Canadian Centre for Policy Alternatives
November 2013

Saving the Green Economy

Ontario's Green Energy Act and the WTO

Scott Sinclair

www.policyalternatives.ca RESEARCH ANALYSIS SOLUTIONS

CCPA
CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES

CCPA
CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES

ISBN 978-1-77125-091-7

This report is available free of charge at www.policyalternatives.ca. Printed copies may be ordered through the CCPA National Office for $10.

PLEASE MAKE A DONATION...

Help us to continue to offer our publications free online.

With your support we can continue to produce high quality research—and make sure it gets into the hands of citizens, journalists, policy makers and progressive organizations. Visit www.policyalternatives.ca or call 613-563-1341 for more information.

The CCPA is an independent policy research organization. This report has been subjected to peer review and meets the research standards of the Centre.

The opinions and recommendations in this report, and any errors, are those of the authors, and do not necessarily reflect the views of the funders of this report.

UNIFOR
Local 567

ABOUT THE AUTHORS

Scott Sinclair is a senior research fellow with the Canadian Centre for Policy Alternatives, where he directs the centre's Trade and Investment Research Project. He has written widely on the impacts of trade treaties on public services, public interest regulation and alternative economic development strategies. Prior to joining CCPA, Scott was a senior trade policy advisor with the Government of British Columbia.

ACKNOWLEDGEMENTS

The author is grateful to Stephen McBride, Graham Cox, Keith Brooks, Chiara Miglioli, and especially Stuart Trew for their helpful input and comments on previous drafts. Any remaining errors are the sole responsibility of the author. The author also wishes to thank Tim Scarth for his work on layout and Gary Schneider for his skilful editing. We are also grateful to Blue-Green Canada, the Canadian Union of Public Employees, Council of Canadians, and Unifor for their financial support of this paper.

Saving the Green Economy

Ontario's Green Energy Act and the WTO

Summary

The 2009 Green Energy Act was a creative response by the Government of Ontario to two key challenges: reducing the impacts of climate change and bolstering the provincial economy. Especially in the context of Canada's dismal national record in curbing greenhouse gas emissions, the province showed true leadership by linking the necessary transition to a low-carbon future with the creation of clean energy jobs.

The goal was to significantly boost the production and use of renewable energy in Ontario, and by most accounts the policy is succeeding. A Feed-in Tariff (FIT) program provides above-market rates for different forms of renewable energy. To qualify, producers must meet local content requirements (LCRs) under which a minimum percentage of goods, services or labour must be sourced within Ontario.[1] The premium rates paid for green energy encouraged new investment in renewable while local content quotas helped create thousands of new jobs in the province. Both were essential to gathering popular support for the Act.

Regrettably, the crucial economic development and job creation dimension of the GEA has been called into question by a recent World Trade Or-

ganization (WTO) ruling. In 2013, responding to complaints by Japan and the European Union (EU), the WTO dispute settlement authorities ruled that the act's local content requirements were in conflict with international trade rules.

The WTO's ruling was surprising to many, since government procurement policies are expressly exempted from the national treatment (i.e. non-discrimination) obligations of the General Agreement on Tariffs and Trade (GATT). Notably, this was the first case in the history of the GATT and the WTO where the dispute settlement authorities were asked to interpret this exclusion for public procurement.

The WTO panel found that the FIT program did not qualify as an excluded procurement because, in its opinion, the energy purchased by the Ontario Power Authority was resold on commercial terms by the Government of Ontario and other public hydro entities. The Appellate Body agreed that the program did not benefit from the GATT exemption for procurement but for narrower, more complicated reasons. Their decision hinged on the fact that under the FIT program, the product to which the discriminatory local content requirements applied was *generation equipment*, while the product actually purchased by the Ontario government was *electricity*. In the Appellate Body's view, the domestic content quota could not be said to "govern" the procurement of electricity, and therefore fell outside the scope of the exclusion.

While the Ontario government has already indicated that it will comply with the WTO ruling by February 2014, Energy Minister Bob Chiarelli emphasized that "Ontario is not backing down from continuing to build a robust renewable energy sector that creates tens of thousands of good jobs."[2] In August, Minister Chiarelli directed the Ontario Power Authority to reduce its local content requirements related to FIT projects to levels that are roughly consistent with local labour content.[3] It is possible that the government will simply abolish the local content requirements in the Act entirely. Such an outcome, however, is neither desirable nor inevitable.

The increasingly tangible threats posed by climate change necessitate urgent, structural change to global energy systems. The UN Framework Convention on Climate Change states that in accordance with the principles of sustainable development, climate change measures "should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change." Despite this, the WTO embraced an unacceptably narrow, restrictive interpretation of the GATT government procurement exclusion that not

only undermines Ontario's efforts to pursue sustainable development, but casts a chill over similar initiatives around the world.

The most straightforward option to preserve the local economic development component of the Green Energy Act, and to ensure that is implemented consistently with current international trade rules, is for Ontario to pursue its complementary renewable energy and economic development goals through more conventional public procurement models. In the case of renewable energy contracts, where a public entity acquires the generation equipment, the Ontario government would still be free under WTO rules and Ontario's current WTO obligations to stipulate that all or any portion of that equipment be manufactured in Ontario.

In a promising reform, the provincial government has pledged major changes to its procurement strategy to encourage public sector entities to generate more renewable energy. Any renewable energy project owned by a municipality or a broader public sector entity remains free to apply local content requirements in its purchases. For example, so long as they retain ownership of the generating equipment, a hospital or university developing rooftop solar panel systems under the FIT program could apply preferences for local content in the supply of components. In fact, the key to reconciling the Act's sustainable development thrust with WTO obligations is to pursue these job creation goals through more traditional public sector procurement policies.

However, there is pressure in ongoing international trade negotiations, notably the Canada-European Union Comprehensive Economic and Trade Agreement, to bind sub-national governments, including municipalities and hydro utilities, to procurement rules that will prohibit domestic content quotas on all purchases above certain low thresholds. In light of the WTO decision, and Ontario's efforts to use procurement to provide economic benefits to Ontarians, it will be essential for the provincial government to fully safeguard its existing policy flexibility over procurement and renewable energy in the CETA and the Trans-Pacific Partnership agreement.

1. The Ontario Green Energy Act

Ontario's 2009 Green Energy Act (GEA)[4] has three main goals: to greatly increase the production and use of renewable energy in Ontario, to promote energy conservation, and to spur the creation of clean energy jobs. Each of these aspects is integral to the overall success of the policy in reducing

greenhouse gas emissions, improving air quality, and stimulating local economic development.

The GEA has significantly boosted the production and use of renewable energy in Ontario. Ontario is now Canada's leading province in solar photovoltaic capacity, with over 700 MW on-line.[5] In 2012, wind energy generated 3% of Ontario's electricity.[6] Solar, wind and bioenergy sources currently account for 3,000 MW of electrical generation capacity, which "is expected to produce enough electricity each year to power more than 700,000 homes."[7]

By helping enable the phase-out of highly polluting coal-fired electricity generation within the province, the GEA has also reduced greenhouse gas emissions and improved air quality, with associated health benefits. The province has already dramatically reduced its dependence on coal-fired generation and is currently on-track to close its remaining coal-fired plants by the end of 2014.

Ontario's target for renewable energy generation from wind, solar and bioenergy is 10,700 MW by 2018.[8] Procurement targets of 200 MW annually through 2018 are already in place for smaller-scale FIT projects.[9] A new competitive process, which will provide for greater community involvement in deciding the location of new projects, is currently being developed to replace the FIT for large-scale projects.[10]

In addition to boosting the production of renewable energy, the GEA is also intended to foster "a culture of conservation by assisting homeowners, government, schools and industrial employers to transition to lower energy use."[11] Conservation and energy efficiency measures are "generally accepted as the least expensive, lowest impact form of meeting new energy demand."[12] Still, progress on the energy conservation front has been slow.

Implementation of the four principal conservation commitments — ambitious energy efficiency standards, mandatory home energy audits prior to sale, improvements to Ontario's building code and greening the broader public sector - has been fragmentary and limited.[13] As the Environmental Commissioner stressed in a 2011 report, maintaining a balance between developing new sources of clean energy and implementing conservation measures is vital.[14] In a welcome move, Ontario's new Energy Minister recently signalled the province will reinvigorate the emphasis on conservation, with "a commitment to investing in conservation before new generation, wherever that's cost-effective."[15]

The GEA also aims to make Ontario a leader in green energy development by building a local renewable energy industry and creating new clean

energy jobs. In fact, the job creation goals are a key reason the ground-breaking renewable energy strategy arose as a viable policy option.

When the GEA was passed, Ontario was reeling from the impacts of the 2008 global financial crisis. Tens of thousands of manufacturing jobs were disappearing. The auto sector, the engine of the province's manufacturing sector, was particularly hard hit with the loss of 12,000 jobs in 2008 and 2009 alone.[16] As an official who helped draft the GEA explained: "At the time, the global financial crisis was unraveling and GM and other automobile makers, which are big employers in the province, were shedding jobs. All in all, these events highlighted the need to find new sources of jobs and economic growth for the province. One obvious route was the continuing development of our renewable energy sector."[17]

The GEA has been successful in creating tens of thousands of jobs and generating billions of dollars in investments in the province's renewable energy sector. In 2011, the Ministry of Energy estimated that the provincial renewable energy strategy would create 50,000 jobs in its first three years. A review by the province's auditor-general suggested that 40,000 of these jobs could be directly related to the renewable energy sector and that "30,000, or 75%, of these jobs would be construction jobs and would last only from one to three years, while the remaining 10,000 would be long-term jobs in manufacturing, operations, maintenance, and engineering."[18] The Ministry of Energy projects that investments in small-scale renewable energy projects alone will create a further 6,400 jobs between 2014 and 2018.[19]

One of the strongest arguments in favour of local content requirements is that they are essential to bolster public support for policies to rapidly expand renewable energy production. Such expansion requires substantial up-front capital investment in order to achieve long-term economic and environmental benefits. Without broad public support, such investments are not politically feasible.

For example, the Danish wind industry, one of the most successful in the world, was built through a combination of financial incentives and local content requirements.[20] In order to spur wind energy development, the Danish government required utilities to buy wind-generated energy at 85% of the utility's net cost. These highly attractive rates were restricted to members of local cooperatives, living close to the turbines. The policy was extraordinarily successful in increasing wind generation of electricity while simultaneously encouraging local ownership and acceptance of an environmentally friendly technology. Ironically, the local preference policies Denmark used

to launch its renewable energy industry and which helped inspire the Ontario policies are very similar to the ones that the EU challenged at the WTO.[21]

Through the GEA, Ontario has made a significant financial commitment to more desirable, renewable forms of energy. The domestic content rules enhance public acceptance and support for the challenging transition to renewable energy. Under the legislation, in return for generous price premiums, wind and solar producers, whether domestic or foreign-owned, commit to create jobs and economic benefits within Ontario. The costs of the long-term fixed contracts and enhanced grid connections are shared by Ontario residents,[22] and so too should the benefits. But the future of this reasonable trade-off has now been cast in doubt by the WTO ruling.

2. The WTO Disputes and Ruling

Background

In September 2010, Japan launched a complaint regarding the local content requirements of the Ontario Green Energy Act. A WTO dispute settlement panel was established in July 2011. The EU initiated a similar complaint against Canada in August 2011. A second dispute settlement panel was established in January 2012.

On December 19, 2012 the two WTO panels jointly ruled that the GEA local content requirements applied under the FIT program violate Article III:4 of the General Agreement on Tariffs and Trade (GATT) 1994 and Article 2.1 of the WTO Agreement on Trade-Related Investment Measures (TRIMS).[23] In May 2013, the WTO Appellate Body confirmed, although with significantly different legal reasoning, that these local content requirements are inconsistent with Canada's obligations under the GATT and the WTO Agreement on TRIMS.

In general, international trade rules prohibit discrimination against imported products. The national treatment rule requires governments to treat foreign products "no less favourably" than like products of national origin (GATT Article III).[24] The TRIMS Agreement also prohibits certain trade-related investment measures, including local content requirements related to goods.

The local content requirements of the GEA are deliberately designed to encourage investment in the production within Ontario of goods and services associated with the generation of renewable energy. As such, they are measures that unabashedly favour domestic production and discriminate against foreign goods. But simply because a public policy measure fa-

vours local content and production does not necessarily mean that it violates the GATT.

In fact, government procurement is excluded from the national treatment obligations of the GATT. Prior to the WTO decision in the Canada Renewables case, many legal analysts assumed that the government procurement exclusion would be interpreted broadly and would likely shield the Ontario LCRs from successful challenge.[25]

The WTO Panel Ruling

The core issue in the Canada Renewables dispute was whether the feed-in-tariff program, and the associated local content requirements, were exempted from the national treatment obligations of the GATT by virtue of GATT Article III:8(a).[26]

The Article specifies that the national treatment obligation "shall not apply to laws, regulations or requirements governing the procurement by governmental agencies of products purchased for governmental purposes and not with a view to commercial resale or with a view to use in the production of goods for commercial sale."[27] This exclusion was intended to preserve the ability of GATT parties and WTO member governments to use government procurement as a policy tool without running afoul of GATT obligations.

As the WTO panel noted, however, Article III:8(a) stipulates several conditions that must be met for a measure governing procurement to fall outside the scope of the GATT national treatment obligation. Only if a measure satisfies *all* these conditions, would the national treatment obligation not apply.

As broken down by the panel, the pertinent questions were:

> (i) whether the challenged measures can be characterized as "laws, regulations or requirements *governing* procurement";
>
> (ii) whether the challenged measures involve "*procurement* by governmental agencies"; and
>
> (iii) whether any "procurement" that exists is undertaken "for *governmental purposes* and not with a view to *commercial resale* or with a view to use in the production of goods for commercial sale".[28]

Regarding the first question on "laws, regulations or requirements *governing* procurement", the panel explicitly rejected EU arguments that to qualify as a measure governing procurement the minimum domestic content must "*directly relate to the product* procured by the government" (in

this case electricity). Accordingly, it concluded that even though the local content requirements apply to generation equipment and not the product directly purchased (electricity), they "should be properly characterized as one of the 'requirements governing' the alleged procurement of electricity for the purpose of Article III:8(a)."[29]

When looking at "*procurement* by governmental agencies", the panel also rejected Japan's argument that government procurement must involve "governmental use, consumption or benefit of the procured product." If Japan's narrow characterization had been accepted, then the purchase of electricity, which is consumed by the population at large, could not be defined as government procurement. Instead, however, the panel interpreted "procurement" to have the same, ordinary meaning as "purchase." In the panel's view the purchase of electricity by the Ontario government (to meet the needs of its population) constituted procurement within the meaning of Article III:8(a).[30]

Ultimately, the WTO panel's ruling hinged on the third element- specifically the requirement that an excluded procurement must not be made "with a view to commercial resale."

Canada had argued that commercial resale "means a purchase with the aim to resell for profit."[31] As Canada pointed out, the Ontario Power Authority (OPA), which procures the electricity, is not a commercial, profit–seeking entity. In fact, the OPA is barred by legislation from profiting by its purchases of electricity.[32] The OPA's primary purpose in entering into long-term contacts with electricity suppliers is to ensure sufficient investment in additional capacity to meet Ontario's electricity needs. Indeed, the OPA was created in 2004 as a public policy response to the failure of the partially liberalized market to yield significant new private investment in electricity generation.

The panel did not contest Canada's factual arguments that the OPA does not seek to profit from the purchase of renewable electricity and simply recovers its costs when it supplies the electricity to the grid. But it asserted that the because Hydro One, a provincial government entity, and municipal public utilities ultimately re-sell the renewable electricity procured by the OPA, "that the Government of Ontario and the municipal governments not only profit from the resale of electricity that is purchased under the FIT Programme, but also that electricity resales are made in competition with licensed electricity retailers."[33] The panel therefore concluded that the procurement of electricity under the FIT program is undertaken "with a view to commercial resale".

Once the panel decided that OPA's electricity purchases were not shielded by the exclusion for government procurement, it followed inexorably that the LCRs associated with the FIT contracts for renewable energy were trade-related investment measures which, by favouring local over imported products, were inconsistent with Article III:4 of the GATT 1994 and with Article 2.1 of the TRIMs Agreement.

Appellate Body Review

Canada appealed the panel's decisions to the WTO Appellate Body, which released its report on May 6, 2013.[34] The Appellate Body upheld the panel's ruling that the FIT program's local content requirements were inconsistent with Canada's obligations under GATT 1994 and the TRIMs Agreement. Its legal reasoning, however, differed significantly from that of the panel and it overruled the panel on certain key interpretive points.

Although the WTO panel had ultimately ruled the Canadian measure inconsistent, it adopted a significantly broader interpretation of the GATT exclusion for government procurement than the Appellate Body. The panel had accepted that the FIT and LCRs were laws, regulations or requirements governing procurement, falling within the scope of the exclusion. It defined government procurement quite broadly, equating it simply with purchasing. The panel also allowed that the OPA's purchase of electricity, although not for direct government consumption, was aimed at fulfilling a broad public function of ensuring a sufficient supply of renewable energy, and therefore, in principle, met the broad criterion of "governmental purposes." In the panel's view, it was because the electricity purchased by the OPA was resold on commercial terms by Government of Ontario entities that the policy measures ultimately fell outside the scope of the exclusion.

The Appellate Body, however, adopted a reading that considerably narrowed the scope of procurement-related measures safeguarded from challenge by Article III:8(a). In the panel decision the Canadian defence was tripped up on the third element of Article III:8(a) regarding "commercial resale." In the Appellate Body ruling, however, the contested measures did not even clear the first hurdle of the exclusion.

In their view, the FIT contracts and associated LCRs could not be characterized as "laws, regulations or requirements *governing* procurement" within the meaning of Article III:8(a). As the Appellate Body explained, "Our conclusion that the measures at issue are not covered by Article III:8(a) of the GATT 1994 is not premised on a finding that the Government of Ontario's

procurement of electricity under the FIT Programme is undertaken 'with a view to commercial resale'. Rather, it is based on our finding that Article III:8(a) does not cover discriminatory treatment of the equipment used to generate the electricity that is procured by the Government of Ontario."[35]

Specifically, the Appellate Body jurists attached great significance to Article III:8(a)'s distinction between "procurement" and "*products* purchased," a matter considered of little importance by the panel.[36] The Appellate Body asserted that the difference in wording was deliberate with procurement referring, in their view, to "the *process* by which government purchases *products*" and a *product*, understood within the broader context of Article III, referring to "something that is capable of being traded."[37]

In a complicated chain of reasoning, the Appellate Body judged that "the derogation of Article III:8(a) must be understood in relation to the obligations stipulated in Article III" as a whole. It then noted that other paragraphs of Article III prohibit treating *imported* products less favourably than *like*, *directly competitive*, or *substitutable* products of national origin. The Appellate Body imported these attributes into the simple reference to *products* in Article III.8(a). Finally, it asserted that in order for a measure to be shielded by the government procurement exclusion the foreign products allegedly discriminated against must be "in a competitive relationship" with the *products purchased* by governmental agencies.[38]

The Panel had found that the OPA's purchases of electricity fell, in principle, "within the scope of the derogation of Article III:8(a), because the generation equipment 'is needed and used' to produce the electricity, and therefore there is a 'close relationship' between the products affected by the domestic content requirements (generation equipment) and the product procured (electricity)."[39]

But, relying on its freshly minted criterion of "competitive relationship", the Appellate Body reversed the panel's finding that "the 'Minimum Required Domestic Content Level' should be properly characterized as one of the 'requirements governing' the alleged procurement of electricity for the purpose of Article III:8(a)."[40] In the view of the Appellate Body, because the Ontario measures applied to generation equipment, which was not in a competitive relationship with the product purchased (that is, electricity), "the Minimum Required Domestic Content Levels cannot be characterized as 'laws, regulations or requirements governing the procurement by governmental agencies' of electricity within the meaning of Article III:8(a) of the GATT 1994."[41]

In short, under the GEA's FIT program, the product to which the discriminatory local content requirements applied was generation equipment, while the product actually purchased by the Ontario government was electricity. Since electricity was not "in a competitive relationship" with foreign generation equipment, the local content requirements were deemed *not* to be "laws, regulations or requirements" governing procurement within the meaning of Article III:8(a). Consequently, since the LCRs fell outside the scope of the exclusion, they violated Article III of the GATT and Article 2.1 of the WTO Agreement on Trade-Related Investment Measures, which prohibits TRIMs that are inconsistent with Article III.

Discussion

Article III:8(a) was included in the original text of the GATT 1948. Throughout the 65-year history of the GATT and the WTO, this provision was straightforwardly assumed by most legal experts and governments to "expressly exclude government procurement from the GATT national treatment obligations."[42]

The Canada Renewables dispute, however, was the first case in the history of the GATT and the WTO where the dispute settlement authorities were asked to interpret this exclusion.[43] For those who expected a broad, deferential interpretation of the government procurement exclusion, this long lapse was unfortunate. The exclusion was crafted during a period when nearly all GATT governments "shared a common faith in the activist state, economic planning and large-scale public investment."[44] The narrow reading given to it by the Appellate Body would likely have been unthinkable to its original drafters.

Moreover, since 1979, GATT contracting parties that desired to negotiate additional, binding procurement commitments were able to do so through the Agreement on Government Procurement (GPA). The GPA, negotiated during the Tokyo Round, is a "plurilateral" agreement that, while not compulsory, is open to all GATT parties and WTO member governments. Procurement committed under the GPA is clearly subject to national treatment obligations, as well as detailed rules regarding procurement procedures.[45]

At the Cancun Ministerial meeting in 2003, an EU-led proposal to add negotiations on "transparency in government procurement" to the Doha Round mandate was firmly rebuffed. A majority of WTO member governments were concerned that that these transparency rules would lead to market access obligations and the loss of policy flexibility over procurement.

Arguably, by significantly narrowing the government procurement exemption, the Canada Renewables ruling has inappropriately altered the overall balance of WTO obligations and flexibilities through dispute settlement, rather than through negotiation.

The Canada Renewables decision restricts the flexibility to apply preferential purchasing policies that many member governments understood they had preserved by excluding government procurement from national treatment. In a clear instance of ignoring the forest for the trees, the Appellate Body painstakingly parsed each term in the exclusion, considerably narrowing its protective scope, and thereby frustrating the clear sense of the provision as whole.

Perhaps most inexcusably, the ruling undermined support for one of the most innovative green energy policies in North America, during a period of rapidly rising greenhouse gas emissions (GHG) and dangerous global climate change. In an amicus brief to the WTO panel, a coalition of unions and environmental groups asserted that the Government of Ontario was providing leadership, notably absent at the federal level, in fulfilling Canada's binding commitments under the Kyoto Protocol to reduce GHG emissions. The brief also emphasized that a WTO ruling against the local economic development aspects of the GEA would contradict both the spirit and the letter of the Framework Convention on Climate Change. The convention states that in accordance with the principles of sustainable development, climate change measures "should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change."[46]

The increasingly tangible threats posed by climate change necessitate urgent, structural change to global energy systems. These threats necessitate, at the very least, a deferential interpretation of existing trade treaty exclusions, one that provides maximum latitude for those governments intent on tackling the greatest environmental challenge of the era. Instead, however, the WTO Dispute Settlement Body, and especially the Appellate Body, embraced an unacceptably narrow, restrictive interpretation of the GATT government procurement exclusion that not only undermines Ontario's efforts to pursue sustainable development, but casts a chill over similar initiatives around the world. This disappointing decision provides ample support for the view that the WTO is not a fit arbiter of green energy and environmental protection policies.

3. Compliance Options

On May 24, 2013, the WTO Dispute Settlement Body (DSB) adopted the Appellate Body Report and the amended panel report. Under the WTO rules, Canada now has "a reasonable period of time" either to implement the ruling or to face WTO-sanctioned retaliatory measures by the EU and Japan.[47]

On June 20 2013, Canada formally notified the DSB that the government of Ontario intends to implement the WTO's ruling. Canada, the EU and Japan have agreed that 10 months is a reasonable period of time for implementation, which gives Canada and Ontario until March 24, 2014 to comply.[48]

If the complaining parties are dissatisfied with Canada's proposals for compliance, the matter can be referred back to the initial dispute panel for arbitration.[49] Thirty days after the March deadline, if the disputing parties are still not satisfied the Dispute Settlement Body can authorise retaliation pending full implementation of the ruling.[50] The suspension of benefits must be commensurate to the trade impacts of the offending measures. If Canada, as respondent, believes that the level of retaliation is excessive it can invoke arbitration.[51]

Policy Options

While the legitimacy of the Appellate Body's narrow interpretation of the government procurement exclusion is highly questionable, it is also true that the complexity of Ontario's partially liberalized electricity system unnecessarily exposed the economic development aspects of the GEA to challenge.[52] In particular, the decision to rely so heavily on subsidies to private power producers, while barring Ontario Power Generation from investing in non-hydroelectric renewables, increased the vulnerability to trade treaty litigation.

The most straightforward option to preserve the local economic development component of the GEA, and to ensure that is implemented consistently with current international trade rules, is for Ontario to pursue its complementary renewable energy and economic development goals through more conventional public procurement models. In fact, other jurisdictions in Europe, Asia, and Africa are also returning to public sector-led investment in renewable energy, as experience with liberalized electricity markets has failed to "deliver investments in renewables on the scale required" to effectively combat climate change.[53]

In the case of renewable energy contracts, where a public entity acquires the generation equipment, the Ontario government would still be free under WTO rules and Ontario's current WTO obligations to stipulate that all or any portion of that equipment be manufactured in Ontario.

The key to meeting the stringent criteria imposed by the Appellate Body is to apply the local economic development criteria to the generation equipment procured by a government entity, which then supplies the electricity using these generation resources. Re-selling the electricity should not be an issue, because the local development criteria apply directly to the purchased generation equipment, not to the electricity which may be resold.

As previously noted, the Ontario government recently revised the rules for big renewable energy contracts to allow Ontario Power Generation (OPG) to compete.[54] Where the OPG is successful in these competitive processes, it would be completely free, under Canada and Ontario's current WTO obligations, to require that the goods, labour and services it needs to supply the contracted electricity contain prescribed levels of local content.[55] Alternatively, the OPG could simply be mandated by the Ontario government to supply increased amounts of renewable energy, and to apply local content requirements in its purchasing of goods, services and construction required to generate that electricity. This return to a more traditional, public sector energy procurement model would also be fully consistent with Canada and Ontario's current obligations under the WTO's Government Procurement Agreement.

In a promising reform, the provincial government has pledged major changes to its procurement strategy to encourage public sector entities to generate more renewable energy. These reforms include "participation points" which give broader public sector entities — including municipalities, universities, schools, and hospitals — an advantage in tendering decisions; "price adders" which top up standard FIT payments for publicly owned projects; "capacity set-asides", which direct the Ontario Power Authority to reserve capacity (initially 24 MW) for public sector projects; and direct financial support to assist municipalities and other public sector entities in the development and design of project proposals.[56]

Under Canada's current international trade treaty obligations, a renewable energy project owned by a municipality or a broader public sector entity remains free to apply local content requirements in its purchases. For example, so long as they retain ownership of the generating equipment, a hospital or university developing rooftop solar panel systems under the FIT program could apply preferences for local content in the supply of compon-

ents. Consistent with the WTO, the provincial government could mandate that these broader public sector entities apply such preferences as a condition for eligibility for premium rates and other advantages. Studies indicate that local ownership provides greater long-term economic development benefits.[57]

Continuing to apply local content requirements on renewable energy projects owned by private developers will be more difficult in the face of the Canada Renewables ruling. It should be noted, however, that the WTO ruling was concerned solely with LCRs applying to the purchases of *goods*.[58] Therefore, Ontario's FIT program could continue to apply local content requirements for labour and certain services on purchases of renewable energy from private developers, as a condition for participating in the FIT program, and still be consistent with the WTO rules. [59] In fact, in August 2013 the Ontario Minister of Energy directed the Ontario Power Authority to reduce its LCRs related to FIT projects to levels that are roughly consistent with local labour content.[60]

Despite the WTO ruling in the Canada Renewables case, it is still feasible to pursue the local content requirements and economic development goals of the GEA as part of a reformed provincial renewable energy strategy. The most effective option is to structure purchases of renewable energy as traditional public sector procurements. Where provincial public entities are the purchasers and owners of the renewable energy generation equipment, they are free to apply local content criteria. Even by the Appellate Body's overly restrictive criteria, such purchases would fall within the scope of the exemption from national treatment.

4. Preserving Existing Policy Space in Ongoing Negotiations

To continue implementing the economic development aims of the GEA, it will be essential to safeguard Ontario's existing policy flexibility over renewable energy procurement in ongoing trade and investment treaty negotiations led by the federal government.

As discussed, despite the WTO ruling, there are still avenues available to pursue local economic development goals under current international trade treaty obligations. The previous analysis, however, is predicated on Ontario restructuring renewable energy procurement to take full advantage of existing exemptions.

Procurement by provincial energy enterprises (including Hydro One, Ontario Power Generation and the Ontario Power Authority),[61] municipal energy utilities, as well as broader public sector entities, is *not* covered by Canada's existing international procurement obligations. These government entities are free to apply local content requirements, or other local economic development criteria, in their procurement contracts for renewable energy generation equipment and related labour and services.

But Canada's international trade and investment treaty obligations are not standing still. In fact, the current federal government has an aggressive trade and investment treaty agenda and is presently negotiating over a dozen bilateral trade and investment agreements. The largest of these potential treaties involve the European Union, Japan, India and the 12-nation Trans-Pacific Partnership. The agreements threaten to further tie governments' hands in many areas only loosely related to trade, including sub-national government procurement.

The Canada-EU Comprehensive Economic and Trade Agreement (CETA) is the closest of these negotiations to completion. In mid-October 2013 Canada and the EU announced that they had reached an "agreement in principle," although the specifics of the deal remain confidential. The EU has made it clear that full access to sub-national government procurement is one of its highest priorities. From the federal government's perspective, provincial and municipal government procurement is an important bargaining chip that could be traded away to achieve its objectives in other areas.

Consequently, the CETA could dramatically reduce the existing policy flexibility in procurement in the renewable energy sector. Leaked documents suggest that Ontario, which had initially kept its energy corporations off the negotiating table, recently agreed to "top-up" its government procurement offer in the CETA.[62]

According to these documents, Ontario has offered to cover "all provincial and municipal government-owned entities of a commercial or industrial nature, *with the exception of energy entities*" under the procurement obligations of the CETA. But even within the energy sector, Ontario may be poised to accede to intense EU pressure to commit Hydro One and Ontario Power Generation under the CETA procurement rules.[63]

This offer is subject to certain conditions. For example, it specifies that "Ontario Power Generation reserves the right to accord a preference to tenders that provide benefits to the province, such as favouring local subcontracting, in the context of procurements relating to the construction or maintenance of nuclear facilities or related services. A selection criterion of

benefits to the province in the evaluation of tenders shall not exceed 20% of total points."

It also purports to exclude the provisions of the Ontario Green Energy Act, stating that: "For greater certainty, nothing in this Agreement affects the procurement for the production, transmission and distribution and of green energy by the province of Ontario as set out in the *Green Energy Act*."

In the wake of the Canada Renewables ruling, however, Ontario's procurement policies and associated local content requirements must be restructured in order to comply with the WTO ruling. One of the most obvious steps, which the province has already begun, is to give a greater role to Ontario Power Generation, which had been barred under the Green Energy Act from procuring renewable energy. Given this stated policy direction, covering Ontario Power Generation under the procurement rules of the CETA makes no sense. And exempting the GEA, as currently structured, will not safeguard Ontario's reformed policies from challenge.

Moreover, the recently announced price adders, participation points, capacity set-asides and direct financial support for municipalities and broader public sectors entities are all explicitly designed to provide these entities with a competitive advantage in the procurement process for renewable energy.[64] As such, they are contrary to national treatment and other procurement chapter obligations. To fulfil the promise of this new policy direction, it would be prudent not to commit these entities under the procurement rules of the CETA. If such an unwise step were taken, the procurement of renewable energy, generating equipment, and associated goods, services and construction would have to be fully and unequivocally excluded.

Conclusion

In the challenge to local content requirements in the Ontario Green Energy Act, the WTO dispute settlement authorities interpreted a long-standing exclusion for government procurement in unacceptably narrow terms. Despite this disappointing decision, it is still feasible to preserve the local economic development goals of the GEA and for public policy to sustain continuing growth and job creation in Ontario's renewable energy sector. The key to reconciling the GEA's sustainable development thrust with WTO obligations is to pursue these job creation goals through more traditional public sector procurement policies.

In light of the WTO decision, it will be even more essential for the Ontario government to fully safeguard its existing policy flexibility over procurement and renewable energy in ongoing trade and investment treaty negotiations directed by the federal government.

Excerpt from Canada's revised government procurement offer in the Canada-EU CETA, dated June 4, 2013.

Annex 1 — Improvements to Canada's offer on energy utilities

CETA — Government Procurement offer

Revisions to the Canadian offer (subject to legal review):

Annex X-03

Other entities

Section A

ONTARIO

"This Annex covers all provincial and municipal government-owned entities of a commercial or industrial nature,*with the exception of energy entities*.

This Annex excludes energy entities except for Hydro One and Ontario Power Generation."

New Note 3 to Annex X-03 Section A

"3. Ontario Power Generation reserves the right to accord a preference to tenders that provide benefits to the province, such as favouring local subcontracting, in the context of procurements relating to the construction or maintenance of nuclear facilities or related services. A selection criterion of benefits to the province in the evaluation of tenders shall not exceed 20% of total points."

New note 4 to Annex X-03 Section A — replaces former note 3 to Annex X-03 Section B

"4. For greater certainty, nothing in this Agreement affects the procurement for the production, transmission and distribution and of green energy by the province of Ontario as set out in the *Green Energy Act*."

Notes

1 Under these local content requirements (LCRs), a minimum percentage of goods, services or labour must be sourced within Ontario. Prior to the WTO dispute, the LCRs were set at 50% of project costs for wind and 60% for solar photovoltaics. Ontario Power Authority. (2011). Feed-In Tariff Program, FIT Rules, Version 1.5.1. July 15, 2011. http://fit.powerauthority.on.ca/sites/default/files/FIT%20Rules%20Version%201%205%201_Program%20Review.pdf.

2 The Canadian Press. (2013). "Ontario to change green energy law after WTO ruling." May 29, 2013.

3 Ontario Power Authority. (2013). "Domestic Content Direction and Price Schedule Updates." http://fit.powerauthority.on.ca/faqs/domestic-content-direction-price-schedule-updates.

4 The Ontario Green Energy and Economy Act is available at: http://www.e-laws.gov.on.ca/html/source/statutes/english/2009/elaws_src_s09012_e.htm.

5 Ontario Ministry of Energy. (2013). *Making Choices: Reviewing Ontario's Long-Term Energy Plan*. Toronto: Queen's Printer for Ontario. p. 5.

6 Ontario Ministry of Energy. (2013). *Making Choices: Reviewing Ontario's Long-Term Energy Plan*. Toronto: Queen's Printer for Ontario. p. 6.

7 Ontario Ministry of Energy. (2013). *Making Choices: Reviewing Ontario's Long-Term Energy Plan*. Toronto: Queen's Printer for Ontario. p. 16.

8 "Ontario's target for clean, renewable energy from wind, solar and bioenergy is 10,700 MW by 2018 (excluding hydroelectric) - accommodated through transmission expansion and maximizing the use of the existing system." Ontario Ministry of Energy. (2010) "Ontario's Long-Term Energy Plan – Highlights." November 23, 2010. http://news.ontario.ca/mei/en/2010/11/energy-backgrounder-1-november-23-2010.html.

9 A small FIT project is currently defined as a generating facility between 10kW and 250kW (or up to 500kW in the case of a facility connected to a 15kV or greater line). A micro-FIT project is one with a capacity of less than 10kW. Ontario Ministry of Energy, *New Direction to Ontario Power Authority Re: Renewable Energy*, June 12, 2013. p. 2.

10 Ontario Ministry of Energy. (2013). *New Direction to Ontario Power Authority Re: Renewable Energy*, June 12, 2013.

11 Ontario Ministry of Energy. (2009). "Ontario's Bold New Plan for a Green Economy", News Release, February 23, 2009. http://news.ontario. Quoted in Environmental Commissioner of Ontario. (2011). *Restoring balance: A Review of the First Three Years of the Green Energy Act, Annual Energy Conservation Progress Report – 2011 (Volume One)*. Toronto: Queens Printer. p. 7.

12 Calvert, John and Marc Lee. (2012). *Clean Electricity, Conservation and Climate Justice in BC: Meeting Our Energy Needs in a Zero-Carbon Future*. Vancouver: Canadian Centre for Policy Alternatives. p. 8.

13 See Environmental Commissioner of Ontario. (2011). *Restoring balance: A Review of the First Three Years of the Green Energy Act, Annual Energy Conservation Progress Report – 2011 (Volume One)*. Toronto, Queens Printer.

14 See Environmental Commissioner of Ontario. (2011). *Restoring balance: A Review of the First Three Years of the Green Energy Act, Annual Energy Conservation Progress Report – 2011 (Volume One)*. Toronto, Queens Printer.

15 John Spears. (2013). "Conservation before new generators, Ontario says." *Toronto Star*. July 16 2013. http://www.thestar.com/business/2013/07/16/conservation_before_new_generators_ontario_says.html.

16 CAW. (2012). Canadian vehicle assembly declined by almost 20% between 2007 and 2010, resulting in the loss of 12,000 assembly jobs in 2008 and 2009 alone. *Re-Thinking Canada's Auto Industry: A Policy Vision to Escape the Race to the Bottom*. Toronto: CAW. April 2012. p.3.

17 *Green Energy Reporter*. Interview with Pearl Ing, Director of the Renewable Energy Facilitation Office for Ontario's Ministry of Energy and Infrastructure, On-line publication: http://greenenergyreporter.com/features/cornerstone-conversation-features/cornerstone-conversation-pearl-ing-director-renewable-energy-facilitation-office-ontario-energy-ministry/.

18 Auditor General of Ontario. (2011). *Annual Report, 2011. Chapter 3- Electricity Sector— Renewable Energy Initiatives*. p. 91. http://www.auditor.on.ca/en/reports_2011_en.htm.

19 Ontario Ministry of Energy. 2013. *Making Choices: Reviewing Ontario's Long-Term Energy Plan*. Toronto: Queen's Printer for Ontario. p. 16.

20 See, for example, Cho, Albert H. and Navroz K. Dubash. (2003). *Will Investment Rules Shrink Policy Space for Sustainable Development? Evidence from the Electricity Sector*. World Resources Institute. September 2003; Mark Bolinger. (2001). *Community Wind Power Ownership Schemes in Europe and their Relevance to the United States*. Lawrence Berkeley National Laboratory. May 2001; and Danish Energy Agency. (2009). "Wind Turbines in Denmark," November 2009.

21 Smitherman, George. (2011). *Charting the Course Ahead, Feed In Tariff 2.0 Review Process. Toronto: G&G Global Solutions*. p. 11. georgesmitherman.com/FIT%20Review.pdf .

22 There has been a great deal of hyperbole regarding the cost of renewable energy incentives under the GEA. In particular, critics have targeted the generous rates for rooftop solar PV, initially 80.2 cents per kWh. A more dispassionate assessment by the Environmental Commissioner of Ontario, an independent environmental ombudsman, provides a useful counterpoint. The Commissioner estimated the cost of renewable energy and conservation initiatives in 2010 at 0.4 cents of the typical 13 cents per kWh cost of electricity to the residential consumer. "A significant amount, perhaps, but hardly the bogeyman that it is so often made out to be. In fairness, it must be acknowledged that this 0.4 cent amount will rise as more green energy comes on line in future years, but in 2010 that is what it was. During these times when we are publicly discussing a long-term electrical energy plan, I think it is important to be honest about the current cost of

electricity." Environmental Commissioner of Ontario. (2011). *The True Cost of Renewable Energy and Conservation*. Blog Post. March 22, 2011. http://www.eco.on.ca/blog/2011/03/22/the-true-cost-of-renewable-energy-and-conservation/.

23 "(W)e find that the FIT Programme, and the FIT and microFIT Contracts, to the extent they envisage and impose a "Minimum Required Domestic Content Level", constitute TRIMs within the meaning of Article 1 of the TRIMs Agreement." World Trade Organization. (2012). *Reports of the Panels*. para. 7.112.

24 Likewise, government procurement of services is excluded from the principal obligations of the WTO's General Agreement on Trade in Services (GATS), which regulates cross-border trade in services (GATS Article XIII).

25 For example, Lawrence Herman, international trade counsel at Toronto law firm Cassels Brock & Blackwell, was quoted in the Globe and Mail in 2010 as saying that Japan will have an "uphill battle to show that what Ontario has done is contrary to WTO rules." Blackwell, Richard. (2010). *Japan takes issue with Ontario's green energy plan*. The Globe and Mail, Monday, Sep. 13 2010. http://www.theglobeandmail.com/report-on-business/japan-takes-issue-with-ontarios-green-energy-plan/article1213640/

26 World Trade Organization. (2012). "Canada – Certain Measures Affecting The Renewable Energy Generation Sector And Canada – Measures Relating To The Feed-In Tariff Program. *Reports of the Panels*. 19 December 2012. para. 7.113.

27 World Trade Organization. (1995). "The General Agreement on Tariffs and Trade, Article III:8(a)." in *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts*. (Geneva: World Trade Organization). p. 491.

28 World Trade Organization. (2012). *Reports of the Panels*. para. 7.122.

29 World Trade Organization. (2012). *Reports of the Panels*. para. 7.128.

30 World Trade Organization. (2012). *Reports of the Panels*. para. 7.131.

31 World Trade Organization. (2012). *Reports of the Panels*. para.7.146.

32 World Trade Organization. (2012). "Integrated Executive Summary of Canada." *Reports of the Panels*. *Addendum*. p. A-65, para. 31.

33 World Trade Organization. (2012). *Reports of the Panels*. para. 7.151.

34 World Trade Organization. (2013). "Canada – Certain Measures Affecting The Renewable Energy Generation Sector And Canada – Measures Relating To The Feed-In Tariff Program." *Reports of the Appellate Body*. 6 May 2013.

35 World Trade Organization. (2013). *Reports of the Appellate Body*. para. 5.84.

36 The Panel concluded that "the term 'procurement', when interpreted in its immediate context, should be understood to have the same meaning as the term 'purchase'. World Trade Organization. (2012). *Reports of the Panels*. para. 7.135.

37 World Trade Organization. (2013). *Reports of the Appellate Body*. para. 5.62.

38 World Trade Organization. (2013). *Reports of the Appellate Body*. Section 5.3.3.

39 World Trade Organization. (2013). *Reports of the Appellate Body*. para. 5.76.

40 World Trade Organization. (2012). *Reports of the Panels*. para.7.128.

41 World Trade Organization. (2013). *Reports of the Appellate Body*. para. 5.79.

42 Johnson, Jon. (1998). *International Trade Law*. Concord: Irwin Law. p. 202. See also, *Public Procurement Regulation: An Introduction*. (2011). Sue Arrowsmith, et. al. University of Nottingham e-prints. p. 178. www.nottingham.ac.uk/pprg/documentsarchive/asialinkmaterials/publicprocurementregulationintroduction.pdf.

43 "These proceedings are the first where a panel has been asked to interpret and apply Article III:8(a) of the GATT 1994." World Trade Organization. (2012). *Reports of the Panels*. para.7.122.

44 "Everyone believed in the state. ...Whatever their other differences, French Gaullists, Christian Democrats, and Socialists shared a common faith in the activist state, economic planning and large-scale public investment." Tony Judt, (2010). *Ill Fares the Land* (New York, Penguin). Pages 47–48.

45 While Canada is a member of the GPA, Ontario's provincial and municipal energy utilities are *not* covered under the GPA.

46 Article 3 of the Framework Convention reads: "The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change." Quoted in Blue Green Canada, et. al. (2012). *Canada – Certain Measures Affecting the Renewable Energy Generation Sector* and *Canada – Measures Relating To The Feed-In Tariff Program*. Amicus Submissions of Blue Green Canada, Canadian Auto Workers, Canadian Federation of Students, Canadian Union of Public Employees, Communications, Energy and Paperworkers Union of Canada, Council of Canadians and Ontario Public Service Employees Union. May 2012.

47 Non-compliance is an option. Both the EU and the U.S. have chosen to face WTO-authorized retaliation rather than comply with certain rulings, e.g. the EU in the Beef Hormones case and the U.S. in the GATS Gambling case.

48 World Trade Organization, "Canada — Certain Measures Affecting the Renewable Energy Generation Sector, Current Status," http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds412_e.htm.

49 World Trade Organization. (1995). "Understanding on Rules and Procedures Governing the Settlement of Disputes". Article 21.5. T*he Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts*. Geneva: World Trade Organization.

50 World Trade Organization. (1995). "Understanding on Rules and Procedures Governing the Settlement of Disputes". Article 22.3.

51 World Trade Organization. (1995). "Understanding on Rules and Procedures Governing the Settlement of Disputes". Article 22.6.

52 Walkom, Tom. (2012) "Dalton McGuinty scores an assist as WTO torpedoes Ontario green strategy." *Toronto Star*, Nov. 22 2012. http://www.thestar.com/news/canada/2012/11/22/walkom_dalton_mcguinty_scores_an_assist_as_wto_torpedoes_ontario_green_strategy.html.

53 Hall, David, Steve Thomas, Sandra van Niekerk, and Jenny Nguyen. (2013). "Renewable energy depends on the public not private sector." Public Services International Research Unit. (University of Greenwich, June 2013). p. 1.

54 Ontario Ministry of Energy. (2013). *New Direction to Ontario Power Authority Re: Renewable Energy*, June 12, 2013.

55 The OPG is not a committed entity under the WTO Agreement on Government Procurement (GPA).

56 Fyfe, Stephen J. & Bernadette Corpuz. 2013. "Green Revenue and Economic Development: Opportunities for Public Sector Entities." Borden Ladner Gervais LLP, Public Sector Digest, September 2013. www.publicsectordigest.com (subscription required).

57 "The National Renewable Energy Laboratory has verified that wind projects with 100% local ownership generate twice the long-term jobs and one to three times the economic impact of absentee owned wind projects." Quote from Farrell, John. (2011). *Maximizing Jobs from Clean Energy: Ontario's "Buy Local" Energy Policy*. Institute for Local Self-Reliance. Minneapolis: June 2011. http://www.ilsr.org/maximizing-jobs-clean-energy-ontario-s-buy-local-policy/. The National Renewable Energy Laboratory study is Lantz, E. and S. Tegen. (2009) *Economic Development Impacts of Community Wind Projects: A Review and Empirical Evaluation*. (National Renewable Energy Laboratory, April 2009).

58 The TRIMS is concerned solely with investment measures applying to goods, although the General Agreement on Trade in Services (GATS) applies to services. The GATS also contains an exemption for government procurement of services, although presumably the WTO DSB would interpret this exemption along similar lines to that for goods. The GATS relies on a positive listing approach, so only those services listed in Canada's schedule are covered by its national treatment obligation. Canada's schedule is available at: http://www.international.gc.ca/trade-agreements-accords-commerciaux/wto-omc/gats-agcs/commit-engage.aspx?lang=eng.

59 For example, labour costs typically account for approximately 25% of solar PV project. Ontario's micro-FIT rules provide for between 22 and 28% of local content requirements to be met through labour costs. See John Farrell. (2011). *Maximizing Jobs from Clean Energy: Ontario's "Buy Local" Energy Policy*. Institute for Local Self-Reliance. Minneapolis: June 2011. http://www.ilsr.org/maximizing-jobs-clean-energy-ontario-s-buy-local-policy/.

60 Technically, Hydro One and Ontario Power Generation are "government business enterprises", with the Government of Ontario as the sole shareholder. The Ontario Power Authority is a corporation without share capital and referred to as a government agency.

61 Power Generation are "government business enterprises", with the Government of Ontario as the sole shareholder. The Ontario Power Authority is a a corporation without share share capital and referred to as a government agency.

62 See *Excerpt from Canada's revised government procurement offer in the Canada-EU CETA, dated June 4, 2013,* appended.

63 "This Annex excludes energy entities except for Hydro One and Ontario Power Generation." See *Excerpt from Canada's revised government procurement offer in the Canada-EU CETA, dated June 4, 2013,* appended.

64 As a legal analysis of these changes observes; "If the public sector entities structure their projects so that they have an equity interest in the projects, it will mean that their applications will be considered ahead of developer/third party applications. It will also mean that the competition for FIT contracts will initially be between public sector entities and then subsequently as between those public sector entities and private/third party developers. In short *this will provide public sector entities with a competitive advantage in securing FIT Contracts over developer/ third party applications* (emphasis added)." Fyfe, Stephen J. & Bernadette Corpuz. 2013. "Green Revenue and Economic Development: Opportunities for Public Sector Entities." Borden Ladner Gervais LLP, Public Sector Digest, September 2013. www.publicsectordigest.com (subscription required).

CCPA
CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES