



**2021**

# **TCFD Report**

Published July 2022

# Governance

## Board's oversight of climate-related risks and opportunities

Our Board of Directors ("the Board"), comprised of both independent directors and company leadership, sets the tone in providing directional strategy regarding risks and opportunities posed by ESG so that we may continue to deliver for our stakeholders. The Board's work is reinforced by the Risk Committee of the Board, which also oversees the Company's response to climate-related risk management. Subsidiary level boards of directors and their risk committees lend additional guidance and oversight to the risk management programs of our businesses.

Oversight of ESG matters is also included in the mandate of the Nominating and Corporate Governance Committee, which is charged with assessing the Company's ESG initiatives and making strategic recommendations to enable ICE to further our ESG-related goals.

## Management's role in assessing/managing climate risks and opportunities

The Company's global Enterprise Risk Management team, overseen by the Risk Committee and led by our Corporate Risk Officer, has developed an approach based on the Task Force on Climate-related Financial Disclosures ("TCFD") framework to assess the range of impacts from climate-related risks to our businesses. The team implemented that framework in collaboration with leadership across our organization to identify, assess, and manage climate risks and opportunities.

Additionally, ICE has developed an ESG Governance Committee comprised of senior Company officials including our President, Chief Financial Officer, Corporate Risk Officer, Human Resources Officer, Chief Regulatory Officer, General Counsel, and the Presidents of our individual businesses. This committee is singularly focused on advising the Company in managing enterprise-wide ESG risks and opportunities. Analysis from Enterprise Risk Management, along with input from other corporate departments, is provided to the ESG Governance Committee in furtherance of its aim to provide a holistic climate change risk management approach to ICE. Our ESG efforts are coordinated by the Company's Vice President of Sustainability, an office that we created to advance the Company's commitment to achieving our own ESG-related initiatives.

ICE's collaborative nature is distinctly embodied in our ESG approach. In addition to formal governance structures, multiple operational departments work together to play a critical role in our sustainability strategies. The Company's Risk team, along with the Human Resources, Operations, Facilities, and Business Continuity teams, work together to reinforce a culture of corporate preparedness and planning. Specifically, our Facilities teams are engaged in efforts to account for and reduce our greenhouse gas emissions across the organization. Our Business Continuity and Disaster Recovery teams regularly assess the physical security and resiliency of our systems and geographic locations to ensure our ability to meet the needs of our stakeholders despite potential hazards. ICE has also developed a Sustainable Finance Product Steering Committee, which meets regularly to deliver on its mission to provide innovative market tools to help drive progress toward global climate goals. Additionally, we have designated a President for ESG products company-wide to guide and further reinforce our overall strategy.

Since our founding, ICE has brought innovation, transparency, and efficiency to the markets we serve. Centered at the nexus of leading global financial markets, ICE ("we" or "the Company") is distinctively positioned to support our stakeholders and communities in navigating rapidly changing and increasingly complex Environmental, Social, and Governance ("ESG") considerations. As a Company, we have engaged all facets of our organization to embrace the moment by exercising the ethos ICE has always applied in solving important challenges: communication, collaboration, and problem solving.

# Strategy

## Climate-related risks and opportunities

At ICE, we continue to enhance our strategies to manage climate-related risks and opportunities and have leveraged the TCFD framework to inform our overall strategic approach. Climate-related risks that are most pertinent to ICE fall broadly into two categories: Physical, which focuses on potential impacts to ICE's operations or to our stakeholders resulting from acute weather events; and Transitional, which centers around evolving impacts to demand for different products as the economy transitions towards net zero greenhouse gas emissions.

ICE is uniquely positioned to be a leader in the transition to a reimagined energy economy. We do that by responding to changing consumer and institutional preferences around energy consumption and associated trends in the market, and by offering risk management and hedging tools. Our stakeholders are increasingly incorporating sophisticated datasets into their risk management strategies, and we continue to build wide-ranging proprietary data solutions to offer unique market insights. As ESG is increasingly becoming a component of investment portfolios, our technology and data expertise position us to deliver solutions that meet these evolving customer needs.

Examples of relevant strategic risks are outlined below. Each component referenced details specific risk-based factors we have considered and implemented within our overall strategy.

## Transition Risk



### Market risk

Risks presented to ICE as the markets it serves and products it offers evolve. As real-world demand for fossil fuels declines, demand for certain products may also wane -- and the price discovery process for such products could become more challenging. This risk category underscores the important role that ICE's transparent, liquid, and diverse marketplaces play in support of our customer's energy and risk management needs and in facilitating the transition to cleaner fuel sources.



### Policy or regulatory risk

Risks could be presented to ICE and its stakeholders by changes to policy or regulation that may impact participation in our products or markets. ICE maintains robust governance, regulatory and compliance protocols to continue to adapt to evolving policy.



### Reputational risk

Stakeholder concerns and shifts in consumer preferences over time could present reputational risks for a variety of companies across the globe. These factors might also relate closely to Market Risk if consumer sentiment or demand for certain products traded on ICE's markets were to change. ICE has always prioritized the facilitation of transparent and open markets, supplemented by our data solutions, to help our stakeholders manage their risk.

## Physical risk



### Operational risk

Risks related to the resilience of our operations include facilities-based risk associated with a one-off weather event. Our Business Continuity teams have implemented an “All Hazards” approach to address wide-ranging potential threats or disruptions to our operations.

### Ecosystem risk

Increasingly severe, persistent, weather events may place strain upon the global market ecosystem. We recognize the importance of our business and our vendors remaining available to serve our customers throughout such potential future events. Our Vendor Management, Third Party Risk Management and Business Continuity teams work together to strengthen ICE’s ability to service our markets and products despite the risk of greater future uncertainty.

In developing our climate-based risk approach, we also considered the timelines on which various risks may manifest themselves differently across our categorization structure. In line with best practices, we further delineated our strategies to encompass short- (one year or less), medium- (one to five years) and long-term (five years or longer) time horizons.

## Investment in climate change risk solutions

We started investing in environmental markets in 2003 through a partnership with the Climate Exchange, which we fully acquired in 2010. Innovative DNA has been embedded throughout ICE as it has grown and evolved. Now, with over a decade of investment in our products, ICE is recognized as a global leader in environmental markets. We continue to invest heavily in natural capital market solutions to offer climate change risk management options to our stakeholders, including our recently announced partnership between the New York Stock Exchange and Intrinsic Exchange Group to develop new classes of publicly traded sustainable assets that promote healthier ecosystems through investment in biodiversity, clean water, carbon sequestration and other natural sources.

Our commodity markets also play a leading role in facilitating the pathway to a net zero economy. In the same way that transparent price signals help balance supply and demand factors, ICE’s environmental markets also provide transparency around pricing across the carbon cycle to balance the supply and demand of the world’s carbon budget. Reference **Appendix A** for a sample of our commodity market solutions.

While ICE’s environmental markets fulfill an array of our customer’s needs, they do not work in isolation. Our environmental markets complement our vast energy market portfolio and allow for participants to make informed decisions regarding utilization of competing energy sources within a broader economic context. By valuing both negative and positive externalities, our markets promote the erosion of the green premium, the additional cost of generating energy from less carbon-intensive technologies. The best practical example of this is in the electricity generation sector in Europe, where attributing a cost to the negative externality of pollution has incentivized a transition to more sustainable energy sources by making carbon intensive fuels relatively more expensive.

In addition to our market-based solutions, we have prioritized bringing transparency and data-driven insights into ESG climate analytics and reference data as a core part of our overall strategy. There is growing demand for data related to ESG factors for public and private companies, fixed income securities (e.g., corporate bonds, municipal securities, sovereign debt, securitized products), and benchmarks. We continue to invest in developing products that meet this demand with leading data solutions. Reference **Appendix B** for a sample of our commercial offerings.

## Impact of climate-related risks and opportunities, Annual Report on Form 10-K Risk disclosure

To complement the work we have done across the organization in addressing climate-related risks, we have included a discussion regarding climate change risk as a unique and distinct risk factor in ICE's 2021 Annual Report on Form 10-K. We will continue to advance the principles of transparent governance and other best practices as we evolve our thinking around climate risk. The pertinent extract from our Annual Report on Form 10-K is included at **Appendix C** for reference.

### ICE's strategy, taking into consideration climate-related scenarios

#### Resiliency

We are well positioned to play an important role in facilitating the orderly and efficient energy transition to a net zero economy. Such efforts would be achieved through the critical risk management and price discovery tools offered by our global futures exchanges and clearing houses, along with the transparency brought by on-exchange trading, innovative data, analytics and digital solutions, and the decades of experience we have operating regulated businesses globally. ICE also has a well-established track record in operational resilience, and we invest significantly in our technology, security, and systems. We anticipate that ICE will be well prepared to respond to the physical risks associated with climate change through our mature and regularly tested business continuity and disaster recovery programs, and regular coordination between our systems, operations, and technology teams, with input and challenge from risk management and senior leadership.

#### Scenario selection

We consider extreme but plausible scenarios as part of our approach to climate change risk management, including the incorporation of more frequent and higher impact weather related events that may impact our stakeholders and challenge broader economic factors.

To test the resiliency of our strategy we considered a range of benchmark scenarios<sup>1</sup> and selected the International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario (NZE), published May 2021. NZE outlines the economic changes necessary for the global energy sector to achieve net zero CO2 emissions by 2050. We thought it practical to select a benchmark scenario rooted in the recasting of global energy demands in light of ICE's role in providing international benchmark energy contracts such as Brent Crude Futures and Options, and the increasing prominence of contracts such as Dutch Title Transfer Facilities (TTF) Gas Futures - the emerging global gas benchmark. TTF is a virtual trading point for natural gas in the Netherlands, and its revenues have grown 38% on average over the last five years.

The NZE scenario limits the global temperature rise to 1.5 Celsius and makes many assumptions regarding opportunities to decarbonize as well as the ability for significant supranational coordination, which presents its own uncertainties.

#### Scenario analysis and ICE strategy

ICE recognizes its commitment to remain nimble and proactive relative to evolving market trends. ICE's strong benchmark coverage across energy markets anchors liquidity to our exchanges and provides broad-based product coverage in anticipation of an assumed increase in energy demand in the coming years.

We also anticipate a non-linear relationship between end-use consumption of energy and trading volumes. Therefore, potential reductions in usage of certain fossil fuels are unlikely to result in a corresponding decrease in trading volumes of those fossil fuels. Conversely, market participants may need to rely on energy markets even more heavily to facilitate risk management practices and price discovery principles. Additionally, as supported by NZE, energy growth rates and potential rates of diminishment will vary by geographic region. ICE anticipates that aggregate demand for a variety of energy sources in Asia will grow, while in other regions demand could stay consistent.

Recently experienced supply shortages and price volatility in certain commodities and energy markets may be a harbinger of challenges presented by a large-scale energy transition. Energy consumption is expected to double over the next 30 years, yet carbon emissions are expected to decline by half. This imbalance in supply and demand could introduce additional complexity and volatility to energy markets, driving greater demand for our risk management solutions.

ICE has a strong record of innovating in the energy markets and is set up to continue to innovate in trading and data as the market evolves. Our strategic investments and innovative approach have already yielded telling results. Cleaner energy sources, including global natural gas and environmental products, make up approximately 40% of energy revenues and have grown 12% on average over the past five years.

<sup>1</sup> International Energy Agency Stated Policy Scenario (STEPS), Announced Pledges Case (APC), and Net Zero Emissions for 2050 Scenario, New Zero by 2050, A Roadmap for the Global Energy Sector, published May 2021.

ICE global environmental markets, alongside global oil, gas, and power markets provide a critical price transparency tool across the energy spectrum that will enable participants to navigate this evolution. Leveraging our leading environmental markets, we built a suite of carbon indices, which allow global investors to access market-based carbon prices through a single investment instrument. And today, there are a growing number of ETF providers benchmarking to our carbon indices and environmental markets.

ICE is also focused on its own greenhouse gas emissions. We look at a range of metrics to assess climate-related risks including energy consumption, waste management, business travel, our supply chain, and our investments. These are described within the Metrics and Targets section below.

## Risk management

### Process for identifying and assessing climate risks

ICE has adopted the Institute of Internal Auditor's Three Lines Model ("the Model") for managing risks. The Model helps identify structures and processes that assist in the achievement of corporate objectives while supporting strong governance and risk management practices. The Model also helps us identify the responsibilities of key players to achieve effective strategic alignment and accountability by outlining the roles of leadership within the organization, including oversight by the board and governing bodies; management and operational leaders including risk and compliance (first- and second-line roles); and independent assurance through internal audit (third-line) and external providers.

Enterprise Risk Management personnel regularly engage and collaborate with a comprehensive cross-section of management that oversees wide-ranging aspects of the company, including sustainability, business operations, business continuity, customer relations, product, and disaster recovery. Points of emphasis include potential risks presented by a changing climate as well as opportunities and risks presented by changing consumer habits and marketplace preferences, in alignment with the TCFD.

As a leading data and technology company, ICE has a network of broad and diverse stakeholders. Communication with these stakeholders, including our NYSE-listed issuer community, participants in our futures markets and clearing houses, and consumers of our data and mortgage technology, have also informed our climate-related risks assessments.

Analysis from our risk assessments is shared with the ESG Governance Committee, as well as risk committees and our boards, to provide a holistic climate change risk management approach and to evaluate enterprise-wide risks and opportunities related to climate change.

We have translated the risk classifications provided under the TCFD framework into a Taxonomy to enable a common language across ICE to evaluate climate change risks.

### Organizations process for managing climate risks

Risks are evaluated using risk ratings guidance, as defined by the Enterprise Risk Management policy, which assesses both the likelihood of these risks (across multiple time horizons) and their potential impacts. Risks are assessed both on an Inherent basis (meaning in the absence of any mitigations or controls) and on a Residual basis (taking into consideration any mitigations or controls). Each risk is assigned an overall score of very low, low, medium, high, or critical, and is assigned a risk owner with whom Enterprise Risk Management will work to ensure that risks are appropriately mitigated and managed in accordance with risk scores.

### Integration of climate risks

Climate risks are embedded into our overall risk management program, which has broad visibility and input from across our organization. Risks are regularly evaluated on a company-wide basis. The frequency and methods by which risks are assessed are informed by a comprehensive strategy that factors in the nature of the risk, the risk score assigned to the risk should it be realized, the strength of the control regime associated with the risk's profile, and the potential implications of the risk. Additionally, each business that we operate evaluates climate-focused risks most pertinent to its own strategy and operations.

Going forward, we anticipate expanding our focus on climate-related risk management strategies to continue to safeguard ICE's position as an all-weather company.

# Metrics and targets

## Transitional risks

ICE uses a range of metrics bespoke to each of the risks it has identified in assessing:

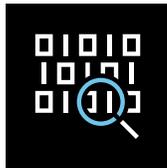
- How market changes are evolving the risk management demand for our products; and
- Where regulatory changes may present new risks and opportunities.

## Physical risks

We look at a range of metrics to assess climate-related risks including energy consumption, waste management, business travel, our supply chain, and our investments. Our data centers account for a large portion of our electricity consumption and have implemented industry leading techniques to improve energy efficiency, reduce waste and offset operating emissions. The building structures provide a high level of insulation serving to minimize outside air infiltration, reduce solar heat gains, lower thermal losses, and deliver a more efficient cooling profile and lower energy demand. The most commonly used and cited metric for data center energy efficiency is Power Usage Effectiveness (PUE). Our data centers consistently deliver a PUE that outperforms the base building design by up to 14% through multiple mitigation tactics including: optimized thermal stratification, data center air management, high efficiency HVAC chillers, speed control on cooling equipment and automated lighting control systems. Our Basildon data center was built to stringent specifications allowing us to attain the following ISO accreditations:



ISO 9001



ISO 14001



BSEN 18001



ISO 50001

<b>Greenhouse Gas Emissions<sup>1</sup></b>			
<b>Metrics</b>	<b>Activity</b>	<b>2020 Emissions</b>	<b>2021 Emissions</b>
<b>Scope 1</b>	Fuel use (stationary)	958	1,010
	Fuel use (mobile)	191	2,384
	Refrigerants	3,419	3,018
<b>Total</b>		<b>4,568</b>	<b>6,412</b>
<b>Scope 2</b>	Electricity <sup>2</sup>	49,990	46,164
	Steam	2,110	4,158
<b>Total Scope 2 (location-based)</b>		<b>52,100</b>	<b>50,322</b>
<b>Total Scope 2 (market-based)</b>		<b>2,110<sup>3</sup></b>	<b>4,158</b>
<b>Scope 3<sup>4</sup></b>			
Category 1	Purchased goods and services	Not calculated	154,977
Category 2	Capital goods	Not calculated	57,543
Category 3	Fuel and energy-related activities <sup>5</sup>	14,675	5,114
Category 5	Waste generated in operations	484	795
Category 6	Business travel	906	1,374
Category 7	Employee commuting	2,996	2,179
Category 15	Investments	Not calculated	4,822
<b>Total Scope 3</b>		<b>19,061</b>	<b>226,804</b>
<b>Total Scope 1, 2 and 3 (location-based)</b>		<b>75,729</b>	<b>283,538</b>
<b>Total Scope 1, 2 and 3 (market-based)</b>		<b>25,739<sup>3</sup></b>	<b>237,374</b>

<sup>1</sup> All emissions reported in tCO<sub>2</sub>e

<sup>2</sup> Restated to include 1,647 tCO<sub>2</sub>e from two facilities that were not included in reporting last year; 6,605 additional US Green-e Renewable Energy Certificates were purchased this year to account for omission

<sup>3</sup> Restated to account for last year's purchase of Energy Attribute Certificates (EACs) to match electricity consumption at our offices and data centers

<sup>4</sup> Scope 3 categories 4, 8, 9, 10, 11, 12, 13 and 14 deemed not relevant

<sup>5</sup> Change year-over-year due to change from location-based to market-based methodology in 2021

## Mitigate

We purchase renewable energy certificates and facilitate the carbon credit market to offset our footprint.

### Renewable energy

- For all electricity consumed in our offices and data centers, we have purchased Energy Attribute Certificates (EACs).
- EAC purchases for 2021 total 186,149 and include 150,444 vintage 2021 Green-e certified renewable energy certificates (RECs) for all electricity consumed in the U.S.
- The remaining EAC purchases were matched based on the country where the electricity was consumed and compliance year, with the exception of Singapore for which we purchased 2021 Malaysia RECs based on availability and Australia for which we purchased 2022 vintages based on availability.

### Carbon credits

- We purchased carbon credits for all Scope 1 emissions, for steam-based Scope 2 emissions, and for all Scope 3 emissions except for those associated with categories 1 and 2.
- Carbon credit purchases were VCS registered and certified, totaled 25,000 tCO<sub>2</sub>e, and included nature-based forestry projects located in Indonesia, Cambodia and the Democratic Republic of Congo facilitating reduced emissions from deforestation and degradation technology.
- To manage and reduce Scope 3 Category 1 and 2 emissions, we are focusing on managing our supply chain through engagement with our vendors.

### Reduction targets

Having established our full emissions baseline using the GHG Protocol, including Scope 3, we are actively working to set reduction targets. We are working with a consultant to assess the options and determine the best path forward based on current best practices and developing regulatory requirements. We expect to communicate our intentions later in 2022.

## Appendix A - Environmental market solutions



Our **carbon allowance markets** value the negative externality of pollution and cover the four largest traded cap and trade markets in the world. By making hydrocarbon combustion more expensive, these markets help reduce CO<sub>2</sub> being released into the atmosphere. Over 100 billion tonnes of carbon have traded on ICE since we acquired the Climate Exchange in 2010. In 2021, 18 billion tonnes of carbon allowances traded, which is equivalent to half of the world's energy-related emissions and representing a notional value of \$1 trillion.



Our **global carbon index future** provides access to the cost of pollution across a basket of our carbon allowance futures in one financially settled instrument. This can be utilized by a variety of stakeholders as a store of carbon value, which can subsequently be liquidated to invest in physical carbon allowances or carbon credits in the future.



Our **renewable electricity certificate (REC) markets** value the positive externality of carbon-free electricity generation. By increasing the value of electricity from renewable energy, our price signals promote the allocation of capital to these sources of energy. Over 250 million renewable energy certificates have traded on our markets since 2010.



Our **carbon credit markets** value the positive externalities generated from several reduction and removal projects. Over 3 billion tonnes of these project-based credits have traded on our markets. Our nature-based carbon credits value the positive externality of carbon sequestration and storage thereby providing incentives to allocate capital towards the conservation and cultivation of natural capital.



Our **renewable identification number (RIN), renewable volume obligation (RVO) and low carbon fuel standard (LCFS) markets** value the positive externality of emission reductions in the transportation sector. Over 1.4 billion RINs have traded on our platforms.

## Appendix B - ESG data and analytics offerings



Our ESG data offerings cover over 3.5 million fixed income securities and more than 1.5 million mortgage-backed securities.



**ESG Data** - Provides detailed ESG attributes and indicators that may be financially-material, such as greenhouse gas emissions reported, board diversity, benefits, and many others, sourced from both company and publicly available third-party sources.



**ESG risk data** - RepRisk Controversy Data provides a risk-focused data set with detailed metrics related to how a company manages its business conduct risks.



**European Union Sustainable Finance Disclosure Regulation (“EU SFDR”) Data** - Supports our clients’ efforts to meet their obligations under the EU SFDR with values for all the company and sovereign mandatory Principal Adverse Impact indicators under the EU SFDR.



**ICE Climate Risk** - Provides climate data and analytics using geospatial mapping to help a wide range of market participants better manage climate risk as a part of their overall investing and risk management strategies.



**Demographic and Socioeconomic data / Social Impact Scores** - Leverages geospatial mapping to observe changes in social and economic data over time, enabling municipalities, other governmental entities, as well as private institutions and investors to weigh these changes in their investment decision-making processes.



**Sustainability Indices** - Our index offering provides a range of solutions to support the growing demand for responsible and sustainable investing such as screened and tilted ESG, carbon reduction and green, social, and sustainable indices.



**Desktop data products** - Offer weather data designed to quantify the effects of changing weather on market prices, as well as weather forecast data and analytics, providing a unique market perspective for investors and other clients of the Company.

## **Appendix C - Annual Report on Form 10-K**

### **Risk Disclosure**

Climate change and the transition to renewable energy and a net zero economy pose operational, commercial, and regulatory risks. Climate change may increase the frequency or severity of extreme weather events, and if we are not adequately resilient to deal with acute climate events, our operations, either in a particular location or globally, may be impacted. Extreme weather events could also impact the activities of our customers or third-party vendors or suppliers. The physical commodities and assets underlying certain of our markets may also be impacted by climate change.

In addition, the transition to renewable energy and a net zero economy involves changes to consumer and institutional preferences around energy consumption, and the possible failure of our products or services to facilitate the needs of customers during the transition to renewable energy could adversely impact our business and revenues. Changing preferences could also have an adverse impact on the operations or financial condition of our customers, which could result in reduced revenues from those customers.

We are also subject to risks relating to new or heightened climate change-related regulations or legislation, which could impact us and our customers and result in increased regulatory, compliance or operational costs. We are also subject to reputational risks relating to the perception of whether we are facilitating a migration away from fossil fuels. For example, our reputation could be damaged as a result of our offering certain products or services associated with causing or exacerbating climate change, or by any decision by us to continue to conduct or change our activities in response to considerations relating to climate change.

The risks associated with climate change and the transition to renewable energy and a net zero economy are continuing to evolve rapidly, and we expect that climate change-related risks may increase over time.