

C0. Introduction

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C0.1

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**(C0.1) Give a general description and introduction to your organization.**

International Flavors & Fragrances Inc. is a leading global creator of flavors and fragrances for consumer products.

C0.2

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**(C0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2018	December 31 2018	Yes	1 year

C0.3

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**(C0.3) Select the countries/regions for which you will be supplying data.**

- Australia
- China
- Colombia
- Egypt
- France
- India
- Indonesia
- Israel
- Japan
- Mexico
- Netherlands
- Republic of Korea
- Russian Federation
- Singapore
- South Africa
- Spain
- Thailand
- Turkey
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- Viet Nam

C0.4

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**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

C0.5

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**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

Operational control

C-CH0.7

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**(C-CH0.7) Which part of the chemicals value chain does your organization operate in?**

**Row 1**

**Bulk organic chemicals**

Aromatics

**Bulk inorganic chemicals**

Please select

**Other chemicals**

Specialty chemicals

Specialty organic chemicals

**C1. Governance**

**C1.1**

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

**C1.1a**

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board Chair	Our Chairman of the Board and CEO chairs the Sustainability Business Council (SBC), which consists of cross-functional committees (Responsible Sourcing, Eco-Effectiveness, Corporate Sustainability and Product Design) which are in turn led by the appropriate Executive Committee member and supported by a member of the Global Sustainability team. Each of these committees drives sustainability throughout that function, raises potential issues and provides regular updates to the SBC on progress. Our Chairman of the Board and CEO has oversight over climate-related issues via the SBC because our governance model relies on functional integration of our sustainability strategy, which includes climate-related issues, across IFF, including goal development, implementation and progress toward goals. Additionally, our Chief Scientific and Sustainability Officer and VP of Global Sustainability report annually to the Board on progress against our goals and targets and seek guidance on strategy.

**C1.1b**

**(C1.1b) Provide further details on the board's oversight of climate-related issues.**

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures	Our Chairman of the Board and CEO chairs the Sustainability Business Council (SBC), and cross-functional committees – Responsible Sourcing, Eco-Effectiveness, Corporate Sustainability and Product Design – are each led by the appropriate Executive Committee (EC) member and supported by a member of the Global Sustainability team. Each of these committees drives sustainability throughout that function, raises potential issues and provides regular updates to the SBC on progress. This governance model relies on functional integration of our sustainability strategy, which includes climate-related issues, across IFF, including goal development, implementation and progress toward goals. Our Chairman of the Board and CEO's position leading the SBC, combined with our company-wide functional integration of sustainability strategy, allows the board to continually monitor implementation and performance of objectives, thereby contributing to the board's oversight of climate issues. Additionally, our Chief Scientific and Sustainability Officer and VP of Global Sustainability report annually to the board on progress against our climate related goals and targets and seek guidance on strategy.

**C1.2**

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	Both assessing and managing climate-related risks and opportunities	Annually
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Annually
Risk committee	Assessing climate-related risks and opportunities	Half-yearly

**C1.2a**

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

The Executive Vice President (EVP) of Operations is the highest level Executive responsible for oversight of operations globally (note IFF does not have the title of COO). This role reports directly to the Chairman and CEO. This position is responsible for climate change issues, risks and opportunities in operations and at our facilities. He manages these issues by overseeing the Eco-Effectiveness Leadership Team. The EVP of Operations has responsibility for climate-related issues because of his management of the Eco-Effective Leadership Team, which has direct oversight for the achievement of our climate-change related goals.

The Chief Sustainability Officer (CSO) is a key leader of the Sustainable Business Council (SBC), which reviews targets and metrics quarterly. The SBC consists of cross-functional committees (Responsible Sourcing, Eco-Effectiveness, Corporate Sustainability and Product Design) which are in turn led by the appropriate Executive Committee (EC) member and supported by a member of the Global Sustainability team. The CSO has responsibility for climate-related issues because each of these committees drives sustainability throughout that function, raises potential issues and provides regular updates to the SBC on progress. The CSO position is also charged with driving low-carbon and circular-economy solutions into the R&D process.

These positions and our organization more broadly monitor climate-related issues through engagement with the World Business Council for Sustainable Development (WBCSD). Our Chairman and CEO, VP of Global Sustainability, and CSO each participate in WBCSD. Our Chairman and CEO was elected to the EC. Our engagement with the WBCSD, which holds forums and climate policy groups that provide information and trends on climate-related issues, is an opportunity to work with influential leaders to monitor these issues and make positive, lasting changes in society. Additionally, these positions also attend other forums, such as CDP events, to stay abreast of changes on key climate-related issues.

Our Eco-Effectiveness Leadership Team, which is composed of the VP's of Operations Globally as well as subject matter experts and operations representatives from each of our regions, drives climate change management in Operations and has implemented numerous projects to enable us to reach our 2018 climate change-related goals and achieve progress towards our 2020 climate-change related goals, which are (normalized per metric ton of production):

- reduce energy use by 20% by 2020 from a 2010 baseline;
- reduce carbon emissions by 25% by 2020 from a 2010 baseline.

We have also adopted an SBTi-approved Science Based Target (SBT) of reducing our absolute scope 1 and 2 GHG emissions 30% by 2025, from a 2015 base-year, and the Eco-Effectiveness Leadership Team will manage operational changes that drive us to achieve this goal.

In addition, the Global Risk Committee is a management risk committee made up of key members of the Company's management to integrate global risk activities (including climate-related issues) and to ensure appropriate prioritization of resources and alignment across the Company. The Global Risk Committee is co-chaired by our CFO and EVP General Counsel and Corporate Secretary. The Global Risk Committee meets approximately six times per year to discuss critical risks, critique mitigation plans and review the gap analyses. The Global Risk Committee has responsibility over climate-related issues because ESG risks are also included in this program based on input from our Global Sustainability Team. The team evaluates for "Failure of climate change mitigation or adoption" and "Facility loss due to extreme weather event".

**C1.3**

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

Yes

**C1.3a**

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

**Who is entitled to benefit from these incentives?**

Chief Operating Officer (COO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

The Executive Vice President (EVP) of Operations is the highest level Executive responsible for oversight of operations globally (note IFF does not have the title of COO). This role reports directly to the Chairman and CEO. The EVP of Operations, who is ultimately responsible for our eco efficiency initiatives, has performance based objectives that are aligned with organizational energy and GHG emissions reduction goals of 20% and 25% per metric ton of production, respectively, by 2020.

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**Who is entitled to benefit from these incentives?**

Facilities manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction project

**Comment**

Facility managers have performance based objectives that are aligned with our organizational energy and GHG emissions reduction goals of respective 20% and 25% per metric ton of production by 2020. Performance on these goals is assessed annually during performance reviews and salary determination.

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**Who is entitled to benefit from these incentives?**

Environment/Sustainability manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction project

**Comment**

Environment/Sustainability managers have performance based objectives that are aligned with our organizational energy and GHG emissions reduction goals of respective 20% and 25% per metric ton of production by 2020. Performance on these goals is assessed annually during performance reviews and salary determination.

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**Who is entitled to benefit from these incentives?**

All employees

**Types of incentives**

Recognition (non-monetary)

**Activity incentivized**

Emissions reduction project

**Comment**

Employees are internally recognized locally and corporately for achieving results from energy and carbon reducing projects on the company intranet's Top Story, which recognizes employees for exemplary performance. Employees are internally recognized locally and corporately for achieving results from energy and carbon reducing projects on the company intranet's Top Story, which recognizes employees for exemplary performance. In 2015, we launched an eco-efficiency awards program to formally recognize facilities that have been the most effective at implementing a culture of sustainability and improving performance related to sustainability standards.

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**Who is entitled to benefit from these incentives?**

Facilities manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Facility managers have performance based objectives that are aligned with our organizational energy and GHG emissions reduction goals of respective 20% and 25% per metric ton of production by 2020. Performance on these goals is assessed annually during performance reviews and salary determination.

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## C2. Risks and opportunities

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### C2.1

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**(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

	From (years)	To (years)	Comment
Short-term	1	3	
Medium-term	3	6	
Long-term	6	10	

**C2.2**

**(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

**C2.2a**

**(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. The team evaluates for "Failure of climate change mitigation or adoption" and "Facility loss due to extreme weather event". IFF has multiple facilities in danger of climate change related threats, including our Union Beach, New Jersey R&D facility which incurred large amounts of damage from Superstorm Sandy due to its coastal location. The effects of greenhouse gas emissions and climate change-related regulations on our operations are outlined in our 2018 Annual Report and SEC Form 10-K.

**C2.2b**

**(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.**

At the corporate level, IFF's general approach for identifying and assessing significant risks and opportunities relies on our management's evaluation of current events and its expectations regarding future developments. We have a multidisciplinary company-wide enterprise risk management program that assesses risks, including sustainability issues and climate change, on our business and the business of our customers. The Global Risk Committee made up of key members of management oversees this program and integrates global risk activities to ensure appropriate prioritization of resources and alignment across IFF. We semi-annually prepare and review a risk dashboard with senior management and the Board of Directors. When prioritizing risks and opportunities, our strategic pillars are the starting point. However, we also identify natural disasters and other climate-related exposures as part of our process. As it relates to prioritization, consideration is also given to the following items: impact; both internal and external influences; our current capability and prior experience in mitigating such risks; and our expectations of the future outlook for the identified risk. Risks beyond 6 years are considered.

We define 'substantive financial impact' when identifying or assessing climate-related risks as any change that would significantly affect our business, operations, revenue or expenditure.

In addition, we conducted a structured materiality analysis to identify the issues of most importance to our company and our stakeholders, including size, scope and significance of identified risks. The materiality analysis identified several issues that are relevant to IFF, have global impact and influence product and facility energy and carbon management. We first assessed the materiality of conventional and emerging sustainability and carbon management issues in 2010. We evaluated these issues for their importance to our stakeholders, their potential impact on our business and the degree of influence that we had on each issue. We continue to engage with stakeholders, solicit feedback and refine our focus and approach. In 2014, we formally updated our materiality work by soliciting feedback from IFF employees, including our Sustainability Steering Team, key customers, academics and NGOs. This input helped us further refine IFF's sustainability strategy and reporting. At IFF, we know that our approach to sustainability and carbon management must continually evolve, and we will continue to engage with stakeholders through dialogue on sustainability and materiality.

At the asset level, we have global and regional crisis-management plans and procedures, and we conduct training for members of our cross-functional global and regional crisis teams. In addition, each IFF facility assesses local risks and has a crisis management plan. Our regional and site level Eco-efficiency champions also play the role of conveying risks detected on the ground up through to corporate executives, who review risks annually. We also conducted a formalized materiality analysis to identify the issues of most importance to our company and our stakeholders.

**C2.2c**

**(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?**

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	We operate on a global basis, with manufacturing and sales facilities in the United States, Europe, Africa, the Middle East, Latin America and Greater Asia. Any regulation that increases the cost of raw materials or commodities, particularly energy used to operate our facilities, has the potential to impact our profit margins and operations. In particular, various current regulatory efforts in environmental (including climate change), health and safety regulations and similar regulations could impact costs for our operations or supply chain. As a result, current regulations are always included in our climate-related risk assessments. To enhance our risk management practices, we established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including current regulation, and then critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a considered potential risk from current regulation specific to IFF is compliance with environmental regulations for our Tilburg facility in the Netherlands, which requires annual reporting of energy and carbon emissions. To address this, we developed a plan for reducing energy at this facility. The result of this process was that the risk was determined to not be a substantive risk for the business. However, new or changes to other environmental regulations could have a material impact on our business. For additional information, please see our 2018 Annual Report.
Emerging regulation	Relevant, always included	We operate on a global basis, with manufacturing and sales facilities in the United States, Europe, Africa, the Middle East, Latin America and Greater Asia. Any regulation that increases the cost of raw materials or commodities, particularly energy used to operate our facilities, has the potential to impact our profit margins and operations. In particular, various emerging regulatory efforts in environmental (including climate change), health and safety regulations and similar regulations could impact costs for our operations or supply chain. As a result, emerging regulations are always included in our climate-related risk assessments. To enhance our risk management practices, we established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including emerging regulation, and then critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a considered potential risk from emerging regulation specific to IFF identified and evaluated by the Global Risk Committee in 2018 is the failure of climate change mitigation or adoption caused by increasing carbon taxes in regions in which we operate. The result of this process was that the climate-related risk was determined to not be a substantive risk for the business. However, new or changes to other environmental regulations could have a material impact on our business. For additional information, please see our 2018 Annual Report.
Technology	Relevant, always included	To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including technology risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a potential risk from technology specific to IFF considered in 2018 is that development of new energy technologies could cause currently utilized technology to be outdated. Specifically, we have a solar field at our Hazlet, New Jersey facility. If more efficient and cost effective solar panels were to be developed then there may be cause to use resources on updating our panels. The result of this process was that the risk was determined to not be a substantive risk for the business.
Legal	Relevant, always included	Our business operations and properties are subject to extensive and increasingly stringent federal, state, local and foreign laws and regulations pertaining to protection of the environment, including air emissions, sewage discharges, the use of hazardous materials, waste disposal practices and clean-up of existing environmental contamination. Failure to comply with these laws and regulations or any future changes to them may result in significant consequences to us, including the need to close or relocate one or more of our production facilities, administrative, civil and criminal penalties, liability for damages and negative publicity. As a result, legal risks are always included in our climate-related risk assessments. To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including legal risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a potential climate-related legal or regulatory risk specific to IFF considered in 2018 is that noncompliance with regional carbon emissions regulations could impact our license to operate in these areas. The result of this process was that the climate-related risk was determined to not be a substantive risk for the business. However, noncompliance with other environmental laws and regulations may result in significant consequences to us. For additional information, please see our 2018 Annual Report.
Market	Relevant, always included	To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including market risks, and then critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. Our purchases of raw materials are subject to fluctuations in market price and availability caused by weather, growing and harvesting conditions, market conditions, governmental actions and other factors beyond our control. In addition, our ingredient suppliers, similar to us, are subject to the risks inherent in manufacturing and distribution on a global scale, including industrial accidents, environmental events, strikes and other labor disputes, disruptions in supply chain or information systems, disruption or loss of key research or manufacturing sites, product quality control, safety and environmental compliance issues, licensing requirements and other regulatory issues, as well as natural disasters, international conflicts, terrorist acts and other external factors over which they have no control. These suppliers also could become insolvent or experience other financial distress. As a result, market risks are always included in our climate-related risk assessments. A potential climate-related market risk evaluated in 2018 is the risk of reduced raw material availability caused by precipitation extremes and droughts. Over the past several years, changes in precipitation extremes and droughts in Brazil, Madagascar, and Florida, USA, have affected the availability and cost of our key natural ingredients, such as orange oil and vanilla. This risk was identified and evaluated via the ERM process. The result of this process was that the risk was determined to not be a substantive climate-related risk for the business. However, other disruptions in our supply chain could adversely affect our business and financial results. For additional information, please see our 2018 Annual Report.
Reputation	Relevant, always included	There is a global trend towards an increasing demand for sustainable, climate-friendly products and technologies. IFF sells its products primarily to consumer facing companies and our customers are increasingly challenged to find sustainable, reliable sources of ingredients to make products consumers have come to expect or demand. Potential loss in business can come from reduced demand for products and loss of customers if IFF's reputation is harmed by not meeting customer expectations related to sustainability and climate change. As a result, reputational risks are always included in our climate-related risk assessments. To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including reputational risks, and then critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a considered potential climate-related reputational risk specific to IFF is that our customers are increasingly demanding transparency regarding our climate change policies. For instance, during 2018, eleven of our major customers, representing approximately 20% of our business, requested we respond to the CDP supply chain questionnaire. Some customers specifically use CDP as a grade for an annual supplier performance evaluation and use this information to help generate their core lists, where not being included can significantly reduce the number of future projects and sales. This risk was identified and evaluated via the ERM process. The result of this process was that the climate-related risk was determined to not be a substantive risk for the business. However, other adverse publicity about our products, or our customers' products that contain our ingredients, including concerns about product safety or similar issues, whether real or perceived, could harm our reputation and result in an immediate adverse effect on our sales and customer relationships. For additional information, please see our 2018 Annual Report.
Acute physical	Relevant, always included	To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including acute physical risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. Furthermore, each business unit has an ERM Team Lead that serves as the single point of contact for all aspects of the risk process related to the business function. The team leads engage other personnel from the organization in order to gather the information needed, provide status and lead the project in a manner that conforms to the timelines as agreed upon in the initiation phase, and escalate any issues that may come up related to the ERM process. The following key artifacts are used to facilitate the ERM process and training: - A guidelines document describing how the process works; - Info-packs customized for each business function that provide the templates to be populated in order to outline and add detail for each of the risks. As a result, acute physical risks are always included in our climate-related risk assessments. One example of a potential climate-related acute physical risk specific to IFF identified and evaluated by the Global Risk Committee in 2018 was the facility loss due to an extreme weather event. Specifically, our Union Beach facility incurred damage during Superstorm Sandy. Following the storm, we undertook mitigation processes and renovated these facilities to withstand flood events. During our ERM process, the likelihood of occurrence for climate related extreme weather events at key facilities was deemed low. The result of the risk evaluation process was that it was determined not a substantive risk for the business. However, other disruptions in our operations could adversely affect our business and financial results. For additional information, please see our 2018 Annual Report.
Chronic physical	Relevant, always included	Our purchases of raw materials are subject to fluctuations in market price and availability caused by weather, growing and harvesting conditions, market conditions, governmental actions and other factors beyond our control. In addition, our ingredient suppliers, similar to us, are subject to the chronic physical risks inherent in manufacturing and distribution on a global scale over which they have no control. These suppliers also could become insolvent or experience other financial distress. We purchase approximately 11,000 different raw materials from about 3,000 suppliers and distributors. Approximately half of the materials we purchase are natural or crop-related items. As a result, chronic physical risks are always included in our climate-related risk assessments. To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including chronic physical risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. Furthermore, each business unit has an ERM Team Lead that serves as the single point of contact for all aspects of the risk process related to the business function. The team leads engage other personnel from the organization in order to gather the information needed, provide status and lead the project in a manner that conforms to the timelines as agreed upon in the initiation phase, and escalate any issues that may come up related to the ERM process. One example of a potential chronic physical risk evaluated in 2018 is the risk of reduced raw material availability caused by precipitation extremes and droughts. Over the past several years, changes in precipitation extremes and droughts in Brazil, Madagascar, and Florida, USA, have affected the availability and cost of our key natural ingredients, such as orange oil and vanilla. This risk was identified and evaluated via the ERM process. The result of this process was that the risk was determined to not be a substantive risk for the business.

	Relevance & inclusion	Please explain
Upstream	Relevant, always included	Our purchases of raw materials are subject to fluctuations in market price and availability caused by weather, growing and harvesting conditions, market conditions, governmental actions and other factors beyond our control. In addition, our ingredient suppliers, similar to us, are subject to the risks inherent in manufacturing and distribution on a global scale over which they have no control. These suppliers also could become insolvent or experience other financial distress. We purchase approximately 11,000 different raw materials from about 3,000 domestic and international suppliers and distributors. Approximately half of the materials we purchase are naturals or crop-related items and the other half are synthetics and chemicals. As a result, upstream risks are always included in our climate-related risk assessments. To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities (including cybersecurity, compliance, business and crisis management) and to ensure appropriate prioritization of resources and alignment across IFF. The Global Risk Committee meets approximately six times per year to discuss critical risks, including upstream risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. One example of a potential upstream climate-related risk evaluated in 2018 is the risk of reduced raw material availability caused by precipitation extremes and droughts. Over the past several years, changes in precipitation extremes and droughts in Brazil, Madagascar, and Florida, USA, have affected the availability and cost of our key natural ingredients, such as orange oil and vanilla. This risk was identified and evaluated via the ERM process. The result of this process was that the risk was determined to not be a substantive risk for the business. However, other disruptions in our supply chain could adversely affect our business and financial results. For additional information, please see our 2018 Annual Report.
Downstream	Relevant, always included	There is a global trend towards an increasing demand for sustainable, climate-friendly products and technologies. IFF sells its products primarily to consumer facing companies and our customers. Customers are limiting the number of their suppliers in order to increase their margins and profitability. These customers are creating "core lists" of suppliers and giving these "core lists" suppliers priority for new or modified products. These and other profitability initiatives being pursued by our customers reduce the market opportunity for which we compete and subject the volume and pricing of the remaining suppliers to downward pressure. To be successful in this competitive environment, we must continue to anticipate customers' needs, deliver products that contribute to our customers' profitability, provide effective customer service and offer competitive cost-in-use solutions to secure and maintain inclusion on certain "core lists" and our share of our customers' purchases. If we are unable to do so, it could adversely impact our future results of operations. As a result, downstream risks are always included in our climate-related risk assessments. To enhance our risk management practices, we recently established a Global Risk Committee made up of key members of management to integrate global risk activities. The Global Risk Committee meets approximately six times per year to discuss critical risks, including downstream risks, critique mitigation plans and review the gap analyses. ESG risks are also included in this program based on input from our Global Sustainability Team. For example, a considered potential climate-related downstream risk specific to IFF is that our customers are increasingly demanding transparency regarding our climate change policies. For instance, during 2018, eleven of our major customers requested we respond to the CDP supply chain questionnaire. Some customers specifically use CDP as a grade to help generate their core lists, where not being included can significantly reduce the number of future projects and sales. This risk was identified and evaluated via the ERM process. The result of this process was that the climate-related risk was determined to not be a substantive risk for the business.

## C2.2d

**(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

At the corporate level, IFF's general approach for identifying and managing significant risks and opportunities relies on our management's evaluation of current events and its expectations regarding future developments. Climate risks and opportunities are assessed based on the magnitude and likelihood of impact, potential financial impact, return on investment, scale of capital costs or operational expenditures, and potential for disruption or delays in production. We have a multidisciplinary company-wide enterprise risk management program that annually assesses risks, including sustainability issues and climate change, on our business and the business of our customers.

Our CEO and other senior management oversee the day-to-day execution of the risk management process, including decisions to mitigate, transfer, accept or control climate-related risks. The Board receives regular reports on IFF's ERM process and oversees and reviews with management the company's enterprise-wide risks and the policies and practices established to manage such risks. Management maintains the ERM program, which is designed to identify and assess our global risks and to develop steps to mitigate and manage risks. The Global Risk Committee, composed of key members of management, meets approximately six times per year to discuss critical risks, critique mitigation plans and review the gap analyses. The Global Risk Committee reviews and evaluates each risk for impact and vulnerability. Each risk is identified as Low, Moderate, High or Critical based on its impact and vulnerability.

We semi-annually prepare and review a risk dashboard with senior management and the Board of Directors. When prioritizing risks and opportunities, our strategic pillars are the starting point. However, we also identify natural disasters and other climate related exposures as part of our process. As it relates to prioritization, consideration is also given to the following items: impact; both internal and external influences; our current capability and prior experience in mitigating such risks; and our expectations of the future outlook for the identified risk or opportunity.

At the asset level, we have global and regional crisis-management plans and procedures, and we conduct training for members of our cross-functional global and regional crisis teams. In addition, each IFF facility assesses local risks and has a crisis management plan. Our regional and site level Eco-efficiency champions also play the role of conveying risks detected on the ground up through to corporate executives, who review risks annually. We also conducted a formalized materiality analysis to identify the issues of most importance to our company and our stakeholders.

At the corporate level, day-to-day management of sustainability and climate-related opportunities is under the purview of the Sustainability Business Council (SBC), chaired by our Chairman of the Board and CEO. The SBC consists of cross-functional committees (Responsible Sourcing, Eco-Effectiveness, Corporate Sustainability and Product Design) which are in turn led by the appropriate EC member and supported by a member of the Global Sustainability team. Each of these committees drives sustainability throughout that function, raises potential issues and provides regular updates to the SBC on progress. As relevant opportunities are identified, they are also reviewed with our R&D and Commercial teams. At the asset level, opportunities we pursue are implemented by our Eco-Effectiveness Leadership Team.

One example of a climate-related physical risk that was managed through this process is facility loss due to an extreme weather event. Specifically, our Union Beach facility incurred damage during Superstorm Sandy. Following the storm, we undertook mitigation processes and renovated these facilities to withstand flood events. During our ERM process, the likelihood of occurrence for climate related extreme weather events at key facilities was deemed low. The result of the risk evaluation process was that it was determined not a substantive risk for the business.

One example of a climate-related transitional risk that was managed through this process is reputational impacts tied to the fact that our customers are increasingly demanding transparency regarding our climate change policies. For instance, during 2018, eleven of our major customers, representing approximately 20% of our business, requested we respond to the CDP supply chain questionnaire. Some customers specifically use CDP as a grade for an annual supplier performance evaluation and use this information to help generate their core lists, where not being included can significantly reduce the number of future projects and sales. The result of the risk evaluation process was that it was determined not a critical risk for the business.

**C2.3**

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**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

No

**C2.3b**

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**(C2.3b) Why do you not consider your organization to be exposed to climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

	Primary reason	Please explain
Row 1	Risks exist, but none with potential to have a substantive financial or strategic impact on business	We have a multidisciplinary company-wide enterprise risk management program that annually assesses risks, including sustainability issues and climate change, on our business and the business of our customers. The Global Risk Committee made up of key members of management oversees this program and integrates global risk activities to ensure appropriate prioritization of resources and alignment across IFF. An ERM Team Lead at each business unit complements this program by serving as a single point of contact for all aspects of the risk process related to the business function. Through these processes we have determined that although we are exposed to climate-related risks none of the identified risks have the potential to have a substantive financial or strategic impact on our business. We define 'substantive impact' associated with risk from climate change as any change that would significantly affect our business, operations, revenue or expenditure. For example, a significant physical risk is change in precipitation patterns because this could result in price volatility and supply shortages in natural products that represent approximately half of our raw material purchases. However, this was determined not to be a substantive risk because we work with our purchasers to develop various sourcing strategies, including maintaining strategic stock levels for critical items, multiple suppliers, inventory management systems, various geographic suppliers and long-term agreements. IFF also evaluates the use of green chemistry and biotechnology as an alternative to natural raw materials. We have identified other risks associated with climate change such as facility loss due to extreme weather events and the failure to address climate change in corporate planning (e.g. carbon taxes, disclosure, reputational or other consequences). The Global Risk Committee discusses critical risks, critiques mitigation plans, and reviews the gap analyses. After consideration of these risks in 2018, we do not consider them as substantive to our business. We continue to monitor these risks on an ongoing basis.

**C2.4**

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

No

**C2.4b**

**(C2.4b) Why do you not consider your organization to have climate-related opportunities?**

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	At the corporate level, IFF's general approach for identifying significant opportunities relies on our management's evaluation of current events and its expectations regarding future developments. Sustainability and climate-related topics are under the purview of the Sustainability Business Council (SBC), chaired by our Chairman of the Board and CEO. The SBC consists of cross-functional committees (Responsible Sourcing, Eco-Effectiveness, Corporate Sustainability and Product Design) which are in turn led by the appropriate EC member and supported by a member of the Global Sustainability team. Each of these committees drives sustainability throughout that function, raises potential issues and provides regular updates to the SBC on progress. As relevant opportunities are identified, they are also reviewed with our R and D and Commercial teams. At the asset level, opportunities we pursue are implemented by our Eco-Effectiveness Leadership Team. Through these processes we have determined that although we have numerous climate-related opportunities none of the identified opportunities have the potential to have a substantive financial or strategic impact on our business. We define substantive impact related to climate change as any change that would significantly affect our business, operations, revenue or expenditure. We have identified climate-related opportunities for our business such as the reduction of costs via resource efficiency projects, the development of new products in line with green chemistry to be more resource efficient, and the creation of innovative renewable or repurposed products. These types of opportunities are reviewed with our R and D and Commercial teams via the process described above as well as with our end customers. Although there is an interest from some customers this is not currently a large part of the requests we receive or of our portfolio. For these reasons, although we see increasing trends for these types of products, for 2018 we do not see these opportunities as having the potential to have substantive impact on our business. We will continue to develop these products in anticipation that they will grow in the future. Moreover, we are continually evaluating and re-evaluating opportunities, including climate-related opportunities, and will update our conclusions as appropriate based on this process.

**C3. Business Strategy**

**C3.1**

**(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

**C3.1a**

**(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?**

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

**(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

Yes

**C3.1c**

### (C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i. How the business strategy has been influenced: Sustainability and climate change management is an enabler of our Vision 2020 corporate business strategy. As we strengthen our innovation platform, we continuously work to design high quality and sustainable products that our customers trust. We do this through green chemistry and with a secure and ethical supply chain. Climate change-related issues such as energy efficiency influence our decisions regarding the design, building, operation and maintenance of our facilities and equipment. Our Sustainability Business Council and Eco-efficiency Team meet at regular intervals throughout the year regarding IFF's Sustainability Strategy, to define objectives, assess risks, and perform reviews of our performance against our 2020 GHG emissions and energy reduction targets of 25% and 20%, normalized to production. Additionally, our 2025 targets of reaching 75% of our electricity procured from renewable sources and our Science-Based Target to reduce our absolute GHG emissions 30% by 2025 from a 2015 base year are now reviewed in these meetings.

ii. How business strategy is linked to targets: Our new sustainability strategy focuses on using circular economy to address climate change. For us, the strategy shows that increasing eco-effectiveness in carbon is as fundamental to being Earth-friendly as it is to reducing costs. The strategy is incorporated into the overall business strategy, which is linked to and exemplified by our SBTi approved emissions reduction target of 30% absolute scope 1 and 2 emissions by 2025. Our Eco-efficiency Team meets with our manufacturing facilities several times a year to drive GHG emissions and energy reduction and to review the site's performance against our targets. To meet these goals, IFF invests in energy efficiency, green chemistry, and carbon reduction initiatives. During 2018, we continued to enhance our governance model to manage eco-efficiency. This includes institutionalizing a method by which facilities can propose improvement projects to reduce waste, water use, and energy consumption. For example, in 2018, our Tilburg site improved its Fluivac system to reduce energy and consequently emissions as well through the use of our eco-efficiency project budget.

iii. The most substantial business decisions made with climate change as a factor during 2018 were:

- The allocation of funds for specific climate change projects to reduce emissions, corporate tracking of those projects for progress, increased purchases of renewable energy credits (RECs), as well as Guarantees of Origin (GO) green electricity in Europe and the US.
- Climate change was included in the decision to fund 13 projects to reduce greenhouse gas emissions by over 13,600 metric tons of CO<sub>2</sub>e.

The aspect of climate change that influenced our business decision to support these solutions was our commitment to transition to a low-carbon economy.

iv. Climate change aspects that have influenced the strategy: Climate change-related issues such as energy efficiency influence our decisions regarding the design, building, operation and maintenance of our facilities and equipment. We recognize that regulatory efforts related to climate change may increase the cost of raw materials as well as energy used. Induced changes in natural resources due to climate change may also affect the availability and price of ingredients used in the manufacture of our products. To lessen the impact of energy costs, we are pursuing energy efficiency and reduction programs as well as increasing our use of renewable energy. To mitigate sourcing-related risks, we are diversifying our sourcing strategy, maintaining strategic stock levels, and developing flavors and fragrances using biotechnology. In addition to responding to potential risks, IFF is seeking opportunities in market shifts created by climate change. We find that climate change response is driving innovation, efficiency improvements and the development of new products, such as concentrated laundry detergent, to meet changing consumer needs.

v. IFF's short-term strategy includes a 1-2 year outlook. The most important changes which have occurred include:

- Enhancements were made of our global web-based software application to track energy use and cost and to measure operational improvements on a more granular level. Reporting was enhanced to pinpoint areas of opportunity for climate-related projects.
- Implementation of energy efficiency initiatives to enable us to meet our corporate goals to reduce energy use by 20% and GHG emissions by 25% by 2020 from a 2010 baseline, normalized to production. In 2018, funds were allocated specifically for carbon reduction such as a stream trap upgrade in our Jacksonville facility,
- Formalization of our climate change governance structure and the Eco-efficiency Team through the appointment of Regional Eco-Efficiency Champions and a Lead Eco-efficiency Champion. They drive progress on climate change goals at the regional level and help facilities create action plans to achieve GHG emissions and energy reduction goals.
- Additionally, in 2018 we added our 2025 targets of reaching 75% of our electricity procured from renewable sources and our Science-Based Target to reduce our absolute GHG emissions by 30%.

vi. IFF's long-term strategy includes a 5-10 year outlook. The most important changes which have occurred include: Through increased awareness of climate change megatrends within our customers and supply chain, this subject has risen in awareness and has dovetailed into the IFF business strategy. We have integrated climate change thinking and actions into key carbon intensive parts of our business. In 2018, examples of this were the increase of purchased green electricity and the development of plans for a solar field at our Union Beach, New Jersey facility.

vii. How this is gaining you strategic advantage: Sustainability and climate change management is an enabler of IFF's Vision 2020 corporate business strategy. We continuously work to design innovative, high-quality and sustainable products that enhance our customers' brands. We do this through green chemistry and with a secure and ethical supply chain. We have incorporated the principles of green design, construction and manufacturing processes at our new facilities. Our mission to maximize our portfolio has us working to increase eco-efficiency today by creating less waste and using less water and energy, and in the future as we create new products. All of these actions increase our efficiency and improve our products in pursuit of a strategic advantage.

viii. We formally support the climate change agreement that emerged from the UN Climate Change Conference (COP21) in Paris as well as the 10 Principles of the UN Global Compact. The agreement is further evidence that consumers are increasingly calling for products that are environmentally and socially responsible, with health and well-being as central elements.

### C3.1d

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**(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.**

Climate-related scenarios	Details
RCP 2.6	<p>Several years ago, IFF launched an enterprise-wide risk management (ERM) effort designed to provide the ability to pro-actively manage business risks. The current ERM does not include 2°C scenario analysis, but we used climate-related scenario analysis to determine our science-based target (SBT) that was approved by the Science-Based Targets initiative (SBTi) and a pathway for achieving the target. This scenario analysis utilized the Representative Concentration Pathway (RCP) 2.6, which is the low emissions scenario pathway from the IPCC Fifth Assessment Report. We identified this scenario via the SBTi guidance and Science-based Target Setting Manual, which lists the scenario as appropriate for setting SBT. For our analysis, we used the RCP2.6 subcategory that keeps overshoot to under 0.4W/m2, and which requires a 49% to 72% absolute emissions reduction by 2050 from 2010 levels to stay under 2°C. For our modeling, we used the high-end input of 72% reduction. We considered the timeline through 2050 but focused our goal-setting analysis on the period of 2025 to 2030. These timelines are relevant to our organization because IFF has a 129-year history and we plan to support the wellbeing of our consumers, the health of our planet and the integrity of our business well into the future. Since RCP 2.6 considers all global anthropogenic emissions, we considered all areas of our business covering our total Scope 1 and 2 emissions from global operations as part of the analysis. We assumed a compound year-on-year reduction pathway of 2.3% and performed a sensitivity analysis on the effectiveness and impacts of different routes to target achievement. The primary result of the scenario analysis was the setting of our SBT commitment to reduce absolute Scope 1 and 2 GHG emissions 30% across all operations globally by 2025 based on a 2015 base year. IFF additionally committed to working with our suppliers (representing 70% of its supply chain emissions) so that they set their own science-based reduction targets and report annual emissions by 2025. The target has been reported and publicized externally via a press release, social media posts, as well as included on the SBTi website. The target will be monitored through our normal sustainability governance structure and progress will be reported both internally to our Sustainability Business Council and Eco-efficiency Team as well as externally on an annual basis. The results of the scenario analysis and our resulting SBT inform our business objectives and strategy through our decisions regarding renewable energy procurement and the design, building, operation and maintenance of our facilities and equipment to achieve greater energy efficiency. For example, we developed our parallel Eco-Efficiency+ goal of procuring 75% of our electricity from renewable sources. We recognize that regulatory efforts related to climate change may increase the cost of raw materials as well as energy used. Induced changes in natural resources due to climate change may also affect the availability and price of ingredients used in the manufacture of our products. To lessen the impact of energy costs, we are pursuing energy efficiency and reduction programs as well as increasing our use of renewable energy. To mitigate sourcing-related risks, we are diversifying our sourcing strategy, maintaining strategic stock levels, and developing flavors and fragrances using biotechnology. In 2018, key examples of how the results of the scenario analysis directly influenced our business objectives and strategy was the increase of purchased renewable electricity at key sites and the development of plans for a new solar field at our Union Beach, New Jersey, facility. Through increased awareness of climate change megatrends within our customers and supply chain, this subject has dovetailed into the IFF business strategy and we have integrated climate change thinking and actions into key carbon-intensive parts of our business.</p>

**C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e**

**(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.**

Climate change-related issues such as energy efficiency influence our decisions regarding the design, building, operation and maintenance of our facilities and equipment. We recognize that regulatory efforts related to climate change may increase the cost of raw materials as well as energy used. Induced changes in natural resources due to climate change may also affect the availability and price of ingredients used in the manufacture of our products. To lessen the impact of energy costs, we are pursuing energy efficiency and reduction programs as well as increasing our use of renewable energy. To mitigate sourcing-related risks, we are diversifying our sourcing strategy, maintaining strategic stock levels, and developing flavors and fragrances using biotechnology. In addition to responding to potential risks, IFF is seeking opportunities in market shifts created by climate change. We find that climate change response is driving innovation, efficiency improvements and the development of new products, such as concentrated laundry detergent, to meet changing consumer needs.

Through increased awareness of climate change megatrends within our customers and supply chain, this subject has risen in awareness and has been dovetailed into the IFF business strategy. We have integrated climate change thinking and actions into key carbon-intensive parts of our business, thereby influencing the execution of these strategies. In 2018, a prime example of how this thinking was institutionalized into our strategy and actions was the increase of purchased Green-e certified renewable energy credits (RECs) as well as Guarantees of Origin (GO) green electricity in the US and Europe. We also further committed to our energy and emissions reductions goals by developing our Union Beach, New Jersey, solar field that will be opening in 2019.

International Flavors & Fragrances, Inc. has committed to reduce absolute scope 1 and 2 GHG emissions 30% by 2025, from a 2015 base-year. This is an approved Science-Based Target. In support of this emissions target, as a member of RE100 we will target 100% renewable electricity and will have 75% renewable electricity by 2025. The major challenge for us in achieving these targets will be market maturity for some of our facilities.

**C4. Targets and performance**

**C4.1**

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Both absolute and intensity targets

**C4.1a**

**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

**Target reference number**

Abs 1

**Scope**

Scope 1 +2 (market-based)

**% emissions in Scope**

100

**Targeted % reduction from base year**

30

**Base year**

2015

**Start year**

2017

**Base year emissions covered by target (metric tons CO2e)**

246761

**Target year**

2025

**Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

**% of target achieved**

49

**Target status**

Underway

**Please explain**

The Science Based Target initiative (SBTi) independently assesses and approves companies' targets to help determine a pathway for reducing companies' emissions in line with the Paris Climate Agreement's goal of limiting global warming to well below 2°C above pre-industrial levels. By 2025, IFF will strive to reduce absolute GHG emissions by 30% and encourage suppliers to set their own science-based reduction targets and report annual emissions. IFF also commits to working with its suppliers (representing 70% of its supply chain emissions) so that they set their own science-based reduction targets and report annual emissions by 2025.

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**C4.1b**

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**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**

Int 1

**Scope**

Scope 1 +2 (market-based)

**% emissions in Scope**

100

**Targeted % reduction from base year**

25

**Metric**

Metric tons CO2e per metric ton of product

**Base year**

2010

**Start year**

2012

**Normalized base year emissions covered by target (metric tons CO2e)**

0.976

**Target year**

2020

**Is this a science-based target?**

No, but we are reporting another target that is science-based

**% of target achieved**

100

**Target status**

Underway

**Please explain**

The target year for GHG emissions and energy reduction goals is 2020 and the baseline year is 2010. The intensity GHG emissions reduction goal is 25% normalized to production. We achieved our 2020 goal by continuously reducing overall energy use, enhancing our energy efficiency efforts, moving to lower greenhouse gas-emitting fuels, and increasing our use of renewable energy.

**% change anticipated in absolute Scope 1+2 emissions**

-25

**% change anticipated in absolute Scope 3 emissions**

0

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**C4.2**

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**(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

**Target**

Renewable electricity consumption

**KPI – Metric numerator**

MWh of renewable electricity

**KPI – Metric denominator (intensity targets only)**

MWh of total electricity consumed

**Base year**

2010

**Start year**

2015

**Target year**

2025

**KPI in baseline year**

0

**KPI in target year**

75

**% achieved in reporting year**

58

**Target Status**

Underway

**Please explain**

In 2015, we joined RE100, a global initiative of businesses that are committed to the goal of procuring 100% of their electricity from renewable sources. We are targeting 75% of our portfolio to help achieve our science-based target.

**Part of emissions target**

Abs 1

**Is this target part of an overarching initiative?**

RE100

**C4.3**

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

**C4.3a**

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	12	
To be implemented*	9	1260
Implementation commenced*	0	0
Implemented*	13	13600
Not to be implemented	3	

**C4.3b**

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Lighting

**Estimated annual CO2e savings (metric tonnes CO2e)**

200

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

33300

**Investment required (unit currency – as specified in C0.4)**

68000

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Implemented 2 projects focused on lighting globally. Average payback period and lifetime were used to calculate the ranges in these columns. These projects impact both location-based and market-based Scope 2 emissions.

---

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

HVAC

**Estimated annual CO2e savings (metric tonnes CO2e)**

2420

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

251300

**Investment required (unit currency – as specified in C0.4)**

388700

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Implemented 4 projects focused on HVAC globally. Average payback period and lifetime were used to calculate the ranges in these columns. These projects impact Scope 1 as well as location-based and market-based Scope 2 emissions.

---

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Motors and drives

**Estimated annual CO2e savings (metric tonnes CO2e)**

395

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

51300

**Investment required (unit currency – as specified in C0.4)**

114800

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Implemented 2 projects focused on motors and drives globally. Average payback period and lifetime were used to calculate the ranges in these columns. These projects impact both location-based and market-based Scope 2 emissions.

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**Initiative type**

Process emissions reductions

**Description of initiative**

Changes in operations

**Estimated annual CO2e savings (metric tonnes CO2e)**

830

**Scope**

Scope 1

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**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

215600

**Investment required (unit currency – as specified in C0.4)**

378000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Implemented 2 projects focused on changes in operations globally. Average payback period and lifetime were used to calculate the ranges in these columns.

---

**Initiative type**

Process emissions reductions

**Description of initiative**

New equipment

**Estimated annual CO2e savings (metric tonnes CO2e)**

5

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

31900

**Investment required (unit currency – as specified in C0.4)**

41000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Implemented 1 project focused on new equipment globally. Average payback period and lifetime were used to calculate the ranges in these columns.

---

**Initiative type**

Low-carbon energy purchase

**Description of initiative**

Solar PV

**Estimated annual CO2e savings (metric tonnes CO2e)**

2366

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

0

**Investment required (unit currency – as specified in C0.4)**

3600

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Our Jacksonville facility increased its renewable electricity (solar) purchasing for production in 2018. Investment is approximated based on typical commodity costs.

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**Initiative type**

Low-carbon energy purchase

**Description of initiative**

Wind

**Estimated annual CO2e savings (metric tonnes CO2e)**

7384

**Scope**

Scope 2 (market-based)



**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

0

**Investment required (unit currency – as specified in C0.4)**

21000

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Several of our facilities increased their renewable electricity (wind) purchasing for production in 2018: Benicarlo, Carrollton, Haverhill, Jacksonville, South Brunswick, Southern Cross Botanicals, Tastepoint, Tilburg. Investment is approximated based on typical REC commodity costs.

C4.3c

**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Financial optimization calculations	IFF requires that energy reduction projects have a clear return on investment and also takes into consideration the environmental and social benefits of these projects, ensuring projects adhere to the triple bottom line of sustainability. For example, we use standard financial metrics such as payback time and internal rate of return (IRR), but we also examine emission reductions and cost per tCO2e reduced.
Internal incentives/recognition programs	IFF has corporate goals to reduce energy use by 20% and GHG emissions by 25% by 2020, normalized to production. In 2016, these goals were cascaded to each of our facilities and included in the performance management goals of plant manager. These goals were achieved in 2017, so we set an approved Science-Based Target in 2018. For its SBTi-approved Science-Based Target, IFF commits to reduce absolute scope 1 and 2 GHG emissions 30% by 2025, from a 2015 base-year. IFF also commits to working with its suppliers (representing 70% of its supply chain emissions) so that they set their own science-based reduction targets and report annual emissions by 2025. Additionally, we have a parallel Eco-Efficiency+ goal of procuring 75% of our electricity from renewable sources.

C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

**Level of aggregation**

Group of products

**Description of product/Group of products**

Several of our facilities use 100% renewable electricity (solar and wind) for production: Benicarlo, Carrollton, Hazlet, Haverhill, Jacksonville, Southern Cross Botanicals, Tastepoint - North, Tastepoint - South, and Tilburg. All of the products made at these facilities are made with renewable electricity and are thus considered low-carbon products; as such, these contribute to the transition to a low carbon economy.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Evaluating the carbon-reducing impacts of ICT

**% revenue from low carbon product(s) in the reporting year**

43

**Comment**

Several of our facilities use 100% renewable electricity (solar and wind) for production: Benicarlo, Carrollton, Hazlet, Haverhill, Jacksonville, Southern Cross Botanicals, Tastepoint - North, Tastepoint - South, and Tilburg. All of the products made at these facilities are made with renewable electricity and are thus considered low-carbon products; as such, these contribute to the transition to a low carbon economy.

C5. Emissions methodology

C5.1

**(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

**Scope 1**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

135417

**Comment**

**Scope 2 (location-based)**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

141042

**Comment**

**Scope 2 (market-based)**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

141042

**Comment**

**C5.2**

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**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

**C6. Emissions data**

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**C6.1**

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**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**

125429

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

2018 Scope 1 emissions

**Past year 1**

**Gross global Scope 1 emissions (metric tons CO2e)**

115704

**Start date**

January 1 2017

**End date**

December 31 2017

**Comment**

We are restating our 2017 Scope 1 emissions. The reason for the restatement is a reporting error was identified at two sites. This was not a material change to our emissions.

## C6.2

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**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

### Row 1

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

## C6.3

---

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

### Reporting year

**Scope 2, location-based**

121658

**Scope 2, market-based (if applicable)**

84997

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

2018 Scope 2 emissions

### Past year 1

**Scope 2, location-based**

119341

**Scope 2, market-based (if applicable)**

91957

**Start date**

January 1 2017

**End date**

December 31 2017

**Comment**

We are restating our 2017 Scope 2 emissions. The reason for the restatement is a reporting error was identified at two sites. This was not a material change to our emissions.

## C6.4

---

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

No

## C6.5

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**(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.**

## Purchased goods and services

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

800000

### Emissions calculation methodology

Corporate-wide global expense data was obtained from finance. Data was not available for 2018, so 2016 data was used as a proxy. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13 - updated per the latest inflation and currency conversion rates. Sectors already included in Scopes 1 and 2 (such as electricity purchases) and other Scope 3 categories (such as capital goods) were removed to prevent double counting. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100 year average

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

Corporate-wide global expense data was obtained from finance. Data was not available for 2018, so 2016 data was used as a proxy. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13 - updated per the latest inflation and currency conversion rates. Sectors already included in Scopes 1 and 2 (such as electricity purchases) and other Scope 3 categories (such as purchased goods and services) were removed to prevent double counting. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100 year average.

## Capital goods

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

30000

### Emissions calculation methodology

Corporate-wide global expense data was obtained from finance. Data was not available for 2018, so 2016 data was used as a proxy. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13 - updated per the latest inflation and currency conversion rates. Sectors already included in Scopes 1 and 2 (such as electricity purchases) and other Scope 3 categories (such as purchased goods and services) were removed to prevent double counting. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100 year average.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

43045

### Emissions calculation methodology

Total global electricity and fuel use derived from our Scope 1 & 2 inventory are used as activity data in this category. Upstream emissions from fuel use are quantified by applied emissions factors based on life cycle assessment of fuels in various countries derived from lifecycle assessment tools. Upstream emissions from electricity purchases in the US are quantified using life cycle emissions factors from Argonne Labs' GREET 2017 model (Version 1\_2017, October 2017) based on the eGRID 2016 grid generation mix, February 2018 release. Upstream emissions from electricity purchases internationally are quantified using the multipliers in the UK DEFRA's 2015 Guidelines. Emissions due to losses from transmission and distribution in the US are calculated using loss factors from the EPA's 2016 eGRID emission factors. Emissions due to losses from transmission and distribution internationally are quantified using the loss factors from the International Energy Agency's "Emission Factors 2018" product, Year 2016 Factors. Global warming potentials come from the IPCC's Fifth Assessment Report, 100 year average.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Explanation

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

150000

### Emissions calculation methodology

This category includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. Data was not available for 2018, so 2014 data was used as a proxy. For each of these categories, total mass, distance shipped, and method of shipping were collected on a per-shipment basis. Emission factors per ton-mile for cargo shipments via air, ocean, and rail were taken from Table A-116 of the U.S. Greenhouse Gas Emissions and Sinks: 1990-2012. The emission factor for highway shipment was taken from Table 2-15 of the same source. Also included in this category is warehousing. For all warehoused material, approximate area of storage space and time spent in storage was determined. Average electricity use per sqft\*yr for warehouses was taken from CBECs Table C15A: Electricity Consumption and Conditional Energy Intensity by Census Region for All Buildings, 2003. It was assumed that the average electricity emission factor is approximately equal to the U.S. eGRID's RFCE region, where many warehouses are located. GWPs were taken from the IPCC Second Assessment Report, 100 year avg.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

13497

### Emissions calculation methodology

Total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Data was not available for 2018, so 2017 data was used as a proxy. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied. Waste emissions factors are consistent with the GHG Protocol Scope 3 guidance, and include the voluntary transportation emissions, with an assumed average distance traveled to the processing facility. Recycling emissions include transport to recycling facility and sorting of recycled materials at material recovery facility. Landfill emissions include transport to landfill, equipment use at landfill and landfill CH4. Landfill CH4 is based on typical landfill gas collection practices, average landfill moisture conditions, and U.S.-average non-baseload electricity grid mix. Combustion emissions include transport to waste-to-energy facility and combustion-related non-biogenic CO2 and N2O. Compost emissions include transport to compost, equipment use at compost facility and CH4 and N2O emissions during composting. Factors are from the EPA, Office of Resource Conservation and Recovery (February 2016) Documentation for Greenhouse Gas Emission and Energy Factors used in the Waste Reduction Model (WARM). Factors from tables provided in the Management Practices Chapters and Background Chapters. WARM Version 14. Additional data provided from EPA. These US emission factors are assumed to be applicable across the rest of the world. Avoided emissions due to waste to energy and recycling are not included in this emissions reporting. Global warming potentials come from the IPCC's Fourth Assessment Report, 100 year average, and are used to convert all waste emission factors into CO2e.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Explanation

## Business travel

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

3228

### Emissions calculation methodology

Travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. For air travel, each cabin class / distance threshold pairing is multiplied by the appropriate emission factor from the UK's DEFRA 2018 emission factor release. The emission factor for intercity rail travel is taken from Tables A.14 to A.16 and 9.10 to 9.12 of the Transportation Energy Data Book: Edition 32. GWPs come from the IPCC Fifth Assessment Report, 100 year average.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Explanation

## Employee commuting

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

12580

### Emissions calculation methodology

Screening done for SBTi using Quantis Scope 3 Evaluator tool.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

This category was found to be relevant after our 2017 sustainability report was published and was determined during the SBTi approval process.

## Upstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This category is not relevant because we do not lease any assets that are not already included in our Scope 1 and 2 inventories.

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

27136

### Emissions calculation methodology

Screening done for SBTi using Quantis Scope 3 Evaluator tool and sales invoicing. Data was not available for 2018, so 2016 data was used as a proxy.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

This category was found to be relevant after our 2017 sustainability report was published and was determined during the SBTi approval process.

## Processing of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

31092

### Emissions calculation methodology

Screening done for SBTi using average of multiple estimates including Quantis tool and Scope 3 Calculation Guidance average method. Data was not available for 2018, so 2016 data was used as a proxy.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

This category was found to be relevant after our 2017 sustainability report was published and was determined during the SBTi approval process.

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

As a creator of flavors and fragrances for consumer products, our products are not typically sold to direct end users and do not have direct or indirect use-phase emissions. We participated and conducted several lifecycle assessments (LCA) of some of our flavors and fragrances products using the PAS2050 (2011) and ISO 14001 methodologies, and because of this we have an idea of the GHG emissions associated with our purchased goods and services. In most of our assessments, we found that for each ingredient, product manufacturing produced the fewest carbon emissions compared with raw materials and transport, which contributed higher percentages of emissions. We are working towards better understanding the Scope 3 GHG emissions of our use of sold products.

## End of life treatment of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

731

### Emissions calculation methodology

Screening done for SBTi using Quantis Scope 3 Evaluator tool.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

### Explanation

This category was found to be relevant after our 2017 sustainability report was published and was determined during the SBTi approval process.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Explanation

This category is not relevant because we have no downstream leased assets.

**Franchises**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

This category is not relevant because we do not have any franchises.

**Investments**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

IFF does not provide capital or financing as a service and, as a result, any emissions associated with investments are already included in scope 1 and 2.

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

No additional upstream Scope 3 emissions

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Explanation**

No additional downstream Scope 3 emissions

**C6.7**

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**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

No

**C6.10**

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**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**

0.0000529

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

210426

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

3977539000

**Scope 2 figure used**

Market-based

**% change from previous year**

13.41

**Direction of change**

Decreased

**Reason for change**

We have provided the standard total revenue intensity measurement. This metric indicates a 13.41% decrease based on a 17% increase in revenue and 1.3% overall increase in market-based emissions. It is difficult to verify that emissions are related to revenue, except indirectly through production. Use of a carbon accounting software system has standardized comparisons and enable evaluation of additional metrics moving forward. This decrease in emissions intensity per total revenue is due to our ongoing emissions reductions activities as highlighted in C4.3b including building energy efficiency projects, boiler upgrades, and improved energy management plans at several of our sites, as well as increased purchases of renewable electricity in the US and Europe.

**Intensity figure**

0.629

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

210426

**Metric denominator**

metric ton of product

**Metric denominator: Unit total**

334705

**Scope 2 figure used**

Market-based

**% change from previous year**

3.29

**Direction of change**

Decreased

**Reason for change**

We have provided emissions intensity per metric ton of production, which is the measure of Int 1, our goal to reduce GHG emissions 25% normalized to production by 2020 from a 2010 baseline year. We achieved our 2020 goal by continuously reducing overall energy use, enhancing our energy efficiency efforts, moving to lower greenhouse gas-emitting fuels, and increasing our use of renewable energy. This metric indicates a further 3.29% decrease based on a 5% increase in production and 1.3% overall increase in market-based emissions. This decrease in emissions intensity per total revenue is due to our ongoing emissions reductions activities as highlighted in C4.3b including building energy efficiency projects, boiler upgrades, and improved energy management plans at several of our sites, as well as increased purchases of renewable electricity in the US and Europe.

**C7. Emissions breakdowns**

**C7.1**

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

**C7.1a**

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	124409	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	100	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	195	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	725	IPCC Fifth Assessment Report (AR5 – 100 year)



## C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	58414
Other, please specify (Rest of World)	67015

## C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

### C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Chemicals production activities	122879
Rest of organization	2550

## C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	122879	<Not Applicable>	Chemical product activities for this question are defined as manufacturing sites.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

## C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	24620	6037	65212	42864
Other, please specify (Rest of world)	97038	78960	222239	63032

## C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

### C7.6c

**(C7.6c) Break down your total gross global Scope 2 emissions by business activity.**

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Chemicals production activities	113651	77427
Rest of organization	8007	7570

**C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7**

**(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	113651	77427	Chemical product activities for this question are defined as manufacturing sites.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C-CH7.8**

**(C-CH7.8) Disclose the percentage of your organization’s Scope 3, Category 1 emissions by purchased chemical feedstock.**

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Specialty chemicals	25	Corporate-wide global expense data was obtained from finance. The feedstock spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra’s “2012 Guidelines to Defra / DECC’s GHG Conversion Factors for Company Reporting”, Annex 13 - updated per the latest inflation and currency conversion rates. Sectors already included in Scopes 1 and 2 (such as electricity purchases) and other Scope 3 categories (such as capital goods) were removed to prevent double counting. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100 year average. These emissions were divided by our total Scope 3, Category 1, emissions to determine the percentage from purchased feedstock.

**C-CH7.8a**

**(C-CH7.8a) Disclose sales of products that are greenhouse gases.**

	Sales, metric tons	Comment
Carbon dioxide (CO2)	0	IFF does not sell CO2 gas.
Methane (CH4)	0	IFF does not sell CH4 gas.
Nitrous oxide (N2O)	0	IFF does not sell N2O gas.
Hydrofluorocarbons (HFC)	0	IFF does not sell HFC gas.
Perfluorocarbons (PFC)	0	IFF does not sell PFC gas.
Sulphur hexafluoride (SF6)	0	IFF does not sell SF6 gas.
Nitrogen trifluoride (NF3)	0	IFF does not sell NF3 gas.

**C7.9**

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**  
Increased

**C7.9a**

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	9750	Decreased	4.7	Several of our facilities increased their renewable electricity (wind and solar) purchasing for production in 2018: Benicarlo, Carrollton, Haverhill, Jacksonville, South Brunswick, Southern Cross Botanicals, Tastepoint, Tilburg. This figure represents the decrease in Scope 1 and Scope 2 market-based emissions from 2017 to 2018 that can be attributed to our increase in renewable energy consumption. In 2018, 9,750 tCO2e were reduced from renewable energy projects, and our S1 and S2 market-based emissions for 2017 totaled 207,661 tCO2e. Thus, we calculated the percentage change in emissions due to change in renewable energy consumption as follows: $(9,750/207,661)*100 = 4.7\%$ . IFF has made and will continue to make capital and operational investments to mitigate costs and reduce GHG emissions, such as building energy efficiency projects, boiler upgrades, and improved energy management plans at several of our sites.
Other emissions reduction activities	3850	Decreased	1.9	This figure represents the decrease in emissions from 2017 to 2018 that can be attributed to our Scope 1 and Scope 2 market-based emissions reductions activities as highlighted in CC4.3a and b. In 2018, 3,850 tCO2e were reduced from our emissions reductions projects, not including renewable energy purchases, and our S1 and S2 market-based emissions for 2017 totaled 207,661 tCO2e. Thus, we calculated the percentage change in emissions due to other emission reduction activities as follows: $(3,850/207,661)*100 = 1.9\%$ . IFF has made and will continue to make capital and operational investments to mitigate costs and reduce GHG emissions, such as building energy efficiency projects, boiler upgrades, and improved energy management plans at several of our sites. IFF has made and will continue to make capital and operational investments to mitigate costs and reduce GHG emissions, such as building energy efficiency projects, boiler upgrades, and improved energy management plans at several of our sites.
Divestment	0	No change		
Acquisitions	2345	Increased	1.1	This represents the acquisition of four new sites into our inventory from 2017 to 2018. In 2018, this increase in production resulted in an additional 2,345 tCO2e, and our S1 and S2 market-based emissions for 2017 totaled 207,661 tCO2e. Thus, we calculated the percentage change in emissions due to acquisitions as follows: $(2,345/207,661)*100 = 1.1\%$ .
Mergers	0	No change		
Change in output	14020	Increased	6.8	This represents the increase in production from 2017 to 2018 from 319,446 to 334,705 metric tons. In 2018, this increase in production resulted in an additional 14,020 tCO2e, and our S1 and S2 market-based emissions for 2017 totaled 207,661 tCO2e. Thus, we calculated the percentage change in emissions due to change in production output as follows: $(14,020/207,661)*100 = 6.8\%$ .
Change in methodology	0	No change		
Change in boundary	0	No change		
Change in physical operating conditions	0	No change		
Unidentified	0	No change		
Other	0	No change		

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Market-based

## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 5% but less than or equal to 10%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

### C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	602505	602505
Consumption of purchased or acquired electricity	<Not Applicable>	100329	128770	229099
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	52784	52784
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	5567	<Not Applicable>	5567
Total energy consumption	<Not Applicable>	105896	784059	889955

**C-CH8.2a**

**(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.**

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	583044
Consumption of purchased or acquired electricity	<Not Applicable>	204503
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	49850
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	5567
Total energy consumption	<Not Applicable>	842963

**C8.2b**

**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

**C8.2c**

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

465947

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

422977

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

42970

**Comment**

**Fuels (excluding feedstocks)**

Fuel Oil Number 2

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

4464

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

4464

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Comment**

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

13859

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

13859

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify (Process Derived)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

112526

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

112526

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Comment**

---

**Fuels (excluding feedstocks)**

Motor Gasoline

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

2799

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

2799

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

2910

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

2910

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Comment**

---

C8.2d

---

**(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

**Diesel**

**Emission factor**

0.2536

**Unit**

metric tons CO2e per MWh

**Emission factor source**

U.S. EPA Center for Corporate Climate Leadership. Center for Corporate Climate Leadership GHG Emission Factors Hub. March 2018. Tables 2 and 4.

**Comment**

Factor is weighted average of different vehicle types incorporating assumptions of 5 miles per gallon for fork-lifts, 10 mpg for heavy duty vehicles and medium trucks, and 15 mpg for light trucks. Factor incorporates CH4 and N2O per-mile factors of applicable diesel vehicle types from Table 4 of the EPA Emission Factor Hub, March 2018.

**Fuel Oil Number 2**

**Emission factor**

0.26756

**Unit**

metric tons CO2e per MWh

**Emission factor source**

U.S. EPA Center for Corporate Climate Leadership. Center for Corporate Climate Leadership GHG Emission Factors Hub. March 2018. Table 1.

**Comment**

**Liquefied Petroleum Gas (LPG)**

**Emission factor**

0.20923

**Unit**

metric tons CO2e per MWh

**Emission factor source**

U.S. EPA Center for Corporate Climate Leadership. Center for Corporate Climate Leadership GHG Emission Factors Hub. March 2018. Table 1.

**Comment**

**Motor Gasoline**

**Emission factor**

0.23967

**Unit**

metric tons CO2e per MWh

**Emission factor source**

U.S. EPA Center for Corporate Climate Leadership. Center for Corporate Climate Leadership GHG Emission Factors Hub. March 2018. Tables 2 and 3.

**Comment**

CH4 and N2O components of factor assume gasoline passenger cars from 2009-present achieving 25 miles per gallon.

**Natural Gas**

**Emission factor**

0.18072

**Unit**

metric tons CO2e per MWh

**Emission factor source**

U.S. EPA Center for Corporate Climate Leadership. Center for Corporate Climate Leadership GHG Emission Factors Hub. March 2018. Table 1.

**Comment**

**Other**

**Emission factor**

0.31069

**Unit**

metric tons CO2e per MWh

**Emission factor source**

Calculated based on mass balance and chemical composition of process derived fuels at each of the sites using process derived energy.

**Comment**

Process Derived Fuels

**C8.2e**

---

**(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	9365	9365	9365	5567
Heat	0	0	0	0
Steam	15685	15685	0	0
Cooling	0	0	0	0

C-CH8.2e

**(C-CH8.2e) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.**

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	9365	9365
Heat	0	0
Steam	15685	15685
Cooling	0	0

C8.2f

**(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.**

**Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

6215

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

At our Ottens and Tastepoint sites in the US, we are supplied with 100% renewable green power through a contract with the electricity supplier supported by energy attribute certificates.

**Basis for applying a low-carbon emission factor**

Energy attribute certificates, Renewable Energy Certificates (RECs)

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

12597

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

At our Carrollton and Hazlet sites in the US, we are supplied with 100% renewable green power through the purchase of Renewable Energy Credits.

**Basis for applying a low-carbon emission factor**

Energy attribute certificates, Renewable Energy Certificates (RECs)

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

3671

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

At our South Brunswick site in the US, we are 52% supplied with renewable green power through the purchase of Renewable Energy Credits.



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**Basis for applying a low-carbon emission factor**

Energy attribute certificates, Renewable Energy Certificates (RECs)

**Low-carbon technology type**

Solar PV

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

20381

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

At our Jacksonville site in the US, we are supplied with renewable green power through the purchase of Renewable Energy Credits.

---

**Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Europe

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

16093

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

At our Haverhill site in the UK, we are supplied with 100% renewable green power through a contract with the electricity supplier supported by Renewable Energy Guarantees Origin (REGOs) energy attribute certificates.

---

**Basis for applying a low-carbon emission factor**

Energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Europe

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

13680

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

At our Tilburg and Hilversum sites in the Netherlands, we are supplied with 100% renewable green power through the purchase of Guarantees of Origin.

---

**Basis for applying a low-carbon emission factor**

Energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Europe

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

27640

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

At our Benicarlo site in Spain, we are supplied with 100% renewable green power through the purchase of Guarantees of Origin

---

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

**Low-carbon technology type**

Wind

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Europe

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

5567

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

---

**Comment**

Our Tilburg site in the Netherlands is partially supplied with renewable electricity via an onsite windmill. Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), where electricity attribute certificates do not exist or are not required for a usage claim.

---

**Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

**Low-carbon technology type**

Solar PV

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Asia Pacific

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

53

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

At our Southern Cross Botanicals site in Australia, we are supplied with 100% renewable green power through a contract with the electricity supplier supported by energy attribute certificates.

---

C-CH8.3

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**(C-CH8.3) Disclose details on your organization's consumption of feedstocks for chemical production activities.**

**Feedstocks**

Solid biomass

**Total consumption**

76537

**Total consumption unit**

metric tons

**Inherent carbon dioxide emission factor of feedstock, metric tons CO<sub>2</sub> per consumption unit**

0

**Heating value of feedstock, MWh per consumption unit**

5.65

**Heating value**

HHV

**Comment**

This includes all plant-based feedstocks used in our manufacturing.

---

**Feedstocks**

Other, please specify (Petrochemicals)

**Total consumption**

59922

**Total consumption unit**

metric tons

**Inherent carbon dioxide emission factor of feedstock, metric tons CO<sub>2</sub> per consumption unit**

3.05

**Heating value of feedstock, MWh per consumption unit**

12.8

**Heating value**

HHV

**Comment**

This includes all petrochemical feedstocks used in our manufacturing. Because this feedstock total includes a mix of petrochemicals, the HHV and emission factor for diesel oil are used as a proxy.

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C-CH8.3a

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(C-CH8.3a) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

	Percentage of total chemical feedstock (%)
Oil	0
Natural Gas	0
Coal	0
Biomass	56
Waste	0
Fossil fuel (where coal, gas, oil cannot be distinguished)	44
Unknown source or unable to disaggregate	0

## C9. Additional metrics

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### C9.1

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(C9.1) Provide any additional climate-related metrics relevant to your business.

### C-CH9.3a

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(C-CH9.3a) Provide details on your organization's chemical products.

**Output product**

Specialty chemicals

**Production (metric tons)**

334705

**Capacity (metric tons)**

334705

**Direct emissions intensity (metric tons CO2e per metric ton of product)**

0.367

**Electricity intensity (MWh per metric ton of product)**

0.628

**Steam intensity (MWh per metric ton of product)**

0.149

**Steam/ heat recovered (MWh per metric ton of product)**

0

**Comment**

This intensity metric is tracked at a site-level and aggregated for a corporate total. The intensity value is tracked annually and part of our emissions and energy reduction targets. The numerators for intensities reported in this question are defined as emissions and consumption from manufacturing sites; they exclude offices. This intensity covers all products and reflects energy and emissions reduction efforts.

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### C-CH9.6

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**(C-CH9.6) Disclose your organization's low-carbon investments for chemical production activities.**

**Investment start date**

January 1 2018

**Investment end date**

December 31 2018

**Investment area**

Products

**Technology area**

Other, please specify (Renewable Energy: Wind)

**Investment maturity**

Large scale commercial deployment

**Investment figure**

25000

**Low-carbon investment percentage**

81 - 100%

**Please explain**

Several of our facilities use 100% renewable electricity (solar and wind) for production: Benicarlo, Carrollton, Hazlet, Haverhill, Jacksonville, Southern Cross Botanicals, Tastepoint - North, Tastepoint - South, and Tilburg. The renewable energy is acquired through RECs and GoOs. All of the products made at these facilities are considered low-carbon products and contribute to the transition to a low carbon economy. The investment figure provided in the column to the left is an estimate based on renewable electricity contracts for multiple facilities and markets. In some markets, green electricity is less expensive than brown power, and in other markets green electricity is more expensive. We are providing an estimate of the total premium paid for renewable electricity across all markets in which we operate.

**C10. Verification**

**C10.1**

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

**C10.1a**

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

ERM CVS 2018 CDP Assurance Statement IFF\_17Jul2019\_FINAL.pdf

**Page/ section reference**

1

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

---

**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

ERM CVS 2018 CDP Assurance Statement IFF\_17Jul2019\_FINAL.pdf

**Page/ section reference**

1

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

---

**Scope**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

ERM CVS 2018 CDP Assurance Statement IFF\_17Jul2019\_FINAL.pdf

**Page/ section reference**

1

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

---

C10.1b

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**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

**Scope**

Scope 3- at least one applicable category

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

ERM CVS 2018 CDP Assurance Statement IFF\_17Jul2019\_FINAL.pdf

**Page/section reference**

1

**Relevant standard**

ISAE3000

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**C10.2**

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**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

**C10.2a**

---

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	ISAE3000	IFF verifies its emissions data annually for year on year change in emissions (both scope 1 and scope 2). This is an organization wide verification and is part of our sustainability reporting process. The verification also helps IFF monitor and report on progress towards our SBTi approved emissions reduction target. ERM CVS 2018 CDP Assurance Statement IFF_17Jul2019_FINAL.pdf

**C11. Carbon pricing**

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**C11.1**

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**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

No, and we do not anticipate being regulated in the next three years

**C11.2**

---

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

**C11.3**

---

**(C11.3) Does your organization use an internal price on carbon?**

Yes

**C11.3a**

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**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

**Objective for implementing an internal carbon price**

- Drive energy efficiency
- Drive low-carbon investment
- Identify and seize low-carbon opportunities

**GHG Scope**

- Scope 1
- Scope 2

**Application**

IFF has a formalized capital project approval process to promote energy efficiency projects and low-carbon solutions. If a project can claim environmental benefits in terms of energy, water, and hazardous waste, this is taken into consideration along with traditional ROI calculations. By integrating sustainability criteria into project evaluation frameworks, we can show additional environmental value from investments which are then taken into consideration for internal hurdle rates. This process helps us to value and implement carbon-reducing solutions. This process is applied at the corporate level and is applicable to all regions and business units. Based on 2018 projects, we calculated that the shadow price was equivalent to approximately \$30 per metric ton of CO2e. We will explore framing this internally as an "internal carbon price" going forward, including applying the ICP to the ROI for each project.

**Actual price(s) used (Currency /metric ton)**

30

**Variance of price(s) used**

Uniform pricing that is applied throughout the company independent of geography, business unit, or type of decision. It will be updated annually as proposed projects will change each year.

**Type of internal carbon price**

Shadow price

**Impact & implication**

The carbon price will help IFF transition to low-carbon economy by emphasizing the need for a proper carbon management strategy. We expect it to help drive energy efficiency, drive low-carbon investment, and identify and seize low-carbon opportunities. Along with our traditional financial measures and eco savings approach, the shadow carbon price adds value to capital projects that reduce GHG emissions. Our Eco-Effectiveness Leadership Team is able to greenlight and implement numerous carbon-reduction projects to make progress toward our climate-related goals, including our approved Science-Based Target. IFF approved 11 capital projects in 2018 to save an additional 1,850 metric tons of CO2e per year.

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**C12. Engagement**

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**C12.1**

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**(C12.1) Do you engage with your value chain on climate-related issues?**

- Yes, our suppliers
- Yes, our customers

**C12.1a**

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**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Run an engagement campaign to educate suppliers about climate change

**% of suppliers by number**

1.2

**% total procurement spend (direct and indirect)**

48

**% Scope 3 emissions as reported in C6.5**

60

**Rationale for the coverage of your engagement**

Our supplier engagement strategy is based around the Scope 3 component of our SBTi-approved science-based target, which committed to working with our suppliers (representing 70% of its supply chain emissions) so that they set their own science-based reduction targets and report annual emissions by 2025. The coverage of this target prioritizes IFF's engagement not on a vaguely defined list of "key suppliers" but rather on the absolute emissions of all suppliers, which will maximize the science-based target's impact. The target's requirement of suppliers to report emission reduction progress will not only encourage progress on GHG emissions management but also allow measurement of absolute emissions reductions.

**Impact of engagement, including measures of success**

IFF's science-based target was recently approved by SBTi. As we move toward our target, the impact of engagement will include supplier GHG emissions reductions and/or improved climate change strategies including target setting. Based on an estimated average absolute emissions reduction of 15% per supplier involved in achieving the goal, we anticipate the absolute emissions impact will be 100,000 tCO<sub>2</sub>e per year (a 10.5% reduction in IFF's total scope 3 emissions). Success will be measured by percent of suppliers engaged, with a target to have 70% of supply chain emissions set their own science-based reduction targets and report annual emissions by 2025.

**Comment**

Our engagement of suppliers for our approved science-based target will primarily be through CDP Supply Chain.

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**C12.1b**

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**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

**Type of engagement**

Education/information sharing

**Details of engagement**

Run an engagement campaign to education customers about your climate change performance and strategy

**% of customers by number**

2.5

**% Scope 3 emissions as reported in C6.5**

28

**Please explain the rationale for selecting this group of customers and scope of engagement**

The sustainability of our customers, their brands and their products is key to our strategy. Our customers are increasingly challenged to find sustainable, reliable sources of ingredients to make products consumers have come to expect or demand. With so many pressing needs, we prioritize and adopt only those initiatives that are right for us, our customers and our communities. We engage with our customers both proactively and on an as needed basis. The measure of success is the customer scorecard. For instance, during 2018, 11 of our major customers, representing approximately 20% of our business, requested we respond to the CDP supply chain questionnaire. We engaged with other key customers on climate-related issues via other channels, resulting in engagement of customers representing a combined total of 28% of our Scope 3 emissions. Our rationale for the scope of this engagement is that focusing on our largest customers provides the largest opportunity for impact and engaging through CDP Supply Chain is an established mechanism for education and information sharing.

**Impact of engagement, including measures of success**

IFF engages its customers through multiple channels but our primary means of engagement is CDP supply chain, which is included on customers' scorecards evaluating IFF's sustainability strategy and performance. The impact of engagement via CDP supply chain could include customers reducing use-phase GHG emissions, increasing renewable energy procurement, or selecting our low carbon products because of the focus on these in our disclosure process. We conduct customer-specific monitoring to measure success, which we measure by monitoring our rating in performance scorecards of our customers and our presence on their core lists. Our CDP Climate Change score is often factored into these scorecards. Some customers specifically use CDP as a grade for an annual supplier performance evaluation and use this information to help generate their core lists, where not being included can significantly reduce the number of future projects and sales. A positive score on customer scorecards and our inclusion on their core lists are our key measures of success. In 2018, all performance ratings received were positive (100% satisfied customers among those providing performance ratings).

---

**Type of engagement**

Collaboration & innovation

**Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

**% of customers by number**

2.5

**% Scope 3 emissions as reported in C6.5**

28

**Please explain the rationale for selecting this group of customers and scope of engagement**

The sustainability of our customers, their brands and their products is key to our strategy. Our customers are increasingly challenged to find sustainable, reliable sources of ingredients to make products consumers have come to expect or demand. With so many pressing needs, we prioritize and adopt only those initiatives that are right for us, our customers and our communities. We engage with our customers both proactively and on an as needed basis. The measure of success is the customer scorecard. For instance, during 2018, eleven of our major customers, representing approximately 20% of our business, requested we respond to the CDP supply chain questionnaire. We engaged with other key customers on climate-related issues via other channels, resulting in engagement of customers representing a combined total of 28% of our Scope 3 emissions. Our rationale for the scope of this engagement is that focusing on our largest customers provides the largest opportunity for impact and engaging through CDP Supply Chain is an established mechanism for education and information sharing.

**Impact of engagement, including measures of success**

IFF engages its customers through multiple channels but our primary means of engagement is CDP supply chain, which is included on customers' scorecards evaluating IFF's sustainability strategy and performance. The impact of engagement via CDP supply chain could include customers reducing use-phase GHG emissions, increasing renewable energy procurement, or selecting our low carbon products because of the focus on these in our disclosure process. We conduct customer-specific monitoring to measure success, which we measure by monitoring our rating in performance scorecards of our customers and our presence on their core lists. Our CDP Climate Change score is often factored into these scorecards. Some customers specifically use CDP as a grade for an annual supplier performance evaluation and use this information to help generate their core lists, where not being included can significantly reduce the number of future projects and sales. A positive score on customer scorecards and our inclusion on their core lists are our key measures of success. In 2018, all CDP performance ratings received were positive (100% satisfied customers among those providing performance ratings).

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**C12.3**

**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Trade associations

Other

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**C12.3b**

**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

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**C12.3c**

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

International Fragrance Association (IFRA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The fragrance industry's creativity is built on a sound understanding of human behavior and attitudes. In common purpose with its customers and consumers the industry seeks to be at the forefront of what is environmentally sound, socially acceptable and economically viable, including climate change. Through initiatives in energy and water conservation, emission and waste reduction and education and community relations projects it continues to invest in improving the sustainability of its harvest of raw materials, its processing of essential oils and its manufacture of fragrance blends.

**How have you influenced, or are you attempting to influence their position?**

IFF is on the board of and supports IFRA's sustainability policies. International Fragrance Association (IFRA) works closely with the Research Institute for Fragrance Materials (RIFM) to develop standards on fragrance material usage. In 2011, IFF partnered with the Research Institute for Fragrance Materials (RIFM) to develop a lifecycle assessment methodology for measuring and communicating product sustainability.

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**Trade association**

Natural Resources Stewardship Circle (NRSC)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The NRSC works to promote the responsible and ethical management of natural resources used in the beauty, cosmetics, fragrance, and flavor industries. NRSC members have pledged their personal commitment to creating a positive impact on the sourcing of natural ingredients.

**How have you influenced, or are you attempting to influence their position?**

IFF also serves on the board of the Natural Resources Stewardship Circle, where it supports the NRSC's sustainability initiatives, such as the vetiver root oil project in Haiti. IFF is working with the NRSC and other members to preserve the biodiversity of the vetiver supply chain and to develop cooperative, sustainable fair-trade projects with the local communities and farmers who grow this crop. Vetiver farmers in Haiti are encouraged through the program to take necessary steps to fight erosion to ensure soil fertility is preserved by implementing erosion control structures or by using sustainable harvesting techniques.

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**Trade association**

WBCSD

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The WBCSD is a CEO-led organization of forward-thinking companies that galvanizes the global business community to create a sustainable future for business, society and the environment.

**How have you influenced, or are you attempting to influence their position?**

Our Chairman and CEO was elected to the Executive Committee of the World Business Council for Sustainable Development (WBCSD). This is an opportunity to work with influential leaders to make positive, lasting changes in society. IFF's participation in this organization is another way we can help leave the world a better place for generations to come.

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C12.3e

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**(C12.3e) Provide details of the other engagement activities that you undertake.**

IFF is a member of the World Business Council for Sustainable Development (WBCSD), which is a CEO-led organization of companies that galvanize the global business community to create a sustainable future for business, society, and the environment; a triple bottom approach that aligns with IFF's sustainability strategy. We specifically engaged as both a company and individual. Our Vice President of Global Sustainability is the liaison delegate to our CEO within the organization. He personally attends and participates in climate change workgroups on both policy and climate mitigation measures. We participate in and advocate the low carbon technologies partnership initiative of the WBCSD and support their position on COP 21 as well as the position of the CDP on the Road to Paris.

IFF also serves on the board of the Natural Resources Stewardship Circle, which is a non-profit organization that works to promote the responsible and ethical management of natural resources used in the beauty, cosmetics, fragrance, and flavor industries. NRSC members have pledged their personal commitment to creating a positive impact on the sourcing of natural ingredients. For example, vetiver farmers in Haiti are encouraged through the program to take necessary steps to fight erosion to ensure soil fertility is preserved by implementing erosion control structures or by using sustainable harvesting techniques.

IFF is a founding member of the International Fragrance Association (IFRA), the official representative body of the fragrances industry worldwide, with the main purpose of ensuring the safety of fragrance materials. IFF participated in an IFRA working group to develop sector-specific approach to GHG emissions calculation for the fragrances and flavors industry.

IFF has a long association with the Research Institute for Fragrance Materials and partnered with them to conduct a life-cycle analysis of popular fragrance materials to determine their overall sustainability. RIFM's purpose is to gather and analyze scientific data, engage in testing and evaluation, distribute information, cooperate with official agencies and to encourage uniform safety standards related to the use of fragrance ingredients. The RIFM Database of flavor and fragrance materials is the largest available worldwide, classifying more than 5000 materials. The database is available online, 24/7, by subscription. RIFM's Database also houses an online collection of Flavor/Fragrance Ingredient Data Sheets (FFIDS) from 1985-present. FFIDSs are issued to assist with compliance for U.S. OSHA's Hazard Communication Standards and the European Commission's Dangerous Substances Directives.

IFF is also a member of the American Cleaning Institute (ACI), the Home of the U.S. Cleaning Products Industry™, representing producers of household, industrial, and institutional cleaning products, their ingredients and finished packaging; oleochemical producers; and chemical distributors to the cleaning product industry. IFF annually participates in the ACI's Sustainability Metrics Program. IFF also joined the ACI's Charter for Sustainable Cleaning, a voluntary lifecycle-based framework that promotes a common industry approach to sharing and reporting best practices for sustainability. Companies participating in the Charter demonstrate their commitment to continuous improvement of key aspects of sustainability across all stages of the cleaning product supply chain.

IFF is a member of the International Organization of the Flavor Industry (IOFI), which is a non-profit organization that represents the interest of the global flavor industry and its partners by providing leadership in safety, scientific and regulatory matters. One of IOFI's key objectives is "Organizational Sustainability and Growth: Increase IOFI's global representation and, in partnership with member associations, prepare the association for future challenges with adequate resources and reserves."

IFF is also a member of the Flavor and Extract Manufacturers Association (FEMA), the oldest and largest national association of the flavor industry and is engaged principally in activities which ensure a substantial supply of safe flavor materials.

**C12.3f**

**(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

By supporting the works of external entities, such as industry associations and other organizations, we are able to monitor current and/or pending climate change legislation that may impact our business globally. IFF's Vice President of Global Sustainability along with the Sustainability Business Council, which is comprised of cross-functional business leaders, review all policies related to climate change to provide consistent alignment with our sustainability and business strategies.

Our process for ensuring engagement is consistent across different geographies and markets starts with the Sustainability Business Council. In addition to reviewing policies with the VP of Global Sustainability to ensure alignment with our sustainability principles and business objectives, members of this council are also frequently our representatives on or liaisons with trade organizations. They engage policymakers directly at a high level and relay information back to the VP of Global Sustainability to ensure consistency.

At the local level, Green Team core members interact with local officials to comply with regulatory frameworks and leverage ISO 14001 to help foster a working relationship with regulators to ensure they are updated with changing legislation. ISO 14001 is recertified every 3 years. The Green Team members report back to the Eco-Effectiveness Leadership Team, who report to the VP of Global Sustainability to maintain consistency and alignment with corporate policy engagement and strategy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

IFF Annual Report 2018 - FINAL.pdf

**Page/Section reference**

3,9,16-18

**Content elements**

Governance

Strategy

Risks & opportunities

**Comment**

**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

iff-sustainability-report-2018.pdf

**Page/Section reference**

39-43

**Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

**Comment**

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive VP and Chief Financial Officer	Chief Financial Officer (CFO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

**(SC0.1) What is your company's annual revenue for the stated reporting period?**

	Annual Revenue
Row 1	3977539000

**SC0.2**

**(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?**

No

**SC1.1**

**(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.**

**Requesting member**

Diageo Plc

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

444

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process, operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**

Diageo Plc

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

301

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Diageo Plc

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

3932

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Heineken NV

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO<sub>2</sub>e**

16

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**

Heineken NV

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO<sub>2</sub>e**

11

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company

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**Requesting member**

Heineken NV

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

139

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Johnson & Johnson

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

394

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased



**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Johnson & Johnson

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

267

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Johnson & Johnson

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

3495

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**

S.C. Johnson &amp; Son, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO2e**

246

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**  
S.C. Johnson & Son, Inc.

**Scope of emissions**  
Scope 2

**Allocation level**  
Company wide

**Allocation level detail**  
<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**  
166

**Uncertainty (±%)**  
5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**  
No

**Allocation method**  
Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**  
S.C. Johnson & Son, Inc.

**Scope of emissions**  
Scope 3

**Allocation level**  
Company wide

**Allocation level detail**  
<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**  
2176

**Uncertainty (±%)**  
10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**  
No

**Allocation method**  
Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis

software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

KAO Corporation

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

612

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

KAO Corporation

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

415

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**

KAO Corporation

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

5427

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

527

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

357

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other



internal methods.

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**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

4673

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

L'Oréal

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

2327

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of

energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

L'Oréal

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

1577

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

L'Oréal

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

20619

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and



energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

PepsiCo, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

7355

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

PepsiCo, Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

4984

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

PepsiCo, Inc.

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

65169

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global

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**Requesting member**

Unilever plc

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

12242

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 1 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Unilever plc

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

8295

**Uncertainty (±%)**

5

**Major sources of emissions**

IFF operations use energy for heating and cooling of buildings, lighting, refrigeration, generating hot water and steam, process operations and cleaning. IFF obtained verification for absolute global Scope 2 GHG emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG

emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**Requesting member**

Unilever plc

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

108461

**Uncertainty (±%)**

10

**Major sources of emissions**

GHG emissions for scope 3 include upstream emissions from purchased goods and services, capital goods, purchased fuels and electricity, transmission and distribution losses of purchased electricity and steam, upstream transportation and distribution, the waste generated within our operations, business travel, employee commuting, downstream transportation and distribution, processing of sold products, and end of life treatment of sold products. IFF obtained verification for absolute Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) GHG emissions as well as business travel emissions.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

Energy sources were identified according to the global infrastructure and operational systems. Natural gas, purchased electricity, process derived fuels, and purchased steam accounted for more than 90% of our global energy consumption in 2018. These are the main energy sources we use to heat and cool our buildings, to generate hot water and steam; and for refrigeration, process operations and cleaning. Data is collected globally via an internet based system for capturing and calculating GHG emissions. Uncertainty could be due to human error, unit conversions, and estimation methodology. Our Scope 1, 2 and 3 (Categories 3 and 6) data have been externally verified by the ERM CVS. Our Scope 3, Fuel- and energy-related activities (not included in Scopes 1 or 2) were calculated based on 100% primary data. The quantity of energy consumed for each energy type, such as electricity or natural gas, is used as activity data to calculate emissions. Consumption by fuel type is multiplied by emission factors for each of the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra 2015 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US, and on UK Defra 2015 Guidelines for other countries. GWPs are IPCC Fifth Assessment Report (AR5 - 100 year). Going forward we will be evaluating data collection methods for other categories of Scope 3 emissions. For emissions from purchased goods and services and capital goods, corporate-wide global expense data was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", Annex 13. Upstream transportation and distribution includes emissions associated with inbound shipments to our facilities, shipments between our facilities, and outbound shipments from our facilities that we pay for. For waste emissions, total weight of hazardous and non-hazardous waste generated from IFF's total global production are used as activity data for this calculation. Waste is categorized by type of material and diversion method, including recycling, composting, incineration, and landfilling. The waste-type-specific method, described in "Technical Guidance for Calculating Scope 3 Emissions," is then applied using factors from EPA's WARM model. For emissions from business travel, travel data is provided by our travel agency and includes global air and rail travel by cabin class and distance threshold for each trip. All these scope 3 emissions were calculated based on 100% primary data. Remaining relevant categories were estimated using the Quantis Scope 3 screening tool and other internal methods.

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**SC1.2**

**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**

Total Global Emissions are calculated using the Greenhouse Gas Protocol. Customer emissions are allocated based on the market value of products purchased.

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**SC1.3**

**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	Given IFF's global footprint, multitude of suppliers, and broad range of natural and synthetic raw materials that are sourced from around the world, providing GHG emissions data per finished product is a complex process. That said, we have allocated our global GHG emissions data to our customers according to volume of products purchased and developed models to estimate GHG emissions on a per category and per product basis. Over the last several years we also gained better insight into our Scope 3 emissions and can estimate emissions throughout the product life cycle. We have insight from our library of lifecycle assessments of fragrance and flavor ingredients and partnered with industry and LCA experts on product specific initiatives. Note that the conclusion from our lifecycle assessments is that our product manufacturing processes produced the fewest carbon emissions compared with raw materials and transport, which contributed the highest percentage emissions.

**SC1.4**

**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**

Yes

**SC1.4a**

**(SC1.4a) Describe how you plan to develop your capabilities.**

We have made great advancements over the past few years regarding product specific data, and would be happy to share and partner with you our customers to enhance our mutual understanding and reduce of GHG emissions throughout the product life cycle. We welcome the opportunity to partner with our customers and share product level data throughout the lifecycle, as indicated in SM 4.

**SC2.1**

**(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.**

**Requesting member**

Diageo Plc

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

**Requesting member**

Heineken NV

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

---

**Requesting member**

Johnson & Johnson

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings****Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

---

**Requesting member**

S.C. Johnson & Son, Inc.

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings****Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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**Requesting member**

KAO Corporation

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings****Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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**Requesting member**

Kellogg Company

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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**Requesting member**

L'Oréal

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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**Requesting member**

PepsiCo, Inc.

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of

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our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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**Requesting member**

Unilever plc

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

IFF is a leader in circular design and renewable energy. We have the largest solar field and the first and only Wind Turbine in our industry. We also have an in-depth view of our own footprint as well as the value chain. From renewable and Natural feedstocks to carbon reducing products, we can partner to help you to achieve your goals. Some opportunities that we presented this year for collaboration on climate change include products manufactured with 100 % renewable electricity, partnering on local renewable energy projects, fully traceable and For Life certified Naturals and Renewable and / or Cradle to Cradle certified fragrances. We welcome the opportunity to partner with you on initiatives that will help to support and advance your sustainability goals. And we look forward to our continued partnership to promote more sustainable products throughout your supply chain. Please contact Kip.Cleverley@iff.com, VP Global Sustainability to advance these opportunities. For an in-depth overview of our capabilities see <http://www.iff.com/sustain>.

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## SC2.2

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**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**

Yes

## SC2.2a

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**(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.**

**Requesting member**

Diageo Plc

**Initiative ID**

2018-ID1

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Diageo's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

48

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

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**Requesting member**

Heineken NV

**Initiative ID**

2018-ID3

**Group type of project**

Relationship sustainability assessment

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**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Heineken's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

2

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

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**Requesting member**

Johnson & Johnson

**Initiative ID**

2018-ID4

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Johnson & Johnson's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

43

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

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**Requesting member**

S.C. Johnson & Son, Inc.

**Initiative ID**

2018-ID5

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of SC Johnson's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

27

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

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**Requesting member**

KAO Corporation

**Initiative ID**

2018-ID6

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Kao's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

66

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

---

**Requesting member**

Kellogg Company

**Initiative ID**

2018-ID7

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Kellogg's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

57

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

---

**Requesting member**

L'Oréal

**Initiative ID**

2018-ID8

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of L'Oréal's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

252

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

Yes

---

**Requesting member**

PepsiCo, Inc.

**Initiative ID**

2018-ID9

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of PepsiCo's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

798

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

Please select

---

Would you be happy for CDP supply chain members to highlight this work in their external communication?

Yes

---

**Requesting member**

Unilever plc

**Initiative ID**

2018-ID11

**Group type of project**

Relationship sustainability assessment

**Type of project**

Aligning goals to feed into customers targets and ambitions

**Description of the reduction initiative**

Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Unilever's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are working towards better understanding of specific product level emissions reductions and can now allocate a percentage of our overall emissions reductions to your supply chain.

**Emissions reduction for the reporting year in metric tons of CO2e**

1327

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

No

Would you be happy for CDP supply chain members to highlight this work in their external communication?

Yes

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### SC3.1

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**(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?**

Yes

### SC3.1a

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**(SC3.1a) Identify which member(s), if any, have motivated you to take part in Action Exchange this year.**

Please select

### SC3.1b

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**(SC3.1b) Select the types of emissions reduction activities that your company would like support in analyzing or in implementing in the next reporting year.**

Energy efficiency: Processes  
Low-carbon energy purchase  
Low-carbon energy installation  
Process emissions reductions  
Product design  
Behavioral change  
Waste recovery  
Green project finance

### SC3.1c

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**(SC3.1c) As part of Action Exchange, would you like facility level analysis?**

Yes

### SC3.2

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**(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?**

No

### SC4.1

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**(SC4.1) Are you providing product level data for your organization's goods or services?**

Yes, I will provide data

---

SC4.1a

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(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.

15

SC4.2a

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(SC4.2a) Complete the following table for the goods/services for which you want to provide data.

**Name of good/ service**

Product 1: Fragrance Products

**Description of good/ service**

Compounded Fine Fragrance and Compounded Consumer Fragrance (metric tons)

**Type of product**

Intermediate

**SKU (Stock Keeping Unit)**

Confidential

**Total emissions in kg CO2e per unit**

878

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

Due to available data, we are providing a different product breakdown from last year, so we have not included a % change from the previous figure or a date the previous figure was provided.

**Methods used to estimate lifecycle emissions**

GHG Protocol Product Accounting & Reporting Standard

---

**Name of good/ service**

Product 2: Flavor Products

**Description of good/ service**

Compounded Flavors (metric tons)

**Type of product**

Intermediate

**SKU (Stock Keeping Unit)**

Confidential

**Total emissions in kg CO2e per unit**

361

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

Due to available data, we are providing a different product breakdown from last year, so we have not included a % change from the previous figure or a date the previous figure was provided.

**Methods used to estimate lifecycle emissions**

GHG Protocol Product Accounting & Reporting Standard

---

**Name of good/ service**

Product 3: Natural Ingredients

**Description of good/ service**

Natural ingredients for both flavors and fragrances (metric tons)

**Type of product**

Intermediate

**SKU (Stock Keeping Unit)**

Confidential

**Total emissions in kg CO2e per unit**

1344

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

Due to available data, we are providing a different product breakdown from last year, so we have not included a % change from the previous figure or a date the previous figure was provided.

**Methods used to estimate lifecycle emissions**

GHG Protocol Product Accounting & Reporting Standard

---

SC4.2b

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(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.

**Name of good/ service**

Product 1: Fragrance Products

**Please select the scope**

Scope 1 & 2

**Please select the lifecycle stage**

Production

**Emissions at the lifecycle stage in kg CO2e per unit**

878

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Primary and secondary

**Data quality**

Primary data used include natural gas combustion and electricity production. Because readings are obtained from monthly bills and "revenue meters," which are typically subject to stringent calibration requirements by local governments, uncertainty level for natural gas quantities and GHG emissions can be assumed as <5%. Emissions reported as per metric ton of production. Scope 2 emissions use market-based accounting.

**If you are verifying/assuring this product emission data, please tell us how**

It hasn't been verified at the product level yet, but we are taking steps toward it.

---

**Name of good/ service**

Product 2: Flavor Products

**Please select the scope**

Scope 1 & 2

**Please select the lifecycle stage**

Production

**Emissions at the lifecycle stage in kg CO2e per unit**

361

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Primary and secondary

**Data quality**

Primary data used include natural gas combustion and electricity production. Because readings are obtained from monthly bills and "revenue meters," which are typically subject to stringent calibration requirements by local governments, uncertainty level for natural gas quantities and GHG emissions can be assumed as <5%. Emissions reported as per metric ton of production. Scope 2 emissions use market-based accounting.

**If you are verifying/assuring this product emission data, please tell us how**

It hasn't been verified at the product level yet, but we are taking steps toward it.

---

**Name of good/ service**

Product 3: Natural Ingredients

**Please select the scope**

Scope 1 & 2

**Please select the lifecycle stage**

Production

**Emissions at the lifecycle stage in kg CO2e per unit**

1344

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Primary and secondary

**Data quality**

Primary data used include natural gas combustion and electricity production. Because readings are obtained from monthly bills and "revenue meters," which are typically subject to stringent calibration requirements by local governments, uncertainty level for natural gas quantities and GHG emissions can be assumed as <5%. Emissions reported as per metric ton of production. Scope 2 emissions use market-based accounting.

**If you are verifying/assuring this product emission data, please tell us how**

It hasn't been verified at the product level yet, but we are taking steps toward it.

---

SC4.2c

---

**(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.**

Name of good/service	Initiative ID	Description of initiative	Completed or planned	Emission reductions in kg CO2e per unit
All IFF Products	Initiative 1	We have many voluntary energy and GHG emission reduction (Scope 1 & 2) initiatives that help reduce the carbon footprint of our products and achieve our energy targets. Examples include our Karawang, Indonesia, flavors facility that installed variable speed drives on their compressors and chiller to save approximately 532 MWh; and our Jacksonville, Florida, US, fragrance ingredients facility that upgraded their steam distribution system for improved efficiency, saving approximately 240 megawatt hours (MWh) per year. In addition to reducing energy consumption, we also are focusing on powering our facilities with more renewable energy such as in 2018 site purchased more green electricity for our Haverhill, United Kingdom site and our Carrollton, Texas site. In 2016, Tilburg, Netherlands, became the first in the industry to generate wind power on-site. Installation of a 2.4 megawatt turbine began in late 2015, and it was completed and operational by July 2016. In 2018, we also began plans to construct a new solar field at our Union Beach, New Jersey, US, facility. We have found that reducing our overall facility level emissions has a great impact on product level emissions reductions and will continue to work toward product specific allocation. The emission reductions provided are in kg CO2e per unit of product.	Ongoing	40

**SC4.2d**

**(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?**

Yes

**SC4.2e**

**(SC4.2e) Explain which initiatives have been driven by requesting members.**

Requesting member(s)	Name of good/service	Initiative ID
Diageo Plc	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Diageo's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
Heineken NV	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Heineken's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
Johnson & Johnson	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Johnson & Johnson's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
S.C. Johnson & Son, Inc.	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of SC Johnson's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
KAO Corporation	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Kao's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
Kellogg Company	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Kellogg's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
L'Oréal	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of L'Oréal's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
PepsiCo, Inc.	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of PepsiCo's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1
Unilever plc	Organizational emissions reductions are being driven by our desire to be more sustainable in this area as well as by our commitment to being a responsible member of Unilever's supply chain. Multiple energy efficiency and renewable energy reduction initiatives are underway specifically at the locations that provide your products. We are continuously improving our understanding of specific product level emissions reductions and can currently allocate a percentage of our overall emissions reductions to your supply chain.	Initiative 1

**Submit your response**

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

**Please confirm below**

I have read and accept the applicable Terms