income tax revenues).
- d. The use of Mirror Laws for PAPER.

CONCLUSION

The above information supports the Applicants' petition request for reviews of existing policies, legislation, regulation and/or technical guidance relating to the uses of Local Improvement Charges pursuant to the AGA to enable their use for Property Assessed Payments for Energy Retrofits on private properties, in particular, single family dwellings.

H. Signature & Addresses of Petitioners

Bill Johnston

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Author, 3 Reports on *Property Assessed Payments for Energy Retrofits*

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Cc: Mr. Gary McNamara,
President, Association of Municipalities of Ontario &
Mayor, Town of Tecumseh

Mr. Brock Carlton, Chief Executive Officer,
Federation of Canadian Municipalities

I. List of Supporting Materials

Halifax Regional Municipality Charter change to use LICs for energy retrofits:

Province of Nova Scotia, *Bill No. 112 as passed*, regarding the Halifax Regional Municipality: http://nslegislature.ca/legc/bills/61st_2nd/3rd_read/b112.htm

Councils' Resolutions and letters of support for PAPER:

The City of Guelph, letter of support: http://www.sustainable-alternatives.ca/City_of_Guelph_Letter_of_Support_PAPER.pdf

The City of Windsor Resolution, *Council Minutes, October 17, 2011*, http://www.citywindsor.ca/cityhall/City-Council-Meetings/Documents/Council_Minutes/2011/October%2017,%202011.pdf

The Township of King, letter of support (*Resolution was passed January 16, 2012*), http://www.sustainable-alternatives.ca/King_Township_Resolution_LICs_Financing_Energy_Retrofits.pdf

US PACE legislation:

Bipartisan support for a similar mechanism to property assessed payments for energy retrofits is evidenced by 27 States' legislation. See property assessed clean energy (PACE) under incentives on DSIRE (Database for State Incentives for Renewable Energy) website: www.dsireusa.org

PAPER Reports by Sonja Persram published in 2011:

Property-Assessed Payments for Energy Retrofits: Recommendations for Regulatory Change and Optimal Program Features
http://www.sustainable-alternatives.ca/PAPER_Persram_for_DSF.pdf

Property-Assessed Payments for Energy Retrofits and Other Financing Options.
http://www.sustainable-alternatives.ca/PAPER+_other_financing_options_-_Persram_for_DSF.pdf

Strategic Recommendations for an Optimal PAPER Program.
http://www.sustainable-alternatives.ca/Strategic_recommendations_for_an_optimal_PAPER_program.pdf

Request for review of Ontario Environmental Bill of Rights:

PAPER Supporters' Request for Review of the Ontario Environmental Bill of Rights:
http://www.sustainable-alternatives.ca/EBR_Review_PAPER_Jan_11_2012.pdf

Other resources including links on US mechanism similar to PAPER i.e. PACE:

Allen, G.; Persram, S.; Kani, M.; and Lester, S., Assessment of North American Property-Attached and Other Financing Programs For Low-Rise Residential Energy Retrofits, Final Report Prepared for the City of Toronto, Toronto Environment Office, December 2010

Appraisal Institute (US), *Residential Green and Energy Efficient Addendum*, regarding appraising green and energy efficient homes, 2011
http://www.appraisalinstitute.org/education/downloads/AI_82003_ReslGreenEnergyEffAddendum.pdf

Fuller, Merrian, *Enabling Investments in Energy Efficiency: A study of energy efficiency programs that reduce first-cost barriers in the residential sector*, Energy & Resources Group, UC Berkeley, prepared for California Institute for Energy and Environment, May 21, 2009
<http://wpui.wisc.edu/files/webcontent/reports/Residential%20Financing%20White%20Paper.pdf>

Home Performance Resource Center, *Best Practices for Residential Energy Retrofit Program Design: Financing Incentives and Recommendations*, March 2010
http://www.hprcenter.org/sites/default/files/ec_pro/hprcenter/best_practices_financing_and_incentives.pdf

LaScelles, Eric, *Canadian Mortgage Market Primer*, June 17, 2010
<http://www.td.com/document/PDF/economics/special/td-economics-special-el0610-cdn-mort-market-di.pdf>

Long Island Green Homes www.ligreenhomes.com

Morrison Park Advisors, *Tower Renewal Financing Options Report*, May 2010,
http://www.toronto.ca/city_manager/pdf/tr_financing_options_report.pdf

Natural Resources Defense Council, PACE Now, Renewable Funding, LLC and The Vote Solar Initiative, *Property Assessed Clean Energy (PACE) Programs White Paper: helping achieve environmental sustainability and energy independence, improving homeowner cash flow and credit profile, protecting mortgage lenders, and creating jobs*, May 2010, <http://www.renewfund.com/resources/resources>

PACENOW www.pacenow.org

Peters, Roger; Horne, Matt; and Heap, Nicholas, *Using Local Improvement Charges to Finance Building Energy Efficiency Improvements: A Concept Report*, Pembina Institute, May 1, 2004, <http://www.pembina.org/pub/170>

Peters, Roger; Whitmore, Johanne; and Horne, Matt: Using Local Improvement Charges to Finance Energy Efficiency Improvements: Applicability Across Canada, Pembina Institute, June 1, 2005 <http://www.pembina.org/pub/197>

Toronto Real Estate Board, *Letter of Support Re: Property Attached Payments for Energy Retrofits (PAPER) Financing Program*, March 25, 2011 http://www.sustainable-alternatives.ca/TREB_Letter_of_Support_PAPER.pdf

U.S. Department of Energy, *Guidelines for PACE Financing Programs*, May 7, 2010: http://www1.eere.energy.gov/wip/pdfs/arra_guidelines_for_pilot_pace_programs.pdf

Market and health-based research

Canadian Medical Association, *No Breathing Room: National Illness Costs of Air Pollution*, 2008, http://www.cma.ca/index.php/ci_id/86830/la_id/1.htm

City of Toronto Home Energy Financing Survey, Ipsos Reid, 2010 (full disclosure: with assistance from Sustainable Alternatives Consulting Inc. for survey development and results analysis)

Ipsos Reid Public Affairs, Green Home Improvement Program Qualitative Research Final Report, February 2009 for Climate Change Central

Sandhu, Parminder and Willis, Paul (Willis Environmental Services Ltd.) and Wang, Kitty, Mims, Natalie, and Bell, Mathius (Rocky Mountain Institute), Opportunity Assessment of Strategies to Increase Private Sector Investment in Energy Efficiency, August 2009, prepared for BC Hydro
<http://www.mendeley.com/research/opportunity-assessment-strategies-increase-private-sector-investment-energy-efficiency-prepared-bc-hydro/>

SES Research (Ottawa), Municipal Enviro-Loans for Energy Efficiency and Alternative Energy Study, for the City of Ottawa, June 2007

ENDNOTES

¹ Yukon Department of Community Services, *Rural Electrification Policy and Guidelines*, http://www.community.gov.yk.ca/property/retp_guide.html

² PACENow, *PACE: Property Assessed Clean Energy: Making the Case for PACE Legislation*, July 2011: <http://pacenow.org/blog/wp-content/uploads/Making-the-Case-for-PACE-Legislation.pdf>

³ Persram, Sonja, *Property-Assessed Payments for Energy Retrofits: Recommendations for Regulatory Change and Optimal Program Features*, 2011. See: http://www.sustainable-alternatives.ca/PAPER_Persram_for_DSf.pdf

⁴ See PAPER Supporters' Request for Review of the Ontario Environmental Bill of Rights: http://www.sustainable-alternatives.ca/EBR_Review_PAPER_Jan_11_2012.pdf

⁵ *Project Green* notes at p. 34 that:

More than half of Canada's GDP is substantially affected by climate and weather, including forestry, agriculture, fishing, hydro-electricity generation, transportation and tourism. Climate change is affecting entire sectors and regional economies. It also contributes to extreme weather events that are even affecting the safety and security of Canadians.

⁶ See OECD 2004 *Environmental Performance Reviews: Canada* at p. 187.

⁷ http://www.grida.no/climate/ipcc_tar/wg1/044.htm