CPP Investments

THINKING ahead

# 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.

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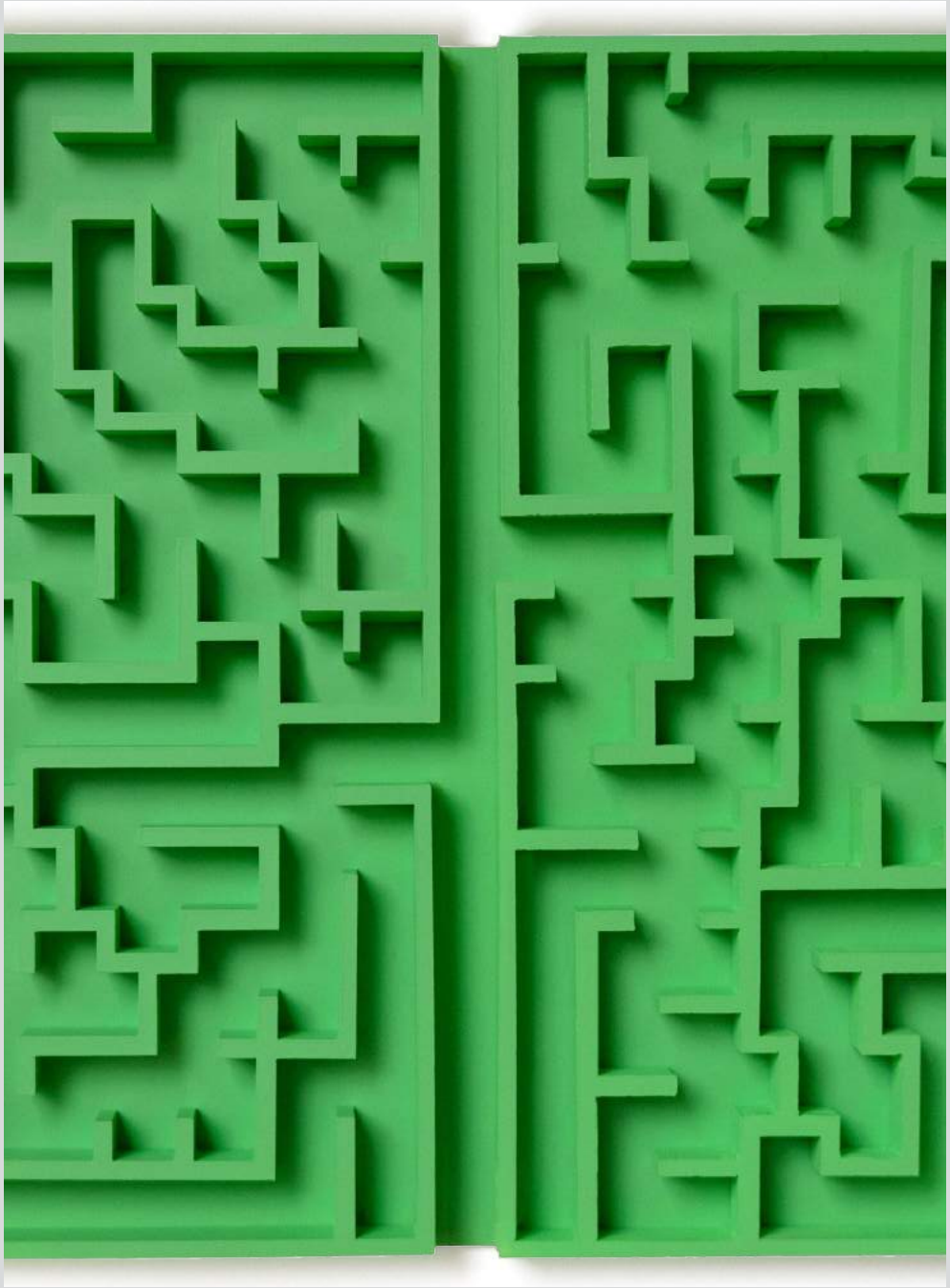

Our vision is that this template can evolve to become a reporting standard that helps guide all stakeholders in accelerating the decarbonization of our economy.

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

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 recomended 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.

# 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.[1] 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 $tCO_2e$). 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$150/$tCO_2e$ 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. ●

[1] We 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.

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 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.[2] 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. ●

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

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.

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 (tcoe) | 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** | $C_1$ | $C_2$ | $C_3$ | $C_t$ | **700** | **400** | **2,300** | **3,400** | **71%** |
| **as % of total** | | $C_1/G_1$ | $C_2/G_2$ | $C_3/G_3$ | $C_t/G_t$ | **47%** | **50%** | **92%** | **71%** | |
| Economic @ $75t$CO_2e$ | Ec@75 | $Ec_{75-1}$ | $Ec_{75-2}$ | $Ec_{75-3}$ | $Ec_{75-t}$ | 50 | 200 | – | 250 | 5% |
| Economic @ $150t$CO_2e$ | Ec@150 | $Ec_{150-1}$ | $Ec_{150-2}$ | $Ec_{150-3}$ | $Ec_{150-t}$ | 400 | 200 | 100 | 700 | 15% |
| **Long-term (probable) PAC** | **L** | $L_1$ | $L_2$ | $L_3$ | $L_t$ | **450** | **400** | **100** | **950** | **20%** |
| **as % of total** | | $L_1/G_1$ | $L_2/G_2$ | $L_3/G_3$ | $L_t/G_t$ | **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** | $U_1$ | $U_2$ | $U_3$ | $U_t$ | **350** | **–** | **100** | **450** | **9%** |
| **as % of total** | | $U_1/G_1$ | $U_2/G_2$ | $U_3/G_3$ | $U_t/G_t$ | **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$75/t$CO_2$e"** 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$150/t$CO_2$e"** 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 Gt that would require the **"Abandonment/Closure of Assets,"** deployment of **"Transformative Technology," "Offsetting"** using removal credits. This is the residual Gt not projected to be addressable by $C_t + L_t$ and would require closure, innovation in transformative technologies or removal via permanent verifiable solutions.

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