

February 16, 2022

The Secretary
Ontario Securities Commission
20 Queen Street West
22nd Floor, Box 55
Toronto, ON
M5H 3S8

**Re: CPP Investments' Response to the CSA's Consultation on the Proposed NI 51-107 –
Disclosure of Climate-related Matters**

Dear Secretary,

Thank you for the opportunity to comment on the Canadian Securities Administrators' (CSA) consultation on the proposed National Instrument 51-107 (NI 51-107) *Disclosure of Climate-related Matters* issued on October 18, 2021.

CPP Investments is the professional investment management organization that invests Canada Pension Plan (CPP) funds not currently needed to pay benefits. Our public purpose is to help provide a foundation upon which more than 20 million contributors and beneficiaries can build their financial security in retirement. This purpose, our track record of performance, and our committed team have earned CPP Investments an international reputation for excellence, including with respect to our leadership in climate reporting.

We believe that by fully considering environmental, social and governance (ESG) risks and opportunities, we become better investors, able to both enhance returns and reduce risk for our contributors and beneficiaries. In our view, boards and management teams have a clear responsibility to identify, manage and communicate the relevant impacts from ESG issues, including climate change. Where ESG issues are material, we expect boards to ensure they are considered and integrated into the company's strategy and disclose the magnitude of these risks and opportunities, their potential impact on business outcomes and how the company plans to mitigate or capitalize on them over time.

Our [Policy on Sustainable Investing](#) defines how CPP Investments approaches ESG factors within the context of our legislative objectives. Our [Climate Change Principles](#) help guide and inform our decision-making so we can deliver our mandate against the backdrop of escalating climate risk and opportunities created by supporting the transition of the whole economy towards sustainability. Our comments to this consultation are provided with the fulfilment of our clear legislative objectives in mind.

Sincerely,

Richard Manley

Richard Manley

Managing Director, Head of Sustainable Investing, CPP Investments

Canada Pension Plan Investment Board

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Comments on the proposed National Instrument 51-107

CPP Investments believes that climate change remains one of the largest and most important investment considerations of our time. Specifically addressing its impacts in our investment activities better positions us to make more informed long-term decisions regarding profitability and shareholder value, in line with our legislative mandate of maximizing returns without undue risk of loss.

For CPP Investments to act in the best interests of its contributors and beneficiaries, we require consistent, comparable and accurate information on climate change-related risks and opportunities that is ultimately decision-useful. As such, we expect disclosure of financially relevant, potentially material climate change-related factors from our portfolio companies to allow us to better understand, evaluate and assess potential risk and opportunities of these issues on a company's performance.

Furthermore, we expect companies with intrinsic climate change exposures to identify and quantify these risks and reflect them in their strategy, operations and disclosure to the market. Where this is not done, through our climate change [proxy voting](#), we will vote against the reappointment of the chair of the risk committee of the board for companies that contribute the largest climate change risks in our public equities portfolio, and where boards have failed to demonstrate adequate consideration of climate change impacts. We will consider escalating this voting practice to the entire risk committee or equivalent, the board chair and entire board where we see inaction in addressing this area in future years.

One persistent challenge however is the lack of reliable and consistent reporting of material, financially relevant climate change-related data by companies. Having consistent and accurate climate change-related financial information enhances our ability to make sounder investment decisions in the best interests of our contributors and beneficiaries. We support companies aligning their ESG and climate change reporting with the Sustainability Accounting Standards Board (SASB) Standards and the Task Force on Climate-related Disclosures (TCFD) framework. The TCFD enables companies to provide material, financially relevant disclosures in a focused manner that is relevant and useful for investors. As well, we believe that over time, frameworks for companies to report their transition capacity may be important supplemental approaches as outlined in our proposed framework (shown below).

CPP Investments is one of two global pension fund managers represented on the TCFD and we played an instrumental role in developing the recommendations contained in the final report. The TCFD recommendations provide a framework intended to help investors and others in the financial community better understand and assess climate change-related risks and opportunities. CPP Investments has been a strong supporter of the TCFD, and fully adopted its recommendations by the end of fiscal 2021.

We also support the convergence towards globally recognized ESG disclosure standards that are industry-specific and rules-based, and the increasing coalescing around the recommendations of the TCFD and SASB Standards as foundational tools for investor-focused sustainability disclosure. We welcome the formation of the International Sustainability Standards Board (ISSB) and further alignment towards internationally recognized sustainability standards and reporting.

We believe it is important for the CSA to leverage the vast body of work already developed regarding climate change-related disclosures, particularly considering the accelerating consolidation underway. As such, we support alignment of NI 51-107 with the TCFD recommendations as much as possible and have specific comments as follows:

- **Scenario Analysis:** We recommend alignment with TCFD guidance to describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenarios. Scenario analysis is critical in understanding the impacts of climate change on issuers, as it facilitates disclosing a company's strategy in the context of strategic resilience.
- **GHG Emissions:** We recommend requiring disclosure of Scope 1 and Scope 2 emissions, independent of a materiality assessment, and requiring disclosure of Scope 3 emissions subject to materiality, although we encourage Scope 3 emissions disclosure in all cases. Considering recommending the reporting of only Scope 1 emissions would put Canadian issuers behind what is taking place in other markets. We also support providing GHG emissions disclosures in accordance with the GHG Protocol, or national reporting methodologies if they are consistent with the GHG Protocol methodology.
- **Location of disclosures:** The TCFD recommendations call for climate change-related disclosures to be included in financial filings; we support this recommendation. We recognize that these disclosures are currently largely voluntary, although we expect this to evolve as jurisdictions increasingly adopt the TCFD recommendations into legal and regulatory frameworks.
- **Timing:** We recommend that all issuers embark on the reporting of climate-related disclosures as soon as possible, particularly on Governance, Strategy and Risk Management. We suggest allowing for 'comply-or-explain' where issuers are not ready or where climate change factors are not material.

We recognize that one of the key challenges of successfully integrating climate change impacts into investing decisions today is the lack of reliable inputs on many of the metrics to determine climate change risk, which in turn leads to data gaps and issues of comparability. Nevertheless, we support the disclosure of this data and expect it to prompt important advancements in tools and analytics yielding more decision-useful metrics. Further standardization of reporting requirements related to climate change impacts will be key to this evolution.

Alignment with TCFD recommendations will support the key purpose of NI 51-107, which is to improve Canadian issuers' access to global capital markets by aligning Canadian disclosure standards with expectations of international investors; assist investors in making informed investment decisions; facilitate an equal playing field for all issuers through comparable and consistent disclosure; and remove the costs of navigating and reporting to multiple disclosure frameworks as well as reducing market fragmentation.

We are often asked our views on making climate change disclosures mandatory. We recognize that producing these disclosures can involve a significant effort for companies, especially smaller enterprises with fewer resources. Regulators may decide to lighten this burden on these smaller issuers by allowing multi-year implementation or a "comply-or-explain" framework, particularly given the prevalence of small- and mid-cap issuers in Canada. This will allow smaller companies to

build the capacity they need to manage these risks, while not losing access to capital. However, we strongly encourage companies to align their reporting with the TCFD. We view full alignment with the TCFD framework as a component of best-in-class disclosure. Being viewed by investors as a best-in-class enterprise can positively impact a company's valuation and reduce its cost of capital. While each regulator must decide on the circumstances that work best for the area they oversee, we are not opposed to making climate change disclosures mandatory.

Issuers should be aware that the expectation of investors with regard to these disclosures are changing quickly. We believe that increased reporting aligned with the TCFD recommendations will contribute to improved global disclosure of climate change-related risks. This will allow investors to better understand, evaluate and assess potential risks and opportunities brought on by climate change.

Responses to select questions not addressed above

1. For reporting issuers that have provided climate-related disclosures voluntarily in accordance with the TCFD recommendations, what has been the experience generally in providing those disclosures? (Question 1)

While CPPIB is not a reporting issuer, in 2018, we voluntarily made the decision to pursue the full adoption of the TCFD recommendations and we met that commitment during our fiscal year 2021. Our implementation is disclosed in the Strategy section of our [2021 Annual Report](#) and our [2021 Report on Sustainable Investing](#). When we first started our disclosures, we had no readily available data or clearly outlined methodologies. Over time, we developed tools and methodologies to improve our disclosures and we continue to focus on refinements and new tools. A cross-functional approach, with proper resourcing, has been key to implement the TCFD recommendations due to the complexity and scale of risk brought on by climate change.

2. For reporting issuers, do you currently disclose GHG emissions on a voluntary basis? If so, are the GHG emission calculated in accordance with the GHG Protocol? (Question 2)

While CPPIB is not a reporting issuer, we have developed an in-house methodology to estimate the carbon emissions the Fund is exposed to through its investments. We first published carbon emissions metrics for our public equities portfolio in the [2018 Report on Sustainable Investing](#), including metrics on total carbon emissions and carbon intensity (Scopes 1 and 2). In 2019, we provided a more comprehensive metric that included both our public and private investments. Starting in 2020, we estimate carbon emissions metrics for all CPP Investments holdings including government issued securities. In 2022, we are conducting work to measure Scope 3 emissions of our portfolio, and we will also assess and report on the GHG emissions of CPP Investments' own operations. Since we rely on reporting issuers' methodology for reporting their GHG emissions, and we rely on consistent, comparable and accurate information, we support reporting of GHG emissions calculated in accordance with the GHG Protocol.

3. For reporting issuers, do you currently conduct climate scenario analysis (regardless of whether the analysis is disclosed)? If so, what are the benefits and challenges with preparing and/or disclosing the analysis? (Question 3)

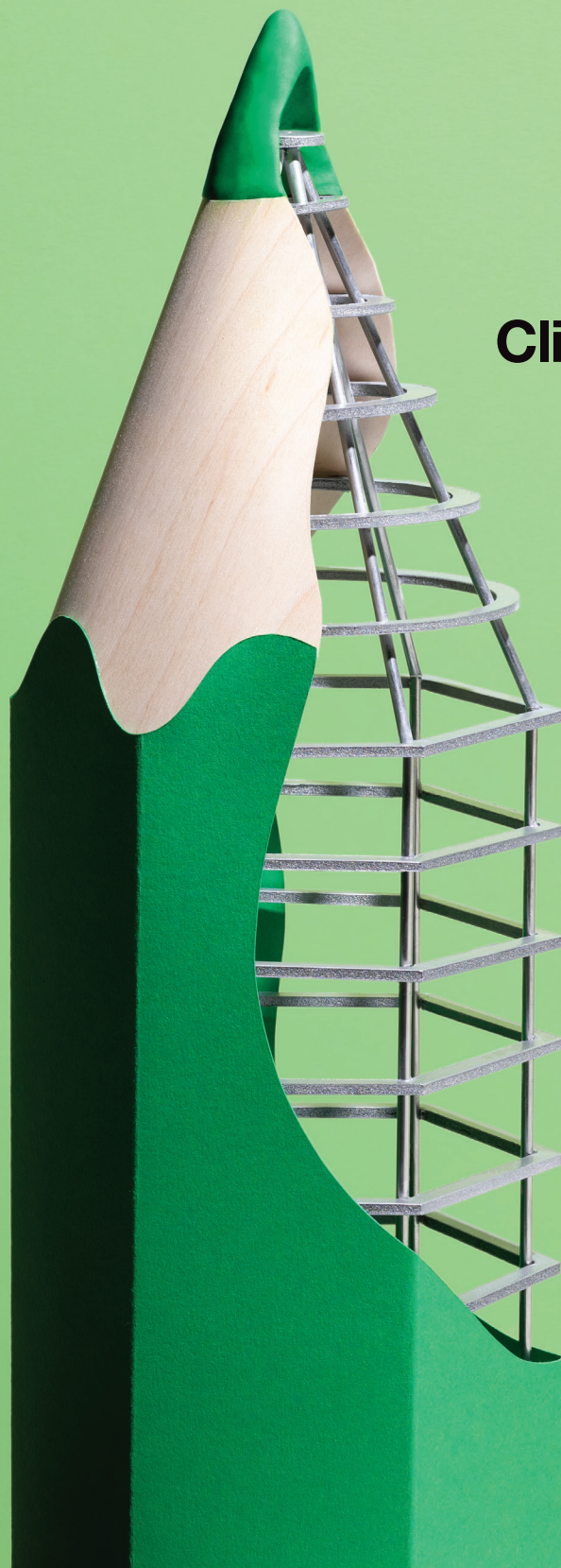
While CPP Investments is not a reporting issuer, we integrate climate change considerations into all relevant investment activities and into our risk framework. Scenario analysis is carried out across investment and non-investment departments as an integral part of portfolio design, investment due diligence and stress-testing processes. We stress test the resilience of our investments under a range of plausible scenarios, including extreme events and exploring a range of temperature outcomes using both top-down and bottom-up approaches to quantify financial impacts. This analysis enables us to identify climate change-related risks and opportunities, assess the impact and resilience of our investments, and inform strategy and business planning. We recognize that the estimates of our analysis are highly sensitive to the assumptions we make. The range of possible outcomes can be wide with an average impact that is significantly lower than the extremes. We understand these limitations and strive to continue evolving our climate-change stress-testing capabilities.

4. We have provided guidance in the Proposed Policy on the disclosure required by the Proposed Instrument. Are there any other tools, guidance or data sources that would be helpful in preparing these disclosures that the Proposed Policy should refer to? (Question 14)

- Climate Change Physical Risk Toolkit and Resource Hub (Investor Leadership Network) [link](#)
- TCFD Implementation: Practical Insights and Perspectives from Behind the Scenes for Institutional Investors (Investor Leadership Network) [link](#)

5. What broader sustainability or ESG topics should be prioritized for the future? (Question 18)

Until specific ISSB standards are developed, SASB standards can help companies and investors identify and more fully understand financially-material sustainability risks and opportunities. Furthermore, with respect to specific thematic issues, we encourage the CSA to continue to align its work in this regard with global disclosures.



The Future of Climate Change Transition Reporting



*Abatement Capacity
Assessment and
Projected Abatement
Capacity Reporting*



**A decision-useful,
consistent and
auditable approach to
transition reporting**

The Future of Climate Change Transition Reporting

Decarbonizing the economy,
molecule by molecule

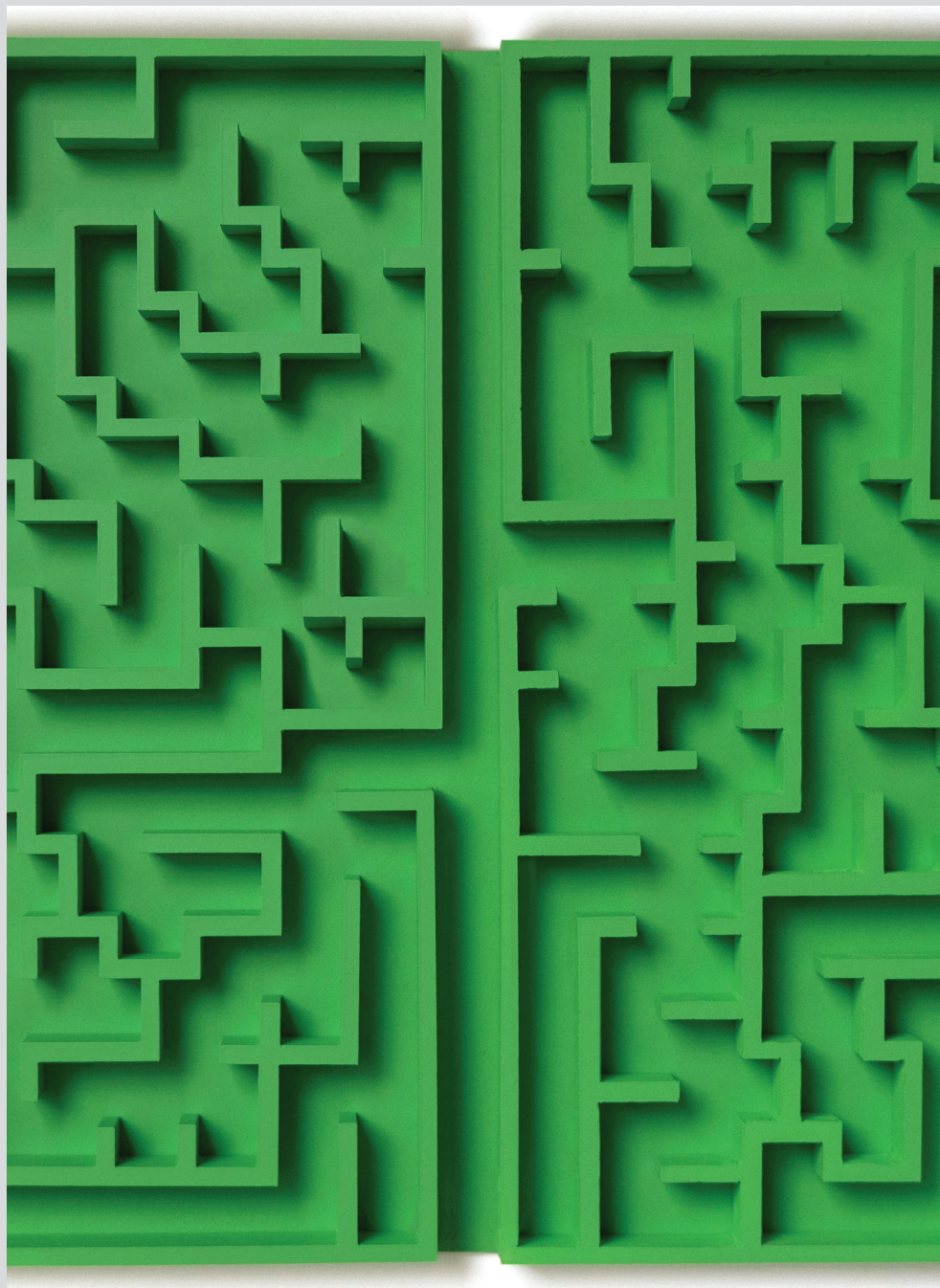


Step one:
A proposal
for projecting
the capacity
of companies
to abate
greenhouse
gas emissions

By CPP Investments

As the threat of climate change becomes ever more present, the global transition to net-zero greenhouse gas (GHG) emissions is gaining speed. On the grid, renewables are scaling and on our roads, electric vehicles are proliferating. The progress is encouraging — yet it's only the start of a decades-long process that will transform every sector in every country, from energy and industry to real estate, transportation and agriculture.





To cut emissions globally, businesses must start locally by first decarbonizing their operations, process by process, molecule by molecule. It's time to shift our focus from a top-down scientific view of what needs to be done across sectors to a bottom-up view of what each business and its employees can do today, and going forward to abate emissions, given current costs, regulations and technologies. Developing a clearer, more actionable roadmap to implement transition plans is essential.

To that end, CPP Investments is proposing a framework and standardized template to measure the capacity of organizations to remove or "abate" their GHG emissions. We believe that such a framework can have transformative implications and could be applied across industries and geographies with common assumptions. The data from this ground-up assessment could catalyze subsequent decarbonization efforts by helping boards and executives prioritize both the highest impact and most economic opportunities.

This type of framework could also give these leaders additional confidence in public pronouncements about their companies' progress toward net zero. And, by providing a more granular view of emissions, the assessments could help regulators prioritize new rules, guide innovators in research priorities, and focus investors on smarter capital allocations. Our vision is that this template can evolve to become a reporting standard that helps guide all stakeholders in accelerating the decarbonization of our economy.

This paper outlines the broad conceptual framework behind the template and explains the overall method of projecting

Our vision is that this template can evolve to become a reporting standard that helps guide all stakeholders in accelerating the decarbonization of our economy.

an organization's abatement capacity. The first step is to create a clear, standardized assessment of each organization's emissions across Scopes 1, 2 and 3, the next is to conduct an Abatement Capacity Assessment (ACA) to project its capacity to abate them, and finally report its Projected Abatement Capacity (PAC).

In the appendix to this paper, we provide a proposed draft of the template. It's important to note that for some businesses not all emissions can be abated. Activities with emissions that remain uneconomic to abate, even at higher carbon prices, will require removal offsets or transformations in technology to achieve net-zero GHG emissions.

While this proposed template remains a work in progress, CPP Investments believes the insight it provides could empower stakeholders to mobilize resources and accelerate an economy-wide transition to net zero. This framework requires testing and input from companies that aspire to lead our economy's transition. And, as an entity with a vested interest in reducing system-wide risk and capturing the opportunities of the transition to a low-carbon future, we invite interested parties to join us in refining this proposal and helping unlock its potential to become a decision-useful reporting standard that accelerates the greening of our economy.

To help inform the broader implementation of this recommended approach, CPP Investments has

begun planning to test and refine Abatement Capacity Assessments of select holding companies in our active portfolio, where climate change impacts are deemed to be material, and where we can influence businesses to adopt the PAC methodology.



Key characteristics and benefits

The benefits of conducting an Abatement Capacity Assessment and reporting Projected Abatement Capacity should accrue almost immediately to the company, its board and executives. Disaggregating an organization's abatement capacity into its constituent parts will allow that company to isolate and divide its transition planning into smaller, more manageable sub-strategies. Any company that has already calculated its marginal abatement cost curve should be able to allocate this information directly to each of the Projected Abatement Capacity line items.

→ Strategic planning.

With detailed projections of abatement capacity across a company's operations, directors and executives can develop a clear view of the steps their business can take

to cut emissions, in what order, over what period and at what cost. In addition, the information provided by these projections can help shape a long-term strategy to fulfill commitments to achieve net-zero emissions.

→ Benchmarking.

A standardized approach to projecting abatement capacity can also help benchmark companies against their peers and provide greater transparency to stakeholders. And as carbon reporting and reduction standards harden, regulators, investors and other interested parties can benefit from this framework too. Greater transparency will speed transformation within companies and their value chains, which in turn is likely to accelerate sector- and economy-wide decarbonization.

→ Financing the transition.

Ultimately, the ability of capital providers to objectively appraise an organization's relative ability to remove greenhouse gases from its operations will help borrowers and innovators to more efficiently allocate capital. For example, a company with high abatement capacity relative to its industry, will likely have access to more and cheaper capital. Or, if the information provided by these projections reveals that multiple industries are confronting similar regulatory or technical hurdles to lower a specific source of emissions, this framework can help guide policy decisions and prioritize investment in innovation.

→ Independent validation.

As with financial reporting today, boards would likely require an independent review of their company's self-assessed abatement projections to verify their credibility. Establishing a

It's time to shift our focus from a top-down scientific view of what needs to be done across sectors, to a bottom-up view of what individual businesses can actually do today to abate emissions.

common methodology is vital, lest stakeholders face conflicting estimates of a company's capacity. For example, how is a stakeholder to adjudicate between a company's claims that it can only cut emissions by 30% by 2030, while a non-governmental organization asserts the company's achievable abatement capacity is 70%? Absent transparency and consistency in the underlying assessments and third-party review, it is likely that conflicting estimates will persist.

→ Annual review.

If this approach takes hold, abatement capacity could be reported and updated annually. Year to year, changes to these projections would reflect realized emission reductions along with the emergence of newly economic abatement opportunities via declines in technology costs, shifts in regulation, and prevailing carbon prices. For both companies and their sectors, overall abatement projections should increase as the costs of solutions fall, regulation advances and carbon prices rise.



Competitive pressures and climate urgency

Notably, as businesses begin to demonstrate progress in their abatement efforts, constructive rivalries are likely to emerge. Abatement competition promises to accelerate greenhouse gas reductions between rivals and



We invite all interested parties to join us in refining this proposal and helping unlock its potential to become a decision-useful reporting standard that accelerates the greening of our economy.

peers, across sectors and throughout the wider economy. If a chief executive announces 70% current projected abatement capacity, their peers will be motivated to identify similar levers for decarbonization. At the same time, to the extent that these assessments become integrated into management compensation programs, senior executives will have a more powerful incentive to uncover new opportunities.

Developing such a concept as the Projected Abatement Capacity is not easy, but neither is it rocket science. Antecedents exist and the building blocks are already taking shape. In the oil sector, for example, companies and investors today use a similar model to project their capacity to extract hydrocarbon reserves economically. Oil companies report projections of their reserves considering a mix of factors — costs, reservoir modelling, commodity prices, foreign exchange and the like — which are qualified across a continuum of recoverability, from proven, to probable, to possible reserves. Auditors are required to review these models so that investors can integrate the gradations into their credit analyses, lending decisions and equity valuations. They are even mandated by regulators in specific jurisdictions.

Other key elements are coming together in rapidly evolving reporting standards around ESG performance. Just a decade or so ago, only a handful of

companies measured, assessed and published metrics on their energy consumption or carbon footprints. Today, more than 95% of S&P 500 companies report some mix of these measures.¹ And as voluntary carbon reporting standards evolve, informed by the considerable work of the Task Force for Climate-related Financial Disclosures (TCFD) among others, financial and securities regulators in Asia, Europe and North America are increasingly mandating such disclosures.

The Abatement Capacity Assessment framework will help enable stakeholders to hold companies to account on their emissions reduction targets. By itself, the framework cannot determine whether a business is heading toward net zero or not, but if a company has articulated a GHG reduction target, the framework can help validate whether or not the goal is achievable and track a company's capacity to get there.

Much work remains to evolve this concept into a generally accepted reporting approach, but we are committed to exploring and developing what we believe is a promising assessment framework. We believe a widely accepted, standardized approach to reporting Projected Abatement Capacity is a critical step in advancing the overall capacity of companies, sectors and economies to transition to net zero. We look forward to working with interested parties to advance the discussion and this proposed framework. ●

¹Center for Audit Quality (CAQ), "S&P 500 and ESG Reporting," CAQ, Aug. 9, 2021

Transition capacity: A function of three factors

Every organization, in every sector, faces differing challenges on the path to net-zero emissions. A key component of an organization's capacity to transition is its ability to abate GHG emissions. This unique mix of capabilities and limitations define an organization's overall "transition capacity," which comprises three categories of projected abatement capacity:



01

Current (Proven) Projected Abatement Capacity.

The critical first step a company must take to transition to net-zero emissions is to assess its current emissions and develop an estimate of what portion of these is economic to abate using currently available, proven technologies.² For example, a cement plant may be able to eliminate 100% of emissions associated with its electricity consumption by using renewables, but only 10% of emissions from its kilns based on technologies that are economic today. When aggregated with estimates of abatement capacity for other aspects of its operations, suppliers, and customers, these calculations should yield an auditable metric summarizing its current capacity to abate. For details of this approach, see appendix.



02

Long-term (Probable) Projected Abatement Capacity.

The interplay of assumptions for falling technology costs, tightening regulation and higher carbon prices make it very difficult to standardize reporting of future abatement capacity. Companies operate in different jurisdictions, have multiple technologies they monitor for future abatement and have diverse assumptions regarding future carbon prices. In a bid to manage this complexity, we propose that companies assume no change to today's technology costs and regulation, but flex future projections of abatement capacity by using two standardized carbon price assumptions that exceed current levels (e.g., US\$75 and US\$150 per tCO₂e). The resulting calculated increase in economic abatement capacity based on these assumptions would permit

users of this information to compare outputs within and across industries and jurisdictions and would also allow annual updating of the data in response to new regulation or lower costs.



03

Uneconomic Projected Abatement Capacity.

In the process of assessing their abatement potential, most companies will identify significant opportunities to cut emissions (e.g., some may conclude that 100% of their emissions can be abated at or below a US\$150/tCO₂e carbon price). The residual sources of emissions across a business' carbon footprint that are uneconomic – or even technically impossible to abate with currently viable technologies – could be reported based on management's assumptions on how they currently expect to address these issues. This may include closing or ceasing a business activity (for example, managed wind-down and closure of coal mines), further technology development (such as hydrogen-fueled planes) or acknowledging emissions that will likely require use of high quality, permanent removal offsets.

To help inform the broader implementation of this recommended approach, CPP Investments has begun planning to test and refine Abatement Capacity Assessments of select holding companies in our active portfolio, where climate change impacts are deemed to be material, and where we can influence businesses to adopt the PAC methodology. ●

²We expect debate will focus on how to define 'economic' in an objective manner, and suggest that this definition be determined by the appropriate parties we partner with in advancing this proposed framework.

Appendix

Abatement Capacity Assessment: A Template for Reporting Projected Abatement Capacity (PAC)

The goal of this template is to aid companies in creating an actionable roadmap for navigating the wider transition to net-zero GHG emissions in a consistent manner as it relates to efficiency initiatives, technology upgrades and a shift from thermally generated power to renewables. See more detailed descriptions of these terms in the footnotes below.

Over time a company's abatement capacity would ideally be reported across Scopes

1, 2 and 3 vis à vis its current state of business and under different carbon price assumptions. We acknowledge that reporting Scope 3 might require a period of time as it is dependent on suppliers and customers reporting their own Scope 1 and 2 **Projected Abatement Capacity (PAC)**.

For some companies, current PAC will cover substantially all emissions. But we recognize that many sectors face

considerable decarbonization challenges, and for them, much of their current emissions will be deemed **Uneconomic to Abate**. In this category, we hope to see sub-assessments addressing a continuum of potential transition options including business segment closures, future transformational technologies on which the company is conducting due diligence, and where unavoidable, the use of high-quality, permanent removal offsets.

Illustrative example:		Scope 1	Scope 2	Scope 3	Total	Scope 1	Scope 2	Scope 3	Total	
GHGs (tCO ₂ e)	G	G ₁	G ₂	G ₃	G _t	1,500	800	2,500	4,800	
Efficiency	E	E ₁	E ₂	E ₃	E _t	400	100	1,100	1,600	33%
Investment	I	I ₁	I ₂	I ₃	I _t	200	100	200	500	10%
Renewables	R	R ₁	R ₂	R ₃	R _t	100	200	1,000	1,300	27%
Current (proven) PAC	C	C₁	C₂	C₃	C_t	700	400	2,300	3,400	71%
as % of total		C₁/G₁	C₂/G₂	C₃/G₃	C_t/G_t	47%	50%	92%	71%	
Economic @ \$75/tCO ₂ e	Ec@75	Ec ₇₅₋₁	Ec ₇₅₋₂	Ec ₇₅₋₃	Ec _{75-t}	50	200	–	250	5%
Economic @ \$150/tCO ₂ e	Ec@150	Ec ₁₅₀₋₁	Ec ₁₅₀₋₂	Ec ₁₅₀₋₃	Ec _{150-t}	400	200	100	700	15%
Long-term (probable) PAC	L	L₁	L₂	L₃	L_t	450	400	100	950	20%
as % of total		L₁/G₁	L₂/G₂	L₃/G₃	L_t/G_t	30%	50%	4%	20%	
Closure/Abandonment	A	A ₁	A ₂	A ₃	A _t	150	–	100	250	5%
Transformative Technology	T	T ₁	T ₂	T ₃	T _t	150	–	–	150	3%
Removal of Offsets	O	O ₁	O ₂	O ₃	O _t	50	–	–	50	1%
Uneconomic to Abate	U	U₁	U₂	U₃	U_t	350	–	100	450	9%
as % of total		U₁/G₁	U₂/G₂	U₃/G₃	U_t/G_t	23%	–	4%	9%	

Note: The percentages in the chart above are rounded. To address the consistency and comparability of this Framework, all capacity assessments must be reported as regionally relevant – i.e., the metrics reported are required to account for regional regulation, costs, subsidies, carbon prices, etc.

G_t = Scope 1 + Scope 2 + Scope 3 GHG emissions. To the extent that companies are not yet able to report all three, there exists the ability to start reporting Scope 1 and 2. Many of these data are already reported via CDP and company filings. Adding Scope 3 data when suppliers and customers report their Scope 1 and 2.

E_t = Percentage of G_t projected to be addressable by “**Efficiency**” initiatives (e.g., stopping methane leaks, building management, using shore power, behavioral change, etc).

I_t = Percentage of G_t projected to be addressable by “**Investment**” in abatement solutions that are economic at current costs, carbon prices and prevailing regulation (e.g., switching to electric vehicles, heat pumps, retrofitting, etc.)

R_t = Percentage of G_t projected to be addressable via a shift to “**Renewables**” for power generation (i.e., likely to be addressed by greening of the grid). Many companies already report indirect emissions from electricity consumption, so some of this data is already available.

C_t = E_t + I_t + R_t = “**Current Projected Abatement Capacity**” to abate G_t. We expect the reporting convention would default to reporting this as a % of total emissions (i.e., in the example above, the company's Current Projected Abatement Capacity is 71%).

Ec_{75-t} = Percentage of G_t projected to be “**Economic to abate at US\$75/tCO₂e**” carbon price. This would allow the company to apply a higher carbon price to current technology costs and regulation to determine the incremental % of abatement that would become economic at this standard carbon price assumption.

Ec_{150-t} = Percentage of G_t projected to be “**Economic to abate at US\$150/tCO₂e**” carbon price. As above, but for a higher carbon price.

L_t = Ec_{75-t} + Ec_{150-t} = “**Long-Term Projected Abatement Capacity**” attributable to solutions that would become economic at pre-determined future Carbon Prices that are well within the bounds of those deemed necessary to support a net-zero outcome.

While Current and Long-term Projected Abatement Capacity should be reported independently we expect that market convention would add the two to sum “**Projected Abatement Capacity**” and refer to that as a percentage of total emissions (i.e., in the example above, the company's PAC is 91%).

U_t = A_t + T_t + O_t = Currently “**Uneconomic Projected Abatement Capacity**.” The percentage of G_t that would require the “**Abandonment/Closure of Assets**,” deployment of “**Transformative Technology**,” “**Offsetting**” using removal credits. This is the residual G_t not projected to be addressable by C_t + L_t and would require closure, innovation in transformative technologies or removal via permanent verifiable solutions.



For more information please contact:

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