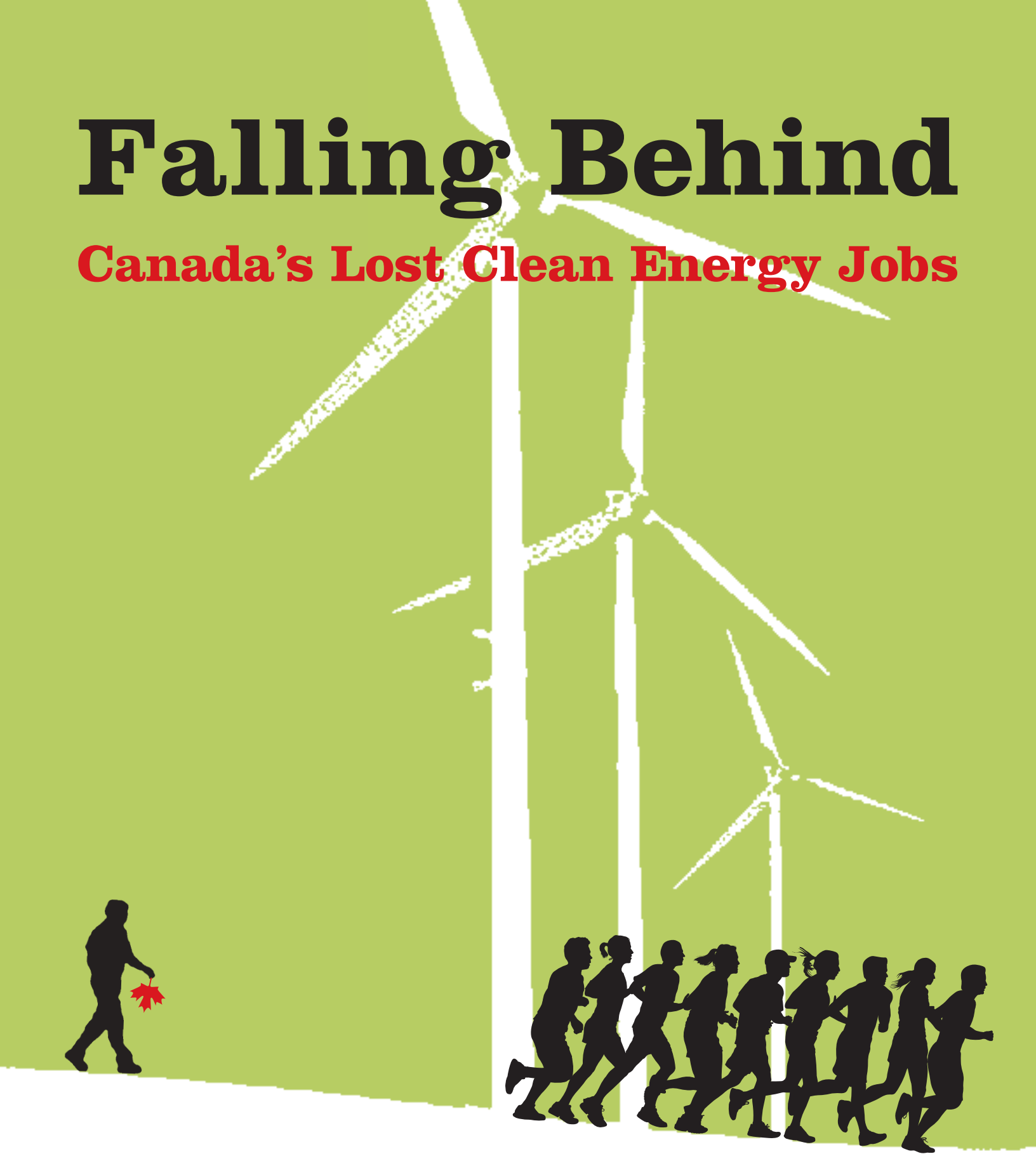
Falling Behind

Canada's Lost Clean Energy Jobs



BLUEGREEN CANADA
Good Jobs, a Clean Environment, a Safer World

A PARTNERSHIP OF

UNITED STEELWORKERS USW MÉTALLOS

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BLUEGREEN CANADA
Good Jobs, a Clean Environment, a Safer World

www.bluegreencanada.ca

Blue Green Canada is an alliance between the United Steelworkers and Environmental Defence to support the development of good green jobs as part of a new green economy. Through Blue Green Canada we are encouraging all levels of government to invest in clean renewable energy and good green jobs, organizing for local procurement standards and building partnerships with community members to support the transition to a green economy. Blue Green Canada is part of a binational movement, in partnership with U.S.-based Blue Green Alliance.

Falling Behind

Canada's Lost Clean Energy Jobs

EXECUTIVE SUMMARY

Canada is getting left behind in the emerging clean energy economy. While other countries are investing in retooling their economies to shift to clean energy and harness the new jobs being created in the booming clean energy sector, Canada is hitching its economic future to polluting fossil fuels like the tar sands.

Within the next decade, clean energy could grow to become one of the world's largest industrial sectors, ranking behind electronics and automotive products.[1] Yet, Canada is not a player in the clean energy field, and invested less of its stimulus spending in clean energy than Saudi Arabia, China, Australia, France or the United States.

Since taking office in January 2009, U.S. President Barak Obama and his administration has made substantial investments in clean energy, and Americans are now realizing the benefits of that investment in the form of new, good jobs in the clean energy sector.

The Canadian government emphasizes that it is harmonizing its energy and climate policies with the United States. Yet, when it comes to investing in clean energy jobs, Canada does not even come close to matching U.S. efforts. As this report shows, if Canada were matching U.S. investment in clean energy on a per person basis, an additional $11 billion would have been earmarked by the Canadian government for clean energy.

This lack of investment is creating thousands of lost jobs for Canadians. If Canada's spending matched U.S. investment in renewable energy alone, an additional estimated 66,000 jobs would have been created. The actual job gap is much larger once energy efficiency and transportation investment are taken into account.

Canadians can't afford to be left behind in the clean energy revolution. The Canadian government needs to catch up by:

1. **Matching or surpassing U.S. investment in clean energy on a per capita basis.**
2. **Designing policies to support clean energy manufacturing in Canada, for example loan programs and tax credits for manufacturing in Canada, and worker training and transition programs.**
3. **Putting a price on carbon so that polluters pay for investments in the clean energy economy.**

INTRODUCTION – THE GLOBAL ENERGY BOOM

Countries around the world are making significant investments to retool their economies for the next industrial revolution – the shift to clean, renewable energy and reduction in the use of polluting fossil fuels. Dwindling global oil supply, rising oil prices, concerns about energy security and efforts to combat global warming are driving the clean energy boom.

This boom saw the global wind industry grow by 24 per cent per year from 2000-2008 and the global solar industry grow by 53 per cent per year over the same period.[2] By 2007, the clean energy industry had surpassed the pharmaceutical industry in size.[3]

This surge has brought new clean energy jobs to the countries that are leading the race. Germany had 278,000 workers employed in renewable energy in 2008, a 73 per cent increase since 2004, and China employed 1.12 million people in renewable energy jobs in 2008.[4]

Those jobs were created even before the countries of the world poured billions of dollars into stimulus spending in an attempt to revive their ailing economies in 2009. Globally, an unprecedented US $531 billion was allocated to 'green stimulus,' measures aimed at building the clean energy economy and creating new jobs.[5] As the effects of the stimulus spending take hold, those countries that invested in clean energy will yield new jobs in the sector.

And the boom is just getting started. The International Energy Agency estimates that the total amount of global investment in clean energy production will reach US$1.55 trillion by 2020 even in the absence of international action to tackle global warming, and, with action, the investment rises to US$2.2 trillion.[6] Within the next decade, clean energy could grow to become one of the world's largest industrial sectors, ranking behind electronics and automotive products among industrial sectors.[7]

Clean energy is creating thousands of good jobs today, and is the growth market of tomorrow. It allows countries to decrease their global warming pollution and provides their economies with a secure, clean source of energy. And it creates much needed employment.

Does Canada want to join the revolution?

What are clean energy jobs?

Clean energy jobs include those in the manufacturing, installation and operation of renewable energy technologies like solar, wind and biomass. It also includes jobs created to green the transportation system such as producing and running public transit, and designing and building electric cars. There are also clean energy jobs in retro-fitting buildings and homes to be more energy efficient, and in designing and building new green buildings.

These jobs are being created in a range of industries and skills – welders, sheet metal workers, engineers, accountants, construction workers, journey-men – and often mean refocusing existing skills on new tasks. Recent studies in the U.S. have shown that these are well-paying relative to other sectors of the labour market.[8]

***right** – Countries that lead in manufacturing clean energy products will reap the jobs benefits. For an average wind or solar energy project, 70% of the labour requirement is for manufacturing.*

"The global market for technologies that reduce greenhouse gas (GHG) emissions is exploding, but Canadian businesses have failed to seize new—or even maintain existing—opportunities to sell such "climate-friendly" technologies globally."[9]

— **Conference Board of Canada**

CANADA LAGGING BEHIND THE WORLD

Because of its obsession with the tar sands, the Canadian government has failed to recognize that other countries – our competitors and trading partners – are moving on.

In its 2009 stimulus package, Canada dedicated just 8.8 per cent of its spending to clean energy investment. Nearly half of that, however, will actually go to subsidize unproven carbon capture and storage for profitable oil companies rather than towards a transition to low-carbon fuels and energy efficiency.

Meanwhile, South Korea led the way, investing nearly 80 per cent of total stimulus spending in clean energy, and China, the US, Norway, Australia and Mexico all out-paced Canada. While we barely outspent Saudi Arabia and Japan in percentage of stimulus money dedicated to clean energy, in absolute terms Saudi Arabia invested 3.4 times more than Canada and Japan invested 13 times more. Canada was at the bottom of the pack.

	Total Stimulus Fund (USD billion)	Green Stimulus (USD billion)	% Green Investment
South Korea	76.1	59.9	78.7
China	649.1	218	33.6
Norway	2.9	0.9	31.0
Australia	43.8	9.9	22.6
France	33.7	6.1	18.1
UK	34.9	5.2	14.9
Germany	104.8	13.8	13.2
US	787	94.1	12
Mexico	7.7	0.8	10.4
Canada	**31.8**	**2.8**	**8.8**
Saudi Arabia	126.8	9.5	7.5
Japan	640.9	36	5.6

Source: HSBC. Taking Stock of the Green Stimulus. November 2009.

Stories of personal green job creation

PETE WOBSCHALL — Hamilton, Ontario

Pete Wobschall worked as a seasonal worker in the lawn care industry for six years. Tired of the cyclic work, Pete took advantage of a government training program to get a job at Green Venture, a community-based non-profit organization committed to helping residents live more sustainably at home, at work, and in their daily lives.

Nine years later, Pete is the Executive Director of Green Venture and the company employs roughly 15 people. The company has been conducting home energy audits to help homeowners reduce energy bills by an average of 22% in 2009. Yet the company will be affected by the federal government's sudden cancellation of the ecoEnergy Retrofit – Homes program.

"This sudden stop to the program is disappointing. At a time when other countries are taking bold leaps in energy efficiency initiatives, Canada has decided to unexpectedly pull the plug on a program with proven results," said Pete. "They have threatened the future of energy efficiency professionals and green jobs in Hamilton and across Canada."

TROY GALLOWAY — Hollsapple, Pennsylvania

Troy Galloway lost his job at a western Pennsylvania steel mill in 2000. He got a real estate license, then started a construction company, but no matter what he tried, he had trouble bringing home a steady income.

In the spring of 2006, a Spanish wind turbine maker called Gamesa opened a plant in Ebensburg, about a half-hour drive from Galloway's home in Hollsapple, Pa. He landed a job in the finishing department, smoothing the edges of mammoth windmill blades. It was an awful lot like his first job in the steel mills. "All my skills transferred," he says.

"It's a feel-good job," Galloway says. "Not only is it good money and good working conditions, but you feel good because of what you're doing. You're doing something good for the environment, reducing our dependence on foreign oil, and doing something good for our children."

Credit: The Natural Resources Defense Council captures stories of clean energy profiles for the Blue Green Alliance in Pennsylvania. See more profiles at: www.nrdc.org/energy/greenjobs/

The stimulus spending provides a snapshot of countries' resolve to drive toward a low-carbon future. Canada's failure to seize the opportunity to direct stimulus spending at clean energy technologies and jobs is part of a longer-term and more troubling pattern.

Because Canada has ignored the clean energy boom now underway, it is not a player in the global market for clean energy products. In 2008, Canada ranked 31st out of 42 countries for clean energy sales relative to GDP, barely ahead of Tunisia, Indonesia, Malaysia and Egypt.[10]

The sale of clean energy products is relevant to any discussion of jobs because it indicates the strength of the manufacturing sector. Leading countries are not only able to replace domestic fossil fuel use with clean energy, but also to export those technologies. Given that 70 per cent of the labour required for typical solar and wind energy projects is to manufacture the parts to build the wind turbines and solar panels, the countries that manufacture the project inputs capture the majority of the jobs created.[11]

The countries that have gained an early foothold in clean energy industries will reap the job benefits over the next decade. Germany will employ an estimated 400,000 people in renewable energy by

2020, and the European Union as a whole will create an estimated 2.8 million new jobs to meet its domestic renewable energy needs.[12] China is adding 100,000 new clean energy jobs each year, and will create 2.9 million new jobs just to meet its domestic demand for clean energy.[13] Given that China is exporting 95 per cent of the solar panels it produces, the total number of jobs, including manufacturing products for export, will be even higher.[14]

FAILING TO MATCH THE U.S.

At every opportunity, the Canadian government emphasizes that it is harmonizing its energy and climate policies with the United States. Yet, when it comes to investing in clean energy jobs, Canada does not even come close to matching U.S. efforts.

In its 2010 budget, the U.S. allocated US$9.4 billion to renewable energy, US$4.5 billion to energy efficiency and US$12.8 billion to greener transportation.[15] In contrast, Canada's 2010 budget ended a program that had been a successful incentive for new wind energy, and made no new investments in greener transportation. Following on the heels on the budget, the federal government also ended the successful ecoEnergy Retrofit – Homes program, designed to support homeowners increasing the energy efficiency of their houses, and creating retrofitting jobs in the process.[16]

The U.S. is bigger than Canada, so it is important to put those numbers into per capita terms for comparison. In this year's budgets, the U.S. invested 18 times more per person in renewable energy than Canada did.[17]

The 2010 budgets are only the most recent example of how Canada is lagging behind the U.S. The U.S. stimulus package, the *American Recovery and Reinvestment Act,* invested over $90 billion in clean energy. The White House Council of Economic Advisors estimated that stimulus spending on clean energy had already saved or created 52,000 clean energy jobs and another 11,000 induced jobs throughout the economy by September 2009.[18] By the end of 2012, the stimulus spending will have created an estimated 700,000 job-years (one job-year equals one job for one year) of employment.

These jobs are being created in a range of industries and skills – welders, sheet metal workers, engineers, accounting, construction workers, journeymen – and are well-paying relative to other sectors of the labour market.[19]

So far, these jobs are being created in the absence of U.S. federal action to put a price on carbon. A price on carbon would drive further investment and job creation in clean energy. The U.S. House of Representatives has passed legislation that includes a cap and trade system, and the U.S. Senate

"Watch - Michigan will lead a green industrial revolution. I invite you to watch us, encourage us, and join us. And the doubters? I encourage them to just try and keep up."[20]

— **Gov. Jennifer M. Granholm,** Governor of Michigan

Canadians are missing out on new clean energy jobs because the Canadian government is failing to keep up with other countries. The Obama administration is investing 18 times more per person in renewable energy than the Canadian government.

also has legislation pending that may either price carbon or provide stronger incentives for clean energy. It has been estimated that a price on carbon combined with the stimulus spending could spur US$150 billion per year in clean energy over the next decade and lead to the creation of an estimated 2.5 million new jobs.[21]

Because the U.S. and Canada have to date lagged behind other countries in the clean energy sector, concerns have been raised that the U.S. stimulus and budget investments may be leading to more jobs created oversees than at home.[22] The bulk of labour needs for clean energy projects are for manufacturing, and some companies have located the majority of their manufacturing processes in lower cost countries, such as China, and used U.S. stimulus funding to set up only minor manufacturing facilities in the U.S.

To avoid this and build a stronger domestic manufacturing base to support clean energy development, some recommend that the U.S. provide greater financial support to small and medium-sized manufacturers to help them retool to produce clean energy products, put a price on carbon, expand tax credits for clean energy manufacturers and invest in creating a well-trained workforce to meet the needs of U.S. clean energy manufacturers.[23]

QUANTIFYING CANADA'S MISSING JOBS

How badly is Canada missing out on new clean energy jobs? Given that the Canadian government has itself selected the yardstick of matching the U.S. on climate and energy policy, one measure of Canada's missing clean energy jobs derives from the difference between the two countries' public investment in clean energy. Here we estimate the 'job gap' between the U.S. and Canada based on the disproportionate levels of federal investment in renewable energy since President Obama came to power in January 2009.

***above** – Retrofitting homes to make them more energy efficient creates construction jobs. Despite the fact that homeowners invest an estimated $10 in the local renovation industry for each dollar of government funding on energy efficiency, the Canadian government recently cancelled its ecoEnergy Retrofit – Homes program.*

Provinces and States Leading the Way

The jobs and investment numbers in this report are based only on federal initiatives in both countries. However, there are examples of provinces and states getting out in front of their federal governments to lead the clean energy revolution.

Ontario has taken the lead within Canada by passing the *Ontario Green Energy and Green Economy Act* in 2009, a law meant to spur new investment in renewable energy and prioritize energy conservation and efficiency. The Ontario Government predicted that 50,000 new jobs would be created by the Act within the first three years.[25] By April 2010, more than 2,500 MW of new renewable energy generation had been secured, creating an estimated 20,000 new direct and indirect jobs and attracting $9 billion in investment in the province.[26]

In the U.S., states like California took a lead on clean energy prior to the federal investments over the past 18 months. Between 1995 and 2008, green jobs grew by 36%, three times more than overall job growth in the state.[27]

"The time is right to harness market-based instruments to the task -- instruments that encourage large-scale investment in environmental impact mitigation measures by conventional energy producers and consumers, and in renewable energy technology and infrastructure. Our future wealth and quality of life depend on it."[24]

— Joint opinion editorial by **Preston Manning,** former leader of the Reform Party of Canada, and **Andrew Heintzman,** President and CEO of Investeco

Below we have estimated the job gap based on stimulus spending and 2009 and 2010 budget spending. The job gap estimates are for investment in renewable energy only (not including energy efficiency and transportation investments), and are based on Canadian and Ontario labour statistics showing that each million dollars invested in renewable energy generates 14.1-16.4 direct and indirect jobs.[28] Current Canadian multipliers are not available for the other two key aspects of clean energy investment.

The job gap created by Canada's weaker spending on renewable energy alone in the last two budgets is roughly 66,000 direct and indirect jobs. However, the total clean energy investment gap – the additional amount Canada would have spent if matching the U.S. on a per capita basis – is more than $11 billion dollars. Thus, the total job gap is much higher than shown here because it includes lost jobs in transportation and energy efficiency.

	U.S.	Canada	Canada's Job Gap
2009 Clean Energy Spending			
Renewable energy (millions)[29]	$33,145	$270	
Per capita spending[30]	$107.27	$7.94	
Canada's renewable investment gap (millions)[31]		$3,377	**50,656**
Energy efficiency (millions)[32]	$31,372	$800	
Greener transportation (millions)[33]	$30,380	$540	
2009 clean energy investment gap (millions)		$8,832	
2010 Clean Energy Spending			
Renewable energy spending (millions)[34]	$9,870	$64	
Per capita spending[35]	$31.95	$1.90	
Canada's renewable investment gap (millions)		$1,018	**15,274**
Energy efficiency (millions)[36]	$4,690	$293	
Greener transportation (millions)[37]	$13,467	$0	
2010 clean energy investment gap (millions)		$2,727	
Total investment gap (billions)		**$11.5**	
Total job gap (renewable energy only)			**65,930**

Note: Dollar values are in Canadian currency.

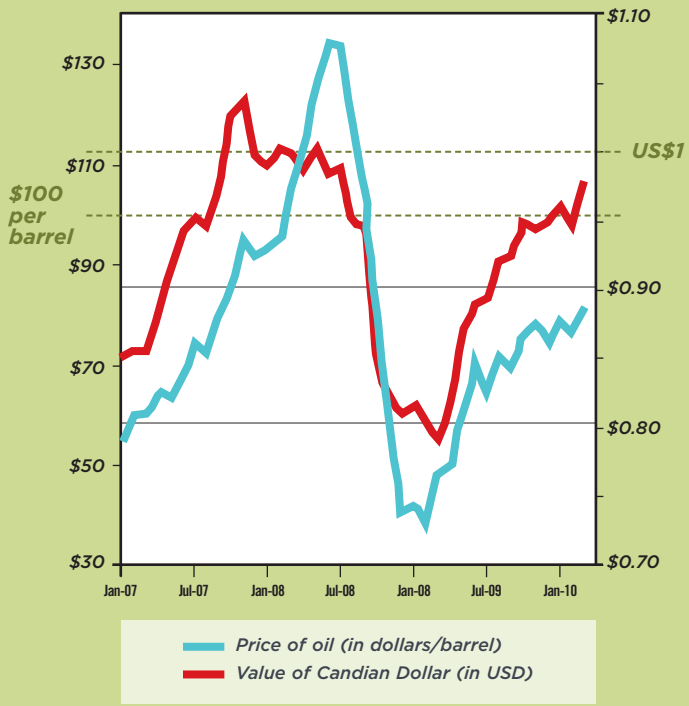
above – *The tar sands, Canada's fastest growing source of global warming pollution, are keeping Canada locked into a fossil fuel economy and preventing the transition to clean energy.* PHOTO CREDIT: DAVID DODGE, PEMBINA INSTITUTE

The Petro-Loonie: Canada's Oil Addiction Fuelling Manufacturing Job Losses

The Canadian government's promotion of the tar sands industry is not only a distraction from creating jobs in the growing clean energy sector, but there's evidence that it hurts the existing manufacturing sector as the Canadian dollar becomes increasingly tied to the price of oil.

Parts of Canada are now being affected by "Dutch Disease" – a term coined in the 1970s to describe the hollowing out of manufacturing in the Netherlands following the discovery of a large natural gas field that similarly impacted the exchange rate there, pricing its manufacturing products out of international markets.[38] A recent study estimated that 42% of manufacturing job loss in Canada due to rising currency has been a result of Dutch Disease stemming from rising oil exports.[39]

If tar sands production is allowed to triple over the next decade as the federal government intends, and oil prices continue to rise, Canada's Dutch Disease could get much worse, adversely affecting manufacturing jobs across the country.



right – *Canada's petrodollar is shown in how our exchange rate – in this case relative to the U.S. dollar – tracks with the price of oil (West Texas Intermediate Crude).* **Source:** West Texas Intermediate, Cushing OK Spot Price. Energy Information Administration. http://tonto.eia.doe.gov/dnav/pet/hist/rwtcM.htm

"One of the key reasons why it's a concern is because this is happening, frankly, at exactly the same time that the United States is moving aggressively to put in place measures to support the deployment of renewable energy …Canada is moving exactly in the other direction, and so what's happening is that gap is widening, and we think that will inevitably lead to investment development leaving Canada and heading for the U.S. instead."[40]

— **Robert Hornung,** president of Canadian Wind Energy Association

CATCHING UP

Canadians can't afford to miss out on the jobs being created in the global clean energy boom. While some provinces, such as Ontario, have stepped into the void left by lack of federal leadership and are actively attracting investment and new jobs in clean energy, Canada as a whole will continue to fall behind unless the federal government gets serious about making Canada a player in clean energy.

To do this, the Canadian government needs to:

1. **Match or surpass U.S. investment in clean energy on a per capita basis.**
2. **Design policies to support clean energy manufacturing in Canada, for example loan programs and tax credits for manufacturing in Canada, and worker training and transition programs.**
3. **Put a price on carbon so that polluters pay for investments in the clean energy economy.**

ENDNOTES

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[31] Calculated by multiplying U.S. per capita spending by Canada's population size (34 million) and subtracting Canadian spending to estimate the 'gap'.

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