CLIMATE DISCLOSURE COUNTRY REVIEWS

Recommendations of the FSB Task Force on Climate-related Financial Disclosures

Inside

Why does climate disclosure matter?

Without better climate disclosure, investors cannot manage the physical and transition risks associated with climate change for their clients and beneficiaries.

Foreword – climate disclosure and investors

Why does climate disclosure matter?

Without better climate disclosure, investors cannot manage the physical and transition risks associated with climate change for their clients and beneficiaries. Transition risks include the financial impacts of risks relating to climate policy action, litigation or legal risk, new technologies and market changes.

In June 2017, the industry-led FSB Task Force on Climate-related Financial Disclosures (TCFD) released its final recommendations. These provide a framework for financial disclosures by companies and investors, guidance for sectors and uses of scenario analysis[1].

Nearly 400 investors representing US$22 trillion in assets under management have publicly called on the G20 to support the Paris Agreement, drive investment into the low carbon transition and support the TCFD[2].

TABLE 1: SUMMARY OF TCFD DISCLOSURE RECOMMENDATIONS FOR ALL INDUSTRIES

Figure 4

Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

[1] https://www.fsb-tcfd.org/publications/final-recommendations-report/

[2] http://investorsonclimatechange.org/

The purpose of this report

To support practical implementation of the TCFD's recommendations, the Principles for Responsible Investment (PRI) and global law firm Baker McKenzie have together produced a series of country reviews.

These examine how the TCFD's voluntary recommendations integrate into existing material risk disclosure regulation and soft law in specific markets, and how investors and companies in those markets can apply them. The market reviews build on the PRI's *Fiduciary Duty in the 21st Century Country Roadmaps*[3]*, Global Guide to Responsible Investment Regulation*[4]*,* and *Montreal Carbon Pledge*[5]*.*

The market reviews cover Brazil, Canada, the EU, Japan, the United Kingdom and the USA.

Investors

can use the market reviews to inform their voting and engagement with companies on climate disclosure, dialogue with regulators, and their reporting to clients and beneficiaries.

Companies

can use the market reviews to understand the global investor perspective and how TCFD will assist in implementing existing material financial risk disclosure regulation and guidance.

Stock exchanges and regulators

can use the market reviews to compare their approach to that of other markets and to inform development of reporting guidance that endorses the TCFD.

The PRI's perspective on Baker McKenzie's findings:

The PRI has 1,800 signatories, representing nearly US$70 trillion in assets under management. Climate change is a material long-term risk and opportunity for investors, with signatories across markets identifying climate change as the highest priority ESG issue[6].

Overall, in the six markets reviewed by Baker McKenzie, existing material risk disclosure regulation and/or guidance for companies and investors clearly either requires or encourages material financial risk disclosures.

Baker McKenzie's analysis highlights that TCFD's framework will bring consistency and comprehensiveness to material risk disclosures with respect to climate change. Better climate disclosure will assist investors significantly in understanding the financial impacts of climate change on their investments.

Action PRI will take to drive TCFD implementation

In 2017-18, the PRI will support investors in enhancing climate disclosure:

3 http://www.fiduciaryduty21.org/

4 https://www.unpri.org/page/responsible-investment-regulation

5 Montreal Carbon Pledge, Accelerating Investor Climate Disclosure https://www.unpri.org/download_report/22480

6 https://blueprint.unpri.org/

- Active ownership: we will convene collaborative global investor engagement to encourage companies to adopt the TCFD's recommendations. We will also encourage regulators and stock exchanges to endorse these.
- Investment practices: we will encourage investor use of company disclosures that are aligned with the TCFD recommendations, and advance investment practices in assessment and management of climate-related risks and opportunities.
- Investor disclosure: we will update the PRI's Reporting Framework to align with the TCFD's guidance for asset owners and asset managers, thereby supporting the quality of investor ESG reporting to clients and beneficiaries.
- Addressing barriers around responsibility investment: The PRI has set out its priorities for the next 10 years in its Responsible Investment Blueprint, published in 2017. These include climate action, supporting investors in incorporating ESG issues and challenging barriers to a sustainable global financial system[7].

Executive summary of Baker McKenzie's market reviews

Focus of the market reviews

As noted above, the PRI and Baker McKenzie undertook a review during mid-2017 of how the TCFD's voluntary recommendations integrate into existing regulation and soft law in Brazil, Canada, the EU, Japan, the United Kingdom and the USA.

The review papers produced for each market consider:

1. Private sector regulation - disclosure regulation for various kinds of companies as well as policy statements or guidance; and
2. Climate change-related aspects of pension fund/investor regulation,

and discuss the relevance of the TCFD recommendations in the context of each market's regulation and policy for those companies and investors/funds. Summaries of each country's Nationally Determined Contributions (NDCs) associated with the Paris Agreement are also included as Appendices to this report.

Overall findings across markets

Each market has taken a different approach to regulation and policy dealing with the disclosure of climate-related risks. Despite these differences, the review found that the TCFD's recommendations would be likely to both:

- assist companies in understanding and moving towards best practice climate risk disclosure as part of broader financial disclosures; and

[7] https://blueprint.unpri.org/

- assist investors in assessing portfolio risk assessment and providing information on this to clients and beneficiaries, through normalising and improving the consistency of corporate climate risk disclosures.

Differences between markets

The table below contains a general summary of how climate-related risk is currently covered in each market's regulation and policy on corporate disclosure. Note given the differences between the nature of the various corporate and financial sectors in each jurisdiction and how each sector is regulated in each case, the conclusions are intended to provide broad guidance only.

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/ guidance impliedly encourages or guides climate risk disclosure
Brazil		■		■			
Canada		■	■	■		■	
EU		■		■			
Japan					■		■
UK		■	■	■			■
USA		■	■			■	

Similarities - climate change is relevant to material financial risk disclosure

Where compulsory financial disclosure rules require disclosure of material financial risks, a company's disclosures should include any climate change-related financial risks which meet the materiality threshold under those rules.

In all jurisdictions considered, there is no explicit requirement for climate change-related risks to be disclosed by companies as part of mainstream financial filings. In some cases, climate change tends to be considered as a non-material factor. The rigour and detail required for non-material disclosures is generally lesser than that required for mainstream financial filings. From an investor/pension fund perspective, the position is similar, in that there is little or no explicit requirement to consider climate risks to an investment in the markets considered.

However, it is clear that climate change risks will and do have relevant implications for many companies and investors in jurisdictions where material climate change-related risks would be properly categorised as financial risks.

Across markets, TCFD will assist corporate entities and investors

The TCFD's recommendations for comprehensive risk analysis and disclosure around climate change would be likely to result in:

- corporate entities better understanding the real financial implications of climate-related risks and their potential impacts on business models, strategy and cash flows;
- investors grasping if, and how well, companies are conducting this analysis; and
- normalising this analysis as part of good corporate governance in each jurisdiction.

TCFD will enable more consistent disclosures

In all jurisdictions considered, it is evident or likely that climate risk disclosure is not consistent across or within corporate sectors, in part because there is no or limited guidance on the scope of analysis and reporting, on which companies seeking to provide climate risk disclosure can rely. This is one area where adoption of the TCFD recommendations by companies (and governments) has significant potential to educate companies and investors regarding best practice climate disclosure, and lead to more reliable and uniform disclosures being made by companies to which disclosure frameworks apply.

TCFD provides clarity on scope of disclosures

Beyond the issue of consistency, the extent and scope of climate risk analysis companies in each market should undertake is not yet clearly signalled in any of the jurisdictions reviewed. The TCFD recommendations on the information needed by investors to properly assess and price climate-related risks include detailed discussion of forward-facing assessment tools such as scenario analysis. This aspect of the TCFD's review would be of particular relevance in jurisdictions such as the USA, the UK, Canada and Brazil, which have reasonably comprehensive financial disclosure requirements but where the applicable regulation does not expressly prescribe how climate risks must be considered or disclosed.

To view each country's complete responsible investment framework, visit the PRI’s Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology,
visit the PRI website.

For further information, email policy@unpri.org

TCFD is compatible with existing requirements

Even in jurisdictions where there is limited or no express requirement for, or guidance encouraging, corporate climate risk analysis, adoption of key TCFD recommendations does not conflict with existing disclosure requirements. In these markets, companies may be better positioned for the transition of their economies (as part of the wider global transition to a lower carbon economy) as companies and investors begin to appreciate the risk management benefits of implementing comprehensive climate change risk-related analysis and disclosure, and the consideration of *financial* risks of ESG factors becomes more comprehensively integrated into business strategy.

Investor demand for climate disclosure is set to continue

We expect that in all markets covered by the review, climate change disclosure requirements will continue to evolve. This will eventually lead to a more consistent and comprehensive coverage of the material financial risks (and opportunities) presented by climate change in corporate disclosures. This evolution is likely to be driven by the global momentum towards lower carbon economies. It will also be fostered by investors increasingly expecting a higher and more consistent standard of climate risk-related disclosure by companies.

BRAZIL

Key findings and next steps for Brazil

Private sector regulation

Conclusion

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
Brazil							

1. Key findings and next steps for Brazil

KEY FINDINGS

This review concludes that there is scope for Brazil to work towards a stronger disclosure regime, such as that identified by the TCFD under its recommendations. This would assist materially in ensuring climate risk mitigation in Brazil, facilitating better investment decisions and assisting with the maintenance of financial stability, as Brazil and its global trading partners seek to transition to a lower carbon economy. In particular, existing regulation would benefit from a greater recognition of the material financial risks to a company's strategy (in the medium and long term) that may be posed by climate change, and integration of such risk analysis into general financial analysis and disclosure.

PRACTICAL ACTIONS FOR BETTER CLIMATE DISCLOSURE IN BRAZIL

Government

The Federative Republic of Brazil should endorse the TCFD's final recommendations, as should bodies such as the Brazilian Securities Exchange Commission and the Brazilian Superintendence of Complementary Pension Plan.

Stock exchanges

B3 should reference the TCFD's recommendations in reporting guidance.

Brazilian companies

should adopt the TCFD's recommendations as a useful voluntary framework for consistent climate-related disclosures to investors. Sharing of good practice will assist in overcoming implementation hurdles, with convergence in reporting frameworks needed in the longer term.

Investors

should encourage companies to adopt the TCFD's recommendations. Investors should also evolve their disclosure to beneficiaries and clients, informed by the TCFD's guidance for asset owners and managers.

2. Private sector regulation

2.1 Disclosure requirements for companies

In the early part of 2016, the PRI mapped out all existing responsible investment policy - almost 300 individual policy tools or market-led initiatives, covering the relationship between finance and ESG issues. These measures can be broadly grouped into three main categories which relate to different parts of the investment chain: pension fund regulations, stewardship codes and corporate disclosure requirements.

The Brazilian regulations applicable to corporate disclosure establish general guidelines and obligations, and are mainly directed towards listed companies. Privately held (non-listed) corporations are incentivised to *voluntarily* disclose their corporate information.

To view Brazil's complete responsible investment framework, visit the PRI's Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology, visit the PRI website.

For further information, email policy@unpri.org

Listed companies

Federal Law No. 6.404/1976 (Brazilian Corporation Act) sets out the main disclosure and reporting obligations and Ruling No 358/02 of the Brazilian Securities Exchange Commission (CVM) sets out the rules for the use and disclosure of material information, for listed companies. Overall, the controlling shareholders, managers and the statutory audit committee are responsible for the disclosure of their companies' material information, and can be held liable in case of misinformation or non-compliance.

Ruling CVM No. 358/02 establishes that a material act, fact or information is generally characterized when it can (i) affect the value of the company's securities or (ii) change or influence an investor's decision. Some examples listed in the ruling, amongst many others, are: (i) change of control; (ii) mergers or spin-offs; (iii) change in the company's assets; (iv) change in accounting criteria; (v) renegotiation of debts and (vi) bankruptcy.

Further, pursuant to Ruling CVM No. 480/2009, listed companies are required to periodically provide to CVM (electronically), and make available on their website, certain corporate and financial information on the company (such as corporate and management structure, change of control or management, financial statements and relevant audit report, etc.). Following similar guidelines and requirements, Ruling CVM No. 578/2016 also requires investment funds to provide periodical information.

Climate change risks are increasingly appreciated by investors globally as risks having material financial implications, rather than merely non-financial implications which are relevant only in the context of the company's particular policy positions on environmental or social matters. There does not appear to be any regulation aiming to integrate analysis and disclosure of climate change-related risks into the required financial disclosure by listed companies, despite the need to consider issues which may affect the value of the company's securities or alter investor's decisions regarding the company.

This is where the adoption of reporting standards such as those envisaged by the TCFD can assist significantly e.g. by helping:

- corporate entities understand the real financial implications of climate-related risks and their potential impacts on business models, strategy and cash flows;
- investors understand if, and how well, companies are conducting this analysis; and
- normalise this analysis as part of good corporate governance in Brazil.

The detailed and forward-facing risk assessment proposed by the TCFD may also reveal opportunities for companies, which would not have been easily identifiable where climate risks are not considered in detail or in relation to their financial implications.

State-owned entities

Additionally, B3's State-Owned Enterprise Governance Program (*Programa de Destaque em Governança de Estatais*) (Program) was created with the aim of encouraging companies controlled, or directly or indirectly owned by the State (Union, States, the Federal District and municipalities), to implement best practice in corporate governance, stimulating the implementation of annual corporate governance report and an annual integrated report or sustainability report, in accordance with the Global Reporting Initiative (GRI).

Stock exchanges and indices

B3, a Brazilian stock exchange previously known as BM&F BOVESPA , has different listing segments, which each have different access requirements. The highest rank segment is called "Novo Mercado". The listing regulations for this segment require that companies must fully comply with all corporate governance principles. They require, in accordance with the national regulation standards, that listed companies provide regular (usually every trimester) and detailed information through the release of public balance sheets and other official information. These listing standards have been applied since 2000, and have demonstrated that good corporate governance practices attract a wider range of investments for Brazilian companies and also lower the costs of capital. This aligns with the findings of the TCFD regarding risk management outcomes, and the improved outcomes that detailed medium and long term analysis of risks, and strategic planning based on the results of that analysis, can lead to.

Currently, there are also two environment-related indices based on companies listed with B3. One of these is the Corporate Sustainability Index (ISE), which was a pioneer initiative in Latin America, introduced in 2005. This index measures the performance of the assets of companies listed with B3 which are known for their engagement with sustainable enterprising. The other one is the Carbon Efficient Index (ICO2). This index comprises shares of participating companies that voluntarily agreed to join the initiative by adopting transparent practices with respect to their greenhouse gas (GHG) emissions. It takes into consideration, amongst other things, the efficiency levels of GHG emissions. According to B3 and BNDES (which jointly created the index), their main objective is to encourage companies to disclose and monitor their GHG emissions, stimulating the shift to a lower carbon economy.

B3 also contributed to the Model Guidance on Reporting ESG Information to Investors: A Voluntary Tool For Stock Exchanges to Guide Issuers released by the Sustainable Stock Exchanges Initiative in 2015.

Brazilian National Monetary council's Resolution No. 4,327/2014 sets forth guidelines for the implementation of social and environmental responsibility policies in financial institutions regulated by the Central Bank, particularly regarding management of social and environmental risks.

Brazilian regulators are already pursuing the TCFD's recommendations regarding best practice corporate climate-related analysis and disclosure, by giving decision-makers informative and concise information and embracing public financial market transparency. By adopting the TCFD framework more comprehensively companies will also be able to analyze how well their disclosure policies align with their governance and risk management.

More specifically focused on environmental matters, *Instituto BVRio* (the national environmental stock exchange) has a mission of promoting and facilitating the use of market mechanisms as a means of implementing environmental policies, sustainable development and the green economy. *Instituto BVRio* has created the *Bolsa de Valores Ambientais BVRio* (environmental assets exchange), which is a for-profit entity which aims to support Instituto BVRio in its mission and is a trading platform for certain products relevant to the environment. By providing a specific forum for companies to deal with these assets, BVRio stimulates companies to realize the financial impacts and benefits of friendly and responsible environmental practices. For a company to trade in BVRio, the company must have regular and detailed information - with a specific focus on environmental matters – publicly available on its website. Unlike BM&F, there is no need to provide the material information directly to BVRio; when the company wants to start trading, it must show that its practices are in compliance with the global standards. One way to do so is by having a CDP (Driving Sustainable Economies) certificate.

CDP is a global disclosure system that enables companies, cities, states and regions to measure and manage their environmental impacts. In Brazil, in addition to BVRio requiring a CDP certificate, some class/industries entities, such as ABRAPP – Brazilian Association of Pension Funds and ABRASCA – Brazilian Association of Listed Companies also support the CDP and advocate for Brazilian entities to participate in the CDP's programs.

Manuals/guidance

Finally, non-governmental industry associations have issued best practice manuals and orientations for the disclosure of environmental, social and governance policies and actions in companies in Brazil.
The primary manuals and orientations are:

- the Brazilian Corporate Governance Code, produced by a group of organizations including the Brazilian Institute of Corporate Governance (*Instituto Brasileiro de Governança Corporativa - IBGC*), B3, ANBIMA - Brazilian Association of Financial and Capital Market Entities, ABRAPP, ABRASCA and IBRI - Investor Relations Brazilian Institute. The Code applies to listed companies on a "comply or explain" basis, supervised by the CVM. It also includes reference to ESG issues as part of the risks to be considered and reported on by Brazilian corporations. In June 2017, CVM modified Rule No. 480/09 to introduce a new corporate governance report required to be disclosed periodically by Brazilian listed companies, whereby such companies will publicly disclose whether or not they adopt each corporate governance practice recommended under the Brazilian Corporate Governance Code and, if not, why; and
- the Committee of Orientation for Information Disclosure to the Market (*Comitê de Orientação para Divulgação de Informações ao Mercado* - (CODIM), which issued the Pronouncement No. 14/2012 orienting on best practices related to disclosure of information on sustainability issues (social and environmental responsibility of companies).

Overall, there are few express ESG disclosure requirements in Brazil both for listed and non-listed companies. Though there are manuals and guidelines provided by non-governmental organizations based on international standards regarding corporate governance and environmental/social responsibilities, there is no specific climate-related risk regulation or guidance. The TCFD framework may assist in that it provides for more specific and clear standards on how climate risk analysis should be conducted in order to, amongst other things, enable formulation of a clear, forward-looking view of the potential financial implications of those risks in an organization, as well as any opportunities.

2.2 Climate change-related aspects of pension fund/investor regulation

When it comes to pension funds regulations, the Brazilian National Monetary council's Resolution No. 3,792/2009, which sets forth guidelines for the investment of funds managed by closely held pension funds, provides that each pension plan should disclose whether or not its investment policy observes principles of social and environmental responsibility.

Although the Brazilian government and industry associations such as ABRAPP and *Instituto* Ethos are creating policies to stimulate transparency in accordance with the best corporate governance practices, the applicable law and regulations only require very general transparency and disclosure of information to investors, and they do not particularly regulate ESG and disclosure obligations.

The Brazilian Superintendence of Complementary Pension Plan (*Superintendência Nacional de Previdência Complementar* – PREVIC) provides for Corporate Governance and Pension Funds Best Practices Guidelines, which, however are not enforceable as laws. Also, every year, ABRAPP develops a questionnaire for its registered funds to evaluate their performance and provide information that can help all parties involved to make better investment decisions. The completion of the form is not mandatory, but most of the major pension funds in Brazil are complying with it. Also, large pension funds are voluntarily adopting as a practice to take into consideration environmental aspects in order to value their assets.

For a complete analysis of the evolving landscape of fiduciary duty in the Brazilian market, download the Fiduciary Duty in the 21st Century Brazil Roadmap developed by the PRI, UNEP FI and The Generation Foundation.

The roadmap builds on conversations with over thirty key market stakeholders and makes recommendations to implement clear and accountable policy and practice that embraces the modern interpretation of fiduciary duty.

The project team is engaging market stakeholders to implement these recommendations.

The Brazil roadmap is part of a larger work programme on fiduciary duty, for more information, visit www.fiduciaryduty21.org.

Evidently, while pensions funds and other investors are encouraged to consider the social and environmental aspects of climate change-related risks to investments, there is currently limited incentive to evaluate such risks from a financial perspective. There appears to be no specific guidance or precedent for the integration of climate-related risks into pension fund investment decisions, which leaves it open to individual funds to decide on the extent to which such integration is required in order to discharge their broader statutory duties. This means it may be difficult to meaningfully compare investments by these funds, as they are not necessarily considering climate-related risks to potential or existing investments in a uniform way, or required to be open and transparent about the nature of that consideration (and particularly the extent of its integration into *financial* risk analysis).

The TCFD's recommended approach to analysis and disclosure of climate change-related risks would be likely to materially assist pension funds in understanding the rationale for integration of this analysis into general financial assessments and decision-making by investee companies.

3. Conclusion

Brazil has relatively comprehensive general financial reporting regulations, and a clear focus in some sectors on incorporating ESG considerations into business strategy assessment and decision-making. However, there is currently limited motivation for companies to consider climate change and other ESG risks in a financial context, as part of general financial analysis and reporting required of listed companies.

Listed and other company regulation in particular in Brazil may benefit from the adoption of a broader framework of the kind envisaged by the TCFD, and particularly more express prescription of, and guidance in relation to, climate and other ESG risks, as financial risks, where applicable. This would compel companies to engage in medium and longer term consideration of risks and opportunities presented by decarbonisation, and disclose this thinking to the market in a way that is reliable and able to be understood (and effectively compared with relevant disclosures by other companies) by investors.

Climate-related disclosures made as part of mainstream financial filings will not only ensure the quality of information disclosed, but also promote and normalise the inclusion and importance of this information within the corporate and investor communities in Brazil. This in turn may assist in maintaining market stability, improving investor confidence in disclosures by enabling investors to understand and assess financial climate change-related risks to investments and how they are being integrated into corporate strategy.

CANADA

Key findings and next steps for Canada

Private sector regulation

Conclusion

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
Canada							

1. Key findings and next steps for Canada

KEY FINDINGS

This review concludes that a strong disclosure regime such as that identified by the TCFD under its recommendations would assist materially in ensuring climate risk mitigation in Canada, facilitating better investment decisions and assisting with the maintenance of financial stability, as Canada and its global trading partners seek to transition to a lower carbon economy.

PRACTICAL ACTIONS FOR BETTER DISCLOSURE IN CANADA

Government

The Government of Canada, and federal and provincial regulators (including the Canadian Securities Administrators) should endorse the TCFD's final recommendations.

Stock exchanges

The Toronto Stock Exchange and TSX Venture Exchange should consider referencing the TCFD's **recommendations** in reporting guidance and in addition, consider joining the Sustainable Stock Exchanges Initiative[8].

Canadian companies

should adopt the TCFD's recommendations as a useful voluntary framework for consistent climate-related **disclosures** to investors. Sharing of good practice will assist in overcoming implementation hurdles, with convergence in reporting frameworks needed in the longer term.

Investors

should engage with companies to adopt the TCFD's recommendations. Investors should also evolve their disclosure to **beneficiaries** and clients, informed by the TCFD's guidance for asset owners and managers.

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[8] 8 http://www.sseinitiative.org/

2. Private sector regulation

In the early part of 2016, the PRI mapped out all existing responsible investment policy – almost 300 individual policy tools or market-led initiatives, covering the relationship between finance and ESG issues. These measures can be broadly grouped into three main categories which relate to different parts of the investment chain: pension fund regulations, stewardship codes and corporate disclosure requirements.[9]

Canada has limited corporate ESG disclosure measures at the national level and pension fund ESG disclosure measures in some provinces. Climate change is indirectly addressed through the environmental requirements of these broader measures, but is largely not addressed as an individual issue.

2.1 Disclosure requirements for companies

The Canadian markets are slow to implement changes that would encourage companies to think about climate related risks differently than they have in the past.

The Canadian Securities Administrators is an informal body of securities regulators from across Canada that co-ordinates and harmonizes regulation for the Canadian capital markets. For public companies in Canada, the Administrators are examining the need for disclosure of climate risk on mandatory financial disclosure documents. While they have considered the issue previously, under current rules, material risks may include climate-related risks, but there is no requirement that they be included separately as such. The Canadian Securities Administrators have previously produced guidance for companies (CSA Staff Notice 51-333 Environmental Reporting Guidance) to help them address these requirements, but that guidance does little to prescribe actual disclosure.

In March 2017, the Canadian Securities Administrators did announce that they would launch a project to scrutinize how well public companies are disclosing risks and financial impacts relating to climate change. This appears consistent with a growing global movement that officials say reflects demand from investors for better information about environmental risks. The project will gather input from issuers and investors through an anonymous online survey. The project will also evaluate Canadian disclosures in comparison with other countries' policies and international movements to boost climate-related disclosures.

To view Canada's complete responsible investment framework, visit the PRI's Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology, visit the PRI website.

The Canadian Securities Administrators do require mining companies to report on reasonably available information on environmental, permitting, and social or community factors as it relates to mineral exploration, development, and production activities on a mineral property that is material to the issuer. In some cases, this would extend to reporting of climate change issues. The implementation of carbon pricing mechanisms and incentives to shift towards lower emissions energy sources are likely to particularly affect the mining and other fossil-fuel focused sectors, along with other risks – technological, market and reputational. However, it may be that with better and more reliable disclosure by these sectors as a whole, companies within them may be able to distinguish themselves from their competitors

[9] PRI and MSCI. The Global Guide to Responsible Investment Regulation, pages 9-10.

by being open regarding the steps they are taking to mitigate climate-related risks to their assets and business models.

Broadly, if any environmental or social information is deemed "material" to a public company, it must be immediately disclosed by a news release and a public report made. These requirements arise under general public company securities laws as well as timely disclosure policies of the Toronto Stock Exchange and the TSX Venture Exchange.

In a December 2016 review of climate-related disclosure by the Chartered Professional Accountants of Canada, it was found that the majority of surveyed companies were making climate-related disclosures, but that the disclosures lacked consistency and context. An investor weighing investment decisions would find it difficult to compare the climate risk disclosed by different companies in different industries.

Federal Canadian environmental legislation requires companies to provide information on specific pollutant emissions for inclusion in the National Pollutant Release Inventory and to participate in the GHG Emissions Reporting Program.

Canadian mutual funds are subject to national regulation, including National Instrument 51-102 Continuous Disclosure Regulations, which sets out the obligations of public issuers. Those obligations include disclosure requirements on environmental and social policies, the operational and financial effects of environmental protection, environmental risks and liabilities.

Company disclosure requirements in Canada can therefore be described as progressing relatively slowly, with some additional requirements on fossil-fuel focused industries than other sectors, and climate disclosure often falling within general environmental reporting obligations rather than being treated as a separate factor with its own financial implications. A key area for development of corporate climate disclosure in Canada appears to be the consistency and context of disclosure obligations and outputs across different companies and different industries.

The PRI, UNEP FI and Generation Foundation Fiduciary Duty in the 21st Century Canada Roadmap recommends for the CSA to engage on the reporting of material ESG factors by Canadian corporations following the release of the FSB TCFD report.[10]

> For a complete analysis of the evolving landscape of fiduciary duty in the Canadian market, download the Fiduciary Duty in the 21st Century Canada Roadmap developed by the PRI, UNEP FI and The Generation Foundation.
>
> The roadmap builds on conversations with over thirty key market stakeholders and makes recommendations to implement clear and accountable policy and practice that embraces the modern interpretation of fiduciary duty.
>
> The Canada roadmap is part of a larger work programme on

2.2 Climate change-related aspects of pension fund/investor regulation

As noted above, despite Canadian pension plans being some of the largest private investors in the world, little exists in the Canadian regulatory system to specifically require these investors to address climate change issues. Pension plan legislation and case law for trustee obligations varies from one Canadian province to another. Generally, under Canadian law, fiduciary duties are imposed on a person who exercises discretionary power on behalf of another person who has deposited their trust and confidence

[10] PRI, UNEP FI and The Generation Foundation. Fiduciary Duty in the 21st Century Canada Roadmap, page 12.

in that person. A fiduciary’s duties to beneficiaries are a duty to act prudently and a duty of loyalty. Other duties then extend out of these two principal duties.

The exact scope of a fiduciary's duties is dependent upon the nature of the fiduciary's relationship with the beneficiaries. In the case of pension plans, pension plan trustees are considered fiduciaries whose duties must be interpreted in a manner consistent with the purposes of a pension plan – usually to provide a retirement income for employees upon retirement. The fiduciary law applicable to pension plan trustees has been established by the courts, modified to apply to the pension context and reflected in pension plan legislation. For example, pension funds in Ontario are required to disclose in their investment policies "information about whether environmental, social and governance factors are incorporated into the plan's investment policies and procedures and, if so, how those factors are incorporated". In Canada, pension funds are permitted to take ESG factors into account as long as they are otherwise consistent with the applicable fiduciary standards.

All of the Canadian provinces have legislation affecting the duties of trustees. For example, in British Columbia, the Trustee Act requires a trustee to exercise the care, skill, diligence and judgment that a prudent investor would exercise in making investments. The standard of care in the duty of prudence, has, in the pension plan context, been elevated beyond what would normally be required of a fiduciary. Instead of being required to exercise the same degree of care as would a person of ordinary prudence in respect of their own property, the duty of care set out in British Columbia's new Pension Benefits Standards Act, requires an administrator to "exercise the care, diligence and skill that a person of ordinary prudence would exercise when dealing with the property of another person".

The duty of loyalty to pension plan beneficiaries is the paramount duty of pension fund trustees. That duty requires that pension fund fiduciaries act in the best interests of beneficiaries in accordance with the terms of the trust, which in theory introduces a fact specific analysis of the duty. In general, Canadian law imposes duties to:

- treat all beneficiaries impartially;
- act honestly;
- disclose relevant information, inform, and consult; and
- prevent other interests from conflicting with their duty to beneficiaries – for example to
  - not profit from their position
  - not benefit third parties; and
  - not be swayed by personal, political or social/economic belief.

All of the provinces except for Prince Edward Island, have pension benefits legislation dealing with the fiduciary duties of pension trustees and reflecting the duty of loyalty. However, those requirements do not specifically consider climate change risks.

Several large Canadian pension plans (OPTrust, CPPIB, La Caisse de depot et placement du Quebec) have recently announced intentions to review and consider climate change risks. For pension plan trustees, the Canadian system does not make a meaningful distinction between "non-financial" criteria that may affect financial performance and financial criteria; as such trustees must take both into account when making investment decisions. Since climate change risks may affect financial performance, the general conclusion, but untested legal requirement, is that climate change risks must be considered by pension fund fiduciaries where the risk is not too remote.

As for many other countries which regulate investment decision-making by pension funds, the Canadian pension fund regulation is primarily duty-based, requiring decision-makers to exercise judgement in the context of those duties when determining relevant factors for investment decisions, including in relation to climate change. There appears to be no specific guidance or precedent for the integration of climate-related risks into pension fund investment decisions, which leaves it open to individual funds to decide on the extent to which such integration is required in order to discharge their broader statutory duties. This means it may be difficult to meaningfully compare investments by these funds, as they are not necessarily considering climate-related risks to potential or existing investments in a uniform way, or required to be open and transparent about the extent or nature of that consideration.

The Fiduciary Duty in the 21st Century Canada Roadmap recommends for federal and provincial regulators to require ESG disclosure by pension plans, consistent with Ontario's approach.[11]

3. Conclusion

Canada's existing regulations requiring climate disclosure are not yet consistent across sectors or in relation to the scope or medium of reporting. As Canada has been relatively slow to implement comprehensive regulations incentivising or compelling companies to consider and disclose climate risk exposure, adoption of a clear framework consistent with the TCFD's recommendations is likely to assist significantly in enabling companies to understand the ideal scope of their disclosures and to integrate climate risk awareness into their businesses and existing (or developing) reporting systems.

Such a framework would improve the quality and consistency of information available to investors, particularly in terms of identifying vulnerable and less vulnerable companies, and particularly companies which are regarding the transition as an opportunity to improve their sustainability and attractiveness to investors.

Climate-related disclosures made as part of mainstream financial filings will not only ensure the quality of information disclosed, but also promote and normalise the inclusion and importance of this information within the corporate and investor communities in Canada, in the context of this slow evolution of regulation on the subject. Additionally, detailed and commercial disclosures will maintain and perhaps improve investor confidence, due to the ability to consider and rely on the types of information the TCFD recommends be disclosed by all sectors, including climate risk consideration at a company's board level, how climate risks and opportunities are contemplated by the company's strategy and its risk management processes, and the quality of the company's methods for measuring and monitoring the impacts of those risks and opportunities on its business.

The disclosure framework would be widely adoptable across sectors, enabling clearer and more consistent comparison between companies within a jurisdiction. This is likely to assist Canadian companies and investors in carrying out effective disclosure and in understanding disclosed information despite Canada's multiple sub-national legal jurisdictions.

Given Canada's unique position regarding climate risks, including its large area and diverse range of likely physical climate-related impacts, and its natural-resource reliant economy, adoption of a reliable and transparent disclosure framework will be a central element in its smooth transition to a lower carbon economy and maintaining the stability of financial markets as the transition occurs.

It is clear from the above analysis that in Canada, implementation of the TCFD's recommendations will assist the financial sector, and those areas of the non-financial sector which face additional risk exposure during and after the transition to a global lower carbon economy, to understand and act effectively upon material climate-related risks.

[11] PRI, UNEP FI and The Generation Foundation. Fiduciary Duty in the 21st Century Canada Roadmap, page 9.

EUROPEAN UNION

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
EU							

1. Summary and next steps for the EU

SUMMARY

Particularly for asset managers and institutional investors, EU rules will increasingly require entities to assess climate-related risks to assets and businesses, as both financial and non-financial factors. The TCFD recommendations are clearly consistent with these development requirements, and could be expected to materially assist both governments and companies in adapting to them.

THE PRI RECOMMENDS THESE ACTIONS FOR THE EU

The EU should publicly support the TCFD recommendations, as should The European Securities and Markets Authority and the European Insurance and Occupational Pensions Authority.

The EU should encourage high quality disclosures based on the TCFD framework and use the TCFD recommendations to assist in preparing guidelines for existing EU legislation such as the Non-Financial Reporting Directive. The EU should also consider the TCFD in other relevant guidance that it evolves for the Capital Markets Union, the Shareholder Rights Directive and sustainable finance.

Companies
should adopt the TCFD's recommendations as a useful voluntary framework for consistent climate-related disclosures to investors. Sharing of company good practice will assist in overcoming implementation hurdles, with convergence in reporting frameworks needed in the longer term.

Investors
should engage with companies to encourage adoption of the TCFD's recommendations. Investors should also evolve their disclosure to beneficiaries and clients, informed by the TCFD's guidance for asset owners and managers.

2. Private sector regulation

2.1 Disclosure requirements for companies

In the early part of 2016, the PRI mapped out all existing responsible investment policy – almost 300 individual policy tools or market-led initiatives, covering the relationship between finance and ESG issues. These measures can be broadly grouped into three main categories which relate to different parts of the investment chain: pension fund regulations, stewardship codes and corporate disclosure requirements.

Currently EU level corporate disclosure requirements relating to environmental disclosures focus on the disclosure of non-financial, environmental matters; in particular on the impact that the company is having on the environment.

These corporate disclosure requirements are high level and accordingly, the TCFD recommendations provide a useful source of guidance to companies on how to comply with such requirements. However the TCFD recommendations go further than existing EU legislation and provide additional guidance on how companies can consider and disclose the potential financial impacts of climate change.

To view the EU's complete responsible investment framework, visit the PRI's Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology, visit the PRI website.

The TCFD recommendations may also provide a harmonising and normative effect across EU level legislation. Generally speaking, EU legislation takes the form of Directives (which must be implemented in Member States laws) or Regulations (which are directly applicable in Member States and do not require transposition - although some jurisdiction such as the UK require national laws to give effect to the regulations, for example, in respect of enforcement). These Directives and Regulations are supplemented by Level Two Regulations and guidelines from European Supervisory Authorities as well as Regulatory Technical Standards, Implementing Technical Standards and decisions, opinions, recommendations, declarations and resolutions. These different levels of EU legislation allow for variations in national implementing measures. Accordingly the TCFD recommendations may act as a common standard or reference point for companies to comply with EU level rules, or for regulators interpreting and applying high level obligations on covered entities.

EU Directive 2013/34/EU ("Accounting Directive") and EU Directives 2014/95/EU ("Non-Financial Reporting Directive") amending the Accounting Directive as regards disclosure of non-financial and diversity information by certain large undertakings and groups contain EU rules on corporate disclosures.

Relevantly, Article 19 of the Accounting Directive sets out the required content for management reports. Management reports must include a fair review of the development and performance of the undertaking's business and position including a description of the principal risks and uncertainties that the organisation faces. Where a company is particularly exposed to climate change, the nature of those climate change risks and how they could impact upon their business should be disclosed. However in practice, as companies are required to disclose "principal risks", unless an entity is particularly exposed to climate change they tend to focus instead on more prominent and immediate risks facing the business. By increasing the focus on the financial impacts of climate change, the TCFD recommendations may encourage more companies to disclose climate related risks to their business, by reframing climate related risks as a "financial" risks to the entities balance sheet and future profitability rather than "non-financial" risks which go to the company's reputation.

The obligation in Article 19 is expanded upon under a new Article 19a (inserted by the Non-Financial Reporting Directive) which requires "public interest entities" (i.e. publicly traded companies governed by a Member State, credit institutions, insurers or entities which have been declared by a member state to be a "public interest entity") having more than 500 employees to disclose ESG matters in a "non-financial statement" to be included in their management report.

This non-financial statement must contain information necessary for an understanding of the undertaking's development, performance, position and impact of its activity relating to, amongst others environmental matters. This non-financial statement shall include:

- a brief description of the undertaking's business model;
- a description of the policies pursued in relation to such environmental matters (amongst others);
- the outcome of those policies;
- the principal risks related to environmental matters (amongst others) linked to the undertaking's operations and how the undertaking manages those risks; and
- non-financial key performance indicators relevant to its business.

Where the public interest entity does not have policies relating to such matters (including environmental matters) the relevant public interest entity is required to explain why it does not do so.

According to the recitals, the environmental matters referred to include "details of the current and foreseeable impacts of the undertaking's operations on the environment, and, as appropriate, on health and safety, the use of renewable and/or non-renewable energy, greenhouse gas emissions, water use and air pollution". This clarification is important for two reasons. Firstly, it encourages in-scope public interest entities to consider the "foreseeable" impact that they will have on the environment, and so it is forward looking by nature. Secondly it covers matters such as "greenhouse gas emissions" and so requires in-scope public interest entities to consider the impact that they will have on matters relating to climate change.

In order to supplement the broad rules on disclosure of non-financial information the Non-Financial Reporting Directive grants powers to the European Commission to prepare non-binding guidelines on a methodology to report non-financial information. The consultation period for these rules has closed, but the rules themselves are yet to be published. It is understood that the European Commission will take into account the TCFD recommendations when preparing the guidelines.

However while the Non-Financial Reporting Directive and Accounting Directive address climate related matters, they do not do so from the perspective of considering financial impacts of climate change and nor do they provide particular detail as to the relevant requirements. By contrast the TCFD recommendations provide a basis for considering the financial impacts of climate change on the relevant companies as well as a holistic structure for addressing these risks.

In respect of financial disclosures, Directive 2004/109/EC ("Transparency Directive**")** on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC requires issuers admitted to trading on a regulated market in a Member State of the EU to make public annual and half yearly financial reports. These financial reports must disclose the principal risks and uncertainties the issuers face, which may include climate change related risks. In this context risks are placed into a financial context, although it is not clear that climate change related risks would constitute a "principal risk" other than in particularly sensitive industries or companies.

The TCFD recommendations therefore supplement the existing EU directives with regard to financial disclosure of climate risks. The Non-Financial Reporting Directive, with its stated aim to "enhance the consistency and comparability of non-financial information disclosed throughout the Union" provides a basis for a consistent non-financial reporting framework across the EU. Alongside this non-financial reporting regime, the TCFD recommendations, with its stated aim to achieve better transparency through creating common reporting and measurement standards, to facilitate more effective comparisons between different entities provides a basis for a common approach to financial reporting of climate risks.

The EU Accounting Directive and Non-Financial Reporting Directive are supplemented by EU schemes such as the Eco-Management and Audit Scheme ("EMAS") which provides an EU wide framework dealing with environmental management, review and audit. These schemes provide a standardised framework for judging environmental impact and sustainability across the EU. However these schemes are traditionally focused on establishing, implementing, measuring and reporting on broader environmental policies and procedures. By contrast, the TCFD recommendations establish a framework of reporting, considering and evaluating climate related financial risks and opportunities. To this end, the TCFD recommendations provide a useful tool for companies to consider how the environment will impact on their business (including indirectly through their investments), rather than addressing the impact those companies will have on the environment. The TCFD recommendations also provide a basis for considering the financial impacts of climate change and the financial risks associated therewith.

Additionally, the EU Emission Trading Scheme and specific sectoral initiatives by EU level entities such as the European Central Bank and the European Parliament aim to address sustainability and environmental issues, but do not specifically address matters relating to environmental disclosure, or the financial risks associated with climate change.

Therefore, while EU rules addressing matters of sustainability and environmental disclosure exist, the holistic approach to considering climate change-related matters (dealing with matters of corporate governance involvement in climate matters and establishing corporate strategies to address climate risks and take advantage of climate related opportunities) contained in the TCFD offers companies a more inclusive strategy to address climate change related matters, with a greater emphasis on the financial risks of climate change.

2.2 Climate change-related aspects of pension fund/investor regulation

Asset Managers

(a) Relevant requirements

Within the EU there is an increasing trend towards acknowledging the role that asset managers can have on driving sustainable behaviour by companies, as well as ensuring the efficient allocation of capital to more environmentally friendly and sustainable businesses. However in order to facilitate asset managers to perform this role, EU legislators have recognised the importance of asset managers receiving clear and transparent information about such environmental risks and opportunities, as well as the importance of taking legislative action to ensure that asset managers do in fact perform this task.

Accordingly the EU Parliament has recently adopted a new Second Shareholder Rights Directive which amends the EU Shareholder's Directive (2007/36/EU). The Second Shareholder Rights Directive will set out minimum standards to ensure that shareholders have timely access to relevant information ahead of general meetings. Amongst other amendments, the Second Shareholder Rights Directive will include a new Chapter 1b to the original Shareholder Rights

Directive which imposes obligations on institutional investors, asset managers and proxy advisers regarding engagement on shareholder matters.

Under a new Article 3g, institutional investors (dealt with in more detail under "Asset owners" below) and asset managers will need to develop and publicly disclose an engagement policy describing how shareholder engagement is integrated into their investment strategy. The policy will describe how they monitor companies that they invest in on matters such as financial and non-financial performance and risk, and environmental impact and corporate governance, as well as how they exercise voting rights and manage conflicts of interest etc. They will also need to report back on the implementation of that policy (including an explanation of the most significant votes) at least on an annual basis. Where they do not comply with these provisions institutional investors and asset managers will need disclose a clear and reasoned explanation for that non-compliance. Disclosure of these strategies is intended to drive investors awareness of how such asset managers invest, and in doing so drive asset managers accountability in respect of both financial and "non-financial" (e.g. ESG) matters.

Asset managers will also be required to annually disclose to institutional investors how their investment strategies contribute to the medium to long term performance of the assets of the institutional investor. This disclosure must also include:

- reporting on the key material medium to long-term risks associate with investments;
- portfolio composition;
- turnover and turnover costs;
- the use of proxy advisors for the purposes of engagement activities (if applicable);
- information on whether, and if so, how, the asset manager makes investment decision based on evaluation of medium to long-term performance of the investee company, including non-financial performance; and
- whether, and if so which, conflicts of interest have arisen in connection with engagements activities and how the asset managers have dealt with them.

The purpose of these provisions in the Second Shareholders Rights Directive is to encourage greater focus on long term risks and opportunities, including in the area of climate disclosures. In particular, the focus on transparency of investments and strategies by asset managers should encourage those managers to become more actively and keenly involved in the companies in which they invest. The provisions are intended to counter some of the factors that lead to an over emphasis on short term considerations when making investment decisions. As climate change risks tend to manifest over the longer term, requirements to take such forward looking views tend to focus attention on such climate related risks.

These transparency provisions for asset managers and institutional investors are also intended to align the performance of such intermediaries with the stated aims and principal objectives of their underlying investors. In particular, these measures are intended to remove any misalignment between an investor seeking sustainable, long term returns, and their agent who may be remunerated largely according to short term goals.

The Second Shareholder Rights Directive has been adopted by the European Parliament and will need to be transposed into national law by Member States by 10 June 2019. As this period is after the two year period for a "Brexit" it is unclear if these measures will be implemented in the UK before any "Brexit".

The European Parliament has also recently adopted a new Prospectus Regulation (which will replace EU Directive 2003/71/EC ("Prospectus Directive)) which expressly acknowledges in the recitals that environmental matters could constitute "specific and material risks" which should be disclosed in the prospectus. In this context, the TCFD recommendations contain a useful framework for issuers to apply in articulating these climate risks, and well as the basis for developing a strategy dealing with such risks. By specifically referring to environmental matters as one form of material risk, the Prospectus Regulation will require issuers to include a consideration of environmental risks to their business in their prospectus, thereby increasing the prominence of climate change considerations in one of the main marketing documents for listed securities. This should have flow on effects for asset managers choosing to invest in such securities as they would be required to take into account these disclosed risks and would in turn (under the Second Shareholders Rights Directive noted above) need to factor these risks into the preparation, implementation and feedback on their investment strategies. The Prospectus Regulation will enter into force on the twentieth day after their publication in the official journal (which is expected in July 2017) and is expected to apply in Member States from early third quarter 2019.

Generic risk disclosure statements are also required across a range of fund documentation. Arguably, and particularly in climate sensitive areas, these risk disclosure statements should include a disclosure of the longer term financial risks posed by climate change. Relevantly generic risk disclosure requirements are contained in:

- Article 23 of the Regulation (EU) 2015/760 on European Long Term Investment Funds ("ELTIF Regulation") which requires an ELTIF to disclose in its prospectus the risks relating to an investment in the fund, and in particular how the ELTIF's investment objectives and strategy qualify the fund as long term in nature.
- Article 23 of the Alternative Investment Fund Manager's Directive 2011/61/EU ("AIFMD") which requires alternative investment fund managers to make available to investors prior to them investing in the alternative investment fund, a description of their investment strategy and objectives of the alternative investment fund as well as associated risks.
- Article 69 of the Undertakings for Collective Investments in Transferrable Securities Directive 2009/65/EC ("UCITS") which requires the prospectus for a UCITS to include information necessary for investors to make an informed judgement of the investment and in particular of the risks attaching to that investment.
- Regulation (EU) 345/2013 on European Venture Capital Funds ("EuVECA") which requires managers of "qualifying venture capital funds" to disclose the risk profile of the qualifying venture capital fund, as well as the risks associated with the assets in which the fund may invest".

While these requirements do not expressly mention climate change related risks, failure to consider or disclose the long term impacts of climate change (and in particular the risks thereof) risks breaching these requirements. Importantly, as these risk requirements are contained in public document, a failure to include the risks of climate change where relevant to an investors decision could potentially found a civil action by private individuals.

Environmental risk disclosures are also required under EU Regulation (EU) No 1286/2014 on key information documents for packaged retail and insurance based investment products (PRIIPs regulation). As an EU regulation, PRIIPS will apply directly in member states when it comes into force (its entry into force has been delayed until January 2018).

The PRIIPs regulation applies to investments for which value fluctuates, based on exposure to reference values or the performance of assets not directly purchased by the investor. In general terms, PRIIPs are either a structured financial product (such as debt securities where the amount payable is determined by reference to fluctuations in a reference rate or value) or insurance-based investment products (such as unit linked policies). The PRIIPs Regulation will require issuers of PRIIPs to also issue a Key Information Document (KID) to retail investors before issuing such products to them.

The KID is required to contain information relating to specifics of the PRIIP including, amongst other things, whether the product has any specific environmental or social objectives. Further guidance will be issued specifying the procedures used to establish whether a PRIIP has a specific environmental or social objective. The requirement to disclose this information in a KID is intended to increase transparency in respect of environmentally responsible investments, acknowledging the increasing demand for such sustainable investments.

The PRIIPs Regulation is intended to be reviewed in four years' time with a view to assessing, amongst other things, whether a label for social and environmental investments should be introduced. This would have the effect of producing a form of standardisation across investment products with a stated environmental or social aim.

Finally, general EU requirements relating to the provision of financial services are also, arguably, broad enough to require a consideration and disclosure of climate change-related risks. For example, under the Markets in Financial Instruments Directive II 2014/65/EU (MiFID II), investment firms which manufacture financial instruments will need to identify all relevant risks relating to that product. Where an industry is particularly susceptible to climate related risks, this would need to be disclosed.

Similarly, firms providing advice on financial products are required to notify of significant risks relating to those products and to consider the suitability and appropriateness of those investments to the individual having regard to the individual's circumstances, financial situation and investment objectives. While this suitability requirement does not specifically refer to an obligation to consider climate change-related risks, a failure to consider such risks where they are relevant would be a potential breach of the suitability obligation.

The breadth of EU level requirements are therefore arguably broad enough to already require disclosure of climate change related risks. As awareness of the financial impact of these climate related risks increases, it will become riskier for asset managers and financial product issuers to fail to disclose such climate related risks. The TCFD recommendations will drive such awareness and can foster expectations in this regard; simultaneously making it harder for relevant entities to fail to consider or disclose such risks, while also making it easier for those entities to disclose climate related risks by normalising and standardising disclosure expectations.

(b) Relevant guidance and examples of industry practice

The PRI Reporting Framework is the largest global reporting project on responsible investment, developed with investors, for investors. Asset manager signatories are required to report on their responsible investment activities annually. In 2017, 469 asset managers within the EU reported on the PRI's voluntary climate change indicators. 62% of these see climate change as a long-term trend that will impact on investment decisions.

(c) Intersection and compatibility with TCFD recommendations/implementations strategies

The Second Shareholder Rights Directive focuses mainly on transparency of shareholder interaction. However it expressly recognizes in the recitals that the intention of encouraging shareholder interaction is to improve the financial and non-financial performance of the underlying companies, and specifically acknowledges the role of the Principles of Responsible Investment in this regard. The rules in the Second Shareholder Rights Directive would establish a framework structure of disclosure. The TCFD recommendations could then be used to provide further detail to this framework and to inform and guide asset managers in developing policies that comply with the requirements of the Second Shareholders Rights Directive.

Similarly, while the PRIIPs measures will increase the transparency of products within its scope, they fall short of the approach adopted by the TCFD. In particular, the TCFD recommendations would also encourage such products to factor in the costs and risks that climate change represents for these products (regardless of whether they are expressed to pursue an environmental objective).

Finally, the TCFD recommendations may have a normative effective in driving a consideration of climate related risks, such that these climate related risks are more commonly caught under general risk reporting and risk consideration requirements.

Asset Owners

(a) Relevant requirements

The Second Shareholders Rights Directive, noted above, will also impose obligations on institutional investors. Institutional investors are defined under the Second Shareholders Rights Directive to mean undertakings carrying out life assurance or reinsurance and institutions for occupational retirement provision. As we have already noted above, institutional investors will be subject to the rules set out in the proposed Article 3g of the Second Shareholders Rights Directive to publicly disclose an engagement policy.

Institutional investors will also need to disclose how their equity investment strategy is consistent with the profile and duration of their liabilities. When investing through an asset manager, the institutional investor will also need to disclose information regarding arrangements in place with the asset manager, in particular relating to how the institutional investor incentivizes the asset manager to focus on medium to long-term performance and to take into account non-financial performance of companies in which the asset manager invests. Where the institutional investor invests through an asset manager and the asset manager implements the engagement policy on behalf of that institutional investor, the institutional investor must provide directions to where voting information has been published by the asset manager.

These obligations are intended to realign investor interest and to instead focus on longer term risks and opportunities, as well as matters traditionally considered as "non-financial" that could potentially impact their investments. Institutional investors often have large capital pools and can effect change in the companies they invest in, or the asset managers they employ, due to their large investment portfolios. The Second Shareholder Rights Directive acknowledges that current rules too often encourage such institutional investors to focus solely on short-term financial returns. By requiring these institutional investors to align their strategies with longer term aims, and to be transparent in the impacts that their investment policies may have, the Second Shareholder Rights Directive seeks to generate more informed investments by the underlying investors in such institutional investors. In particular, disclosure on long term risks and non-financial matters will hopefully refocus attentions on some of the longer term climate change-related risks facing both investors and companies.

Institutional investors who are occupational pension funds are also subject to the Institutions for Occupational Retirement Provision Directive (EU) 2016/2341 ("IORPS II"). IOPRS II will introduce a number of new requirements for in-scope occupational pension schemes ("IORPs") to take into account ESG factors in both their investment and governance procedures. In particular:

- under IORPS II, Member States are required to allow IORPS to take into account the potential long term impact of their investment decisions on ESG factors;
- IORPs will be required to have in place effective systems of governance which provide for sound and prudent management of their activities which must include a consideration of ESG factors related to investment assets in investment decisions;
- IORPs must have in place risk management systems which cover, amongst other things, ESG risks relating to the investment portfolio and the management of that portfolio;
- under IORPS II, IORPs are required to carry out and document an "own risk assessment". Where ESG factors are considered in investment decisions, this risk assessment must take into account, amongst other things, an assessment of new or emerging risks (including risks relating to climate change, use of resources and the environment, social risks and risks related to the depreciation of assets due to regulatory change); and
- prior to a member joining a pension scheme the IORPs must provide information to the person. That information must include information on whether and how environmental, climate, social, and corporate governance factors are considered in the investment approach.

These requirements are indicative of the holistic approach that large institutional investors are being encouraged to take with regards to climate and environmental risks. In this regard, IORPs II requires IORPs to consider climate and environmental matters in their governance, risk and investment decisions. By fostering an institutional approach to such environmental and climate matters, IORPs II is intended to align the longer term environmental trends, with the longer term investment periods of such IORPs. In doing so, IORPs II expressly acknowledges the role of the UN PRI and notes how important these principles are in respect of investment policy and risk management systems of IORPs. Each of the four overarching TCFD recommendations will be relevant to IORPs in deciding how to involve senior management in climate related risks, how to prepare a strategy which deals with these climate related risks, how to manage these risks, and finally, how to judge performance against climate related risks and opportunities.

The European Insurance and Occupational Pension's Insurance Authority ("EIOPA") has acknowledged, in its Financial Stability Report published in December 2016, the potential disruption that climate change will cause in the insurance industry, in particular requiring re-pricing of carbon related assets which could threaten portfolios that hold such assets. While this does not impose any direct requirements on insurance undertakings, given the rules set out under the Solvency II Directive 2009/138/EC (Solvency II) and its related acts, insurance undertakings will need to carefully consider how their prudential requirements and technical reserves are calculated having regard to such climate related risks. This is one example of how climate-related risks can be caught by general rules relating to pricing and consideration of risks and opportunities.

(b) Relevant guidance and examples of industry practice

As described in the section above, the PRI Reporting Framework is the largest global reporting projects on responsible investment, developed with investors, for investors. Asset owner signatories are required to report on their responsible investment activities annually. In 2017, 158 asset owners in the EU reported on the PRI's voluntary climate change indicators. 78% see climate change as a long-term trend that will impact on their investment decisions. 46% of asset owners seek integration of climate change by companies, 52% use carbon footprinting, 21% use scenario testing and 17% have an integrated asset allocation strategy.

(c) Intersection and compatibility with TCFD recommendations/implementations strategies

Again, while these directives establish a framework requirement for asset owners to consider and disclose long term risks (including climate risks), they provide limited detail as to how those risks should be considered or the best ways to address such risks. The TCFD can supplement these framework requirements and provide more targeted and detailed guidance to such asset owners, allowing them to prepare relevant, considered disclosures and policies for their end investors.

Additionally, EU rules on valuation of assets, liabilities and capital reserves can, indirectly impact how institutions consider and price climate risk. Insurance undertakings are doubly exposed to these climate risks as their future insurance liabilities are often tied to the physical risks of climate change while at the same time the value of the assets they hold in respect of such insurance liabilities are subject to transition risks that may impact the value of those assets. The TCFD recommendations provide clear, thematic recommendations on how asset owners can consider these climate risks and opportunities, and to put in place policies to manage the relevant risks and take advantage of any climate change opportunities.

3. Conclusion

Particularly for asset managers and institutional investors, EU rules will increasingly require entities to assess climate-related risks to assets and businesses, as both financial and non-financial factors.
The TCFD recommendations are clearly consistent with these development requirements, and could be expected to materially assist both governments and companies in adapting to them.

JAPAN

Key findings and next steps for Japan

Private sector regulation

Conclusion

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
JAPAN							

1. Summary and next steps for Japan

SUMMARY

This review concludes that there is scope for Japan to work towards a stronger disclosure regime, such as that identified by the TCFD under its recommendations. This would assist materially in ensuring climate risk mitigation in Japan, facilitating better investment decisions and assisting with the maintenance of financial stability, as Japan and its global trading partners seek to transition to a lower carbon economy.

PRACTICAL ACTIONS FOR BETTER CLIMATE DISCLOSURE IN JAPAN

Government

The Government of Japan should endorse the TCFD's final recommendations, as should the Ministry of the Environment of Japan (MOE) and the Financial Service Agency of Japan (FSA).

The Tokyo Stock Exchange

could reference the TCFD's recommendations in its existing corporate governance guidance.

Companies and investors

should adopt the TCFD recommendations as a practical framework for climate disclosure. Companies and investors should share good practice to help overcome initial implementation challenges, with reporting convergence needed in the longer term.

2. Private sector regulation

2.1 Disclosure requirements for companies

In the early part of 2016, the PRI mapped out all existing responsible investment policy - almost 300 individual policy tools or market-led initiatives, covering the relationship between finance and ESG issues. These measures can be broadly grouped into three main categories which relate to different parts of the investment chain: pension fund regulations, stewardship codes and corporate disclosure requirements.[12]

There is no mandatory legal requirement for climate risk-related disclosure, or broader environmental, social and governance (ESG) disclosure, by companies in Japan. Corporate reporting of environmental impact and greenhouse gas (GHG) emissions is required, to some extent.

The Environmental Consideration Law of Japan (Law Concerning the Promotion of Business Activities with Environmental Consideration by Specified Corporations, etc., by Facilitating Access to Environmental Information, and Other Measures) requires large enterprises to make efforts to publish an environmental report regarding their business-related environmental considerations. This requirement does not apply to small and medium-sized enterprises.

To view Japan's complete responsible investment framework, visit the PRI's Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology, visit the PRI website.

For further information, email policy@unpri.org

The Act on Promotion of Global Warming Countermeasures of Japan (on 2006) requires companies:

- using 1,500KL or more of crude oil equivalent energy per year; or
- emitting a certain volume of GHG emissions per year,

to disclose their total volume of GHG emissions to the government. The government makes the disclosed information publicly available. Japan's stock exchange listing regulations also do not include any rules relevant to ESG disclosure.

In the absence of climate risk-related analysis and disclosure requirements on companies in Japan, Japanese companies may lack strong incentives to conduct the fulsome, forward-facing climate risk analysis recommended by the TCFD. Without market signalling from government of the importance of taking into account climate-related risks, Japanese companies may find it more difficult to achieve the better risk management outcomes which the PRI has found result from comprehensive risk disclosure regimes in other jurisdictions.[13] Such companies may experience issues in navigating the global transition to a lower carbon economy, and may not be in an ideal position to identify opportunities that this transition may present in Japan, such as investment in low emission energy sources and more energy-efficient products and services.

[12] PRI and MSCI. The Global Guide to Responsible Investment Regulation, pages 9-10.

[13] PRI and MSCI. The Global Guide to Responsible Investment Regulation, page 17.

Consideration of the key aspects of the TCFD's recommendations may assist Japanese companies and investors in working towards a more comprehensive understanding of the benefits of corporate climate risk analysis and disclosure, perhaps in stages towards the full scale of the TCFD's framework. This may support Japanese companies in their task of implementing new systems necessary to assess and analyse climate-related, and other ESG risks they face.

A snapshot of soft law instruments that are relevant to ESG and climate risk-related disclosures by companies are set out in PRI's regulatory mapping tool, which forms part of its Global guide to responsible investment regulation. More detail on these instruments is set out below.

Stewardship Code: The Stewardship Code was issued by the Financial Service Agency of Japan (FSA) in 2014. It sets out Principles for Responsible Institutional Investors and, among other things, encourages institutional investors to establish policy regarding their fulfilment of good stewardship responsibilities, and make this policy publicly available. If investors do not comply with some or all of the principles, they must provide reasons.

The Council of Experts Concerning the Japanese Version of the Stewardship Code encourages institutional investors adopting the Code to publicly disclose this on their own websites. The FSA also has published information about institutional investors which have made disclosures on its own website, and established a council which monitors the implementation of the Code by investors.

The Code is expected to be revised in the near future, and the new version will include ESG factors as one of the non-financial, social and environmental factors investors should monitor.

Consideration of the TCFD's recommendations by Japanese companies now may therefore be prudent, in preparation for the revised version of the Code coming into force, and for the (most likely inevitable) further development and broadening of corporate climate risk disclosure regulation in Japan. While the Code is not mandatory, the PRI's findings indicate disclosure can lead to better corporate risk management, as well as reputational benefits which may distinguish participants in voluntary schemes from their corporate competitors.

It is noted however that, in order to achieve the better risk management outcomes that good corporate ESG analysis and reporting can promote (as found by the TCFD), climate-related risk analysis and its integration into "normal" corporate reporting necessitates a consideration the *financial* implications of climate and other ESG risks. It is clear that these risks have a significant financial element for some companies, and this has been recognised in other major jurisdictions. As Japanese regulation of climate risk disclosure evolves, it is highly likely that Japanese investors and global investors in Japanese companies, will begin to expect corporate climate analysis to include considerations of financial risks to companies and their assets.

Japan's Corporate Governance Code: Seeking Sustainable Corporate Growth and Increased Corporate Value over the Mid-to Long-Term: The Corporate Governance Code ensures investors have access to the information needed to be an active owner, and companies have a common framework to enhance their governance practices. It proposes five general principles including equal treatment of shareholders, cooperation with stakeholders beyond shareholders, appropriate disclosure of information, proper board supervision and dialogue with shareholders.

In relation to appropriate disclosure of information, it provides that companies should make appropriate information disclosures in compliance with the relevant laws and regulations, but should also strive to actively provide information beyond that required by law.

Such information includes both financial information, such as financial standing and operating results, and non-financial information, such as business strategies and risks, and governance. It provides, particularly, that non-financial information should be accurate, clear and useful in order to serve as the basis for constructive dialogue with shareholders. It stipulates that the listed company should appropriately engage in the problems related to the sustainability such as social and environmental problems. The Tokyo Stock Exchange's (TSE) amended Listing Rules require all companies listed on the TSE 1st and 2nd sections to "comply or explain" in respect of the JPX Corporate Governance Code.

Principles of Corporate Governance for Listed Companies (Tokyo Stock Exchange): Although these principles are included in UN PRI's Global Guide for Responsible Investment Regulation, TSE's amended Listing Rule stipulates that these principles have been unified and integrated with Japan's Corporate Governance Code.

Environmental Reporting Guidance: A voluntary guideline issued by the Ministry of the Environment of Japan (MOE) for corporate environmental reporting and communication is a tool by which an enterprise may make itself accountable by providing information useful for the decision-making needs of stakeholders/investors. The first version was developed in 2000, and has since been updated regularly, with 2012 version being the most recent.

As part of preparing the 2012 revision, the following were taken into account:

- the impact of the environment on business and the linkages between them, which are seen as deepening over time, along with strategic value of management of environmental issues and risks. Consequently, the demand from investors and financial institutions for systematic disclosure that links the economy, the environment, and society is growing;
- investors are now more interested in analysing the environment's impact on management, including the relationship between the environment and firms' opportunities, risks, material issues, and business strategies, an evaluation of the current situation and future direction, the important financial implications, and enterprises' ability to address these impacts, based on the material information available; and
- a report of the Expert Committee on Environment and Finance, which points out the need to review and encourage the dissemination of the template of the List of Key Performance Indicators (KPIs).

Principles for Financial Action towards a Sustainable Society (Principles for Financial Action for the 21st Century): This set of Principles was issued by the MOE, drawn up as guidelines for action by financial institutions seeking to fulfil their roles and responsibilities in shaping a sustainable society. It includes taking a precautionary approach, developing sustainable products, coordinating with multiple stakeholder groups, disclose relevant information and ensuring the institution's board is properly educated. Recommended actions in the Guideline for Asset Management, Securities and Investment Banks include disseminating information to society, and engaging with various investors, by externally disclosure of ESG considerations in proxy voting activities (such as its position, structure and voting results), by appropriately displaying and/or disclosing the purpose and effect of environmental and sustainability related products, etc.

For a complete analysis of the evolving landscape of fiduciary duty in the Japanese market, download the Fiduciary Duty in the 21st Century Japan Roadmap developed by the PRI, UNEP FI and The Generation Foundation.

The roadmap builds on conversations with over thirty key market stakeholders and makes recommendations to implement clear and accountable policy and practice that embraces the modern interpretation of fiduciary duty.

The project team is engaging market stakeholders to implement these recommendations.

The Japan roadmap is part of a larger work programme on fiduciary duty, for more information, visit www.fiduciaryduty21.org.

ESG Guidebook (Introduction to ESG Investment): The ESG Guidebook was issued by the MOE, and aims to provide a basic understanding of ESG investment and trends. The Guidebook emphasizes that asset owners and investment managers, as long term investors, are in a position to understand how critical non-financial risk analysis is for the medium to long term growth of corporate value. For example, it discusses risk management and R&D for environmental issues related to business risk (information on E), human resources management and training to effectively support these (information on S), and management policies to strategically implement corporate management including the above (information on G) and categorises these factors as non-financial information. The Guidebook is comprised of four sections. Part 1 provides an overview of the investment chain, and the relationship between ESG information and investment horizons. Part 2 covers developments in ESG investment in Japan and abroad. Part 3 highlights issues regarding ESG investment, looking at each level of the investment chain. Part 4 examines the role of intermediaries in ESG integration.

Green Bond Guideline: The Green Bond Guideline is a voluntary guideline issued by the MOE in order to encourage the investment for the Green Projects based on the Green Bond Principle (GBP) updated in 2016 and the Paris Green Bonds Statement in 2015. The Green Bond Guideline includes the process of the issuance of the Green Bond or model cases of Green Bond for Green Bond issuers' and Investors' reference and provides the interpretation of the four core components (Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds and Reporting) that the GBP refers to.

Accordingly, there is a considerable amount of guidance and voluntary frameworks for integrating ESG risk management into Japanese corporate risk assessment. In order to ensure better corporate risk management and true and comparable assessment of the financial and non-financial risks associated with climate change, it would be ideal to see the development of a uniform disclosure regime, that is applicable to the large majority of companies, and integrated into the financial markets.

2.2 Climate change-related aspects of pension fund/investor regulation

Some of the above mentioned law and soft law for pension funds and institutional investors that have climate change-related aspects are as follows:

Stewardship Code: Although the Stewardship Code does not directly refer to climate change-related aspects, it requires the institutional investors to understand how to measure risks, including environmental problems experienced by the investee companies. In the draft revised Code, "environmental problems" will be referred to more broadly as ESG issues (but will not specifically mention climate change).

Principles for Financial Action towards a Sustainable Society (Principles for Financial Action for the 21st Century): These Principles consider the risk of financial losses caused by climate change, and promote engagement by investors on such risks. One of the guidelines provided under the Principles, which is a Guideline for Asset Management, Securities and Investment Banks, provides that those institutional investors are socially responsible for the healthy development of capital markets and their appropriate consideration of ESG issues that may affect corporate values would contribute to the formation of sustainable society which offers global environmental protection and the growth and development of healthy capital markets. As an example of the aspects related to climate change, one of the guidelines introduces the plan and practice of the reduction of GHG emissions from the offices, the company cars, the movement of people or the logistics.

ESG Guidebook: The Guidebook mentions that investors who wish to understand medium or long term perspectives on potential investments should invest or make business decisions, taking into account the importance of medium or long term considerations. If they find the risk posed by climate change exceeds the permissible range of the business's activities, such risk may affect the sustainable growth of the investee companies. It notes the investors may invest to improve and avoid such risk situations if they wish to promote sustainable company growth.

Green Bond Guideline: As mentioned above, the Green Bond Guideline includes the process of the issuance of green bonds or model cases of green bond for the bond issuers and investors' reference, and provides the interpretation of the four core components (Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds and Reporting) to which the GBP refers. It mentions that the procured funds should be devoted to the investment for the green projects which result in clear environmental benefits or improvements, such as renewable energy, energy conservation, prevention and management of pollution, sustainable management of nature resources, biodiversity conservation, sustainable management of water sources, adoption to the climate change and environment-friendly products. It also mentions that the issuer of the green bond should disclose the negative impacts that the project may cause, such as adverse effects to the ecosystem or noise and illustrate the evaluation of such negative impacts.

The Fiduciary Duty in the 21st Century Japan roadmap recommends a continual focus on a broader understanding of ESG issues and their implications for Japanese investment practice, noting the FSA's overriding mandate which expressly seeks to promote "the sustainable growth of business activities and the wider economy" in Japan and to cope with "uncertainties in the global economy". It also suggests a greater understanding of the financial materiality of ESG issues in Japan should be prioritised, as investor awareness of these issues, and appetite for information on them, increases. There may be a role for trust banks, which can provide policy insight to pension schemes which the schemes will then consider as part of their investment decisions.

3. Conclusion

While Japan has a number of different policies regarding ESG disclosure, Japanese companies may be better positioned for the transition of the Japanese economy (as part of the wider global transition to a lower carbon economy) if:

- Japanese companies and investors begin to consider the risk management benefits of implementing comprehensive climate change risk-related analysis and disclosure, taking information from the TCFD recommendations;
- the financial risks of ESG factors become more comprehensively integrated into business strategy and investment practice.

Working towards adoption by Japanese companies of more climate risk analysis and reporting, which is detailed and forward-facing as envisaged by the TCFD, would ease this transition, for both Japanese companies which will need to grapple with the additional information and processes necessary to undertake this analysis, and Japanese and international investors seeking to understand the real risks posed to their potential and existing investments in Japan.

UNITED KINGDOM

Key findings and next steps for the UK

Private sector regulation

Conclusion

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
UK							

1. Summary and next steps for the United Kingdom

SUMMARY

A wide range of companies and investors globally are aligned with the TCFD in relation to the material financial risks posed by climate change, and the role best practice climate risk analysis and disclosure can play in understanding these risks and their implications for existing assets and potential investments. Company law in the UK already requires most large organisations to disclose material financial risks to their businesses, and in some cases this extends to the disclosure of climate-related and other ESG risks.

This review concludes that the UK's existing regulation on disclosure is comprehensive and that (unlike many other developed nations) it integrates, to some extent, sustainability risks into the broader financial risk analysis and disclosure framework. However, the adoption of a number of the TCFD's recommendations would assist materially in ensuring better climate risk mitigation in the UK, facilitating better investment decisions and assisting with the maintenance of financial stability, as the UK and its global trading partners seek to transition to a lower carbon economy.

In particular, improvement of existing disclosure requirements would involve:

- more specific guidance in the existing regulation regarding best practice climate risk analysis and disclosure, and clear signals on the need to incorporate this analysis into general financial reporting;
- companies being required to undertake a more forward-looking consideration of climate change risks and their potential impacts on investments and company liabilities, in line with the TCFD's detailed recommendations; and an increase in the scope and detail of existing disclosure requirements, to promote better risk management and improve investor confidence in climate disclosure as part of wider financial reporting

THREE PRACTICAL ACTIONS FOR BETTER CLIMATE DISCLOSURE IN THE UK

Government

the UK government and regulators should endorse the TCFD's final recommendations, including the FRC, PRA and The Pensions Regulator.

UK Companies

should adopt the TCFD's recommendations as a useful voluntary framework for consistent climate-related disclosures to investors. Sharing of company good practice will assist in overcoming implementation hurdles, with convergence in reporting frameworks needed in the longer term.

Investors

should engage with companies to encourage adoption of the TCFD's recommendations. Investors should also evolve their disclosure to beneficiaries and clients, informed by the TCFD's guidance for asset owners and managers.

2. Private Sector Regulation

2.1 Disclosure requirements for companies

In the early part of 2016, the PRI mapped out all existing responsible investment policy - almost 300 individual policy tools or market-led initiatives, covering the relationship between finance and ESG issues. These measures can be broadly grouped into three main categories which relate to different parts of the investment chain: pension fund regulations, stewardship codes and corporate disclosure requirements.

Presently, UK rules do not expressly require UK companies to have in place strategies to address future climate change risks, although these risks may be integrated as part of financial risk analysis where applicable, and/or in line with disclosure obligations on environmental matters. A snapshot of UK regulations and policy that are relevant in some respects to ESG and climate risk-related disclosures by companies are set out in PRI's regulatory mapping tool, which forms part of its Global guide to responsible investment regulation. More detail on relevant regulation in the UK is set out below.

The UK's primary corporate disclosure obligations relevant to climate risk are found in general company law regulation. While this regulation does not usually prescribe the scope and detail of climate or ESG-related risk analysis and disclosure, a number of guidance and policy instruments are in place to assist companies in understanding their obligations, and best practice, regarding this disclosure. As with most regulation, current industry practice may be relevant to interpreting obligations and guidance, including materiality assessments.

To view the UK's complete responsible investment framework, visit the PRI's Regulation Map.

For each measure, it indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination. It also provides commentary on the key clauses relating to ESG factors and investment.

To view the map and download the full methodology, visit the PRI website.

For further information, email policy@unpri.org

Financial disclosure: Strategic report

The UK Companies Act 2006 (Companies Act) imposes a duty on company directors to prepare a strategic report for each financial year (other than where an exemption applies). The strategic report's purpose is to inform members of the company, and help them assess how the directors have performed in their duty to "promote the success of the company". It must contain:

- a fair view of the company's business;
- a description of the principal risks and uncertainties facing the company;
- to the extent necessary for an understanding of the development, performance or position of the company's business, analysis using key financial performance indicators (KPIs), and where the company is a quoted company,[14] other KPIs including environmental matters – in this context, KPIs means factors by reference to which the development, performance or position of the company's business can be measured effectively.

The report must also include the main trends and factors likely to affect the *future* development, performance and position of the company's business, including environmental and social matters, including information about the company's policies on relation to such matters and the effectiveness of those policies. If this information is not included, the report must state this.

The strategic report must be approved by the company's board of directors. Importantly, each company director commits an offence where the report is approved despite being non-compliant with the Companies Act requirements. This is the case either where the directors were aware of or reckless as to the non-compliance, or they failed to take reasonable steps to ensure compliance or prevent the non-compliant report from being approved.

Climate-related (and other ESG) risks to a company, and its success, clearly have relevant implications in this context, i.e. they may pose risks and/or create uncertainties for certain companies which should be disclosed in order to ensure a clear understanding of, and ability to measure, the company's position, including its *future* position. For example, climate risks such as competitiveness / strategic risks to sectors which involve higher-emitting technologies, or facilities at physical risk from extreme weather events or sea level-rise, have the potential to impact on the associated companies' business models and strategies and future cash flows. Additionally, we would ordinarily expect that any issue document relating to an issue of shares would take into account the potential for climate-related risks that could affect the future financial position of the company. Failure to include such risks could potentially lead to shareholder action against the company, in particular for companies having a particular sensitivity to climate related risks (for example, agricultural companies).

It is evident that these risks should be considered by companies as part of their wider financial and strategic analysis, and disclosed along with other principal risks and uncertainties as required in the strategic report, in order to comply with the regulation. However, climate-related risks may be highly uncertain due to the range of scenarios in which they must be considered, global and national political uncertainties, and that these risks have not historically formed part of corporate financial risk analysis. Environmental matters have until recently been more commonly integrated into corporate decision-making and reporting as more voluntary, non-financial / ethical considerations, meaning for many companies, it is not yet the norm to incorporate them into financial risk analysis.

[14] "Quoted companies" are defined in section 385(2) of the Companies Act 2006 as companies incorporated in the UK and whose equity share capital is listed on the main market of the London Stock Exchange UK or in a an EEA State, or admitted to trading on the New York Stock Exchange or Nasdaq.

This is where the adoption of reporting standards such as those envisaged by the TCFD can assist significantly by helping:

- corporate entities understand the real financial implications of climate-related risks and their potential impacts on business models, strategy and cash flows;
- investors understand if, and how well, companies are conducting this analysis; and
- normalise this analysis as part of good corporate governance in the UK.

The detailed and forward-facing risk assessment proposed by the TCFD may also reveal opportunities for companies, which would not have been easily identifiable where climate risk is not considered in detail or in relation to their financial implications.

To the extent climate-related risks are not financial risks or uncertainties, for certain companies – traded companies, banking companies, and insurance companies which are not small or medium-sized companies - section 414CA of the Companies Act 2006 (as inserted by the Companies, Partnerships and Groups (Accounts and Non-Financial Reporting) Regulations 2016 requires the strategic report to include a non-financial information statement. This statement must include information necessary to understand the company's development, performance and position and the impact of its activity, including principal risks regarding environmental and social matters, its business relationships, products and services which are likely to cause adverse impacts in those risk areas, and a description of how it manages those risks.

In relation to corporate greenhouse gas (GHG) emissions disclosure specifically, quoted UK companies are required under the Companies Act to disclose the annual quantity of emissions in tonnes of CO_2-e from the company's activities, including the combustion of fuel, and the operation of any facility, as well as resulting from the purchase of electricity, heat, steam or cooling by the company. These provisions apply to the extent it is practical for the company to obtain such information, but where it is not included, the report must state what information is not included, and why.

These disclosure obligations are substantially less detailed than the ideal level of emissions disclosure envisaged under the TCFD recommendations. Accordingly, the TCFD recommendations provide useful detail for quoted companies seeking to improve the quality of their disclosures relating to climate change risks and in formulating their strategic response to such climate change risks.

While non-quoted companies are not strictly required to report their GHG emissions, or climate-related risks or strategies, the Department of Environment Food and Rural Affairs (DEFRA) and the Department of Energy and Climate Change, jointly released guidance under section 83 of the Climate Change Act 2008 on how companies can measure and report their GHG emissions (Section 83 Guidance).

Directors' duties

In the same way companies may need to integrate climate risk analysis into decision-making and wider financial reporting, company directors may need to have regard to such risks in order to ensure the proper discharge of their legal duties. Included in the duties of directors under the Companies Act are:

- the duty to promote the success of the company: to act the way the director considers, in good faith, would be most likely to promote the company's success for the benefit of its members, having regard to the likely consequences of any decision in the long term, and the impact of the company's operations on the environment; and
- the duty to exercise reasonable care, skill and diligence: i.e. to exercise that care, etc of a reasonably diligent person with the expected knowledge, skill and experience of someone in his or her position.

The emphasis on *long term* consequences of company decision making is particularly relevant to climate risks, as for many organisations, the most significant climate-related effects are unlikely to arise in the short term. The TCFD argues that medium and long term analysis of risks, and strategic planning based on the results of that analysis, will lead to better overall risk management within companies. Such analysis will in turn assist directors in better understanding the climate risks – and opportunities – posed to their companies and discharging these duties. Similarly, directors exercising at least the minimum standard of diligence will increasingly require more detailed and reliable information on climate risks, which companies will need to be in a position to provide.

UK Corporate Governance Code

The UK Corporate Governance Code (Governance Code) sets standards of good practice on board leadership and effectiveness, remuneration, accountability and relations with shareholders, on the basis that the purposes of corporate governance is to facilitate effective and prudent management in order to ensure long-term success for companies. It is administered by the Financial Reporting Council (FRC).

All companies with a Premium Listing of equity shares in the UK must report on their application of the Governance Code, in a way that would enable shareholders to evaluate how its principles have been applied and specific provisions complied with. Where a company has not complied with any provisions of the Governance Code, it must state those provisions, along with reasons for the non-compliance. In some cases, disclosure is required in order to achieve full compliance.

Relevantly, the Code requires:

- boards to be supplied with timely information in a form and of a quality appropriate to enable it to discharge its duties;
- boards to present a fair, balanced and understandable assessment of their companies' position and prospects;
- boards to be responsible for determining the nature and extent of the principal risks they are willing to take to achieve their strategic objectives, and for maintaining sound risk management and internal control systems; and
- directors remuneration to be designed to promote the long-term success of the company.

2014 amendments to the Code focussed on the provision by companies of information about risks affecting *long term* company viability.

The Financial Reporting Council, which administers the Governance Code, publishes guidance to boards to assist them in considering how to apply the Code to their particular circumstances. It also aims to encourage engagement between investors and boards through the UK Stewardship Code.

Neither this Code, nor the Governance Code, expressly address climate or other ESG risks in any detail. However, identification and disclosure of medium and long term risks posed to companies by climate change, if any, would appear to be an essential aspect of achieving compliance with the Governance Code. The TCFD framework provides detailed guidance on best practice for identifying such risks, and disclosing them.

FCA Handbook listing rules

The Financial Conduct Authority (FCA) listing rules are applicable to any company listed on a UK stock exchange. They set out mandatory standards for any company listing shares or securities for sale to the public, including compliance (or explanation of non-compliance) with the Corporate Governance Code.

Other relevant regulatory guidance

FRC Guidance on Strategic Report

The FRC has published guidance to assist companies in preparing the strategic report referred to above, by outlining the required content, and communication principles to be taken into account as part of good financial reporting. This guidance, published in June 2014, encourages companies to take an innovative approach in preparing their reports, presenting narrative information that "tells the company's story" while remaining within the regulatory framework. It is a non-mandatory instrument that aims to provide best practice guidance.

The guidance specifically addresses the coverage of environmental matters as required in the strategic report, and outlines matters which a company should ideally report on in this respect. It makes clear that disclosures about the environment are required when material, but is less clear on the integration of these issues into company's financial risk analysis. These include describing the due diligence processes which the company uses to assess actual or potential impacts arising from its activities and business relationships, to integrate findings and take action to mitigate identified adverse impacts, track effectiveness of its actions, and communicate them externally. Ideally this should be done by reference to KPIs, where the company uses these. It does not specifically mention treatment of climate risks (or any other specific ESG risk) in this context.

Environmental reporting guidelines

This guidance aims to assist:

- companies reporting on environmental performance, including GHG emissions, in their strategic report; and
- all organisations carrying out voluntary reporting on environmental matters. It acknowledges that some public bodies may need consider reporting GHG emissions or other environmental issues under applicable legislation.

It sets out suggested, detailed principles to be applied when collecting information and reporting on environmental impacts, particularly with respect to ensuring the usefulness of the information for its users. These include:

- that the data collected is reflective of the company's environmental impacts and assists in decision-making needs of users (internal and external);
- that KPIs selected for reporting are measurable (e.g. against a target);
- accuracy, completeness, transparency, consistency and limitation of uncertainty to the extent possible; and
- ability to compare between companies by adopting accepted KPIs (with narrative detail to explain any aspects of accepted KPIs which require further explanation or qualification in the context of the specific company or its activities.

It then provides step-by-step guidance on best practice for data collection, analysis and reporting, with sector-specific considerations. While not binding, the Section 83 Guidance is intended to have a normative effect in establishing common principles to standardise carbon and other environmental assessment reporting. The guidance also includes specific guidance for small business.

The London Stock Exchange issued a guidance in February of 2017 (LSE Guidance) on ESG reporting, to improve listed companies' engagement with their shareholders on ESG-related matters as part of the United Nation's Sustainable Stock Exchanges Initiative's "Campaign to Close the ESG Guidance Gap". The LSE Guidance expressly acknowledged the TCFD recommendations and welcomed their publication.

As the TCFD contains a broader range of climate change-related requirements, it applies to a broader range of entities than the existing UK company disclosure laws, which apply to quoted companies (and in relation to the non-financial statement of the Strategic Report under the Companies Act, certain traded companies, banks and insurance companies). The TCFD recommendations are intended to apply to all corporate entities, but in particular to lenders, investors and asset managers, as well as intermediaries for these entities (such as benchmarks and ratings agencies). The TCFD framework would require such entities to consider how their investment decisions are being made and to factor climate change related risks in their business and strategic decision-making.

2.2 Climate change-related aspects of pension fund/investor regulation

Financial and credit institutions in the UK are regulated by the FCA and, for some institutions (such as insurers and banks), the Prudential Regulation Authority (PRA). The FCA has oversight responsibility for conduct-related matters (for example, consumer protection matters and market abuse), whereas the PRA supervises the financial safety and soundness of regulated firms.

> For a complete analysis of the evolving landscape of fiduciary duty in the UK market, download the Fiduciary Duty in the 21st Century UK Roadmap developed by the PRI, UNEP FI and The Generation Foundation.
>
> The roadmap builds on conversations with over thirty key market stakeholders and makes recommendations to implement clear and accountable policy and practice that embraces the modern interpretation of fiduciary duty.
>
> The project team is engaging market stakeholders to implement these recommendations.
>
> The UK roadmap is part of a larger work programme on fiduciary duty, for more information, visit www.fiduciaryduty21.org.

Given the focus on the potential financial harm caused by climate change risks, it is understandable that the PRA has taken a more active role in addressing climate change risk than the FCA. In addition to the FCA and the PRA, The Pensions Regulator regulates occupational pension funds in the UK.

Asset owners and institutional investors

(a) Relevant requirements

There are few express requirements on asset owners or institutional investors to have regard to climate change-related risks, or consider disclosed financial information relating to such climate risks.

Under the Occupational Pension Schemes (Investment) Regulations 2005, occupational pension schemes are required to include in their statement of investment principles the extent to which they take into account, amongst other things, environmental matters. Additionally, The Pensions Regulator's updated guidance for defined contribution pension schemes (DC Schemes) notes that environmental risks could be financially significant. Importantly, while it acknowledges the requirements for such schemes to maximise returns for beneficiaries, the law is sufficiently robust to permit trustees of such schemes to take into account other non-financial factors, such as environmental concerns.

In respect of the insurance sector, in September 2015 the PRA published its report on "The impact of climate change on the UK Insurance sector" (PRA Report). This report highlights some of the climate change risks faced by insurance entities, and how those risks are likely to impact their businesses. The PRA report breaks down climate change risks into physical, transitional and liability risks (largely mirroring the breakdown in the TCFD report which focuses on physical and transitional risks) and how each of those risks can impact on insurance entities. The PRA breaks down these risks into risks that *affect assets held* by insurance entities and risks that are likely to *impact on the liabilities* of insurance entities.

In recent years, and as recognition has grown of the potential financial risks posed by climate change related matters in relation to investable assets, it is clear that asset owners and other financial institutions should continue to monitor and have regard to the potential risks to their portfolio of climate related matters.

(b) Relevant guidance and examples of industry practice

The PRI Reporting Framework is the largest global reporting project on responsible investment, developed with investors, for investors. Asset owner signatories are required to report on their responsible investment activities annually.

In 2017, 43 UK asset owners reported on the PRI's voluntary climate change indicators. 81% of these see climate change as a long-term trend that will impact on investment decisions. 49% seek integration of climate change by companies, 40% use carbon footprinting, 37% use scenario analysis and 12% report that they have an integrated asset allocation strategy.

(c) Intersection and compatibility with TCFD recommendations/implementations strategies

The guidance issued by The Pensions Regulator in respect of pension funds is not provided in detail, and is designed to provide trustees with sufficient flexibility to make their own determinations of how climate change risks may impact their future investments. Accordingly, the TCFD recommendations provide a useful guide to standardise and clarify the approach taken by such pension trustees and to assist trustees in understanding the full extent of best practice climate risk analysis and disclosure, in the absence of detailed further guidance.

Similarly, while the PRA Report goes further than the rules on quoted companies noted above, by having insurance entities consider the balance sheet impact of climate change-related risks the TCFD recommendations are still likely to be relevant to insurance entities. The TCFD recommendations require entities to not just consider the balance sheet impact of climate change risks, but to also have in place strategies to mitigate such risks, and importantly, to take advantage of climate change-related opportunities. The TCFD recommendations also involve entities disclosing such climate change risk strategies and the role that management has had in considering and addressing them.

Disclosure of these strategies is likely to enable investors in insurance entities to better consider how proactively the insurance entity is managing its climate change-related exposures and to adjust their investment decisions accordingly. Therefore, while the PRA Report contains a detailed and considered break down of the impacts of climate change risks on insurance entity's balance sheets, the TCFD recommendations contain useful guidance on further and more strategic considerations that could also be adopted by such insurance entities.

Asset Managers

(a) Relevant requirements

The Stewardship Code mentioned above sets out a number of areas of good practice to which the FRC believes institutional investors should aspire. The FCA requires UK authorized asset managers to report on whether or not they apply the Code. Investors that apply the code report against its principles on a comply-or-explain basis. The FRC publishes statements of commitment to the code on its website and announced that in 2016 it would begin publicly ranking signatories, based on the quality of their disclosures against the code.

Related to this at EU level are the proposed revisions to the EU Shareholder's Directive (2007/36/EU), which will set out minimum standards to ensure that shareholders have timely access to relevant information ahead of general meetings. They will provide, among other things, that asset managers should be required to publicly disclose how their investment strategy and its implementation contributes to the medium to long term performance of the assets, and that directors' remuneration is to be aligned with medium and long term company growth objectives, rather than only short term gains. These rules are not yet in force and will need to be transposed into national law in the UK before taking effect.

As awareness grows of the impact that climate-related risks and opportunities may have on investment returns, there is an increasing need for asset managers to take these factors into account when making financial decisions. While there are currently few rules requiring climate-related risks to be specifically taken into account by asset managers, it is arguable that failure to consider climate-related risks could breach numerous FCA requirements on different types of authorised institutions. For example:

1. Under COBS 11 of the FCA Handbook, when making a personal recommendation to trade, a firm is required to take reasonable steps to ensure that the investment is suitable for the client, having regard to a number of specified factors. If the firm making such a recommendation did not consider the possible environmental and climate related impacts on this investment (particularly where a client has indicated an investment objective looking at long term growth), it is arguable that the firm would not be meeting this expectation;

2. Certain fund managers in the UK are required to prepare Key Investor Information documents under the COLL Sourcebook of the FCA Handbook. These documents are required to contain, amongst other things, warnings of the risks associated with investments in the scheme. These risks may include climate related risks that could impact on future investments in the fund. For example, funds which invest in industries that are particularly exposed to climate risks, would need to disclose those risks in the key information document. Failure to do so is likely to result in legal action against that fund manager; and

3. The SYSC Sourcebook requires firms to have effective processes in place to identify, manage, monitor and report on risks that the firm is exposed to. This requirement is drafted broadly, and is intended to capture relevant risks to the firm, including the potential climate related risks. A breach of these requirements could result in the FCA taking action against the firm.

While the above requirements do not specifically impose a requirement to consider climate-related risks, they are broad enough to require firms to take into consideration such climate and environmental risks. As awareness of these risks grows, it is likely that more firms will actively take into account the financial impacts of such climate risks, rather than simply leaving environmental matters to be considered from a non-financial perspective only. Guidance and recommendations like the TCFD drive awareness of these risks, which in turn make it more difficult for fund managers and regulated firms to turn a blind eye to the potential financial impact of climate change and other environmental matters.

(b) Relevant guidance and examples of industry practice

As described in the section above on asset owners, the PRI Reporting Framework is the largest global reporting project on responsible investment, developed with investors, for investors. Investment manager signatories are required to report on their responsible investment activities annually. In 2017, 135 UK investment managers reported on the PRI's voluntary climate change indicators. 67% of these see climate change as a long-term trend that will impact on their investment decisions.

(c) Intersection and compatibility with TCFD recommendations/implementations strategies

Adoption of the TCFD framework would assist asset managers in working towards these aims and understanding medium/long term exposure of investments – particularly the recommendations regarding the use of scenario analysis.

3. Conclusion

The UK has an advanced body of ESG disclosure requirements and specifically climate risk-related disclosure regulation, through both general corporate reporting requirements, and ESG risk-related guidance and policy.

However, some areas of regulation and policy in particular which would benefit from the adoption of a broader framework of the kind envisaged by the TCFD, and particularly more express prescription of, and guidance in relation to, climate and other ESG risks, as *financial* risks where applicable. This would lead to a more comprehensive and forward-looking approach to climate risk analysis. It would compel companies to engage in medium and longer term consideration of risks and opportunities presented by decarbonisation, and disclose this thinking to the market in a way that is reliable and able to be understood (and effectively compared with relevant disclosures by other companies) by investors.

Further and more detailed regulation and policy in relation to ESG reporting, promoted by the UK government and applicable as widely as possible, will also assist in signalling to the market that this kind of disclosure is a now a key element of effective company risk management in the current climate.

UNITED STATES OF AMERICA

Key findings and next steps for the US

Private sector regulation

Conclusion

Market	Regulation expressly requires climate risk to be disclosed	Regulation impliedly requires climate risk to be disclosed	Regulation treats climate risk as financial risk (where material)	Regulation treats climate risk as non-financial risk	No regulation directly applicable to climate risk disclosure	Policy/ guidance expressly encourages or guides climate risk disclosure	Policy/guidance impliedly encourages or guides climate risk disclosure
USA							

1. Summary and next steps for the United States

SUMMARY

The US has not yet implemented comprehensive regulations incentivizing or compelling companies to expressly consider and disclose climate change risk exposure across all sectors. This review concludes that consideration and implementation of a structured and detailed framework consistent with the TCFD's recommendations is likely to assist US companies in understanding the ideal scope of their disclosures and to integrate climate risk awareness into their businesses, and their financial filings.

In particular, improvement of existing US disclosure requirements would include adopting the TCFD's recommendations in the areas of metrics and targets and strategy, which could help companies pinpoint what information to disclose in SEC filings depending on materiality, and more specific guidance in the existing regulation regarding best practice climate risk analysis and disclosure. This is particularly so in the absence of further guidance from the SEC on climate risk disclosures in the near future. Voluntary initiatives like the TCFD and SASB may become de facto disclosure standards during the short-term.

PRI RECOMMENDS THESE NEXT STEPS

Government

recognising the USA’s decision to withdraw from the Paris Agreement, investors and companies should inform regulators of progress they make in implementing the TCFD.

Stock exchanges

the NYSE (The New York Stock Exchange) and Nasdaq should publish ESG reporting guidance and endorse the TCFD's voluntary reporting framework, in collaboration with the Sustainable Stock Exchanges Initiative[15].

[15] http://www.sseinitiative.org/

US Companies

should adopt the TCFD's recommendations as a useful voluntary framework for consistent climate-related disclosures to investors. Sharing of company good practice will assist in overcoming implementation hurdles, with convergence in reporting frameworks needed in the longer term.

Investors

should engage with companies to encourage adoption of the TCFD's recommendations. Investors should also evolve their disclosure to beneficiaries and clients, informed by the TCFD's guidance for asset owners and managers.

2. Private sector regulation

2.1 Disclosure requirements for companies

Federal financial disclosure requirements for U.S. public companies are regulated by the Securities and Exchange Commission ("SEC" or "Commission"). Regulation S-K[16] outlines reporting requirements for publicly held companies and also requires periodic reporting by way of forms 10-Q (quarterly filing), 10-K (annual filing) and 20-F or 40-F (for foreign companies' annual filings). Disclosing standard (i.e. non climate) environmental liabilities in these forms is not a new practice-basic requirements in respect to disclosure of environmental matters has not changed substantially since the 1980s. Currently, there is no explicit requirement for public companies to disclose impacts related to climate change in financial filings. However, the SEC, in guidance issued in 2010, has discussed how climate-related issues may pose material risks that must be disclosed under existing SEC rules.

The SEC's 2010 interpretive release, "Commission Guidance Regarding Disclosure Related to Climate Change" ("Guidance"), was issued in response to petitions from a coalition of investors, state officials, chief financial officers, and asset management firms.[17] The Guidance highlighted four areas of climate impacts to businesses that require disclosure if management determines they pose material risks under SEC rules:

- existing and pending climate legislation and/or regulation;
- international climate accords;
- indirect consequences of regulation or businesses trends (i.e. decreased demand for goods and services that produce significant GHG emissions); and
- physical impacts of climate change (i.e. effects on business operations as a result of drought or changing weather patterns).[18]

The Guidance is consistent with the TCFD's recommendations regarding disclosure of climate-related financial risks in mainstream or public financial filings, where those risks are material for an organization. The areas noted above as relevant to climate change-related disclosures clearly have the potential to present material financial risks to certain companies. The TCFD's recommendations, particularly in the areas of metrics and targets and strategy, can help companies pinpoint what information to disclose in

[16] 17 C.F.R. § 229.

[17] Sec. & Exch. Comm'n, Guidance Regarding Disclosure Related to Climate Change, Release Nos. 33-9106, 34-61469, 75 Fed. Reg. 6290 (Feb. 8, 2010).

[18] *Id.*

SEC filings. The recommendations explicitly recommend disclosure of strategy and metrics and targets "where such information is material",[19] which is well aligned with the SEC's 2010 Guidance (which itself also includes this materiality filter).

The TCFD also included within their recommendations regarding the nature of climate-related financial disclosures the consideration of a company's management of climate-related risks, i.e. its response to the risks identified in disclosures and its resilience in the face of those risks. Together with the consistent content and style of reporting proposed by the TCFD, the TCFD recommendations for disclosures are intended to promote better accounting by US companies of climate change risks, in a way that can be more effectively grasped by investors.

The extent to which a company has assessed and responded to such risks can also be important for an investor seeking to understand the company's appropriateness as a investment. The TCFD's recommendations regarding governance and risk management *do not* recommend disclosure “where such information is material”, suggesting that for companies facing material climate risks that must be disclosed in SEC filings, governance and risk management issues should be disclosed *as a matter of course* under existing SEC rules, because they are already deemed material to these companies.

The Guidance also included four "Items" within Regulation S-K that showed the most potential for disclosing climate-related risk.

Regulation S-K Item	Potential for disclosing climate-related risk
Item 101	This Item requires that a company must disclose any material expenditures associated with environmental controls, including costs of complying with new environmental legislation or regulations.
Item 103	This Item requires disclosure of material pending legal proceedings to which the registrant or its subsidiaries is a party, due to the immediate and future costs of litigation.
Item 303	This Item governs the more subjective area of Management Discussion and Analysis ("MD&A"). This Item requires disclosure of major trends, events, and uncertainties that could be reasonably expected to materially affect business operations. This requirement contained two separate inquiries: (1) whether an uncertainty is reasonably likely to occur; and (2) whether management can determine that an uncertainty’s occurrence is not reasonably likely to have a material effect on the company. Disclosure is required unless a company is able to conclude either that it is not reasonably likely that the trend, uncertainty or other event will occur or come to fruition, or that a material effect on the company's liquidity, capital resources or results of operations is not reasonably likely to occur.[20]
Item 503	This Item requires disclosure of specific, significant factors that would make investment in a company risky or speculative. It contains regular factors included in many companies’ risk management strategies: physical, financial, and reputational risks to name a few.

[19] TCFD Final Report, June 2017 at 14.

[20] https://www.sec.gov/rules/interp/33-8350.htm

In sum, the 2010 Guidance started a discussion about how to address climate risks in the Regulation S-K disclosure regime and provided some guidance to companies grappling with how to disclose climate impacts. However, while the Guidance provided greater clarity as to what information needed to be disclosed and where in it should appear under Regulation S-K, it did not explain how companies should discuss their responses to climate-related risks. Companies have taken different approaches to disclosures, which has catalysed widespread calls for the SEC to require mandatory climate risk disclosures.

PRI Fiduciary Duty USA Roadmap

For a complete PRI analysis of the evolving landscape of fiduciary duty in the USA market, download the Fiduciary Duty in the 21st Century USA Roadmap developed by the PRI, UNEP FI and The Generation Foundation. The roadmap builds on conversations with over thirty key market stakeholders and makes recommendations to implement clear and accountable policy and practice that embraces the modern interpretation of fiduciary duty. The project team is engaging market stakeholders to implement these recommendations. The USA roadmap is part of a larger work programme on fiduciary duty.

See www.fiduciaryduty21.org.

In 2016, the SEC issued a broad Concept Release on dozens of aspects of its disclosure system, which included eight questions focused on sustainability and climate risk disclosure. The SEC asked for public comment on climate change and other environmental and sustainability disclosures. To date, the vast majority of investor comments indicate that most investors still lack adequate information about climate and sustainability risks for businesses, highlighting the need for better climate reporting guidelines from the SEC.[21]

PRI and MSCI's Global Guide to Responsible Investment Regulation

PRI and MSCI have developed an online global database for responsible investment regulation. For each measure, the database indicates the nature of the rule, the year of implementation, the authority responsible, whether the measure is voluntary or mandatory, and if it addresses ESG issues in isolation or in combination.

To view the map and download the full methodology see https://www.unpri.org/page/responsible-investment-regulation

However, the SEC has not yet issued additional guidance in response to public comments, nor - aside from several Obama-era comment letters - has it taken any enforcement action against companies related to climate change disclosures (or lack thereof). Lacking SEC guidance, voluntary, industry-specific corporate sustainability disclosure standards like those developed by the Sustainability Accounting Standards Board ("SASB") have been used by companies that are seeking assistance in making disclosures that are material and useful for investors.

We expect no further guidance or enforcement from the SEC on climate risk disclosures in the near term. As a result, it will be important to track the market penetration of voluntary initiatives like the TCFD and SASB, to see if they become de facto disclosure standards.

[21] Towards a Sustainable Economy: A Review of Comments to the SEC's Disclosure Effectiveness Concept Release, September 2016 (http://www.citizen.org/documents/SustainableEconomyReport.pdf).

2.2 Climate change-related aspects of pension fund/investor regulation

Corporate pension plans are regulated and enforced by the Department of Labor ("Department"), pursuant to the Employee Retirement Income Security Act of 1974 ("ERISA"). Guided by Sections 403 and 404 of ERISA, the Department has historically stated that plan fiduciaries "may not use plan assets to promote social, environmental or other public policy causes at the expense of the financial interests of the plan's participants and beneficiaries."[22] Fiduciaries may, however, consider environmental, social and governance ("ESG") goals as "tie-breakers when choosing between investment alternatives that are otherwise equal with respect to return and risk."[23] Based on Department of Labor guidance and the fact ERISA is highly litigated, fiduciaries have historically been somewhat reluctant to consider ESG factors for fear of violating ERISA's provisions.

In recognition of the confusion that prior guidance had caused and, in particular, the chilling effect of prior guidance in consideration of ESG factors, the Department issued Interpretive Bulletin 2015-01 ("2015 Bulletin").[24] The 2015 Bulletin provided guidance on the ability of pension plan fiduciaries to consider ESG factors - which includes consideration of climate change - in investment decisions. The 2015 Bulletin noted that fiduciaries should consider factors that potentially influence risk and return and that ESG factors "…may have a direct relationship to the economic value of a plan's investment."[25]

In such case, ESG factors are proper components of the fiduciary's primary analysis of the economic merits of competing investment choices in the US. The 2015 Bulletin makes it clear that ESG factors that affect economic considerations of an investment may be considered, and are not always collateral benefits to be considered only as a tie-breaker. That said, 2015 Bulletin stated that ESG factors can continue to be used in tie-breaker situations where investment choices are otherwise equal. In addition, the 2015 Bulletin clarified that consideration of ESG factors does not require additional documentation or further evaluation by fiduciaries beyond what is generally required. The 2015 Bulletin also withdrew prior guidance (i.e. IB 2008-01) that was the source of confusion of applying ESG factors to investment decisions.

More recently, the Department of Labor issued Interpretive Bulletin 2016-1 ("2016 Bulletin")[26] addressing, among other things, proxy voting and shareholder engagement activities. In the preamble to the 2016 Bulletin, the Department noted that it was "concerned" that despite the guidance on ESG issues set forth in the 2015 Bulletin, confusion may still exist as to whether or how a plan fiduciary may consider ESG issues in connection with proxy voting or undertaking other shareholder engagement activities.

The Department makes clear that it is trying to balance thoughtful stakeholder engagement with ERISA's tight limits around fiduciaries expending assets to pursue policy preferences. The 2016 Bulletin points to the increasing numbers of institutional investor engagement on ESG issues to suggest the existence of financial benefits associated with shareholder engagement. The 2016 Bulletin further provides that a statement of investment policy can include policies "incorporating [ESG] factors in investment policy statements or integrating ESG-related tools, metrics and analyses to

[22] Dept. of Labor, Interpretive Bulletin Relating to the Fiduciary Standard Under ERISA in Considering Economically Targeted Investments, 80 Fed. Reg. 65135 (Oct. 26, 2015).

[23] *Id*. at 65136.

[24] *Id*.

[25] *Id*. at 65136.

[26] Department of Labor, Interpretive Bulletin Relating to the Exercise of Shareholder Rights and Written Statements of Investment Policy, including Proxy Voting Policies or Guidelines, 81 Fed. Reg. 95879 (Dec. 29, 2016).

evaluate an investment's risk or return or choose among equivalent investments."[27] According to the 2016 Bulletin, areas in which a plan fiduciary may monitor and communicate with corporations in which the plan holds interests now include "the nature of long-term business plans including plans on climate change preparedness and sustainability".[28]

The 2015 Bulletin and 2016 Bulletin have resulted in private pension funds considering whether and how to consider ESG data in decision-making processes. The bulletins have given a boost to consideration of ESG in ERISA-regulated pension plans and also provided comfort to fiduciaries seeking to consider climate change related factors in investment decision-making. The natural extension of these bulletins is to continue the trend towards greater inclusion of ESG for both systemic risk management reasons and better analytics for sound company performance.

3. Conclusion

As the US has not yet implemented comprehensive regulations incentivizing or compelling companies to expressly consider and disclose climate change risk exposure across all sectors, adoption of a clear framework consistent with the TCFD's recommendations is likely to assist significantly in enabling companies to understand the ideal scope of their disclosures and to integrate climate risk awareness into their businesses, and their financial filings.

Such a framework would be likely to improve the quality and consistency of information available to investors. This is particularly so in relation to investors' ability to identify the more climate-resilient organizations, and organizations which are regarding the transition as an opportunity to improve their sustainability and attractiveness to investors.

In relation to pension funds and investor regulation in particular, the attempt to balance stakeholder engagement with ERISA's restrictions on fiduciaries pursuing policy preferences should not be seen as an impediment to companies implementing the TCFD's recommendations. The FSB has stated that the TCFD's recommendations are intended to apply broadly and across sectors and jurisdictions, and are not intended to supersede national regulations or encourage disclosures not in accordance with national regulations. They appear consistent with the current guidance provided to pension funds, which indicates fiduciaries should have regard to factors that potentially influence risk and return, including those ESG factors which may have a direct relationship to the economic value of a pension plan's investment.

[27] *Id*. at 95883.

[28] *Id*. at 95884.

APPENDICES

Summary of climate change commitments

- Brazil
- Canada
- European Union
- Japan
- United Kingdom
- United States of America

Appendix 1 – Summary of Brazil's climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward "nationally determined contributions" (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement.

Brazil confirmed its high-level intended nationally determined contribution (first established in 2010 when the National Policy on Climate Change (NPCC) was enacted), which commits to reduce GHG emissions by 37% below 2005 levels by 2025, and 43% by 2030. The country reserves its position in relation to the possible use of any market mechanisms that may be established under the Paris Climate Change Agreement (PCCA). It proposes to achieve its goals mainly through:

- the increase of renewables in the energy sector; and
- actions related to the forestry sector. Brazil is the largest developing country to set an economy-wide absolute mitigation target in its NDC.

Specifically concerning the forestry sector, Brazil's NDC is in line with the PCCA, under which parties are encouraged to take action to implement and support activities relating to reducing emissions from deforestation, forest degradation, conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries (REDD+).

Brazil is well advanced in its efforts to consolidate a legal framework to provide support to REDD+ projects. In this sense, federal Bill of Law 212/2011 proposed by the Senate has been widely discussed in the country. This Bill, in general terms, foresees the implementation of a National System of REDD+ in line with the National Policy on Climate Change, through an integrated approach including the Federal Government, States and Municipalities, in order to avoid double counting of emission reductions. In the House of Representatives, Deputy Tripoli has also proposed an initiative to implement a REDD+ system (Bill of Law No. 225/2015), which is very similar to the project submitted by the Senate. This Bill is yet to be discussed by the commissions of the Congress.

Despite the lack of a robust legal framework on the matter, Federal Decree No. 8,576/2015 established an Environmental Commission to coordinate and monitor the implementation of the so-called National Strategy on REDD+. The major objective of this Strategy is to enhance the monitoring and the analysis of the impacts of public policies for the achievement of REDD+ results and to contribute with the mobilization of resources for compliance with the National Policy on Climate Change, among others.

It should be noted that the successful efforts related to REDD+ in Brazil have mainly been financed through public finance, and mainly by countries such as Norway and Germany. Proper and adequate financing is a critical feature for the long-term sustainability and development of REDD+. Therefore, one of the challenges facing REDD+ in countries like Brazil is the need to create opportunities for the development of projects prior to 2020 through governmental and private investment. In this sense, the National Fund on Climate Change and the Brazilian Carbon Market established by the NPCC could increase the amount of funds available for the control of deforestation, in addition to contributing to the modernization and competitiveness of industry. In order to encourage finance to flow on a larger scale, remaining legal uncertainties connected to REDD+ will have to be addressed.

As for the energy sector, the need to increase renewables in the energy sector is also a focus of public and private companies in Brazil. The increasing demand on the government to reduce its emissions, at the same time power demand is growing, means that renewables have become a key consideration among policymakers.

In this sense, Brazilian environmental authorities have reinforced, through environmental licensing proceedings, the need to upgrade several industrial plants so that they emit fewer or no GHG emissions. For some areas of the state of São Paulo – known as "saturated areas" – there is even an absolute prohibition to emit certain types of pollutants, including GHG emissions. Clear enforcement initiatives like this one will certainly push several sectors to adapt their energy matrix as the only possible path to enable the enlargement of their industrial capacity, opening space for solar, wind and biomass energy generation, such as those produced from sugar cane and eucalyptus pulp.

With respect to biomass, for example, it is also notable how such enforcement initiatives may impact the whole supply chain, whereas technological development is one of the key factors to ensure high level of productivity of the plantations and the superior quality of the pulp produced.

The issuance of further policies and rules prohibiting or discouraging the commercialization/use of carbon-intensive products constitute a long-term impact of the PCCA on the business transactions conducted by companies located in Brazil. One example of this trend is a technical understanding recently issued by the state of São Paulo's environmental protection agency (CETESB) within the discussion of a bill of law that is contrary to the commercialization of diesel vehicles in Brazil, on the grounds that GHG emissions would increase and contribute to global warming.

Connected to the enforcement of more stringent rules addressing climate change, the number of large companies placing an internal price on GHG emissions has been growing at high rates in countries such as the United States and Canada, and, in view of the provisions of the PCCA and the NDC proposed by Brazil, this is certainly one of the impacts in the long term for companies located there. It is relevant to mention that the advantages related to the implementation of internal price on GHG emissions by Brazilian companies could be two-fold:

1. They could be key to complying with the federal and state rules on climate change; and
2. they could constitute a tool for financing emissions reductions projects (such as REDD+) and incorporating policies to make them more efficient and more resilient to climate change.

The PCCA has changed the business environment around the globe, and in Brazil specifically. Companies that succeed in contemplating the policy measures that are proposed in Brazil's NDC and implementing their own strategies accordingly will be at an advantage. Not only will they be able to stay ahead of the increasing regulatory frameworks that regulate emission reductions, they may also be able to find new opportunities for business development.

Between 2005 to 2012, Brazil was able to curtail its emissions by 41.1% due to the decrease in deforestation rates. Though their submission seems ambitious, there remains optimism in achieving its targets, due to the comprehensive level of mitigation actions proposed.[29]

[29] Secretariat for Social Communication of the Presidency of the Federative Republic of Brazil, 'Fact Sheet - Brazil at COP22', November 2016 http://www.brazilgovnews.gov.br/news/fact-sheet-cop22_en_nov16_final.pdf.

Appendix 2 – Summary of Canada's climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward "nationally determined contributions" (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement.

Climate disclosure supports the Paris Agreement goals and NDCs, by enabling company and investor management of material climate-related risks and opportunities.

Canada's first NDC consists of a commitment to achieve an economy-wide target to reduce its greenhouse gas (GHG) emissions by 30% below 2005 levels by 2030. Since 2006, the Canadian government has taken the following regulatory actions targeting three key sectors:

Transportation
Establishing progressively more onerous GHG emission standards for heavy-duty vehicles (model years 2014-2018) and for passenger automobiles and light trucks (model years 2011-2025);

Electricity
Banning the construction of traditional coal-fired electricity generating units, leading to the phase-out of existing coal-fired electricity units without carbon capture and storage; and

Renewable fuels
Requiring that gasoline contain an average 5% renewable fuel content and most diesel fuel contain an average 2% content.

Additionally, the federal government is currently developing further regulatory measures that will:

- extend the onerous GHG emission standards for heavy-duty vehicles to post-2018 model years;
- progressively reduce hydrofluorocarbons, which will limit GHG emissions that are expected to increase substantially in the next 10 to 15 years;
- reduce GHG emissions from natural gas-fired electricity, as well as from chemicals and nitrogen fertilizers; and
- reduce methane emissions from the oil and gas sector.

Under the 2009 Copenhagen Accord, Canada had previously pledged to reduce its GHG emissions by 17% below 2005 levels by 2020. While the Canadian government has invested more than $10 billion in green infrastructure, energy efficiency, clean energy technologies, cleaner fuels and smarter grids since 2006, between 2005 to 2013, Canadian GHG emissions have only decreased by 3.1%[30].

[30] Government of Canada, 'Canada's INDC Submission to the UNFCCC', October 2016 http://www4.unfccc.int/ndcregistry/PublishedDocuments/Canada%20First/INDC%20-%20Canada%20-%20English.pdf.

Figure 1 below illustrates the wide disparity between Canada's GHG emission projections in 2020 and 2030 and its targets.

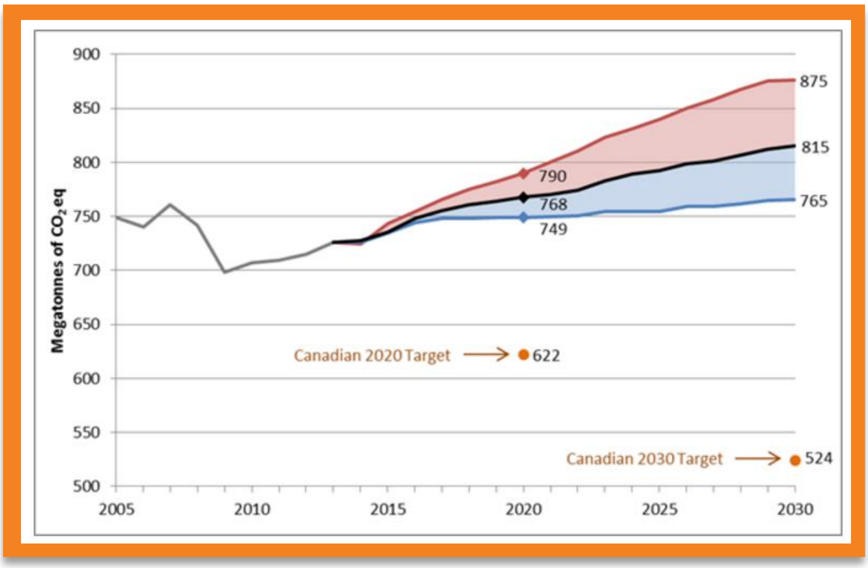

FIGURE 1: CANADA'S EMISSION PROJECTIONS IN 2020 AND 2030 (MT CO_2 EQ) [31]

As a vast Northern nation, Canada faces unique challenges in addressing climate change issues: it has a growing population, extreme temperatures (sometimes in both directions), a large landmass (largely undeveloped), a diversified growing economy with significant natural resources and distinctive cultural populations across the country. As a result, it is challenging to come up with a country-wide NDC. Fortunately the starting point for Canada's position is a relatively good one: Canada has one of the cleanest electricity systems among G7 and G20 nations, with approximately 75% of its electricity supply already emitting no GHGs.

Adding to the geographical challenges, Canadian provinces and territories have significant authority over the areas of natural resources, energy, and the environment. Each has its own legal framework and its own policies and measures which together will form the basis of Canada's attempt to reduce GHG emissions. Mechanisms exist for the federal government to engage with Canadian provinces and territories, as well as other key partners and stakeholders, on climate change, but it remains to be seen where the line will be drawn allocating ultimate responsibility for change.

Although Canada produces less than 2% of the world's GHG emissions, Canada has committed to doing its part to address climate change issues. As noted above, as part of its NDC Canada intends to achieve an economy-wide target to reduce its GHG emissions by 30% below 2005 levels by 2030. The Canadian government maintains that this target is ambitious but achievable despite the challenges presented by the characteristics set out above. Reaching this ambitious target will require new policies in additional sectors and coordinated action in integrated sectors, both of which approaches have proved challenging to date. Canada has also indicated it will use international mechanisms to achieve the target, subject to checks and balances to ensure real and verified emissions reductions are achieved.

[31] Environment and Climate Change Canada, 'Canada's Second Biennial Report on Climate Change', 2016 https://www.ec.gc.ca/ges-ghg/02D095CB-BAB0-40D6-B7F0-828145249AF5/3001%20UNFCCC%202nd%20Biennial%20Report_e_v7_lowRes.pdf.

An additional factor that plays into the analysis of Canada's NDC is the dramatic shift in the Canadian political landscape. While Canada's NDC commitment was submitted by the previous federal government administration, that government was criticized for its overall lack of commitment to action. The since elected new federal government has indicted a much more engaged approach to climate change matters and appears to be attempting to unify the Canadian provinces in generally piecing together an overall Canadian NDC, even if it is isn't uniform across the country. This approach will allow Canadian provinces like Quebec, Ontario, British Columbia and Nova Scotia to take advantage of the efforts already made.

In Canada, there are challenges to immediately reducing GHG emissions from emissions-intensive heavy industry, primary extraction, and certain applications in the transportation sector. Instead, in the short to-medium term, there may be other more cost effective GHG reduction opportunities in other sectors or regions, where abatement technologies are more effective or lower-GHG alternatives exist. Despite these difficulties, Canada has made efforts to transition to lower emission electricity generation and fuel standards that impact the transportation sector. The Canadian NDC is still being refined, but overall presents opportunities for investors due to its focus on technology and innovation, sustainable infrastructure and low carbon energy generation.

Appendix 3 – Summary of EU climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward "nationally determined contributions" (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement. Climate disclosure supports the Paris Agreement goals and NDCs, by enabling company and investor management of material climate-related risks and opportunities.

The EU issued its first NDC jointly with its Member States in March 2015. Importantly, certain Member States have issued their own independent NDCs and plans to achieve them. The EU, and its Member States, have jointly committed to a binding target of an "at least 40% reduction in greenhouse gas emissions by 2030 compared to 1990".

The first NDC notes the following sectors and source categories which will be subject to mitigation focus and activities:

SECTOR	SOURCE CATEGORIES

Energy	▪ Fuel Combustion
	  ▪ Energy industries
	  ▪ Manufacturing industries and construction
	  ▪ Transport
	  ▪ Other sectors
	▪ Fugitive emissions from fuels
	  ▪ Solid fuels
	  ▪ Oil and natural gas and other emissions from energy production
	▪ CO2 transport and storage

Industrial processes and product use	▪ Mineral industry ▪ Chemical industry ▪ Metal industry ▪ Non-energy products from fuels and solvent use ▪ Electronic industry o Product uses as substitutes for ODS ▪ Other product manufacture and use ▪ Other
Agriculture	▪ Enteric fermentation ▪ Manure management ▪ Rice cultivation ▪ Agricultural soils ▪ Prescribed burning of savannas ▪ Field burning of agricultural residues ▪ Liming ▪ Urea application ▪ Other carbon-containing fertilisers ▪ Other

SECTOR	SOURCE CATEGORIES
Waste	▪ Solid waste disposal ▪ Biological treatment of solid waste ▪ Incineration and open burning of waste ▪ Wastewater treatment and discharge ▪ Other
Land Use, Land-Use Change and Forestry set out in Decision 529/2013/EU	▪ Afforestation, reforestation ▪ Deforestation ▪ Forest management ▪ Cropland management ▪ Grazing land management ▪ Or equivalent land-based accounting using UNFCCC reporting categories ▪ Other categories/activities elected by the EU and its Member States as Parties to the Kyoto Protocol and its Doha Amendment.

The EU has been criticised for failing to include meaningful and ambitious commitments in its first NDC and not taking any pre-2020 actions. However, the EU recently confirmed that it is collaborating with China and Canada to forge a collective leadership on climate change.

Appendix 4 – Summary of Japan's climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward “nationally determined contributions” (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement. Climate disclosure supports the Paris Agreement goals and NDCs, by enabling company and investor management of material climate-related risks and opportunities.

Japan's 1st NDC includes a commitment to reduce its GHG emissions by 26% below 2013 levels by 2030 (roughly equivalent to a 25.4% reduction compared to 2005 levels). Japan has also set a long-term target of an 80% or more reduction of GHG emissions by 2050, but has not specified a reference year for that reduction.

Under the NDC submission, Japan has also outlined more specific targets distinguishing between emissions types, as set out in the table below.

Type of emission	Reduction target set against 2013 level	Equivalent reduction compared to 2005 level	Actions in key sectors
Emissions of energy-originated CO2	25%	24%	Enhanced energy efficiency systems and introduction of energy conservation technologies in iron and steel, chemicals, ceramics, stone and clay products and pulp products manufacture industries, commercial and residential sectors, transport sector, energy conversion sector and across sectors as well.
Non-energy originated CO2	6.7%	17%	Expansion of blended cement use and reduction of municipal solid waste incineration.
Methane	12.3%	18.8%	Measures targeting agricultural soils and municipal solid waste.
Nitrous Oxide	6.1%	17.4%	Measures targeting agricultural soils and promoting innovative technologies in sewage facilities.
Fluorinated gases (HFCs, PFCs, SF6 and NF3)	25.1%	4.5% increase	Legislated actions on rational use and proper management of fluorocarbons

Japan has also set specific targets for emissions removals in the Land Use, Land-Use Change and Forestry (LULUCF) sector at approximately 37 million t-CO_2e (corresponding to a 2.6% reduction of total emissions in FY 2013), and approximately 9.1 million t-CO_2e by cropland management, grazing land management and revegetation (corresponding to 0.6% reduction of total emissions in 2013 (corresponding to 0.7% reduction of total emissions in 2005)). The country intends to achieve this target by instituting measures for forest management/forestry industry and soil management (leading to the increase of carbon stock in cropland) and revegetation.

Japan has established a new carbon crediting system under the Joint Crediting Mechanism (JCM), as a basis for the bottom-up calculation of its emission reduction target, but also as a mechanism to measure the amount of emission reductions and removals acquired by Japan under JCM as part of its reduction. It estimates that accumulated emission reductions or removals by 2030 through governmental JCM programs range from 50 to 100 million t-CO_2.[32]

[32] Ministry of Economy, Trade and Industry, Japan,' Submission of Japan's Intended Nationally Determined Contribution (INDC)' November 2016 http://www4.unfccc.int/ndcregistry/PublishedDocuments/Japan%20First/20150717_Japan%27s%20INDC.pdf.

Appendix 5 – Summary of UK climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward "nationally determined contributions" (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement.

The United Kingdom's NDC forms part of the NDC submitted by the European Union (EU) and its Member States in March 2015. This NDC sets out a target of an at least 40% absolute reduction in GHG emissions by 2030, compared to 1990, to be fulfilled jointly. The proposed reduction can be further broken down into a 43% reduction within sectors which participate in the EU Emissions Trading Scheme (ETS), and 30% in non-traded sectors.

Potential investment opportunities created by the NDC and underlying emissions reduction planning are currently unclear, as it remains to be seen how the UK will ultimately participate in global emissions reductions efforts, following its proposed withdrawal from the EU.

Possibilities include the UK creating a new ETS linked with the EU ETS, or negotiating to continue with its existing involvement in the EU ETS and other EU emissions reduction efforts. The independent UK Committee on Climate Change (Committee) recommended in October 2016 that where EU-level mechanisms are working effectively, the UK should either seek to remain involved in those mechanisms, or to replicate them at UK level.

The UK itself has adopted a series of carbon budgets, some of which have already been met. The 2028-2032 target requires a 57% GHG emission reduction by 2030. The Committee concluded in October 2016 that the requisite reduction in emissions to achieve this target is significant, and requires "strong new policies that set a clearer direction across the economy". The Committee noted that existing EU level mechanisms will be sufficient to achieve only 55% of the emissions required by the UK to 2030.

The existing policies that are noted as falling within this category include:

- product and efficiency standards and labelling;
- new vehicle fuel efficiency standards;
- the F-gas regulation, which limits the use of F-gases within the EU;
- participation in the EU ETS;
- sectoral targets such as the landfill reduction and the promotion of biofuels uptake; and
- measures aimed at easing future decarbonisation tasks, including research and collaboration on new low-emission technologies.

Key impacted sectors, as for most UNFCCC parties, will include the remaining fossil-fuel based energy providers. The UK intends to close all coal-fired power plants by 2025, and continues to promote greater use of electricity from low-carbon technologies (including sustainably sourced biofuels). Industrial energy efficiency is a major focus of the UK's existing emission reductions efforts.

Appendix 6 – Summary of United State's climate change commitments

Over 146 parties have ratified the Paris Agreement. Its central aim is to strengthen the global response to climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The goal is feasible, but only if emissions peak by 2020 at the latest. The Paris Agreement requires all parties to put forward "nationally determined contributions" (NDCs), including a requirement to report regularly on their emissions, and on their implementation efforts. In 2018, parties will take stock of the collective efforts to progress towards the goal set in the Paris Agreement.

The United States (US) ratified the Paris Agreement on 3 September 2016, and its Intended Nationally Determined Contribution that was originally submitted on 31 March 2015 formally became its NDC. Under its NDC, the United States commits to reduce greenhouse gas emissions economy-wide by 26-28 per cent below its 2005 level by 2025, and to make best efforts to reduce its emissions by 28%. However, President Trump's announcement on 1 June 2017 that the US would withdraw from the Paris Agreement, followed by the US' official communication of this decision to the UN on 4 August 2017, makes it clear that the US does not intend to implement the NDC even though it will remain officially in place until the US is permitted by the terms of the Paris Agreement to legally withdraw on 4 November 2020.

Prior to announcing its withdrawal, the US took policy actions aimed at reducing emissions by 17% below the 2005 level by 2020, through the Obama Administration's Climate Action Plan (CAP) and Clean Power Plan (CPP). Achieving the 2025 target would have required further emission reductions beyond this 2020 target of 9-11% compared to the 2005 baseline and a substantial acceleration of the annual pace of reduction, to 2.3-2.8 per cent per year, or an approximate doubling.

However, the Trump Administration's climate and energy policies , if fully implemented and not compensated by other actors (such as states and the private sector) are projected to flatten US emissions instead of them continuing on a downward trend (see the diagram below prepared by the Climate Action Tracker) and the targets in the NDC will be missed by a significant margin.

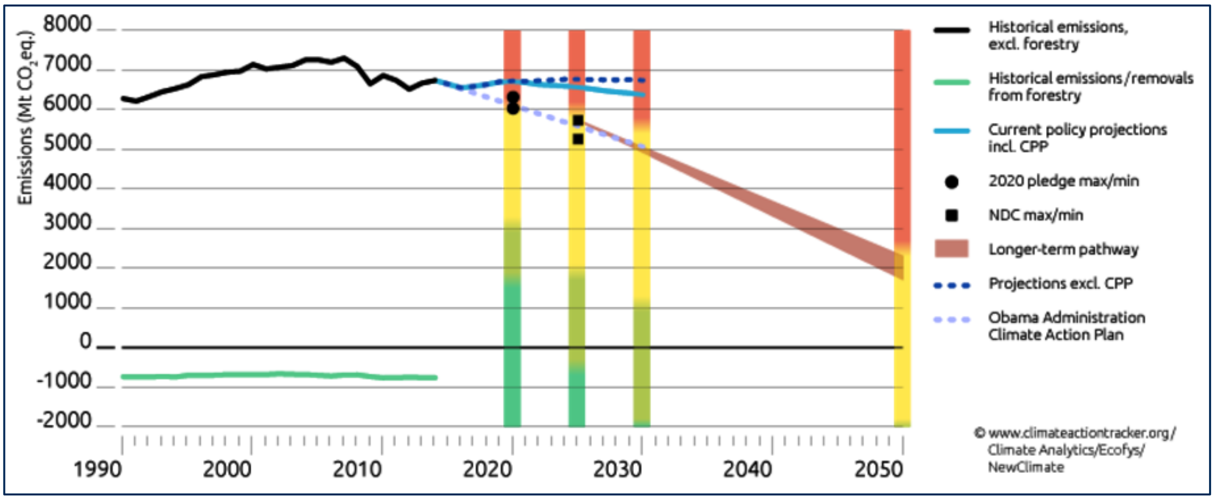

FIGURE 1. PROJECTED EMISSIONS BY THE US UNDER VARIOUS POLICY SCENARIOS[33]

[33] Climate Action Tracker, USA http://climateactiontracker.org/countries/usa.html

The Trump Administration's energy policies so far have included rescinding Obama's Climate Action Plan and taking steps towards an "America First Energy Plan" which has in part been implemented through an executive order on "Promoting Energy Independence and Economic Growth" (Executive Order) that demonstrates a preference for fossil fuels. The Executive Order also lifted the Obama-era moratorium on new coal mining leases on federal lands, a move which has since been challenged in courts by California, New York, New Mexico and Washington as being in breach of the federal government’s statutory duties. While the CPP currently remains in place, the Executive Order calls for a review of the CPP and, if appropriate, suspension, revision, or rescinding of the CPP. Current US policies, including the CPP, are projected to reduce emissions to 10% below 2005 levels by 2025. If the CPP is rescinded, emissions in 2025 are likely to be only 7% below 2005 levels, halting the downward trend of the last decade.

Numerous US states and municipalities have responded to the action by the Trump Administration by establishing the US Climate Alliance, a bi-partisan coalition of states committed to the goal of reducing greenhouse gas emissions consistent with the goals of the Paris Agreement. It is highly likely that state-level regulation, such as emissions trading schemes and vehicle emissions limits will continue and even increase as progressive states seek to make up for the lack of federal regulation on climate change. However, it should be noted that fragmentation of policies and regulations, inconsistencies between states, and potential litigation actions against the federal government are likely to create uncertainty for businesses and investors, although many major US corporate stakeholders such as ExxonMobil, Chevron, BP, Shell and Peabody Energy have been broadly in support of the Paris Agreement.

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