Arch Capital Group Ltd.

Task Force on Climate-related Financial Disclosures

For the year ended December 31, 2020

ARCH CAPITAL GROUP LTD.: TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

As a global specialty property and casualty (re)insurance provider and a mortgage (re)insurance company, Arch Capital Group Ltd. (together with its consolidated subsidiaries, Arch or the Company) delivers innovative solutions grounded in risk management expertise and a deep understanding of its markets and customer needs.

We acknowledge that climate change presents potentially far-reaching implications to our business and customers and the broader global economy. We are committed to improving our understanding of these implications and providing products and services that will be useful to our customers while appropriately addressing evolving climate-related risks.

In this report, we discuss our approach to managing the risk associated with changing climate conditions. We have aligned this inaugural climate risk report with the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) reporting framework, including the following disclosure categories:

I. Climate Risk Governance
II. Climate Risk Management
III. Strategy
IV. Metrics & Targets

I. Climate Risk Governance

The TCFD guidance requests that insurance companies disclose the organization's governance around climate-related risks and opportunities, including the roles of both the Board of Directors and management.

Our Approach. Our holistic approach to risk management involves analyzing risk from both a top-down and bottom-up perspective. The Company's risk management framework includes both our:

1. Risk philosophy and policies to address the material risks confronting the group; and

2. Compliance, approach and procedures to control and/or mitigate these risks.

The actions and policies implemented to meet Arch's business management and regulatory obligations form this framework's core. Climate change risk is embedded in our existing risk management framework.

Environmental Social Governance (ESG) Oversight. In 2019, we formed our ESG team to enhance our management of ESG factors and coordinate our sustainability efforts across our businesses, including the integration of climate change in our corporate strategy. At that time we also established an executive-level ESG Steering Committee made up of leaders from across the business to provide constructive and practical guidance. There is regular communication between our Chief ESG Officer and leaders throughout our operations. The Chief ESG Officer provides formal reports to the Steering Committee at least twice a year. In addition, as of February 2020, the Nominating and Governance Committee (N&G Committee) of our Board of Directors (Board) oversees our ESG activities. Our Chief ESG Officer meets with the N&G Committee at least two times per year and provides quarterly updates.

As our ESG program continues to mature, this established oversight structure will expand to incorporate subcommittees at the business and operating levels to manage specific ESG integration initiatives. For example, earlier this year, we established a subcommittee of the ESG Steering Committee to outline an approach to integrating environmentally sensitive considerations into underwriting risks associated with the thermal coal industry. This subcommittee was made up of senior underwriting officers, risk professionals and the ESG team. Recognizing that certain sensitive transactions, including thermal coal mining and thermal coal-powered plants, have heightened environmental risks, the subcommittee prepared a thermal coal underwriting risk policy, adopted by the Company in early 2021 (https://www.archcapgroup.com/sustainability-governance/documents/).

Risk Identification and Assessment. The Finance, Investment and Risk Committee (FI&R Committee), Audit Committee and Underwriting Oversight Committee of our Board oversee the top-down and bottom-up review of risks. These committees consider insurance, investments and operational risks within the scope of their assessments. Our Chief Risk Officer (CRO) assists these committees in identifying and assessing all key risks.

Risk Monitoring, Control and Reporting. Our CRO is responsible for maintaining the Company's Risk Register and continually reviewing and challenging risk assessments, including the impact of emerging risks such as climate change. In 2019, we introduced ESG factors into our Risk Register. In 2020 and 2021, we expanded the Risk Register and our risk assessment process to include climate change. Please also see the "Climate Risk Management" for additional information on the Risk Register process. Quarterly, the CRO compiles the key risk review process results into a report to the FI&R Committee. The ACGL Risk Register is presented to the FI&R Committee on an annual basis for review, followed by Board approval.

ESG Investment Governance. Our investment team is responsible for preserving and protecting over $25 billion in assets for our global affiliates (as of December 31, 2020). As stewards of Arch's capital, they manage the portfolio conservatively to secure reserves and ensure our ability to pay claims when due. We believe that by incorporating material, nonfinancial factors such as climate risk into investment selection and risk management, we will enhance our investment returns over the long-term.

In 2020, we expanded our Chief Investment Services Officer's role to include ESG oversight. We established an Investments ESG Steering Committee to set ESG strategy and focus on managing ESG-related risks in our investments with sustainability-themed investments to support Arch's effort to address climate change. Comprised of our CRO, Chief ESG Officer and key members of our investment team, the ESG Steering Committee meets quarterly.

For our internally managed assets, ESG considerations guide investment selection to reduce ESG risk in the portfolio. Our exposure to coal and fossil fuels is de minimis and we systematically seek to reduce exposure to companies with poor ESG scores and opportunistically seek to add renewables or positive ESG assets to the portfolio through all asset classes. See page 5 for more on "Impact Investments."

II. Climate Risk Management

The TCFD guidance requests that insurance companies disclose how the organization identifies, assesses and manages climate-related risks. Time frames used for risks and scenarios should include short-, medium-, and long-term milestones. Insurers should include evaluations of physical risks, transition risks and liability risks.

As previously described, one key element of our risk management framework is our Risk Register, which includes an analysis of all risks facing Arch and details the corresponding controls and/or mitigation with respect of these risks. Material changes in the underlying risks, such as changes in business mix, reinsurance strategy and investment strategy, are evaluated for potential impact upon the Company's capital requirements. This process ensures material risks are included within the Register, feed into the analysis of capital requirements and, in some cases, trigger further investigation through stress testing.

While risks tied to climate change historically had been embedded within other risks in our Risk Register, we undertook an initiative beginning in 2020, and continuing through 2021, to identify climate-change risk components in our risk universe and articulate these more specifically in our Risk Register. This initiative was a collaborative effort among our ESG, Risk Management, Investments and business teams to embed evaluations of climate-change risk into our already mature enterprise risk management processes.

The summary of our current assessment of climate change risk is contained in the "Our Identified Climate-Related Business Risks" table that follows.

III. Strategy

The TCFD guidance requests that insurance companies 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.

Arch has undertaken several steps to integrate climate factors and considerations across our business. Starting at the corporate level, we completed a high-level assessment to determine the climate factors most materially relevant to our worldwide business over the short, medium and long term. It incorporated direct feedback from our global risk management leadership, with our CRO's ultimate oversight.

We focused on identifying climate-related risks and opportunities across our key business units and developing strategic responses for our underwriting and investment management activities for our first year.

The "Our Identified Climate-Related Business Risks" table outlines our identified climate-related considerations along with the corresponding potential risk to our business.

Our Identified Climate-Related Business Risks

Time Horizon	Climate Change Risks (Transition*/Physical*/Liability*)	Business Risk
Short Term (1-4 years)	Increased regulatory requirements and mandates related to climate-related issues	Underwriting and exposure selection risk
		Exposure monitoring and reporting risk
		Reputational risk related to reporting requirements
	Increased uncertainty and unpredictability of frequency and severity of natural catastrophes such as extreme weather events, including the aggregation of such events	Pricing risk
		Accumulation management risk
Medium Term (4-6 years)	Shifting market dynamics tied to climate change risk (*e.g.*, risk profiles, technological innovation, regulatory scrutiny, and evolving consumer preferences)	Risk profile uncertainty for carbon-intensive assets, firms or sectors including revenue and/or income loss
		Reputational risk associated with failing to meeting new market environment/customer expectations
		External influences impact Arch strategic plan
	Change in risk profiles of insurance product exposures	Underwriting exposure and selection risk including: property, general liability, directors' and officers' liability and mortgage insurance
		Accumulation management risk
		Model risk from increased claims frequency and severity not included in historical data
	Regional economic hardship due to climate change events and regulation	Underwriting exposure and selection risk
		Product design and demand risk
Long Term (6-50 years)	Increased frequency and/or severity of natural catastrophe and extreme weather events	Underwriting exposure and selection risk
		Accumulation management risk
		Product design and demand risk
	Stringent regulatory mandates such as government policies and sustainable reforms on climate change restricting insuring/investing in carbon-intensive sectors	Revenue and or business risk due to government policies and/or influence from external pressure groups
	Permanent change in economic activities and risk profiles due to climate change	Product design and demand risk
		Reduction in reinsurer financial strength and risk transfer appetite or capacity
	Increased capital requirements and/or reduced returns on equity	Increased capital charges for climate change from ratings agencies or regulators
		Inability to execute new capital market risk transfer transactions
	Physical impact of climate change on business operations	Increased business interruption and operational costs

**Transition Risk Factors:* resulting from the global transition to a carbon-neutral or low-carbon economy
**Physical Risk Factors:* resulting from the direct damages caused by climate events
**Liability Risk Factors:* relating to climate-related insurance claims under liability insurance policies and direct legal claims against insurers for failing to manage climate risks

Climate Opportunities

Climate change presents new opportunities for our business as we evolve. Below are examples of climate-related opportunities across our identified time horizons. These examples should not be construed as a characterization regarding the materiality or financial impact of these opportunities.

Climate Opportunities for Our Underwriting

We have an opportunity to earn more revenue through the demand for clean energy, renewable energy and clean technology (short-term opportunity). An increase or expansion in legislation and regulation related to the environment, including solar energy, could increase demand for insurance products relating to such regulations. For example, there could be more demand for specialized insurance products for all aspects of the renewable energy industry, including construction policies for contractors who focus on renewable energy and LEED construction, surety products that support the efficacy of renewable energy sources, excess and surplus casualty products that cover all stages of renewable energy construction, directors' and officers' liability coverage in the renewables area and professional indemnity coverage for energy consultants, property managers, architects and engineers with Leadership in Energy and Environmental Design (LEED) design certifications. If the changes result in growth in the renewable energy and clean technology sectors, we could see increased sales of specialized insurance and surety products that address renewable energy associated risks. Through our lenders products, we could see a demand for service contracts for individuals generating renewable energy mainly from solar energy.

We have an opportunity to increase our risk control offerings as a means of raising awareness of climate change risk and mitigating risk for our insureds. Our risk control staff has helped our U.S. insurance customers better understand and manage their environmental exposures. Through our risk and loss control service platform, "Arch Risk Control," we are working with insureds to improve their environmental preservation approach. We provide businesses with comprehensive services that include dedicated training, technical information and consulting solutions for reducing the risk of fire and the related carbon emissions, emergency response planning, flood emergency response plan development, hurricane preparedness and avoiding the risks commonly associated with solar panel installations.

We have an opportunity to develop products and/or services for renewable energy businesses through innovation (medium-term opportunity). Since most of our non-mortgage (re)insurance contracts are renewed annually, we can offer natural catastrophe coverage designed to help our customers cope with current climate risks. In addition, we undertake special efforts to help expand (re)insurance protection, through our sovereign lending products in underdeveloped markets and other innovative risk transfer instruments.

Arch is active in the renewable energy (re)insurance business and has focused on brokers and companies that specialize in the clean energy sector. We anticipate new opportunities will emerge that will necessitate (re)insurance protection in many of our business units including property, liability, construction and workers' compensation.

We have an opportunity to improve our operational efficiency by employing energy efficient strategies to lower our emissions. At Arch, we are working to reduce —and where possible eliminate—the harmful impacts our operations have on our world's natural environment. In this report we introduce our first assessment of our greenhouse gas emissions and provide an overview of our approach to not only measuring our footprint, but also aligning on a go-forward strategy to reduce and offset our carbon emissions. This data covers FY19—as our intent with our first year of reporting is to establish a reasonable baseline data set that reflects our average emissions output over time. Our 2020 numbers were highly skewed due to the global pandemic related to COVID-19, so 2020 would not be an appropriate benchmark year.

Climate Opportunities for Our Investments

We have an opportunity to invest in companies committed to positive and measurable environmental outcomes. We consider ESG factors for both our internally managed assets and those assets managed by third parties. Additionally, we measure our exposure to ESG risks, such as climate change, at both the individual asset class and total portfolio levels to make the portfolio more resilient to climate change's adverse effects. We recognize the importance of climate change factors in assessing the sustainability performance of entities in which we invest. Our ESG Aware Statement (Statement), approved by our Board and formalized in 2019, reflects our sustainable value creation approach. The Statement requires that we consider ESG factors in the investment process to the extent relevant. We expect that the integration of ESG factors in the investment process will improve the risk/return relationship, particularly over the longer term.

The transition to a low-carbon economy also creates opportunities for specific asset classes, described below in "Impact Investments."

IV. Metrics & Targets

The TCFD guidance requests that insurance companies examine how resilient their strategies are to climate-related risks and describe risk exposure to weather-related catastrophes in their property insurance by jurisdiction.

Underwriting Resilience under Different Scenarios. For Arch's natural catastrophe exposed business, we seek to limit the amount of exposure we will assume from any one insured or reinsured, and the amount of the exposure to catastrophe losses from a single event in any geographic zone. We monitor our exposure to catastrophic events, including earthquakes and windstorms, and periodically reevaluate the estimated probable maximum pre-tax loss for such exposures. We seek to limit the probable maximum pre-tax loss to a specific level for severe catastrophic events. Currently, we seek to limit our 1-in-250 year return period net probable maximum loss from a severe catastrophic event in any geographic zone to approximately 25% of tangible shareholder's equity available to Arch (total shareholders' equity available to Arch less goodwill and intangible assets). We reserve the right to change this threshold at any time.

Based on in-force exposure estimated as of January 1, 2021, our modeled peak zone catastrophe exposure is a windstorm affecting the Florida Tri-County, with a net probable maximum pre-tax loss of $860 million, followed by windstorms affecting Northeastern U.S. and the Gulf of Mexico with net probable maximum pre-tax losses of $775 million and $689 million, respectively. As of January 1, 2021, our modeled peak zone earthquake exposure (San Francisco area earthquake) represented approximately 65% of our peak zone catastrophe exposure, and our modeled peak zone international exposure (U.K. windstorm) was substantially less than both our peak zone windstorm and earthquake exposures.

Net probable maximum loss estimates are net of expected reinsurance recoveries, before income tax and excess reinsurance reinstatement premiums. Catastrophe loss estimates are reflective of the zone indicated and not the entire portfolio. Since windstorms can affect more than one zone and make multiple landfalls, our catastrophe loss estimates include clash estimates from other zones.

By evaluating our modeled natural catastrophes across multiple global zones and with differing return periods (*i.e.*, likelihoods of occurrence), we can draw observations about the range of possible impacts to our portfolio. We evaluate the impact of single occurrences and study the impact of the aggregation of multiple losses over select periods as part of our corporate risk management.

Our appetite for natural catastrophe risk is determined by estimated climate patterns and other important factors such as our overall mix of business, market conditions, our market share, regulatory constraints, and corporate structure and costs of capital. The complex combination of these, among other factors, determines our appetite for assuming natural catastrophe-related risk.

A key tenet of our business approach is the diversification of risk across risk sources. To the extent that climate change leads to risk from weather-related events representing a greater proportion of our overall risk exposure, we could elect to adjust our appetite or required returns for the risks we would be willing to (re)insure. In addition, climate changes may lead to shifts in population densities and the location of physical assets which drive our exposure opportunities.

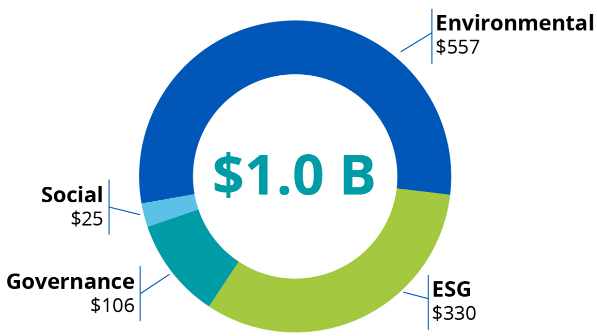
Based on our ongoing evaluation of climate-related risks, our current exposure remains within our risk appetite. We continually measure and monitor our evaluations and assumptions to adjust our views on risk for new information, and we expect to continue to be able to use this information to adjust our appetite for natural catastrophe risk going forward. Since most property/ casualty (re)insurance contracts have a duration of one year, we can adequately adjust the price and manage risk efficiently and effectively.

Investments

We are currently taking our first steps toward examining the financial impacts of climate change on our investment portfolio. We are examining climate-related metrics and scenarios as a benchmark to understand the impacts climate change could have on our portfolio. We plan to review these metrics and incorporate them into our responsible investing program throughout the coming year.

Impact Investments. We believe that responsible investing and performance are not contrary ideas, and we make an effort to allocate capital to companies committed to positive and measurable social and environmental outcomes. We have made certain investments over time that reflect our consideration of ESG factors in both internal and externally managed investments. Impact investments provide the opportunity to add exposure to renewable energy or socially focused funds, selectively. Our impact investments currently total approximately 4% of our total assets under management (AUM).

INVESTMENTS WITH AN ESG FOCUS ($M)
as of 12/31/2020



Greenhouse Gas Emissions. In order to assess our private equity investments' carbon intensity, we have started to gather data sets that can be analyzed to understand the level of integration of our climate-related investment activities. We plan to use three primary metrics to measure our investment portfolio's carbon footprint.

I. Total Carbon Emission Exposures: This metric provides a measurement of the total greenhouse gas (GHG) emissions of the portfolio with respect to Scope 1 and Scope 2 emissions.

II. Relative Emission Exposure: This metric measures the total GHG emissions of the portfolio per USD invested. It provides insight into the portfolio's alignment.

III. Weighted Average Carbon Intensity (WACI): This weighted average measure provides a metric for the portfolio's exposure to carbon-intensive companies. It can be used as a proxy for the portfolio's climate change-related risks.

Scenario Analysis. Initially, we plan to use all three of the recommended TCFD scenarios. We expect our use of these scenarios to become more targeted and sophisticated over time. The three scenarios include:

I. SDS – this scenario compares the portfolio with the International Energy Agency's Sustainable Development Scenario. It provides insight into the portfolio's alignment with the Paris Agreement and the objective to hold the increase in global average temperature to below 2 degrees by 2050.

II. STEPS – the Stated Policies Scenario measures the portfolio's performance against a scenario where all government-stated policies would be implemented.

III. CPS – the Current Policy Scenario measures the portfolio's performance against the policies that are already implemented.

Transition and Physical Risk. We recognize the need to examine the portfolio's exposure to both transition and physical elements of climate risk.

I. Future GHG emissions and controversial business practices can expose the portfolio to stranded asset risks over time.
II. Portfolio Carbon Risk Rating can expose how issuers are prepared for a transition over time and provide forward-looking analysis.
III. Physical risk metrics include analysis of issuer's physical risk management plans and exposures to major hazards that might increase due to climate change.

Environmentally Efficient Operations

Our Sustainable Operations. As a financial services business, we understand that our greatest energy consumption comes from our global office facilities, work processes and employee habits. This includes the environmental footprint of our office buildings, our business travel and our employee commuting practices. These factors affect our natural environment directly and immediately, while also contributing to long-term trends that affect risk.

Greenhouse Gas Emissions and Methodology

	2019
Scope 1 Emissions (Metric Tons CO2e)*	1,008
Scope 2 Emissions (Metric Tons CO2e)*	5,775
Scope 3 Emissions (Metric Tons CO2e)**	8,876
Worldwide Square Footage	1,074,514

*Our methodology for calculating Scope 1 and Scope 2 GHG emissions involved applying national energy consumption averages and emissions factors to our offices based on square footage. Scope 1 2019 estimated emissions cover only natural gas consumption. Scope 2 2019 estimated data covers only electricity consumption.

**Our methodology for calculating Scope 3 emissions involved aggregating exact data from our third-party travel expense system and approximate data from internal sources. The methodology also incorporated a national (U.K.) conversion factor. The Scope 3 2019 estimated emissions cover business flight travel. We do not currently report other potential Scope 3 contributors such as commuting or other forms of transport such as rail, rental or car fleet use, etc.

While our reporting covers only a portion of our emissions, we believe that conducting this analysis is an important initial step toward implementing changes in our behaviors and considering meaningful, certified carbon offset projects or carbon credits to reduce or avoid emittances.

Improving Efficiency—2021 Priorities

Over half of Arch's carbon emissions come from the fuel used to power our corporate air travel. Moving forward, maximizing travel efficiency will become a corporate priority. We are considering various interventions, including adjusting corporate travel policies, working with our travel vendors to drive change, and continuing to encourage virtual meetings to reduce air travel. Beyond corporate travel, monitoring and reducing our office electricity and natural gas consumption levels are another priority for our Global Facilities Team and our sustainability committee, "Blue Goes Green." While we are an office-based company that primarily leases our building space, we still see strong value and responsibility in acknowledging and understanding our Scope 1 and Scope 2 emissions and improving efficiencies everywhere we can.

Important Legal Information

This report may include forward−looking statements, which reflect our current views with respect to future events, risks and uncertainties. Actual events and results may differ materially from those expressed or implied in these statements. We undertake no obligation to publicly update or revise any forward−looking statement, whether as a result of new information, future events or otherwise. For a complete description of the risks and factors that could cause actual results to differ from our current expectations, please see our annual reports on Form 10-K and quarterly reports on Form 10-Q filed with the SEC.