Task Force on Climate-related Financial Disclosures Report

Reporting Year 2021

For the following companies:

Erie Indemnity Company
Erie Insurance Group – Group Number 0213
Erie Insurance Exchange – NAIC Number 26271
Erie Insurance Company – NAIC Number 26263
Erie Insurance Property & Casualty Company – NAIC Number 26830
Flagship City Insurance Company – NAIC Number 35585
Erie Insurance Company of New York – NAIC Number 16233
Erie Family Life Insurance Company – NAIC Number 70769

Table of Contents

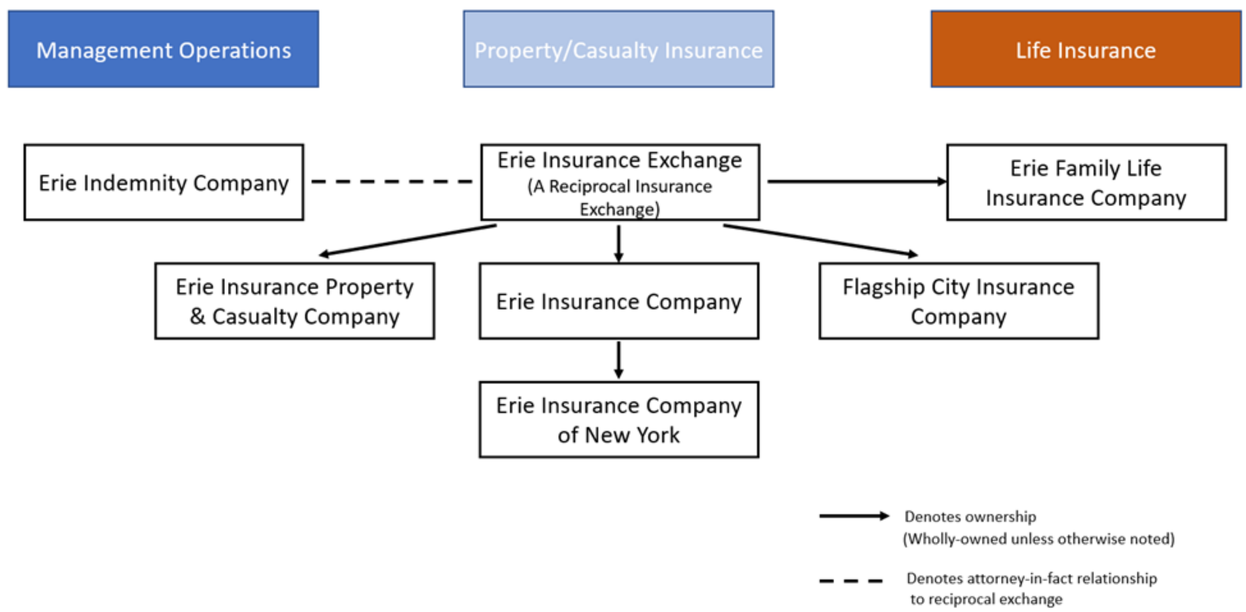
Introduction

Entity Structure

The Erie Insurance Exchange (the "Exchange") is a reciprocal insurance exchange, domiciled in Pennsylvania, that operates in twelve Midwestern, Mid-Atlantic, and Southeastern states and the District of Columbia. The Exchange has five wholly owned property and casualty subsidiaries, which are Erie Insurance Company, Erie Insurance Company of New York, Erie Insurance Property and Casualty Company, and Flagship City Insurance Company. Collectively, they are referred to as the "P&C Group." The Exchange also wholly owns Erie Family Life Insurance Company ("EFL"), which operates as a life insurer that underwrites and sells individual and group life insurance policies and fixed annuities.

Erie Indemnity Company ("Indemnity") is a publicly held Pennsylvania business corporation and is the managing attorney-in-fact for the subscribers (policyholders) at the Exchange. Figure 1 illustrates the relationship between the Exchange and Indemnity, which are collectively referred to as "ERIE". Climate risks and opportunities for both are addressed in this report.

Figure 1: Erie Indemnity and Erie Insurance Exchange Structure



The details of the figure are:

- Erie Indemnity and Erie Insurance Exchange Structure
  - Management Operations – Erie Indemnity Company (attorney-in-fact relationship to reciprocal exchange)
  - Property/Casualty Insurance
    - Erie Insurance Exchange (A Reciprocal Insurance Exchange) owns:
      - Erie Insurance Property & Casualty Company
      - Erie Insurance Company
      - Erie Insurance Company of New York
      - Flagship City Insurance Company
  - Life Insurance – Erie Family Life Insurance Company (owned by Erie Insurance Exchange)

Governance

Disclosure A) Board Oversight of Climate-related Risks and Opportunities

Indemnity's Board of Directors ("Board") is responsible for oversight of the ongoing assessment and management of material risks that impact its business, including climate risks and opportunities. Board governance of climate risks is performed at the ultimate holding company level. If necessary, activities at the entity level may be different for EFL versus the other entities of the Exchange, which are property and casualty insurers. However, to date, no unique activities have been performed for an individual entity. The Board is regularly advised of potential organizational risks as well as policies and actions taken to mitigate those risks. Additionally, the Board would be responsible for tracking progress toward climate commitments ERIE has made. However, to date, the Board has not made any commitments toward climate.

At the Board level, risk oversight is primarily accomplished through individual committees of the Board and management's reporting processes. Each committee oversees and manages the risks associated with their substantive areas of responsibility, and the individual committees meet regularly and report back to the Board. Recent discussions involving climate risks that have taken place at the full Board or committee levels include:

- Presenting a Climate Change Risk Assessment to the Audit Committee (May 2019).
- A Meteorologist presenting to the full Board (October 2021).
- Apprising the Risk Committee and Audit Committee of climate risk disclosure regulations (April 2021).

ERIE has a formal enterprise risk management ("ERM") program, which is overseen by the Risk Committee of the Board. The purpose of the program is to promote risk-intelligent decision making and, in turn, increase the likelihood of achieving our operational objectives. The Risk Committee of the Board also has oversight of ERIE's Environmental, Social, and Governance ("ESG") initiatives and reporting. This includes the evaluation and disclosure of potential risks and opportunities relating to climate.

In addition to the Risk Committee of the Board, other Board committees also have responsibilities for climate risks and opportunities. Figure 2 identifies the Board committees and their responsibilities.

Figure 2: Board Committees with Climate Risk Responsibilities

Erie Indemnity Board of Directors

Risk Committee Oversees ERIE's risk appetite and enterprise risk management framework, including the development and operation of ERIE's ESG initiatives and compliance with climate change risk regulation and disclosure requirements	**Strategy Committee** Oversees and reviews the implementation and execution of ERIE's strategic plan, including its resilience to changes in climate conditions
Investment Committee Identifies and assesses the business and economic risks, including climate risks, relating to ERIE's investments and the investment portfolios of the companies it manages	**Audit Committee** Focuses on risks related to accounting, internal controls, and financial and tax reporting

Details of the figure are:
Board Committees with Climate Risk Responsibilities

- Erie Indemnity Board of Directors
    - Risk Committee - Oversees ERIE's risk appetite and enterprise risk management framework, including the development and operation of ERIE's ESG initiatives and compliance with climate change risk regulation and disclosure requirements
    - Strategy Committee - Oversees and reviews the implementation and execution of ERIE's strategic plan, including its resilience to changes in climate conditions
    - Investment Committee - Identifies and assesses the business and economic risks, including climate risks, relating to ERIE's investments and the investment portfolios of the companies it manages
    - Audit Committee - Focuses on risks related to accounting, internal controls, and financial and tax reporting

Disclosure B) Management's Role in Assessing and Managing Climate-related Risks and Opportunities

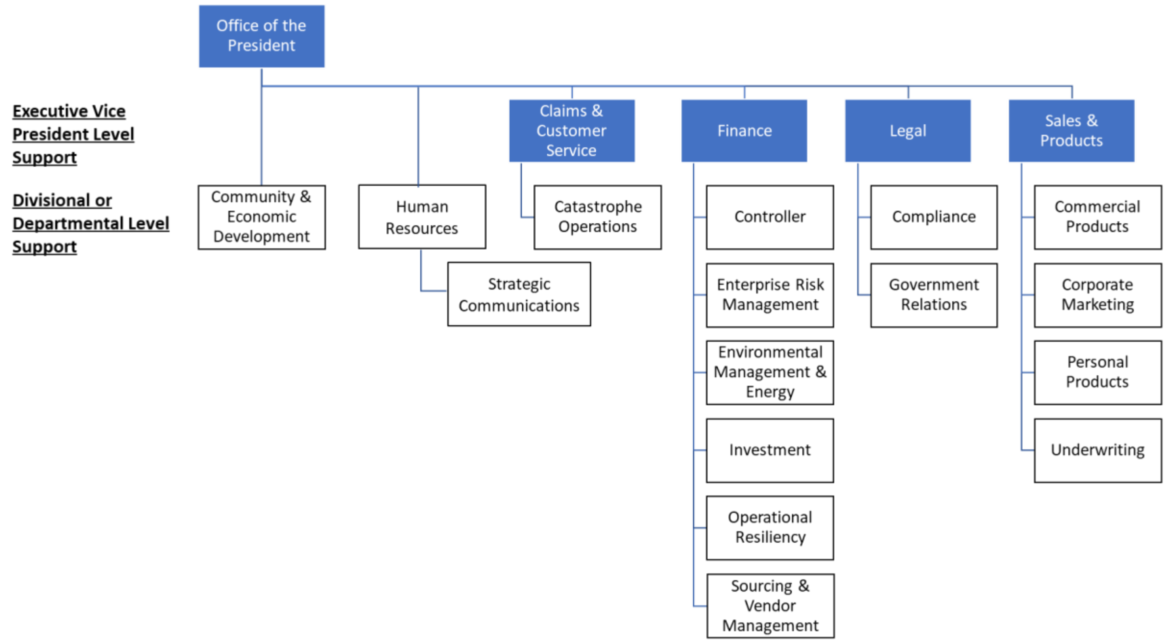
ERIE's ERM program, which falls within the Chief Financial Officer's ("CFO") organization, ensures appropriate management of climate risks and opportunities is performed. In addition to having internal oversight of the ERM program, the CFO also has responsibility for ERIE's financial reporting, which may include climate risk information. ERIE's P/C Chief Actuary and Corporate Risk Officer ("CRO") manage the ERM program. ERIE's ERM function works with other risk assurance functions and business units to identify and assess risks and opportunities that climate could have on ERIE's business model, finances, and operations. The ERM function shares climate-related risk information with ERIE's ESG Task Force, Executive Council, and Risk Committee of the Board. The Executive Council acts as ERIE's senior "risk committee" and is comprised of the Chief Executive Officer ("CEO"), CFO, other Executive Vice Presidents, and select Senior Vice Presidents.

ERIE's Vice President, Chief Diversity & Community Development Officer, who reports to the CEO, is responsible for coordinating direct ESG-related activities, including ERIE's impact on and response to changes in the environment. This position chairs ERIE's ESG Task Force, which includes representation from diverse business areas, such as Compliance, Controller, ERM, Environmental Management & Energy, Human Resources, Investment, Law, and Sourcing and Vendor Management.

Additionally, other business units and committees support the management of climate risks and opportunities. Control functions, for example, play an important role in managing ERIE's climate risks. Some functions, like Actuarial, are important for performing quantitative assessment of the physical risks. Others, like Compliance, Operational Resiliency, Crisis Prevention & Management, and Operational Risk Management, are responsible for identifying and assessing potential risks to ERIE's business operations. The primary business units and committees are shown in Figures 3 and 4.

ERIE acknowledges that the skill sets, education, and knowledge needed to assess and manage climate risks will evolve. In the short term, ERIE has educated and will continue to educate its Board, senior management, and other key stakeholders on their roles in managing the risks. Additionally, on a recurring basis, ERIE will identify and provide training opportunities as part of maturing its climate risk management capabilities, including but not limited to developing scenario analysis.

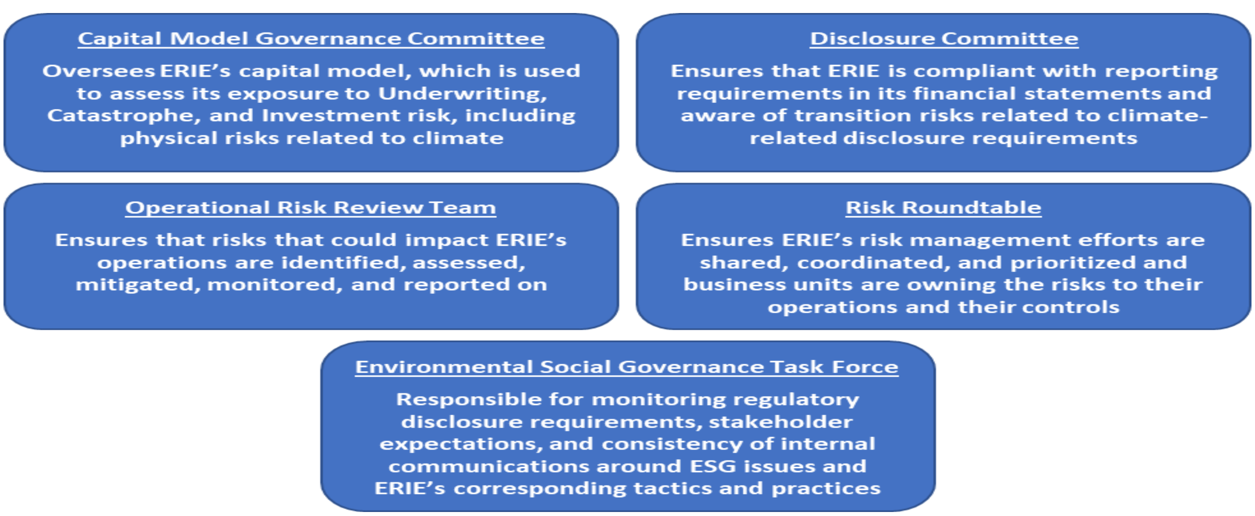
Figure 3: ERIE Business Units Supporting Climate Risk Work



Details of the figure are:
ERIE Business Units Supporting Climate Risk Work

- Office of the President
  - Community & Economic Development
  - Human Resources
    - Strategic Communications
  - Claims & Customer Service
    - Catastrophe Operations
  - Finance
    - Controller, Enterprise Risk Management, Environmental Management & Energy, Investment, Operational Resiliency, Sourcing & Vendor Management
  - Legal
    - Compliance, Government Relations
  - Sales & Products
    - Commercial Products, Corporate Marketing, Personal Products, Underwriting

Figure 4: Internal Committees Supporting Climate Risk Work



Details of the figure are:
Internal Committees Supporting Climate Risk Work

- Capital Model Governance Committee - Oversees ERIE’s capital model, which is used to assess its exposure to Underwriting, Catastrophe, and Investment risk, including physical risks related to climate
- Disclosure Committee - Ensures that ERIE is compliant with reporting requirements in its financial statements and aware of transition risks related to climate-related disclosure requirements
- Operational Risk Review Team - Ensures that risks that could impact ERIE’s operations are identified, assessed, mitigated, monitored, and reported on
- Risk Roundtable - Ensures ERIE’s risk management efforts are shared, coordinated, and prioritized and business units are owning the risks to their operations and their controls
- Environmental Social Governance Task Force - Responsible for monitoring regulatory disclosure requirements, stakeholder expectations, and consistency of internal communications around ESG issues and ERIE’s corresponding tactics and practices

Strategy

Disclosure A) Climate-related Risks and Opportunities

ERIE has identified several climate-related risks and opportunities. Due to the nature of the ERIE's business, with concentration primarily in the auto and homeowners markets in twelve Midwestern, Mid-Atlantic, and Southeastern states and the District of Columbia, changing weather events are considered the most significant climate-related factor to ERIE. Changing climate conditions add to the unpredictability of the frequency and severity of weather events and create additional uncertainty as to future trends and exposures. A single catastrophic occurrence or aggregation of multiple smaller occurrences could adversely affect ERIE's financial condition. In addition to weather events, ERIE considers additional risks and opportunities associated with climate, which it categorizes by type of risk and time horizon.

Regarding types of climate risks, ERIE categorizes them into:

- *Physical risks*, which are associated with changes in the frequency and/or intensity of weather events and chronic shifts in weather patterns.
- *Transition risks*, which are associated with society moving to a lower-carbon economy.
- *Legal risks*, which arise from climate-related litigation.

Table 1 includes risks that could materially impact ERIE's business. ERIE considers a risk material if it could have a significant adverse effect on its business, financial condition, operating results, cash flows, or liquidity. Materiality is determined using qualitative assessments and quantitative analysis, if available. Some risks can also be opportunities for ERIE to grow its business. Those that could be risks and opportunities are bolded and italicized. A description of each risk and opportunity and its potential impact is provided in *Disclosure B) Impact of Climate-related Risks and Opportunities*.

Table 1: ERIE's Climate-related Risks and Opportunities

Time Horizon	Risks and Opportunities: Physical	Risks and Opportunities: Transition	Risks and Opportunities: Legal
Short-Term 1-5 years		Changing climate-related reporting and risk management obligations Mandates on and regulation of existing products and services	
Medium-Term 5-10 years		***New products, services, or strategies*** ***Performance of the investment portfolio***	Lawsuits against ERIE or its customers
Long-Term 10-30 years	***Changes in the frequency and/or severity of weather events***		

Details of the table are:
ERIE's Climate-related Risks and Opportunities

- Short-Term (1-5 years)
  - Transition
    - Changing climate-related reporting and risk management obligations

        - Mandates on and regulation of existing products and services
- Medium-Term (5-10 years)
    - Transition
        - ***New products, services, or strategies***
        - ***Performance of the investment portfolio***
    - Legal
        - Lawsuits against ERIE or its customers
- Long-Term (10-30 years)
    - Physical
        - ***Changes in the frequency and/or severity of weather events***

Disclosure B) Impact of Climate-related Risks and Opportunities

Additional information for each risk and opportunity identified in Table 1 is provided below. While ERIE is not currently aware of any material impacts from the risks or from actual events, actual or expected changes in climate conditions have the potential to create the impacts described.

Short-Term (1-5 years) Risks and Opportunities

Changing Climate-related Reporting and Risk Management Obligations (Transition Risk)

ERIE is subject to extensive regulatory supervision in the states in which it conducts business. Such regulation and supervision are primarily for the benefit and protection of its Policyholders, and financial and insurance-specific regulators have been issuing expectations of business's management of climate risks. The expectations include maintaining governance at the Board and senior management levels, implementing a process to identify and assess risks, disclosing material risks, and disclosing metrics and targets related to the business's impact on the environment. Complying with new regulations as well as changes to existing regulations could generate significant expense.

Mandates on and Regulation of Existing Products and Services (Transition Risk)

ERIE's business could also be impacted by regulatory oversight of rate setting, policy forms, mandated participation in involuntary markets and guaranty funds, and restrictions on underwriting standards. ERIE's business, cash flows, results of operations, financial condition, and/or operating environment may be impacted by an increase to its exposure to loss. For example, regulators may mandate that ERIE provide certain coverage.

Medium-Term (5-10 years) Risks and Opportunities

New Products, Services, and Strategy (Transition Risk and Opportunity)

ERIE continually evaluates its products, services, markets, and strategy for enhancements and introduces new products, services, and geographic locations as appropriate. Evaluations include making assumptions about results ERIE expects from changes. There is uncertainty that the assumptions will be true, but variances may be favorable or unfavorable.

Climate change also provides ERIE with opportunities to address impacts on Policyholders. For example, ERIE currently offers some products that allow its Policyholders to replace property with more environmentally friendly options when they experience a loss.

Performance of the Investment Portfolio (Transition Risk and Opportunity)

The performance of ERIE's investment portfolio, which is comprised principally of fixed income securities, equity securities, and limited partnerships, is exposed to a variety of investment risk factors, including climate. For example, as the world moves to a lower-carbon economy, companies operating in or servicing the carbon-based energy industry may experience a decline in valuation. If investments in the portfolio suffered a substantial decrease in value, ERIE's financial position could be materially adversely affected through increased unrealized losses or impairments and put it at risk of failing to satisfy regulatory or rating agency minimum capital requirements. ERIE's investment philosophy is to maintain a well-diversified portfolio that operates within its investment guidelines and limits, which includes prudent allocations to different asset classes, sectors, and individual investments. This includes investments in companies and physical assets that will benefit from a transition to a lower-carbon economy. As part of its investment decision-making process, ERIE uses the Integration Approach, whereby it considers climate change alongside other ESG and traditional fundamental factors. Given ERIE's portfolio diversification, use of the Integration Approach, and significant allocation to short and intermediate duration fixed income securities, climate risk is considered to be a lower investment risk at this time.

Lawsuits Against ERIE or Its Customers (Legal Risk)

ERIE and its Policyholders face risks of litigation, including the risk of class action lawsuits, associated with its business and the insurance policies issued. Plaintiffs in class action and other lawsuits may seek large or indeterminate amounts of damages, including punitive and treble damages, which may remain unknown for substantial periods of time. Additionally, as climate conditions change, unexpected and unintended issues related to claims and coverage may emerge. In some instances, these emerging issues may not become apparent for some time after the affected insurance policies have been issued. As a result, the full extent of liability under ERIE's insurance policies may not be known for many years after the policies are issued. These issues may adversely affect ERIE's business by either extending coverage beyond its underwriting intent or by increasing the number or size of claims. If there were legislative action in response to a significant unexpected event that retroactively mandated coverage irrespective of terms, exclusions or other conditions included in policies that would otherwise preclude coverage, it could have a material impact on ERIE's financial condition, results of operations, and cash flows.

Examples of legal risks against ERIE may include lawsuits alleging the plaintiffs experienced harm resulting from ERIE's operations or investors claiming ERIE misled them with regards to environmental matters. Most of ERIE's greenhouse gas ("GHG") emissions, however, are the result of activity within our office spaces, the use of company-provided vehicles for job responsibilities, and business travel, and therefore, ERIE does not think its operations pose much risk of climate-related litigation. An example of legal action against ERIE's Policyholders may be product liability claims alleging the Policyholder's product is harming the environment. To date, ERIE is not aware of any climate-related legal action.

Long-Term (10-30 years) Risks and Opportunities

Changes in the Frequency and/or Severity of Weather Events (Physical Risk and Opportunity)

ERIE's insurance operations are exposed to claims arising from natural catastrophic events, which includes hurricanes, tornadoes, hailstorms, and severe winter weather. The frequency and severity of these catastrophes is inherently unpredictable. Changing climate conditions have added to the unpredictability of the frequency and severity of natural disasters and have created additional uncertainty as to future trends and exposures. A single catastrophic occurrence or aggregation of multiple smaller occurrences within ERIE's geographical region or its assumed property reinsurance portfolio could adversely affect its financial condition.

ERIE models losses for the subsequent twelve months using thousands of scenarios, and the results provide data for pricing its policies. Its catastrophe and capital models do not explicitly include climate change inputs, but they utilize modeled hurricane, earthquake, winter storm, and severe convective storm losses, which are influenced by near-term climate history. The capital model includes correlations between catastrophe risk, underwriting risk, and investment risk, and allows ERIE to measure the benefit from diversification. A variance between modeled and observed weather events could cause ERIE's losses and claims expenses to be higher than anticipated, which could impact its overall financial results. However, ERIE's financial condition is currently very strong, and it has not experienced variances that have changed this.

ERIE maintains a brand recognized for customer service. The perceived performance, actions, conduct and behaviors of Employees and third-party service partners may result in reputational harm to its brand. If an extreme catastrophic event were to occur in a heavily concentrated geographic area of Policyholders, an extraordinarily high number of claims could have the potential to strain claims processing and affect ERIE's ability to satisfy its customers. Failure to satisfy expectations in these areas may result in negative publicity or other adverse outcomes. Any reputational harm to ERIE could have the potential to impair its ability to grow and renew its business. However, providing exceptional service and meeting or exceeding expectations may help ERIE grow its reputation.

Changes in climate could drive people to relocate and seek more property insurance, which may favorably or unfavorably impact ERIE. Migration into states ERIE does business in could grow the prospective customer population, but the opposite could occur if the population migrates outside of ERIE's footprint. To offset the risk, ERIE could choose to expand its footprint into states seeing population growth. Customers seeking more property insurance could benefit ERIE's policies in force and direct written premium growth. However, the new business's profitability would be uncertain. Currently, ERIE is not aware of migration or customers seeking more property insurance due to climate change, but these risks and opportunities may arise in the future.

Weather events have the potential to impact ERIE's operations by preventing access to its buildings and making technology and data it relies upon unavailable. The events may also prevent ERIE's Employees from working. Additionally, ERIE relies on third party service providers in certain regions around the globe. If they are unable to perform their services, ERIE may experience operational difficulties, increased costs, and reputational damage. A weather event may occur in a region not impacting ERIE or its geographic footprint but impacts a third party and subsequently ERIE. To mitigate this, ERIE's business units have Business Continuity Plans that document actions it would take should an event impact it or a third party. Some of ERIE's third parties have experienced events that have disrupted their and ERIE's operations, but ERIE has been able to manage the events.

Disclosure C) Resilience of the Organization's Strategy

Developments with climate change may impact ERIE in the risks and opportunities discussed in *Disclosure B) Impact of Climate-related Risks and Opportunities*. However, for reasons discussed below, ERIE currently believes its business and strategy can withstand the climate-related risks discussed in this report.

The Intergovernmental Panel on Climate Change's (IPCC) Shared Socioeconomic Pathway (SSP) 1-1.9 describes rapid movement toward a low-carbon environment, which poses high transition risk. Rapid transition could decrease the value of assets in the fossil fuel industry. However, ERIE classifies this as a lower risk for its investment portfolio overall because of diversification. Rapid transition could also change the market for insurance. Examples include the markets for businesses in the fossil fuel industry and for vehicles. However, ERIE classifies this as a lower risk for its insurance portfolio. It has a diverse portfolio of commercial insureds across many industries. Additionally, ERIE can insure other types of vehicles, like electric vehicles, to offset reduced demand for insurance for internal combustion engine vehicles.

The IPCC SSP5-8.5 is a scenario in which CO_2 emissions are very high. Considering the potential implications from this scenario and ERIE's resilience to them:

- ERIE's financial capacity to withstand impacts from catastrophic storms and maintain capital requirements is very strong. The capacity comes from its surplus and property catastrophe reinsurance. Therefore, catastrophe losses would need to be significantly above ERIE's modeled losses even under the IPCC SSP5-8.5 scenario for its business and strategy to be materially harmed.
- ERIE performs assessments of risks associated with strategic moves. For example, ERIE's evaluation of new products, services, and geographic locations includes assessments of expected results and risks to achieving them. Part of the evaluation may consider potential future climate conditions.
- ERIE is headquartered in Erie, PA, and most of its operations are performed there. This location is subject to occasional winter storms and infrequent severe convective storms. Even if these storms increase in frequency and/or severity, ERIE feels prepared to maintain or recover operations quickly.

Risk Management

Disclosure A) Process for Identifying and Assessing Climate-related Risks

Identification

ERIE has identified six main keys to the organization's success, referred to as Key Assets. The Key Assets are its 1) insurance products and policies, 2) investments, 3) data stored and used for operations, 4) distribution model for selling its products and services, 5) customer service standards, and 6) corporate culture. Each Key Asset includes a set of risks to them, and most have been assigned an executive owner who ensures that risks to the Key Asset are managed appropriately.

Climate risks, such as those discussed in the Strategy section, are identified through multiple efforts, which include but are not limited to reviews of the Key Assets for potential impacts on them, evaluations of new products and services, internal scans, external sources, and work of the internal committees discussed in the Governance section.

Assessment

ERIE defines risk within its ERM framework as "the difference between the planned and an unexpected outcome." Climate risks may cause unexpected outcomes, and to assess the potential likelihood and impact from the risks, ERIE may use multiple methods. For some climate risks, like those that may impact ERIE's insurance products and policies and investments, it may be easier to incorporate quantitative methods. However, other climate risks may be difficult to quantify, and therefore, qualitative assessments are more appropriate. Results of assessments are reviewed with the Executive Council and Risk Committee of the Board as appropriate.

ERIE will review its assessment of climate risks on a recurring basis. Its review will include identifying opportunities for adding and maturing scenario analysis, which may be included in its risk reporting, such as its Own Risk Solvency Assessment.

Disclosure B) Process for Managing Climate-related Risks

ERIE considers climate risks to be a high priority due to their potential impacts on its Key Assets. Therefore, ERIE manages the risks through several activities, such as those described below. Material developments with the risks are reported to executive management and the Board as necessary.

- ERIE actively monitors its catastrophe risk footprint. Exposure growth is tracked in geographical areas that have been identified as catastrophe prone. Every quarter, exposure growth and estimated financial risk is monitored against a risk tolerance and reported to executive management. Should a tolerance be exceeded, the Risk Committee is made aware.
- ERIE uses catastrophe simulation models to quantify the amount of risk inherent in its footprint. Near-term climate parameters are used in these models to reflect recent trends in climate.
- ERIE builds relationships with specific reinsurers that are leaders in the understanding of meteorology and climate change, and the subsequent impact on catastrophe risk. The goal is to learn from their expertise and enhance ERIE's already-sophisticated catastrophe models.
- ERIE has diversified its footprint, applying an appropriate rate to all areas, and transferring a portion of catastrophe risk through reinsurance.

- ERIE provides green upgrade coverage in some personal and commercial property policies. In the event of a claim, damaged property can be replaced with more environmentally friendly alternatives.
- ERIE applies catastrophe risk factors in pricing procedures and reinsurance purchasing decisions. These factors are then adjusted over time based on the growing knowledge of catastrophe risk.

ERM plans on partnering with Internal Audit starting in 2023 to establish independent reviews of its climate risk management processes.

Disclosure C) Integration of Identification, Assessment, and Management of Climate-related Risks into the Organization's Overall Risk Management

Climate risks are considered as part of ERIE's overall risk management practices and are managed within its Emerging Risk Program ("ERP"). The ERP is run by ERM and overseen by executive management and includes a specific framework document that governs emerging risks, which has been approved by executive management.

Risks prioritized within the ERP, such as climate risks, are put on a track for assessment, which includes identifying their potential impacts. The degree of impact is assessed by building trends and uncertainties, and then using the uncertainties to build future realities. Impacts from these scenarios are based on implications on ERIE's Key Assets, strategy, and other business model components. Additionally, climate risks are considered primary risk factors related to catastrophe risk, one of ERIE's largest traditional risks. ERM performs periodic stand-alone risk evaluations and recurring monitoring of ERIE's large traditional risks. Historic storm frequencies and severities are analyzed, as well as the enterprise impact of large storms, which span financial, operational, and reputational consequences.

Furthermore, ERIE's process for assessing climate risk's impact on its catastrophe risk includes an annual review of its potential impact on liquidity and capital. Findings from the review are used to make decisions concerning ERIE's credit facility, borrowing capacity, operating cash targets, and reinsurance program.

Metrics and Targets

Disclosure A) Metrics Used to Assess Climate-related Risks and Opportunities

ERIE tracks climate-related metrics that are described in this section. The metrics are meant to help ERIE identify potential risks and opportunities it can manage. Targets associated with the metrics, if applicable, are discussed in *Disclosure C) Targets Used to Manage Climate-related Risks and Opportunities and Performance Against the Targets*.

<u>*Catastrophe Losses*</u>

Catastrophe losses pose a significant risk to ERIE's insurance book. ERIE defines "catastrophe" using:

- An internal, claims-related description, which focuses on a concentration of losses from the same cause or causes, often weather related, occurring in a specific time period, in a specific area or areas, generating severe and/or widespread damage, and possibly necessitating extra claims personnel or requiring relaxed claims handling guidelines to handle the losses.
- Industry accepted definitions, such as Insurance Services Office's Property Claims Services, which "assigns a catastrophe serial number to loss events in the United States, Puerto Rico, and the U.S. Virgin Islands that cause $25 million or more in insured property losses and affect a significant number of policyholders and insurers."[1]

To assess its catastrophe risk, ERIE compares modeled catastrophe events to available surplus. Table 2 includes model results for three perils, evaluated as of December 31st for 2019, 2020, and 2021. Each is within ERIE's tolerance for catastrophe risk.

Table 2: ERIE's Net Per Occurrence Catastrophe Model Results

	2021		2020		2019	
Realistic Disasters (in millions and as a percentage of surplus)	**$**	**%**	**$**	**%**	**$**	**%**
1-in-100 Hurricane	951	8%	890	8%	778	8%
1-in-100 Severe Convective Storm	633	5%	571	5%	546	6%
1-in-100 Winter Storm	501	4%	454	4%	459	5%

Details of the table are:
ERIE's Net Per Occurrence Catastrophe Model Results

- Realistic Disasters (in millions and as a percentage of surplus)
  - 1-in-100 Hurricane
    - 2021 - $951, 8%
    - 2020 - $890, 8%
    - 2019 - $778, 8%
  - 1-in-100 Severe Convective Storm
    - 2021 - $633, 5%
    - 2020 - $571, 5%
    - 2019 - $546, 6%
  - 1-in-100 Winter Storm
    - 2021 - $501, 4%
    - 2020 - $454, 4%
    - 2019 - $459, 5%

[1] https://www.verisk.com/insurance/products/property-claim-services/pcs-catastrophe-loss-index/#:~:text=PCS%20assigns%20a%20catastrophe%20serial,number%20of%20policyholders%20and%20insurers.

Disclosure B) Greenhouse Gas Emissions

Most of ERIE's GHG emissions are the result of activity within its office spaces, the use of company-provided vehicles for job responsibilities, and business travel. While ERIE acknowledges that its business operations emit GHGs, calculations of its GHG emissions related to office activity and business travel not related to the use of our leased airplane are not currently available. However, GHG emissions associated with company-provided vehicles and travel via leased airplane are provided in Table 3. The results reflect reduced business travel related emissions as a result of travel restrictions in place during the COVID-19 pandemic. Restrictions on Customer and Agent visits, for which company-provided vehicles are used, were eased in June 2021.

Table 3: Fleet Vehicle and Leased Airplane Data

Source of GHG Emissions (metric tons of CO_2)	2021	2020	2019
Company-provided Vehicles	6,811	7,016	9,448
Business Travel – Leased Airplane	85	163	477

Details of the table are:
Fleet Vehicle and Business Travel Data

- Source of GHG Emissions (metric tons of CO2)
    - Company-provided Vehicles
        - 2021 – 6,811
        - 2020 – 7,016
        - 2019 – 9,448
    - Business Travel – Leased Airplane
        - 2021 – 85
        - 2020 – 163
        - 2019 – 477

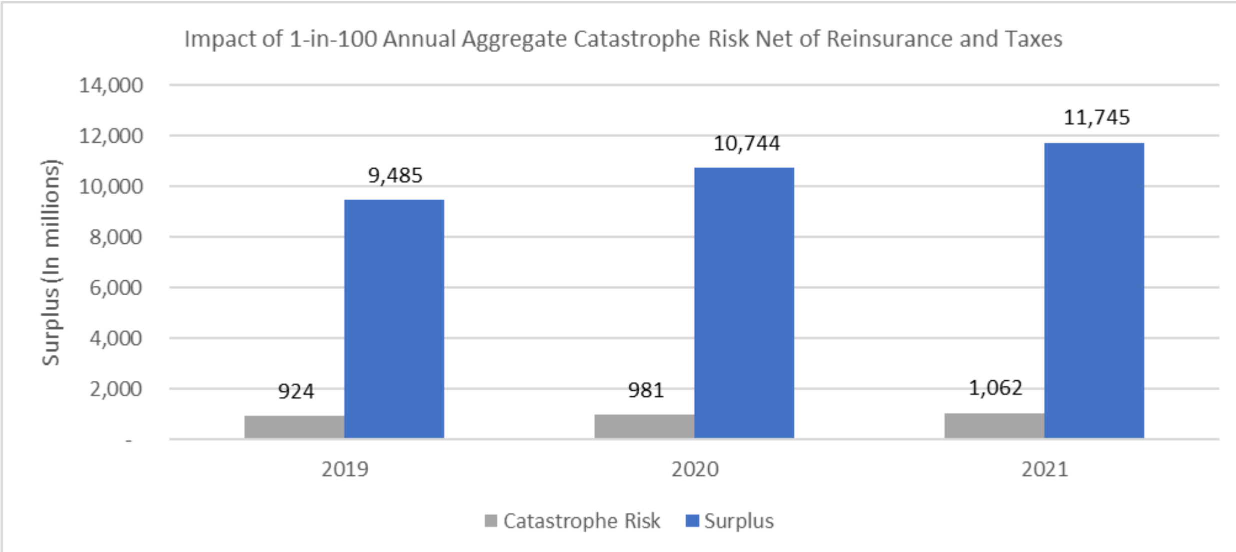
Disclosure C) Targets Used to Manage Climate-related Risks and Opportunities and Performance Against the Targets

As discussed in *Disclosure A) Metrics Used to Assess Climate-related Risks and Opportunities*, ERIE monitors and manages several climate-related metrics.

Catastrophes

Catastrophes are a material risk to ERIE's business, and therefore, it manages the risk within a target. The target is expressed as a risk tolerance for its 1-in-100 annual aggregate catastrophe risk, which is expected to be less than 10% of policyholder surplus. ERIE manages its 1-in-100 annual aggregate catastrophe risk through underwriting, reunderwriting, pricing, and the use of reinsurance. Figure 5 shows the impact of annual aggregate catastrophe risk as of December 31, 2019, 2020, and 2021.

Figure 5: Impact of Annual Aggregate Catastrophe Risk



Details of the figure are:
Impact of 1-in-100 Annual Aggregate Catastrophe Risk Net of Reinsurance and Taxes (millions)

- 2019
  - Catastrophe Risk – 924
  - Surplus – 9,485
- 2020
  - Catastrophe Risk – 981
  - Surplus – 10,744
- 2021
  - Catastrophe Risk – 1,062
  - Surplus – 11,745

Additionally, ERIE is collaborating with climate scientists and catastrophe modeling experts to begin using its catastrophe model to simulate climate change impacts where available. Currently, ERIE has high confidence that hurricanes are likely to gradually increase in severity because of climate change. Specifically, ERIE has analyzed the IPCC SSP5-8.5 scenario for the potential impact on current property exposures in 2050. In this scenario, ERIE estimates its 1-in-100 annual aggregate catastrophe loss for hurricane would increase by 18.1%, all else being equal. However, the risk is still manageable, and ERIE plans to monitor it and adjust pricing and strategy as appropriate.

Operations

ERIE's operations are mostly office based, and objectives it sets align with responsible use of resources and managing its carbon footprint. Some examples of how ERIE shows responsibility for the environment are provided below.

- ERIE is a partner in the Environmental Protection Agency's Energy Star Program.
- Its newest buildings, the Technical Learning Center and the Thomas B. Hagen Building, were constructed to include environmentally conscious components. Additionally, ERIE has purchased renewable energy credits for the Thomas B. Hagen Building so that some of its electricity came from a renewable source. Both buildings meet LEED's gold certification standard.
- ERIE utilizes daylight harvesting in many buildings, which reduces energy consumption from interior lighting fixtures while maintaining a desired lighting level, by offsetting with natural daylight.

- Smart Building Automation System strategies are being employed, which provide intelligent lighting, heating, and air conditioning system controls for optimizing efficiency and decreasing energy usage.
- Many restroom water fixtures have been replaced with sensor-activated fixtures.
- ERIE has supported the Green Building Alliance's 2030 Project.