

Just Transition

**Best Practices
for a Just Transition
in Vancouver**



**VANCOUVER
ECONOMIC
COMMISSION**

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PREPARED BY
Vanessa Sun
UBC Sustainability Scholar, 2021

October 2021

PREPARED FOR
George Patrick Richard Benson
Manager, Economic Transformation
(Decarbonization and Just Transition)
Vancouver Economic Commission

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Executive Summary

Introduction

In 2020, the City of Vancouver approved the Climate Emergency Action Plan (CEAP) to ensure Vancouver reduces carbon pollution by 50 percent below 2007 levels by 2030. An increasingly recognized part of moving to a zero emissions world is to provide a “just transition” for workers who may be impacted by this socio-economic transformation. The Vancouver Economic Commission (VEC) was tasked within CEAP to develop an economic plan that supports businesses and workers to successfully and prosperously decarbonize. Through this Zero Emissions Economic Transition Action Plan (ZEETAP), VEC plans to support and accelerate Vancouver’s economic transition to a zero carbon future in ways that enhance socio-economic equity.

The purpose of this project was to research and assess global best practices to inform a just transition in Vancouver. The following report consists of a high-level definition of what a just transition could mean for Vancouver and a jurisdictional scan of just transition practices happening elsewhere, especially at the local or regional level. Additionally, the report presents a brief overview on Vancouver’s labour market context and provides a deep dive into understanding how two of the largest emitting sectors – buildings and transportation – are currently undergoing labour market transitions, and what need(s) must be met to achieve a just transition. In particular, the report reviews transition planning in cities with a similar governance, economic, and/or environmental landscape to Vancouver. It concludes with recommendations, including an outline of a regional “Just Transition Council,” that VEC and other stakeholders may assess and expand as part of the development of ZEETAP.

Methodology

The research methods include a comprehensive scan of existing literature on the just transition, interviews with global cities’ planning and local stakeholders, and participation in C40’s Inclusive Climate Action Academy on equitable job access in a green and just recovery. Findings and recommendations were filtered through an External Advisory Group consisting of union representatives, industry representatives, academics, and local government representatives.

Key Findings

- There is no universal definition or approach to a just transition. The purposes of the project found a blended definition of existing definitions to be most ideal:

“A just transition is a worker-inclusive approach that aims to minimize the impacts of environmental policies on workers in affected industries. Additionally, the just transition will move towards an equitable future, ensuring that new opportunities in the ‘green economy’ will include those previously excluded from the high-carbon economy. A just transition is met when everyone has social protection, all jobs are decent, emissions are low or at zero, and communities are thriving and resilient.”

- Alignment on just transition work with different levels of government is key. However, many cities – and notably Vancouver – often move more swiftly than senior orders of governments on climate action. This speed discrepancy poses challenges, which are exacerbated by the lack of significant regional market planning.
- Vehicles and buildings are the two largest contributors to greenhouse gas emissions in Vancouver and Metro Vancouver, and account for two of the larger and more fragmented sectors of employment. Because of this, a just transition in these sectors must consider independent workers not represented by a union or other organizations.
- Any just transition planning in Vancouver must also address or at least navigate the ongoing shortages of skilled workers in many sectors, particularly as retirements and a lack of younger and diverse workers (especially women and people of colour) who feel comfortable entering these trades and industries.
- The limited examples of just transition planning have often been done at a national level, and have been focused on coal and fossil fuel reliant communities. The most relevant local or regional just transition examples for Vancouver include New York City, Oslo, and Los Angeles, all of which are still at very early stages of development or implementation.

- Across all case studies, important principles for success include:
 - Importance of clear, accountable governance structures to inform key stakeholders and aid effective decision making
 - Cross-departmental collaboration within and between government(s)
 - Inclusion of workers from historically marginalized communities from the earliest stages of planning and research to ensure inequalities will not be reinstated in new labour market patterns and structures.
 - Understanding of the data (and its gaps) and the demographics of workers and future trends of the transitioning sector(s)

Recommendations

Based on the literature review, interviews with global cities and local stakeholders, and discussion with an External Advisory Group, this report recommends:

1. VEC build buy-in with key stakeholders on the concept of a Regional Just Transition Council based on the outline proposed in the report for VEC;
2. VEC and the City of Vancouver engage with First Nations to better understand their interest in future labour market planning with respect to climate action;
3. VEC identifies and works with industry and community leaders to support marginalized groups' entry to the workforce in key sectors, especially construction; and
4. VEC takes an active advocacy position by creating alignment between all levels of government on just transition initiatives in Metro Vancouver.

Next Steps

Since the discussion of a just transition has only recently begun to gain local traction, there is still a great deal of research to conduct. With so few successful case studies regarding a just transition outside of a coal or fossil-fuel reliant communities, there are many gaps in research and understanding that VEC and others can address moving forward, including:

1. Approaches to integrating environmental justice and a “transition to justice” in labour market planning in Vancouver, to better serve communities that have and continue to face various forms of marginalization.
2. Understanding how the impacts of just transition planning and approaches in Metro Vancouver will be felt in the rest of British Columbia.
3. Understanding how to engage the finance sector in just transition planning, particularly larger institutional investors.
4. Identifying ways to leverage and align with existing work done locally or provincially that may not be listed under but is still relevant to just transition work, such as the CleanBC Workforce Readiness Plan, Skills Certification Program, and Vancouver Regional Construction Association (VRCA) Construction Workforce of Tomorrow project.
5. Working with school boards in the region, and post-secondary institutions, to review and audit programs and courses of significance for decarbonization; and to conduct future labour market projections of the green economy and integrate these in clear, accessible communications to workers.

Conclusion

The just transition is ultimately an umbrella term for a variety of practical programs to help workers gain the skills and keep (or gain) the support necessary during periods of immense change. However, it is more than a haphazard collection of courses or funding schemes; it is also a deep and profound moral commitment central to any successful climate policy. We cannot reduce emissions and prevent the worst impacts of climate change unless we can guarantee a better life on the other side of that transformation. While Vancouver’s labour market faces a peculiar series of challenges that make its journey to a just transition different from many others, there exists enough commonality that we can learn and respond with the benefit of what others have experienced. Vancouver has long been a leader in climate action, and has secured notable successes in protecting workers — now is the time to bring those together. As Brian Kohler, Canadian union activist, memorably stated in 1996: “The real choice is not jobs or environment. It is both or neither.”

Introduction

In 2020, the City of Vancouver approved the Climate Emergency Action Plan (CEAP), positioning Vancouver to be on track to reach a 50% reduction of carbon pollution by 2030.¹ The same year, the City of Vancouver – like the rest of the world – faced unprecedented economic challenges catalyzed by the COVID-19 pandemic. The temporary pause in the workforce caused a spike in unemployment from which Vancouver is still recovering.

Together, these significant environmental and economic events running parallel with one another highlight one of the most significant economic development imperatives facing leaders today: how to better protect and support workers during emergencies and periods of transition. The economy and environment are inextricably linked as key pillars for a strong and resilient city.²

A 2021 study by Swiss Re found that, on our current emissions trajectory, climate change impacts will cost the global economy 10% of its total economic value by 2050.³ In response to these material economic threats, more than \$43 trillion worth of financial asset-managers globally have committed to zero-emissions by 2050.⁴ Climate change is now viewed as an issue of strategic concern in every market. Yet, for decades there has been an environment versus economic debate with the narrative of jobs versus environment.⁵ High-polluting industries are usually the most forceful actors to mobilize this narrative, but it continues to hold broad sway across decision-makers and the public.⁶ As Canadian union activist Brian Kohler, memorably stated in 1996, “The real choice is not jobs or environment. It is both or neither.”⁷ Former International Trade Union Confederation (ITUC) climate lead, Anabella Rosemberg, furthered this argument in 2010 in saying that job losses are not an automatic consequence of climate policies, but the consequence of a lack of investment, social policies, and anticipation.⁸ Indeed, as the International Panel on Climate Change (IPCC’s) Sixth Assessment (AR6) makes clear at the time of writing for this report, the existential risk posed by climate change precludes shared, global prosperity in the absence of a net-zero commitment by 2050.

Climate change does not affect everyone to the same degree. Lower-income and socially marginalized populations have fewer resources to protect themselves when natural disasters occur.⁹ Likewise, low-income and precariously employed workers are generally the first to face job-losses or other economic setbacks in unstable economic conditions. For example, the economic impact of the global pandemic disproportionately affected those in low-income communities and communities of colour.¹⁰ While most white-collar jobs transitioned to working from home, many blue-collar jobs either faced shorter hours or unemployment.¹¹

1 [“Climate Emergency,”](#) City of Vancouver, n.d.

2 City of Vancouver. [Climate Emergency Action Plan.](#) (October 22, 2020). p. 16

3 Guo, Jessie; Kubli, Daniel; and Sener, Patrick. [The Economics of Climate Change: No Action is Not an Option.](#) (Geneva, 2021).

4 [“Net Zero Asset Managers Initiative - Overview,”](#) Net Zero Asset Managers Initiative, n.d.

5 Stanley Foundation. [Setting an International Policy Agenda for Just Transitions](#) (October 18, 2017). p.2

6 Ibid p.2

7 Ibid p.2

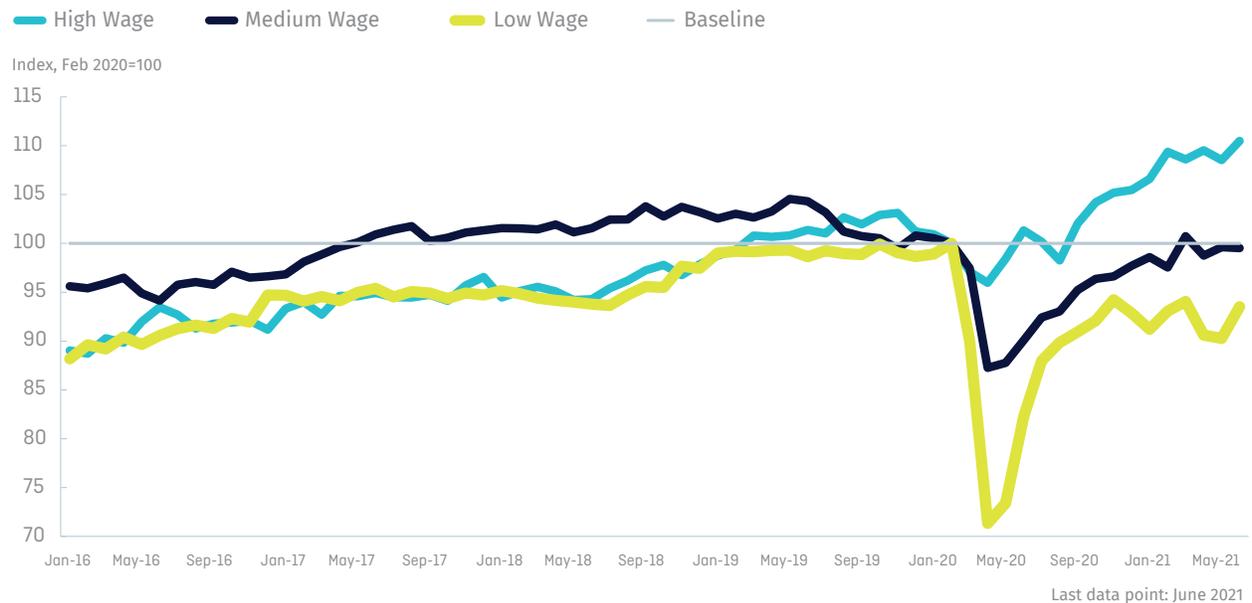
8 Rosemberg, Anabella (2010). [“Building a Just Transition: The linkages between climate change and employment,”](#) International Journal of Labour vol. 2 issue 2, International Labour Office, Geneva, 2010., p.134

9 Metro Vancouver. [Climate 2050 Strategic Framework.](#) (Vancouver: July, 2020) p.6

10 YWCA. [Feminist Recovery Plan.](#) (2020) Pg 1.,

11 Alini, Erica. [“Canada’s ‘K-shaped’ recovery spans jobs, debt and housing,”](#) Global News, October 17, 2020,

Figure 1. “BC-wide employment by wage tier before and during COVID-19.



Source: BC Real Estate Association; Stats Canada, July 2021

The impacts of persistent structural racism, wealth inequalities, and the COVID-19 pandemic forced many workers into acute and sometimes prolonged job losses.¹² As a result of this, many activists, policymakers, academics, and other leaders argue that as cities recover from the shocks of the COVID-19 pandemic, it is imperative to ensure a **green and just recovery** – one that overturns longstanding social and economic inequalities, while ensuring that those who have been historically marginalized will benefit the most. Consequently, Vancouver’s Climate Emergency Action Plan (CEAP) calls for the creation of a “Zero Emissions Economic Transition Action Plan (ZEETAP), which will aim to “identify and pursue economic benefits generated [by CEAP] and “provide a just transition for workers impacted by climate action transition” to ensure that a healthy economy and a clean environment can and should coexist.¹³

12 Cha, J. Mijin et al. *Workers and Communities in Transition: Report of the Just Transition Listening Project*, Just Transition Listening Project (2021) p.3

13 City of Vancouver. *Climate Emergency Action Plan* (2020) p. 15-16

Figure 2. C40 Mayors' Agenda for a Green and Just Recovery.



Source: C40, 2021

The Vancouver Economic Commission (VEC) was tasked within CEAP to develop an economic plan that takes action and protects both businesses and workers. Through this Zero Emissions Economic Transition Action Plan (ZEETAP), VEC plans to support and accelerate Vancouver’s economic transition to a zero-carbon future in a way that recognizes how the current economic system has supported many forms of marginalization, particularly for Indigenous peoples, persons of colour, women, disabled people, and many other equity-seeking groups. In parallel, the current economic regime continues to incentivize waste, pollution, and inefficiency – at the same time as it ignores the benefits of the value of natural systems. This study provides an overview of the various conceptions of the just transition along with a global review of case studies of just transition work in urban contexts. It concludes with an outline of a structure for VEC and other actors in Vancouver to support a just transition for workers negatively impacted by regional climate policy.

Definition and Context

Why a just transition?

Economies change constantly, but a significant question in policymaking is where those changes emerge and who is responsible for them. Many changes are “organic” in the sense that they are decentralized and driven by collections of market actors. Others are more orchestrated by central players, such as states. In the 2020s, government-led climate action (or the anticipation of that action) is a particularly powerful force driving change. The International Labour Conference (ILC) has identified that alongside technology and trade, climate change is a major global driver of economic change, especially for workers.¹⁴ Digitalization and innovative technological development has transformed the labour market recently, and will likely continue to do so for the foreseeable future.¹⁵ Currently, economic transformation is moving at a pace faster than ever before in human history, creating more opportunities for workers and communities to be stranded.¹⁶ Past transitions have left communities and workers with little to no support as they were often driven by corporate entities, market forces, and short-sighted public policies.¹⁷ **Since governments set climate policy rather than permitting the market forces to naturally cause disruption like technological innovation, governments have a responsibility to ensure that a fair deal and a just transition occurs.**¹⁸

Despite new job opportunities arising from decarbonization and environmental action, green transformation, such as green jobs in the clean tech sector, does not guarantee that those who have lost their jobs will have a new job. Low-skilled workers are the most vulnerable, as it may be difficult for them to compete for new jobs.¹⁹ The *Just Transition Learning Project* found that people who have been negatively impacted by past unjust transitions, are reacting harshly to climate policy and action, creating new tensions between labour and environmental movements.²⁰ Thus, transformation is not only about phasing out polluting sectors; creation of new industries, new skills, new investments, and new jobs are also key to creating an equal and resilient economy.

Figure 3. VEC’s definition of a green job, inspired by the United Nations Environment Program (UNEP, 2016).

Is my job a green job?

- ✓ I produce a green product or service
- ✓ My company produces a green product or service (but I’m the accountant)
- ✓ (partially) My company produces some green products or services (not all) (depending on % of product or service that is green)
- ✓ I incorporate greener practices in my job or decision making

14 Strietska-Illina, Olga; Christine Hofmann; Mercedes Durán Haro; Shinyoung Jeon. *Skills for Green Jobs a Global View*. (October, 2011) p.3

15 *Setting an International Policy Agenda for Just Transitions*, November 17, 2017. p.2

16 Smith, Samantha. *Just Transition A Report for the OECD*, Just Transition Centre, International Trade Union Confederation (2017) p 3

17 Mijin et al. *Workers and Communities in Transition* (2021) p.3

18 Stanley Foundation. *Setting an International Policy Agenda for Just Transitions* (2017). p.2

19 Ibid

20 Mijin et al. *Workers and Communities in Transition* (2021) p.3

What is a just transition?

There have been multiple ways of defining a just transition. Table 1 below displays how the just transition has been defined in various ways.

Table 1. Comparative Definitions of the Just Transition

CCPA	“Public policy approaches that seek both to minimize the impact of environmental policies on workers in affected industries and communities and to involve workers in decisions about their livelihoods.” ²¹
Stanley Foundation	A just transition should ensure that “new opportunities in the green economy should not only go to the workers who had jobs to begin with, but progress should also be made toward a more equitable future that includes those previously excluded from the high-carbon economy.” ²²
C40	A just transition is a sector-, city-, region- or economy-wide process that produces the plans, policies and investments so that: everyone has social protection; all jobs are decent; emissions are low or at zero; poverty is eliminated; and communities are thriving and resilient. ²³
International Labour Organization (ILO)	A just transition for all towards an environmentally sustainable economy, needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty. ²⁴
The International Trade Union Confederation (ITUC)	A just transition secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy. It is based on social dialogue between workers and their unions, employers, and government, and consultation with communities and civil society. A plan for just transition provides and guarantees better and decent jobs, social protection, more training opportunities and greater job security for all workers affected by global warming and climate change policies. ²⁵

21 Karen Cooling et al., *Just Transition: Creating a Green Social Contract for BC's Resource Workers*, Canadian Centre for Policy Alternatives (CCPA), (January, 2015), p. 5

22 Stanley Foundation. *Setting an International Policy Agenda for Just Transitions* (2017). p.3

23 C40 Cities Climate Leadership Group. “[The Global Green New Deal](#),” C40, November, 2020.

24 International Labour Organization (ILO). *Guidelines for a just transition towards environmentally sustainable economies and societies for all* (Switzerland: 2015) p.4

25 International Trade Union Confederation (ITUC). “[Just Transition Centre](#),” ITUC, 2016.

The literature review conducted through the course of this report found the definitions from the Canadian Centre for Policy Alternatives (CCPA), the Stanley Foundation, and the C40 Cities Climate Leadership Group to be most encompassing. Over the course of this project – based on the literature review, primary research, and feedback from stakeholders – we felt a blended definition that touches on elements across all three to resonate best. Therefore, for the purposes of this project, we opted to use the blended version that follows below:

“A just transition is a worker-inclusive approach that aims to minimize the impacts of environmental policies on workers in affected industries. Additionally, the just transition will move towards an equitable future, ensuring that new opportunities in the ‘green economy’ will include those previously excluded from the high-carbon economy. A just transition is met when everyone has social protection, all jobs are decent, emissions are low or at zero, and communities are thriving and resilient.”

While there is no universal approach to a just transition, there are two broad types of planning that this work has engaged with: environmental justice and climate action. Environmental justice is drawn out of American anti-racist work, where communities of colour have advocated to remove institutions or facilities that have a negative effect on local residents through pollution, waste, or other environmental impacts. Environmental justice framing around the just transition therefore stresses the need for transformative social change that addresses long-standing social inequalities. In contrast, a climate action approach to the just transition is more narrowly focused on workers facing job losses or other negative economic impacts associated with addressing climate change. While generally still rooted in a moral call to protect the rights of workers and communities, just transition work may often focus more on specific climate-related impacts and policy considerations, rather than a larger agenda of transformation.

In the simplest terms, the easiest way to divide these two approaches is around where they put their primary focus: those already in the workforce who may be at risk of losing their job (climate action) and those who have been left out of the workforce and need various supports to enter it justly (environmental justice). At an External Advisory Group meeting, an advisory group member framed successful climate policy as needing a just transition for the existing workforce, and a “transition to justice” for people not yet in the workforce. While the VEC supports the broader goals of environmental justice or a “transition to justice,” this project primarily focuses more narrowly on the existing workforce. Both current and future work at VEC strives to address broader questions of environmental justice through community economic development and community wealth building approaches.

At its core, the different definitions and approaches collectively lay out what is at stake – and the means to winning – the fight for a better, more equitable world as we combine climate action and economic justice work.²⁶

26 Stanley Foundation. *Setting an International Policy Agenda for Just Transitions* (2017). p.3

History of Just Transition

The idea of a “just transition” has existed for decades. The just transition was at the centre of grassroots movements consisting of labour organisers and environmental justice campaigners fighting to create better futures for workers and marginalized people.²⁷ Its origin has diverse accounts. The earliest reference appears to be from the 1970s by Tony Mazzocchi, a trade unionist working in the Oil, Chemical and Atomic Workers’ Union. In his fight against the Shell company over safety and health issues, Mazzocchi sought the aid of environmental groups. Collectively, they advocated for action that addressed workers’ livelihoods, preservation of the natural environment, and health and safety issues.²⁸ In the 1990s, many trade unionists in North America continued this work at a general level, as environmental policies (such as more sustainable forestry) would result in job losses and therefore require transition programs. Over time, the just transition has evolved to become a “deliberate effort to plan for and invest in a transition to environmentally and socially sustainable jobs, sectors, and economies.”²⁹ The increased understanding of the climate crisis, both its negative impacts and its transformational opportunities, has motivated many unions, governments, and some businesses to see a just transition as an inextricable part of successful climate action.³⁰

Only recently has the concept of just transition become more recognized in international climate discussions.³¹ As international policies such as the Paris Agreement adopted the just transition in 2015, the uptake of just transition work has increased. Shortly before the Paris Agreement, the International Labour Organization (ILO), adopted a set of just transition guidelines based on discussion with governments, trade unions, and businesses.

Box 1: Paris Agreement Text Related to the Just Transition

Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities,

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity,

27 Conway, Mark. “[Developing and Implementing Just Transition Policies](#),” World Resources Institute, 2017.

28 Edouard Morena, Dunja Krause and Dimitris Stevis (eds). *Just Transitions: Social Justice in the Shift Towards a Low-Carbon World*. (London: Pluto Press, 2019). p. 3

29 Smith, Samantha. [Just Transition A Report for the OECD](#), Just Transition Centre, International Trade Union Confederation (2017) p. 3

30 Ibid

31 Mijin et al. [Workers and Communities in Transition](#) (2021) p.2

National Context: Canada's Just Transition

In 2019, Canada's federal government committed to passing a Just Transition Act that would "support the future and livelihood of workers and their communities in the transition to a low-carbon global economy."³² The promise of a just transition legislation has received widespread support from environmental groups, labour unions, and social justice movements.³³ Although the legislation has not yet materialized, the federal government has taken concrete steps towards just transition planning. For instance, globally, Canada is one of the few countries explicitly using the language of just transition in climate and labour policies.³⁴ Additionally, an 11-member task force was created to provide recommendations for a "Just Transition for Canadian Coal Power Workers and Communities."³⁵ The creation of a task force provided a clear commitment of the federal government to consider and address the negative impacts on workers and communities.³⁶ Lastly, the Government of Canada officially launched a Just Transition Engagement process on July 20, 2021. The engagement process asks Canadians how the federal government can ensure a just and equitable transition to a low-carbon future for workers and their communities. The results of the engagement process will inform government decision-making and the creation of a Just Transition Advisory Body.³⁷

In terms of federal support for local just transition work, the Canadian federal government has primarily focused on just transitions for coal-reliant economies and rural communities. However, federal jurisdiction over policies to regulate and set standards on the design and manufacturing of many products that indirectly and directly contribute to greenhouse gas (GHG) emissions can also impact Vancouver's future just transition planning.³⁸ Products such as vehicles and buildings could play a particularly significant role given the two sectors are the biggest contributors to GHG emissions in Vancouver. Other areas that the federal government can support Vancouver is through capacity-building programs that provide planning, research, and technical assistance to help reduce knowledge gaps and increase human capital and productivity.³⁹ Additionally, financial support from the federal government can assist public sector entities, community organizations, and private firms in their just transition planning.⁴⁰

32 Mertins Kirwood, Hadrian and Duncafele, Clay. [Roadmap to a Canadian Just Transition Act A Path to a Clean and Inclusive Economy](#). (CCPA, 2021), p. 4

33 Ibid p. 4

34 Pinker, Anabel. [Just transitions: a comparative perspective., Report prepared for the Just Transition Commission](#). (August, 2020). p. 33

35 Government of Canada "[Task Force: Just Transition for Canadian Coal Power Workers and Communities](#)," Environment and Climate Change Canada, November, 2019.

36 Pinker, Anabel. [Just transitions: a comparative perspective., Report prepared for the Just Transition Commission](#). (August, 2020). p. 33

37 Government of Canada. "[Canada Launches Just Transition Engagement](#)," Natural Resources Canada news release, July 20, 2021,

38 Metro Vancouver. [Climate 2050 Strategic Framework](#). (2020) p.15

39 Raimi, Daniel; and Wesley Look, Molly Robertson, and Jake Higdon. [Economic Development Policies to Enable Fairness for Workers and Communities in Transition, Resources for the Future](#). Resources for the Future. (2020) p. 11

40 Ibid

Provincial Context: British Columbia's Just Transition

The Province of British Columbia has not made a formal announcement regarding a commitment to the just transition. However, in 2018 the provincial government released the CleanBC plan, which aims to “reduce climate pollution while creating more jobs and economic opportunities across the province.”⁴¹ A highly anticipated component of the CleanBC is the CleanBC Workforce Readiness Plan (CBCWRP) that will address the labour and workforce opportunities for BC’s workers in a low-carbon economy. The CBCWRP will highlight areas of support for workforce capacity building and guide investment in relevant skills training.⁴²

A related and more specific piece of work is the recently completed BC Energy Step Code Industry Capacity Study.⁴³ It was developed by the Step Code Council, to undertake an occupation-by-occupation review of every actor in the building sector, and assesses their readiness to implement future climate action-oriented building regulations in British Columbia.

The assessment granularity with which it assesses each relevant occupation and creates a robust picture of the sector’s readiness. Future work will engage with each relevant professional and industry association to help them fill any gaps in education and training to ensure they can deliver on future regulatory requirements. This training and skills focus, while not wholly representative of the just transition, is a helpful example of future work that may need to be assessed and support other categories of workers in the province.

Similar to the federal government, the provincial government has significant influence on greenhouse gas emissions that can impact Vancouver. Specifically, the province has jurisdiction in areas of transportation, buildings, energy, forestry, and industry. The province also provides funding for large infrastructures that can be critical in preparation for climate impacts.⁴⁴

Local Context: City of Vancouver Leadership

Federal and provincial levels of government play an important role in funding and providing resources for just transition planning. According to resources workers in BC, however, many felt the provincial and federal levels of government to be “unwilling or unable to provide the training and transition opportunities that are necessary for transitioning workers into new jobs or industries.”⁴⁵ Additionally, past efforts at transition planning were seen as the governments “throwing money at the problem” with little planning or foresight.⁴⁶ Therefore, it is important for local governments to have a leading role in just transition work.⁴⁷ C40 further supports this argument: “Cities are on the frontlines... cities are both where the problems are most serious and where the solutions are being found.”⁴⁸

41 Government of British Columbia. [CleanBC](#). (Victoria: 2017) p. 1

42 Government of B.C. [CleanBC Workforce Readiness Plan](#). Backgrounder. (Victoria: 2019)

43 Government of British Columbia [BC Energy Step Code Industry Capacity Study](#). (2021)

44 Metro Vancouver. [Climate 2050 Strategic Framework](#). (2020) p.15

45 Karen Cooling et al., [Just Transition: Creating a Green Social Contract for BC's Resource Workers](#), Canadian Centre for Policy Alternatives (CCPA), (January, 2015), p. 21

46 Ibid

47 [“Just Transitions: Progress to Date and Challenges Ahead,”](#) Centre for International and Strategic Studies, June 30, 2020,

48 [“C40 Mayors' Agenda For A Green And Just Recovery,”](#) C40 Cities Climate Leadership Group, July 15, 2020.

Of particular concern currently, is the speed of implementation of various climate policies at the local – municipal and regional – level relative to that of the provincial. In buildings in particular, local governments – especially in Metro Vancouver – have moved considerably faster than the BC Energy Step Code. Most recently with its Climate Emergency Action Plan, the City of Vancouver will now require mandatory disclosures of emissions from commercial buildings by 2023 in addition to accelerating its commitment to have all new buildings be zero emissions by 2025. Many other local governments are moving in similar directions, as is the Metro Vancouver Regional District through its *Clean Air Plan* and *Climate 2050*.

Figure 4. Pledged Adoption Pathways for BC Energy Step Code in Metro Vancouver Municipalities for Part 3, large buildings. (2019).



Labour planning at the provincial level, however, does not appear to take many, or any, of these distinct and accelerated local policy moves into account. Notable omissions include BC’s *Labour Market Outlook*, and some of the Industrial Training Authority’s programming. Additionally, federal just transition planning is focused on fossil fuel-producing communities, many of which are rural or small. The urban implications, especially in jurisdictions aggressively pursuing climate action, do not yet feel especially aligned. If this disparity of pace and focus between jurisdictions prevents sufficient resources from being deployed in Vancouver, it could experience significant negative effects.

The City of Vancouver’s own CEAP process did not specifically focus on the just transition, though it highlighted certain considerations around workforce training and capacity building in the buildings sector. CEAP did, however, undergo a significant equity audit by the Vancouver-based Hua Foundation and the Toronto Environmental Alliance, both of which offered commentary on potential just transition needs within CEAP, and the opportunities possible within ZEETAP.

The Hua Foundation made two relevant recommendations to this project and ZEETAP in their review, including:

- “Make intentional efforts to address affordability in future actions and plans, as various forms of marginalization are inextricably linked to economic opportunity and outcomes
- Rethink policy as vehicles for centring how to be more equitable. Equity must be focus;” alongside environmental, economic, and other specific goals (e.g. housing) as equity should not and cannot be just “another lens.”⁴⁹

In turn, speaking specifically to supporting “inclusive and green economic development,” the Toronto Environmental Alliance recommended that the City (and, implicitly, VEC) should:

- Go beyond NAICS codes to define Vancouver’s green economy and develop equity milestones
- Develop strategies to set up workers and businesses from equity-seeking communities for success, rather than only relying on existing sectoral relationships
- Understand, consult, and collaborate with the diversity of tradespeople and general labourers that do existing building contract work in Vancouver
- Develop near- and longer-term workforce development strategies to reduce employment barriers and increase participation by Indigenous and equity-seeking groups in the growing demand for a green workforce
- Demonstrate how City-owned assets can act as “learning labs” for low-carbon building workforce development ⁵⁰

Beyond these two reviews of CEAP, the just transition remains underexplored at the local level in Vancouver. Meanwhile, social equity, which impinges significantly on workforce issues, is considered a major issue requiring significant action in and by the City of Vancouver. In July of 2021, the City approved a new equity framework, which will work at “acknowledging and upholding the rights and dignity of all people, addressing historic, current systemic injustice, and reducing harm.” Through the passing of the Framework, and the hiring of a Chief Equity Officer, the City is making commitments to:

- Doing equity work over the long term
- Creating spaces for City of Vancouver staff for accountable learning
- Reflecting equity in City of Vancouver leadership
- Building relationships with equity-denied communities

49 Lee, Christina; Huang, Kevin. *Climate Emergency Action Plan: Review Summary* (August 18, 2020) p. 10

50 Toronto Environmental Alliance. *An Equity-focused Review of the City of Vancouver’s Draft Climate Emergency Action Plan* (August, 2020). P. 10.

- Adequately resourcing equity work
- Ensuring shared accountability

The Framework will have both an internal and an external implementation focus. Internally, it will work to:

- Ensuring that equity is integrated into recruitment, professional development, performance management, advancement, and retention
- Working with unions to ensure that job design and classification are evaluated for bias and that compensation is equitable, and that flexibility and benefits are available to our staff whenever possible
- Providing training and ongoing internal communications to staff to socialize them on the definitions and approaches of the framework and how to embed them into daily practices
- Creating an overarching tracking system that explicitly names objectives and commitments and reflects progress on these actions over time

While externally, example uses of the equity framework include:

- Examining several areas of City of Vancouver work, including arts and culture, zoning bylaws and building permits, design of streets, and waste collection – with an intersectional, decolonial, racial justice, and systemic equity lens
- Looking at how the City of Vancouver conducts public consultation and engagement, and works with residents and partners with the Host Nations – the Musqueam, Squamish and Tsleil-Waututh – with an intersectional, decolonial, racial justice, and systemic equity lens
- The Park Board, Library Board, and Police Board will be asked to consider and adopt the equity framework to inform their organization and service development
- Assessing all areas of planning and service provision that focus on addressing the needs of equity-denied groups, brought together under the umbrella of the Healthy City Strategy⁵¹

The equity framework is still very new, and all City departments and agencies will have to review its implications for their work, but perspectives from and outcomes of that work will be important for VEC to consider in any future just transition work.

51 [“City of Vancouver responds to calls from community with new Equity Framework,”](#) City of Vancouver, July 20, 2021.

As the Vancouver Economic Commission has shown, green jobs – including cleantech, local food, waste management, green buildings, and clean transportation – have proven a massively successful and prosperous part of the region’s 21st century evolution. Vancouver’s work to fight climate change over the past decade has helped strengthen its economy, in which Vancouver businesses have been early adopters of economic opportunities and business strategies better aligned with its environmental objectives.⁵⁶ Vancouver’s green economy employs more than one in 15 workers, which is well above any other North American city, and as of 2016, had been growing at an average annual rate of 7.8%.⁵⁷ Between 2010 to 2017, Vancouver’s green economy grew faster than any other city in Canada. In 2018, 30% of Vancouver’s businesses delivered products or services that help to restore or preserve the environment – a number they expect to double by 2021. In particular, BC Energy Step Code has opened a multibillion-dollar market opportunity for the local green building and construction sector over the next decade.⁵⁸ The transportation industry also faces new economic opportunities as the growth of electric vehicles calls for the installation of more electric vehicle charging, transportation services and product suppliers along with low-carbon heating technology and construction materials.⁵⁹

VEC partnered with Mustel Group and Delphi in early 2021 to understand the growth of green jobs and how businesses are greening their operations. Through conducting two surveys of the local business community, the research team found that government policies, market forecasts, and consumer demand were the primary drivers of their green jobs and services over the past four years. Vancouver is therefore economically on a strong trend towards green economic transformation.

Vancouver’s Environmental Landscape

Vancouver is generally regarded as one of the most decarbonized economies in North America, with estimated per capita greenhouse gas (GHG) emissions less than 3.9 tonnes.⁶⁰ Low though these may be, Vancouver still emits more than is sustainable. In addition, emissions associated with goods produced outside of the City (i.e., consumption-based emissions) are also high (7.7 tonnes per capita) and need to fall by an estimated 74% to align with a scenario of less than 1.5°C of warming.⁶¹ Within so-called territorial emissions, vehicles and buildings account for the largest sources of carbon pollution in Vancouver.

Figure 7. City of Vancouver GHG emissions by source

Where Vancouver’s Carbon Pollution Comes From

2019 emissions inventory, City of Vancouver

54%

**natural gas use
in buildings**

39%

**gas and diesel
in vehicles**

4%

waste

2%

electricity

Source: City of Vancouver Climate Emergency Action Plan, p.12

56 City of Vancouver. *Climate Emergency Action Plan*, p.16

57 Ibid

58 Ibid

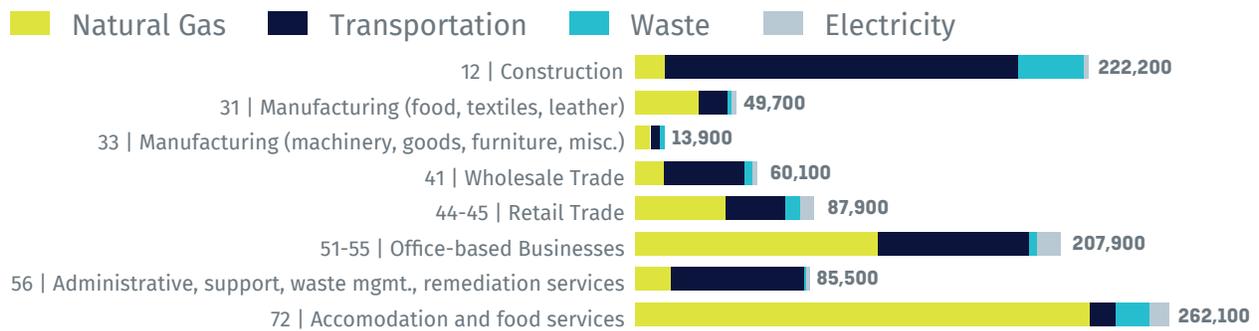
59 Ibid

60 City of Vancouver. *Greenest City Implementation Update 2015-2016*. (2017) p. 9

61 BCIT. *City of Vancouver ecoCity Footprint Tool Pilot Summary Report*. (Vancouver, 2021) Pg., vi

Specific to business activities, green business transformation consultants Climate Smart found in 2014 that the three largest emitters by job sector in Vancouver are manufacturing, construction, and accommodation and food services, which collectively account for 70% of emissions.⁶²

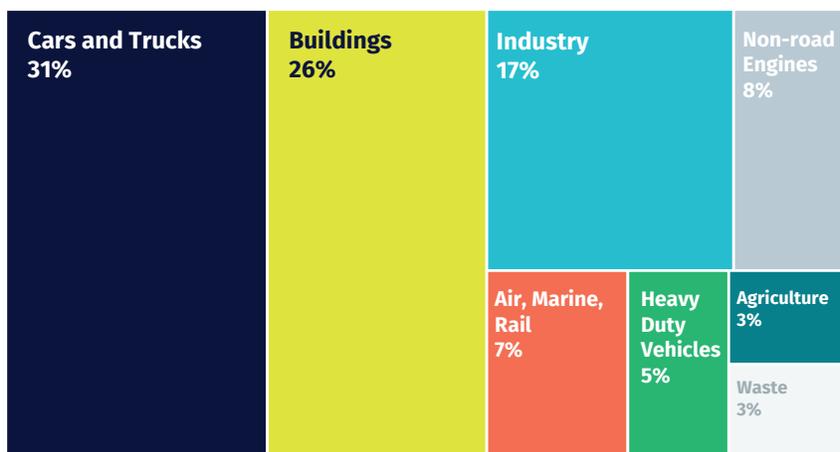
Figure 8. Business-associated emissions (tonnes of CO₂e) by North American Industry Classification System (NAICS) sectors, within the City of Vancouver.



Source: Climate Smart, 2014

It is important to note that Vancouver’s economy and environmental impacts are closely linked within the wider context of the Metro Vancouver region. Similar to the municipality of Vancouver, the metro region’s two largest sources of GHG emissions are from vehicles and buildings – even though less than 1% of the regional source of GHG emissions is directly associated with corporate activities.⁶³ The key difference is that cars and trucks (rather than buildings) are the largest regional source of emissions, and this is due to Vancouver’s more compact development patterns and its status as the regional jobs centre.

Figure 9. Regional GHG emissions by source.



Source: Metro Vancouver, 2020

62 Climate Smart. *City of Vancouver Business Energy and Emissions Profile (BEEP)*. (Vancouver: 2014), p.5

63 Metro Vancouver. *Climate 2050 Strategic Framework*. (2020) p.20

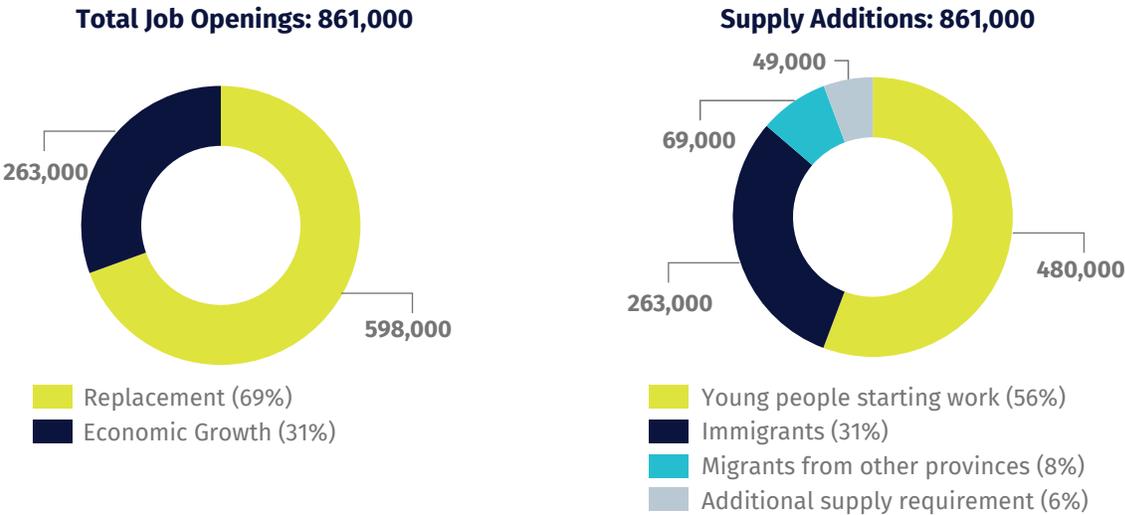
Understanding the Influence of Emissions Reductions on Vancouver’s Major Economic Sectors

To gain a better understanding of how the workforces of different sectors are being impacted by climate policies and greening of the workforce, this study conducted an initial assessment of the two sectors with the largest source of GHG emissions in Vancouver: buildings and vehicles.

Labour Market Context

The *BC Labour Market Outlook* projects that in 2019–2029 there will be 861,000 job openings in BC with an annual average growth of 3.2% in job openings.⁶⁴ Approximately 69% of future job openings will be to replace workers leaving the labour force.⁶⁵ As the population and the labour force continue to age, 598,000 job openings are anticipated to happen mainly because retiring workers will need to be replaced. Figure 10 demonstrates the rate of replacement. Young people (aged 29 or younger) entering the labour force for the first time are expected to fill 56% of future job openings and new immigrants will fill 31% of the openings.⁶⁶ The growing gap between retiring workers and young people entering the labour force raises concerns for a “grey tsunami” that will impact many industries and leave it difficult for them to fill all needed roles effectively. An aging population points to slower growth in BC’s labour force and an acceleration towards issues of labour scarcity and skills gap.⁶⁷

Figure 10. Job growth, replacement rate, and labour supply in BC 2019 to 2029.



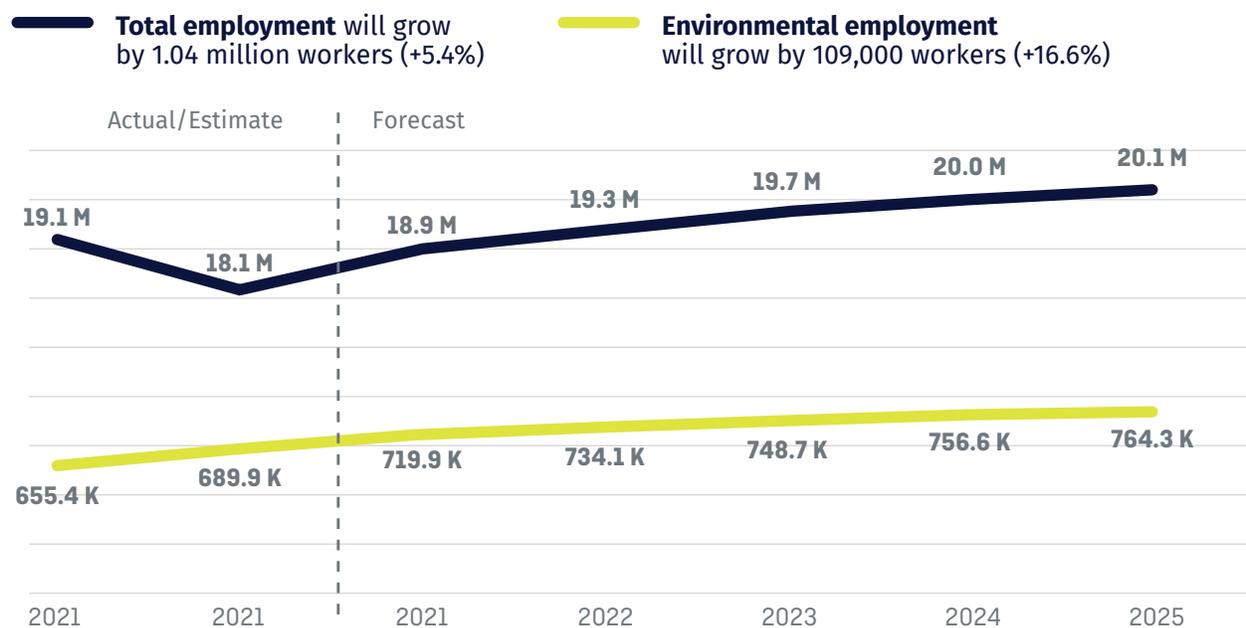
Source: British Columbia Labour Market Outlook, 2019 Edition, 2020

64 Government of British Columbia. *British Columbia Labour Market Outlook: 2019 Edition* (2020) p. 7
 65 Ibid
 66 Ibid
 67 Finlayson, Jock. “Will Future Labour Shortages Imperil the BC Economy?” Business Council of British Columbia (BCBC), March 06, 2015,

The British Columbia Labour Market Outlook (2019) predicts that the gap will be easily filled and automation could contribute to closing the gap by reducing the number of job openings. However, the potential impact of automation is hard to predict; there are multiple considerations, such as cultural preference and cost, that could favour labour instead.⁶⁸ Furthermore, technological advancement has historically produced more jobs than those it has eliminated in Canada.⁶⁹ New technology often helps drive innovation, improve wealth, raise productivity, and increase consumption.⁷⁰ As such, it is imperative to conduct more research regarding the impact of automation on the labour market.

Important to note, the Labour Market Outlook’s projections do not appear to account for the potential impact green jobs will have on the labour market. Therefore, the potential grey tsunami could be larger than projected. Eco Canada projects that nationally, job growth and retirements will account for 173,000 net environmental job openings by 2025.⁷¹ Figure 11 and 12 below displays the projected trajectory of environmental employment and net hiring requirements by 2025 in Canada. Green jobs have grown 35% in Vancouver from 2010–2018, averaging to around 6% per year.⁷² Table 2 demonstrates the potential new jobs direct and indirect that will be established through the installation of retrofit code.

Figure 11. Total Employment vs Environmental Employment in Canada, 2019-2025



Source: Eco Canada, 2021

68 Lo, Matthew; Lamb, Crieg. *Mapping automation*, Brookfield Institute. (2017) p. 2,

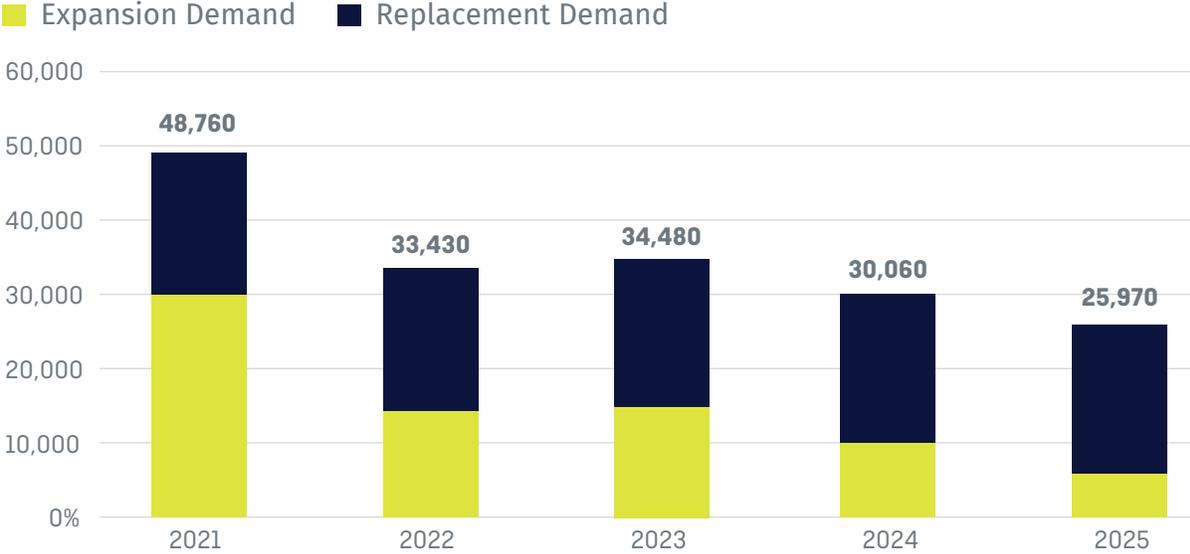
69 Ibid

70 Lo, Matthew; Lamb, Crieg. *Automation Across the Nation: Understanding the potential impacts of technological trends across Canada*. (Ottawa: 2017) p. 2

71 Eco Canada, *From Recession to Recovery: Environmental Workforce Needs, Trends and Challenges*, (2021) p.7

72 Vancouver Economic Commission (VEC). *State of Vancouver's Green Economy*. (Vancouver: 2018), p. 5

Figure 12. Environmental Sectors Net Hiring Requirements, 2020 to 2025



Source: Eco Canada, 2021

Table 2. Local Jobs and GDP Growth from Retrofit Policies in CEAP and CleanBC, 2020-2040

	New Jobs: Direct	New Direct Jobs: Direct, Indirect, and Induced	Net GDP Impact: Direct	Net GDP Impact: Direct, Indirect, and Induced
City of Vancouver	729	1,199	\$1.4 billion	\$2.3 billion
Metro Vancouver	1,827	3,007	\$3.4 billion	\$5.7 billion
British Columbia	4,417	7,269	\$8.3 billion	\$13.7 billion

Source: City of Vancouver, CEAP, Appendix J

As a result, a significant implication that requires further study is that Vancouver’s labour market may minimize or even effectively eliminate the need for a widespread, classical just transition approach. Instead, Vancouver may be in the enviable position of only having small, specific sub-sectors with just transition needs, and an overall need to bring more people into the workforce. In turn, growing demand in the workforce will create space for future work to address existing inequities in the labour force, and to create greater diversity, inclusion, and shared prosperity in Vancouver’s labour market. It is important to note that, while the overall *availability* of workers may be lower and require attention, the small number of workers who may face direct job losses does not remove the need for ongoing retraining and skills transitioning. Many workers will continue to have work, may see increased demand for their services, and may also require significant alterations to the work and practice they currently perform.

Deep Dive: Buildings

As of 2018, approximately 15% of British Columbia's economy is made up of real estate and construction. The provincial economy is growing more dependent on real estate and construction than any other province in the country. The dependence on these two sectors is more than the Province of Alberta's reliance on fossil fuels.⁷³ At the same time, natural gas use in buildings is the largest source of GHG emissions in Vancouver and the second largest source in all of Metro Vancouver. The Province of British Columbia and the City of Vancouver have set targets to meet net-zero emissions buildings. The City of Vancouver aims to be 100% renewable by 2050 in which the City's Zero Emissions Buildings Plan calls for all new buildings to have zero operational carbon emissions by 2030.⁷⁴ The provincial government has committed to reach net-zero energy ready buildings by 2032, and have developed an Energy Step Code approach to assist municipalities in achieving this goal.⁷⁵ As a result, Vancouver's Zero Emissions Building Plan and BC's Energy Step Code have created a \$3.3 billion opportunity for local installers, manufacturers, and suppliers of green building materials.⁷⁶

From the labour perspective, construction is the number one employer in most parts of the country with one in thirteen Canadians working in construction. Almost 100,000 people work in the industry in Vancouver.⁷⁷ Concurrently, the construction industry is facing a labour shortage that is making day-to-day work, not to mention the transition to net-zero buildings, an increasing challenge. An aging workforce now intersects with the historical difficulty of attracting new talent to the building sector, even as skills and experience depart with retirees.⁷⁸ To address these challenges, some buyers, like BC Housing, and companies, like Chandos Construction, have created new programs to incorporate more modern construction methods and shift the workforce to low-carbon practices and employment practices that are more equitable and inclusive.⁷⁹ There are numerous training programs available in the construction industry. However, many of the programs are under-utilized and under-subscribed; they fail to align with industry needs or successfully attract enough younger workers.⁸⁰ Other preventative factors include the cost to participate, lack of proper promotion and awareness, and the difficulty of access.⁸¹

73 VEC. *State of Vancouver's Green Economy*. (Vancouver: 2018), p. 3

74 Ibid, p. 11

75 Ibid, p. 11

76 City of Vancouver. *Greenest City Action Plan Implementation Update 2018 - 2019* (2019) p. 40

77 Delphi Group and Scius Advisory. *Increasing Capacity & Cohesion for Delivering Net Zero Carbon Buildings: The Role of Cities in Skills Development & Training*. Unreleased report for the C40 Cities Leadership Group (2021), p. 4

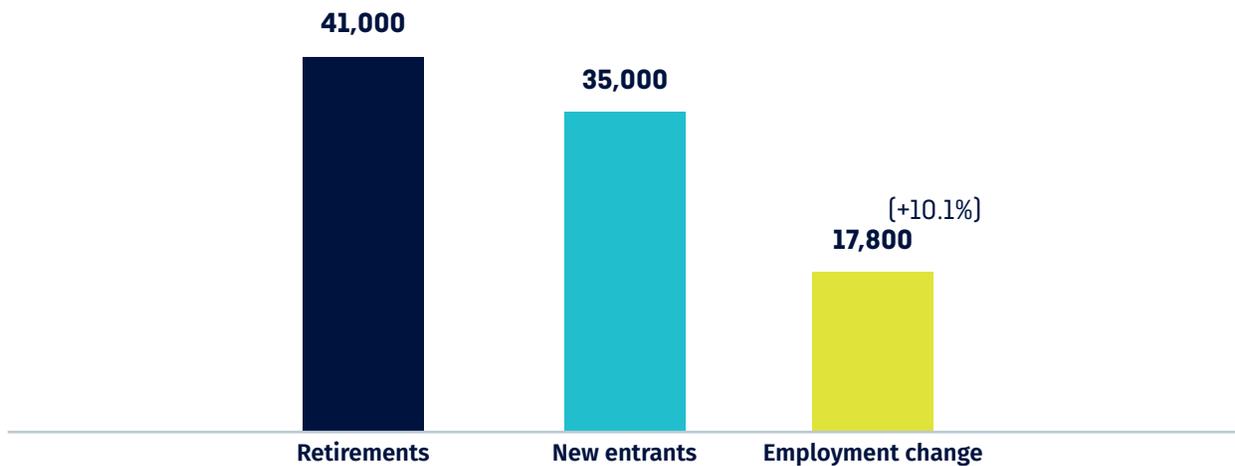
78 Eco Canada. "[Energy Efficiency in Buildings: The Challenges and Opportunities in the Drive to Net-Zero](#)," February 11, 2021,

79 Delphi Group and Scius Advisory. *Increasing Capacity & Cohesion for Delivering Net Zero Carbon Buildings* (2021), p. 9

80 Ibid p. 9

81 Ibid p. 10

Figure 13. 10-year construction industry workforce outlook for British Columbia, 2020 - 2030



Source: **Buildforce, 2021**

In addition to an aging workforce, the construction industry is also incredibly homogeneous. According to the BC Construction Association, approximately 94% of the workforce is male, while only 6% is female.⁸² When assessing the industry to include real estate, development, and design, up to 15% of the urban development workforce is female.⁸³ The data is extremely murky, with unknown amounts of unregistered contracting and informal construction work, but it is estimated that most construction workers have been in Vancouver since the 1980s and few *formal* workers are from racialized communities.⁸⁴ Future construction workforce transition planning will need to find ways to create a more diverse and inclusive workforce in order to respond to social and public policy pressures and the mounting workforce deficit. Currently the Industry Training Authority (ITA) in BC has focused on addressing barriers to trades training for underrepresented groups.⁸⁵ ITA has specifically worked to shift the culture of the skilled trades by advancing inclusiveness and increasing accessibility through an inclusive trades training and apprenticeship system.⁸⁶ ITA heavily relies on the BC Women in Trades Centre, which may be broadening its mandate beyond gender to be focused on all equity-seeking groups. Despite this meaningful work, the consistent homogeneity of the industry shows how much further this work has to go – and the critical role it could play in maintaining the health of the industry.

The difficulty of managing an effective transition for the industry will stem both from these demographic trends and the fractured nature of the industry as a whole. Stakeholders

82 BC Construction Association. *Stat Pack: Spring 2021*. (2021)

83 Interview with Scius Consulting

84 Interview with Scius Consulting

85 Industrial Training Authority (ITA) of BC. *ITA 2020/21 - 2022/2023 Service Plan* (Victoria: 2020) p. 5

86 Ibid

repeatedly mentioned how parts of the industry were complex and uncoordinated, and highlighted the likelihood of overlooking pockets of independent contractors and businesses.⁸⁷ As well, there are underground “grey workers,” such as firefighters who work part-time in the construction industry and who may not be fully counted in the statistics.⁸⁸ While efforts like BC’s Skills Certification Program – which will create new trades categories and mandate training and certification (therefore making counting easier) – will provide some clarity and clearer direction in the industry, there is still much further to go. With the CleanBC Workforce Readiness Plan still not released, and with local governments in Metro Vancouver stepping up the intensity of their climate actions – especially in building decarbonization – there is a growing likelihood of significant labour disruptions (including job losses in some areas and worker shortages in others). Soon to be released, research from the BC Energy Step Code Council shows that some occupations and sectors in the industry are not ready to comply with these more aggressive standards.⁸⁹ Without greater coordination and planning, the industry, while still profitable at a high-level, could be moving into significant headwinds.

Deep Dive: Transportation – Vehicles

Vehicles represent the largest source of GHG emissions in the Metro Vancouver region, and are the second largest source in the municipality of Vancouver. The City of Vancouver and the Government of British Columbia have been active in planning the transition to zero emission vehicles, though efforts on active transportation at a provincial level have been lacking. CEAP has set an objective for 50% of the kilometres driven on Vancouver roads to be by zero-emissions vehicles by 2030, while provincially BC has set a transportation sectoral reduction target of 27–32%.⁹⁰ In 2018, Vancouver had the largest municipal electric vehicle fleet in Canada.⁹¹ In the consumer market, trends in Vancouver gravitate towards electric vehicles (EVs). Vancouver is generally regarded as one of the hottest zero emissions vehicle (ZEV) markets in North America with EVs accounting for 10% of all vehicle sales in 2020.⁹² Approximately one-third of consumers in BC want their next car to be an electric vehicle.⁹³ BC Hydro also predicts that there will be a post-pandemic “EV bottleneck” as demands for electric vehicles in 2021 lead to record-breaking sales.⁹⁴

The transitioning vehicles landscape in Vancouver will have an impact on the future automotive workforce. At the moment, the BC government has been proactive in terms of providing training for electric vehicle maintenance and EV charging stations. The Ministry of Energy, Mines, and Low Carbon Innovation (EMLI) has expanded the EV Maintenance Training Program across the province.⁹⁵ The British Columbia Institute of Technology (BCIT) has also launched a Red Seal program to provide automotive technicians with the skills necessary to

87 Interview with Scius Consulting

88 Interview with Scius

89 Interview with ITA

90 City of Vancouver. *Climate Emergency Action Plan*. (2020) p. 11

BC Government. “[B.C. sets sectoral targets, supports for industry and clean tech](#),” BC Government News, March 26, 2021

91 VEC. *State of Vancouver’s Green Economy*. (Vancouver: 2018), p. 3

92 Chan, Cheryl. “[B.C. Hydro predicts ‘bottleneck’ as electric-vehicle demand ramps-up](#),” *Vancouver Sun*, July 8, 2021,

93 VEC. *State of Vancouver’s Green Economy*. (Vancouver: 2018) p. 1

94 Chan. “[B.C. Hydro predicts ‘bottleneck’ as electric-vehicle demand ramps-up](#),” *Vancouver Sun*, July 8, 2021,

95 BC Government. “[EV skills training now available at three additional colleges](#),” BC Government News, March 29, 2021

work on EVs. The program prepares people to enter this growing, competitively paying sector as well as support decarbonization goals.⁹⁶ Although these are proactive measures to ensure auto technicians are able to transition through training, there remains uncertainty around independent auto shops who may not have technicians trained for the transition, especially when it comes to proprietary ZEV technology, or processes that some manufacturers may be more reluctant to share without a contractual relationship.

The heavy focus on training automotive technicians in preparation for the transition to zero emission vehicles overshadows other potential labour impacts in the automotive sector. For example, there are early indications that with EVs entering the market, the service needs will shrink. More specifically, this could mean that service and repair shops will also need to scale down the procurement of automotive parts. The shrinking profile of vehicles in Vancouver could have a significant labour impact on the automotive part suppliers. There have been predictions that the auto supply chain will be negatively impacted by the shift from internal combustion engines (ICE) to plug-in hybrid, battery EVs in light-duty vehicles. Original Equipment Manufacturing (OEMs) have now been searching for a new set of suppliers who can produce parts for electric vehicles over those from ICE vehicles.⁹⁷ Furthermore, some industry watchers think dealerships may be hit from multiple sides by combinations of different servicing needs and changing sales patterns. For example, Tesla has shifted the market by introducing online sales and at-home servicing; other automotive companies have been looking to do the same. Volvo, for instance, has been downsizing their service offerings, leading to a reduction in dealership sizes and on-site staff, while increasing remote services.⁹⁸ All of this is also largely focused on the light-duty vehicles segment. When it comes to medium- and heavy-duty vehicles, decarbonization will be a much more complicated process, and one likely to be ongoing into the 2060s at current fleet turnover rates.⁹⁹ Though facing fewer challenges than the buildings industry, there remains significant uncertainty for the needs of future technology and workforce in this sector.

96 Ibid

97 Opshal, Dave. "[The Shift To Electric Vehicles Means Training New Auto Suppliers](#)," *Forbes*, July 19, 2021,

98 Interview with BCIT

99 Bloomberg New Energy Finance (BNEF). [Electric Vehicle Outlook](#). (2021)

Global Case Studies

Overview

As the literature review shows, only recently has the concept of just transition become more a clear policy issue at the local level. Canada has even done significant work, some of it quite innovative and world-leading. Crucially, however, these projects are often specific to the oil and gas, coal, or other high-emitting industries. Anabel Pinker of the James Hutton Institute provided an excellent overview of these approaches to the Scottish government in 2020. The patterns she finds are instructive for the broad typologies of developing just transition, and related types of programming which are seen in Table 3.

Table 3. Overview of Just Transition Approaches Types

Type	Transition Instrument, Process, or Activity	Case Study Examples
Advisory Task Force or Commissions	Dedicated, government-initiated just transition task forces, commissions and advisory panels at national and regional levels to formulate non-binding just transition principles and recommendations	Coal Commission Germany (National) Task Force on Just Transition in Canada (National) Alberta Advisory Panel on Coal Communities (regional, Canada)
	Government-initiated national advisory panels to provide recommendations on how to facilitate low-carbon transitions – which incorporate (but do not focus on) principles associated with a just transition	Generation Energy Council (national; Canada)
Strategic Policy Frameworks	National strategic policy frameworks designed to address low-carbon transitions, which incorporate (but do not focus on) elements associated with just transition.	Mid-Century Strategy (national; US) Clean Power Plan (national; US) Pan-Canadian Framework on Clean Growth and Climate Change (national; Canada)

Strategic Funding Programs	Government-initiated national and regional funding programmes designed specifically to support transition processes through financial assistance for communities, workers, municipalities, organizations, and/or regions affected by coal and/or industrial decline.	POWER (National; US) Alberta’s Coal Community Transition Fund [CCTF] (regional; Canada) Alberta’s Coal Workforce Transition Program [CWTP] (regional; Canada) Ruhr structural transition programmes
Transition Initiatives run by non-governmental campaigns, regional support networks, and/or other organizations	Regional philanthropic funds	Just Transition Fund (JTF) for Appalachia grantees (regional; US)
	Non-governmental campaign and regional support networks, groups or organizations that promote community organizing and run assistance programs, particularly in areas of industrial decline	Kentuckians for the Commonwealth (regional; US)
Union-led Initiatives	Union coalitions for a just transition	Coal Transition Coalition (Canada)
Environmental and Ecosystem Services Projects	Payment for Ecosystem Services (PES) projects designed by private, governmental, or NGO actors, with varying degrees of local community collaboration, to prevent deforestation, offset carbon production elsewhere, and provide community benefits.	REDD+ Projects (Peru)

Source: Pinker, 2020

What follows are some specific examples that have resonated as emerging, or, as in the case of the Ruhr, established best practices in this space.



Photo: A blast furnace in Ruhr, Germany, Pixabay

Ruhr Region, Germany:

The Ruhr Region has been one of the most cited case studies regarding a relatively successful transition process.¹⁰⁰ The Ruhr is the largest urbanised area in Germany, with a population of five million people in 2017.¹⁰¹ In the 19th century, the region helped Germany become a highly industrialised area and the backbone of Germany's coal and steel industry.¹⁰² For over fifty years, as parts of Germany began to deindustrialize, the region has been undergoing a transition away from fossil fuels and high-carbon industries. The regional and national government responded by heavily investing in planning, programming, and other efforts to ensure what we now would call a just transition for impacted workers. This process has been, in various forms, since the 1960s, and roughly since 2010 has entered into a phase specifically focused on renewable energy, with significant support and planning from all orders of government.

Key Insights

1. Transitions take time in which long-term investments and planning are needed¹⁰³
2. Effective transitions require clear leadership from senior orders of government and strong, ongoing investment. In the Ruhr, significant money was spent, for example, to create new technical institutions and universities in line with the economic transition plan(s)¹⁰⁴

100 Pinker, Anabel. *Just transitions: a comparative perspective., Report prepared for the Just Transition Commission.* (August, 2020) p. 40

101 Mertins Kirwood, Hadrian and Duncalefe, Clay. *Roadmap to a Canadian Just Transition Act A Path to a Clean and Inclusive Economy.* (CCPA, 2021), p. 17

102 Pinker. *Just Transitions: a comparative perspective.* (2020) p. 41

103 Pinker. *Just Transitions: a comparative perspective.* (2020) p. 41

104 Ibid p.19

3. Economic transition planning that was not grounded in the local context failed; attempts to build out of context industries, like cellphone assembly, did not succeed because they did not leverage existing strengths and connections that the region had¹⁰⁵
4. A conventional just transition may assist well-established workers but may not empower more precarious workers, or those who cannot access jobs in heavy industry to begin with.¹⁰⁶



Photo: Wikimedia Commons

Mohave Generating Station, Laughlin, Nevada, USA & Navajo Nation & Hopi Tribe

In 2005, the Mohave Generating Station (MGS) and associated Black Mesa coal mine in Nevada was decommissioned and dismantled by the investor-owned utility Southern California Edison. The MGS was a crucial source of economic benefits for the local Navajo and Hopi nations in the area, with 93% of the associated jobs held by Native Americans.¹⁰⁷ Additionally, the MGS contributed to almost a third of the Hopi Tribe's entire revenue and saw an economic benefit of around \$83 million annually.¹⁰⁸ A strong just coalition worked together to build a variety of financial and other supports for the communities, for example leveraging a sulphur oxide (SO₂) cap-and-trade system to generate new revenue from prevented sulphur emissions; additionally, the Navajo Green Economy Fund and Commission were created within the Tribal Government to support its tribe members in the transition, and numerous other nonprofit and charitable organizations set up direct supports for training, income assistance, and advantageous community financing to build revenue-generating renewable energy for the tribes.

¹⁰⁵ Ibid p. 19

¹⁰⁶ Ibid, p. 45

¹⁰⁷ Cha, Mijin et al. *A Roadmap to an Equitable Low-Carbon Future: Four Pillars for a Just Transition*. Prepared for the Climate and Equity Network (2019). p.19

¹⁰⁸ Ibid, p. 21

Key Insights

1. Strong coalition with experts and allies led to creative ways to provide a dedicated funding stream to support the Native American communities.
2. Creation of programs (such as by the Black Mesa Water Coalition) that preserved and protected the integrity of Indigenous cultures helped build strong, sustainable communities led by the empowerment of young people.
3. Long-term restorative programs are crucial. An example is the Restorative Economy Program, which used healing workshops to address the trauma caused to the land and people from the coal economy¹⁰⁹



Photos: The Rooiwal Power Station, by Tambako The Jaguar, via Flickr

Mpumalanga, South Africa

South Africa was the first country to mention the need for a just transition in its Nationally Determined Contributions (NDC) to the Paris Agreement in 2015, due to the significance of the coal sector in its economy and energy system. Many dialogues, including the Presidential Climate Change Coordination Commission (PCCCC), mandated the country work on the just transition, which is especially important to the Mpumalanga region. Five percent of all workers in Mpumalanga work in the coal sector, and it represents almost 20% of the region's overall economy. Despite work conducted since 2012 that has recognised the importance of winding down the coal sector, significant distrust and concern remained in the unions and at the regional level. A framework finished in 2019 laid out the path forward, and social dialogue across government, labour, civil society, and business was critical to its completion. While the implementation progress has been gradual, some successes – such as renewable energy generation development – are growing.¹¹⁰

¹⁰⁹ Mertins Kirwood, Hadrian and Duncalefe, Clay. *Roadmap to a Canadian Just Transition Act A Path to a Clean and Inclusive Economy*. (CCPA, 2021), p. 21

¹¹⁰ "South Africa: Strong Foundations for a Just Transition," World Resources Institute, 2020.

Key lessons learned:

1. Social dialogue was a crucial mechanism to align interests across society, but has struggled and sometimes not been prioritized at the regional level.
2. Concessional finance was needed to de-risk renewable energy investments in the community, and develop supportive, transitional industries.¹¹¹
3. Support for the most vulnerable and an increase in workforce skills has particularly strong opportunities when investing in retrofits for poor-quality housing in low-income neighbourhoods and supporting employment and training of marginalised communities.¹¹²
 - a. As a result, over 2,000 households had improved living conditions, approximately 2,300 jobs were created, and more than 7,400 tons of carbon emissions were saved.

From the case studies, and Pinker and others' summaries, it is clear that there are very few, mature local examples of just transition planning, that address the general impacts of climate action, and not the transition away from particular industries.

There is, however, growing attention being paid to the just transition at the local level, and it is prompting global cities and authorities to explore ways to engage with their labour markets in a direct way – sometimes for the first time. In particular the International Labour Organization (ILO), the International Trade Union Confederation (ITUC), C40, and other international organizations have worked hard to develop and share research and resources to support this work. As with national governments, many are focused on the transition from coal and/or oil and gas industries, although there are many cities and regions that have implemented or are in the process of just transition work.

What has added complexity to identifying and reviewing case studies over the course of this project is how few cities are in a comparable economic and environmental context to Vancouver. Based on the literature review, interviews, and peer learning, this study identified three regions and cities relatively aligned with Vancouver and Metro Vancouver's potential just transition context: New York City, Oslo and Los Angeles County.

¹¹¹ Ward, Michael. Sharma, Neha; Searight, Hugh. *Supporting Just Transitions in Africa*. (September, 2020) p. 6

¹¹² C40 Cities, C40 Mayors' Agenda For A Green And Just Recovery, July 15, 2020, p. 18

Table 4. Major Case Studies Overview.

	Oslo, Norway	New York, NY	LA County, CA
Governance	Regional & Local	Local	Regional
Current Just Transition Stage	<ul style="list-style-type: none"> • 2018–2019 Oslo is one of the first cities to Declare a Just Transition in partnership with local unions • 2020–2021 COVID-19 and political leadership changes have paused just transition work at the planning stage 	<ul style="list-style-type: none"> • 2017 New York City Mayor Bill De Blasio enacted the Environmental Justice Law establishing the Environmental Justice Advisory Board • 2021 research on specific just transition actions underway 	<ul style="list-style-type: none"> • September 2020 LA County Board of Supervisors adopted a motion for a stakeholder taskforce to develop a Just Transition to Energy Strategy • June 2021 LA County Chief Sustainability Officer submitted a report to the County of LA Chief Executive Office to report back on the development of a just transition work plan
Key Insights	Early engagement crucial to build trust with workers	Advisory board and logistical infrastructure needed to sustain work	Cross-departmental collaboration key to addressing all aspects of just transition problems

New York City, USA - Local

Economic and Environmental Landscape:

Similar to Vancouver, New York City (NYC) does not have a large workforce reliant on the fossil fuel sector. Additionally, 70% of the city emissions are from buildings, and NYC is targeting these as a major sector of emissions.¹¹³ NYC is also pushing to fully electrify their municipal fleet by 2040, and are working to achieve more sustainable modes of transportation.¹¹⁴ The City’s seasonally adjusted unemployment rate was 10.6% in June 2021, an improvement of 8.2% from June 2020, but still demonstrating marked economic stress from the COVID-19 pandemic.¹¹⁵

Governance Context:

New York City (NYC) has a similar governance context as Vancouver – a municipal-level

113 [“Inventory of New York City Greenhouse Gas Emissions,”](#) NYC Mayor’s Office of Sustainability, 2020. Accessed from:

114 Interview with New York City

115 [“Labor Statistics for the New York City Region,”](#) New York City Department of Labour, July 2020.

government who operates under the state (provincial) and federal government. However, NYC has more power and existing infrastructure compared to Vancouver. New York City is able to operate more independently from the State of New York compared to the City of Vancouver's powers under the Province of British Columbia.

Current Just Transition Stage:

New York City is building on its prior work on environmental justice, where they developed an **Environmental Justice Advisory Board** in 2017 to manage the disproportionate impacts of pollution, and climate action, on communities of colour and low income residents of NYC. Out of that work, a more specific focus on the just transition for workers has emerged as a stronger priority. The Advisory Board was established through the passing of two local laws: Local Law 60¹¹⁶ and Local Law 64.¹¹⁷ The Advisory Board has been a key player in their public engagement process as well as committing to strong social and environmental procurement practices. NYC has also used contracting as a tool for the city to invest billions in job opportunities for various minority groups.¹¹⁸ Lastly, NYC has been working with the City University system to create an audit on future job opportunities.¹¹⁹

Key lessons learned:

1. A robust and transparent governance system – such as NYC's Environmental Justice (EJ) Advisory Board – is critical to success. The EJ Advisory Board consists of community based leaders, academics, and residents to ensure that there is a feeling of being amongst peers and not merely in a one-on-one conversation with city staff.
2. Advisory Boards and other governance mechanisms can help develop public engagement, and – if well-run and organic connections are established – serve as an incubator for other, aligned collaborations on environmental and economic justice
3. To increase the safety for, and eventual participation of, historically marginalized communities in emerging green sectors, both industry and community leaders must be engaged to create awareness for these opportunities, and create clear pathways in for community members
4. NYC has large amounts of labour market data that it can use in planning just transition programming, but a public interface, such as a green jobs portal, is still felt to be lacking and would play a role in increasing the connections of new, good opportunities to diverse communities.

116 New York City Council. [Requiring a study of environmental justice areas and the establishment of an environmental justice portal](#), 2017/060

117 New York City Council. [Identifying and addressing environmental justice issues](#), 2017/064

118 Lavietes, Matthew. ["New York City opens billions in contracts to LGBT+ business," Reuters](#), January, 20, 2021

119 Interview with New York City

Oslo, Norway - Regional / Local

Economic and Environmental Landscape:

Oslo in many ways has a very similar economic and environmental landscape to Vancouver. Like Vancouver, it is a port city with a varied economic base that does not include a *direct* fossil fuel industry. Perhaps most importantly, Norway, like Canada, has a large oil and gas sector that Oslo is attempting to disentangle itself from. Locally, Oslo also has high housing prices, along with other cost-of-living challenges that contribute to inequality. Finally, Oslo has set strong climate action targets and aims to be carbon neutral by 2050.¹²⁰ A significant part of their drive to zero emissions has been through promoting sustainable transportation, and the city has become the “Electric Vehicle Capital of the World.” Of all vehicles currently sold in the city, 30% are electric. Like Vancouver and BC, Oslo’s electricity is also primarily hydro powered; in contrast, 67% of its emissions are in some form related to mobile combustion, and another 21% are waste incineration and energy supply.¹²¹ Home heating (Vancouver’s largest emissions source) represents only 6% of all Oslo’s emissions. Oslo recently introduced a tighter toll road system (which Vancouver is currently exploring). However there has been discussion that the system has created inequities for low-income groups who live farther away from the city centre.

Governance Context:

Oslo’s government system works differently than Vancouver’s, in which Oslo constitutes as both a municipality and county of Norway.¹²² Additionally, there are two levels of government – the City Council and the executive branch. The City Council is the supreme authority in which the Mayor of Oslo is the head of City Council and has a more ceremonial role. The Governing mayor is the head of the City government and is a part of the executive branch.¹²³ Another key difference between Oslo and Vancouver is the role labour unions have in each respective city. In Oslo, this role is significantly more pronounced in that there is a very large footprint for organized labour, in which more than half of the workers are organized by a national labour union, LO Norge. The strength of this can be seen, as one example, from the fact that the City government established a requirement in all contracts and procurement to ensure decent jobs to prevent social dumping of wages.¹²⁴

Current Just Transition Stage:

Oslo was one of the first cities to have announced a city-wide “Declaration on Just Transition,” alongside their local unions. Conversely, due to political reasons and the COVID-19 pandemic, Oslo is currently paused at the planning stage for the just transition. Prior to the pandemic, the City of Oslo and LO Norge had done a significant amount of just transition planning. In fact, they were planning workshops and seminars in which workers could provide background knowledge and discuss what a just transition means. The onset of the pandemic halted this process, as they believed engagement for a just transition would suffer from online formats. Additionally, Oslo wanted to ensure the just transition was built from the ground up with

120 European Commission. “2019 - Oslo: Green Cities Fit for Life,” European Green Capital, 2019.

121 “Oslo’s New Climate Strategy,” *KlimaOslo*, June 10, 2020.

122 City of Oslo. “City Governance structure,” n.d.

123 City of Oslo. “City Governance structure,” n.d.

124 Interview with Oslo

participants involved from the start. However, challenges with a lack of formalization and structure have made it more difficult to push forward.¹²⁵ Oslo has plans to establish a **Just Transition Council** to provide knowledge and feedback. The initial plans for the Just Transition Council include representatives from municipalities, agencies, unions, and business organizations.¹²⁶

Key Lessons Learned:

1. There are trade-offs in involving elected leaders in local just transition efforts, since changes in government and electoral priorities can drive forward or slow down the involvement and enthusiasm of elected officials in these processes
2. Norway in general has an incredibly strong alignment – sometimes for the good, and sometimes for the bad – between government, business, and labour leaders. Collective visions, especially in the past for fossil fuel production, have created mutually reinforcing systems of effort and direction. Building similar collective visions for the green economy is a highly desirable, though difficult, outcome.
3. Oslo maintains a strong emphasis on human capital – “people are the gold card,” as one interviewee said – and recognises that there are many transferable skills and competencies that must be leveraged to build new and more just economies out of the transition

Los Angeles (LA) County, USA - Regional

Economic and Environmental Landscape:

LA County has the most dissimilar economic and environmental landscape of the three case studies. LA County is the largest oil producer in California and has an economic output that is equivalent to that of Mexico and Indonesia. Uniquely, their oil and gas infrastructures are within heavily urbanized residential neighbourhoods. Overall, the majority of Los Angeles’ emissions (62%) come from transportation, while stationary energy use (29%) is only minimally associated with residential (10%) and commercial and institutional uses (4%).¹²⁷ The 2020 *OurCounty* sustainability plan sets high-level targets on greenhouse gas emissions and other issues (including a commitment to the just transition), with an explicit commitment to a “fossil fuel-free LA County” and carbon neutrality by 2050. Importantly, the County’s sustainability plan stresses the need to advance environmental action while maximising positive equity, workforce development and economic impacts. This is all predicated on the recognition that LA must address longstanding issues of structural racism and other forms of inequality

Governance Context:

The governance structure and context of LA County shares some similarities to Metro Vancouver in that it is a large, diverse region with significant differences between cities

¹²⁵ Interview with LO Norge

¹²⁶ Interview with City of Oslo

¹²⁷ “[About Los Angeles County CAP](#),” LA County Department of Regional Planning, 2020.

within one region, LA County is also home to 88 independent cities and is the most populous county in the United States. West Hollywood – a small, highly urban community – is similar to New Westminster, while some unincorporated areas are oil and gas extraction areas. In this complex multi-level governance environment, LA County has close partnerships with large, progressive cities like Los Angeles-proper, and also engages directly with the State of California.¹²⁸ LA County does not have formal relations with the Tribal governments, but members from these communities do communicate with the County. In contrast to Canada, Tribal governments are recognized by the state, rather than by the federal government.

Current Just Transition Stage:

In June 2021, the Los Angeles County's Chief Sustainability Office submitted a report to the Los Angeles Chief Executive Office on recommendations for a just transition to clean energy.¹²⁹ The report calls for strong cross-departmental collaboration and reports the findings of the **Task Force**. The Task Force consisted of departments such as the Department of Public Works, Los Angeles County's Oil and Gas Team, the Fire Department and Public Health.¹³⁰ At the time they were interviewed, LA County and other actors in the region were still at the very beginning stages of building the work. However, given similarities in the institutional context, it will be useful for Vancouver to keep an eye on their progress in the future, and to collaborate with them in the future.

Key lessons learned

1. Staff stressed the importance of a working operational and financial strategy to build out and sustain the work of their Task Force and any recommendations it may pursue; without a resource commitment, the potential for false promises and disappointment with stakeholders was felt to be high
2. Cross-departmental collaboration, especially between sustainability, planning, economic development, and county administration, has helped move the efforts to this point
3. Tribal, and in the Vancouver context, First Nations, engagement is a complex process and requires new tools and approaches, especially as workforce transitions are impacting different groups
4. Significant data collection will be needed by LA County to fully understand the demographics of those who face job losses due to the climate transition, and those who are in the best position, and who most deserve, to benefit from new opportunities in emerging or growing green economy sectors
5. The uneven spatial distribution of workers impacted by climate policy, and historically marginalized communities who could benefit from new opportunities, has necessitated a specific, careful approach, working with motivated local governments, and, increasingly, with the State, unions, and nonprofit coalitions, all of which have parallel, and in some cases, overlapping work, in this space

128 Interview with LA County Chief Sustainability Office

129 County of Los Angeles Chief Executive Office, Report back on facilitating the development of a 'just transition' to clean energy, June 3, 2021, http://file.lacounty.gov/SDSInter/bos/bc/1108249_BoardmemoJustTransitionMotion6-3-21.pdf

130 County of Los Angeles Chief Executive Office, *Report back on facilitating the development of a 'just transition' to clean energy*, June 3, 2021,

Key Findings

Economies have always been changing and transitions – planned and unplanned – of workers and businesses are a natural part of modern economic life. It has only been recently, out of the experience of 20th Century struggles for workers rights’ and the ongoing desire to maintain and evolve post-WWII social welfare systems, that an explicit commitment to plan transitions for workers became a common rallying cry. The climate emergency changes much of the historical context around these struggles, since it requires a response by governments, businesses, labour, and communities on two fronts. The first refers to deliberate efforts to eliminate the socio-economic drivers of environmental degradation, in which all actors play a part. The second is to cover concurrent and ideally preemptive efforts to direct economic energy and resources (especially workers) from those socio-economic drivers of environmental degradation to other, socially, environmentally, and economically productive activities. Doing both of these at once is effectively the fundamental challenge of climate action in the 21st century – something that, for all good intentions, has proven incredibly difficult to achieve almost everywhere.

This section shares high-level findings and take-aways from its work reviewing case studies and conducting interviews, scanning the broader literature on the just transition, and undertaking preliminary research on the local labour market context in Vancouver.

Across all of the information reviewed, it is resoundingly clear that time is one of the most significant limiting – or enabling – factors to ensure the justness of an economic transition. One of the most important things policymakers can do is to ensure that workers, businesses, and communities have sufficient time to transition effectively.¹³¹ Jim Stanford, a Canadian economist specializing in just transition, argues that the sooner just transition planning starts, the easier its process.¹³² While there are challenges in motivating planning over longer time-horizons, the earlier that planning and engagement, the more likely workers will be able to see and realize a smooth and truly just transition.¹³³

Beyond the essential need to start early, this report identifies three core findings from both the global and local information analysed that must inform Vancouver’s just transition work henceforth: (1) skills and labour shortages, (2) re-skilling and re-training needs, and (3) governance.

131 Conway, Marc. “[Developing and Implementing Just Transition Policies](#),” World Resources Institute, 2017.

132 Stanford, Jim. “[Opinion: Pretending that energy jobs will come back is only making things worse](#),” *The Globe and Mail*, January 18, 2021

133 Stanley Foundation. [Setting an International Policy Agenda for Just Transitions](#) (2017). p.2

Skills and Labour Shortage(s)

Internationally, projections show that millions of net-new green jobs in the coming decade will be created through efforts to tackle climate change.¹³⁴ However, many analyses find that skill shortages constrain this transition to a greener economy.¹³⁵ In 2015, the Conference Board of Canada found that existing “skills gaps” cost the economy close to \$5 billion in foregone gross product every year.¹³⁶ As seen in the labour market context and deep dive on buildings, Vancouver is en route to face similar labour gaps.

It is worth noting here that the intermingled skills and labour shortage (especially in industries like construction) are not random phenomena, but are contingent on other parts of the economy. In Vancouver’s case, the deficit of workers due to an overall aging workforce is key, as is housing. Numerous reports and estimates – most recently the BC–Canada Expert Panel on the Future of Housing Supply and Affordability – shows how wildly the cost of housing has grown in Vancouver, and the “wider economic and social effects [it has had], such as curbing choices on where to live or whether to move, limiting economic opportunity and potentially making the economy less productive and efficient by decreasing labour mobility.”¹³⁷ While wage growth has been steady but mostly mediocre over the past three decades, the draw of capital into the housing market (rather than investing in productivity) and the costing-out of workers have both created new structural challenges (e.g., limited labour supply) and limited the ability of industries to effectively invest in productivity growth and plan for transitions. Ironically, one of the main solutions to address the workforce housing gap has been to develop comparably cheaper housing further out in the economic periphery, which, despite its low purchase cost, has proven to be more expensive overall.¹³⁸

From a macro-economic and a business perspective, the lack of workers is compounded by lack of workers with the right skills. While Canada has one of the most educated workforces in the world, the acceleration of climate action at all levels has revealed rising, urgent and persistent gaps in high-priority occupations. The Canada Green Building Council, for example, estimates that in an aggressive zero-carbon building policy regime, the “green buildings workforce” would need to triple in size by 2030.¹³⁹ It is hoped that if and when it is released, the CleanBC Workforce Readiness Plan will further clarify the BC-wide, and ideally, regional, implications of these workforce and (re)skilling needs.

At a higher level, Eco Canada has predicted that due to factors that include wider supply and demand gaps, post secondary education prerequisites, and environmental-specific competency requirements, over 10 green jobs families – such as life sciences professionals, architects, forest technologists, and managers in manufacturing and utilities operators will face critical job shortages.¹⁴⁰

134 United Nations Environment Program (UNEP). *Green jobs: Towards decent work in a sustainable, low-carbon world* (Geneva, 2008)

135 Strietska-Ilina, et al.. *Skills for Green Jobs a Global View*. (October, 2011), p. iii

136 Conference Board of Canada, *Skills for Success: Developing Skills for a Prosperous BC*, February 2015.)

137 *Opening Doors: Unlocking Housing Supply and Affordability*. Final report of the Canada–British Columbia Expert Panel on the Future of Housing Supply and Affordability. (2021) p. 43

138 Metro Vancouver. *Housing and Transportation Cost Burden Study: a New Way of Looking at Affordability*. (2015).

139 Canada Green Building Council. *Workforce 2030*. p. 2

140 Eco Canada, *From Recession to Recovery: Environmental Workforce Needs, Trends and Challenges*, (2021) p. 8

Another factor in the labour shortage is the low representation of women in green jobs related to science and technologies.¹⁴¹ New green jobs need to break gender barriers and gender segregation.¹⁴² Incentives to increase women's participation in technical training programmes are important, from child-care to industry culture change, as they can also help solve the skill shortage problem.¹⁴³ Additionally, the labour supply gap may be addressed by providing access to new training for disadvantaged youth, persons with disabilities, rural communities, and other vulnerable groups.¹⁴⁴

Re-Skilling & Re-Training

The ongoing reality of labour shortages in BC raises the likelihood that, with the pursuit of more job-intensive climate actions, there will be an increasingly large gap between demand for and the supply of workers. As a result, numerous employers will find it more difficult to fill vacant positions as they face an upward pressure on labour costs.¹⁴⁵ In this environment of relative labour scarcity, many sectors will also face a need for different, and sometimes more technically advanced skills and competencies. An increase in investments in post-secondary education and employee training will be crucial to respond to this. Technology will continue to change the kinds of jobs available and the skills they require. Predictions suggest that these changes will disproportionately affect lower-paying, lower-skilled jobs.¹⁴⁶ However, blue-collar jobs will not be alone in this trend; white-collar jobs will likewise increasingly feel these challenges. Regardless of which industry or the perceived skill-level of its workers, climate action will generate a need for new, different, and often more advanced, skills in impacted sectors. Therefore, commitment to ensure close alignment between the demand and supply sides of BC's education and training system is key. Furthermore, it must be achieved with a deep commitment to equity for all workers and historically marginalized communities.¹⁴⁷

In a recent BC focus group regarding workforce transition, the Canadian Centre for Policy Alternatives (CCPA) found that a limiting aspect of many training programs is a skills mismatch.¹⁴⁸ Specifically, there are gaps between the skills needed and the current workforce skill sets. An initial need for more workers with different skill sets could justify new training, but may also result in a situation where new entrants to the workforce compete for a limited number of spaces.¹⁴⁹ This scenario was raised at a town hall meeting with the construction industry on the Skills Certification Program, in which the most commonly voiced concern was the lack of training seats. The situation has forced workers in the Lower Mainland to go to Vancouver Island for training spots.¹⁵⁰ Along with limited seats, there are concerns that

141 Strietska-Illina, et al.. *Skills for Green Jobs a Global View*. (October, 2011), p. xxi

142 Ibid p.xxi

143 Ibid p. xxv

144 Ibid , p. xxv

145 Finlayson, Jock. "[Will Future Labour Shortages Imperil the BC Economy?](#)" Business Council of British Columbia, March 06, 2015,

146 Lo, Matthew; Lamb, Crieg. *Automation Across the Nation: Understanding the potential impacts of technological trends across Canada*. (Ottawa: 2017) p. 2

147 Finlayson, Jock. "[Will Future Labour Shortages Imperil the BC Economy?](#)" Business Council of British Columbia, March 06, 2015,

148 Cooling et al., *Just Transition: Creating a Green Social Contract for BC's Resource Workers*, CCPA, (2015), p. 18

149 Ibid 18

150 Vancouver Regional Construction Association Town Hall, June 29, 2021

the industry poorly anticipates future needs. The delay in realizing there is a need for newly trained workers could result in the industry changing their needs right after the workers are trained.¹⁵¹ At a global level, the International Labour Organization (ILO) also found that skills development must progress beyond simply matching training to the needs of the labour market.¹⁵² Rather, it is imperative to ensure that skills pertain to knowledge about regulation, implementation, maintaining, and the ability to adopt and adapt.¹⁵³ In Metro Vancouver, for example, there is more alignment necessary to bring actions around the climate emergency, the circular economy, social justice, resilience, and digitalization into step with one another. As such, workers need to stay flexible through multiple transitions and support for them to do so will be crucial, particularly as some transitions may be staggered while others converge at other points in time.

In the CCPA BC focus group research, they found that while better access to training opportunities must be considered, it could also be helpful to provide counselling support to aid workers in realizing the breadth and talent of skills they have outside narrow industrial classifications.¹⁵⁴ The wide range of unrecognized talent and skills was also confirmed through discussion with BCIT. As an example, they explained that auto workers have highly transferable skills as their knowledge of electricity can be applied to other jobs, such as SkyTrain technicians, elevator technicians, and firefighting, to name a few. However, many do not recognize they have mobile skill sets unless they are put into a situation where they assess their capabilities.¹⁵⁵ Similarly, Eco Canada identified that soft skills are also important for the buildings sector. Project management, digital literacy and other digital skills are some examples of soft skills that can optimize the workforce training.¹⁵⁶ The Just Transition Listening Project also recommends that labour unions provide certain opportunities, such as leadership and mentorship skills development, especially for people of colour, Indigenous people, women, and new arrivals to Canada.¹⁵⁷

Re-training and re-skilling workers is a highly complex process with moral, technical, legal, and financial dimensions to it. While there is no complete, comprehensive approach to be adopted, the ILO recommends several broad strategies to address some common challenges for these issues:

1. Creating a labour market information system that can anticipate future skill needs and adapt skills development systems accordingly.¹⁵⁸ As stated in the NYC case study, collaboration with universities could be key to creating these data resources.
2. Integrate sustainable development and environmental awareness into education and training at all levels. Through early education, consumer behaviour and market force pushes can push the greening agenda at a political level, as well as in the workplace.¹⁵⁹
3. Public-private partnerships have proven effective in many cases. The involvement of trade unions and employers' associations in education and training can be effective in downscaling training to be effectively granular and keep up with immediate industry

151 Cooling et al., *Just Transition: Creating a Green Social Contract for BC's Resource Workers*, CCPA, (2015), p. 18

152 Strietska-Ilina, et al.. *Skills for Green Jobs a Global View*. (October, 2011), p. xxi

153 Ibid, p. xxii

154 Cooling et al., *Just Transition: Creating a Green Social Contract for BC's Resource Workers*, CCPA, (2015), p. 18

155 Interview with BCIT

156 Eco Canada. "Energy Efficiency in Buildings: The Challenges and Opportunities in the Drive to Net-Zero," February, 11, 2021.

157 Cha, Mijin et al. *A Roadmap to an Equitable Low-Carbon Future: Four Pillars for a Just Transition*. Prepared for the Climate and Equity Network (2019). p.5

158 Strietska-Ilina, et al.. *Skills for Green Jobs a Global View*. (October, 2011) p. iv

159 Ibid p. iv

needs.¹⁶⁰ In BC, this model already exists through the Industrial Training Authority (ITA), which funds many industry- and union-led training programs. As one example, the BC Insulator Union is a small building trades union with just over 500 members who took leadership in linking the work of its members with a broader commitment to addressing climate change.¹⁶¹

Governance

The International Labour Organization argues that the most successful stories of a transition stems from the creation of effective coordination of a governance structure, such as a task force or council, to plan for the transitions, re-skilling, and other action needed for a just and green economy.¹⁶² The promise of a just transition must always engage with, and ideally, earn the trust of workers for these institutions.¹⁶³ Any existing low-trust government institutions in particular can be worsened when people feel like they have no voice on these intimate issues.¹⁶⁴ Collaboration amongst a variety of departments and social partners can ensure a win-win situation in which the environment, jobs, and skills are all planned for and implemented in synchronicity.¹⁶⁵

A common theme amongst the three deep-dive case studies was the existence or pursuit of a coordinating governance structure. New York City has an established Environmental Justice Advisory Board with community based leaders, academics and residents who work in public housing who have become integral to their public engagement practices. Oslo has plans to create a Just Transition Council. Los Angeles County has a Task Force created with multiple departments such as Department of Public Work, Department of Public Health, and firefighting department.

In response, this study proposed a potential governance structure to an External Advisory Group. The External Advisory Group consisted of union representatives, academics, local government representatives, political actors, regional representatives, and the VEC. Through the research and engagement, a spectrum of potential approaches to governing and coordinating (as somewhat distinct, but highly related activities)

In figure 14 these options were represented visually: the horizontal axis represents the intensity and scale of activities a governance and/or coordinating institution could undertake. From the entirely voluntary and surface-level (e.g., information sharing), to the potentially statutory and expansive (e.g, policymaking and investing). The vertical axis represents the sectoral scope of the potential structure, ranging from a single sector to a whole regional labour market.

¹⁶⁰ Ibid p.xxiii

¹⁶¹ Calvert, John. *The BC Insulator Union's Campaign To Promote Climate Literacy In Construction: Documenting Its Effort To "Green" The Industry Culture* (2020) p. 25

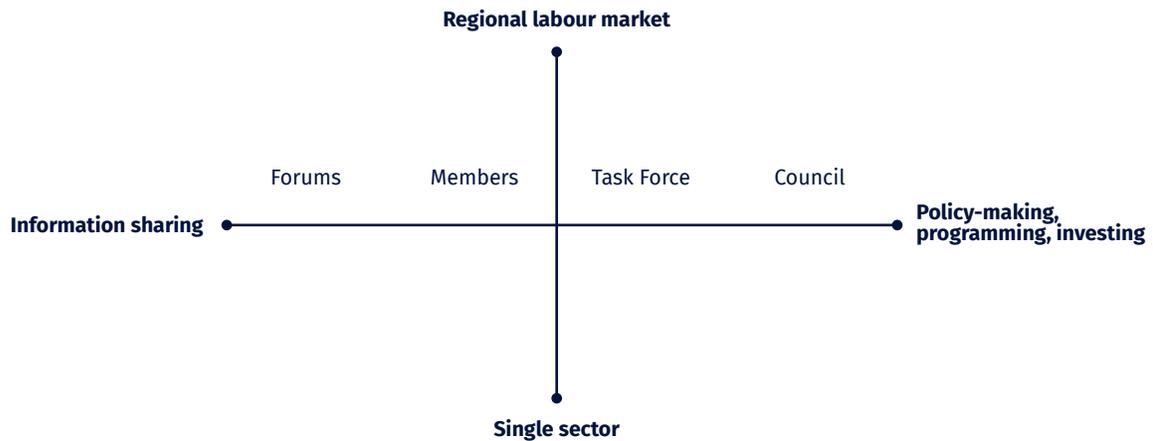
¹⁶² Strietska-Illina, et al.. *Skills for Green Jobs a Global View*. (October, 2011) p. xxiv

¹⁶³ Stanley Foundation. *Setting an International Policy Agenda for Just Transitions* (2017). p.3

¹⁶⁴ Ibid

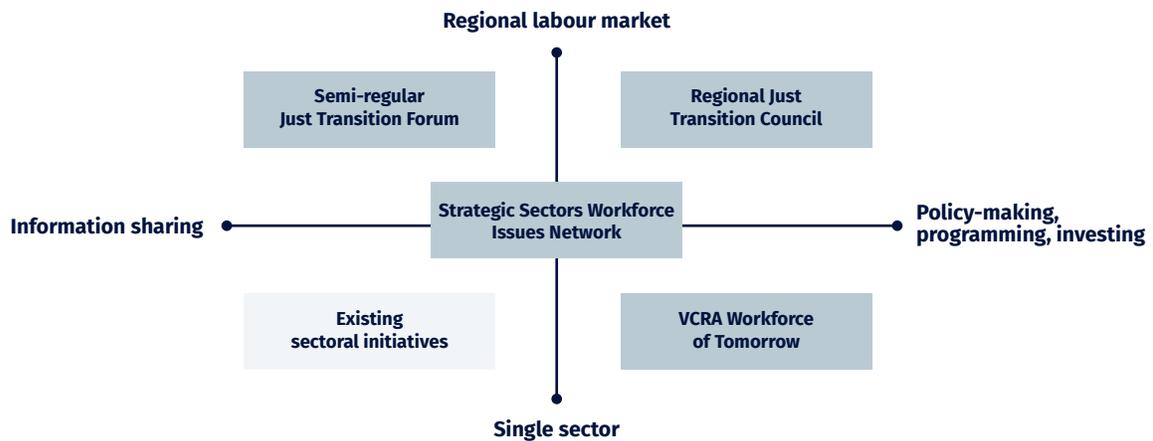
¹⁶⁵ Strietska-Illina, et al.. *Skills for Green Jobs a Global View*. (October, 2011) p.xxiv

Figure 14. The field of just transition institutional and governance typologies.



From these conceptual options, VEC then further developed examples of four potential governance structures: a semi-regular just transition forum, a strategic sectors workforce issues network, a single-sector planning initiative, like the Vancouver regional construction association’s workforce of tomorrow project; and, lastly, a regional just transition council.

Figure 15. Example just transition institution approaches specific to Vancouver



Through consultation with the External Advisory Group, it was decided that a Regional Just Transition Council was the best option of a governance structure for Vancouver and warranted further exploration in the Zero Emissions Economic Transition Action Plan.

Across the External Advisory Group and VEC internally, several reasons resonated:

1. A Council could provide a more formal, firm, and long-term commitment to the Just Transition across government, labour, business, and civil society than most other forms;
2. A Council, depending on its configuration, could be imbued with more formal decision-making power, creating the potential for greater engagement with and impact from its work;
3. A Council could be created to allow for a variety of sub-sector focus areas, as well as topical sub-committees or working groups, that can address all of the various complex elements of a successful just transition;
4. A Council, with formal terms of reference and a collective agreement on its intentions, can create accountability for all actors involved to do their part to address just transition needs; and
5. A Council creates a “front door” for engagement with a huge variety of communities and groups, and a proactive, continuous space to have conversations around labour market transition planning on an ongoing basis.

A Council, as a more formal structure, with an ongoing presence and resources, and possibly certain authorities or significant influence, still presents core questions. Some raised by the External Advisory Group and by VEC included:

1. Which societal groups need to be represented, and which organizations and individuals are best placed to represent them?
2. Who will be responsible for the costs?
3. How can non-unionized workers, not just business owners, be fairly and effectively represented?
4. How to maintain effective participation and investment in a Council across many disparate parties?
5. How to set realistic expectations over what the Council can accomplish in its early existence?
6. How can an effective mandate and scope for the Council be maintained effectively and fairly across disparate agendas?
7. What methods can be used to ensure the Council works towards meaningful, measurable outcomes and avoids becoming simply a “talk shop”?
8. Which institution(s) are best positioned to support the formation and operations of a Council as a secretariat?

Recommendations

The idea of a Regional Just Transition Council is not a new one. From the literature review, case studies, and local stakeholder engagement, a Council with a formal role, clear mandate, and resources, is a proven and effective model for supporting and overseeing the kinds of economic transitions that are being catalysed by Vancouver's climate action.

The structure for a Council that follows below is a synthesis of these learnings, as well as numerous conversations with local stakeholders, including VEC and City of Vancouver staff. That said, this project did not embark on a comprehensive stakeholder engagement process, and there are still many more unknowns to address before a Council could be formally brought into being. The recommendations herein are a "sketch" of what might be possible, based on the information at hand – and are left to be further explored and actioned in the final form of the ZEETAP in 2021 or 2022.

One important caveat to this work is that these recommendations are provided in the current context, in which there is minimal action by minimal federal and provincial legislation and plans on labour force planning that meaningfully integrates the ambitiousness of local climate action. Alterations to Provincial labour policy in particular, such as releasing and implementing the *CleanBC Workforce Readiness Plan* with a significant regional focus, may change the relevance of some recommendations. Fundamentally, however, discussions with stakeholders strongly suggest the need for some kind of regional labour market planning mechanism. Whether this takes the form of a Just Transition Council as proposed below, or otherwise, it is very much needed. The absence of such a mechanism means it is likely Vancouver will continue to both suffer labour shortages, leave workers in vulnerable transition spaces, and fail to better include those who have been historically marginalized.

On the basis of the above, the Vancouver Regional Transition Council is envisioned as follows on the next page:

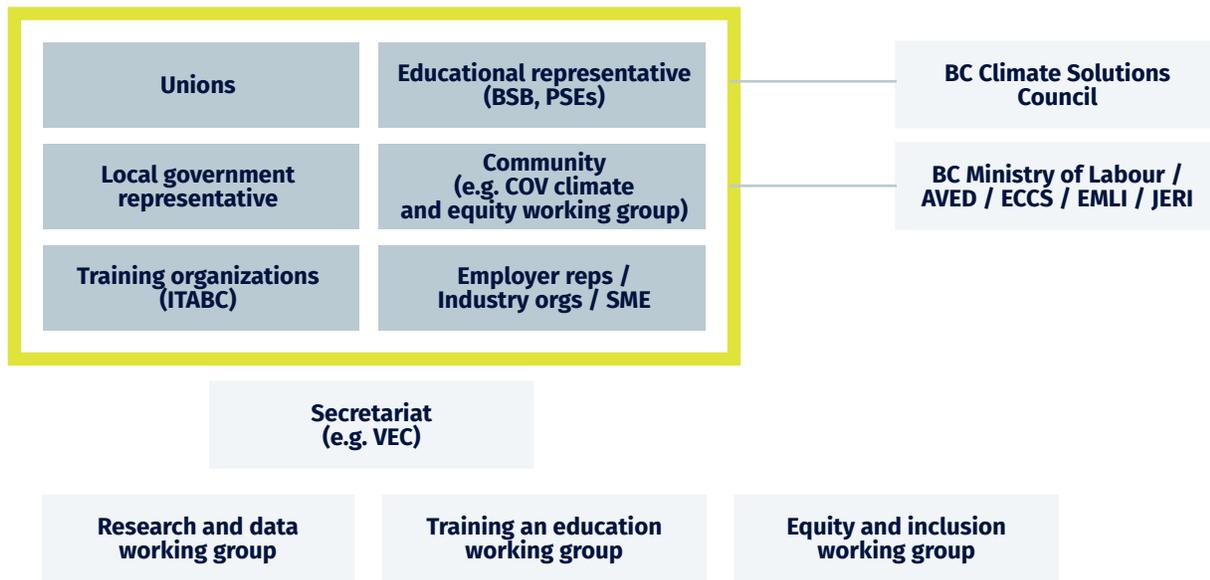
Vancouver Regional Just Transition Council

<p>Purpose</p>	<p>The Just Transition Council will be responsible for ensuring a just transition for workers in Vancouver who are negatively impacted by actions to address the climate crisis, as well as to ensure that new opportunities in the “green economy” are also provided on an equitable basis to those who were previously excluded from the high-carbon economy.</p>
<p>Functions</p>	<p>The Just Transition Council will be an informal body tasked with:</p> <ol style="list-style-type: none"> 1. Coordinating and convening between institutions and groups that have significant roles in the labour market (e.g., unions, training institutions) and climate action (e.g., local governments, ENGOs); 2. Informing policy-making, such as local climate action policy and training and labour market strategies (e.g., BC Labour Market Outlook); 3. Creating, where necessary and additive, strategies or plans to ensure a just transition for Vancouver workers 4. Developing, where necessary and additive, programs or projects to support a just transition 5. Sharing and amplifying information to workers and businesses about climate action, training needs, and the just transition 6. Undertaking or supporting research of relevant issues related to the just transition
<p>Scale</p>	<p>Metro Vancouver-wide</p>
<p>Organizational Structure</p>	<p>The Just Transition Council could be composed of three parts:</p> <ol style="list-style-type: none"> 1. The Council, which would function as a steering committee for all relevant activities of the group, and include relevant representatives from across the labour market; 2. A secretariat that would provide supportive services to the Council, including organizing meeting minutes, agendas, budgeting support (if needed), and other relevant assistance. This could be provided by VEC on an interim basis until a formal decision where to house this institution was made; 3. Observers that will provide advice and feedback to the council; and 4. Working Groups or other sub-committees established on an as-needed basis to help with project-based work or more specific topics related to achieving a just transition in Vancouver (e.g. data collection, program development, etc.)

<p>Representation</p>	<p>The Council (i.e, steering committee) — 10–15 representatives Unions Local government representatives Educational representatives (school boards, colleges, technical institutes, and universities) Training organizations and funders (e.g., Industrial Training Authority) Employer representatives, industry organizations, and/or small business representatives Community organizations (specifically those engaged with marginalized communities, e.g., City of Vancouver Climate and Equity Working Group)</p> <p>Observers – no cap on members, but aim to keep uncrowded Provincial Representatives (e.g., BC Ministry of Labour, Advanced Education; Jobs, Economic Recovery and Innovation; Environment and Climate Change Strategy; Energy and Low Carbon Innovation) BC Climate Solutions Council</p> <p>Working Groups (WG) – no cap on members, but aim to keep uncrowded Research and Data – led by VEC Equity and Inclusion – led by Unions Training and Education – led by ITA and educational institutions</p> <p>**For all committees and bodies within the Council, representation would ideally be mandated to achieve gender parity and significant, meaningful BIPOC representation.**</p>
<p>Decision Making</p>	<p>Options would be defined in a terms of reference, but due to contentiousness of some topics and the lack of a statutory power for the Council, consensus-based decision-making seems most applicable.</p>
<p>Linkages / Connections / Partnerships</p>	<p>Governments and Agencies Metro Vancouver Regional Prosperity Service Metro Vancouver Climate Action Committee BC Technical Institutes group Port of Vancouver</p> <p>Labour and Industry BC Trades Council Vancouver District Labour Council New Westminster District Labour Council Vancouver Regional Construction Association Automotive Retailers Association Canada Green Building Council</p> <p>Community Groups and Think-Tanks (examples) Just Transition Initiative Pembina Institute Columbia Institute Clean Energy Canada</p>

<p>Budget and Operations</p>	<p>The Just Transition’s first order of business would be to create a Financial and Operational Strategy for the Just Transition Council. Broadly speaking this could include:</p> <ol style="list-style-type: none"> 1. An FTE to serve as a secretariat point-person and provide back-end support to all Council members – estimated cost \$80,000/year; 2. Internal funding Council initiatives, such as an annual report or other small costs – \$5,000–10,000/year 3. Project funding for different Council initiatives. Varied, but examples might include: <ol style="list-style-type: none"> a. Regional Labour Market Assessment – \$100,000+ b. Jobs Portal – \$50,000–100,000 c. Communications campaign for entry into the trades as “climate careers” – \$20,000–50,000
<p>Potential Projects</p>	<ol style="list-style-type: none"> 1. To coordinate and collaborate with unions, training organizations, technical institutes, and universities to create a Skills Development Strategy to identify, monitor, anticipate, and provide skills that will be beneficial in the future economy. 2. To share resources with unions and post-secondary education institutions to expand / establish environmental / climate committees in their organizations. 3. To collaborate with the Industrial Training Authority (ITA) of BC, unions, and industry associations to further address the workforce gap with marginalized communities – such as women, BIPOC, low-income, disabled, and youth. 4. To convene with unions and employers / industry organizations / SMEs to identify ways to provide services and connect transitioning workers with mental health support as they leave their prior careers to enter new ones. 5. To collaborate with stakeholders to ensure that future policies on just transition will align with the “decent work agenda” (as defined by the International Labour Organization). 6. To develop a communication plan for declining sectors in order to build trust with workers that a just transition is achievable and that there are resources available to them. 7. To research and explore successful mentoring models for workers leaving fields, retiring, or otherwise transitioning

Figure 16. Suggested governance structure for the Vancouver Regional Just Transition Council



Five Next Steps

To advance this “sketch” of a Just Transition Council, five next steps are put forward to VEC and other actors:

1. VEC build buy-in with key stakeholders on the concept of a Regional Just Transition Council based on the outline proposed in the report for VEC;
2. VEC and the City of Vancouver engage with First Nations to better understand their interest in future labour market planning with respect to climate action;
3. VEC identifies and works with industry and community leaders to support marginalized groups’ entry to the workforce in key sectors, especially construction;
4. VEC takes an active advocacy position by creating alignment between all levels of government on just transition issues in Metro Vancouver; and
5. VEC to work to liaise and, where possible, better connect with, the BC Building Electrification Road Map (BERM), VRCA Workforce of Tomorrow Project, the Canada Green Building Council’s Workforce 2030 project, the ITA, the BC Energy Step Code Council, Foresight Cleantech Accelerator, and other actors who are creating or delivering initiatives related to workforce capacity building and transitions.

Future Research And Action

Since the discussion of a just transition has only recently started to gain local traction, there is still a great deal of research to conduct. As there are few successful case studies regarding a just transition outside of a coal or fossil fuel-reliant community, there remain many research gaps the Vancouver Economic Commission, stakeholders involved in the project, and others can address.

- Exploring different approaches to integrating environmental justice and a “transition to justice” in labour market planning in Vancouver, to better serve communities that have and continue to face various forms of marginalization.
- Exploring collaborative ways to develop more granular workforce projections and status mapping in Metro Vancouver, building on VEC’s existing green jobs methodology and data outputs.
- Understanding how the impacts of just transition planning and approaches in Metro Vancouver will be felt in the rest of British Columbia.
- Understanding how to engage the finance sector in just transition planning, particularly larger institutional investors.
- Exploring ways VEC can leverage its role as an economic development agency to advance the creation of more affordable housing in the region, as one way of helping expand workforce supply and increase worker take-home-pay.
- Identifying ways to leverage and align with existing work done locally or provincially that may not be listed under but is still relevant to just transition work, such as the CleanBC Workforce Readiness Plan, Skills Certification Program, and Vancouver Regional Construction Association (VRCA) Construction Workforce of Tomorrow project.
- Working with school boards in the region, and post-secondary institutions, to review and audit programs and courses of significance for decarbonization; and to conduct future labour market projections of the green economy and integrate these in clear, accessible communications to workers.
- Work with the City, the Hua Foundation, the Toronto Environmental Alliance, and t to explore further the recommendations from their reviews of CEAP and integrate those into the ZEETAP.

Conclusion

The COVID-19 pandemic has revealed the injustices and discrepancy in the current economic system. As cities like Vancouver plan their recovery from the impacts of the pandemic, the incorporation of a green and just recovery is crucial. Undoubtedly, as the labour force is recovering from mass unemployment spikes from the pandemic, the window of opportunity has opened for exploration of a just transition for Vancouver's workforce. As revealed from this study, there are still many areas of exploration for what a just transition is and means to the City of Vancouver and other global cities. Vancouver and the Vancouver Economic Commission can well position itself as a global leader on just transition work, particularly for urban cities with a diversified and decarbonized economy. However, successes in a just transition must be wary of unintended consequences on the workforce – specifically those in the workforce who are not represented in a union or professional organization or those who are precariously employed. Additionally, further work on understanding how a city can synchronise a just transition and a transition should remain a top priority for stakeholders in Vancouver and around the world.

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George P.R. Benson,
Manager, Economic Transformation
gbenson@vancouvereconomic.com

VEC respectfully acknowledges that it is located on the traditional, ancestral and unceded territory of the Skwxwú7mesh (Squamish), Səlilwətaʔ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations.