

# Climate Change



Pictured above: Employee at solar field, North of Chile.

## Climate Change

In 2020, the importance of taking critical action to limit global climate change continued to grow. The World Economic Forum's 2021 Global Risks Report ranked climate action failure as a top risk by impact and likelihood.<sup>5</sup> In response to this imperative, 2020 saw increasing calls for action from investors, regulators and others. Ambitious climate commitments were made as governments and companies aligned themselves with the Paris Agreement, supporting the transition to a low-carbon economy.

Metals and minerals are essential to the technologies and infrastructure required for the low-carbon transition. At Teck, we recognize the role we play in taking decisive action on climate change. We are a signatory to the Paris Pledge for Action and are working to reduce emissions at our operations, advocate for effective climate policies and responsibly produce the metals, minerals and energy that are essential for building the technologies and infrastructure needed to transition to a low-carbon economy. The copper growth from our QB2 project will, over time, help to rebalance our portfolio to become a majority green metals producer. In early 2020, we set a

strategic priority to be a carbon-neutral operator by 2050, and we are working towards milestone climate targets to support this goal. Our Portfolio Resilience in the Face of Climate Change report aligns with the Task Force on Climate-related Financial Disclosure (TCFD) guidelines, providing an analysis of Teck's climate risks and opportunities, and outlines the potential implications of three climate-related scenarios for our business, looking forward to 2040. In 2020, we continued to manage the physical impacts of climate change, including water storage and discharge challenges at our Red Dog Operations related to thawing permafrost in the region.

### GRI Indicators and Topic Boundary

201-2, 302-103, 302-1, 302-3, 302-4, 305-103, 305-1, 305-2, 305-3, 305-4, 305-5

This topic is considered one of the most material by our shareholders, local communities, regulators and society in relation to Teck's sites, power providers, service providers and customers.

### How Does Teck Manage This Topic?

Information about how we manage greenhouse gas emissions and energy use, including relevant policies, management practices and systems, is available for [download on our website](#).

<sup>5</sup>Global Risk Report 2021. World Economic Forum. 2021.

## 2020 Highlights

**288**  
terajoule

(TJ) reduction  
in energy use

**414**  
kilotonne

(kt) reduction in  
greenhouse gas  
(GHG) emissions  
since 2011

Set an objective to be **carbon neutral across all operations and activities by 2050**.

Entered into a power purchase agreement that will provide **118 megawatts (MW) of renewable power at our Quebrada Blanca Phase 2 (QB2) project**, starting in 2022; this will avoid approximately 800,000 tonnes of GHG emissions annually.

Entered into long-term power purchase agreements to provide **100% renewable power for Teck's Carmen de Andacollo Operations (CdA)** in Chile, reducing our GHG emissions by approximately 200,000 tonnes annually.

Successfully concluded **a pilot project of two electric passenger buses** for crew transportation at our steelmaking coal operations.

## Our Performance in Climate Change in 2020

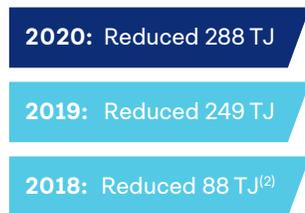
**Our Targets and Commitments** Teck is committed to climate action as outlined in our [Climate Change Policy](#). The following table summarizes our performance against our new sustainability strategy and goals for climate change.

Sustainability Strategy Goals	Status	Summary of Progress in 2020
Strategic Priority: Be a carbon neutral operator by 2050		
<b>Goal:</b> Reduce the carbon intensity of our operations by 33% by 2030.	On track	Procured 100% renewable energy at CdA, which will eliminate approximately 200,000 tonnes of GHG emissions annually.  Entered into a power purchase agreement to procure over 50% of operational energy at QB2 from renewable sources starting in 2022, avoiding approximately 800,000 tonnes of GHG emissions annually.
<b>Goal:</b> Procure 50% of our electricity demands in Chile from clean energy by 2025 and 100% by 2030.	On track	Initiated the development of a Carbon-Reduction Technology Roadmap, which will be advanced to site-level net-zero plans in 2021.
<b>Goal:</b> Accelerate the adoption of zero-emissions alternatives for transportation by displacing the equivalent of 1,000 internal combustion engine (ICE) vehicles by 2025.	On track	Engaged with industry partners, equipment manufacturers and other suppliers on zero-emission mining fleets.  Purchased electric pit buses for Elkview Operations. Implementation was delayed due to COVID-19-related manufacturing shutdowns.  Conducted scoping and feasibility studies for electric vehicle use at sites and commenced a study on hydrogen production pathways.  Tested electric vehicles and other equipment for opportune charging strategies and effective vehicle operating ranges.

## Key Performance Indicators

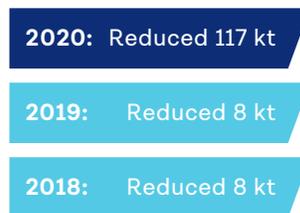
### Indicator

Energy consumption<sup>(1)</sup>



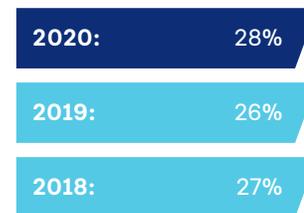
### Indicator

GHG emissions by direct CO<sub>2</sub>e<sup>(1)</sup>



### Indicator

Energy use from non-carbon-emitting sources



(1) Values indicate year on year reduction

(2) Figures have been restated due to improvements in calculations.

## Teck's Road Map to Carbon Neutrality

We have a strong track record of taking action to reduce our carbon footprint and improving energy use at our operations. Teck's progress on reducing carbon emissions and supporting climate action to date includes:

- 88% of all electricity use sourced from renewable, zero-carbon power sources
- Implemented projects that reduced GHG emissions by 414 kt at our operations since 2011
- Among the world's lowest carbon intensities for our steelmaking coal, copper, and refined zinc and lead production<sup>6</sup>
- Signatory to the Paris Pledge for Action and member of the Carbon Pricing Leadership Coalition, actively advocating for a global price on carbon
- Increasing transparency on climate disclosure by formally supporting the TCFD, reporting annually to the Carbon Disclosure Project (CDP) and engaging with investor organizations such as Climate Action 100+
- Sourcing 100% renewable energy at CdA starting in 2020, which will eliminate approximately 200,000 tonnes of GHG emissions annually
- Sourcing over 50% of operational energy at QB2 from renewable sources, starting in 2022, avoiding approximately 800,000 tonnes of GHG emissions annually
- Collaborating with the International Council of Mining and Metals (ICMM) to reduce GHG emissions from large mobile mining equipment
- Costing carbon pricing into the majority of our business since 2008 and managing carbon exposure; six of our nine active operations in 2020 were covered by carbon pricing

In 2020, Teck set a target of achieving carbon neutrality across our operations and activities by 2050. We have set out an initial road map — with corresponding 2025 and 2030 goals — to achieve carbon neutrality by first avoiding

emissions altogether where possible and if not possible, then eliminating or minimizing emissions. This will involve looking at alternative ways of moving materials at our mines, using cleaner power sources and implementing efficiency improvements, among other measures.

For Teck, four major areas of emissions present opportunities for decarbonization: power supply, mobile equipment, stationary combustion and process emissions, and fugitive methane emissions. To decarbonize these emission sources and ultimately achieve our goal of carbon neutrality, we are prioritizing activities to deliver cost-competitive reductions, setting ourselves on the path to tackle our most material sources of emissions first. We are actively evaluating existing solutions and monitoring emerging technologies to determine the current and future viability of options. In 2020, we made progress in two of these areas: renewable energy and mobile equipment emissions.

In 2020, we achieved several significant milestones for renewable energy use. We entered into a long-term power purchase agreement to source 72 megawatts (MW) of energy at CdA in Chile starting in 2020, providing 100% of CdA's power requirements through renewable energy. We also signed a power purchase agreement that will provide 118 MW of renewable power at QB2, enabling the transition to renewable energy for approximately half the power required for the operation of QB2. Taking advantage of these opportunities will allow us to displace fossil fuel power previously sourced for both operations, eliminating approximately 200,000 tonnes of GHG emissions annually at CdA, and approximately 800,000 tonnes of GHG emissions at QB2.

On mobile equipment emissions, we advanced projects in 2020 to assess the viability of electric vehicles at our sites. This included testing of electric gravel trucks and reseeded vehicles, as well as concentrate hauler vehicles operated by our service providers at Highland Valley Copper (HVC)

<sup>6</sup>Barclays Research; Teck. 2017.

Operations. We also continued to support the ICMC Innovation for Cleaner, Safer Vehicles initiative, to accelerate the development of low-GHG mining vehicles. See more below in our Spotlight on Electrification at Teck.

To work towards our goal of carbon neutrality, we also continue to evaluate, monitor and advance opportunities to:

- Use lower-emission alternatives for stationary combustion processes (e.g., steelmaking coal dryers)
- Assess the potential for using emerging technologies such as carbon capture and storage
- Work with industry partners (ICMM, etc.) to advance carbon-reduction technologies for mining

### Case Study: Spotlight on Electrification at Teck

Shifting to electric-powered mining equipment presents an opportunity for the mining industry to reduce mine site carbon emissions. However, the path to decarbonizing equipment is not without challenges. We remain committed to overcoming these barriers through collaboration across our industry, piloting the latest technology, and staying agile to take advantage of low-carbon technologies as they emerge.

In 2020, we continued our work with the ICMC's Innovation for Cleaner, Safer Vehicles initiative. This initiative brings together 27 of the world's leading mining companies and

equipment manufacturers to develop a road map for scaling up low-GHG mining equipment.

At our own sites, we are advancing several projects to assess the viability of electric mobile equipment. In 2020, at our Highland Valley Copper Operations we trialed an electric boom truck designed for underground operation. At our Elk Valley operations we continue to implement the electric crew bus pilot project, with promising results. These projects and more help us work towards our goal to be a carbon-neutral operator by 2050. Read the full case study at [teck.com/news/stories](https://teck.com/news/stories).

## Our GHG Emissions in 2020

As shown in Figure 4, Scope 1 (direct) GHG emissions are those that occur from energy sources that are owned or controlled by the company. Scope 2 (indirect) GHG emissions are those that occur from the generation of purchased electricity consumed by the company and that physically occur at the facility where electricity is generated.

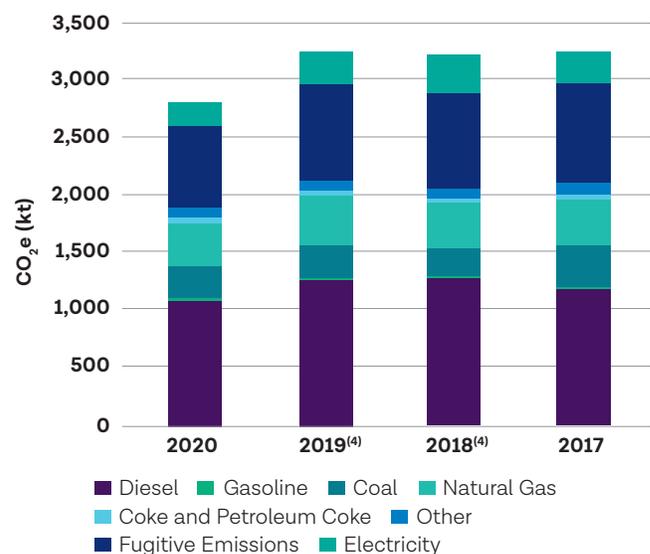
In 2020, our total GHG emissions (Scope 1 and Scope 2), as carbon dioxide equivalent (CO<sub>2</sub>e), were 2,795 kt, compared to 3,235 kt in 2019. Of those totals, our direct (Scope 1) GHG emissions were 2,582 kt in 2020, compared to 2,946 kt in 2019. We estimate our indirect (Scope 2) GHG emissions associated with electricity use for 2020 to be 213 kt, or approximately 8% of our total emissions. A portion of the emissions reductions during 2020 were due to temporary operational disruptions related to COVID-19. While we are aware that this is likely a material impact on our emissions, we cannot accurately distinguish the exact reductions attributable to our carbon reduction activities or temporary operation disruptions.

Our largest source of Scope 1 emissions is from fuel consumed by mobile equipment. The majority of our Scope 2 emissions are associated with our CdA and Quebrada Blanca (QB) operations, as the electricity supply in Chile is based on higher proportions of fossil fuels. Elsewhere, our indirect emissions were relatively small, as our operations in B.C. obtain the majority of their electricity from hydroelectric generation. Scope 3 emissions are other emissions that arise from sources owned or controlled by other entities within our value chain, such as those arising from the use of our products, business travel by employees and the transportation of materials that we purchase and sell. In 2020,

our most material Scope 3 emissions were 64,000 kt, which were from the use of our steelmaking coal product by our customers.

In 2020, we introduced updates to our GHG quantification methodologies that have resulted in restatements of our historical figures.

Figure 4: Scope 1 and Scope 2 GHG Emissions by Fuel Type<sup>(1),(2),(3)</sup>



(1) For electricity emissions in Canada, the emission factors use 2010 as a base year and are based on the most recent version of the Canadian National Inventory Report.  
 (2) Fugitive emissions from our coal operations (i.e., estimated methane release) are captured as direct emissions. For fugitive emissions, the emission factors use 2010 as a base year and are based on the most recent version of the Canadian National Inventory Report.  
 (3) Emissions are stated on a CO<sub>2</sub>e basis, which is inclusive of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, SF<sub>6</sub> and NF<sub>3</sub> as appropriate.  
 (4) Some 2019 and 2018 figures have been restated due to improvements in calculations. See our [Sustainability Performance Data Spreadsheet](#) for the full data set.

**Table 3: Total Emissions (kilotonnes CO<sub>2</sub>e)<sup>(1),(2)</sup>**

	2020	2019	2018	2017
Total Emissions – Direct (Scope 1)	2,582	2,946 <sup>(3)</sup>	2,869	2,954
Total Emissions – Indirect (Scope 2)	213	289 <sup>(3)</sup>	339 <sup>(3)</sup>	284
Total Emissions (Scope 1 + Scope 2)	2,795	3,235 <sup>(3)</sup>	3,208 <sup>(3)</sup>	3,238
Total Emissions – Scope 3 (Use of coal product sold)	64,000	73,000	76,000	78,438

(1) Teck's quantification methodology for our Scope 1 and Scope 2 emissions is aligned with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

(2) Emissions are stated on a CO<sub>2</sub>e basis, which is inclusive of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, SF<sub>6</sub> and NF<sub>3</sub> as appropriate.

(3) Some 2019 and 2018 figures have been restated due to improvements in calculations. See our [Sustainability Performance Data Spreadsheet](#) for the full data set.

## Positioning Teck to Thrive in the Low-Carbon Economy

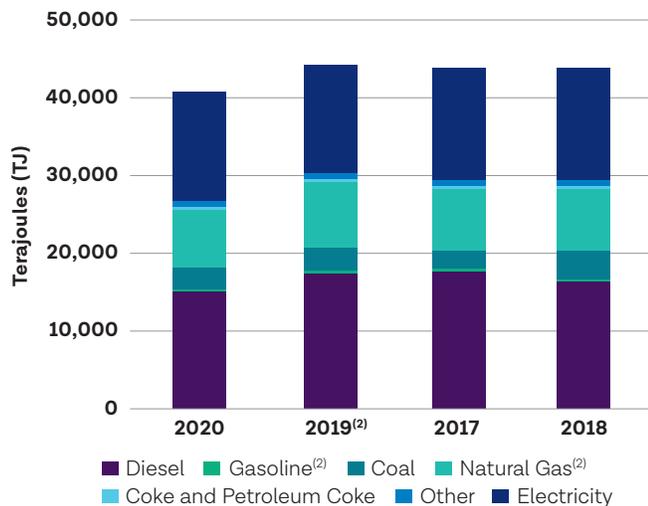
### Energy Use and Reduction

In 2020, we consumed a total of 40,766 TJ of energy (i.e., electricity and fuels), as compared to 44,213 TJ in 2019, as shown in Figure 5. In 2020, six of our operations (Elkview, Fording River, Greenhills, Line Creek, Highland Valley Copper and Quebrada Blanca) reduced their absolute energy consumption from 2019. Collectively, projects implemented in 2020 have reduced annual energy consumption at our operations by 288 TJ – enough to power 2,673 homes for a year. Since 2011, our efforts have resulted in reduction projects totalling 2,757 TJ of savings.

In 2020, approximately 28% of our energy requirements (i.e., electricity and fuels) were supplied by non-carbon-emitting sources, primarily hydroelectricity, compared to 26% in 2019. Of our total electricity consumption in 2020, 88%, or 12,292 TJ, was from renewable energy sources, the majority of which is hydroelectricity.

In Figures 8 to 10, we outline our energy intensity, or the amount of energy used per tonne of product, as well as the carbon intensity. Given the breadth of different commodities produced by diversified resource companies, GHG emissions performance may also be reported on a copper equivalent basis, where all products are converted to a copper equivalent to allow for comparability across companies. As shown in Figure 6, based on a 2017 report by Barclays, our peers in this category ranged from 2.52 to 22.90 t CO<sub>2</sub>e/t CuEq. In 2020, Teck's carbon intensity was 2.7 t CO<sub>2</sub>e/t CuEq. Our goal is to continue to improve the carbon intensity of our operations and future projects.

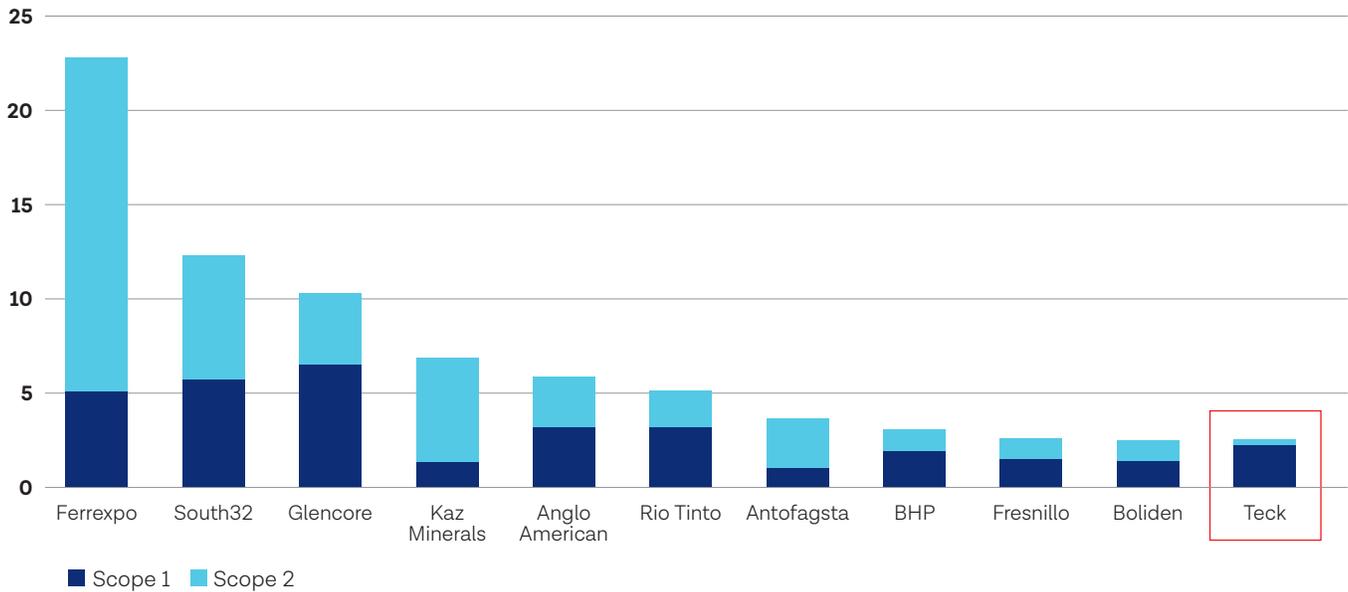
**Figure 5: Energy Consumption by Type<sup>(1)</sup>**



(1) Other includes propane, waste oil, fuel oils and other process fuels.

(2) Some 2019 figures have been restated due to improvements in calculations. See our [Sustainability Performance Data Spreadsheet](#) for the full data set.

**Figure 6: Scope 1+2 Emissions per Copper Equivalent Ranking (tCO<sub>2</sub>e/t CuEq)<sup>(1)</sup>**



(1) Source: Barclays Research; Teck. The most recent peer data available is from 2017. Our relative position in 2020 may have changed since then.

### Case Study: Decarbonizing our Operations in Chile with Renewable Energy

At Teck’s Chilean operations, the majority of electricity has historically been procured from facilities using conventional sources like coal and natural gas. By increasing our use of renewable energy, we can reduce our Scope 2 greenhouse gas (GHG) emissions while creating potential for long-term savings on energy costs. In 2020, we set ambitious goals for our Chilean operations: to procure 50% of our electricity from clean energy by 2025, and 100% by 2030. These goals act as short-term milestones towards our aspiration to achieve carbon neutrality by 2050. At QB2 and CdA, work is well underway to achieve these goals. In early 2020, QB2 restructured part of its

power agreement with AES Gener to increase the project’s use of renewable energy to 118 megawatts (MW) starting as early as 2022. Once in effect, more than 50% of QB2’s total operating power needs will be from renewable sources, including wind, solar and hydroelectric energy. In addition to this, in September 2020, Teck entered into a long-term power purchase agreement to provide 100% renewable power at CdA. Under the agreement, CdA is sourcing 72 MW (550 gigawatt hours per year) from AES Gener’s growing renewable portfolio. Read the full case study at [teck.com/news/stories](https://teck.com/news/stories).

**Figure 7: Teck Carbon Intensity on a Copper Equivalent<sup>(1)</sup> Production Basis**

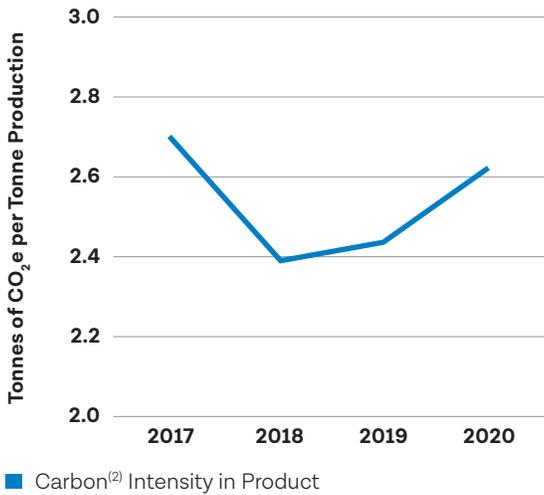
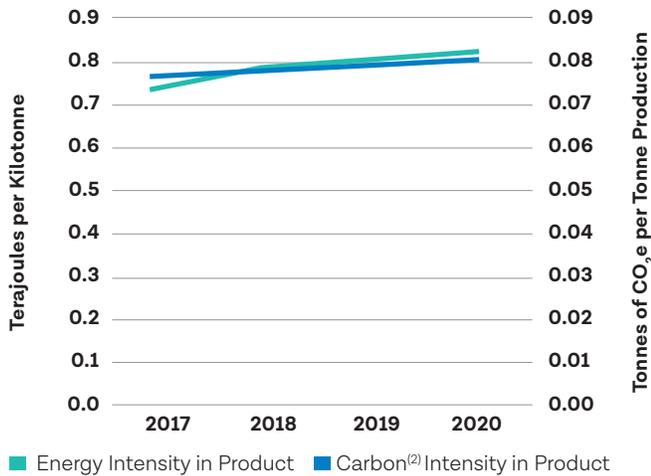


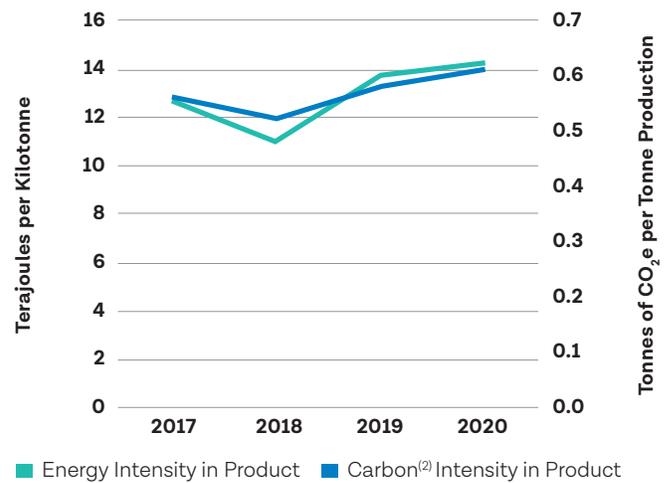
Figure 7 demonstrates Teck's carbon intensity, which includes total Scope 1 and 2 emissions as reported above against a tonne of copper equivalent. We have used this metric – intensity per tonne of copper equivalent – in order to provide a single carbon intensity metric for the organization as a whole.

**Figure 8: Steelmaking Coal Production Intensity**



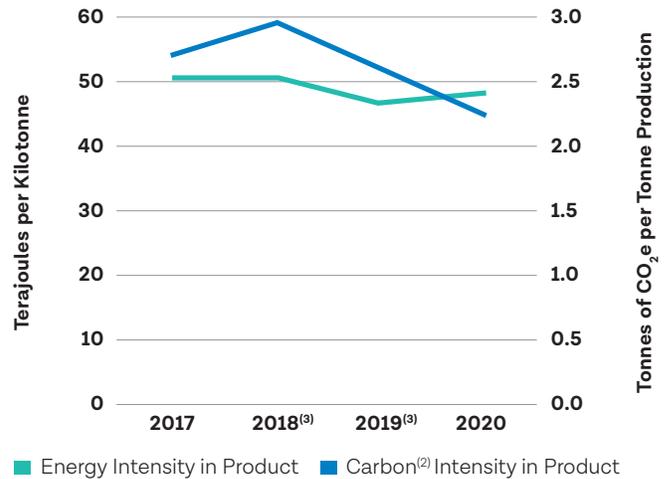
Energy and carbon intensity for the production of steelmaking coal increased in 2020 (Figure 8). This change is primarily a result of mining in new, recently permitted areas at a number of our operations, with increased strip ratios to generate production after the closure of Coal Mountain. Increased strip ratios require more waste material to be moved for an equivalent amount of coal production, therefore increasing the energy and carbon intensity of the product.

**Figure 9: Zinc and Lead Production Intensity**



Energy and carbon intensity for the production of zinc and lead increased in 2020 (Figure 9). This change is primarily due to lower zinc and lead feed grades at Red Dog Operations.

**Figure 10: Copper Production Intensity**



1) Only the primary commodities we report on – i.e., steelmaking coal, copper and zinc – from Teck-operated mines are included within the equivalency calculation. Lead has been excluded. Carbon equivalency was calculated by using a three-year commodity price average, using prices reported in our previous annual reports.  
 2) Carbon intensity includes Scope 1 and Scope 2 emissions and is stated on a CO<sub>2</sub>e basis, which is inclusive of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, SF<sub>6</sub> and NF<sub>3</sub> as appropriate.  
 3) Some 2019 and 2018 figures have been restated due to improvements in calculations. See our [Sustainability Performance Data](#) Spreadsheet for the full data set.

Energy intensity for the production of copper slightly increased in 2020, while the carbon intensity for the production of copper decreased (Figure 10). This change is attributed to CdA's transition to 100% renewable power on September 1, 2020. Quebrada Blanca is currently in the final phase of production pending the start of QB2 and as a result the energy intensity for the copper business unit is elevated due to lower production volumes.

## Carbon Pricing and Advocating for Climate Action

We believe that broad-based pricing of carbon is one of the most effective ways to incentivize real reductions in GHG emissions by ensuring that all emitters contribute to the solution. In 2020, we continued to advocate for carbon pricing policies that maintain the global competitiveness of trade-exposed industries to prevent carbon leakage, which is when GHG emissions move from one jurisdiction to another as a result of differences in carbon prices. Currently, all of our steelmaking coal operations are covered by carbon pricing, as is approximately one-third of our copper business, the Fort Hills oil sands mine operated by Suncor, in which we hold a joint venture interest, and all of our metals refining business. For 2020, our B.C. based operations incurred \$66.7 million in British Columbia provincial carbon tax. In Alberta, Cardinal River Operations paid \$0.7 million in carbon costs, and the Fort Hills Mine incurred approximately \$6 million (100% basis) in carbon costs under the Alberta system. For more details, please see pages 49–50 of our Annual Report.

We continue to see a trend among governments to pursue climate change policies. Some of the most significant action has taken place in Canada, which has some of the highest carbon prices in the world and where the majority of our operations are located.

In 2020, British Columbia's carbon tax under the *Carbon Tax Act* remained at \$40 per tonne of CO<sub>2</sub>e. The B.C. carbon tax was to increase by \$5 per tonne of CO<sub>2</sub>e per year until reaching \$50 per tonne of CO<sub>2</sub>e, although the planned increase to \$45 per tonne in 2020 was postponed to 2021 due to the COVID-19 pandemic. British Columbia also continues to implement the CleanBC Program for Industry to address impacts to emissions-intensive, trade-exposed industries to ensure that B.C. operations maintain their competitiveness and that carbon leakage is avoided.

Alberta's Carbon Competitiveness Incentive Regulation was replaced by its Technology, Innovation and Emissions Reduction (TIER) system as of January 1, 2020. The system implements carbon pricing for large industrial facilities in Alberta with CO<sub>2</sub>e emissions in excess of 100,000 tonnes per year, which would include the Fort Hills Mine. Large industrial emitters are required to reduce emissions by 10% starting in 2020 with a further 1% reduction per year thereafter; failure to meet reduction targets will result in being assessed at the prevailing carbon price. In 2020, the carbon price under the system was \$30 per tonne of CO<sub>2</sub>e.

In 2019, the Government of Canada introduced the *Greenhouse Gas Pollution Pricing Act*, which establishes a federal carbon levy for any province or territory that has not implemented a compliant carbon-pricing regime. Federal carbon tax rates began at \$20 per tonne of CO<sub>2</sub>e in 2019, increasing \$10 per year to \$50 per tonne of CO<sub>2</sub>e by 2022. B.C.'s *Carbon Tax Act* and the large industrial emitter provisions of the Alberta *Technology Innovation and Emissions Reduction* system are

considered substantially similar to the federal requirements, and therefore, our B.C. and Alberta operations will not be subject to those provisions of the federal *Greenhouse Gas Pollution Pricing Act*. However, effective January 1, 2020, the federal carbon tax on GHG emissions resulting from the combustion of fossil fuels for certain purposes applied to our Alberta operations.

The Government of Canada took further action in 2020 and introduced Bill C-12, the *Canadian Net-Zero Emissions Accountability Act*, intended to formalize Canada's target to achieve net-zero greenhouse gas emissions by 2050, and released the "A Healthy Environment and a Healthy Economy" climate plan outlining proposed actions and initiatives to achieve Canada's climate goals. That climate plan includes the proposal to increase the price of carbon by \$15 per tonne of CO<sub>2</sub>e per year, starting in 2023, rising to a rate of \$170 per tonne of CO<sub>2</sub>e by 2030. This plan requires further consultation and action before many of its subcomponents come into regulation; therefore it is too early to determine with a reasonable level of confidence what the impacts and opportunities will be. Teck will monitor developments in the federal government's plan and evaluate the impacts and opportunities of legislated policies as appropriate.

We engage policy-makers in all jurisdictions in which we operate and/or have major projects, as well as other jurisdictions through our membership in various industry associations, such as the ICMM and the Mining Association of Canada (MAC). We also review industry association positions on climate change and advocate for their alignment with the Paris Agreement. Across the associations of which Teck is a member, ICMM, MAC and the Mining Association of British Columbia (MABC) are the trade associations that have the greatest engagement on climate action. All three associations have positions aligned to the Paris Agreement.

We have also been actively supporting action on climate change and carbon pricing through voluntary initiatives such as the Carbon Pricing Leadership Coalition. In June 2016, Teck became the first Canadian resources company to join the Carbon Pricing Leadership Coalition, a partnership of national and sub-national governments, businesses and organizations that agree to work toward integrating carbon pricing into the global economy.

In 2020, we continued to work with the MABC and the Business Council of British Columbia (BCBC) on carbon pricing policy, to provide both policy direction and technical input to the government, with a view to maintaining the competitiveness of industry in the province. We also engage with the B.C. Government directly through our participation in the B.C. Climate Solutions Council, formerly the Clean Growth Advisory Council.

## Transparency on Climate Disclosure

In 2019, we released our [Portfolio Resilience in the Face of Climate Change report](#). The report looks at how Teck is positioned for a low-carbon economy by analyzing potential business risks and opportunities under three different climate change scenarios. These scenarios provide information on how Teck is analyzing and preparing for the risks and opportunities that may emerge as the global

community combats climate change and moves to a lower-carbon future. This report builds on our 2018 Climate Action and Portfolio Resilience report and aligns with recommendations from the [TCFD](#), which we support. We also report our emissions data annually to the [Carbon Disclosure Project](#) (CDP) and we engage with Climate Action 100+ and other investor organizations.

## Adapting to Physical Climate Risks

We continuously manage the risks and opportunities associated with climate variability. Over the last decade, we have collaborated within the mining industry to collectively tackle the issue of climate change; our understanding of the physical impacts of climate change has significantly improved and we have developed tools to incorporate climate change into existing climate assessments. For Teck, this resulted in improved climate modelling and a more robust approach to risk identification and management.

The ICMM has been a leader in bringing together our industry members to share best practices on managing climate risks. ICMM continues to support practice improvement and makes learnings publicly available through reports, including [Adapting to a Changing Climate: Building resilience in the mining and metals industry](#).

We are taking into account the increased frequency of extreme weather events and working to incorporate climate change scenarios and vulnerability assessments into project design and evaluation, as well as at our existing operations. This work is becoming increasingly complex as the field of climate analysis evolves. At our operations, we regularly incorporate impacts from climate variability and climate change into our water modelling, and we assess potential vulnerabilities and future risks to inform water management

practices. As part of the environmental assessment of our development and expansion projects, we include the physical impacts of climate change in our water assessment and modelling to evaluate risks and opportunities, and to inform our mitigation planning.

In 2020, we implemented climate adaptation measures at several of our operations. Upstream from our Red Dog Operations, increased permafrost thaw has led to a rise in naturally occurring total dissolved solids (TDS) in the creeks draining the Red Dog and Ikalukrok watersheds, which has limited our ability to discharge mine-affected water from our tailings facility due to the additional background load. We have implemented projects to improve site water storage and treatment to ensure every litre that is released can be safely discharged. At HVC, we continue to execute our spring runoff water management strategy to protect key infrastructure, and we completed climate change analyses to contribute to long-term adaptation plans for the mine. At our Fording River Operations, we continue to advance a flood mitigation project in response to erosion caused by high water levels in 2013. At our operations in Chile, we advanced projects to reduce our fresh water consumption in response to potential water availability constraints due to future climate conditions.