

# Empty Pockets

Why Renewables Offer No Resilient Recovery

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# EMPTY POCKETS:

## WHY RENEWABLES OFFER NO RESILIENT RECOVERY

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### Part 3 - Executive Summary

In this part, I will offer views and evidence as to why the economic spinoffs of increased government spending on so-called “clean energy” will harm Canada’s economy far more than help it.

I and others have written about the economic toll already imposed on Canada by climate policies. In assessing the potential economic effects of ever more climate-inspired policy measures, therefore, we know that the costs to date already have had a large negative effect.

## “CLEAN TECHNOLOGY” IS NOT A GROWTH INDUSTRY IN CANADA

Statistics Canada refers to a group of economic activities as “clean technology”, and groups them in two categories: “clean energy and environmental goods and services” and “the environmental and clean technology products account”.

The Clean Technology Goods and Services category is very diverse. Of the total income to this category in 2017, \$32 billion, **most of it is in industries not related to climate policies** (e.g. equipment and services relating to waste management, site remediation, water management, municipal sewage treatment and spill response, and others). In fact, arguably, only about \$5.5 billion of the total is unquestionably driven by climate policies.

The Environmental and Clean Technology Products Account, usually referred to by the government as the “Clean Technology Sector”, had a total income in 2018 of \$66.3 billion. This account’s share of Canadian GDP has been about 3% since 2007, despite the fact that Statistics Canada constantly adds more industries to the category. For over a decade, the Environmental and Clean Technology Products Account has held a shrinking share of Canada’s economy.

## THE CLAIMS ABOUT “GREEN JOBS” ARE EXAGGERATED

According to Statistics Canada, an estimated 317,000 jobs were attributable to the Clean Technology sector (as previously described) in 2018, comprising 1.7% of all jobs in Canada.

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The goal of Canada’s energy sector is not to create as many jobs as possible, especially in politically-favoured and heavily subsidized renewable energy industries. Rather, **the economic goal is to produce as much energy as possible at the lowest possible cost, and that means doing so with the fewest energy workers. It is a common mistake of politicians and the media to treat jobs as an economic benefit, when in fact jobs are an economic cost, or price of production.** The appropriate economic objective is to have the fewest number of workers producing the highest amount of output. The higher productivity, other things equal, justifies higher wages per worker.

Advocates of renewable energy subsidies and mandates do not consider the direct and indirect adverse effects (including job destruction) on a wide array of energy-intensive industries, and the effects of increased prices for consumers. Experience in other countries provides ample evidence of this. Studies in Spain, Italy, Germany, Denmark and the United Kingdom all found that for every job created in the renewable energy sector, two to three jobs were lost in energy consuming sectors of the economy.

Government intrusion into energy markets amounts to little more than attempting to prematurely force businesses to abandon current generally well-known and proven production technologies for new and more expensive ones.

## CONCLUSION

Experience in other countries and in Canada shows that the economic spinoff effects of policies that divert money from the general economy to subsidize renewable energy result in lower value employment in the “Clean Tech” industries, disproportionate loss of employment and income in the broader economy, higher costs for consumers and loss of competitiveness. Despite immense subsidies and a long list of government-conferred advantages, the “Clean Tech” industries hold a smaller and smaller share of Canada’s economy. This is not the way to a post-coronavirus resilient economy.

# EMPTY POCKETS:

## WHY RENEWABLES OFFER NO RESILIENT RECOVERY

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### Part 3

In previous reports entitled, *Broken Promises: Why Renewables Offer No Resilient Recovery: Part 1*, and *Empty Wallets: Why Renewables Offer No Resilient Recovery, Part 2*, I provided partial responses to the claims by advocates of renewable energy that governments should devote far more taxpayers' money to renewables as a way of stimulating economic activity after the current Coronavirus pandemic subsidies. In this part, I will offer views and evidence as to why the economic spinoffs of increased government spending on so-called "clean energy" will harm Canada's economy far more than help it.

It is beyond the scope of a single article to analyze all the economic effects of climate policies. Besides, to do so properly would require an econometric model of the Canadian economy or some other way systematically to assess the effects of increased government spending in one sector of the economy on income, employment, trade, and growth. Several studies have been done on this subject for other countries, with mixed results. Canada's economic conditions, however, are very different from those of other countries, so generalizations based on others' experience may be very misleading. The following comments, therefore, are partial and anecdotal rather than comprehensive and model-based.

## WHY CANADA IS DIFFERENT

Several factors shape the patterns of energy use in Canada. First, Canada is northern and cold. In fact, statistically, it is the coldest country on Earth. At high latitudes, we receive far less sunlight than more southern locations, especially in our long winter. Among other things, that means people who live here need secure, reliable and affordable energy supplies to heat their homes and the buildings in which we work and play.

While the climatic conditions vary greatly, much of Canada also experiences a "continental" climate, which means that summers can be oppressively hot, and people need air-conditioning for comfort. Canada is also very large. It is more than 7,000 km from

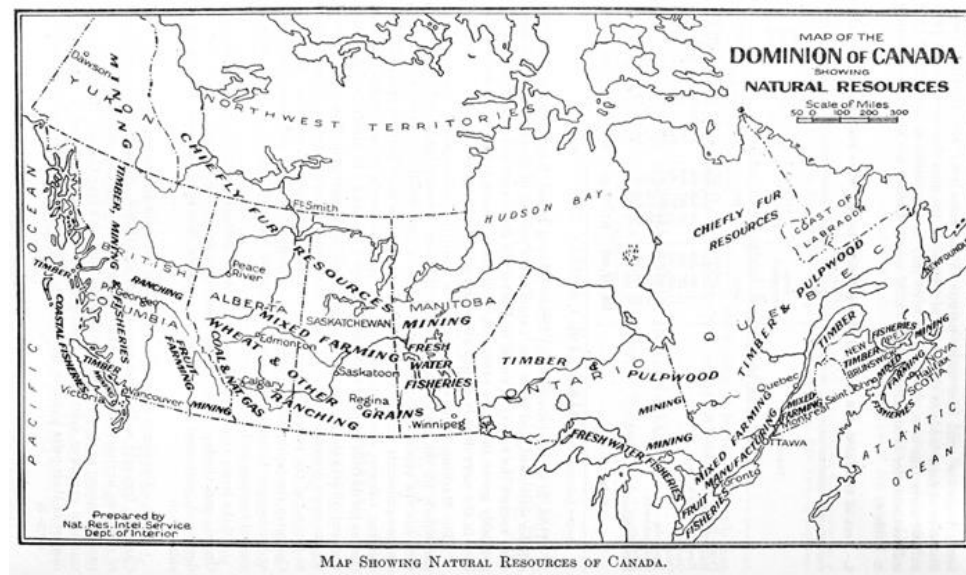


St. John's, Newfoundland to Victoria, British Columbia, and 4,500 km from Windsor in the far south to Yellowknife in the Northwest Territories.



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The long distances between major urban settlements mean that we need lots of energy to move from place to place and we are disproportionately dependent on aviation. Canada is also resource-rich. We have large natural resources of minerals, hydrocarbons (coal, oil and natural gas), forestry and rivers that can produce hydro-electricity. Historically, these accidents of nature have meant that our resources were plentiful and relatively cheap, and this has given us major competitive advantages in trade. These advantages, in turn, have made us rich, with a high standard of living compared to most other countries, and that, too has caused us to use more of the energy-intensive services that are available to support a high-income lifestyle.



The central thesis of climate energy policy is that we should turn our backs on these advantages. We are told that, to solve an alleged global problem, Canada should cease to use its plentiful hydrocarbon resources, raise the costs of its energy to eliminate our competitive advantage, increase the cost of all forms of transport, pretend that we have the sunny conditions of California, and generally embrace the value of scarcity.

On this basis alone, climate policy should be extremely unattractive to Canadians. Those who advocate embracing the conditions of scarcity and high costs should be viewed as betraying who and what we are as a country.

I and others have written about the economic toll already imposed on Canada by climate policies. I will not repeat here the list of actions that have been taken by governments to impair the exploration, development, production, transportation and market access of Canadian oil and gas and the use of coal for power generation. The losses to the economy of western Canada can now be counted in the hundreds of billions of dollars. Climate-inspired policies and regulations have added tens of billions of dollars to the electricity bills of consumers in Ontario, Alberta, Saskatchewan and Nova Scotia. To these will be added the reduced competitiveness and bankruptcies of energy-intensive firms in all sectors as they are burdened by ever-higher carbon dioxide taxes - taxes not paid by competitors in other countries. **In assessing the potential economic effects of ever more climate-inspired policy measures, therefore, we know that the costs to date already have had a large negative effect.**

*With the current push for public policy to adopt 'green energy' schemes, it is time to reflect on the Ontario experience.*

*Ontario's disastrous electricity policy has been publicized and commented on extensively by many sources, so this is not news. What is news is to lay the blame squarely at the door of its climate policy motivation, and, perhaps, to remind people of high the bill has been – \$9 billion for poor contracting practices, \$133 billion in global adjustment fees from 2015 to 2032 (at least 20 per cent of which relates to renewables), \$3.6 billion to build the “smart grid and smart meters”, up to \$55 billion in deferred costs that will hit future ratepayers, and 75,000 lost industrial jobs. That is quite the tally for zero global environmental benefit.*

Source: <https://blog.friendsofscience.org/wp-content/uploads/2019/06/The-Ontario-Electricity-Legacy-FINAL.pdf>

So, let us examine whether the claim that renewable energy and other “clean energy” expenditures can provide the basis for a resilient recovery from the coronavirus pandemic.

## “CLEAN TECHNOLOGY” IS NOT A GROWTH INDUSTRY IN CANADA

### CLEAN TECHNOLOGY HAS LITTLE TO DO WITH REDUCING GREENHOUSE GAS EMISSIONS

**It should be noted at the outset that the whole concept of “clean technology” is artificial; the analysis of Canada’s economic sectors that make up our Gross Domestic Product (GDP) contains no such category. To the extent that it refers to the energy sector, there is no source of energy whose production, transformation, transportation and use does not have both positive and negative environmental consequences.**

Statistics Canada, however, has taken to referring to a group of economic activities as “clean technology”, and grouped them in two categories: “clean energy and environmental goods and services” and “the environmental and clean technology products account”.

StatsCan defines “clean technologies” as:

- *Any good or service designed with the primary purpose of contributing to, remediating or preventing any type of environmental damage; plus*
- *Any good or service that is less polluting or more resource-efficient than equivalent normal products which furnish a similar utility. Their primary use, however, is not one of environmental protection.*

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That is a definition so broad one could drive a truck through it. In addition to adopting a loose and easily expandable definition, Statistics Canada added to the list of products and services that qualify for inclusion in the category every year, making year-to-year comparisons difficult. Table 1 provides a breakdown for environmental and clean technology goods and services in 2017.

**TABLE 1**  
**Breakdown of “Clean Technology” Goods and Services by Income 2017**

<b><u>Industry Goods</u></b>	<b><u>Income (\$M)</u></b>
<b>Sale of energy efficiency technologies</b>	6,300
<b>Manufacture of transportation technologies</b>	3,700
<b>Manufacture of biofuels and bio-products</b>	1,600
<b>Wind, solar and hydro generation products</b>	1,500
<b>Non-hazardous waste management equipment</b>	914
<b>Precision agriculture technologies</b>	896
<b>Equipment for spill response and remediation</b>	403
<b>Smart grid and energy storage technologies</b>	357
<b>Water management and drinking water treatment</b>	127
<b><u>Services</u></b>	
<b>Waste Management Services</b>	7,800
<b>Site Remediation and decommissioning</b>	3,100
<b>Clean energy services</b>	1,900
<b>Environmental Assessment services</b>	1,700
<b>Energy efficiency consulting services</b>	1,300
<b>Water management services</b>	433
<b>Smart grid services</b>	88
<b>Transportation services</b>	22
<b>Total</b>	<b>32,140</b>

Source: Statistics Canada



The categories of equipment and services relating to waste management, site remediation, water management, municipal sewage treatment and spill response have little or nothing to do with the climate policy the government is promoting. Arguably, the sale of energy efficiency technologies, which has been going on for fifty years, is not necessarily related to climate goals, either. **In fact, arguably, only about \$5.5 billion of the total is unquestionably driven by climate policies.**

## THE CLEAN TECHNOLOGY SECTOR IS NOT GROWING

The Environmental and Clean Technology Products Account, usually referred to by the government as the “Clean Technology Sector”, includes clean technology services (scientific, construction and support services), clean technology goods (manufactured goods), environmental services (waste management and remediation services) and environmental goods (“clean energy and primary goods”). In 2018, the total contribution of this sector to Canada’s economy was \$66.3 billion. In the same year, the oil and gas industry contributed \$117 billion to GDP, despite operating during a period of lower oil and gas prices.

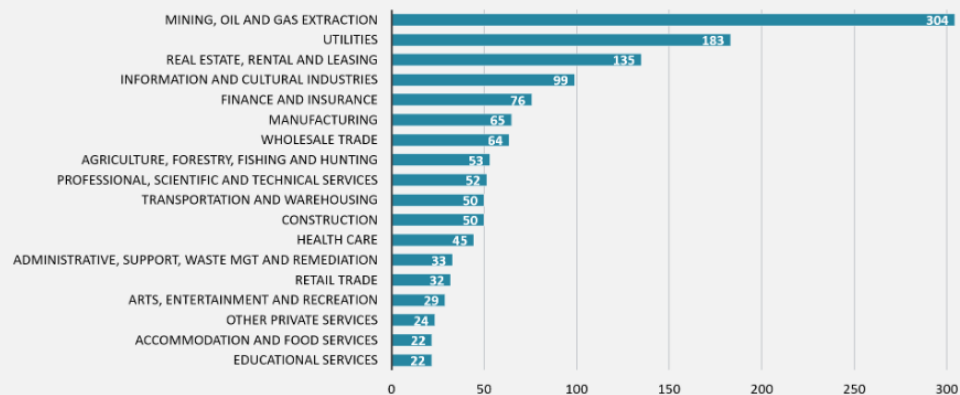


For every hour worked in the natural resource sector in 2018, Canada generated \$304 of real income. That is well in excess of utilities (\$183 per hour), real estate (\$135), information and cultural industries (\$99), finance and insurance (\$76) and manufacturing (\$65). The high levels of income generated from Canada’s most productive sectors create demand for other goods and services across the rest of the economy.

Figure 1

### WHICH INDUSTRIES “PAY THE BILLS” FOR CANADA?

*Labour productivity (Real GDP at basic prices per hour worked), 2019, Canada*



Source: Statistics Canada.

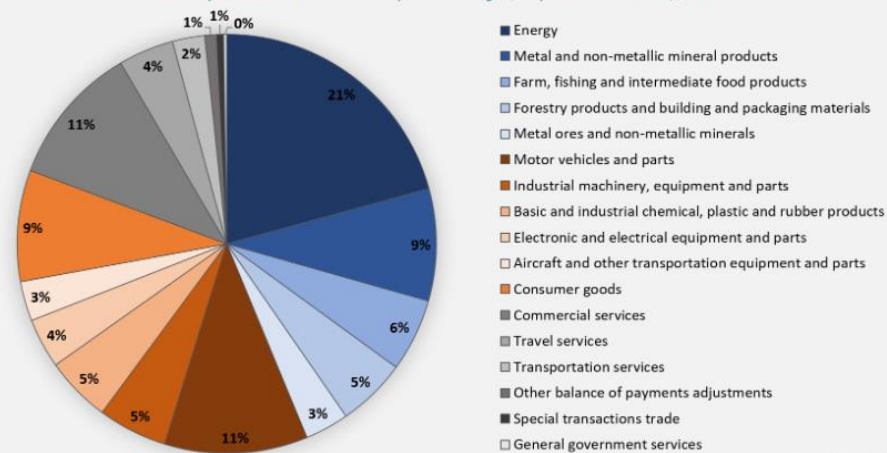
Source: [https://bccbc.com/insights-and-opinions/which-industries-pay-canadas-bills?fbclid=IwAR2-9OXAQ\\_Hh3YGvDAfVMQJdmtYMaBLm1kCIHWaZTNm1d-D2NQdzFRp3vC8](https://bccbc.com/insights-and-opinions/which-industries-pay-canadas-bills?fbclid=IwAR2-9OXAQ_Hh3YGvDAfVMQJdmtYMaBLm1kCIHWaZTNm1d-D2NQdzFRp3vC8)

According to StatsCan data, the Environmental and Clean Technology Products Account share of total Canadian GDP has edged up from 3.0% in 2007 to 3.2% in 2018. In real terms, the GDP at basic prices of the environmental and clean technology products sector rose by 5.2% from 2007 to 2016, but the total Canadian economy grew 14.4% over that period. From 2017 to 2018, the account grew by 0.8% in real terms, but the total Canadian economy grew 2.2 5 over the same period. **In other words, for over a decade the Environmental and Clean Technology Products Account has held a shrinking share of Canada's economy.**

Figure 2

### NATURAL RESOURCES AND MANUFACTURING CONTRIBUTE TWO-THIRDS OF CANADA'S EXPORT EARNINGS

Composition of Canadian export earnings (output in real terms), 2019



Source: Statistics Canada.

Source: [https://bccbc.com/insights-and-opinions/which-industries-pay-canadas-bills?fbclid=IwAR2-9OXAO\\_Hh3YGVdAtVMQJdmtYMqBLm1kCIHWaZTNm1d-D2NQdzFRp3vC8](https://bccbc.com/insights-and-opinions/which-industries-pay-canadas-bills?fbclid=IwAR2-9OXAO_Hh3YGVdAtVMQJdmtYMqBLm1kCIHWaZTNm1d-D2NQdzFRp3vC8)

## THE CLAIMS ABOUT "GREEN JOBS" ARE EXAGGERATED

### THE BASIC NUMBERS

One of the main claims of those who support current climate policy is that "clean energy", and renewable energy in particular, offers the prospect of much increased employment for Canadians. Let us examine the facts.

According to Statistics Canada, an estimated 317,000 jobs were attributable to the Clean Technology sector (as previously described) in 2018, **comprising 1.7% of all jobs in Canada.** Of these, just over 80,000 jobs were in the engineering construction industry and 70,000 were in the utilities industry. Statistics Canada does not break out the employment in the oil and gas industry as a separate category, but rather includes them in the “mining, quarrying, and oil and gas extraction” sector, which in 2018 employed 204,000 people.

#### DISTINGUISHING JOBS FROM EMPLOYMENT AND EMPLOYMENT FROM PRODUCTIVITY

The public discussion about employment and the energy industries has become highly politicized. To take only one example, opponents of new oil pipeline construction in Canada and the United States have trivialized the estimates of employment spinoffs because the largest effects occur during two to three-year construction periods and the number of people employed to operate a pipeline is far smaller. The same people then ignore the same consideration when it comes to the construction of industrial wind turbines and solar plants. **The best way to consider the employment effects of any project is in terms of person-years of employment, but this standard is rarely used because of the politics surrounding the issues.**

A more fundamental point is that the advocates of governmental intervention in the energy sector misunderstand the economic rationale of jobs. Mark Perry explained the issue in 2017, by comparing the number of workers employed in the U.S. solar power industry with the number employed in natural gas-fired generation<sup>1</sup>.

*“To start, despite a huge workforce of almost 400,000 workers (about 20 percent of electric power payrolls in 2016), that sector produced an insignificant share, less than 1 percent, of the electric power generated in the United States last year...In contrast, it took about the same number of natural gas workers (398,235) last year to produce more than one-third of U.S. electric power, or 37 times more electricity than solar’s miniscule share of 0.90 percent.*

**The goal of Canada’s energy sector is not to create as many jobs as possible, especially in politically-favoured and heavily subsidized renewable energy industries. Rather, the economic goal is to produce as much energy as possible at the lowest possible cost, and that means doing so with the fewest energy workers.** It is a common mistake of politicians and the media to treat jobs as an economic benefit, when in fact jobs are an economic cost, or price of

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<sup>1</sup> Mark Perry, *Today’s most productive workers are in coal and gas, not solar*, Washington Examiner, May 3, 2017.

production. The appropriate economic objective is to have the fewest number of workers producing the highest amount of output. The higher productivity, other things equal, justifies higher wages per worker.

#### UNECONOMIC GREEN JOBS, HOWEVER, DO COST THE ECONOMY JOBS ELSEWHERE

The jobs that may be created as a direct result of renewable energy subsidies and mandates tend to be considered as manna from heaven; advocates do not consider the direct and indirect adverse effects (including job destruction) on a wide array of energy-intensive industries, and the effects of increased prices for consumers. Experience in other countries provides ample evidence of this.

Consider the results of studies in Europe on the actual experience of countries there since they began major “green energy” programs starting in 1997.

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#### SPAIN

In March 2009, researchers Gabriel Calzada Alvarez and his colleagues at the Universidad Rey Juan Carlos released a study examining the economic and employment effects of Spain’s aggressive push into renewables.<sup>2</sup> What they found undermines the usual green-job rhetoric:

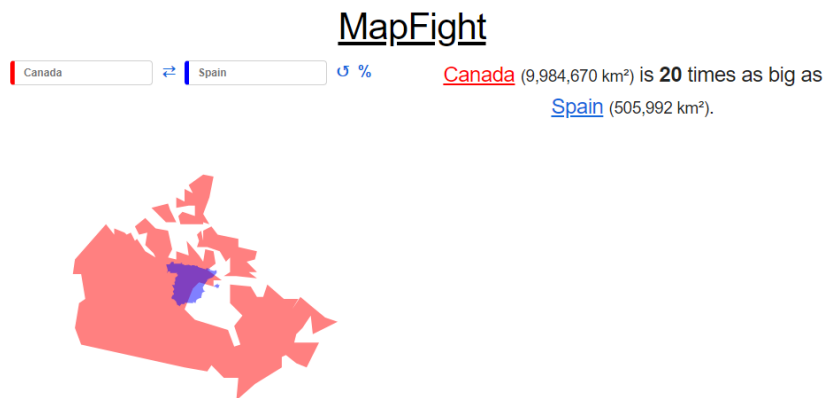
- From 2000 to 2008, Spain spent 571,000 Euros (Cdn \$800,000) on each green job, including subsidies of more than one million Euros (Cdn \$1.4 million) per job in the wind industry.
- **The programs creating these jobs destroyed nearly 110,500 jobs elsewhere in the Spanish economy (2.2 jobs for every green job created).**

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<sup>2</sup> Gabriel Calzada Alvarez, Raquel Merino Jara, Juan Ramon Rallo Julian, and Jose Ignacio Garcia Bielsa, “*Study of the Effects of Employment of Public Aid to Renewable Energy Sources*”. Universidad Rey Juan Carlos, March 2009 ([www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf](http://www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf))

- The resulting high cost of electricity mainly affected production costs and levels of employment in metallurgy, nonmetallic mining, food processing and beverage and tobacco industries.

In addition, the subsidies proved an invitation to corruption. According to Bloomberg BusinessWeek reports, “An audit of solar-power generation from November 2009 to January 2010 found that some panel owners were paid for doing the impossible – producing electricity from sunlight at night.” It appears that the solar power producers ran diesel-burning generators and sold the output as solar power, which earns several times more than electricity from fossil fuels.




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## ITALY

A study performed by Luciano Lavecchia and Carlo Stagnaro of Italy’s Bruno Leoni Institute found a similar situation in Italy.<sup>3</sup>

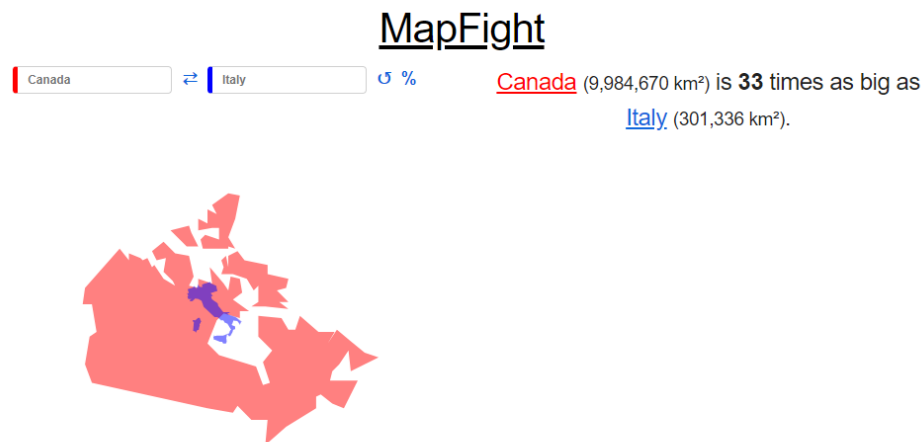
- Comparing the average stock of capital per worker in the renewable energy systems with the average stock of capital in industry and the entire economy, they found an average ratio of 6.9 and 4.8, respectively. To put it otherwise, **the same amount of capital that creates one job in the green sector would create 6.9 jobs or 4.8 jobs if invested in other industries or in the economy in general.**

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<sup>3</sup> Luciano Lavecchia and Carl Stagnaro, *Are Green Jobs Real Jobs? The Case of Italy*. Milan, Italy: Istituto Bruno Leoni, May 2010 ([http://brunoleonimedia.servingfreedom.net/WP/WP-Green\\_Jobs-May2010.pdf](http://brunoleonimedia.servingfreedom.net/WP/WP-Green_Jobs-May2010.pdf))

- The vast majority of green jobs were temporary. Most of the jobs – at least 60% - were for installers or other temporary work that would disappear once a photovoltaic panel or wind tower was operative.

- The Mafia were involved in rampant corruption in the renewables sector. The so-called “eco-Mafia” has been fraudulently creaming off millions of euros from both the Italian government and the European Union.




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## GERMANY

Manuel Frondel of the Rheinisch-Westfälisches Institute conducted a study of the effects of Germany’s aggressive promotion of wind and solar power.<sup>4</sup>

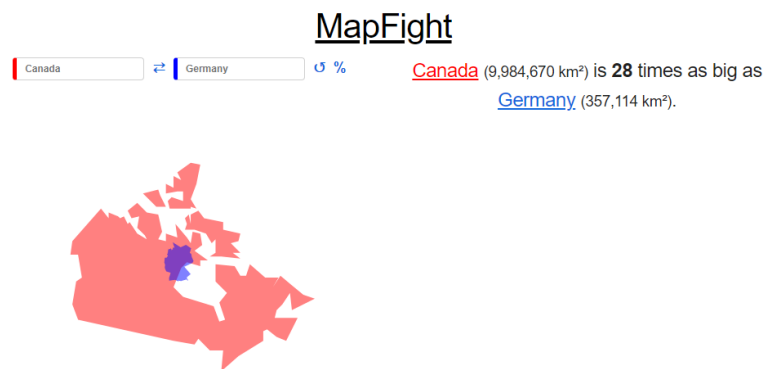
- Rather than bringing benefits in terms of lower-cost energy and a proliferation of green-energy jobs, the implementation of wind and solar programs raised household energy rates by 7.5%. The cost of this was “astonishingly high”: over \$1000 per ton of CO2 equivalent for

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<sup>4</sup> Manuel Frondel, Nolan Ritter, Christoph M. Schmidt, and Colin Vance, *Economic Impacts from the Promotion of Renewable Energies, the German Experience*. Germany: Rheinisch Westfälisches Institut für Wirtschaftsforschung, 2009

solar power and over \$80 per ton of CO2 equivalent for wind power. This compares to the carbon price in the European Trading System of about \$19 per ton of CO2 equivalent at the time, so this was not a great investment.

- In the case of photovoltaics, Germany's subsidization regime has reached a level that by far exceeds average wages, with per-worker subsidies as high as 175,000 euros (Cdn \$245,000).
- He concluded, "We should regard the country's experience as a cautionary tale of massively expensive environmental and energy policy that is devoid of economic and environmental benefits".
- The energy surcharge added 7.2 billion Euros to German consumers' electricity bills in 2013 alone. **As many as 800,000 Germans had their power cut off because of an inability to pay for rising energy costs. German industry associations warn that these policies are accelerating the deindustrialization of the country.**



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## DENMARK

CEPOS, a Danish think tank, issued a 2009 report entitled, *Wind Energy, the Case of Denmark*.<sup>5</sup> Among other things, it found:

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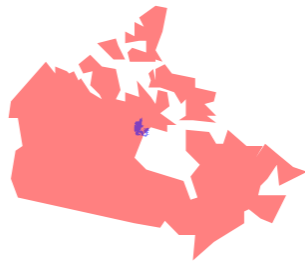
<sup>5</sup> Hugh Sharmen, Henrik Meyer and Martin Agerup, *Wind Energy: The Case of Denmark*. Copenhagen, Denmark: Center for Politiske Studier, September 2009

([www.cepos.dk/fileadmin/user\\_upload/Arkiv/PDF/Wind\\_energy\\_the\\_case\\_of\\_Denmark.pdf](http://www.cepos.dk/fileadmin/user_upload/Arkiv/PDF/Wind_energy_the_case_of_Denmark.pdf))

- Denmark's electricity prices are the highest in the European Union.
- The greenhouse gas emissions benefits of a huge investment in wind energy were slim to none, as most of the production is exported to countries where it displaces hydropower, which does not produce significant greenhouse gas emissions.
- **Regarding green jobs, the effect of the government subsidy has been to shift employment from more productive work in other sectors to less productive work in the wind industry.** As a consequence, Danish GDP is approximately 1.8 billion DKK (Cdn \$300 million) lower than it would have been if the wind sector work force was employed elsewhere.

### MapFight

↔  %  
[Canada](#) (9,984,670 km<sup>2</sup>) is **232** times as big as  
[Denmark](#) (43,094 km<sup>2</sup>).




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### UNITED KINGDOM

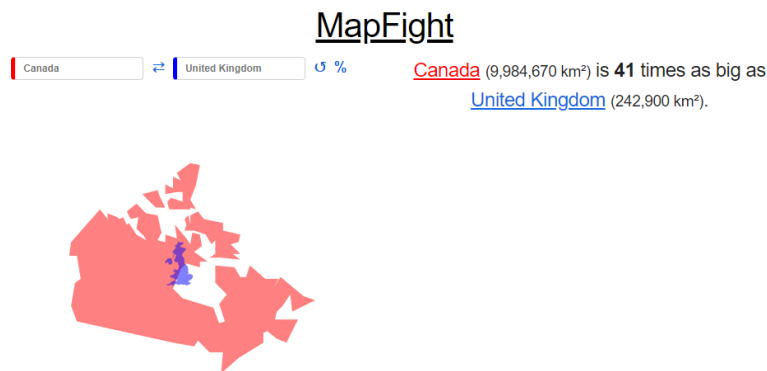
A 2011 study by Verso Economics examined the green jobs experience in the UK and Scotland.<sup>6</sup> Verso's conclusions were similar to those in Spain and Italy.

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<sup>6</sup> Richard Marsh and Tom Miers, *Worth the Candle? The Economic Impact of Renewable Energy Policy in Scotland and the UK*. Kirkcady, Scotland: Verso Economics, March 2011 ([www.versoeconomics.com/verso-0311B.pdf](http://www.versoeconomics.com/verso-0311B.pdf))



- **For every job created in renewable energy in the UK, 3.7 jobs are lost.**
- The Renewables Obligation, which effectively raises the market prices paid for electricity from renewable sources, cost electricity customers 1.1 billion pounds (\$Cdn \$2.1 billion) in 2009/10.
- The policy to promote renewable energy in the UK had an opportunity cost of 10,000 direct jobs in 2009/10.



## WHY THESE RESULTS SHOULD HAVE BEEN EXPECTED

In terms of economic theory, it is not surprising that government programs to accelerate investment in certain industries might fail, either in stimulating new industries or creating economically sustainable employment opportunities. Indeed, it is highly questionable that a government campaign to spur “green jobs” would have net economic benefits. Government intrusion into energy markets amounts to little more than attempting to prematurely force businesses to abandon current generally well-known and proven production technologies for new and more expensive ones. These interventions impose negative consequences resulting from forcing higher-cost energy sources on the economy. Consumers pay more on a wide array of energy-intensive goods. GDP growth declines and jobs are lost.

## GOVERNMENT PICKING OF WINNERS AND LOSERS IS A CLASSIC EXAMPLE OF UNSOUND ENERGY POLICY

Governments cannot direct capital and labour markets more efficiently than market wage and interest rates. In fact, history is replete with evidence that government lacks this ability. The U.S. synfuels program of the late 1970's is a classic example of labour and capital being pulled, by government decision, into lower-value uses than the industries into which market forces would have channeled them.

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If a government makes a poor investment decision, or, worse still, makes a politically-motivated investment decision where the investment has little chance of succeeding (other than in generating regional votes), it does not risk going out of business. Politicians and bureaucrats aren't risking their own life savings. But their activities still have a large cost. **Bad government investment decisions mean we all have to pay for the mishaps with higher taxes; and those higher taxes curtail investment spending by individuals and businesses.**

Yet, much of "green energy policy" is based, at some level, on government officials making choices as to which technology areas to further subsidize and support (wind, solar, biomass, ethanol, energy storage, etc.). It is very unlikely that this will yield a more efficient and economically sustainable energy mix than what would be determined in the market absent government intervention.

The same thing applies to forcing by decree energy efficiency measures that "pay for themselves". If adding new insulation or buying a higher efficiency clothes dryer would save more money than the original cost (including interest), then it is unclear why governments need to direct or subsidize the improvements. Private business and households do not need to be aided in the process of furthering their own self-interest.

## CONCLUSION

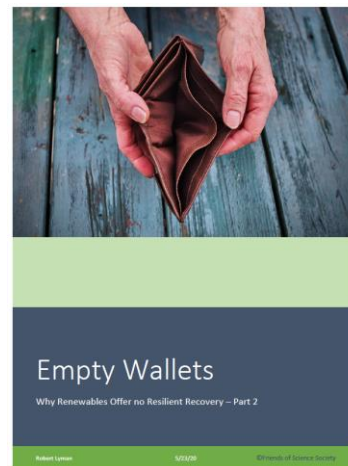
Experience in other countries and in Canada shows that the economic spinoff effects of policies that divert money from the general economy to subsidize renewable energy result in lower value employment in the "Clean Tech" industries, disproportionate loss of employment and income in the broader economy, higher costs for consumers and loss of competitiveness. Despite immense subsidies and a long list of government-conferred advantages, the "Clean Tech" industries hold a

smaller and smaller share of Canada's economy. This is not the way to a post-coronavirus resilient economy.

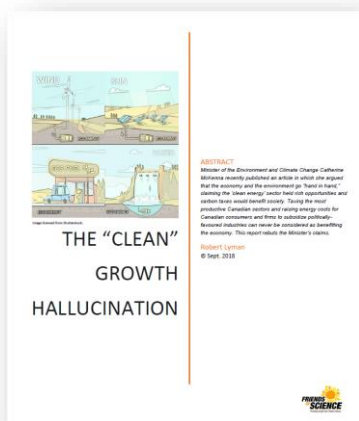
## Additional Resources:



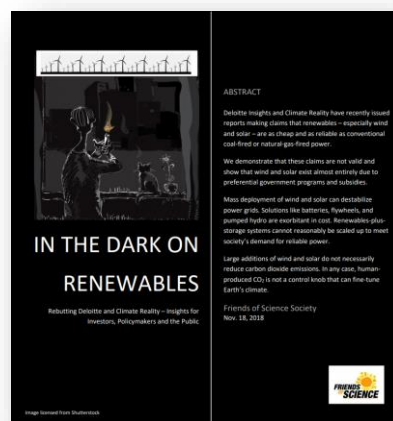
<https://blog.friendsofscience.org/wp-content/uploads/2020/05/Broken-Promises-part-1-FINAL.pdf>



<https://blog.friendsofscience.org/wp-content/uploads/2020/05/EMPTY-WALLETS-NO-RESILIENT-RECOVERY-PART-2-Final-cover.pdf>



<https://blog.friendsofscience.org/wp-content/uploads/2018/09/The-Clean-Growth-Hallucination-FINAL-Sept-19-2018.pdf>



<https://blog.friendsofscience.org/wp-content/uploads/2018/11/In-the-Dark-on-Renewables-FINAL-Nov-18-2018.pdf>



<http://blog.friendsofscience.org/wp-content/uploads/2017/05/grounded-in-reality-may-03-2017-final.pdf>

### *About the Author*

Robert Lyman is a former public servant of 27 years and a diplomat for 10 years. Lyman's bio can be read [here](#).

### *About Friends of Science Society*

Friends of Science Society is an independent group of earth, atmospheric and solar scientists, engineers, and citizens that is celebrating its 18th year of offering climate science insights. After a thorough review of a broad spectrum of literature on climate change, Friends of Science Society has concluded that the sun is the main driver of climate change, not carbon dioxide (CO2).

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