

2018 Sustainability Progress Review

A Sense of Tomorrow



Givaudan

engage your senses



Key 2018 achievements

-24.4% Water use since 2009
 Target: -15% by 2020 from 2009 baseline

69.4% Renewable electricity
 Target: 100% by 2025



Givaudan's leadership on climate change action was recognised in 2018 by CDP. We were among the 120 global companies awarded and earned an A- for reducing greenhouse gas (GHG) emissions and an A- for outstanding water stewardship. We also earned a position on CDP's Supplier Engagement leader board in recognition of our actions and strategies to reduce emissions and lower climate-related risk across our supply chain.



Our 2018 assessment achieved a gold level rating of 67/100 and positions us in the top 5% of suppliers in the chemical industry who complete the EcoVadis assessment.

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Targets	Progress 2017 (restated)	Progress 2018
-30% absolute scope 1 + 2 GHG emissions between 2015 and 2030	-7.0% ¹	-13.9% ¹
-20% absolute scope 3 GHG emissions between 2015 and 2030	+13.6% ¹	+21.6% ¹
100% renewable electricity by 2025	57.8%	69.4%
-15% water per tonne of product by 2020 (use of municipal and groundwater, baseline 2009)	-19.4% ¹	-24.4% ¹
-4% waste per tonne of product, year on year average (baseline 2015) ²	-4.4% p.a. on average (-8.8% since baseline 2015)	-1.7% p.a. on average (-5.2% since baseline 2015)

1. Compared to baseline year.
 2. Includes incinerated and landfilled waste.

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Waste¹

2018	-1.7% ³	43.3
2017 ²	-4.4% ³	41.7
2015 ²		45.7

Waste in kg/tonne of product

Target between 2015 and 2020: -4% p.a.

1. Includes incinerated and land-filled waste.
 2. Restated.
 3. P.a. since 2015.

Lost time injury rate

2018	-76% ¹	0.25
2017	-68% ¹	0.33
2009	-90%	1.03

LTI rate

Target by 2020 from 2009 baseline

1. Compared to baseline year.

About this report

Our reporting suite

Readers are advised to consult our entire reporting suite to get a complete overview:

- The **2018 Integrated Annual Report** offers a holistic explanation of our value creation, financial and non-financial capitals and performance, including our Governance, Compensation and Financial reports.
- **The 2018 Sustainability Progress Review** offers case studies and progress data for the three focus areas of our sustainability approach as well as eco-efficiency targets versus progress. The GRI Content Index is included in this report.
- **Our Sustainability Approach** offers a strategic overview of A Sense of Tomorrow, the approach for each of the three sustainability focus areas, and related issues such as stakeholder engagement and material topics.

Cross-references help readers navigate through the reports: a GRI icon signals information related to GRI Disclosures; SDG icons are used to show which content contributes to the ten United Nations Sustainable Development Goals (SDG) we believe we can have the most impact on; and the magnifying glass icon refers the reader to a specific page in the report or to the website or to another publication for further information.

Sustainability reporting

This report has been prepared in accordance with the GRI Standards: Core option. It covers the sustainability activity of Givaudan's wholly-owned companies from January to December 2018. GRI disclosures are spread across all three publications. The GRI Content Index and the GRI reference icons used throughout the reports show where the content to each disclosure can be found. Givaudan reports on sustainability once a year; the previous report was published in March 2018. The GRI Materiality Disclosures Service verified that the Disclosures 102–40 to 102–49 were correctly located both in the GRI Content Index (p. 48) and in the text of the report. External assurance is provided by Ernst & Young LLP (p. 58).

Our GRI reporting also represents Givaudan's annual communication on progress (COP) towards our commitment to the UN Global Compact Principles. For more information see the principles of the UN Global Compact (Our Sustainability Approach p. 54) and our GRI Content Index (p. 48).

Comments and questions can be sent to:
global.sustainability@givaudan.com

 Disclosure 102 – 50 to 102 – 54

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References to other pages, reports, documents or websites for more information



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References to UN Sustainable Development Goals

Our sustainability approach

Our sustainable practices allow us to better meet our customers' needs and ultimately transform a challenge into new possibilities.

We are committed to a more sustainable future and believe that corporations should be leaders in a movement to address social, environmental and economic issues. By expanding sustainable practices in sourcing, product development and in reducing our environmental footprint, we can better meet today's needs and ultimately transform challenges posed by diminishing natural resources and impacts of climate change into new opportunities for responsible economic growth.

Our framework for meeting these goals is A Sense of Tomorrow, an approach that gives our vision for 2030 and beyond. A Sense of Tomorrow is built on three main focus areas. This is why we are:

Sourcing for Shared Value: ensuring that all of our raw materials are produced in a way that respects people and the environment.

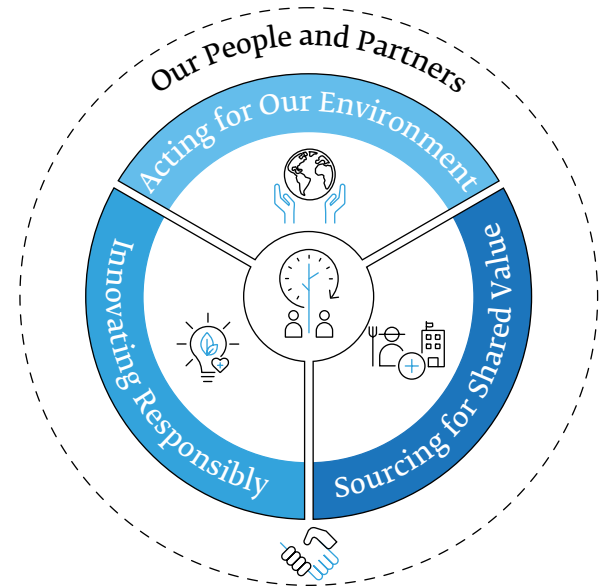
Innovating Responsibly: driving innovation that benefits our customers, society and the environment.

Acting for Our Environment: leading climate action and improving processes to continuously reduce the footprint of our products.



We cannot do this alone: the support of **Our People and Partners** is essential. This is why managing the talent of those who are passionate about their work and committed to creating a sustainable society and choosing like-minded partners are also key to meeting our business and sustainability goals. Our initiatives support our own objectives, but also address no fewer than 10 of the United Nations' Sustainable Development Goals.

Details on our progress in all of these areas can be found in the chapters that follow.



Meeting needs today. Defining what's next.



	SDGs			
<p>Sourcing for Shared Value</p>	<p>2 ZERO HUNGER</p>	<p>5 GENDER EQUALITY</p>	<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>
	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>13 CLIMATE ACTION</p>	<p>15 LIFE ON LAND</p>	<p>17 PARTNERSHIPS FOR THE GOALS</p>
<p>Innovating Responsibly</p>	<p>2 ZERO HUNGER</p>	<p>3 GOOD HEALTH AND WELL-BEING</p>	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>
				<p>17 PARTNERSHIPS FOR THE GOALS</p>
<p>Acting for Our Environment</p>	<p>6 CLEAN WATER AND SANITATION</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>13 CLIMATE ACTION</p>	<p>17 PARTNERSHIPS FOR THE GOALS</p>
<p>Our People and Partners</p>	<p>3 GOOD HEALTH AND WELL-BEING</p>	<p>5 GENDER EQUALITY</p>	<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>17 PARTNERSHIPS FOR THE GOALS</p>
			<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>
				<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>

Sourcing for Shared Value

Givaudan depends on natural resources and the communities who grow them: Sourcing for Shared Value ensures we generate benefits for everyone involved.

We are committed to sourcing our raw materials responsibly, working with suppliers who respect people and the environment. We want to bring long-term stability to our supply chains, but also to the communities we source from.

Developing farming partnerships and collection networks, we source directly from producers whenever possible and – in collaboration with the Givaudan Foundation, NGOs and local

partners – we run numerous community projects around the world. From promoting schools and good agricultural practices to finding ways to mitigate climate change, we help strengthen the social, economic and environmental fabrics of these communities while also supporting the supply of the raw materials we rely on.

Our approach allows us to satisfy our own ethical convictions, but also those of consumers. Inspired by a flavour or a fragrance, they increasingly want to know where ingredients come from and be assured that they have been produced in a sustainable way: the transparency ingrained in our supply chain helps our customers meet this consumer need.


We call our overall approach Sourcing for Shared Value because it brings new value to all involved. It is based on the three practices of Responsible Sourcing, Sourcing at Origin and Communities at Source.

 [Our Sustainability Approach](#)

Supplier screening

All new relationships between Givaudan and vendors are developed using vendor requirement guidelines as reference material. We encourage selected suppliers to improve their performance. One way we do this is by inviting suppliers to register with Sedex, a data-sharing platform to improve supply chain practices.

- Total number of significant suppliers identified: 400
- Total number of suppliers assessed to date: 310
- Percentage of suppliers assessed to date: 78%
- Total number of suppliers assessed in 2018: 13
- Percentage of suppliers assessed in 2018: 3%


 Disclosure 308 – 1, 414 – 1

Operations and suppliers with significant social risks

Since 2008, Givaudan has been an active user of the Sedex platform which incorporates human rights risks in its assessments. Child labour or the exposure of young workers to hazardous work can be an issue across the entire supply chain covering our own operations and those of our suppliers, and 100% of our operations are assessed for risk in this area.

Since 2010, all Givaudan production sites have been registered on Sedex and completed Sedex self-assessment questionnaires (SAQ) to share information with customers. Givaudan annually reviews and updates the SAQ. To date, 39 Givaudan sites have been audited according to SMETA standards.

Significant suppliers are assessed for risk, and in 2018 a total of 318 key raw material suppliers were registered with Sedex. These suppliers represent over 65% of our spend. We have also worked to ensure that audited suppliers had closed all open non-conformities. At the end of 2018, our supplier compliance rate was 78%.

 Disclosure 407 – 1, 408 – 1, 409 – 1, 412 – 1

KEY ACHIEVEMENTS 2018

- Worked with our main direct suppliers on site audits, 78% now fully compliant
 - Verified that 24 raw material categories are sourced in a responsible way
 - Developed a new partnership for a litsea collection network in China
 - Improved conditions for smallholder producers in Indonesia
-

Responsible Sourcing

We source more than 10,000 raw materials from all over the world and managing supply chains at such a scale is a complicated task. We are nonetheless committed to working with our suppliers to make sure we all meet the requirements of our Responsible Sourcing Policy, which outlines the high standards we expect in terms of health and safety, social and environmental responsibility and business integrity.

MAIN DIRECT SUPPLIERS TARGET

We aim to have all main direct suppliers meet the requirements of our policy and to reach full compliance with their site audits by 2020.

Spending on local suppliers

It is the Company's common practice to prefer sourcing from locally based suppliers (defined as suppliers who are based in the same country as the Givaudan 'facility'). This is reflected in the 84% by value of non-raw material purchased locally in 2018. For raw materials, 26% by value were sourced locally in 2018. Several of the raw materials we buy cannot be sourced in countries other than the ones where it naturally grows.

 Disclosure 204-1

Progress on main direct suppliers

The first step is to introduce suppliers to the Responsible Sourcing Policy. So far, we have sent it to 14,028 of our raw material and indirect materials & services (IM&S) suppliers, representing 87% of our total spend for 2018.

Our Procurement team and implementation partners work closely with suppliers to guide them through our policy, identify gaps, agree on remediation plans and prepare for the audit. Most direct supplier sites are audited according to Sedex Members Ethical Trade Audit (SMETA), one of the most widely used ethical audit formats in the world.

In total, 318 key raw material suppliers representing around 65% of our raw materials spend are now registered with Sedex. In 2014, we started to include our indirect materials and services suppliers in the Sedex initiative and to date, 25 such suppliers have joined Sedex.

SUPPLY CHAINS TARGET

Our target is to ensure that 90% of our raw materials volume of natural origin is responsibly sourced by 2020.

Progress on supply chains of raw materials of natural origin

We work together with partners and suppliers to increase transparency in our supply chains and improve their sustainability practices.

We source a wide variety of raw materials, often from various suppliers through multiple supply chains. In order to better understand the origin of raw materials we map supply chains beyond our direct suppliers. This creates the transparency we need to assess whether or not practices throughout the supply chains meet our Responsible Sourcing Policy.

Our aim is to source these raw materials responsibly by either identifying existing best practices or by reaching agreements with our suppliers on improvement plans to close gaps in relation to our policy. For raw materials sourced in several countries through multiple supply chains, we carry out assessments gradually over time. This continuously increases our responsible sourcing coverage in volume, and means that some raw material categories are partially covered.

By the end of 2018 we were mapping 32 raw material categories and were sourcing 24 raw material categories in a responsible way.

Sharing best practices with partners involved in geranium sourcing in Egypt is an example of how we look to work with our suppliers.



EGYPT

Improvements in site management practices benefit employees and the environment in geranium sourcing

Geranium oil is another widely used floral component of perfumes and sweet-smelling personal care products like soaps and shampoo. Our longstanding partnership with Fridal, a leading supplier of the oil in Egypt, helps us secure a high-quality supply of this precious natural ingredient and meet the demand of our customers – in a responsible way.

Fridal started growing the flowers on 3,000 acres of virgin land in an oasis area of the Western Desert. Thanks to their investments in modern equipment and renewable energy technology, the wells and pumps at the site are run on solar power. They also carry out detailed monitoring to limit water consumption. The Fridal operation now includes two large dryers for herbs and spices and several steam distillation units, providing work to more than 800 people, including around 700 full-time employees. The company continues to grow.

An audit team's visit to the site in 2017 nonetheless revealed that there was room for improvement. Though Fridal shares our vision for the product and the way it is sourced, there has been a learning curve and the Egyptian company has benefitted in many ways from Givaudan's approach to responsible sourcing, said Amr, General Manager of Fridal's division for essential oils, herbs and spices. "There is a huge cultural gap for developing countries like Egypt, but education and dialogue are helping to change attitudes," he said.

Since that visit, Fridal has been working consistently to implement key improvements for employees. They have installed first aid equipment and provided training to 150 workers through the Egyptian Red Crescent organisation. They have also introduced a policy to stop burning crop residues, instead converting them into valuable compost. Finally, they have completely

reviewed the storage and handling of pesticides and are continuing to evaluate the best ways of doing so while protecting both the growers and the environment.

Amr is convinced that sharing best practices on everything from composting to solar panels has been and will continue to be valuable to both sides.

"A sustainable approach and fair-trade practices make Fridal more attractive as a supplier and also enables us to increase loyalty among our workers, which ultimately is a boost to our business," he said.

This long-term partnership with Fridal exemplifies our approach to Responsible Sourcing. Through transparency and exchange, best-practice sharing and continuous improvement, we are working to improve conditions for growers in Egypt while ensuring a stable supply of this essential ingredient.

Sourcing at Origin

Our Sourcing at Origin initiatives target the direct sourcing of raw materials. We do this by working with local smallholder farmers, intermediate suppliers and partners, sourcing whenever possible directly from producers. These initiatives strengthen the fabric of the local economy by contributing to more stable incomes for thousands of farmers.

Our dedicated procurement teams, who are based where our natural raw materials are produced, are a key element of this approach. Operating in countries all over the world, these field teams travel to remote sourcing regions to visit and buy

directly from farmers, distillers and producer associations. We build trust through personal relationships with producers and work together to ensure the long-term future of raw materials. The field teams also engage in knowledge transfer on technical solutions and practices, enabling smallholder farmers to enhance the quality of their crops and gain more value from cultivation or distillation.

Some of our most recent work on Sourcing at Origin involved opening a new collection network for litsea seeds in China and boost sustainable sourcing of innovative natural ingredients for the Fragrance Division in India.

CHINA

New partnership expands litsea seeds collection network, improves sustainability

Our new partnership with a supplier located in the heart of the litsea growing area is allowing us to source litsea cubeba seeds directly from seed collectors, increasing transparency in the supply chain through better visibility of the source and helping us secure our supply. The inauguration of a distillation plant in collaboration with the same partner, Yongzhou Samshiang Flavours & Fragrances Corporation, is ensuring an environmental friendly production of the associated products.

Litsea cubeba oil is used in detergents and oral care products and its derivative, natural citral, is mainly used in flavours products and for fortifying lemon oil. Grown naturally in six provinces in southern China, the seeds are harvested during July and August and those collected by the network provide us with 25-40% of our supply need. The association of our field buyers and the sourcing expertise of our partner will allow us to extend the collection network to more litsea oil distillers, meeting our remaining need.

After collection, the seeds are distilled at the plant into litsea oil. Some of that oil is then further processed into natural citral. The distillation and processing plant - which features new technology and clean and controlled processes - operates on Good Manufacturing Practices (GMP) such as, for example, drying litsea oil residues



and then reusing them as fuel for the distillation process.

This and other GMP are expected to improve the impact of litsea cubeba distillation on the environment. Together with Yongzhou Samshiang, we will keep working towards a continuous improvement of the supply chain and aim to implement a strong,

transparent and economically competitive position.

"This partnership is a great example of our 'Sourcing for Shared Value' programme; it secures supply for us, helps to stabilise the livelihoods for litsea seeds collectors and finally to protect the environment," said Olivier, Head of Origination.

INDIA**Synthite partnership targets sourcing and innovation**

The home of legendary flowers and spices such as jasmine, tuberose, ginger and cardamom, we have long been active in India, an important country for the Fragrance Division. A new strategic partnership with Synthite, an independent family business based in Cochin, India, allows us to strengthen our presence and secure the sourcing of natural ingredients according to our standards.

This new partnership with Synthite, which is engaged in sustainable sourcing at origin through their Farmtech programme, will focus on the development of exclusive innovative natural ingredients for the Fragrance Division. We will also benefit from the company's unique techniques for extraction, crafting and purification of naturals – innovation is a key aspect of the alliance. Working together on

research into and development of exceptional qualities of floral and spicy natural ingredients, we will enrich Givaudan's palette of ingredients for perfumers, allowing them to create the winning fragrances of tomorrow.

The cooperation has already resulted in exclusive qualities – Ginger Fresh Oil Shimoga India Orpur®, Cardamom Oil India Orpur® and Jasmin Grandiflorum India Orpur® – that support our Best Palette approach. A blend built around cinnamon and turmeric is yet to come.

"In revisiting every step of cultivation and production from the plant to the final ingredient, we should be able to obtain a product that has the same olfactory relevance, at the right price, all while respecting our sustainability goals," said Fabien, Innovation Naturals Director.

MADAGASCAR**First Givaudan-sponsored local students gain rural studies diplomas**

Two local students, the very first to be sponsored by Givaudan in Madagascar, have earned their diplomas in rural studies after 12 months of hard study and work. Their success create added value through the development of local talent, an approach taken throughout the Company.

One student, Christian, has decided to stay with Givaudan as a Junior Field Technician, while Niny has decided to start a career in agricultural entrepreneurship. She remains committed to sharing her knowledge of good agricultural practices with other farmers in her district and is continuing on as a Givaudan ambassador in Madagascar.

Trained by CEFTAR (Centre de Formation de Techniciens Animateurs Ruraux), Christian and Niny spent



time both in the field and in the classroom over the 12 months. Both are from Givaudan clove leaf oil collection areas and each was sponsored by a Givaudan Field Buyer, while our local office paid tuition fees and other costs such as accommodation.

Part of their field work was supporting local teams in a programme of replanting 'firewood' trees as part of a long-term partnership between the Givaudan Foundation and AIM, focusing on responsible sourcing practices.

"We are all very proud of Christian's and Niny's achievement," said Renaud, General Manager of Givaudan Madagascar. "They are the seeds of the next generation of Givaudan's talent and will help us grow our presence in countries of origin."

Communities at Source

Natural raw material producers make an important contribution to our business. In return, we are committed to supporting them to build stable lives. We have supported local producer communities for more than a decade through a variety of social and environmental projects, in the past four years, through a partnership with the Givaudan Foundation, a not-for-profit organisation that funds projects to help build more secure futures for communities and their environments.

Our Communities at Source initiative encompasses 14 ongoing projects in 9 supply chains across 7 countries. They touch more than 10,000 people worldwide, going beyond the immediate beneficiaries to positively impact their families and communities as well.

Some projects, such as efforts surrounding our patchouli supply chain in Indonesia, manage to combine the goals of both Sourcing at Origin and Communities at Source.

 Management Approach 103 – 3: Topic 413, pages 11 – 12

INDONESIA

Givaudan strengthens sustainable patchouli supply chain

Like most precious ingredients, patchouli oil is difficult to come by: obtaining a single kilogramme of essential oil requires 200 times that amount of fresh leaves, which, once collected, must be air dried for several days and then distilled for a minimum of eight hours. The resulting essential oil is a key natural ingredient prized by perfumers for its powerful, earthy and long-lasting character – it inspires their palettes in the creation of everything from fine fragrances to fabric care products.

This year, we expanded our sustainable sourcing efforts for the oil and made a move to improve the conditions of the smallholder producers in our collection network on the Indonesian island of Sulawesi.

The ultimate goal of the new multi-year project – funded by the Givaudan Foundation and in cooperation with the international non-governmental organisation Swisscontact – is to promote best practices and improve living standards among the Indonesian producer community while protecting precious natural resources on the island.

“Strengthening our commitment to sustainable patchouli production in Indonesia is part of our approach to Sourcing for Shared Value,” said Willem Mutsaerts, Head of Global Procurement and Sustainability. “This means being present at source and supporting patchouli producers in the development of their smallholder businesses in a way that is respectful of the environment.”

In partnership with producers, their



families and local government, we want to help increase smallholder production yields, promote the protection of natural resources and create local ownership in the project.

We are doing this through a number of ways. For example, we are offering training programmes to patchouli producers and their families on good agricultural and distillation practices and to date, 939 households have received training on the former and 329 operators on the latter.

It is also important to target improved management of household income as well as education on nutrition. To date, we have reached more than 980 local producer families with information on good nutritional practices, including advice on home

gardening and the importance of nutrition, with the goal of enabling the households to grow their own food and sell the excess production for additional income. Training also covers good financial practices to further strengthen household management of budget, cash flow, planning and record keeping. The nutrition and finance training sessions target the family member who manages meal preparation and household finances – most often the women. We will also look to renovate smallholder patchouli distillation units to improve energy efficiency and reduce firewood consumption and plant trees as part of the climate-smart cultivation approach.

The efforts represent a first for sustainable Indonesian patchouli production in terms of scope.

SOUTH HAITI

Improved access to clean water and sanitation for vetiver farmer communities

Access to safe drinking water and sanitation installations is limited in many parts of the world, and this is particularly true in Haiti.

Facing this challenge, a group of local women and members of the vetiver cooperative we partner with called on the Givaudan Foundation to support a project to improve access to both. The people who live and work at the sources of strategic raw materials are critical to our business and the Givaudan Foundation is committed to supporting these communities.

The new sanitation and hygiene facility – operational since July 2018 – features showers, toilets and a washing area for clothes. Open to all villagers in the area, it is already being used by approximately 100 families, and is expected to contribute to a reduction of water-borne diseases in the community. The project also involved, in partnership with the NGO Terre des hommes, the installation of a drinking water kiosk on the same premises. The women who initiated the whole project sell purified water to the community at low prices, and use the profit to ensure the maintenance of the sanitation facility.

"Before the installation of this system



I had to go into town to buy treated water," said Léonce, a local woman who lives in a family of nine people in the village of Faucault. "Buying 20 litres cost me 25 gourdes for the water and as much for the transportation. This meant we could only buy 20 litres per week. Today, thanks to the new system, I can get the quantity my family needs – I now buy about 60 litres per week on average. The water is of good quality."

This project was just the latest achievement in our collaboration with this

cooperative of vetiver root farmers across three villages in South Haiti. Going back to 2012, the relationship has helped Givaudan source organic and fair-trade vetiver essential oil and allowed more than 270 vetiver farmers to benefit from price premiums and technical support. The three villages have also benefitted from community infrastructure projects.

This supports our goal of strengthening the social, environmental and economic prospects of the people producing precious natural ingredients.

Minimising deforestation to support a biodiverse world

Biodiversity underpins much of what we do at Givaudan and is essential to the long-term survival of life itself. Natural ecosystems are being replaced by agriculture, energy, and settlement as populations increase and levels of consumption rise. Deforestation and land degradation threaten the ecosystems and biodiversity that underpin the sources of natural ingredients that we buy for our flavour and fragrance products.

The impact of climate change and the loss of habitat are clearly of critical interest: Access and Benefit-sharing (ABS) and the preservation of biodiversity through approaches such as minimising deforestation are therefore integral parts of how we manage risk.

Access and Benefit-sharing

We base our approach on the principle of sharing the benefits of biodiversity as promoted by the Nagoya Protocol, which we actively support. Our position statement on the Convention

on Biological Diversity (CBD), and particularly on local legislation and regulations for implementing the Nagoya Protocol, can be found on our website.

www.givaudan.com – Our company – Corporate governance – Position statements

In 2018, we initiated a review of our ABS policy and internal procedures, updating them to keep them aligned with the ever-changing landscape of local ABS regulations.

Our broad ABS working group has been extended to cover a wider range of functions affected by ABS, playing a particularly significant role in Procurement, Regulatory and S&T. This group oversees the coordination of ABS-related activities and the management of ABS-relevant data across Givaudan.

In terms of internal procedures, we have, following the integration of the Naturex business, initiated a review to align

ABS procedures and ensure a consistent approach to both upstream supply aspects as well as a coordinated approach to delivering appropriate information to our customers. Externally, we continue to maintain close links with expert advisors on ABS and have chosen to work more closely with the Union for Ethical Biotrade (UEBT), while continuing to work with industry bodies such as the International Fragrance Association (IFRA) and the International Organization for the Flavor Industry (IOFI) to ensure access to the most recent information and interpretation of ABS topics.

From the perspective of innovation, all our programmes take the principles of the Nagoya Protocol into account. Research teams have initiated internal processes to record and manage information related to the use of genetic resources for research. We also assess the potential impact of biodiversity laws worldwide.


Biodiversity preservation

We have initiatives to preserve biodiversity in three areas, all of which fall under our approach to Sourcing for Shared Value, which is based on a best practice approach and has brought significant improvement.

We address specific issues of biodiversity preservation such as those related to deforestation, in our supply chains by including it as a key component of our Responsible Sourcing Policy,

which asks suppliers of raw materials to respect a set of environmental value requirements. In 2018, as part of our Responsible Sourcing Programme, we started mapping five raw material supply chains with potential risk for deforestation issues: palm, beef, cheese, butter and soy. We completed the mapping of beef and cheese supply chains in 2018 and observe that these products have limited exposure to deforestation risks because of their countries of origin: Sweden, the UK, Australia, New Zealand, the US, Netherlands, Germany, Belgium, Switzerland, Norway, Ireland and other EU countries. The mapping of palm, butter and soy supply chains is still underway which will provide further visibility and a solid basis for further dialogue with our suppliers.

We have also implemented several initiatives through our Communities at Source programme. We continued work on reducing fuelwood consumption and replantation of fuel wood trees in the distillation of key ingredients such as clove leaf oil, ylang ylang and patchouli. We planted more than 96,000 trees in clove leaf oil -producing regions in Madagascar in 2018 and installed energy-efficient distillation units for ylang ylang production in Comoros and for patchouli in Indonesia. We estimate that producers will be able to reduce their fuel wood consumption by as much as 50% with these new units.

 Management Approach 103 – 3: Topic 204, pages 6 – 13, Topic 304, Disclosure 304 – 2, page 13

SINGAPORE

Singapore Botanic Gardens – a collaboration in Ethnobotany

Our flavours and fragrance teams in Singapore are continuing their successful collaboration with the Singapore Botanic Gardens with a new project showcasing our creativity, innovation and sustainability in a permanent exhibition that will be a part of the Centre of Ethnobotany for years to come. A six-month interactive scent station was specially created for visitors of the gardens to test their olfactory skills via an online quiz.

The new Centre of Ethnobotany is the first of its kind in Singapore and explores how plants are used by indigenous people in South-east Asia. The garden was opened in June and, housed in a 1-hectare space historically known as the economic garden, it features more than 300 species of plants native to Southeast Asia, which are traditionally used for medicinal,



cultural or craft purposes.

“Working with the Singapore Botanic Gardens on the Centre of Ethnobotany was a perfect partnership due to the focus of our work in both Flavours and Fragrances in the region,”

said APAC Head of Fragrances, Ben Webb. “It also strengthens our ongoing relationship with the Singapore Botanic Gardens and it is always such a pleasure to contribute to the community we work in.”



Vetiver in Haiti

A cooperative of more than 270 vetiver farmers benefit from technical support and price premiums, which are used to fund development projects such as the repair of an important local road. The vetiver roots and essential oil are certified Fair for Life.



Tonka bean in Venezuela

Tonka bean collectors, a community of 46 families, receive incentives and technical assistance in return for their commitment to preserve the local forest and its biodiversity.

Guarana in Brazil

A cooperative of 67 producer families receives technical and agricultural training. The cooperative uses modern equipment to improve production processes and boost quality.



Cistus Labdanum in Spain

Producers of labdanum gum benefit from our collaboration with a local supplier to increase production efficiency, improve conditions and joint efforts to preserve the local natural environment.



Lavender, lavandin in France

A cooperative of 100 lavender producers benefits from our work with research institutes to fight plant diseases and to promote the long-term future of the crop. We also collaborate with producers to improve quality.

Geranium in Egypt

A partnership with a local supplier to secure a high-quality and consistent long-term supply of geranium oil by sourcing from a modern, large-scale plantation.



Bergamot in Italy

In close collaboration and with the active support of our direct suppliers, improvement plans are implemented to share best practices and close any gaps in agricultural and farm management practices against our Responsible Sourcing Policy.



Ylang ylang in Comoros

Ylang ylang oil producer communities are supported through social and environmental projects. Energy efficient equipment for the distillation of ylang ylang oil is used to boost the yield and reduce the impact on the environment supporting over 50 producers.



Clove leaf oil in Madagascar

A Givaudan collection network of 1,000 smallholder producers supplies our clove leaf oil. Sustainable production is supported via a natural resources preservation project, which plants more than 80,000 trees for firewood per year. A first Fair for Life certification has been achieved.



Vanilla in Madagascar

More than 3,000 vanilla farmers and their communities take part in a programme to develop local education and healthcare infrastructure and to promote food security.



Chilli in India

More than 100 chilli producers benefit from assistance to increase productivity and reduce the impact of their production processes on the environment.



Benzoin in Laos

Benzoin producing communities are assisted with the provision of educational infrastructure in their villages to improve access to secondary schooling in rural areas.



Patchouli in Indonesia

A Givaudan collection network of around 1,000 smallholder producers on the island of Sulawesi supplies our patchouli oil. They benefit from training in sustainable production methods to improve yields and reduce the impact on the environment.

Some of the projects are funded by the Givaudan Foundation.

Innovating Responsibly

We look to integrate sustainability into all of our innovation, developing products that benefit society and the environment.

We have long looked for ways to innovate, encouraging our scientists, technologists, flavourists and perfumers to explore relevant questions and many of today's questions are linked to sustainability. How can we best meet demand for natural products? How can we improve processes to make them more sustainable? How can we increase access to nutritious food? How can we increase overall well-being?

The curiosity that drives our innovation is helping us to find answers to all of these questions. Creating and collaborating, we are looking to make sustainability part of every breakthrough and add value by enhancing scientific research and developing products that benefit both society and the environment.

 [Our Sustainability Approach](#)

Innovating for Sustainable Flavours

Ensuring universal access to safe, nutritious and sufficient food produced in a way that respects the environment is critical to a sustainable future and we are committed to pursuing this goal with our innovative flavour ingredients.



A sustainable approach to naturals with natural citrus oils

We take a responsible approach to naturals, always striving to maximise the use of natural resources in an efficient way.

Our Sunthesis programme continues to be an important sustainability driver in citrus, ensuring the continued supply of natural citrus oils, at a time when citrus is suffering

from the effects of greening disease, as well as some natural disasters like hurricanes, particularly in Florida.

We continue to collaborate with the University of California, Riverside supporting the care and preservation of the wonderful natural resource that is their citrus collection, the largest and most biodiverse in the world.

HIGHLIGHTS 2018

- Launched portfolio of kitchen ingredients
 - Concluded major consumer research on vegans, vegetarians and flexitarians
 - Closed taste gaps between plant and animal proteins
 - Launched a new product development approach that enables taste with reduced sugar; “Beyond Sweetness”
 - Progressed multiple partnerships for shared success
 - Filed two new patents covering work in Innovating Responsibly from our Flavour Division
 - Advanced two new alternatives to animal testing
 - Introduced a malodour combatting technology, Neutrazap, to restore consumer self confidence
 - Partnered with customer in development of innovative new perfume based on upcycling
 - Created a new cosmetic ingredient based on upcycled vetiver roots
 - Moved ahead with microbiome research, paving the way for personalised skin care
-

In developing ways to make more efficient use of natural resources, working to enable the dietary shifts that may benefit both human health and the environment and perfecting the innovative processes and technologies that will facilitate both, we are doing our part to meet increased demand for a truly sustainable work.

In 2018, we made progress in patent applications in novel areas like flavour and consumable compositions.

Naturals and sustainable processes

Consumers increasingly demand simple, natural ingredients and clean and clear labels with words they recognise. As one of the largest buyers of natural raw materials in our industry, we need to meet this increased demand in a responsible, sustainable way – natural resources must be used efficiently.

We strive to use as few resources as possible, incorporating circular thinking and using scientific knowledge to replicate traditional natural processes on a large scale to produce sought-after flavour ingredients. Using our know-how in agricultural practices and biotechnology, we look to increase yield and go beyond fully natural ingredients, helping us alleviate pressure on sourcing and supply chains as well as the planet's limited resources.

A key success this year has been the roll-out of 'Kitchen Ingredients', a line of flavours providing great taste from natural ingredients that consumers recognise from their own kitchens.

We spoke at the Sustainable Food Summit in different locations around the world in 2018 (San Francisco, Amsterdam, Singapore and São Paulo), sharing our perspective on a sustainable approach to natural ingredients including the importance of responsible sourcing and innovation.



'Kitchen Ingredients' meeting consumer needs for clean, clear labels

Innovation in areas such as biotransformation and new processes based on culinary techniques have helped us develop great ingredients.

In 2018, we launched a portfolio of ingredients that are derived directly from recognised foods and that are minimally processed. We call these our 'Kitchen Ingredients' and with them we offer a broad portfolio of delicious flavours used in kitchens around the world. These are diverse ingredients for foods and beverages such as citrus, vanilla, cheese, meat and poultry, marine extracts, as well as stocks, fonds, spices and herbs.

We also made progress with patent applications for improved flavour compositions such as in green herb and vegetable freshness as well as in fresh citrus for savoury applications. The recent acquisitions of Spicetec, Activ International and Vika have provided us with additional, powerful conceptual, technical and regulatory expertise that complements our innovation. Our acquisition of Centroflora Nutra allows us to offer botanical extracts and dehydrated fruits and the integration of our acquisition Naturex adds a strong portfolio of plant extracts and natural ingredients.

The 'Kitchen Ingredients' portfolio allows our customers to provide consumers with great taste from natural ingredients they recognise from their own kitchens, meeting increased demand for more natural ingredients and transparent food labelling. Here as well, we made advances with patents on processes allowing the delivery of clean label kitchen ingredients.

Health & Wellbeing

Providing access to safe, nutritious and sustainable food is the key food challenge of our time. A shift to a more plant-based diet is emerging as a critical component. Some research suggests that meat consumption can impact our health as well as the environment: pound-for-pound, gallon-for-gallon, animal-sourced foods use more resources to produce than plant-based foods and produce more greenhouse gas (GHG) emissions. While meat and dairy products provide just 18% of calories and 37% of protein, they use 83% of farmland and produce 60% of agriculture's GHG emissions.¹

Although increasing numbers of people are aware of these links, it is not always easy to incorporate more plant-based food or meat substitutes into their diets. Many of these products lack visual or taste appeal and our research has shown that most people are unwilling to make these sacrifices.

This is where we can play a big role. Using pioneering processes, food technology and flavour expertise, we can help customers develop and introduce great-tasting plant-based food and meat substitutes that effectively mimic more familiar ingredients.

We have finished an extensive study into the motivations and needs of vegan, vegetarians and flexitarians, moved closer to convincing meat substitutes, and have continued to develop solutions to mask off-notes in plant- or dairy-based applications. Our "Beyond Sweetness" approach allows for a 50% reduction in sugar while maintaining customer preferences.

1. Reducing food's environmental impacts through producers and consumers, J. Poore, T. Nemecek, Science, 01 Jun 2018: Vol. 360, Issue 6392, pp. 987 – 992, DOI: 10.1126/science.aag0216

Getting inside the heads of vegans, vegetarians and flexitarians with Plant Attitude

The team behind what would eventually become known as Plant Attitude – the programme around our plant protein capabilities – started out with a simple hypothesis: you cannot assume that all people who do not eat meat have the same habits, ideas or lifestyles. This theory was contrary to what other sources were saying – there was an underlying assumption that everyone who eats vegan food is doing so because of concerns about animal welfare or because they want to pursue a healthier diet.

"But this is absolutely not true," said Thomas, Category Manager Savoury at Givaudan. "Almost a quarter of all consumers of those products eat them just because it is very trendy. Our competitors, but also our customers, were sort of putting all of the consumers into the same pot. We were the first ones who really separated out those consumer groups and that is allowing us to make much more tailor-made programmes and solutions."

The work of exploring their hypothesis and identifying the motivations and similarities between the consumers of plant protein-based products took them two years. While the first step was done from behind their desks, screening homepages and

blogs of those who do not eat meat, the next step required them to get out in the field, making vegan treks. The experience, which took teams through seven different cities, involved going vegan for 48 hours and visiting vegan establishments including restaurants but also less obvious places such as vegan hairdressers or shoe stores. They took what they learned from these two initial steps, developed hypotheses and theories, which then formed the basis of their usage and attitudes study. The study – carried out through 2,500 consumers in the U.K., France, Germany and Spain – delivered preliminary results, which were then reviewed and fine-tuned and clarified through focus groups in the same countries.

Their results were just released in June. Among their findings was a confirmation of their original hypothesis: not everyone who eats vegan food is motivated by the same things. Another thing they learned? More people would be willing to eat more plant-based products if they tasted better. While one group of consumers – those primarily motivated by concerns about animal welfare and the environment, who make up only 20% of the market – are willing to sacrifice on taste, nobody else is. Another interesting

finding is that 90% of all vegan products can be found in refrigerators that also contain actual meat.

"In the end, we are not talking about an alternative community, but rather mass consumers," Thomas said.

Having been the first Company to launch a scientific investigation into the topic, they have been invited to speak at conferences around the world to share their insights. A key take-home message? Vegan products need to taste better. It is something Thomas experienced himself on a vegan trek. One of the things that surprised him most was the gap between the quality of food found in vegan restaurants and that found on the shelves in the grocery stores.

"In restaurants it can be so mind-blowingly good that you do not miss the meat," he said. "And while there are some fantastic products in the supermarket, there is also a lot of room for improvement. You ask yourself how these two worlds even go together."

As Givaudan works on the next generation of ingredients to help their customers develop tasty plant-based products, Thomas, who "loves meat," calls on all of us to take the 48-hours vegan trek challenge. "Just see how it is," he said. "You will see that you can live without it."

Encouraging dietary shifts with convincing meat substitutes

Flavio, Global Business Development Manager for Protein at Givaudan has a dream: he wants to help create a piece of meat that is made entirely out of vegetable products but indistinguishable from the real thing in every element of how consumers experience it. Flavour, texture, colour, how it cooks – everything.

He is motivated by consumers who, with dietary approaches including vegetarianism, veganism and flexitarianism, want to completely eliminate or reduce the amount of meat they eat. They are motivated by ethical concerns regarding the ways animals are treated, concerns for the environment as well as concerns for their health: they are looking to reduce their consumption of saturated fat while still getting the protein they need. Furthermore, leading-edge researchers in the fields of food, nutrition and environment recommend that we eat a more plant-based diet because it is one of the main ways in which we can reduce our greenhouse gas emissions.

Still, many people are unable to fully commit or wind up going back to meat. Thanks to Plant Attitude – the programme around our plant protein capabilities – we know that taste and experience play a big role.

Flavio and Givaudan are getting closer to the goal with the further development of our portfolio of products. A patent for flavour modifiers for meat



We are dedicated to developing ways to transform vegetable proteins into a real meat experience and to playing our part in contributing to SDG 2 in terms of increasing access to nutritious food as well as helping to protect the environment. We estimate that sales of meat substitutes that we have worked on over the last few years have reduced CO₂ emissions by about 563 tonnes – our goal is to multiply that by 100 times.

substitute products was among those we published in 2018 and we developed the know-how and technology to produce a really good chicken-like texture as well as the capacity to flavour it. "We clearly need to provide our customer with the right flavour, but we are going to need to provide the right container as well," he said.

Givaudan also developed and launched a product that is the culmination of three years of research into the characteristics of vegetable protein and the difference between that and animal proteins. Understanding the gap between them, we created a meat protein enhancer flavour that addresses the taste aspect of this difference.

Plant-based work also targets dairy solutions

Working with plant-based foods goes well beyond finding ways to replace meat. Another area we are working on is built around technology for overcoming off-notes from proteins that are common to many foods of dairy or plant origin; for example, bitterness, astringency, and mouth-drying perceptions. Our expertise allowed us to identify the right masking ingredients that specifically target particular attributes within individual proteins. We are continuing to develop new solutions and concepts of what is next in dairy and meat substitutes, and further expand what we offer in terms of vegan and vegetarian products such as dairy-free and meat-free items.



Reduce sugar, retain great taste with Beyond Sweetness

In November, we launched “Beyond Sweetness”, a new product development approach that combines new ingredients and a proprietary sensory language and deep understanding of sweetness and satisfaction to deliver up to 50% reduction in sugar while maintaining consumer preference. It allows for the creation of natural sugar reduced products that are fully satisfying without added sweeteners.

Continuing our long-standing work in TasteSolutions® Sweet, our extensive

consumer research found that consumers often notice more than just an absence of sweetness when sugar is reduced. They might find products bland, tasteless, boring or watery. So formulating products that are less sweet is more complicated than simply adding water. Through our Beyond Sweetness platform, we enable customers to recreate the overall sensory experience and develop great tasting products that consumers love and are better for them, with reduced sugar.



Givaudan leading the way in international forums on plant-based foods

Our work in general – and, especially in 2018, the work around Plant Attitude – has established us as a sought-out partner for a number of leading organisations in the area of plant-based foods. We were delighted to participate in several conferences and events. Some of the highlights include our participation in November in the **EIT Food Government Executive Academy**, speaking about the need for a shift in the way food is produced and eaten, and our multi stakeholder work and Plant Attitude. We even showcased how real meat and meat substitutes are coming together in terms

of taste and visual appeal with a comparison tasting of chicken nuggets versus soy-based nuggets.

At the **Bridge2Foods Protein Summit** in Lille, France in October, we spoke about protein solutions and gave a look at Givaudan’s understanding and excellence in formulating with alternative, non-animal proteins. We had another opportunity to talk with industry representatives at Food Matters Live, which is a unique event focused on the future of food, drink and sustainable nutrition where we participated with our Plant Attitude

Showcase in their “Sustainable Food Futures Seminar” in London.

We also spoke at the inaugural **Good Food Institute (GFI)** conference, that is focused on accelerating the commercialisation of plant-based and clean meat, two promising food technologies that will allow us to feed almost 10 billion people by 2050.

We were also invited as a keynote speaker at the Startupbootcamp FoodTech, taking the audience through the evolution of taste through time, and explaining how it is defined by survival, success and failure.

Partnering for shared success is central to our approach to responsible innovation, and we work with like-minded partners across many sectors from industry to academia to ensure that our work is informed with the latest best in class thinking. This is also a key contributor to SDG 17, which targets multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals.

In Flavours, we are collaborating with multiple partners. We collaborate as thought leaders, across sectors, with customers and to close the research gaps: working with leading edge institutions and researchers can significantly fast track development work, enabling us to bring solutions to market more quickly.

Working to close the research gap with university partners

Consumers may not realise it, but there is a lot of technology behind vegan foods. Made from ingredients such as chunks of soy, which look like pieces of dry sponge, and other ingredients, they need to result in end products that could either be meant to duplicate a chicken nugget or pulled pork. Advances have been significant over recent years: technology is getting better, the masking flavours are better and the textures are improving every year. Still, as we learned in our Plant Attitude study, there is still room for improvement.

In the past year, we participated with the **University of California, Berkeley** in a variety of initiatives. We sponsored a product development

programme whereby their field scientists worked on specific technical challenges we identified for them, such as introducing 'meat-like colour' to plant based meat substitutes. We also taught an autumn session of one of their food development courses.

We continue to participate with **Wageningen University** on the **Plant Meat Matters** programme. The project is in the second year of a four-year programme. We are the only flavour company involved, working with other partners such as equipment suppliers on a holistic programme. This year, we developed the know-how and technology to produce a really good beef-like texture as well as the capacity to flavour it.



Partnering across sectors

During 2018 we were active partners in FReSH, a project by the WBCSD and EAT Foundation. FReSH brings together multiple stakeholders in a consortium to develop business solutions that aim to create healthy, enjoyable diets for all, produced responsibly, within planetary boundaries by 2030. Acknowledging that business has played a key role in the food system both on the positive and the negative side, FReSH members are joining forces to develop solutions whilst still contributing to socioeconomic development and minimising (and eventually eliminating) environmental impacts and waste. Building on the food system mapping work that was conducted by FReSH in 2017, Givaudan participated in dedicated workshops in Mexico aimed at reducing sugar in the Mexican diets as well as increasing consumption of plant-based foods.

MISTA innovation platform focused on meat substitutes

Our innovation platform, MISTA, is focused on unlocking opportunities for both larger and early stage companies by incubating, accelerating and optimising ideas, products, people and investments to address the biggest challenges and opportunities in creating the future of food. One of the key innovation spaces focuses on the meat substitute category. This includes 'clean meat' and plant-based meat and we are partnering with amazing start-ups including MISTA members Wild Type and Five Sons Foods.



Innovating Responsibly in Fragrances

In Fragrances, we look for innovative ways to improve peoples' daily lives while minimising the impact on the environment. Consumers want to look good and feel good, and seek products promoting mental and bodily health and well-being as well as beauty. They seek fresh scents that can banish bad odours in clothing and in the environment and boost self-confidence, enabling social inclusivity – they want fragrances that positively influence how they feel. They also seek sustainable products that are produced in ways that respect the environment.

Naturals and sustainable processes

Upcycled materials – those obtained by valorisation of side streams, natural or not, which are normally disposed or downgraded, and then transformed into ingredients used in fragrance creations – is one key approach.

Another critical area involves developing methods that give the fragrance industry a way of screening new ingredients for their potential risks to humans and the environment. Safe by Design™ is part of our vision to develop new molecules more efficiently and it demonstrates our commitment to increasingly using non-invasive test methods to screen them. Research on alternatives to animal testing form the basis of the approach. It makes development more efficient, but also speeds up the product development process in a cost-effective way. This leads to safer products that can be brought to market more quickly, all while side-stepping the ethical dilemmas posed by using sentient creatures for commercial gain.

Upcycling results in innovative fragrances produced in a sustainable way

Cedarwood Atlas NeoAbsolute™ is obtained by solvent extraction of dust already distilled. This process highlights new facets and completes the olfactive profile of the original essential oil with woody leathery and apricot kernel facets.

Another example is the new perfume “I am Trash, Les fleurs du Déchèt”. Inspired to create a fragrance that reuses the waste created from other perfumes, État Libre d'Orange worked with Givaudan's Science & Technology department to develop a perfume with upcycled materials. Made by using exclusive upcycled ingredients from our palette such as Apple Oil, Rose NeoAbsolute™, and Akigalawood®, the perfume is a floral, fruity and woody unisex scent that embodies the sustainable future of the fragrance industry. The approach was also used to create a new sustainable beauty ingredient, Vetivyné™.

Health and well-being

Promoting health and well-being also means helping people feel better throughout their lives and we approach this goal in multiple ways. For instance, consumers wish to feel and smell fresh as they go about their busy lives, reducing interfering odours from their clothing and environment, helping them to remain integrated in society. To address this need, our Health & Well-being Centre of Excellence in Ashford (UK) has a dedicated programme of innovation focused on malodour control.

How we look also contributes to our sense of well-being and self-esteem and in Active Beauty, we create products that enhance skin and hair throughout life. Ageing, active populations want to live better as they are living longer and we are looking to address such issues with approaches to, for example, aging hair. Our growing understanding of the skin microbiome allows us to develop more personalised solutions for better skin for everyone. The work we lead in our Applied Microbiomics Centre of Excellence in Toulouse (France) on the skin microbiome is another key approach of how we strive to offer our customers products that they can use to improve the lives of consumers.

Inspiring a sense of well-being that contributes to a positive state of mind is our goal as well as a key strategy for many of our customers and consumers.

Upcycled vetiver roots deliver sustainable beauty ingredient with fragrance synergies



Vetivyne™ isn't just a new cosmetic ingredient offering powerful beauty benefits – it is an exemplary model of our sustainability approach that builds synergies between Fragrances and Active Beauty.

The ingredient was discovered when our scientists and sustainability experts investigated a water-soluble extract from exhausted Haitian vetiver roots, themselves a side-stream of the production of vetiver oil for fragrances. They used the ground-breaking approach of 'upcycling,' or creative re-use, which involves turning side

stream waste materials, useless or unwanted products into new materials or products of better quality and better environmental value. That is, the process is meant to reduce waste and minimise environmental impact.

In our case, the cutting-edge process also revealed a powerful active ingredient with anti-ageing benefits as well as properties that enhance fragrance wear. Vetivyne™ is fully natural, concentrated, odour-free and offers clinically proven skin benefits. By acting on skin lipids, it helps enhance skin hydration and suppleness – it also removes wrinkles. In

short, it was a feat in line with our commitment to sustainability and consumers' demand for products that are both highly effective and produced in a responsible way.

It won first prize in the Natural Products, Raw Materials, actives category at the 16th European BSB Innovation awards and it marks the first time ever that the fragrance and cosmetic worlds share ingredients with the same sustainable, ethical origin. Over the years, we have been actively supporting a local cooperative of vetiver roots producers through our Sourcing for Shared Value programme in Haiti. The vetiver roots are certified Fair For Life, an organic and fair-trade standard. This initiative ensures the social and environmental responsibility of vetiver production, enabling perfumers and formulators to craft the most inspiring products from responsibly-sourced vetiver.

"We deeply believe in the synergies between the beauty and fragrance worlds," Laurent, Head of Active Beauty. "Vetivyne™ exemplifies the many possibilities we have in creating innovative and disrupting ingredients which fulfil our commitment to offer not only efficient, but also natural and sustainable products for our customers."

This innovation allows us to do more with less, finding two applications from just one source. This concept aims to use all parts of the plant to optimise the usage and reduce waste, further emphasising the synergies between fragrance and the cosmetics world.

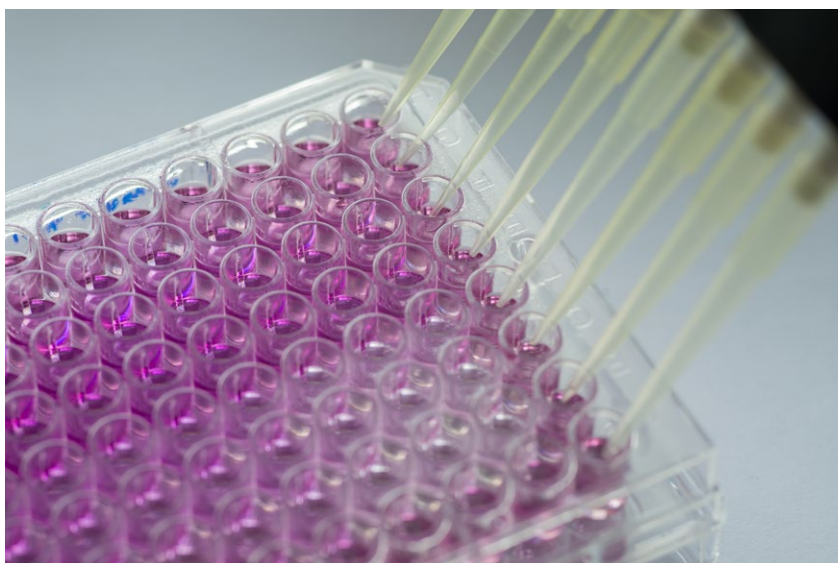
Safe by Design™: A vision to develop safer molecules faster

New fragrances must be pleasing, but factors such as safety and sustainability play a huge role too: Safe by Design™ is part of Givaudan's vision to develop safer molecules, faster.

Cosmetic regulations prohibit animal testing for safety assessments, but fragrance ingredients must nonetheless be assessed in areas such as allergic reactions and environmental impact. Trying to derive the information needed from non-

animal data remains a challenge.

Thanks to innovative research, Givaudan has developed early stage testing methods that give the fragrance industry a way of screening new ingredients for their potential risks to humans and the environment and to select those with a minimal impact. This will bring high quality molecules to market faster, reduce reliance on animal testing, and lessen the impact on the environment.



Alternative to animal testing for predicting skin sensitisation

Building on the success of KeratinoSens® – a reference test already leading non-animal testing for skin sensitisation – we have been working with BASF and the Institute for In Vitro Sciences (IIVS), to validate a new approach to predicting skin sensitisation.

Skin sensitisation is an immune reaction that occurs when molecules react with skin protein. The modified skin protein appears foreign to the immune system, which reacts. Skin sensitisation is a threshold effect however and only occurs above a given exposure. Skin sensitising molecules can still be used in products, we just need to know what

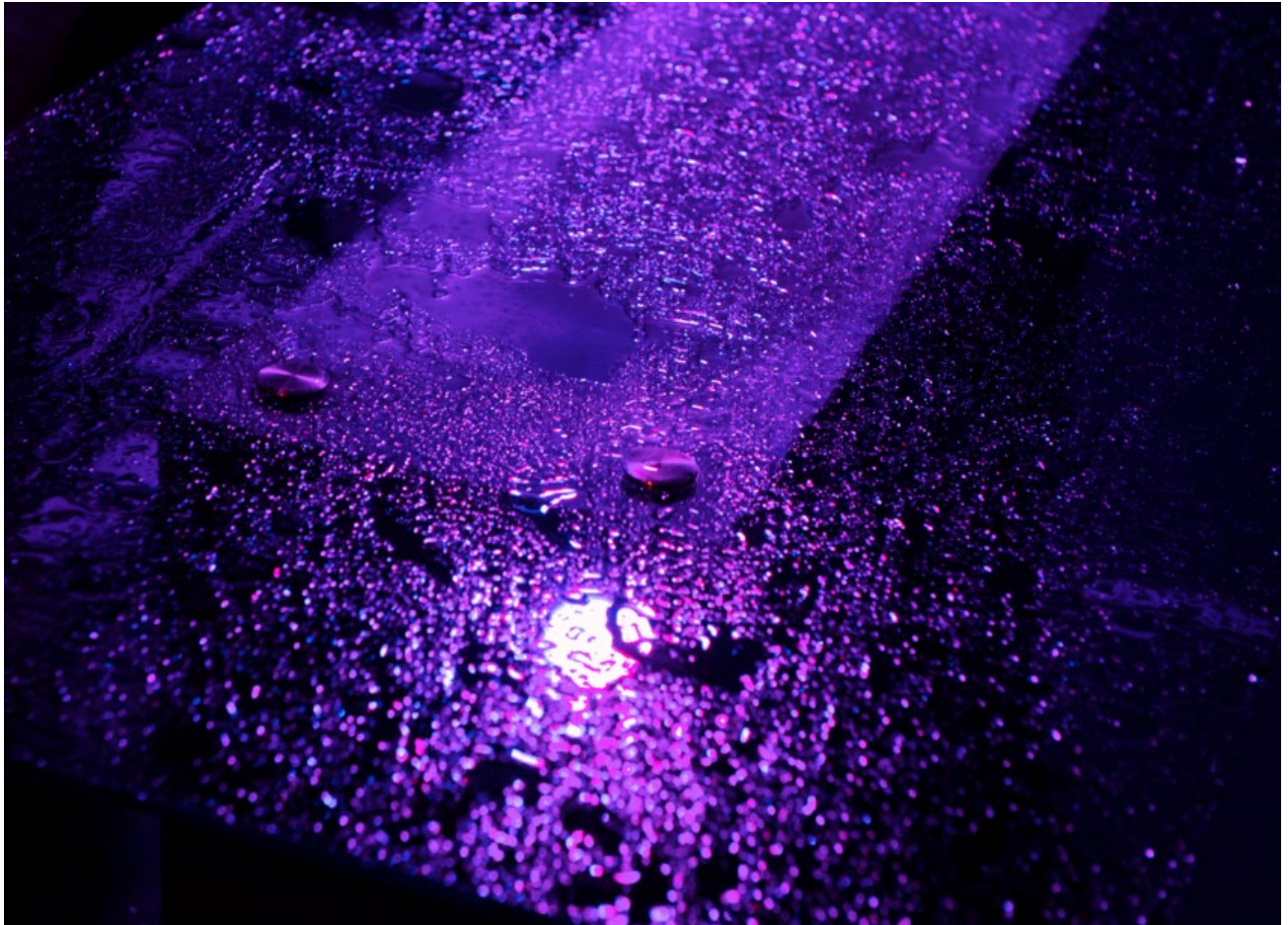
dose can be safely used.

This is referred to as the No Expected Sensitization Induction Level (NESIL), a dose not expected to cause induction of skin sensitisation in humans.

Until recently, these levels were determined using a local lymph node assay (LLNA) in mice, a test that involves applying the substance to the ears of mice and then measuring cell proliferation in the local lymph nodes. New regulatory guidelines state however that this test should only be conducted if in vitro data cannot give sufficient information. We need another solution.

Givaudan researchers have been

working towards that using information about the structure of the molecule, reactivity data and KeratinoSens® results to predict an LLNA result as a starting point. They used in vitro and in vivo data on molecules with similar structures to estimate uncertainty of the prediction and applied the approach to three molecules which were subsequently tested in the LLNA to verify the results and 22 molecules with available and sometimes discordant human and LLNA data. Four additional case studies illustrate how this approach is being applied to recently developed molecules with no animal data.



OECD in vitro method for bioaccumulation assessment

Molecules should not harm the environment and so screening is needed to weed out potentially dangerous substances: assessing the characteristics of persistence (linked to biodegradability), bioaccumulation in the fish's fatty tissues and toxicity is an integral part of chemical legislation.

Therefore, another research project aims to find a better way to ensure that fragrance ingredients are safe for the environment. With our latest bioaccumulation testing validated by the OECD in 2018, we are leading the fragrance industry with new non-animal testing alternatives for bioaccumulation assessment.

Bioaccumulation occurs when molecules are taken up by fish and accumulate in the fish's fatty

tissues. We have to make sure our molecules are not enriched in fish, so that they do not enter the animal food chain. Traditionally, this question has been addressed through fish bioaccumulation studies which require however a large number of animals.

Our researchers were interested then in whether it was possible to predict fish bioaccumulation with real accuracy by testing fish cells or enzymes as alternative test. They developed a method that puts fish liver cells or fish enzymes in contact with fragrance molecules, and measures the decrease of the molecule. This test allows to evaluate whether the molecule is highly metabolised indicating a lower risk of bioaccumulation in fish.

The approach therefore replaces animal testing which used living fish and is predictive: higher metabolism of the molecule means lower risk of bioaccumulation in fish. It is routinely used to develop non-bioaccumulative new molecules as part of Givaudan's Safe by Design™ strategy.

These innovative test methods on fragrance molecules provide multiple benefits: removing the need for testing on animals, ensuring safety for use on human skin, and protecting aquatic species and the environment. For customers, particularly in the cosmetics industry, this means that products can be brought quicker to market, with the assurance that the ultimate beneficiary is the consumer.



Innovative microbiome research leading to new cosmetic ingredients and healthier skin

We may not notice it, but billions of micro-organisms known as ‘microbiota’ live on the surface of our skin. And just as each of us has our own set of genes in our DNA, our personal community of skin microbiota is unique too. This microbiome helps protect the health and well-being of our skin, and imbalances result in conditions such as eczema, allergies, dandruff or acne.

Understanding the microbiome is then essential for better health and skin: knowing that our microbiome is unique leads to exciting possibilities in developing personalised skincare. Already a leader in the study of the microbiome – and the only fragrance company with in-house microbiome research capabilities – we progressed further in 2018 by installing state-of-the-art automation equipment at our Applied Microbiomics Centre of Excellence in Toulouse, France. The new equipment will allow us to accelerate high throughput screening and advance our research into more disruptive solutions for customers.

We are already at the forefront of the

field: while many researchers have been working to identify which kinds of microbiota live in the microbiome, we have gone a step further. We want to know which ‘jobs’ the microbiota perform and how they can help us: this forward-thinking approach marks a major milestone in skincare and a key direction for the future.

“The microbiome is much more than a trend – it is a key element of the future of skin care,” explains Romain, R&D Director Active Beauty. “Consumers already have a perfect understanding of the gut microbiome and how good bacteria can have positive effect on our health. Now they are ready to embrace the concept of the skin microbiome too.”

Our continued investments have resulted in a fully equipped centre ready to create innovative products based on our studies, our strong knowledge of consumers and the large internal database we have built up throughout this project, the most in-depth study on the subject by any fragrance house. We have mastered the entire research process for microbiomics – from

swabbing to DNA extraction and sequencing until the bioinformatics data analysis. We gathered almost 1 trillion DNA data from volunteers’ microbiota allowing us to explore all the different bacteria that we can have on our skin.

The research has already contributed to the development of several active ingredients, making this unique in our industry. Givaudan scientists were the first to discover the creation of ‘microbiome activated’ ingredients as well as ‘microbiome protecting’ agents, resulting in two award-winning active cosmetic ingredients: Brighteny!™, which is activated by the microbiota to trigger skin brightening and skin tone optimization, and Revivy!™, which speeds up skin renewal while protecting the microbiota. Yogurtene Balance™ balances the composition of the microbiota.

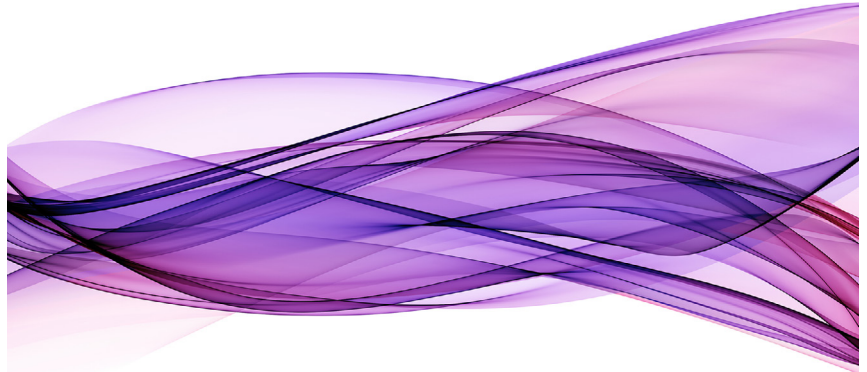
The new investments and our dedication to the field will help us continue to develop a revolutionary new range of ingredients delivering healthier, better protected, more radiant-looking skin – all backed by solid science.

Restoring self-confidence and well-being with odour neutralising technology

Urinary incontinence is not just a medical problem: it can affect lives emotionally, psychologically and socially, leaving people afraid to do normal daily activities. Indeed, one of the biggest concerns of people who suffer from it is having an incident in public and having others find out – odour is a potential flag.

Givaudan has been working on solutions, perceived or not as fragranced, to remove this element of the problem. After developing a realistic urine malodour model, we used a trained panel to get consistent sensory performance data on different technologies and benchmarks, before using real urine for final validation. This has allowed us to develop fragrance design solutions NeutraZap™, both highly effective at combatting urine malodour, that meet the needs of consumers according to their preferences.

NeutraZap™ non-perfumistic



solution mainly targets individuals who wish to avoid any recognisable fragrance scent that might signal in itself an odour problem. When applied to pads/pants, the solution provides high odour control, but the majority of people will be unsure if the pads/pants are fragranced. The

perfumed version has been created mainly for the care-giver market, for soft furnishings and the residential care home market, where a pleasant, recognisable scent is appreciated to reassure the consumer of the efficiency of the product.

Active cosmetic ingredient to counter hair ageing



Hair ageing is a concern world-wide: our studies show that 59% of consumers on average are worried about hair ageing and over 60% of them are currently bothered by hair colour loss.

While genes can play a large role in hair whitening, free radicals directly induce the premature greying of hair for both men and women. Most existing hair pigmentation solutions are based on hair colorants, which artificially repigment the hair shaft but do not address the underlying problem. Our skin experts have designed Darkenyl™, which counteracts the hair whitening biological process.

It does this through the combination of two synergistic molecules, a plant polyphenol and a soluble precursor of melanin synthesis. This allows it to boost hair stem cell proliferation by 30% and migration,

helping develop new melanocytes – specialised pigment cells – in the hair matrix. Its antioxidant properties enable the reduction of free radical damage in hair follicles and helps to protect existing melanocytes (+189%). Once the hair matrix has been repopulated with new pigment cells and both new and existing ones are protected, Darkenyl™ delivers its melanin synthesis precursor to reactivate the production of the melanin that gives hair its colour.

A clinical study demonstrated the significant consumers' benefits of Darkenyl™: in 4 months, volunteers had more than 3 times less white hair per cm², with up to -56% reduction of white hair. The unique action of Darkenyl™ is patent-pending, gender independent and can be used on any hair type or colour – it also shows progressive and long-lasting results.

Acting for Our Environment

We are determined to play our part by leading the industry in acting to safeguard the environment.

Our ambitious agenda to help protect the environment goes across our operations, throughout our value chain – and beyond. We are working with partners to reduce greenhouse gas (GHG) emissions, improve water stewardship and waste management and we have correspondingly ambitious targets. We also aim to move to 100% renewable energy by 2025. Here, we give an update on the progress we have made towards reaching these goals.

[Our Sustainability Approach](#)

Targets	Progress 2018
-30% absolute scope 1 + 2 GHG emissions between 2015 and 2030	-13.9% ¹
-20% absolute scope 3 GHG emissions between 2015 and 2030	+21.6% ¹
100% renewable electricity by 2025	69.4%
-15% water per tonne of product by 2020 (use of municipal and groundwater, baseline 2009)	-24.4% ¹
-4% waste per tonne of product, year on year average (baseline 2015) ²	-1.7% p.a. on average (-5.2% since baseline 2015)

1. Compared to baseline year.
2. Incinerated and landfilled waste.

GRI Disclosure 305 – 5

GHG Emissions and Energy

We are committed to reducing absolute direct (scope 1 and 2) GHG emissions by 30% between 2015 and 2030 and aim to reduce indirect (scope 3) GHG emissions – those produced by our entire value chain – by 20% over the same period. A move to convert our entire electricity supply to fully renewable sources by 2025 is a fundamental element of this plan.

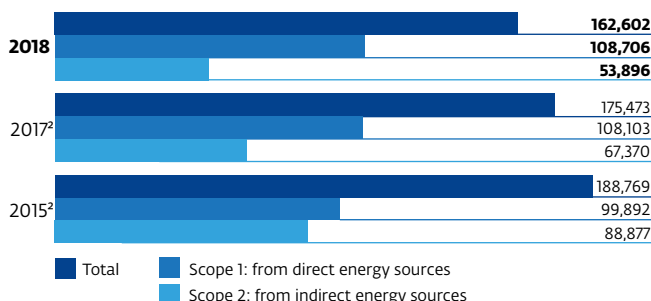
Progress scope 1 and 2

We made good progress towards these targets this year, with absolute total direct and indirect GHG emissions decreasing by 26,167 tonnes (i.e. 14%) against the baseline figure for 2015.

Demonstrating our industry leadership in climate action and the transition to a low-carbon economy, we once again participated in the annual Climate Change CDP questionnaire for investors as well as in the Climate Change supply chain questionnaire at the request of a number of customers. This allows us to showcase our efforts to reduce GHG emissions and also provides a basis of comparison against other companies. Our CDP score was this year an A- (on a scale of A – D, with A being the highest) for GHG emissions, at the leadership level once again.

Greenhouse gas (GHG) emissions (scope 1 + 2)

GHG emissions (tonnes)¹

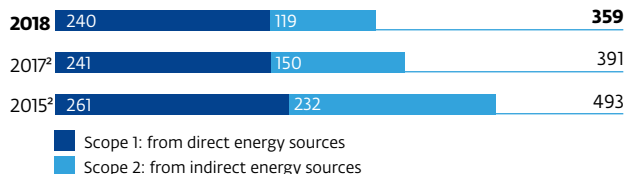


1. Greenhouse gas data are limited to CO₂ emissions.
2. Restated.

GRI Disclosure 305 – 1, 305 – 2

GHG emissions intensity (scope 1 + 2)

GHG emissions (kg) per tonne of product¹



1. Greenhouse gas data are limited to CO₂ emissions.
2. Restated.

GRI Disclosure 305 – 4

Though we do not have a formal target in terms of energy intensity – the quantity of energy required per unit output – we have recorded a decrease of 7.34% since the 2015 baseline. This has a direct impact on our target for scope 1 emissions, which have decreased by 8.9% since 2015.

Energy consumption within the organisation

	2017 (restated)	2018	Change in %
Direct energy: from primary sources (GJ)			
Natural Gas	1,777,474	1,812,996	+2.0%
Town Gas	172	180	+4.7%
LP Gas	6,100	6,612	+8.4%
Light fuel oil	67,457	41,970	-37.8%
Heavy fuel oil	2,106	0	-100%
Waste used as energy	45,338	49,049	+8.2%
Total direct energy	1,898,647	1,910,807	+0.6%
Indirect energy: purchased electricity and steam (GJ)			
Electricity purchased	936,791	953,959	+1.8%
Steam purchased	54,887	57,728	+5.2%
Total indirect energy	991,678	1,011,687	+2.0%
Total energy	2,890,325	2,922,494	+1.1%

GRI Disclosure 302 – 1, 302 – 4

Energy intensity

	2015	2017	2018
Energy intensity (GJ per tonne of product)	6.94	6.43	6.43

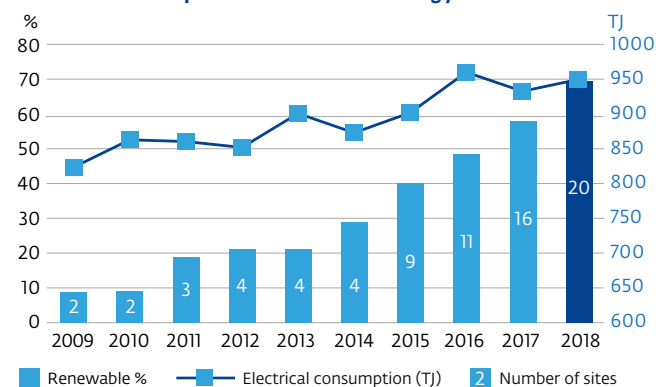
GRI Disclosure 302 – 3

We also made considerable progress in terms of renewable electricity (scope 2) and are on track to meet our target of converting our entire electricity supply to fully renewable sources by 2025. We attained 69.4% renewable electricity in

2018, with 20 of our 41 production sites powered by 100% electricity from renewable sources. Highlights in our progress this year include four manufacturing sites moving to full 100% renewable electricity and an additional four moving to greener electricity. We also reduced the GHG emission load per purchased kWh of electricity by 21% compared to 2017. This represents a decrease of 42% against the 2015 baseline.

Demonstrating our ambition to help mitigate climate change and our desire to work in partnership with others, we took part in the RE100 Forum during Climate Week 2018 in New York. The forum gathered members of RE100, a collaborative global initiative grouping more than 100 businesses committed to 100% renewable electricity. Discussions focused on how to show leadership in the corporate sourcing of renewables through peer collaboration, in influencing policy and in expanding the RE100 movement.

Electrical consumption and renewable energy used



Scope 1

Scope 1 emissions are those generated by Givaudan's production. Such emissions come from the combustion of fossil fuels (gasoline, diesel, fuel oil, natural gas, propane) consumed to produce heat and steam on our facilities or to operate our vehicles.

Scope 2

Scope 2 emissions come from the production of electricity, steam, or other sources of energy (e.g. chilled water) generated upstream by another organisation using fuels such as coal, fuel oil, natural gas, waste, and others, to do so.

Scope 3

We define scope 3 emissions as those that come from all sources of emission in our value chain excluding those already covered under scope 1 and 2. Scope 3 refers then to items including but not limited to the production of purchased goods, goods transport, packaging, capital goods, waste disposal and employee commuting and business travel.

Progress scope 3

During 2018, scope 3 GHG emissions increased by 21.6% against the 2015 baseline figure. A detailed explanation on progress per category is given below.

Other indirect greenhouse gas (GHG) emissions (scope 3)

GHG emissions (tonnes)	2015 (baseline)	2017	2018
Purchased goods and services	1,259,057	1,447,437	1,556,380
Packaging of finished products ¹	55,605	58,575	59,698
Indirect materials & services ¹ (excluding packaging)	143,569	156,186	167,387
Raw materials ¹	1,059,883	1,232,676	1,329,295
Capital goods ¹	48,696	69,611	82,464
Fuel and energy related activities	79,110	62,921	58,262
Upstream transportation and distribution ¹	23,196	26,347	29,523
Waste generated in operations	15,369	16,094	17,099
Business travel	10,056	12,303	12,889
Employee commuting	15,296	16,530	14,172
Downstream transportation and distribution	42,692	45,561	45,783
Outbound product to customers ¹	30,879	32,844	31,656
Outbound intercompany deliveries ¹	11,813	12,717	14,127
Total	1,493,472	1,696,804	1,816,572

1. These numbers do not include data from our production site in Volketswil.

GRI Disclosure 305 – 3

Purchased goods and services

For raw materials and indirect materials and services (excluding packaging material) the figures increased due to the estimated emission calculation methodology. A new calculation will be carried out next year.

For packaging of finished products, the estimated 2018 footprint is 59,698 tonnes, an increase of 1.9% compared with the 2017 footprint. Given the growth in production volume, this level of increase shows an improvement in our packaging practices. We are assessing ways to reduce our footprint, for example by reducing the weight of our containers and using alternative packaging with more sustainable materials.

In 2018, we participated for the second year in the CDP Supply Chain Programme, asking our key suppliers to provide data on climate change through the supply chain module of the CDP's Climate Change Questionnaire. The survey asks suppliers to identify risks and opportunities associated with climate change, say what their emissions are and give details on emissions management strategies including targets and action they are taking to reduce emissions. We chose suppliers according to a given set of criteria. For example, in raw materials, we chose top suppliers by volume. The data collected will help us create partnerships with our suppliers to put in place collaborative measures to reduce our emissions. This is aligned with and contributes to our science-based target for scope 3 emissions. In 2018, our supplier response rate was 54%, up from 45% last year. Though it is a good result, there is space for improvement.

Emission calculation methodologies

Purchased goods and services

For raw materials and indirect materials and services (excluding packaging material), figures are calculated through the ESCHER model – an extended multi-regional input-output-model based on Global Trade and Analysis Project (GTAP) data – on the basis of financial values of materials purchased during 2015 and the country of origin. The 2018 GHG emission figure was then calculated by using the 2015 ratio between spend and GHG emissions and extrapolating to the 2018 spend figure. For packaging materials, the figure was calculated by extracting the number of units used for each type of packaging (for finished goods) from the Company's ERP database. This number was multiplied by the carbon

footprint figure for the type of packaging (as received from suppliers). The totals for each type of packaging were consolidated to give a total Givaudan figure.

Capital goods

The figures are calculated through the ESCHER model on the basis of financial values of hardware purchased during 2015. The 2018 GHG emission figure was calculated by using the 2015 ratio between spend and GHG emissions and extrapolating to the 2018 spend figure.

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

The calculation takes the primary energy carriers for the production of heat,

electricity and steam as well as the technology standard in the countries of the respective sites into consideration. We use the ecoinvent database 2.2 (method: IPCC 2007) as the data basis for the life-cycle inventory. Scope 3 emissions have been estimated directly through the analysis of the respective ecoinvent datasets and by subtracting scope 1 and 2 emissions from overall emissions. Scope 3 emissions for the delivery of electricity (infrastructure, grid losses and direct emissions) have also been accounted for in the calculation.

Upstream transportation and distribution

We monitor the environmental impact of transportation (air, ship and road) by

Some 22% of our suppliers have proposed collaborative opportunities and we are currently reviewing and prioritising proposed projects. An example in terms of GHG emissions reduction includes combining several orders into full container loads to reduce transport emissions.

We also earned a position on CDP's Supplier Engagement leader board in recognition of our actions and strategies to reduce emissions and lower climate-related risk across our supply chain. Only 3% of the 5,000 companies that participated in CDP's Supply Chain Programme in 2018 were included on the list.

Capital goods

Capital goods figures increased due to the estimated emission calculation methodology. A new calculation will be carried out next year.

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

In fuel- and energy-related activities, we have made good progress due to the increase in the supply of renewable electricity.

Upstream and Downstream transportation and distribution

We are assessing ways to reduce our footprint, for example through consolidation and choice of engine type.

Waste generated in operations

This figure has remained stable since last year, even with growth in production volume. Progress towards our waste target (reduction in incinerated and landfill waste) is contributing to this.

Business travel

This figure has remained stable since last year.

Employee commuting

In 2018, a new employee survey about commuting practices was organised through our Green Teams. Based on collected responses, the footprint was estimated at 14,172 tonnes of GHG emissions. Compared to the 2015 survey, the 2018 figure is 7.3% lower. The ratio of GHG emissions per employee fell to 1.23 tCO₂e in 2018 from 1.5 tCO₂e in 2015. Givaudan actively encourages its employees to reduce the GHG emissions of their daily commute, supporting a range of schemes including a bike-to-work initiative at our Swiss sites, the facilitation of carpooling through our intranet platform and the provision of recharge stations to support the transition to electric cars at some sites.

calculating the associated GHG emissions. We do this through a model that tracks all transport movements through our SAP system (by mode of transport), from delivery to receipt locations of raw materials. To calculate the GHG footprint, we use emission factors per mode of transport according to the Cefic (European Chemical Industry Council) guideline.

Waste generated in operations

Emission factors on a per tonne waste basis (as extracted from scope 3 guidance documents from WBCSD + WRI) have been multiplied with the total weight of waste generated at our manufacturing locations. The scope of the calculation covers waste to landfill and to incineration.

Business travel

Data on distance travelled are collected through our global and local travel agencies. To calculate the GHG footprint, emission factors per haul and class are used according to the 2018 Department for Environment, Food and Rural Affairs (DEFRA, UK) definition.

Employee commuting

In 2018, we conducted for the third time a global commuting survey/questionnaire asking employees about their modes of travel and distances covered. Of the employees surveyed, 43% responded: this data and transport emission factors (kg/km) from Guidelines to Defra's GHG Conversion factors for transport were used

to calculate the related CO₂e emission per employee. The reported figure was then obtained by extrapolating to 100%.

Downstream transportation and distribution

We monitor the environmental impact of transportation (by air, ship and road) by calculating the associated GHG emissions. We do this through a model that tracks all transport movements through our SAP system (by mode of transport), from delivery to receipt locations of intercompany deliveries and deliveries to customers. To calculate the GHG footprint, we use emission factors per mode of transport according to the Cefic guideline.

Our overall approach is being boosted by the creativity and dedication of our employees around the world: their enthusiasm and dedication has led to projects that help us reduce GHG emissions even more. We are also investing in cutting-edge technology such as HyCool to find alternative sources of energy.

Emissions of ozone-depleting substances (ODS)

	2017 (restated)	2018
CFC inventory (kg)	11,748	10,106
CFC 11 equivalent inventory (kg)	655	562
CFC loss-replacement (kg)	773	1,055
CFC 11 equivalent loss/replacement (kg)	42	58

GRI Disclosure 305 – 6

NO_x, SO_x, and other significant air emissions

	2017 (restated)	2018
Nitrogen oxides – NO _x (tonnes) ¹	84	83
Sulphur dioxide – SO ₂ (tonnes)	1	1
Volatile organic compounds (tonnes)	469	292

1. The quantity is calculated by multiplying the annual fuel consumption by the corresponding emission factor for fuel type.

GRI Disclosure 305 – 7

HYCOOL

The solar heat behind cool innovation

What if we could harness the sun's heat to provide cooling and refrigeration for industrial processes? This is the question we are exploring with the innovative technology being tested as part of an EU-level project at our Sant Celoni site in Spain.

HyCool is the name of a project being funded by the European Union to promote the use of Solar Heat in Industrial Processes (SHIP). The unique technology couples patented solar thermal collectors with special hybrid heat pumps with the aim of providing flexible and cost-efficient cooling systems for industrial applications. By maximising the use of renewable energy through made-in-Europe innovation, HyCool's goal is to minimise emissions of greenhouses gases.

"Every industrial site needs heating and refrigeration, and this combination of technology is highly relevant for our sites in sunny locations like Egypt, South Africa, Mexico and the USA," said Jean, Global Expert for Utilities and Industrial Services. "At full scale, we anticipate that HyCool will enable us to reduce our electricity consumption by 25% and natural gas by 6%. This adds up to a 7% reduction in our carbon footprint."



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 792073.

CHINA

Sites' shuttle buses go green to tackle emissions

Givaudan's four sites in and around Shanghai are spread throughout the giant city of more than 24 million people. One of the perks our employees enjoy is shuttle buses that take them to and from stops spread around the city to the sites where they work. Until recently, these buses have run on diesel fuel. Now, a new initiative from a Green Team – local teams of employees that volunteer to engage in sustainability projects – to replace them with electric vehicles is helping Givaudan reduce GHG emissions by 128 tonnes a year.

Of the total fleet of 26 shuttle buses over the four sites, 13 have already been exchanged. The Chinese government is supporting the initiative by subsidising vehicles and the rest are scheduled for replacement in 2019 and 2020.

"Electric vehicle transportation is becoming a reality and China is leading

this revolution," said Georges, Company Manager of Givaudan China. "We are proud that Givaudan China is contributing to improving air quality in Shanghai."

The swap is helping to mitigate the effects of rapid economic development on the environment and also improving awareness of environmental protection, especially in terms of haze and atmospheric particulate matter. Many people had never used such a bus and so Givaudan arranged trial runs, speaking afterwards with employee representatives to collect the comments and concerns of the passengers.

After a few modifications, including finding a way to do away with "new bus smell," employees have been very supportive of the changes. They particularly appreciate the lack of diesel smell and loud noise, advantages that come on top of the contributions to



protecting the environment.

"As citizens, we want to make our environment better and better, and this was just common sense," said Ellaine, IM&S Procurement Manager. "It is good for the air, it is good for the environment, and we all support this project."

"This is a great example of achieving two seemingly opposing objectives of saving the environment and saving costs" said Ali, Regional CFO, North Asia.

SWITZERLAND

Team at Vernier headquarters reduce scope 3 GHG emissions with innovative packaging

The Vernier Team's brilliant idea of replacing round metal drums used to store and transport some products with square fibre packaging may seem like a simple, elegant solution, but it took a team of experts from fields from packaging engineering to IM&S to come up with the polished result.

They started out with a problem – metal detectors were incompatible with the drums being used. After looking at possible solutions, they hit upon an idea that has since benefitted the environment in many ways.

The square cardboard drums are lighter and take up less space. This means that fewer trucks are needed to deliver the same quantity of product, reducing scope 3 GHG emissions, but also traffic-related nuisances such as noise, air pollution and accidents. The fibre is made from renewable materials

and can be recycled whereas metal is mined – the innovation is more sustainable too.

The benefits don't stop there: because of their shape, there is less space between them in transport and this makes the shipment more stable. Because they are lighter, it requires less effort to move them, improving the health and safety of workers. A related improvement by the supplier – an ecolip that replaces sealing tape – makes the solution faster to use, reliable and practical because the clip also serves as a handle. The new drums are so convincing that we are expanding their use to more and more products.

This is not the only local innovation in packaging though. The team noticed that small drums were secured individually on much larger pallets for

transportation. This leaves significant gaps and a lot of empty space, meaning the capacity of the truck is underused: this leads to wasted resources and extra costs.

After discussing the problem with our transporter, they proposed pallets that are half the size of the EURO norm, that is 80x60 cm instead of 80x120 cm. After investigating their possible use with a range of experts and stakeholders and getting the thumbs up from our customers, we decided to introduce this new option. Ordering smaller pallets saves about 50 tonnes of wood a year and lets us avoid 70 trips of 725 km each, every year – this reduces the GHG emissions of transportation by about 4 tonnes annually. It is a simple and efficient solution that improves transport safety and helps protect the environment.

Water stewardship and effluents

Water is critical to our manufacturing activities and we want to lead the industry in conservation and stewardship. Our Water Stewardship Programme outlines our overall strategy for monitoring and reducing water consumption and guides our growth strategy. It helps us focus on specific locations, technologies and procedures to ensure that water risks are managed and monitored.

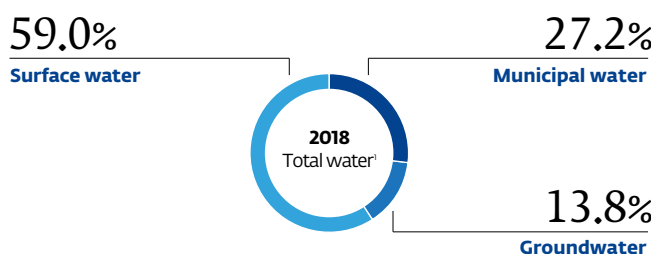
We continue to show good progress after reaching our target to reduce global water consumption per tonne of production by 15% by 2020 three years early. We are now assessing a new target and will publish it soon.

Progress 2018

This year, we decreased water intensity by 24.4% since the baseline year 2009. This corresponds to a 6% decrease in water intensity since 2017 and to 208,925 m³ in absolute less water withdrawal in 2018 compared to 2017. We earned a CDP leadership grade of A- for our efforts in water security and also participated in the CDP Supply Chain assessment for water. Our supplier response rate this year was 48%, up from 37% in 2017.

We put a special focus on places where we expect water challenge and carry out risk assessments to develop water mitigation action plans that include efficiency improvements and water reuse opportunities. All such prioritised facilities have to fulfil a Local Water Risk Assessment, which is meant to gather contextual information and help us develop mitigation plans. Sixteen of the sites linked to high water risk have been assessed as of 2018.

Total water withdrawal by source



	2009 (restated)	2017 (restated)	2018
Water intake (m ³)			
Municipal water	2,286,999	2,609,597	2,478,213
Groundwater	1,074,035	1,335,663	1,258,123
Total municipal and groundwater	3,361,034	3,945,260	3,736,336
Surface water	7,432,649	4,925,910	5,371,098
Total water¹	10,793,683	8,871,170	9,107,434

1. Includes sanitary, cooling and process water.

GRI Disclosure 303 – 1

Waste water

We are working to ensure that the waste water from our operations is disposed of responsibly and monitor its quality through Chemical Oxygen Demand (COD) analysis. The total quantity of COD discharged was measured to be 918 tonnes in 2018.

Overall, we are working towards a continued reduction of water use through projects including reduced water withdrawal, water recycling and investigation into alternative sources such as rainwater. Once again, our employees are also making significant contributions through their innovative ideas.

Total water discharge by quality and destination

	2017 (restated)	2018
Water discharge (m ³)		
To the environment without biological treatment	4,260,564	4,666,399
To the environment after biological treatment	2,029,078	2,089,294
To external treatment facility without pre-treatment	553,116	532,823
To external treatment facility after pre-treatment	1,633,523	1,575,193
Total discharged water	8,476,281	8,863,708

GRI Disclosure 306 – 1

Water risk assessment

To get a more detailed picture, we carry out a periodic corporate water risk assessment. This allows us to identify relevant exposures and perform analysis specifically related to the watershed-level context. This process applies to both operations and to the supply chain because they are the most material stages of our value chain in terms of water consumption.

Assessment for operations

This water risk assessment includes all Givaudan manufacturing facilities and takes into account six indicators from two water risk mapping tools – the Water Risk Filter and WRI Aquaduct – covering physical, regulation and reputation risk aspects. We use internal knowledge as well as criteria linked to production volume and risks in terms of water withdrawal to prioritise the facilities.

Assessment for supply chain

In 2018, we used a metric-based methodology to characterise our corporate water footprint based on ISO 14046. This allowed us to identify hot spots in our main product supply chain and gave us a clear understanding of the risks and impacts encountered. It allowed us to:

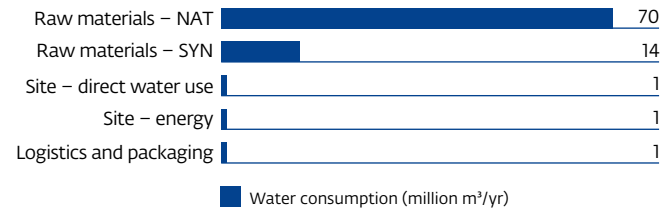
- quantify the total water consumption of our activities, taking into consideration the whole value chain from raw materials extraction to product use and end-of-life;

- quantify the water scarcity footprint to highlight water consumption located in water stressed areas along the value chain;
- provide a detailed breakdown of the water footprint to identify main contributors (infographic);
- identify water hotspots and physical water risks along the value chain.

This assessment allows us to set priorities for reducing water use and develop a mitigation plan.

The graph represents our footprint in 2018 and provides a basis for understanding how we can have an impact on water stewardship. It shows why our water strategy takes our supply chains into account.

Givaudan's water footprint



HUNGARY

Localised cleaning station cuts water and detergent use

The hunt for ways to reduce water use at Hungary's Mako site led a local Green Team to identify an opportunity for improving the system used to clean the trolley cars that transport the powders that go into the thousands of products made there.

A study of the site's Clean in Place (CIP) system revealed that washing the site's big manual pouring (BMP) trolleys was a critical area for improvement: because there was a distance of about 60 meters from the centralised CIP station to the actual cleaning area, the pipeline had to be filled up with a significant amount of water before each cycle.

These concerns led the group to come up with a proposal to replace the centralised system with a localised foaming station. Though there was huge potential in terms of water savings, they were aware that meeting the same hygienic requirements with a new cleaning process would be the biggest challenge. After several tests, the team proposed installing two foaming stations local to the BMP cleaning stations. Management then played a critical role in making sure the project got off the ground.

"We are really happy that we got the strong support to make this happen," said Balazs, project coordinator. "It was a great collaboration between a number of different teams at the site and management."



They could not halt production, so figuring out how to install and test the new system involved a huge effort involving collaboration among a number of people and teams including local engineering, maintenance technicians, the BMP area leader, and the operators as well, the Quality team, external experts, even lab assistants.

While the first weeks involved a learning curve, the site has since gained a lot of flexibility with the new equipment and the excellent returns are becoming more and more apparent. The modifications allow for more

efficient cleaning, a shorter CIP cycle, hot water supply from the network and, critically, no need to fill up the 60-meter pipeline with water. The benefits have been huge: the water consumption of the cleaning station has been reduced by 60% to 450 litres. CIP and the team has cut the use of detergent by 50% a year from reduced consumption of water, detergent and natural gas.

"The challenge in this project was to achieve our goal to reduce water consumption with maintaining the same CIP and hygiene," said Melinda, Quality Systems Manager. "We did it!"

MEXICO

Heavy rains inspire water collection project

Alert to Givaudan's water use reduction goals, the Cuernavaca Green Team – already the winners of a 2017 award for their efforts in manufacturing – was on the lookout for ways to further reduce the plant's use of municipal water by finding a renewable source.

Inspired by the months of heavy rain from July to October – “it rains almost every night during three months,” one team member said – they hit on the idea of using their prize money to install a rainwater collection system on 1,000 m² of roof to get an idea of how a larger scale system could contribute towards water savings. The idea won them yet a 2018 Green Team award, this time in the category “Eco-Efficiency”.

“We are committed to reducing water consumption at the Cuernavaca plant,” said Miguel, Site Director.

“Taking advantage of the rainy season, we will capture as much rainwater as possible to reduce our consumption of the sub-soil supply.”

The installation – and the predictably rainy weather – allowed them to store and use rain water, thereby reducing average monthly consumption of municipal supply water.

The collected water was transferred to the tank of the plant's fire protection system and can be put to good use there. The ultimate goal though is to use the water in bathroom facilities and in the boiler, which generates steam for processing needs. The team has already learned that the quality of the water is high enough that they will be able to use it with a basic solid-filter system. The next step will be to expand the collection

and storage systems.

“We want to make sure that by summer we have the capacity to collect all the water,” said Dario, of EHS at the site. “If the fire protection tank is full, we need to make sure that we have the ability to send this water to the boilers – this is the next phase.”

The team says their good idea might spread even further from the plant. While the investment can be significant, they have been talking about the project internally and some employees may be motivated to install similar systems at home.

“It is an important project in terms of sustainability, but also in terms of savings for the business,” Dario said. “It is also a good example for what could be done at home.”



INDIA

Pune facility discharges zero liquid into surrounding environment, reduces water consumption



Our green field facility in Pune, India boasts the ultimate cutting edge treatment system for a strong reduction of the city water usage and the total elimination of waste water effluent into neighbouring waterways. Designed on the principle of 'Zero Liquid Discharge,' 100% of the discharge must be recycled or reused: our innovative processes are allowing us to reduce intake from the municipal water system by as much as 50%.

The plant takes in about 67 cubic meters of water from the municipal water supply every day – while the plant is running in a closed loop, the food safety regulations bans water recycling, therefore the resulting waste water is evaporated through a combination of technologies and specific plants.

This water is first treated by ultra-filtration, a process that separates clean water from solids through membranes. That water is then immediately ready for use in some industrial process applications and for use in the showers, kitchens

and sinks. Water destined for use in the plant's ingredients must be treated further, this time by reverse osmosis, another technology that removes any particles and some ions from the water thanks to highly selective membranes. Any effluent that is left over from this process then joins that left over from the industrial processes in the waste water treatment plant, where it is reprocessed and ultimately used again. Water used in the domestic installations is treated by a sewage treatment plant that converts pollution into biogas; the water is then used to irrigate the site's gardens. Ultimately, through the various steps and processes, the site ends up with just two by-products that cannot be processed any further: water, which is evaporated through irrigation and the dry solids that are left from it.

"In a nutshell, all the wastewater is purified and recycled, leaving zero discharge at the end of the treatment cycle," said Dipankar, Site Engineering Manager.

Materials and waste

We work hard to limit the amount of waste we produce through a four-pronged process based on the concepts "reduce," "reuse," "recycle" and "recover." We are reducing the amount we create as a by-product of our processes; then we reuse where possible and recycle in an effort to move away from disposal in landfill or by incineration. Where waste is incinerated, we recapture the energy.

Our target is to reduce incinerated and landfilled waste production per tonne of product by an average of 4% year-on-year against the 2015 baseline figure by 2020.

Progress 2018

During the course of 2018, the amount of waste sent for incineration and landfill per tonne of product decreased by 5.23% compared to the 2015 figure.

Waste efficiency

(tonnes of waste/ tonne of product)	2015 (restated)	2017 (restated)	2018
Incinerated and landfilled waste	0.0457	0.0417	0.0433

Total weight of waste by type and disposal method

	2015 (restated)	2017 (restated)	2018
Hazardous waste (tonnes)			
Incinerated	8,557	8,962	9,645
Incinerated with energy recovery ¹	4,132	4,184	3,630
Landfilled	318	105	128
Recycled	17,357	17,310	21,136
Total hazardous waste	26,232	26,377	30,910

	2015 (restated)	2017 (restated)	2018
Non-hazardous waste (tonnes)			
Incinerated	2,230	2,738	2,845
Incinerated with energy recovery ¹	1,076	455	546
Landfilled	6,412	6,892	6,984
Recycled	27,826	32,485	31,959
Total non-hazardous waste	36,468	42,115	41,788

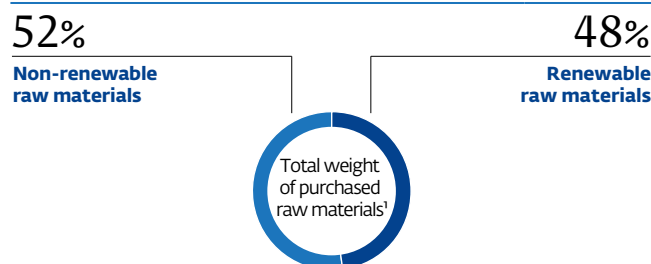
1. Quantity out of total incinerated waste which is incinerated with an energy recovery of at least 75%.

GRI Disclosure 306-2

In total, we recycled 73% of all our waste in 2018, or 79% when the energy recovered from incineration is taken into account. Recycled waste has increased by 17% since 2015. The reduction of landfill is also a priority and 16 of our sites (39%) are without landfill waste.

While we are showing progress against baseline, there is still a gap that must be closed to reach our 2020 target. We have developed a plan and have identified and implemented mitigation measures.

Materials used by weight



1. The figures refer only to the volume of ingredients from the Cardex and the Palette used for fragrance and flavour products.

Weight of purchased raw materials (tonnes)	2018
Total	448,012
Weight of purchased packaging (tonnes)	2018
Plastic HDPE	6,956
Steel/Metal	14,029
Fibre	304
Paper/Board	2,667
Wood	13,082
Total	37,037

GRI Disclosure 301-1

INDIA

Jigani celebrates World Environment Day with a focus on single-use plastic

Employees at our Jigani site have celebrated World Environment Day (WED) for many years, but 2018 was special – India hosted the event. To celebrate, the local Green Team came together to propose multiple activities based on this year's theme: 'Beat Plastic Pollution – if you can't reuse it, refuse it'.

They started out by making a huge effort to raise awareness about how plastic is polluting the earth and how it finds its way into our bodies.

They engaged not only employees, but also their families in making contributions through drawings and essays on ways to beat plastic pollution. Then they moved on to the next part of the plan: stopping single-use plastic.

In line with the Indian government's commitment to abolish such items by 2022, the team took on plastic straws, bags, stirrers and cups, highlighting how the use of plastic disposables adds to pollution. Their activities raised

awareness, helped people share ideas and motivated them to act for a pollution-free environment – at Givaudan certainly, but also around the world, thanks to the spotlight brought on by the WED.

"Jigani has pledged to reduce the use of plastic disposables," said Karthikeyan, Operations Director. "Our Green Team has initiated the correct approach with stopping one-time use, and we will continue our journey to reduce the use of plastic."

Environmental performance indicators

Key performance indicators		2009 (restated in 2018)	2015 (restated in 2018)	2016 (restated in 2018)	2017 (restated in 2018)	2018
Energy						
Energy (GJ)	Direct energy (from primary sources ¹)		1,708,571	1,738,392	1,894,276	1,898,824
	Indirect energy: purchased electricity & steam		950,117	1,029,408	991,678	1,010,347
	Total energy		2,658,688	2,767,800	2,885,954	2,909,171
Energy efficiency (GJ/tonne of production)	Direct energy efficiency		4.46	4.37	4.22	4.19
	Indirect energy efficiency		2.48	2.59	2.21	2.23
	Total energy		6.94	6.95	6.43	6.43
Emissions						
GHG emissions (tonnes)						
Scope 1	From direct energy sources		99,892	100,662	108,102	108,706
Scope 2	From indirect energy sources		88,877	87,217	67,370	53,896
	Total scope 1 + 2 GHG emissions		188,769	187,879	175,472	162,602
Scope 3	Business travel	-	10,056	11,102	12,303	12,889
	Employee commuting	-	15,296	15,756	16,530	14,172
	Packaging of finished products ²	-	55,605	58,249	58,575	59,698
	Upstream transportation and distribution ²	-	23,196	25,356	26,347	29,523
	Outbound product to customers ²	-	30,879	31,431	32,844	31,656
	Outbound intercompany deliveries ²	-	11,813	15,802	12,717	14,127
	Waste generated in operations	-	15,369	16,748	16,094	17,099
	Fuel and energy related activities	-	79,110	79,505	62,921	58,262
	Raw materials ²	-	1,059,883	1,138,972	1,232,676	1,329,295
	Indirect materials & services (excluding packaging) ²	-	143,569	137,860	156,186	167,387
	Capital goods ²	-	48,696	42,927	69,611	82,464
	Total scope 3 GHG emissions		1,493,472	1,573,708	1,696,804	1,816,572
	Total GHG emissions		1,682,241	1,761,587	1,872,276	1,979,174
GHG emissions efficiency³ (tonnes of GHG/tonne of production)	Scope 1: from direct energy sources	-	0.26	0.25	0.24	0.24
	Scope 2: from indirect energy sources	-	0.23	0.22	0.15	0.12
	Total GHG emissions	-	0.49	0.47	0.39	0.36
Waste						
Hazardous waste (tonnes)	Incinerated		8,557	9,543	8,962	9,645
	Incinerated with energy recovery ⁴		4,132	3,989	4,184	3,630
	Landfilled		318	108	105	128
	Recycled		17,357	16,744	17,310	21,136
	Total hazardous waste		26,232	26,395	26,377	30,909
Non-hazardous waste (tonnes)	Incinerated		2,230	2,544	2,738	2,845
	Incinerated with energy recovery ⁴		1,076	719	455	546
	Landfilled		6,412	6,704	6,892	6,984
	Recycled		27,826	28,574	32,485	31,959
	Total non-hazardous waste		36,468	37,822	42,115	41,788
	Total incinerated and land-filled waste (HZ and NHZ)		17,517	18,899	18,697	19,602
Total hazardous and non-hazardous waste (tonnes)		62,700	64,217	68,492	72,697	
One-off waste (tonnes)		2,219	1,367	4,183	7,215	
Waste efficiency⁵ (kg of waste/tonne of production)		45.7	47.5	41.7	43.3	

Key performance indicators		2009 (restated in 2018)	2015 (restated in 2018)	2016 (restated in 2018)	2017 (restated in 2018)	2018
Water						
Water intake (m³)	Municipal water	2,286,999	2,359,818	2,539,275	2,609,597	2,478,213
	Ground water	1,074,035	1,390,267	1,307,576	1,335,663	1,258,123
	Total municipal and ground water	3,361,034	3,750,085	3,846,851	3,945,260	3,736,336
	Surface water	7,432,649	5,006,361	5,225,273	4,925,910	5,371,098
	Total water⁶	10,793,683	8,756,446	9,072,124	8,871,170	9,107,434
Water efficiency⁷ (m³/tonne of production)		10.91	9.78	9.66	8.79	8.25
Water discharge (m³)	To the environment w/o biological treatment	–	–	4,634,189	4,260,564	4,666,399
	To the environment after biological treatment	–	–	2,005,856	2,029,078	2,089,294
	To external treatment facility w/o pre-treatment	–	–	416,126	553,116	532,823
	To external treatment facility with pre-treatment	–	–	1,703,562	1,633,523	1,575,193
	Total discharged water	–	–	8,759,733	8,476,281	8,863,709
COD (tonnes)	COD load of water discharged to the environment	–	–	487	608	918
Other data						
	Nitrogen oxides – NO _x (tonnes) ⁸	–	–	76.90	84.07	83.03
	Sulphur dioxide – SO ₂ (tonnes) ⁸	–	–	0.92	0.94	1.19
	VOC (tonnes)	–	–	521	469	292
	CFC inventory (kg)	–	–	11,774	11,748	10,106
	CFC 11 equivalent inventory (kg)	–	–	653	655	562
	CFC loss-replacement (kg)	–	–	1,335	773	1,055
	CFC 11 equivalent loss/replacement (kg)	–	–	73.44	42.38	58.09
Production						
	Production quantities (tonnes)	308,060	383,353	398,043	448,726	452,696

1. Includes natural gas (0.0345 GJ/m³), light fuel (36.12 GJ/m³), heavy fuel (39.77 GJ/m³), liquid petroleum gas (22.65 GJ/m³), town gas (0.0186 GJ/m³).

2. These numbers do not include data from our production site in Volketswil.

3. Includes only scope 1 and scope 2.

4. Among the quantity of HW and non-HW incinerated, this is the quantity incinerated with energy recovery (in tonnes) on condition that at least 75% of energy is recovered.

5. Includes incinerated and land-filled waste (HZ and NHZ).

6. Includes sanitary, cooling and process water.

7. Includes municipal and groundwater.

8. Quantity is calculated by multiplying the annual fuel consumption by the corresponding emission factor for fuel type.

How to read our performance indicators

Baseline recalculation

In order to enable a meaningful comparison of environmental performance over time, Givaudan has established a standard process, based on the GHG Protocol, to recalculate its baseline indicators in case of structural changes such as acquisitions, and changes in calculation methodology and inventory boundaries.

In this way to compare performance on a like-for-like basis over time. The process includes definitions of recalculation triggers and the process of reporting the information. Thanks to this guidance, Givaudan is able to track its environmental performance in a transparent manner and with confidence that the data are accurate despite the changes related to the business growth.

Baseline years

In this report we use two baseline years to show our performance indicators, 2009 and 2015. The CO₂, energy, waste and targets were set against a 2009 baseline, which we met in 2015. This led to the publication of strengthened targets, against a 2015 baseline. For water the 2009 baseline year is still valid. For production volumes, both 2009 and 2015 are reported since the ratios are calculated using the data of the accurate baseline year.

In this report the baseline recalculation applies only to GHG emission numbers as these are the only absolute targets published by the Company. To consider the impact of 2015 and 2016 acquisitions we recalculated the figures up to the 2015 baseline. No environmental data of our 2017 and 2018 acquisitions are included in this report.

Our People and Partners

People who are passionate about our work and committed to creating a sustainable society make significant contributions to our success.

A better and more sustainable future should incorporate decent work and economic growth, gender equality and good health and well-being for all. Sustainable development work also requires inclusive partnerships between governments, businesses and society. A leading employer in the industry, with a global staff of more than 13,000, including more than 90 nationalities, we are doing our part to work towards these goals.

People Talent Management

Focusing on talent development to improve skills and engagement is a critical part of our approach towards

providing decent work and economic growth. Managing talent allows us to attract and keep the best and the brightest, securing in this way the long-term succession pipeline up to senior management. It allows us to develop and strengthen Givaudan's culture and offer an attractive career path. These activities also help provide an engaging and inspiring environment, giving employees a chance to realise their career goals, and also enable us to retain and motivate qualified people.

This drive is reflected in projects such as our regional ONE Givaudan onboarding initiative – a programme that allows new employees to acquire fundamental knowledge about our Company and its rich heritage, our business and our DNA – as well as a set of customised management training programmes called Leadership Senses. We have yearly performance cycles including talent reviews and career discussions and, finally, we promote a culture of continuous learning, curiosity and feedback.

ONE onboarding and training in "Quality Conversations" are just two ways we look to develop our people and their skills.

Training in quality conversations aims to improve the working environment with a feedback culture



Another aspect of managing talent and retaining talented employees is teaching people to deliver and receive effective feedback. It is an essential part of any successful business and we want to be sure to create an environment where feedback is a consistent and regular part of our daily exchanges. Not just from managers to their teams, but also amongst teams and from teams to their managers – we want people to actively seek feedback and make it a part of their daily routines.

We also know that clear communication is the basis of all good relationships: our Quality Conversations training helps managers not only create the right feedback environment, but also to build trusting and productive interactions with their team members more generally. This results in stronger



ONE onboarding events build Company culture, give new recruits best start

Givaudan's people pride themselves on creating a positive environment of openness and curiosity, shaping and sharing innovative ideas that drive sustainable growth and create memorable flavours and fragrances. We welcome debate and challenge the way business is done while looking to drive positive change and establish true partnerships. We take responsibility for our actions and act with empathy and humility.

Our enthusiasm for this approach and our culture is one of the reasons we have introduced the ONE onboarding – or 'Onboarding New Employees' – programme. The dedicated two-day training events aim to give new joiners a sense of our community and culture, ONE Givaudan, by focusing on our DNA and who we are; our business model, and creating opportunities for people to build their networks. We are happy to take this unique opportunity to spread our knowledge and appreciation of the flavour and fragrance industry, our Company and its culture as well as its long, rich heritage.

In 2018, we were able to pass along this knowledge during eight ONE onboarding events across the regions. At each, about 25 new employees from many different functions came together to spend two days at a Givaudan site. They learned about the Flavour and Fragrance Divisions and were invited to get into operations, to

see what we do and how we do it. They went into the labs and worked through case studies – how, for instance, do we go about designing a fragrance for a customer? They also got to know each other through both formal and informal sessions, expanding their networks throughout Givaudan. In all, about 218 people profited from these workshops.

"When they walk away from the programme, they know what we do, how we do it and what our history is," said Jane, Head of Learning and Development. "They have also been given a chance to make contacts with people throughout the region."

Since our Givaudan Business Solutions (GBS) population is growing and proper onboarding is key to future success, we have performed thirteen ONE events in the GBS hubs. We have also introduced some interactive e-learning modules that complement the events: some 114 people have completed these courses, with more in progress.

"Following the onboarding, I have an increased sense of pride working for the Company," said one participant. "We realise how much of an impact the Company has on consumers each day and it is so exciting to be a part of that. This programme also shows how invested the Company is in their employees which is a really nice feeling as a new member of the team. Thank you for offering such a special event!"

GRI Management Approach 103 – 3:
Topic 404, pages 42 – 43

employee engagement, transforming individual and business performance.

The Quality Conversations programme, which we started rolling out this year, is based on The Oxford Group book '5 Conversations' and focuses on helping managers build trusting and productive relationships at work through a structured approach. The programme is built around five conversations: Establishing a trusting relationship; Agreeing mutual expectations; Showing genuine appreciation; Challenging unhelpful behaviours and, finally Building for the future.

Encouraging these quality conversations and a culture of feedback is at the heart of our success: they help to build trusting relationships, create engagement and motivate everyone to perform at their best.

Promoting Diversity

Equal opportunity and the elimination of gender-based discrimination is necessary to cultivate leaders with legitimacy and to make better business decisions. Diversity and gender equality is another critical element in our sustainability approach. We embrace diversity throughout our organisation and are fully committed to increasing inclusiveness.

One way we promote this is through our approach to a better balance: a good mix of gender and nationalities reinforces our inclusive culture and is essential to achieving our business goals. An evolving balance of nationalities and genders in our management teams over time will lead to steady, sustainable change rather than quick or superficial fixes.

We are committed to offering a work environment based on mutual respect – we do not tolerate harassment. The path to leadership is open to all motivated, talented and qualified people and we are committed to equal opportunity. While it is fundamentally right to do so, we also believe that it makes sound business sense.

GRI Management Approach 103 – 3: Topic 405, 406, page 44

Environmental, health and well-being

Ensuring the safety, health and wellness of our staff is an essential part of being a responsible employer and we actively promote safe and secure working environments. We work hard to manage

Women at Givaudan “given the opportunity to grow”

When Lucia, now Head of Fine Fragrances, Latin America first started at Givaudan, women employees were not eligible to get health insurance coverage for their partners – this was a benefit reserved for men. Lucia pointed out that it was unfair and the policy was changed. Some 18 years later, she sought and won full support to hire a woman who was already pregnant because she was the right person for the job on her team.

“At Givaudan, there has been a real evolution,” Lucia said. Her expertise with such issues and her personal success in navigating them won her an invitation to address a December town hall meeting of about 500 people organised by Boticário, one of our biggest customers in Brazil. She and three other panellists were invited to discuss four main themes, including their personal stories, experiences with prejudice, the obstacles that they had faced during their careers and, finally, whether they had any tips or advice to give.

During the meeting, they covered a broad range of topics, touching on areas such as maternity leave and the critical role of partners in supporting careers, the difficulties women may face when travelling alone, the challenges of being accepted as a discussion partner in certain parts of the world as well as differing communications approaches



between men and women.

Overall, she finds that the situation is beginning to change for the better and looking to the future, she says that women should not be afraid to create opportunities for development as she has been able to do at Givaudan.

“We have a culture that is open and Givaudan has always given me the opportunity to grow when I was ready for it,” she said.

The simple fact that she and some of her female peers are in positions of leadership in various regions of the world shows clearly that Givaudan understands

the importance of having better balance – not just diversity, she says. For her, diversity is simply inclusion, while better balance is about inclusion with real participation.

“Diversity is when you just invite someone to a party, but better balance is about asking them to dance too,” she said. “This is exactly what is happening with Givaudan. I feel like I am actively contributing and bringing different perspectives to the group. We know that companies with this approach are much more efficient and have better results.”

the risks inherent to industrial environments and hazardous chemicals and our mission is to empower everyone to safeguard the environment and protect people's health and safety. We look to eliminate accidents and get 'Everyone Home Safe, Everyday'.

We help our employees actively contribute to this target through awareness campaigns and training programmes, aiming to ingrain these reflexes into our very culture. One way we do this is to organise exciting, innovative workshops around the world.

GRI Management Approach 103 – 3: Topic 401, pages 42 – 45, Topic 403, pages 44 – 45

Partners

Our approach to sustainability relies on the support of our people, of course, but also on the support of our partners. Managing sustainability issues is a huge undertaking with diverse challenges and effective, long-term solutions can only be found by developing strong partnerships across sectors. We work with a range of partners to tackle these challenges in an efficient, mutually beneficial manner. The approach is also leading to exciting new products for our customers, as demonstrated throughout this report.

Fun week-long programmes aim to turn EHS best responses into instinctive behaviour

The 2018 EHS (environmental, health and safety) weeks were designed to 'kick-start' or provide a boost to existing programmes, emphasising the positive aspects of safety, health and environment through engaging activities. We focused on creative events aimed at making EHS responses natural behaviour, an integral part of everyone's DNA. Reaching this level requires commitment, curiosity and energy from all and we found innovative ways to do it at sites around the world.

The theme motivating our work was moving from "I don't do it at home, so why do it at work?" to "I do it at work, so why not do it at home?". We want people to look at the environment in a new way, noticing what they really see and hear, feeling empowered and confident in the knowledge that caring for someone or the environment is the right thing to do. We want our employees to feel proud to work at a company where we look after each other. We also want everyone to take the culture of safe and healthy behaviour home to their families: the more the behaviour becomes natural, the more the families benefit as well.

Safety was our main focus, followed by health and environment. The activities, which took place at different sites all over the world, covered a variety of topics.



Safety activities included firefighting, forklift obstacle courses, safety quizzes, chemical workshops, personal protective equipment training shows as well as road safety, walking with caution, and, finally, workshops on "see something – say something."

Some of the activities related to health included ergonomics, yoga, massage, blood donation, healthy food and stretching before working shifts. Environmentally-focused activities included biking to work, encouraging the use of car pools, correct recycling, reduction of plastic use, paperless initiatives and energy efficiency. Activities such as painting contests, seed planting and building insect

hotels included entire families.

The activity weeks generated energetic momentum, combining high spirits with fun, creative events and led to a turn-around in the perception of EHS. No longer merely the police, people understand that we care and responded with enthusiastic participation.

"The biggest impact from the week for me is in my everyday approach to EHS – it is part of my everyday life, all day every day, and not just in my Givaudan work," said one participant. "I try to absorb all the information about EHS that we are offered and then apply it at work, in my personal life and in the community."



Appendix

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restatement table
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- 60 Our reporting suite

GRI Content Index

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102–40 to 102–49 align with appropriate sections in the body of the report.



AR = 2018 Integrated Annual Report SPR = 2018 Sustainability Progress Review SA = Our Sustainability Approach www.givaudan.com – media – publications

GRI Standard and Disclosure	Publication year ¹	Page	External assurance	UNGC Principles	SDG
GRI 101: Foundation	2016				
GRI 102: General Disclosures	2016				
Organisational profile					
GRI 102 – 1: Name of the organisation		AR 100, 101	yes, SPR 58, 59		
GRI 102 – 2: Activities, brands, products, and services		AR 100, 101	yes, SPR 58, 59		
GRI 102 – 3: Location of headquarters		AR 100, 101	yes, SPR 58, 59		
GRI 102 – 4: Location of operations		AR 212 – 217	yes, SPR 58, 59		
GRI 102 – 5: Ownership and legal form		AR 100, 101	yes, SPR 58, 59		
GRI 102 – 6: Markets served		AR Cover flap	yes, SPR 58, 59		
GRI 102 – 7: Scale of the organisation		AR Cover flap, 122	yes, SPR 58, 59		
GRI 102 – 8: Information on employees and other workers		AR 205	yes, SPR 58, 59	Principle 6	Goal 8
GRI 102 – 9: Supply chain		AR 62 – 64	yes, SPR 58, 59		
GRI 102 – 10: Significant changes to the organisation and its supply chain		AR 4 – 9	yes, SPR 58, 59		
GRI 102 – 11: Precautionary Principle or approach		AR 72 – 75	yes, SPR 58, 59		Goal 12, 13
GRI 102 – 12: External initiatives		SA 35 – 37	yes, SPR 58, 59	Principle 1	
GRI 102 – 13: Membership of associations		SA 37 – 38	yes, SPR 58, 59		
Strategy					
GRI 102 – 14: Statement from senior decision-maker		AR 6 – 9	yes, SPR 58, 59		
GRI 102 – 15: Key impacts, risks and opportunities		AR 15, 36, 37; SPR 2	yes, SPR 58, 59		
Ethics and integrity					
GRI 102 – 16: Values, principles, standards, and norms of behaviour		AR 76 – 78, 81, 82	yes, SPR 58, 59	Principle 10	Goal 5
Governance					
GRI 102 – 18: Governance structure		AR 103 – 115; SA 7	yes, SPR 58, 59		
Stakeholder engagement					
GRI 102 – 40: List of stakeholder groups		AR 13; SA 42, 43	yes, SPR 58, 59		
GRI 102 – 41: Collective bargaining agreements		AR 57	yes, SPR 58, 59	Principle 3	Goal 8, 17
GRI 102 – 42: Identifying and selecting stakeholders		SA 42, 43	yes, SPR 58, 59		
GRI 102 – 43: Approach to stakeholder engagement		SA 43	yes, SPR 58, 59		
GRI 102 – 44: Key topics and concerns raised		SA 42, 43	yes, SPR 58, 59		
Reporting practice					
GRI 102 – 45: Entities included in the consolidated financial statements		AR 100, 101, 178, 179	yes, SPR 58, 59		
GRI 102 – 46: Defining report content and topic Boundaries		SA 44	yes, SPR 58, 59		
GRI 102 – 47: List of material topics		SA 46, 47	yes, SPR 58, 59		
GRI 102 – 48: Restatements of information		SPR 54 – 57	yes, SPR 58, 59		
GRI 102 – 49: Changes in reporting		SPR 41; SA 44	yes, SPR 58, 59		
GRI 102 – 50: Reporting period		SPR 3	yes, SPR 58, 59		
GRI 102 – 51: Date of most recent report		SPR 3	yes, SPR 58, 59		
GRI 102 – 52: Reporting cycle		SPR 3	yes, SPR 58, 59		
GRI 102 – 53: Contact point for questions regarding the report		SPR 3	yes, SPR 58, 59		
GRI 102 – 54: Claims of reporting in accordance with the GRI Standards		SPR 3	yes, SPR 58, 59		Goal 12
GRI 102 – 55: GRI Content Index		SPR 48 – 53	yes, SPR 58, 59		Goal 12
GRI 102 – 56: External assurance		SPR 58, 59	yes, SPR 58, 59		Goal 12

GRI Standard and Disclosure	Publication year ¹	Page/Omission	External assurance	UNGC Principles	SDG
GRI 200: Economic					
GRI 201: Economic performance	2016				Goal 8, 9, 12, 13
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 40 – 43; SA 4 – 6	yes, assured as part of audit of Financial report 2018, AR 181		
GRI 103 – 3: Evaluation of the management approach		AR 40 – 43	yes, assured as part of audit of Financial report 2018, AR 181		
GRI 201 – 1: Direct economic value generated and distributed		AR 41	yes, assured as part of audit of Financial report 2018, AR 181		
GRI 201 – 2: Financial implications and other risks and opportunities due to climate change		AR 74	yes, assured as part of audit of Financial report 2018, AR 181		
GRI 201 – 3: Defined benefit plan obligations and other retirement plans		AR 152 – 157	yes, assured as part of audit of Financial report 2018, AR 181		
GRI 202: Market presence	2016				Goal 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 55 – 56; SA 26 – 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 55 – 56	yes, SPR 58, 59		
GRI 202 – 1: Ratios of standard entry level wage by gender compared to local minimum wage		Omitted ²	yes, SPR 58, 59		
GRI 203: Indirect economic impacts	2016				Goal 2, 8, 9, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 82; SA 11	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 82	yes, SPR 58, 59		
GRI 203 – 1: Infrastructure investments and services supported		AR 82	yes, SPR 58, 59		
GRI 204: Procurement practices	2016				Goal 2, 8, 12, 13, 15, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49, 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 62 – 64; SA 8 – 14	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 6 – 13	yes, SPR 58, 59		
GRI 204 – 1: Proportion of spending on local suppliers		SPR 7	yes, SPR 58, 59		
GRI 205: Anti-corruption	2016			Principle 10	Goal 2, 8, 15, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 77 – 78; SA 32 – 33	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 77 – 78	yes, SPR 58, 59		
GRI 205 – 2: Communication and training about anti-corruption policies and procedures		AR 78	yes, SPR 58, 59		

GRI Standard and Disclosure	Publication year ¹	Page/Omission	External assurance	UNGC Principles	SDG
GRI 300: Environmental					
GRI 301: Materials	2016				Goal 2, 9, 12, 13, 15, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49, 51, 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 62, 63, 69; SA 24, 25	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 62, 63; SPR 38, 39	yes, SPR 58, 59		
GRI 301 – 1: Materials used by weight or volume		AR 63; SPR 38	yes, SPR 58, 59		
GRI 302: Energy	2016			Principle 7, 8, 9	Goal 9, 12, 13
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 48, 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 67, 68; SA 22, 23	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 28 – 33	yes, SPR 58, 59		
GRI 302 – 1: Energy consumption within the organisation		SPR 29	yes, SPR 58, 59		
GRI 302 – 3: Energy intensity		SPR 29	yes, SPR 58, 59		
GRI 302 – 4: Reduction of energy consumption		SPR 29	yes, SPR 58, 59		
GRI 303: Water	2016				Goal 6, 12, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 67 – 69; SA 23, 24	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 34 – 37	yes, SPR 58, 59		
GRI 303 – 1: Water withdrawal by source		SPR 34	yes, SPR 58, 59		
GRI 304: Biodiversity	2016				Goal 2, 15, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 48	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		SA 14	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 13	yes, SPR 58, 59		
GRI 304 – 2: Significant impacts of activities, products, and services on biodiversity		SPR 13	yes, SPR 58, 59		
GRI 305: Emissions	2016			Principle 7, 8	Goal 9, 12, 13
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 48, 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 67, 68; SA 22, 23	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 28 – 33	yes, SPR 58, 59		
GRI 305 – 1: Direct (scope 1) GHG emissions		SPR 28	yes, SPR 58, 59		
GRI 305 – 2: Energy indirect (scope 2) GHG emissions		SPR 28	yes, SPR 58, 59		
GRI 305 – 3: Other indirect (scope 3) GHG emissions		SPR 30	yes, SPR 58, 59		
GRI 305 – 4: GHG emissions intensity		SPR 28	yes, SPR 58, 59		
GRI 305 – 5: Reduction of GHG emissions		SPR 2, 28	yes, SPR 58, 59		
GRI 305 – 6: Emissions of ozone-depleting substances (ODS)		SPR 32	yes, SPR 58, 59		
GRI 305 – 7: Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions		SPR 32	yes, SPR 58, 59		

GRI Standard and Disclosure	Publication year ¹	Page/Omission	External assurance	UNGC Principles	SDG
GRI 306: Effluents and waste	2016			Principle 8	Goal 6, 12, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 67 – 69; SA 23 – 25	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 34 – 39	yes, SPR 58, 59		
GRI 306 – 1: Water discharge by quality and destination		SPR 34	yes, SPR 58, 59		
GRI 306 – 2: Waste by type and disposal method		SPR 38	yes, SPR 58, 59		
GRI 308: Supplier environmental assessment	2016			Principle 8	Goal 2, 6, 8, 12, 13, 15, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49, 52, 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		SA 8 – 10	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 6 – 8	yes, SPR 58, 59		
GRI 308 – 1: New suppliers screened using environmental criteria		SPR 6	yes, SPR 58, 59		
GRI 400: Social					
GRI 401: Employment	2016			Principle 6	Goal 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 54 – 55; SA 26 – 29	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 54 – 55; SPR 42 – 45	yes, SPR 58, 59		
GRI 401 – 1: New employee hires and employee turnover		AR 205	yes, SPR 58, 59		
GRI 402: Labour/management relations	2016			Principle 3	Goal 8
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 57; SA 28	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 57	yes, SPR 58, 59		
GRI 402 – 1: Minimum notice periods regarding operational changes		AR 57	yes, SPR 58, 59		
GRI 403: Occupational health and safety	2016				Goal 3, 8
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 58 – 59; SA 28, 29	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 58 – 59; SPR 44 – 45	yes, SPR 58, 59		
GRI 403 – 2: Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities		AR 204	yes, SPR 58, 59		
GRI 404: Training and education	2016			Principle 6	Goal 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 55 – 56; SA 26, 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 55 – 56; SPR 42 – 43	yes, SPR 58, 59		
GRI 404 – 3: Percentage of employees receiving regular performance and career development reviews		AR 56	yes, SPR 58, 59		

GRI Standard and Disclosure	Publication year ¹	Page/Omission	External assurance	UNGC Principles	SDG
GRI 405: Diversity and equal opportunity	2016			Principle 6	Goal 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49, 52, 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 56; SA 26, 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 56; SPR 44	yes, SPR 58, 59		
GRI 405 – 1: Diversity of governance bodies and employees		AR 57	yes, SPR 58, 59		
GRI 405 – 2: Ratio of basic salary and remuneration of women to men		AR 56	yes, SPR 58, 59		
GRI 406: Non-discrimination	2016				Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 49, 50, 53	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 56; SA 26, 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 56; SPR 44	yes, SPR 58, 59		
GRI 406 – 1: Incidents of discrimination and corrective actions taken		Omitted ²	yes, SPR 58, 59		
GRI 407: Freedom of association and collective bargaining	2016				Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 57; SA 8 – 10, 28	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 57; SPR 6 – 8	yes, SPR 58, 59		
GRI 407 – 1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		AR 57; SPR 6	yes, SPR 58, 59		
GRI 408: Child labour	2016			Principle 5	Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 76, 77, 81; SA 8 – 10, 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 76, 77, 81; SPR 6 – 8	yes, SPR 58, 59		
GRI 408 – 1: Operations and suppliers at significant risk for incidents of child labour		AR 81; SPR 6	yes, SPR 58, 59		
GRI 409: Forced or compulsory labour	2016				Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 76, 77, 81; SA 8 – 10, 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 76, 77, 81; SPR 6 – 8	yes, SPR 58, 59		
GRI 409 – 1: Operations and suppliers at significant risk for incidents of forced or compulsory labour		AR 81; SPR 6	yes, SPR 58, 59		
GRI 412: Human rights assessment	2016				Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 76, 77, 81; SA 27	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 76, 77, 81; SPR 6 – 8	yes, SPR 58, 59		
GRI 412 – 1: Operations that have been subject to human rights reviews or impact assessments		AR 81; SPR 6	yes, SPR 58, 59		

GRI Standard and Disclosure	Publication year ¹	Page/Omission	External assurance	UNGC Principles	SDG
GRI 413: Local communities	2016			Principle 1	Goal 2, 8, 9, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 82; SA 11	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 82; SPR 11, 12	yes, SPR 58, 59		
GRI 413 – 1: Operations with local community engagement, impact assessments, and development programmes		AR 30, 82	yes, SPR 58, 59		
GRI 414: Supplier social assessment	2016			Principle 1, 2, 4	Goal 2, 5, 8, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 50, 52	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		SA 8 – 10	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		SPR 6 – 8	yes, SPR 58, 59		
GRI 414 – 1: New suppliers that were screened using social criteria		SPR 6	yes, SPR 58, 59		
GRI 416: Customer health and safety	2016				Goal 2, 3, 9, 12, 17
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 48, 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 80; SA 33, 34	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 80	yes, SPR 58, 59		
GRI 416 – 1: Assessment of the health and safety impacts of product and service categories		AR 80	yes, SPR 58, 59		
GRI 417: Marketing and labelling	2016				Goal 9, 12
GRI 103: Management Approach	2016				
GRI 103 – 1: Explanation of the material topics and its Boundary		SA 51	yes, SPR 58, 59		
GRI 103 – 2: The management approach and its components		AR 80; SA 34	yes, SPR 58, 59		
GRI 103 – 3: Evaluation of the management approach		AR 80	yes, SPR 58, 59		
GRI 417 – 1: Requirements for product and service information and labelling		AR 80	yes, SPR 58, 59		

1. All GRI Standards used for the preparation of this report were published in 2016.

2. This disclosure is omitted because the information is unavailable. We are evaluating how to gain the relevant data on a consolidated basis in the future.

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Performance indicators – restatement table

Key performance indicators		2009 (as published in 2017 SR)	2009 (restated in 2018)	% change 2009
Energy				
Energy (GJ)	Direct energy (from primary sources)			
	Indirect energy: purchased electricity & steam			
	Total energy			
Energy efficiency (GJ/tonne of production)	Direct energy efficiency			
	Indirect energy efficiency			
	Total energy			
Emissions				
GHG emissions (tonnes)¹				
Scope 1	From direct energy sources			
Scope 2	From indirect energy sources			
	Total scope 1 + 2 GHG emissions			
Scope 3 ²	Business travel			
	Employee commuting			
	Packaging of finished products			
	Upstream transportation and distribution			
	Outbound product to customers			
	Outbound intercompany deliveries			
	Waste generated in operations			
	Fuel and energy related activities			
	Raw materials			
	Indirect materials & services (excluding packaging)			
	Capital goods			
	Total scope 3 GHG emissions			
	Total GHG emissions			
GHG emissions efficiency (tonnes of GHG/tonne of production)	Scope 1: from direct energy sources			
	Scope 2: from indirect energy sources			
	Total GHG emissions			

Table continued on page 56.

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2015 (as published in 2017 SR)	2015 (restated in 2018)	% change 2015	2016 (as published in 2017 SR)	2016 (restated in 2018)	% change 2016	2017 (as published in 2017 SR)	2017 (restated in 2018)	% change 2017
1,708,571	1,708,571	0%	1,738,392	1,738,392	0%	1,892,931	1,894,276	0.07%
950,117	950,117	0%	1,029,408	1,029,408	0%	991,600	991,678	0.01%
2,658,689	2,658,688	0%	2,767,799	2,767,800	0%	2,884,531	2,885,954	0.05%
4.46	4.46	0%	4.37	4.37	0%	4.22	4.22	0.07%
2.48	2.48	0%	2.59	2.59	0%	2.21	2.21	0.01%
6.94	6.94	0%	6.95	6.95	0%	6.43	6.43	0.05%
101,149	99,892	-1.24%	102,060	100,662	-1.37%	107,220	108,103	0.82%
88,877	88,877	0.00%	87,217	87,217	0.00%	67,370	67,370	0.00%
190,026	188,769	-0.66%	189,276	187,879	-0.74%	174,591	175,473	0.51%
10,056	10,056	0%	11,102	11,102	0%	12,303	12,303	0%
15,296	15,296	0%	15,756	15,756	0%	16,530	16,530	0%
55,605	55,605	0%	58,249	58,249	0%	58,575	58,575	0%
23,196	23,196	0%	25,356	25,356	0%	26,347	26,347	0%
30,879	30,879	0%	31,431	31,431	0%	32,844	32,844	0%
11,813	11,813	0%	15,802	15,802	0%	12,717	12,717	0%
15,369	15,369	0%	16,748	16,748	0%	16,094	16,094	0%
79,110	79,110	0%	79,505	79,505	0%	62,921	62,921	0%
1,059,883	1,059,883	0%	1,138,972	1,138,972	0%	1,232,676	1,232,676	0%
143,569	143,569	0%	137,860	137,860	0%	156,186	156,186	0%
48,696	48,696	0%	42,927	42,927	0%	69,611	69,611	0%
1,493,472	1,493,472	0%	1,573,708	1,573,708	0%	1,696,804	1,696,804	0%
1,683,497	1,682,241	-0.07%	1,762,984	1,761,587	-0.08%	1,871,395	1,872,276	0.05%
0.26	0.26	-1.24%	0.26	0.25	-1.37%	0.24	0.24	0.82%
0.23	0.23	0.00%	0.22	0.22	0.00%	0.15	0.15	0.00%
0.50	0.49	-0.66%	0.48	0.47	-0.74%	0.39	0.39	0.51%

Key performance indicators		2009 (as published in 2017 SR)	2009 (restated in 2018)	% change 2009
Waste				
Hazardous waste (tonnes)	Incinerated			
	Incinerated with energy recovery			
	Landfilled			
	Recycled ³			
	Total hazardous waste			
Non-hazardous waste (tonnes)	Incinerated			
	Incinerated with energy recovery			
	Recycled			
	Total non-hazardous waste			
Total incinerated and landfilled waste (HZ and NHZ)				
Waste efficiency (kg of waste/ tonne of production)		0.0	0.0	
Water				
Water intake (m³)	Municipal water	2,286,999	2,286,999	0%
	Ground water ⁴	1,074,035	1,074,035	0%
	Total municipal and ground water	3,361,034	3,361,034	0%
	Total water	10,793,683	10,793,683	0%
Water efficiency (m³/ tonne of production)		10.91	10.91	0%
Water discharge (m³)	To external treatment facility w/o pre-treatment ⁵			
	Total discharged water			
Other data				
	Nitrogen oxides – NO _x (tonnes)			
	Sulphur dioxide – SO ₂ (tonnes) ⁶			
	CFC inventory (kg)			
	CFC 11 equivalent inventory (kg)			
	CFC 11 equivalent loss/replacement (kg)			
Production				
	Production quantities (tonnes)	308,060	308,060	0.00%

- GHG emissions for scope 1, 2 & 3 increased in 2015 and 2016 after recalculating the baseline to include the impact from acquired manufacturing facilities in global Givaudan figures.
- Scope 3 GHG emissions for upstream and outbound transports have decreased by 26% and 7% respectively in 2015 and 2016 due to a refined calculation methodology. Paths have been better simulated conducting to reduce the total covered distances.
- About 2,300 tonnes of byproduct were reclassified as hazardous waste recycled in 2015 and 2016 after internal site audit conducted.
- Following Givaudan new integration in sustainability reporting principles the baseline for water efficiency has been recalculated excluding 130 MI which reduce the overall amount of water consumption by 0.6% in the same year.
- The water discharged to external treatment facility without pre-treatment reported in 2016 in one of our manufacturing site did not include domestic water usage. A total of 14,000 m³ of water has been added to 2016 amounts after identifying this issue.
- During the data review an error has been identified in the SO₂ emissions calculation which increased the total emission by 30.5 kg.

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2015 (as published in 2017 SR)	2015 (restated in 2018)	% change 2015	2016 (as published in 2017 SR)	2016 (restated in 2018)	% change 2016	2017 (as published in 2017 SR)	2017 (restated in 2018)	% change 2017
8,557	8,557	0%	9,543	9,543	0%	8,956	8,962	0.07%
4,132	4,132	0%	3,988	3,988	0%	4,178	4,184	0.14%
318	318	0%	108	108	0%	104	104	0.00%
17,357	17,357	0%	16,744	16,744	0%	17,258	17,310	0.30%
26,232	26,232	0%	26,395	26,395	0%	26,318	26,377	0.22%
2,230	2,230	0%	2,544	2,544	0%	2,707	2,738	1.15%
1,076	1,076	0%	719	719	0%	424	455	7.32%
27,826	27,826	0%	28,574	28,574	0%	32,459	32,485	0.08%
36,468	36,468	0%	37,823	37,822	0%	42,058	42,115	0.14%
17,517	17,517	0%	18,900	18,900	0%	18,659	18,696	0.20%
45.7	45.7	0.00%	47.5	47.5	0.00%	41.6	41.7	0.20%
2,359,818	2,359,818	0%	2,539,275	2,539,275	0%	2,612,556	2,609,597	-0.11%
1,390,267	1,390,267	0%	1,307,576	1,307,576	0%	1,335,663	1,335,663	0%
3,750,085	3,750,085	0%	3,846,852	3,846,851	0%	3,948,219	3,945,260	-0.07%
8,756,446	8,756,446	0%	9,072,125	9,072,124	0%	8,874,129	8,871,170	-0.03%
9.78	9.78	0.00%	9.66	9.66	0.00%	8.80	8.79	-0.07%
			416,126	416,126	0%	558,236	553,116	-0.92%
			8,759,733	8,759,733	0%	8,481,401	8,476,281	-0.06%
			80.81	76.90	-4.85%	87.86	84.07	-4.31%
			0.99	0.92	-6.64%	1.00	0.94	-6.43%
			11,688	11,774	0.74%	11,662	11,748	0.74%
			648	653	0.73%	650	655	0.73%
			73.44	73.44	0.00%	42.38	42.38	0.00%
383,353	383,353	0.00%	398,043	398,043	0.00%	448,726	448,726	0.00%

Independent Assurance Statement



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Independent Assurance Statement

Ernst & Young Associates LLP (EY) has been engaged by Givaudan S. A. (the 'Company') to provide independent assurance to its GRI Report 2018 (the 'Report') covering the Company's sustainability performance during the period 1st January 2018 to 31st December 2018.

The development of the Report, based on GRI Sustainability Reporting Standards (GRI Standards) of the Global Reporting Initiative, its content and presentation is sole responsibility of the management of the Company. EY's responsibility, as agreed with the management of the Company, is to provide independent assurance on the report content as described in the scope of assurance. Our responsibility in performing our assurance activities is to the management of the Company only and in accordance with the terms of reference agreed with the Company. We do not therefore accept or assume any responsibility for any other purpose or to any other person or organization. Any dependence that any such third party may place on the Report is entirely at its own risk. The assurance report should not be taken as a basis for interpreting the Company's overall performance, except for the aspects mentioned in the scope below.

Assurance standard

Our assurance is in accordance with International Federation of Accountants' International Standard for Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000), and our conclusions are for 'limited' assurance as set out in ISAE 3000.

Scope of assurance and methodology

The scope of our work for this engagement was limited to review of information pertaining to environmental and social performance for the period 1st January 2018 to 31st December 2018. We conducted review and verification of data collection/ estimation methodology and general review of the logic of inclusion/ omission of necessary relevant information / data and this was limited to:

- Review of the standard disclosures regarding the company's material sustainability aspects contained in the report;
- Review of consistency of data / information within the report;
- Verification of the sample data and information reported at the following manufacturing units and corporate headquarter at Vernier, Switzerland:

1. Pedro Escobedo, Mexico	2. Cuernavaca, Mexico
3. Jaguare, Brazil	4. Mako, Hungary
5. 6 th of October, Egypt	6. Johannesburg, South Africa
7. Devon, USA	8. Mount Olive, USA
9. Carol Stream, USA	10. Cranbury, USA
11. Cimangis, Indonesia	12. Smithfield, Australia
13. Volketswil, Switzerland	14. Dortmund, Germany
15. Sant Celoni, Spain	
- Review of systems and processes for following sourcing initiatives against requirements of the Company's Responsible Sourcing Policy:

1. Clove Leaf Oil, Madagascar	2. Patchouli Oil, Indonesia
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- Review and execution of audit trail of selected claims and data streams to determine the level of accuracy in collection, transcription and aggregation processes followed;
- Review of Company's plans, policies and practices, so as to be able to make comments on the completeness of the reporting and degree to which EY believes the report provides a fair and honest representation of the Company's activities.

Limitations of our engagement

The assurance scope excludes:

- Data and information outside the defined reporting period (1st January 2018 to 31st December 2018);
- The 'economic performance indicators' included in the Report;
- The Company's statements that describe expression of opinion, belief, inference, aspiration, expectation, aim or future intention.

Our assurance team and independence

Our assurance team, comprising of multidisciplinary professionals, has been drawn from our Climate Change and Sustainability network, and undertakes similar engagements with various multi-national companies. As an assurance provider, EY is required to comply with the independence requirements set out in International Federation of Accountants (IFAC) Code of Ethics for Professional Accountants. EY's independence policies and procedures ensure compliance with the Code.

Observations and opportunities for improvement

During the review process, we observed that:

- ▶ The Company continues to uphold its commitment on transparently communicating its sustainability performance by publishing its Sustainability Report as per the "in-accordance" core criteria of the GRI Standards of the Global Reporting Initiative. The Company is committed to work towards its sustainability strategy and implement sourcing policy in supply chain. The Report fairly provides progress on its sustainability roadmap targets and performance indicators identified as material.
- ▶ The Company has been working on enhancing robustness of data management for sustainability performance reporting. At the selected sites visited, improvement has been observed regarding monitoring and compilation of environmental and social performance data. The Company may further strengthen its system for improving the accuracy of the data pertaining to 306-1 (Waste water discharged) and 306-2 (Waste by type and disposal method).

Conclusion

On the basis of our procedures for this limited assurance, nothing has come to our attention that causes us to believe that the Company has not reported on material sustainability disclosures significant to its business and its stakeholders.

Ernst & Young Associates LLP

Chaitanya Kalia

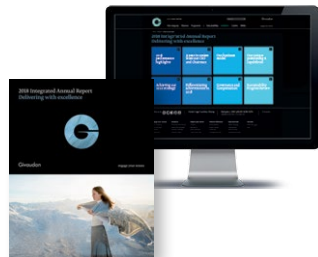



Partner

Dated: 25/03/2019

Place: Mumbai, India

Our reporting suite

Readers are advised to consult our entire reporting suite to get a complete overview:

	<p>2018 Integrated Annual Report Available in English</p> <ul style="list-style-type: none"> – PDF and Online HTML from 25 January 2019 – Print from 28 March 2019 – www.givaudan.com – media – publications – www.givaudan.com – investors – online annual report 	<p>Content</p> <p>Offers a holistic explanation of our value creation, financial and non-financial capitals and performance, including our Governance, Compensation and Financial reports. The online report offers an succinct overview, easy access to the various chapters of the report and a full download centre.</p>
	<p>2018 Highlights Available in English, French and German</p> <ul style="list-style-type: none"> – PDF and print from 28 March 2019 – www.givaudan.com – media – publications 	<p>Content</p> <p>Business and financial highlights in addition to the Chairman and CEO reviews and the highlights of the Governance and Compensation reports.</p>
	<p>Our Sustainability Approach Available in English</p> <ul style="list-style-type: none"> – PDF from 25 January 2019 – www.givaudan.com – sustainability – publications 	<p>Content</p> <p>Offers a strategic overview of A Sense of Tomorrow, the approach for each of the three sustainability focus areas, and related issues such as stakeholder engagement and material topics.</p>
	<p>2018 Sustainability Progress Review Available in English</p> <ul style="list-style-type: none"> – PDF from 28 March 2019 – www.givaudan.com – sustainability – publications 	<p>Content</p> <p>Offers case studies and progress data for the three focus areas of our sustainability approach as well as eco-efficiency targets versus progress. The GRI Content Index and external assurance of sustainability data is included in this document.</p>

To order publications: www.givaudan.com – media – publications

Givaudan Foundation

2018 Annual Report

Available in English

PDF from 28 March 2019
www.givaudan-foundation.org

The Givaudan Foundation is a non-profit organisation created in 2013 as a result of Givaudan's desire to reinforce its commitment towards the communities in which it operates. The foundation's purpose is to initiate and support projects as well as to grant donations in the areas defined by its vision and mission.

One of the causes supported by the foundation is to safeguard the future of communities and their fragile environment. There is a specific focus on three areas in which Givaudan as a company is already

engaged and where its expertise and experience can be leveraged to make a difference: communities at source, blindness and nutrition. The Givaudan Foundation works closely with and relies on resources provided by Givaudan to conduct and monitor its projects. The Foundation also operates with local partners to ensure the efficient deployment of projects and their relevance to those who are intended to benefit from them.

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The Givaudan 2018 Sustainability Progress Review is published in English.

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This Sustainability Progress Review may contain forward-looking information. Such information is subject to a variety of significant uncertainties, including scientific, business, economic and financial factors. Therefore actual results may differ significantly from those presented in such forward-looking statements. Investors must not rely on this information for investment decisions.

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