Steady Path

How a transition to a fossil-free Canada is in reach for workers and their communities

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environmental defence

INTRODUCTION

This brief investigates the actual state of labour and employment in Canada's fossil fuel industry, delves into some of the dimensions of a planned and fair employment transition away from fossil fuels, explains why that transition is manageable, and lays down a roadmap of principles that should be followed. It summarizes the findings of "Employment Transitions and the Phase-Out of Fossil Fuels," authored by economist Jim Stanford at the Centre for Future Work in partnership with Environmental Defence Canada.[1]

It is increasingly clear that a transition from fossil fuels isn't just necessary: it is inevitable and already under way. Prices for renewable energy production and battery storage continue to drop to record lows, spurring the growth of alternatives on both the supply and demand side of the energy equation that are outcompeting fossil fuels on price, efficiency, reliability, and cleanliness.

Many fear that such a fossil fuel phase out will cripple Canada's economy and labour market. Those with vested financial interests in the fossil fuel industry exploit these fears to oppose the climate actions and policies needed to best position Canada for a sustainable, carbon-neutral energy future (see Box 1 on Canada's responsibility to tackle climate change).

But the actual number of fossil fuel jobs and the number of communities reliant on the industry is small enough that a just and equitable transition plan for workers is very feasible. Contrary to the claims of petroleum industry lobbyists and government-funded "war rooms",[2] the fossil fuel sector is a modest source of employment in Canada, directly accounting for less than 1% of all jobs in Canada. These fossil fuel jobs are not evenly distributed across Canada. Surprisingly, 56% of fossil fuel jobs are based in urban areas. In total, there are only 18 communities where fossil fuel jobs constitute more than 5% of the job market. **The relatively small number of direct fossil fuel jobs and communities that will be affected suggests that powerful and generous transition supports could and should be provided to assist affected workers and communities as the transition continues in a way that was not available to workers during previous periods of economic transition.**

<1%

The fossil fuel sector directly accounts for less than 1% of all jobs in Canada.

So what is the roadmap to ensure that the labour and community transition to a fully sustainable, fossil-fuel-free economy is manageable? A more detailed outline is presented further below, but in short they include:

- Undertaking the transition over a long enough time period, such as two decades, to avoid any sudden, unmanageable shocks. Waiting and letting global economic forces dictate when and how quickly the transition happens is a far more precarious approach.
- Implementing strong policies to support an orderly transition, protect affected workers, and safeguard communities. This includes encouraging retirement for fossil fuel workers, that are already on average older than the Canadian workforce. It also includes income support and comprehensive training programs for younger workers with careers ahead of them.
- Ensuring strong job-creation, both with economic development strategies and industrial policies that diversify the economy and encourage investment in growing industries, and through public spending in communities most affected by the fossil fuel phase-out.

With retirements and voluntary departures, a 20-year phase-out of fossil fuel industries can be achieved without major disruption or damage to Canada's overall labour market. The Canadian labour market creates as many jobs every 10 days as would be phased out from fossil fuel industries each year. Besides, necessary support programs have been implemented successfully in other jurisdictions around the world, phasing out major fossil fuel industries without creating unemployment or economic hardship. Canada can do the same, and that would be much more compassionate than the false promises of fossil fuel advocates, many of whom claim they are "standing up" for the livelihoods of fossil fuel workers even as they witness (and indeed actively participate in) the unplanned and unsupported dislocation of workers and communities.

BOX 1

Canada's responsibility to tackle climate change *and* to protect jobs and communities

Climate change poses an existential threat to the well-being and security of people everywhere. Families in Canada and around the world are suffering huge costs due to more frequent and expensive floods, wildfires, and storms linked to climate change. These are leading to higher insurance premiums, escalating health affects, and other consequences.

Canada has a special responsibility to act. Canadian-produced fossil fuels (used at home and abroad, via exports) contribute significantly and disproportionately to global fossil fuel GHG emissions when compared the size of the population.[3] Canada is a Top 10 global carbon emitter, contributing significantly to the accelerating rise in CO_2 concentrations and global temperatures. We have the resources to both act and to assist less industrialized countries.

Ultimately, doing our fair share to avoid the climate catastrophe and build a zero carbon economy will require a full economic transition away from the production and consumption of fossil fuels—by far the biggest source of carbon pollution in the world. Fortunately, there are many proven policies and technologies that can quickly reduce and eventually eliminate Canada's use of fossil fuels and our greenhouse gas emissions.

STATE OF FOSSIL FUEL INDUSTRIES IN CANADA: PRODUCTION AND JOBS

Fossil fuel industries (and petroleum production in particular) are often portrayed as the "engine" of Canada's economy. Investments in bitumen mining and processing, coal mines, LNG plants, and other huge facilities — mostly oriented around export shipments — generate front-page coverage in newspapers and win top-priority attention from political leaders. But high-profile attention on these fossil fuel projects is out of proportion to the actual number of jobs the industry creates. In actual fact, together they constitute a very small proportion of employment in Canada.

BOX 2

Fossil fuel sub-sectors

The report considers seven key sub-sectors of fossil fuel production and use in Canada:

- Oil and natural gas exploration, development and extraction
- Service and support activities related to petroleum and coal extraction (which are reported separately by Statistics Canada as the "support activities for mining")[4]
- Fossil fuel refining and processing
- The portion of the electricity system that uses coal, oil, and natural gas as fuels
- Natural gas distribution
- Coal mining
- Fossil fuel pipelines

↓17%

Payroll employment in those seven sectors declined by about 33,000 positions from 2014 through 2019, a drop of over 17%.

The report identifies seven major fossil fuel sub-sectors (see Box 2) that together employed about 170,000 workers in 2019.[5] That represents just under 1% of total employment in Canada's economy.[6] And employment in these fossil fuel industries has been declining in recent years. Direct payroll employment in those seven sectors declined by about 33,000 positions from 2014 through 2019, a drop of over 17%.[7] Not surprisingly, another 17,500 jobs have disappeared so far since the onset of the COVID-19 pandemic and associated recession in 2020.[8]

Even as fossil fuel employment was falling quickly, in both absolute and relative terms, in 2019 Canada achieved the lowest national unemployment rate in the history of our modern labour market statistics. The planned phase-out of fossil fuel employment over a 20-year period, therefore, does not have to be destabilizing; in fact, it has already started and has been occurring at a significant pace.

IMPORTANT CONSIDERATIONS IN THE EMPLOYMENT TRANSITION

There is strong evidence on multiple fronts that the employment transition that will accompany the phase out of fossil fuels is entirely manageable, if accompanied by appropriate transition supports and macroeconomic policies. Note that national job creation and economic growth thrived after 2014, even as employment in fossil fuel industries shrank. The relatively small proportion of jobs in fossil fuels makes the transition easier, as does the fact that most fossil fuel workers are closer to retirement than the Canadian average. And historical examples exist of even larger employment transitions in Canada's past, in addition to a number of examples from other parts of the world of successfully planned phase-outs of fossil fuel industries. Planning is key, of course, as discussed below.

1. NORMAL CHURN IN THE JOB MARKET SWAMPS CHANGES IN FOSSIL FUEL JOBS

The number of fossil fuel jobs that will gradually disappear as we undertake an energy transition over the next two decades needs to be put into perspective. There are two important facts to remember.

The first is the relative size of the fossil fuel labour force in Canada compared to other sectors. By any standard, fossil fuel industries rank near the bottom of major industrial employers in Canada. Even modest changes in employment in other, larger industries will swamp developments in fossil fuels in their impact on the overall labour market. Among the 20 major industries defined

by Statistics Canada, there are only two — utilities and 'management of companies and enterprises'— that employ fewer people than all fossil fuel industries put together.[9]

The second factor is the size of the ongoing flow of workers into and out of employment, and between jobs in the labour market. Media coverage about national job-creation usually reports the *net* change in *total* employment from one month to the next, typically the creation of 20,000 to 30,000 new jobs per month.[10] But underneath that rather undramatic gradual growth— think of it as the relatively calm "surface" of the labour market—is a constant whirlpool of labour market churn. On average from 2007 to 2018, some 6.2% of working age Canadians (the current equivalent of about 1.8 million people) changed their employment status *per month*.[11] Over the course of a year, several million Canadians change their job status. This is a powerful and ongoing degree of mobility.

Let's look at the 2014 to 2019 period. As jobs were being shed in fossil fuel industries – oil and gas in particular – the rest of the economy created a net total of 1.35 million new jobs.[12] In fact, in that time, the Canadian economy produced enough new jobs every 7 months, to *completely absorb* all jobs currently existing in fossil fuel production. For those five years, for every job that disappeared in fossil fuel industries, other industries created a total of 42 offsetting jobs.[13] *Any one* of Canada's ten largest industries created more than enough new jobs in that period to *single-handedly* offset all jobs lost in fossil fuel work.[14] Between 2014 and 2019, even Canada's hard-pressed manufacturing sector created almost three new jobs for every job lost in fossil fuel industries.[15]

Looking forward, a gradual, 20-year phase-out of fossil fuel production and use would imply an annual shift away from fossil fuel employment of about 8,500 jobs per year. That is barely large enough to even register in Canada's labour market statistics. For comparison, during the last 5 years (2015-2019) Canada's economy produced that many new jobs *every 10 days*.[16] So long as the phase-out occurs gradually over a long-announced timetable, most of those 8,500 annual job reductions can be accomplished through retirement and other forms of voluntary severance. For a look at how job transitions have happened in the past, see Box 3.

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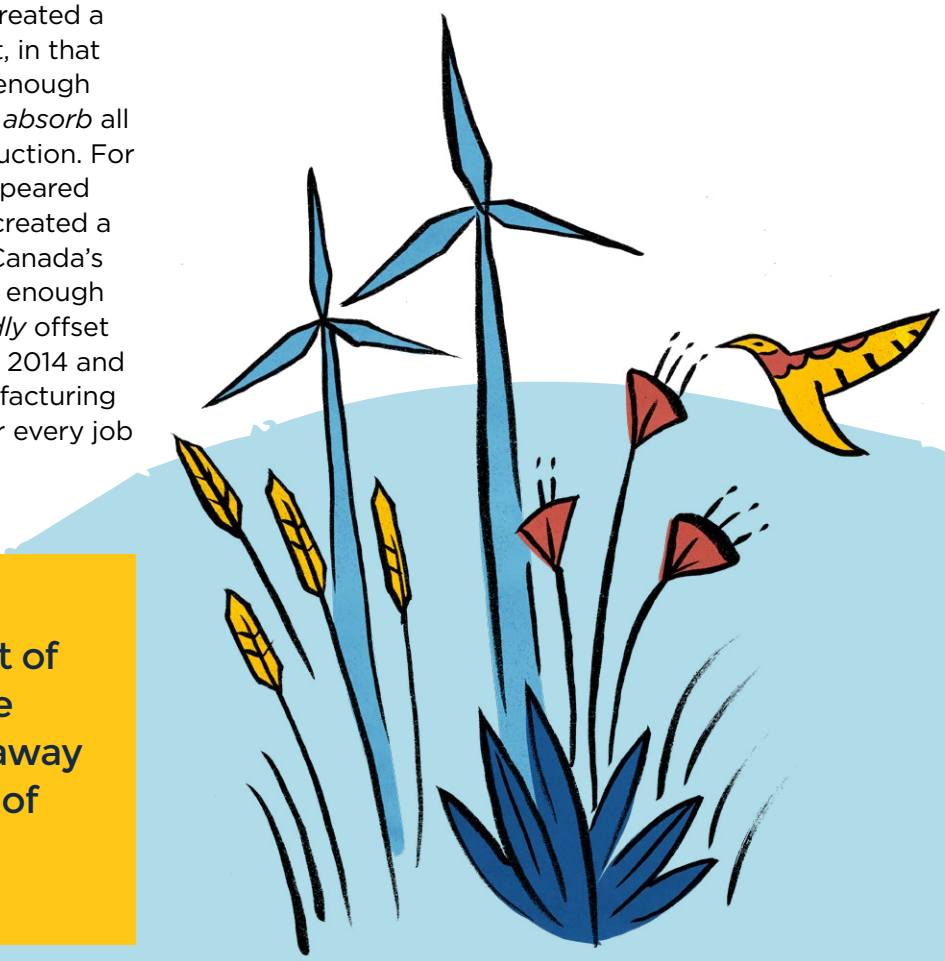

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BOX 3

Significant economic and job transitions have happened before in Canada.

Agriculture

At the time of the 1901 census, over 40% of Canadians reported working in the agricultural sector.[17] Today, that share is just 1.5%.[18] As a portion of the total job market, this decline was 40 times greater than the coming transition away from fossil fuel jobs.[19]

Urbanisation

Coincident with the decline in agricultural jobs has been the explosive growth of population and employment in Canada's major cities. At the turn of the 20th century, over 62% of Canadians lived in rural areas. Today, this has flipped and 72% of Canadians now live in cities.[20] Urban areas have become the most important engines of the Canadian economy – even the majority of fossil fuel jobs are located there.

Women's Paid Work

In 1948, after the demobilization of war production in which women had played a vital role, women constituted just 21% of the paid labour force in Canada.[21] In 2019, women constitute almost half, at 47.7%.[22] Initial fears that there would not be enough work to employ so many women were completely unfounded. Today, women experience a slightly lower unemployment rate than men (5.3% to 6.0%).

Manufacturing

At the turn of this century, the manufacturing sector employed over 2 million Canadians and accounted for 16% of all employment.[23] Over the next decade, one-quarter of those jobs – almost 600,000 positions – disappeared. (The auto manufacturing sector was particularly hard hit, losing 75,000 out of 185,000 jobs.) **The loss in the manufacturing sector was more than three times the number of jobs in fossil fuels today and declined in half the time proposed for the fossil fuel industry here.** Today, the regions most affected by the manufacturing shut-down (primarily Ontario and Quebec) have experienced a strong rebound with unemployment rates below the national average.

Forestry

In 2000, over 90,000 people worked in forestry in B.C., representing 6% of total employment in the province.[24] Over the next decade, employment in the industry fell by half.[25] While the crisis caused significant dislocation and hardship in particular communities, the overall B.C. economy and labour market recovered and B.C. had the lowest provincial unemployment rate for 4 straight years from 2016 through 2019.[26]

Cod Fishery

The painful experience of the cod moratorium is a warning of the dangers of unplanned, sudden shocks in important industries. When the cod fishery was suddenly shut down in 1992 an estimated 37,000 workers in Newfoundland lost their jobs virtually overnight,[27] representing 15% of the provincial labour force at the time.[28] By waiting until dramatic action was forced upon the industry as a result of environmental breakdown, the process of economic and regulatory adjustment was more chaotic and disruptive than it needed to be.

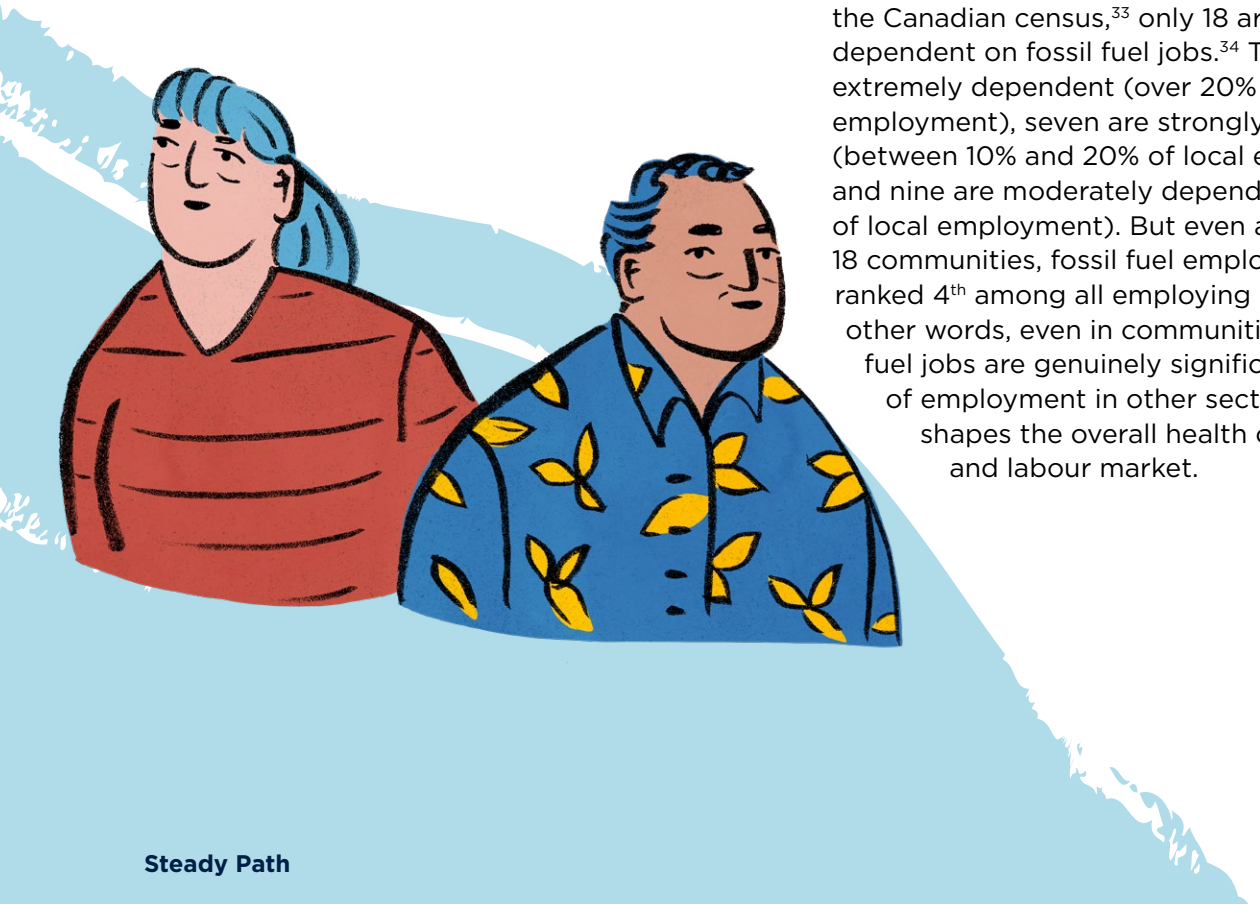
Scientific and Technical Services

Measured by the rate of growth of employment, the fastest-growing major sector in Canada has been the professional, scientific, and technical services industry. Total employment grew 15% over the past five years (2014 to 2019), adding over 130,000 new positions.[29] This sector alone is creating 3.5 times more jobs each year than would be required to offset the phase-out of existing fossil fuel employment over a 20-year timetable.

2. AN AGING WORKFORCE MEANS MANY WORKERS WILL RETIRE

Workers currently employed in fossil fuel industries are somewhat older than the overall Canadian workforce. The last census (2016) revealed that 55% of fossil fuel workers were over 40 years of age.[30] (That proportion is probably older today since those workers have aged, new entrants to the industry have been limited during industry's recent downsizing, and younger workers were disproportionately impacted by industry employment losses.)

Therefore, normal flows into retirement will be especially important in adjusting for the phase-out of fossil fuels. With targeted incentives for early retirement, the role of retirements in easing the employment transition would be strengthened. A crucial complement to that strategy must also be to *limit inward flows* to the sector at the same time, in order to prevent newer and younger workers from being stranded by the future phase-out. Committing well in advance to a fossil fuel phase-out will accelerate the pace of departures from the existing workforce, since many workers will then watch for and take advantage of alternative opportunities that arise during the transition.



3. LOCAL AND REGIONAL ECONOMIES CAN BE PROTECTED

Fossil fuel employment is not evenly distributed across Canada. Some provinces and communities are more dependent on fossil fuel jobs and will feel the impact of the fossil fuel phase-out more noticeably. This complicates the process of planning for employment transitions. But the number of communities that depend heavily on fossil fuel jobs is actually surprisingly small.

Alberta has by far the greatest reliance on fossil fuel work, with three-quarters of Canadian fossil fuel workers located there (as of the last census in 2016), making up over 7% of provincial employment.[31] Saskatchewan and Newfoundland & Labrador also have greater-than-average reliance on fossil fuel jobs, at over 2% of total provincial employment.[32] All other provinces rank below the 1% national average, including B.C. (despite its significant natural gas and coal facilities).

18

18 communities are significantly dependent on fossil fuel jobs

Of the 152 different communities identified by the Canadian census,[33] only 18 are significantly dependent on fossil fuel jobs.[34] Two are extremely dependent (over 20% of total local employment), seven are strongly dependent (between 10% and 20% of local employment), and nine are moderately dependent (5-10% of local employment). But even across these 18 communities, fossil fuel employment only ranked 4th among all employing sectors.[35] In other words, even in communities where fossil fuel jobs are genuinely significant, the trend of employment in other sectors will be what shapes the overall health of the economy and labour market.

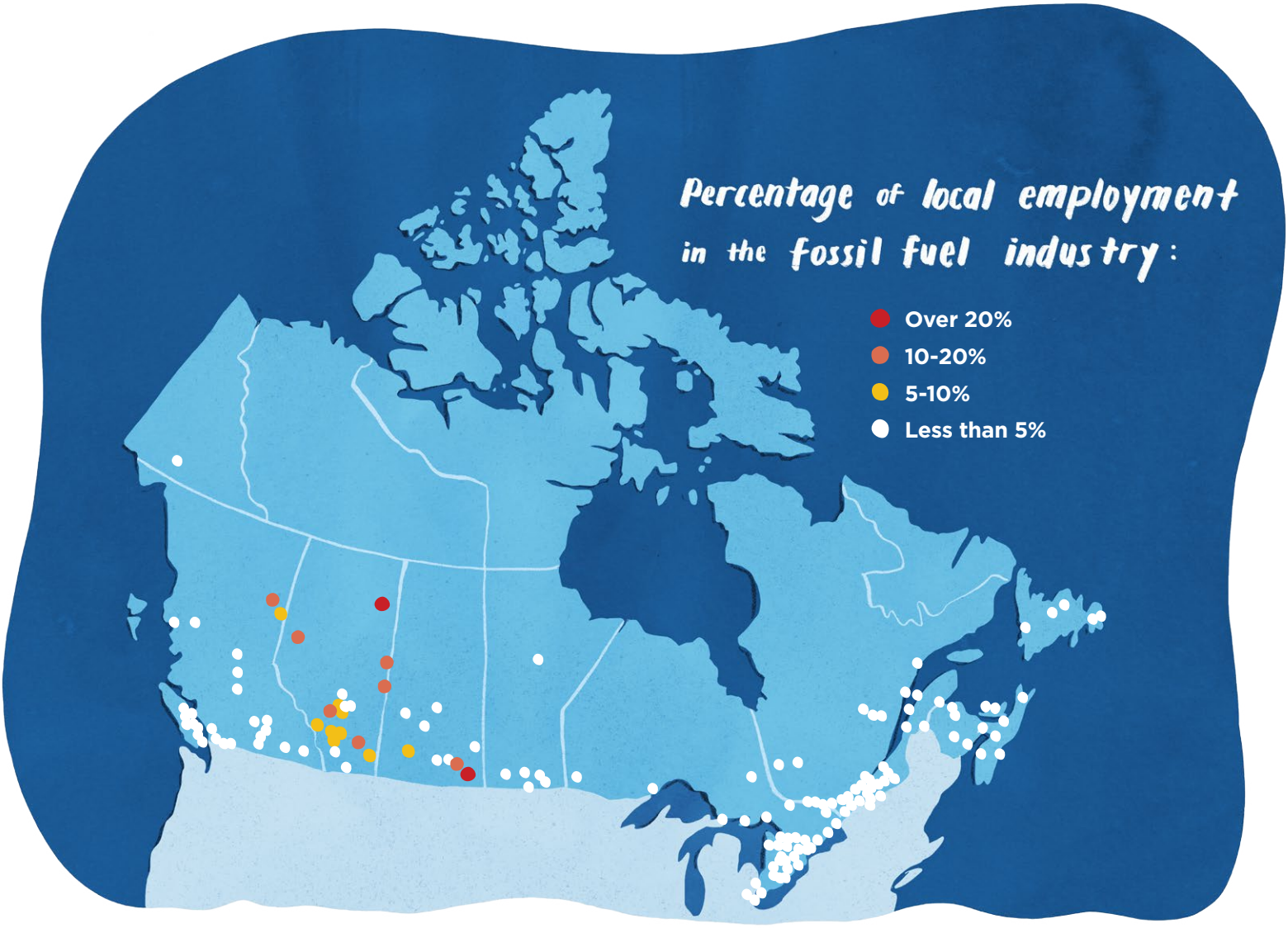


Fig. 1 Fossil fuel dependence by community (2016)[44]

EXTREME FOSSIL FUEL DEPENDENCE (OVER 20%)	Wood Buffalo, AB Estevan, SK
STRONG FOSSIL FUEL DEPENDENCE (10-20%)	Lloydminster, AB/SK Cold Lake, AB Fort St. John, BC Sylvan Lake, AB Weyburn, SK Grande Prairie, AB Brooks, AB
MODERATE FOSSIL FUEL DEPENDENCE (5-10%)	Calgary, AB Dawson Creek, BC Okotoks, AB Red Deer, AB Medicine Hat, AB Strathmore, AB Lacombe, AB Swift Currrent, SK Camrose, AB

This concentration of almost half of fossil jobs in a relatively small number of communities suggests that the scale of the challenge required to support transitions in especially fossil fuel-dependent communities is manageable. Relatively few Canadians live in communities that are highly dependent on fossil fuel industries. As such, generous transition and diversification measures can be targeted at those communities.

Perhaps surprisingly, most fossil fuel jobs (56%) are located in cities – including head office jobs, technical and professional roles, and manufacturing and distribution work.[36] This eases the impacts of the coming employment transition since in those cities, fossil fuel jobs are never a dominant source of employment. Even in Calgary, fossil fuel industries are only the 5th largest industry by employment (accounting for 8% of

total employment in 2016).[37] In other cities with an important fossil fuel industry presence – including Edmonton, Regina, St. John, and St. John's – these industries together rank as the 11th to 16th largest employer.[38] That most fossil fuel jobs are located in diversified and flexible cities, with numerous alternative employment opportunities available nearby, will be an important and positive factor in facilitating adjustment.

The remaining fossil fuel jobs are roughly evenly split between medium-sized towns and rural areas. In medium-sized towns, fossil fuel industries generate an average of 2.4% of all employment, the 15th largest employer. In rural areas, fossil fuel jobs account for 1.7% of total employment, the 16th largest employer.[39]

The phase-out of fossil fuel employment will indeed be most challenging in the communities which presently depend strongly on those jobs. However, this challenge is limited to a small number of communities that in most cases have other industries that employ more local residents than fossil fuels. This suggests that the regional adjustment challenge could be addressed with powerful but focused supports targeted at a manageable number of communities.

56%

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4. KEEPING INDIRECT JOB CREATION IN PERSPECTIVE

Industry players and their allies in government like to inflate the importance of fossil fuel sectors by adding exaggerated estimates of "spin-off" jobs that depend indirectly on fossil fuel production. To be sure, there are indirect jobs that are presently tied to fossil fuel activity, including:

- "Upstream" industries that provide goods and services used by the industry: raw materials, manufactured products, construction, and services.
- "Downstream" economic activity created through fossil fuel workers spending their earnings on consumer goods and services.
- Complementary consumption in other industries that currently rely on fossil fuel use. Automobiles, for example, are for now mostly powered by fossil fuels.

However, the nature and importance of these indirect jobs must be kept in perspective. First, many indirect economic activities and the jobs that come with them are not dependent on the fossil fuel sector itself, but rather economic activity generally. Many of these economic benefits can be filled in by other industries, especially if the transition is gradual over a 2-decade period.

Second, other facilities like hospitals, factories, universities, tourism facilities, and business head offices are often more effective than fossil fuel facilities in generating these indirect employment spin-offs. Because fossil fuel industries create relatively few direct jobs (just one job per $1 million in industry GDP, compared to 8.6 jobs per $1 million in GDP across the economy as a whole), other leading industries generate much greater local employment spin-offs.[40] In fact there is no other major sector in Canada's economy that generates fewer jobs per unit of GDP than does the fossil fuel industry.[41] If the goal is genuinely to create and sustain employment, fossil fuel production is one of the worst ways to go about it.

Finally, many of the upstream inputs to fossil fuel development are imported, and hence the economic benefit is felt outside Canada. And

because of high foreign ownership of oil and gas companies, many of the profits are exported out of the country.[42]

If we needed more evidence of the modest impact of fossil fuel industries on overall employment, note the surprising correlation between falling fossil fuel employment since 2014, and the simultaneous decline in Canada's unemployment rate. Indeed, statistical analysis confirms that since 2001 higher fossil fuel employment has been more often associated with a *higher* national unemployment rate, not lower.[43] Claims that the whole national labour market depends, directly or indirectly, on fossil fuel industries are demonstrably false.

The critical challenge is to ensure that, as fossil fuel industries gradually phase out over coming decades, strong investment and job-creation in other industries expand to take their place. Indirect jobs – both upstream and downstream – will then be supported by new injections of investment and incomes from these alternative industries: ranging from construction (for infrastructure, alternative energy projects, other business capital projects, and home building) to business services to consumer industries like hospitality, personal services, tourism and recreation.

Fossil fuel industries create relatively few direct jobs: just one job per $1 million in industry GDP, compared to 8.6 jobs per $1 million in GDP across the economy as a whole.

For this reason, as discussed below, a vital component of a successful employment transition is a commitment to vibrant job-creation and investment across the whole economy – with specific measures targeted at communities and regions where fossil fuel jobs are more significant. Not only will that expansion in alternative industries create abundant openings for the small number of fossil fuel workers who would be displaced in a gradual, long-term transition. It will also ensure strong business conditions for all the industries which currently depend indirectly on fossil fuel projects.

BOX 4

Other countries and regions have undertaken successful transitions away from fossil fuel employment

There are numerous examples of successful transition programs that have facilitated the phase-out of fossil fuel sectors in other countries. These experiences show that a successful transition includes advance notice, phased shut-downs, facilitating job mobility within fossil fuel sectors as they downsize, ambitious efforts to create new jobs in other industries, and generous support for retirement and retraining. In this way, fossil fuel phase-out can be achieved without unemployment or community hardship.

Germany

In 1997 a "Coal Compromise" was reached between the coal companies, the federal and state governments, unions, and affected communities.[45] The Compromise ended subsidies for black coal mining and initiated the gradual close-down of the whole industry. Employment fell from 81,000 jobs in 1997 to just 2,000 when the last active mine closed in 2018. Most of the downsizing was accomplished through retirement of miners, supported by strong incentives for those younger than normal retirement age. The whole shut-down of black coal mining was achieved without any involuntary lay-offs.

Netherlands

In the 1970s, facing a downturn in the domestic coal industry due to cheaper natural gas from the North Sea, the government, industry, unions, and community development planners implemented a 20-year plan for phase-out of coal mining in the Dutch region of South Limburg.[46] In the first decade of the plan, industry employment fell by 50,000 positions through retirements, movement to other jobs inside or outside the industry, and voluntary departures. A development corporation — which still exists — was set up to support job-creation in other industries. Supported with public capital, it implemented a long-term industrial diversification strategy for the region. The plan's motto was "no closure without new employment".

United Kingdom

Traditionally a major producer of both coal and petroleum, the U.K. has undertaken one of the fastest reductions in GHGs of any industrial country, with a 30% drop in the last decade on the strength of a stable and bipartisan commitment to ambitious emission reductions and the roll-out of renewable energy sources. There are an estimated 225,000 British workers now employed in renewable energy projects.[47] Some projects, such as massive offshore wind power developments, directly re-employed workers formerly occupied in offshore petroleum development.[48] As this shift to renewable energy accelerated, the U.K. demonstrated relatively low unemployment (just 4.0%), and wage growth that was faster than most other OECD economies.

Spain

The Spanish government has announced a plan to close its remaining coal mines over the coming decade, accompanied by a program of generous early retirement subsidies, job-creation in reclamation and remediation, and redeployment into renewable energy jobs.[49] Any miner aged over 48 at the time their mine closes will be eligible for early pension; that is expected to offset at least 60% of the job losses. Younger workers can be redeployed into new work associated with closing the mines, reclaiming land and converting it to other uses.

Ontario

The shut-down of coal-fired electricity in Ontario still ranks as the largest single emissions reduction initiative completed in North America. Ontario completed this without incurring a single forced layoff for affected workers.[50] Between 2005 and 2014, the province's publicly-owned power utility, Ontario Power Generation (OPG), closed five coal plants with a generating capacity of 7,500 MW. No involuntary layoffs were experienced. Two of the coal-fired generating plants were converted to biomass production, preserving local employment levels. Other affected workers were offered alternative employment at other OPG locations, or generous early retirement or severance incentives (negotiated with the unions representing OPG workers). Ontario's experience has informed a similar transition strategy for a nation-wide closure of coal-fired electricity in other Canadian provinces, which will be completed by 2030.[51]

U.S. States

The American economy has experienced a very rapid transition away from the use of coal in electricity generation, declining by almost half in 10 years after 2008.[52] State-level leadership has played an important role in facilitating this transition and managing its labour market impacts. For example, New York State has implemented a Clean Energy Standard that will ensure that 70% of electricity is generated from renewable sources by 2030, and that the electricity system is carbon-free by 2040.[53] The state's last coal-fired power plant closed last year. Major investments in renewable energy developments – including $U.S. 7 billion in contracts announced in 2020 – are tied to labour agreements that provide training and targeted hiring for dislocated workers. Washington State has also committed to a 100% renewable electricity supply by 2045 under its new Clean Energy Transformation Act, which also features an emphasis on job training and adjustment measures.[54]

These concrete experiences with successful, planned energy transitions in other countries prove that the coming shift away from fossil fuel production and employment can be managed without causing unemployment, dislocation, and hardship. If transition policies are generous, announced far in advance, and fully engage the normal mechanisms of labour market turnover and adjustment, fossil fuel workers can end up with better, more secure jobs, and regional and national economies will be all the stronger for it.

5. FOSSIL FUEL JOBS ARE ALREADY THREATENED

It is important to note that secure and stable employment conditions for fossil fuel workers are quickly being eroded. Simply rejecting climate change policies will not guarantee anything to coal, oil, and natural gas workers, since they already face a range of daunting threats and challenges to their jobs, incomes, and working conditions. After all, some 17% of Canadian fossil fuel jobs already disappeared between 2014 and 2019 (even before the COVID-19 pandemic), and the forces undermining both the quantity and quality of fossil fuel jobs are only mounting:

Automation

In a push to save labour costs in their mining, processing, and transportation operations, major bitumen mines, refineries and transport systems have implemented widespread automation—replacing workers with autonomous trucks, extraction systems, and loading equipment.[55] Well drilling has also seen significant employment reductions through automated drilling systems. The plans of the oil and gas industry can be best encapsulated by a term that is gaining traction amongst oil executives: "de-manning" operations, i.e. letting go of as many workers as possible.[56]

Job insecurity

Fossil fuel companies have also made real efforts in recent years to reduce labour costs and increase "flexibility." These strategies – using labour hire firms, outsourcing contractors, hiring temporary and part-time workers, and others – have seriously undermined the job security of workers in these industries.[57]

Falling wages

Real wages in fossil fuel jobs have declined noticeably in recent years[58] because of generally weak hiring conditions, the drop in global energy prices, and aggressive efforts to cut labour costs by fossil fuel employers. Average incomes in fossil fuel industries remain higher than in many other occupations, but those higher incomes are compensation for long hours and difficult conditions – and the wage "premium" attached to fossil fuel work is eroding rapidly due to falling wages and benefits.

Health and safety risks

Fossil fuel jobs carry inherent health and safety risks arising from the challenging settings, heavy machinery, and other features of the work. Average fatality rates in the mining and petroleum sector are the worst of any major industry.[59] Those risks can be moderated by rigorous occupational safety practices, strong union representation, and better education and training. However, those worker protection measures are increasingly being eroded through employers' efforts to cut costs and enhance profits.

Long commuting

Another factor that undermines the quality of work in many fossil fuel settings is the requirement that workers travel long distances from their homes. Fly-in/fly-out commuters who must travel regularly for multi-week shifts at remote locations far from their homes constitute a significant proportion of fossil fuel employment in Canada.[60] These practices have been shown to significantly increase financial, familial, and health stresses.

Deunionization

Employers in many sectors have worked hard to reduce the influence of unions and collective bargaining in recent years, in order to reduce wages and enhance control over the workplace. However, the broad mining sector (including coal and petroleum) has experienced the most rapid

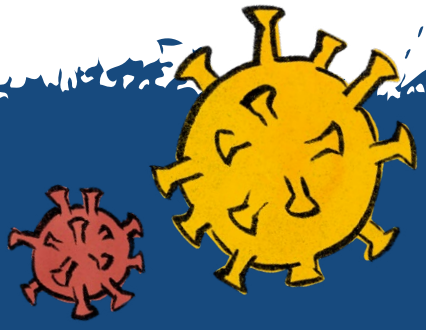
decline in union representation of any sector in the Canadian economy. Unionization has fallen one-third (from 30.2% to 20.7%) in the last 20 years, much faster than in the economy as a whole.[61]

For all of these reasons, existing workers in fossil fuel industries already face an uncertain and, in many ways, pessimistic employment outlook – and not because of climate policy. It is important for labour advocates to try to protect the quality and safety of fossil fuel jobs, even as the transition away from fossil fuels gathers speed – resisting efforts by employers and some governments[62] to cheapen work and undermine job stability and safety. But we should not pretend that delaying the inevitable energy transition could somehow help workers in industries that are already shedding tens of thousands of jobs, and imposing ruthless cost-cutting that further undermines both the quantity and quality of work. We should not mislead workers and communities into thinking that fossil fuel jobs can ultimately be saved. This diverts attention away from the true source of the more immediate insecurity and exploitation faced by fossil fuel workers.

6. COVID HAS ACCELERATED EMPLOYMENT TRENDS, AND HIGHLIGHTS HOW WE *DON'T* WANT TO UNDERTAKE TRANSITION

COVID-19 brought a "perfect storm" for fossil fuel sectors (see Box 5), but set within the context of a long-run erosion of global fossil fuel demand driven by rapid growth in renewable energy sources and energy conservation. The pandemic further chilled investment and exploration plans for fossil fuel firms in Canada and around the world, reducing Canadian fossil fuel employment by 17,500 more positions in the 12 months ending in September 2020.[64] The decline in fossil fuel jobs was worse than in the economy as a whole.[65]

Moreover, the partial rebound in employment in most industries as COVID restrictions are being eased will not bring back most of those lost fossil fuel jobs. In fact, several major Canadian petroleum companies have announced permanent staff reductions or layoffs since the pandemic struck, including Ovintiv (formerly Encana), Enbridge, and Suncor.[66] The announced merger of Husky and Cenovus is predicted to eliminate one-quarter of the jobs at the combined company.[67] These structural changes suggest that the decline in petroleum jobs will not be reversed when the broader economy eventually reopens after the pandemic.



BOX 5

The impact of COVID-19 on the fossil fuel industry

The global pandemic has accelerated the downturn in Canada's fossil fuel sectors and the insecurity of its workers, including:[63]

- Reduced energy demand generally due to the shutdown of economic activity
- Reduced fossil fuel demand in specific sectors, including airline travel, personal vehicles, and coal- and natural gas-fired electricity
- Competition between global oil exporters, sparking a price war that resulted in a sharp decline in world oil prices
- Even lower prices for Canadian heavy oil products, due to the inferior quality of bitumen and an oversupplied U.S. market

It is not in Canada's power to stop the transition away from fossil fuels, since the rest of the world is moving ahead steadily with new policies and technologies to reduce and eventually eliminate fossil fuel demand. What we can control is how the transition occurs. It can be planned, orderly, and fair – or chaotic, arbitrary, and driven by external forces. By committing to an orderly transition, we can start making the necessary decisions and investments to guide our shift to renewable energy sources. We can assist all stakeholders – businesses, workers, communities, public agencies – in preparing for that change. We can seize opportunities associated with a renewables-led energy system, and position Canada as a leader rather than a laggard in the new industries that are emerging.

TEN PRINCIPLES FOR AN EFFECTIVE TRANSITION PLAN FOR PHASING-OUT FOSSIL FUELS[68]

1. **Commit now to a long-term phase-out of fossil fuels**

   Fossil fuels will disappear as a major source of energy within the foreseeable future. Given that reality, it is unhelpful and, indeed, cruel to keep encouraging more workers to enter the fossil fuel workforce.

2. **Stage transitions over time**

   Time is the best friend of well-planned transitions. Advance planning allows for a steadier and more gradual phase-out, and more opportunities for individuals and communities to adjust.

3. **Facilitate labour mobility within the industry**

   If worker mobility is facilitated across fossil fuel workplaces, then younger workers could move to another facility that continues to operate, filling vacancies opened by retirements or voluntary departures by older workers.

4. **Encourage voluntary exit**

   A clear transition plan will encourage many workers to pursue alternative employment. Additional incentives can help, such as early retirement, 'buy-outs' for voluntary departure, or retraining support.

Targeted job-creation should be included in transition plans to support regional communities that will experience larger employment losses from the phase-out of fossil fuels.

5 **Support for skills training**

For some workers who transition, new skills and training will be required. For retraining to reach its full potential, government investments are especially needed in a stronger vocational training system.

6 **Protect incomes for affected workers**

Even with advanced planning, phased closures, and support, some workers may still confront a loss of income resulting from their workplace closing. Generous income protections can compensate them and assist their transition into other jobs.

7 **Give voice to fossil fuel workers**

A stronger collective voice and representation would allow fossil fuel workers to resist employer efforts to cheapen or outsource their labour, and give them more say in developing and implementing transition plans. Transition offices in more heavily affected communities can help workers access programs and funding so they can better navigate their own transition.

8 **Vibrant macroeconomic management**

Any employment transition is easier to absorb when strong employment conditions are reinforced through a top-priority commitment to reducing unemployment and supporting job-creation. Ensuring strong investment and aggregate demand will also ensure that industries (both upstream and downstream) that currently sell their output to fossil fuel industries and workers will quickly develop alternative markets.

9 **Support regional diversification**

Targeted government support for job-creation is necessary to support regional communities that will experience larger employment losses from the phase-out of fossil fuels.

10 **Invest in amelioration and clean-up**

Hiring displaced workers to clean up former fossil fuel sites (including abandoned and orphan oil and gas wells, coal mines, decommissioned fossil fuel power plants, and others) is an obvious strategy to support employment transitions.

WHERE WILL NEW JOBS COME FROM?

The roll-out of renewable energy projects will have important and positive employment effects. Indeed, because fossil fuel industries are highly capital-intensive and not very effective at generating work, most studies find that the shift from fossil fuels to renewable energy will have a net positive employment impact.[69]

However, there is no reason to expect that shifting fossil fuel workers toward renewable energy jobs will be the only – or even the most important – mechanism for ensuring the successful phase-out of fossil fuel jobs. It is not necessary that individuals currently employed in fossil fuel occupations should primarily seek reemployment in renewable energy projects.

As we have shown, most existing fossil fuel workers will not need to switch to another job at all – so long as the phase-out of fossil fuel production is announced and planned well in advance, and closures are staged at sensible increments. The experience of other jurisdictions confirms that under these conditions, most affected workers simply retire when their normal working lives are near an end. Many others will gladly take up alternative job prospects in the intervening years, especially if supported by generous retraining and relocation incentives, and in the context of a vibrant economy.

Most of the reduction in fossil fuel employment over a planned, long-term phase-out can be absorbed through retirements and other voluntary departures. That said,

4,000

Transition programs and resources will be critical to helping these 4,000 people annually.

even if half of that ongoing reduction required fossil fuel workers to transition to other jobs, this still implies a need for alternative employment opportunities of around 4,000 jobs per year, and transition programs and resources will be critical to helping these 4,000 people annually. (In the German, Spain and Ontario examples, most existing workers were able to move directly into retirement, and hence the number of alternative positions required would be even smaller.)

The diversity and abundance of alternative employment prospects will be more than enough to absorb these fossil fuel workers if the right supports are put in place. Hundreds of times more Canadian workers change their employment status every *month*. Even in communities that depend on fossil fuel employment for more than 5% of local employment, the pace of job creation across the full suite of other industries will in most cases be more than sufficient to absorb displaced fossil fuel workers looking for alternative employment.

CONCLUSION

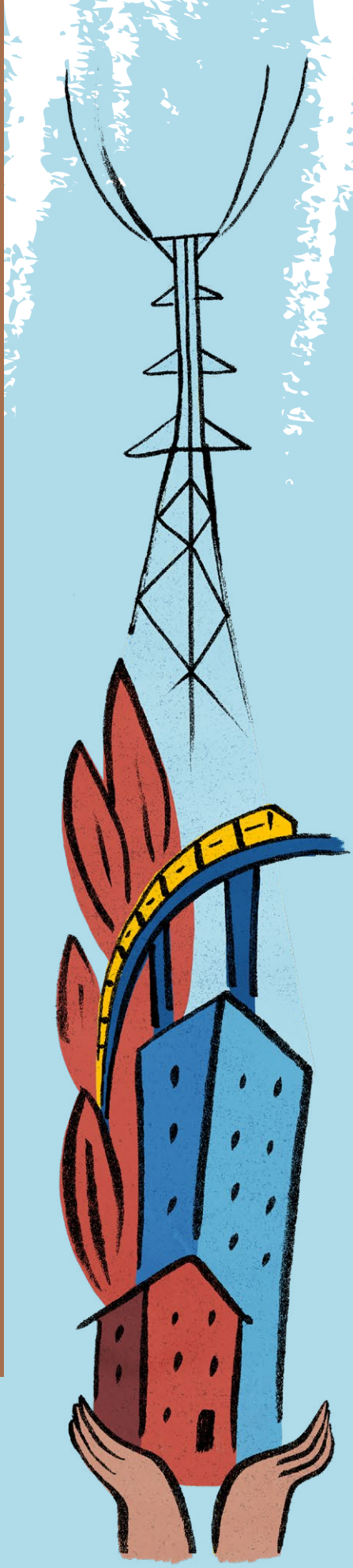
It is a cruel hoax to entice future generations of workers to join an industry with an inevitably time-limited existence.

There is absolutely no contradiction between eliminating Canada's current reliance on fossil fuels and having a strong labour market – with secure jobs, good working conditions, and rising wages. International experience confirms there is no connection whatsoever between a strong labour market and the carbon intensity of national economies.

The transition away from fossil fuels is going to occur: there is no longer any scientific, technical, or economic doubt about that. It is the choice of Canadian governments and citizens whether the country moves quickly to ensure that the transition is an orderly and effective one – or stand back until we are overtaken by global economic and environmental forces. If Canada waits, the transition will be far more chaotic, disruptive and expensive. Labour market transitions are immensely more manageable and less costly when they are announced well in advance and phased-in gradually over time.

It is not helpful to current or future fossil fuel workers for elected officials or actors within the fossil fuel sector to try to delay or deny the coming change, pretending that fossil fuel industries can somehow continue to prosper for decades to come. To the contrary, it is a cruel hoax to entice future generations of workers to join an industry with an inevitably time-limited existence.

Change is easiest when people displaced from one vocation have abundant alternative opportunities to pursue, and when rapidly growing industries have access to sources of labour and talent freed up by the contraction of other, older occupations. We can commit to systematically and fairly supporting and protecting workers who will be most affected by the phase-out of fossil fuels. And we can support those few regions and communities that are truly dependent on fossil fuel industries today – to help them build the industries and attract investments to diversify and transform their local economies. The first step is to acknowledge that a transition is already underway and create a plan for managing it, fairly and effectively.



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