



**olux**



**cargolux**

*you name it, we fly it!*

CORPORATE  
SOCIAL  
RESPONSIBILITY  
REPORT  
**2019**



CARGOLUX  
SUSTAINABILITY  
REPORT 2019

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SEA LIFE  
TRUST

Help Make a Difference

WORLDWIDE

Cargolux is committed to Corporate Social Responsibility (CSR). The airline strives to always do its best in this important area of business. It encourages and supports suppliers who follow CSR principles and strives to ensure it expresses its deep and abiding accountability through its actions.

Cargolux has been a signatory to the **United Nations Global Compact** since 2007 and actively supports the 17 Sustainable Development Goals (SDGs), which came into effect in 2016 and form the heart of the UN's "Agenda 2030". 2019 saw the review and elaboration of the 7 priority goals that fit into Cargolux's four CSR pillars of **Environment, People, Communities** and **Customers**, that were developed in 2018.

Cargolux knows that by embodying the SDGs, it can help lead the industry to a better understanding of sustainable alternatives and potential. Each saving, whether fuel or paper; each reduction, whether noise or emissions; is another step towards better business and a better environment.

The "**Cargolux 2025**" strategy was outlined to guide the airline as it takes on the challenges of the digital age. The strategy aims at ensuring a sustainable future of digitalization and innovation. The CSR program continues to engage stakeholders and to use their input to guide organizational momentum. Despite the highly competitive nature of the air freight industry and its challenging conditions, Cargolux has continued to uphold its commitment to CSR. Taking responsibility for relationships with customers, local communities, employees, and shareholders is the hallmark of Cargolux's innovative approach to the business, and to industry leadership.

# FROM MESSAGE THE CEO









## MESSAGE FROM THE CEO

### GRI 102-14

Climate action, sustainability, and environmental preservation have, over the years, become a central debate and concern in societies worldwide. In 2019, the advent of Fridays for Future, led by the young activist Greta Thunberg, has highlighted the pressing need for change. Civil movements such as Flygskam (flying shame), specifically aimed at the aviation industry, have also gained momentum, pressuring airlines to take urgent action.

As an energy-intensive industry, aviation has understood its responsibility to mitigate the effects of its operations and work increasingly towards environmentally sound business. Over the past decade, Cargolux itself has taken numerous steps to alleviate its negative impact and continuously work to identify additional areas of potential response. These efforts have already yielded significant savings be it in terms of emissions, waste, or fuel; but as a company strongly geared towards progress, we will strive to explore new paths to reach our goal of long-term economic, social, and environmental sustainability.

Beyond the efforts on emissions, in 2019, Cargolux continued to build community and employee engagement, increase environmental awareness, and work on behalf of endangered species. From the ongoing digitalization of processes, to our involvement in educational and sports-related projects, the Cargolux teams upheld the company's transformation. Cargolux also continued to enhance its compliance and ethical approach towards the communities in which we operate. Our efforts to comply with all applicable laws at all times have been complemented by the development of policies and processes to improve our approach towards issues like human rights, gender, disability, harassment or other forms of discrimination. We believe that our establishment as a socially responsible company requires dedicated attention to the way in which we impact the lives of our employees, customers, partners, and other stakeholders.

Our project with the SEA LIFE Trust, in partnership with Whale and Dolphin Conservation (WDC), galvanized the whole company as we became part of Little Grey and Little White's epic journey from captivity to the world's first open-water beluga whale sanctuary.

GRI 102-14

The achievements reflect the Cargolux team's dedication and our stakeholders' willingness to support CSR and sustainability-related projects. However, as we ponder how much we have achieved so far, we must continue to look towards the future and wonder what the next stage could be to ensure our company remains at the forefront of the industry.

Like all other airlines, Cargolux is preparing for the implementation of CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation), a carbon offsetting program to compensate emissions from civil aviation that will be introduced in stages as of 2019. But as a pioneer, Cargolux always looks one step ahead. Not content with simply offsetting our emissions, we are looking at concrete actions achieve actual reductions, and thereby reduce our environmental impact.

A founding member of SAFUG (Sustainable Aviation Fuel Users Group), Cargolux is a strong believer in alternative energy sources to fuel civil aviation but unfortunately, that is currently not a viable option. Today's limited availability of sustainable aviation fuel is an obstacle, but I'm sure the airline industry and Cargolux as part of it, will support the development of policies in order to accelerate its availability and reduce costs. In order to increase the economic output of Sustainable Aviation Fuel, the challenge will also be that future freighters adopt the current level of technological improvements seen in passenger aircraft.

As we delve ever deeper into our sustainability journey and act on numerous fronts, our CSR program continues to engage stakeholders. Their input is gathered to identify our material topics and guide organizational momentum. We are committed to collaboratively defining objectives and action plans for every priority topic and will continue to consult them to ensure their concerns and expectations are met. Sustainability is a common goal and one that can only be reached through transparent and cooperative means.

For now, I wish to take this opportunity to salute our teams' efforts throughout the year and the engagement of our stakeholders at every level. I look forward to continuing on this sustainability journey with you and hope to witness many more achievements in the future.



**Richard FORSON**  
President and Chief  
Executive Officer

A handwritten signature in blue ink, appearing to read 'Richard Forson', written over a white background.





ABOUT  
THE COMPANY

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# VISION, MISSION, AND VALUES

GRI 102-1 | GRI 102-16

## VISION

To be "The Global Cargo Carrier of Choice"

## MISSION

We deliver consistent flexibility and reliability through our valued and dedicated employees, creating sustainable benefits for all stakeholders, in a safe environment.

## THE CARGOLUX SPIRIT

*you name it, We fly it!*

- Leading by example
- Respecting each other
- Working as a team
- Being dedicated and passionate
- Going the extra mile
- Being cost efficient
- Being flexible
- Delivering service excellence

# ACTIVITIES

GRI 102-2 | GRI 102-3 | GRI 102-4 | GRI 102-5 | GRI 102-6 | GRI 102-7

Cargolux Airlines International S.A., headquartered in Luxembourg, is a leading provider of reliable, high-quality air cargo services, and the Global Cargo Carrier of Choice. In almost 50 years of operation, Cargolux has become an expert in handling a variety of delicate shipments. Live animals, perishables, temperature-sensitive commodities, and outsized freight, all benefit from Cargolux's experienced touch. The airline offers an extensive product portfolio that gives customers expert treatment for even the most unusual requirements. Cargolux is unequalled in the provision of services that call for management of sensitive and valuable shipments.

Starting with a single Canadair CL-44 swing-tail aircraft in 1970 with a capacity of about 30 tonnes, the company developed into Europe's number one all-cargo airline, ranking 7<sup>th</sup> in IATA's scale of freight operators. Cargolux was the world's first operator of both the 747-400F and the 747-8F. Today, the airline operates a fleet of 30 747 freighters. With more than 85 offices in over 50 countries, Cargolux works cooperatively with trucking contractors to move cargo over its worldwide network that covers some 75 destinations. Cargolux Italia, the airline's subsidiary based in Milan, was Italy's largest all-cargo carrier in 2019. Cargolux continues to build on its existing core competency, pushing global consistency and leveraging the evolution of its global network to fulfill industry-specific needs. The airline thinks beyond just the in-flight needs of its cargo. It responds to customers' door-to-door requirements.

The company's flexible charter services offer the advantage of dedicated, tailored solutions for its clients. The airline operates a number of charter aircraft that can be booked and deployed at very short notice. With staff stationed across the globe, Cargolux Charter gives customers 24/7 coverage.

As well as regular fleet upkeep, Cargolux's maintenance center, based in Luxembourg, offers third-party maintenance services. Specialized in Boeing 747 maintenance, the airline offers a range of specialized maintenance services such as, but not limited to, avionic modifications, structural repairs, worldwide AOG support and hangar maintenance up to and including C-checks.



**75+**  
scheduled flight  
destinations  
worldwide



**50+**  
countries

**3.6%**

Worldwide  
market share



Europe's largest  
all-cargo airline;  
**7<sup>th</sup>**  
worldwide



## BUILDING BRIDGES: COMPETENCY & CONFIDENCE

GRI 102-12 | GRI 102-13

### Industry association memberships

Cargolux takes its commitment to the business community and industry seriously. Integral to the development of industry-wide solutions are partnerships that can afford opportunities for expansion, progress and advancement.



#### IATA

Trade association for the world's airlines helps to guide and formulate industry policy on critical aviation issues.



#### Good Distribution Practice (GDP)

This certificate attests that Cargolux's management system meets World Health Organization guidelines and the EU directive "Guidelines on Good Distribution Practice of Medical Products for Human Use".



#### Safety Management Best Practices

EASA CAT-CAT, IATA Safety Group, IATA Hazard Identification Task Force & EASA European Operators Flight Data Monitoring Initiative. These groups promote safety in the industry.



#### Cool Chain Association



#### Airlines for Europe (A4E)

Europe's largest airline association represents the interests of airline members and their customers.



#### International Air Transport Association IATA TTTF

Time and Temperature Task Force



#### IATP

International Airlines Technical Pool



#### Cargo iQ





This IATA interest group improves end-to-end processes in the air cargo transportation industry.



#### IAAIA

International Association of Airline Internal Auditors







### Animal welfare association memberships

	<b>IPATA</b> International Pet and Animal Transportation Association
	<b>ATA</b> Animal Transportation Association
	<b>IATA LAPB</b> Live Animal and Perishables Board
	<b>UFW</b> United for Wildlife

### Luxembourg association memberships

	<b>FEDIL</b> Business Federation Luxembourg
	<b>Cluster for Logistics</b> Association of logistics service providers, research institutes and other organizations, promoting members, optimizing activities, and building competencies.
	<b>CHINALUX</b> China-Luxembourg Chamber of Commerce
	<b>IIA Luxembourg</b> Institute of Internal Auditor Luxembourg Chapter
	<b>LOIC</b> Luxembourg Open Innovation Club

### CSR association memberships

	<b>UN Global Compact</b> Cargolux pledged to act in a socially and environmentally responsible manner in 2007 and to support the SDGs in 2016.
	<b>SAFUG</b> The Sustainable Aviation Fuel Users Group is a cross-industry initiative aimed at promoting and marketing sustainable aviation biofuels.
	<b>RSB</b> Roundtable on Sustainable Biomaterials
	<b>INDR</b> Luxembourg's National Institute of Sustainable Development
	<b>IMS Luxembourg</b> Inspiring More Sustainability
	<b>ProRSE</b> CSR professionals in Luxembourg
	<b>Vision Zero</b> Reducing the number and severity of workplace accidents

## Awards & recognition

Cargolux continues to receive awards and recognition of its service excellence. The airline is proud of its focus on personal contact and attention to customer requirements. This is the foundation of the high level of cooperation and trust it enjoys with customers and suppliers alike. Cargolux continues to boost the corporate and economic success of its partners. Many of these partnerships have grown over decades. Among the awards that Cargolux received in 2019 were:



### Cargolux Passes 7<sup>th</sup> IOSA Audit

Cargolux passed its seventh (bi-annual) IOSA audit, assessing operational management and control systems. The exceptionally good results in this internationally recognized evaluation system reflect Cargolux's commitment to continuously monitor and enhance procedures and establish high standards



### Best Developing Freighter Operator 2019

Annual Budapest airport awards. Cargolux, the benchmark for other players in the industry, is the largest freight airline to service this destination.



### Air Cargo News Best Freighter Operator Award

Cargolux was recognized at the 35<sup>th</sup> Air Cargo News Awards



### Ecovadis' Gold Rating

Based on the sustainable development standards of the Global Reporting Initiative (GRI), the United Nations Global Compact, and ISO 26000, this rates sustainability in global supply chains and the airline's corporate social responsibility performance.



### "Quest for Quality" Award

Cargolux was recognized for excellence in the Air Cargo Carriers category by *Logistics Management's* readers.



### Air Finance Journal Awards

Cargolux won the Editor's Deal of the Year for its JOLCO refinancing transaction.

# ROUTE MAP 2019








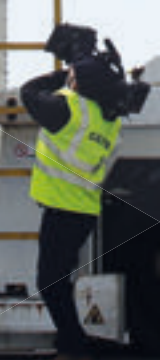


# AT A GLANCE

GRI 102-7 | GRI 103-1 | GRI 103-2 | GRI 103-3 | GRI 201-1

Cargolux keeps on creating wealth for stakeholders through the economic value it generates and distributes. To be able to create value over the short, medium and long term, Cargolux relies on different capitals and leverages – intellectual and human, natural, manufactured, etc. – as described page 36 that we need to continuously invest in.

	2019	2018	2017	2016	
	Total income in USD '000	2,258,650	2,634,033	2,263,553	1,755,737
	Profit/loss for year in USD '000	20,242	211,206	122,301	5,533
	Shareholders' equity in USD '000	1,157,246	1,183,008	985,365	838,001
	Tonnes sold	1,009,338	1,053,626	1,067,238	964,131
	Tonne-kilometers flown (millions)	8,091	8,409	8,480	7,550
	Available tonne-kilometers (millions)	12,316	12,375	12,102	11,310
	Employees worldwide	2,253 (as at 31 <sup>st</sup> Dec)	2,136	2,027	1,968
	Luxembourg	1,630 (as at 31 <sup>st</sup> Dec)	1,531	1,436	1,389
	Boeing 747-8 freighters (units)	14	14	14	14
	Boeing 747-400 freighters (units)	11	11	11	10
	Boeing 747-400ERF (units)	5	2	2	2
<b>Total (as at 31<sup>st</sup> Dec)</b>	<b>30</b>	<b>27</b>	<b>27</b>	<b>26</b>	



# GOVERNANCE

AS AT DECEMBER 31, 2019

## BOARD OF DIRECTORS

GRI 102-18

### Luxair Representatives

- **Paul HELMINGER**  
*Chairman of the Board of Cargolux, Director*
- **Adrien NEY**  
*President and Chief Executive Officer Luxair Group, Director*
- **Tom WEISGERBER**  
*Premier Conseiller de Gouvernement Ministry for Sustainable Development and Infrastructure, Director*
- **Giovanni GIALLOMBARDO**  
*Chairman of the Board of Luxair Group, Director*

### Luxembourg State Representative

- **Anouk AGNES**  
*Conseiller de Gouvernement 1<sup>re</sup> classe au Ministère d'État, Director*

### BCEE Representative

- **Françoise THOMA**  
*President and Chief Executive Officer Banque et Caisse d'Épargne de l'État, Director*

### SNCI Representative

- Société Nationale de Crédit et d'Investissement (SNCI), Director (corporate mandate) represented by
- **Patrick NICKELS**  
*Conseiller de Gouvernement 1<sup>re</sup> classe*

### Cargolux Staff Representatives

- **George KARAMBILAS**  
*Captain, Director*
- **Christine DARGAN**  
*Manager (Sr) Crew Control, Director*
- **Bettina FAULHABER**  
*Manager Sales & Marketing Crew Training, Director*
- **Darrell MYERS**  
*Captain, Director*
- **Dirk BECKER**  
*Captain, Director*



### HNCA Representatives

- **Shengzhen KANG**  
*General Manager of Henan Province Airport Group, Director*
- **Mingchao ZHANG**  
*Chairman of Henan Civil Aviation Development and Investment Co, Ltd, Director*
- **Shengbo YUAN**  
*Deputy General Manager of Luxembourg Project Office of Henan, Director*

### COMMITTEES OF THE BOARD OF DIRECTORS

GRI 102-18

#### Compensation Committee

- Paul HELMINGER
- Françoise THOMA
- Tom WEISGERBER
- Shengbo YUAN

#### Audit Committee

- SNCI represented by Patrick NICKELS
- Françoise THOMA
- Tom WEISGERBER
- Shengbo YUAN

EXECUTIVE COMMITTEE

GRI 102-18



**Richard FORSON**  
President and Chief  
Executive Officer



**Maxim STRAUS**  
Executive  
Vice-President  
and Chief  
Financial Officer



**Emese BEKESSY**  
Executive  
Vice-President HR,  
Legal Affairs  
& Compliance  
(until 14<sup>th</sup> May, 2020)



**Onno PIETERSMA**  
Executive  
Vice-President  
Maintenance  
& Engineering



**Domenico CECI**  
Executive  
Vice-President  
Sales & Marketing



**Simon MEIJER**  
Executive  
Vice-President  
Global Logistics  
(until 31<sup>st</sup> January, 2020)



**Claude ZEHREN**  
Executive  
Vice-President  
Flight Operations

SHAREHOLDERS

GRI 102-18

35.10 %  
LUXAIR

35.00 %  
HNCA

10.91 %  
BCEE

10.67 %  
SNCI

8.32 %  
LUXEMBOURG  
STATE

# OPERATIONAL STRUCTURE OF THE ORGANIZATION

GRI 102-18



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Commercial  
Planning  
Development



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Corporate



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Global  
Logistics



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Human Resources,  
Legal Affairs  
& Compliance



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Finance &  
Administration



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Flight  
Operations



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Maintenance  
& Engineering



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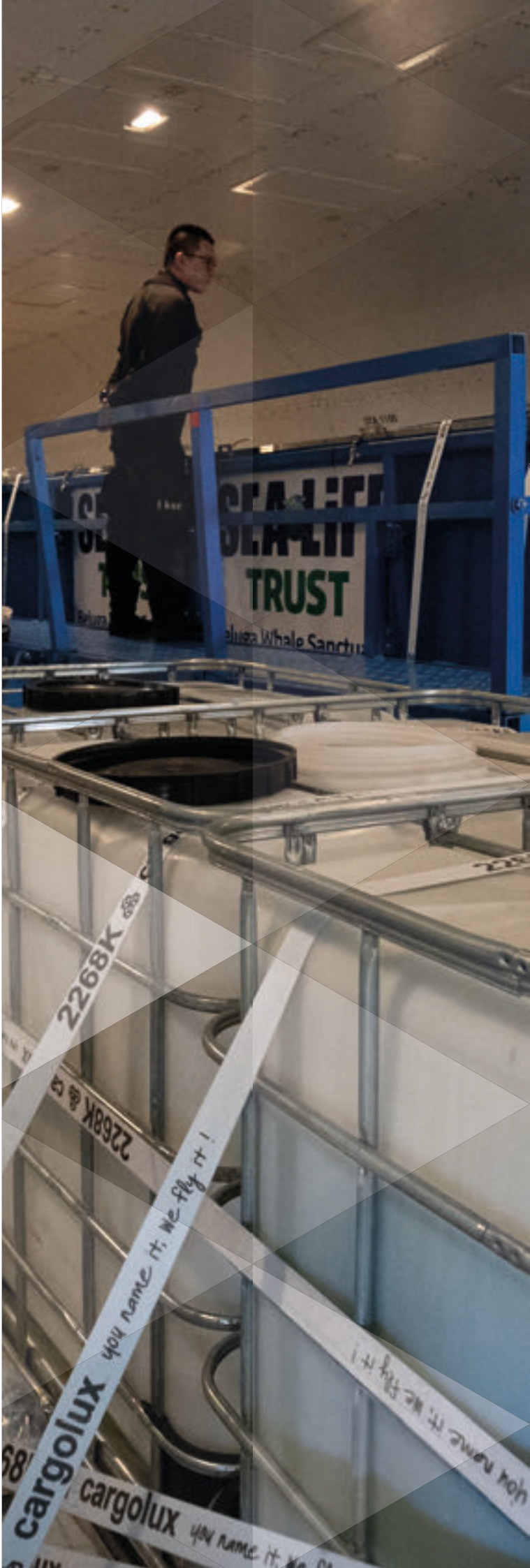
Sales  
& Marketing

## CSR GOVERNANCE

GRI 102-18

Cargolux has constituted a CSR Board comprised of members from across the organization. The Board is chaired by the CEO and coordinated by the Head of Corporate Communications and CSR. Each division is represented by an employee that has been mandated by the division's respective EVP to fulfill all CSR-related duties within his/her area.

All members of the Board are subject matter experts in their field and contribute to the company's vision of sustainable development. The Board meets periodically to discuss ideas, achievements, and goals and to set mid- to long-term targets for different parts of the company. The discussion items, measures, and efforts are collected by the Head of CSR and compiled annually in a Sustainability Report.



# SUSTAINABILITY APPROACH





# JOURNEY TO SUSTAINABLE DEVELOPMENT

## GRI 102-11

As a major air-cargo carrier operating a fleet of 30 Boeing 747 freighters on a global network, Cargolux is aware of its impact on the environment and surrounding communities. One of Cargolux's key business principles is to continuously seek to operate with the lowest possible impact on the environment, be it in terms of CO<sub>2</sub> emissions, noise, or other waste materials. Cargolux has a direct interest in applying this principle: since aviation is an energy-intensive activity, any reduction in fuel consumption translates into increased efficiency. It is also in the company's interest to produce as little noise as possible to minimize disturbances for communities around its destination airports. By maintaining close control of the company's waste production, Cargolux can monitor the result and identify areas of potential action.

At the end of 2007, Cargolux formalized its commitment to environmentally sound operations by signing the UN Global Compact, pledging to apply 10 key principles of sound management from both environmental and social perspectives. Over the years, its efforts to minimize the effect of the company's operations have increased and now encompass a wide range of initiatives throughout the organization. As Cargolux started documenting and recording the measures in place, it quickly became apparent that economic, social, and environmental sustainability were part of the company's DNA. Sustainability targets and achievements became truly intertwined in strategical decisions.

One of the major steps which enabled Cargolux to significantly reduce its carbon footprint was the vast re-fleeting program that the company undertook over a decade ago. The airline was heavily involved in the design of the latest Boeing 747 freighter and worked closely with the manufacturer to ensure environmental and noise considerations were respected. When the freighter was introduced into the fleet, Cargolux managed to achieve record emissions reductions while doubling its fleet. This significant accomplishment was then complemented by a number of fuel-saving measures to maintain CO<sub>2</sub> emissions at the lowest possible level.

Strong in its commitment to the UN Global Compact and its achievements in terms of emissions, Cargolux embraced the UN Agenda 2030 and its related SDGs to further broaden its scope of action. After engaging a wide range of stakeholders, the airline defined priority goals. In addition to Climate Action (SDG 13), these priority goals include areas as diverse as Good Health and Wellbeing (SDG 3), Decent Work and Economic Growth (SDG 9) as well as Peace, Justice and Strong Institutions (SDG16), to name a few. Although these areas may not be directly related to Cargolux's core business, they are fields in which the company can leverage its expertise and make a difference.

The journey to sustainability has, so far, led the company to consider not only how it achieves its main activity, but also how it engages with both internal and external stakeholders. As the airline makes progress in certain fields, additional areas of action are considered. The engagement towards sustainability becomes indistinguishable from success. The commitment to sustainable development continues as Cargolux strives to progress and identify areas of potential improvement. A leader in its field, the airline also aims to consolidate its position as a sustainable example in the air cargo industry.

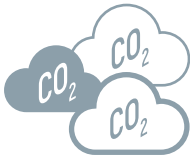




## CLIMATE: COMMITMENT & PROGRESS



### Reducing carbon footprint



2009

0,521  
kg CO<sub>2</sub> / FTK



2019

0,497  
kg CO<sub>2</sub> / FTK

Cargolux has adopted IATA's near- and long-term goals for airlines to reduce CO<sub>2</sub> emissions with the aim to eventually achieve carbon-neutral growth.



Average improvement  
in fuel efficiency of  
**1,5%**  
per year from 2009  
to 2020



A cap on net  
aviation CO<sub>2</sub>  
emissions  
from 2020  
(carbon-neutral  
growth)



A reduction in  
net aviation  
CO<sub>2</sub> emissions of  
**-50%**  
by 2050, relative to  
2005 level



## COMMUNITY: ENGAGING & BUILDING

The airline's deep roots in Luxembourg stem from its inception in 1970. Throughout its history, Cargolux has fostered strong ties with local governments, communes, and industry organizations. Now, with almost 50 years of membership in Luxembourg's vibrant business community, commitment to promoting partnerships at home and abroad is even stronger.



## DIGITALIZED: LAND & SKIES

The "Cargolux 2025" strategy ensures that the company is ready to take on the challenges of the digital age. It aims to safeguard a sustainable future of digitalization and innovation. The company's CSR program, in place since 2008, continues to engage stakeholders and to use their input to guide organizational momentum. Despite the highly competitive nature of the air freight industry and challenging conditions in the past years, Cargolux has eagerly upheld its commitment to Corporate Social Responsibility. Dedication towards customers, local communities, employees, and shareholders is the hallmark of Cargolux's innovative approach to business, the industry, and leadership.

# STAKEHOLDERS

GRI 102-40

Cargolux's sustainability approach is based on continuous dialogue with internal and external stakeholders with whom Cargolux interacts at various levels:



In 2019, Cargolux included internal and external stakeholder consultation in the materiality analysis carried out to prepare this report. <sup>[1]</sup>

<sup>[1]</sup> To find more see "About this report" p. 88

# SHARED VALUE CREATION STRATEGY

Cargolux is continuously working to maximize the value it creates for all stakeholders. To sharpen the way the airline tackles sustainability, it conducted a materiality analysis. This analysis assessed the significance of the economic, social, and environmental impacts of Cargolux's activities and their influence on stakeholders' decisions. Top priorities – i.e. material topics – have been identified:<sup>[2]</sup>



Health  
& Safety



Emissions



Fuel efficiency



Network  
efficiency



Waste  
management



Ethics



Emergency  
preparedness



Digital &  
physical assets

<sup>[2]</sup> To find more see "About this report" p. 88

**INPUT**

**BUSINESS STRATEGY**

THE GLOBAL CARGO CARRIER OF CHOICE

 **STRONG  
BALANCE SHEET** >

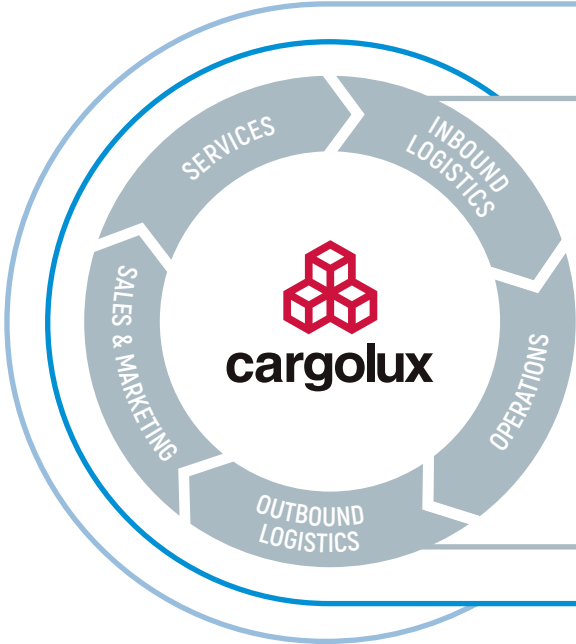
 **UNIQUE GLOBAL  
OPERATION** >

 **INNOVATION  
CAPABILITIES** >

 **STAKEHOLDER  
RELATIONSHIPS** >

 **HIGH PERFORMING  
ORGANIZATION** >

 **RESPONSIBLE USE  
OF RESOURCES** >



OUTPUT

ENSURING  
A RESPONSIBLE  
& INCLUSIVE  
CORPORATION

✦ ETHICAL PRACTICES	GRI 215 / GRI 412 / GRI 304
TALENT ATTRACTION, DEVELOPMENT & RETENTION	GRI 401 / GRI 404
SUSTAINABLE PROCUREMENT	GRI 204
✦ DIGITALIZATION & ASSET SECURITY	



DEVELOPING  
SUSTAINABLE  
OPERATIONS

✦ HEALTH & SAFETY	GRI 403
✦ EMERGENCY PREPAREDNESS & BUSINESS CONTINUITY	
✦ FUEL & NETWORK EFFICIENCY	GRI 302
✦ EMISSIONS	GRI 305
✦ WASTE MANAGEMENT	GRI 306
NOISE MANAGEMENT	GRI 413

SHARING  
VALUE WITH  
COMMUNITIES

LOCAL COMMUNITY DEVELOPMENT	GRI 203
ECOSYSTEM OF INNOVATION & RESEARCH	GRI 203
INSPIRATION OF FUTURE TALENTS	GRI 203





# SUSTAINABILITY COMMITMENT

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# ENSURING A RESPONSIBLE & INCLUSIVE CORPORATION

A fundamental principle for the organization is respecting dignity and, as much as possible, individual differences such as culture, gender, learning and communication style. Cargolux believes that dedication to human rights everywhere makes its voice more compelling and its efforts more effective. Its comprehensive Ethics and Anti-corruption policies and procedures safeguard the company's business environment and assets, while protecting its employees by providing tools that allow them to identify and address risks. In addition to these benefits, Cargolux places a strong focus on being a role model in areas attached to the UN's SDGs, allowing other organizations and groups in the industry and around the world, to see a better and more collaborative way forward. A way that makes economic, as well as moral sense.



## ETHICS

Cargolux believes that a strong corporation is built upon strong ethics and a fundamental commitment to human rights. The organization focuses on collaboration and acknowledging the expertise and skill of the team. The airline strives to treat all staff, customers, suppliers and communities that they touch, with openness. A fundamental principle is respecting dignity and, as much as possible, individual differences such as culture, gender, learning and communication style. Cargolux believes that dedication to human rights everywhere makes its voice more compelling and its efforts more effective. Its strong, comprehensive policies and procedures safeguard the company's business environment and assets, while protecting its employees by providing tools that allow them to identify and address challenges. In addition to these benefits, Cargolux places a strong focus on being a role model in areas attached to the UN's SDGs, allowing other organizations and groups in the industry and around the world, to see a better and more collaborative way forward.



GRI 205-1

Throughout the world, all divisions of Cargolux are actively encouraged to flag ethical issues and improve business processes.

Cargolux's policies are based on a set of well-thought-through conduct guidelines and are supplemented by regularly scheduled training, and communication initiatives. "We are the activists of the company," smiles Javier Coto, Vice President Compliance, "the SDGs are not written into law, they reflect the spirit of where we wish to be."

OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION (2019)

Due diligence	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Area 1	0	0	0	1	1	0	0	1	3	1	0	0	7
Area 2	2	0	2	0	1	1	2	1	3	1	0	2	15
Area 3	0	0	0	0	1	1	0	0	0	3	1	1	7
Area 4	0	0	0	0	2	0	0	0	2	0	0	0	4
Area HQ	2	0	0	0	0	0	0	1	2	0	0	0	5
<b>Total</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>38</b>

OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION (2018)

Due diligence	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Area 1	2	2	5	4	0	5	2	0	2	3	1	0	26
Area 2	0	3	5	0	0	1	0	2	0	3	1	2	17
Area 3	0	0	0	0	0	2	1	0	0	0	0	1	4
Area 4	0	0	0	0	0	0	0	0	0	1	3	0	4
Area HQ	0	0	1	1	0	0	3	1	0	2	0	1	9
<b>Total</b>	<b>2</b>	<b>5</b>	<b>11</b>	<b>5</b>	<b>0</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>9</b>	<b>5</b>	<b>4</b>	<b>60</b>

Area 1: The Americas / Area 2: Europe and the Middle East / Area 3: Asia & Pacific / Area 4: Africa



## Anti-corruption

GRI 103-1 | GRI 103-2

Anti-discrimination, animal rights and protection, and labor practices all fall within the purview of this department. Underway is the construction of a database that lists ethical suppliers that respect human rights, the environment, and are working actively to eradicate corruption. 2019 was filled with preparation for the digital transformation ERP (Enterprise Resource Planning) project for business intelligence, which will ensure compliance in all process steps. The department worked with policy holders to review and revise 8 different policies (including Anti-trust, Travel, Conflict of Interest, and Purchasing), matching a set of process steps to each.

IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT &  
BOUNDARY

Implemented throughout the world, strong, simplified, comprehensive and easy-to-understand policies and procedures provide tools that allow staff to:

- **flag ethical concerns**, potential human rights infractions and potential business issues
- **Identify and address challenges**: strict guidelines force remote locations (GSAs & GHAs) to comply with anti-bribery rules and may trigger a 'snowball effect' in the associated airports
- **safeguard the teams, business environment and company assets**: Cargolux was an original member of the IATA working group implementing accuity and general vetting processes

Formal commitments to human rights, anti-discrimination and harassment allows Cargolux to guide its suppliers to look more closely at, and modify, their own practices.

MANAGEMENT  
APPROACH &  
COMPONENTS

The main objective for this area is to ensure that every staff member and group that interacts with Cargolux (e.g., suppliers, customers, etc.) understands the basic principles of compliance, export controls, and the rationale behind them that has been woven into the fabric of Cargolux.

Cargolux is working toward being fully compliant with the ISO 37001 anti-bribery certification. Streamlined, targeted, on-demand Compliance & Ethics training ensures all actors are well-informed, practice personal data protection, understand embargo requirements, respect competition law, prevent fraud, corruption, and ensure confidential reporting.

**GDPR**: Cargolux sees GDPR basically as health and safety for data. It takes its responsibility for information disclosure, integrity and data protection very seriously. The organization is committed to data protection, transparency and ethical behavior in this area. A GDPR hotline guarantees anonymity to all callers who have issues regarding GDPR regulations and/or adherence.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

GRI 103-3 | GRI 205-1 | GRI 205-2 | GRI 205-3 | GRI 412-1 | GRI 412-2

IN THIS AREA.. CARGOLUX DOES THIS...

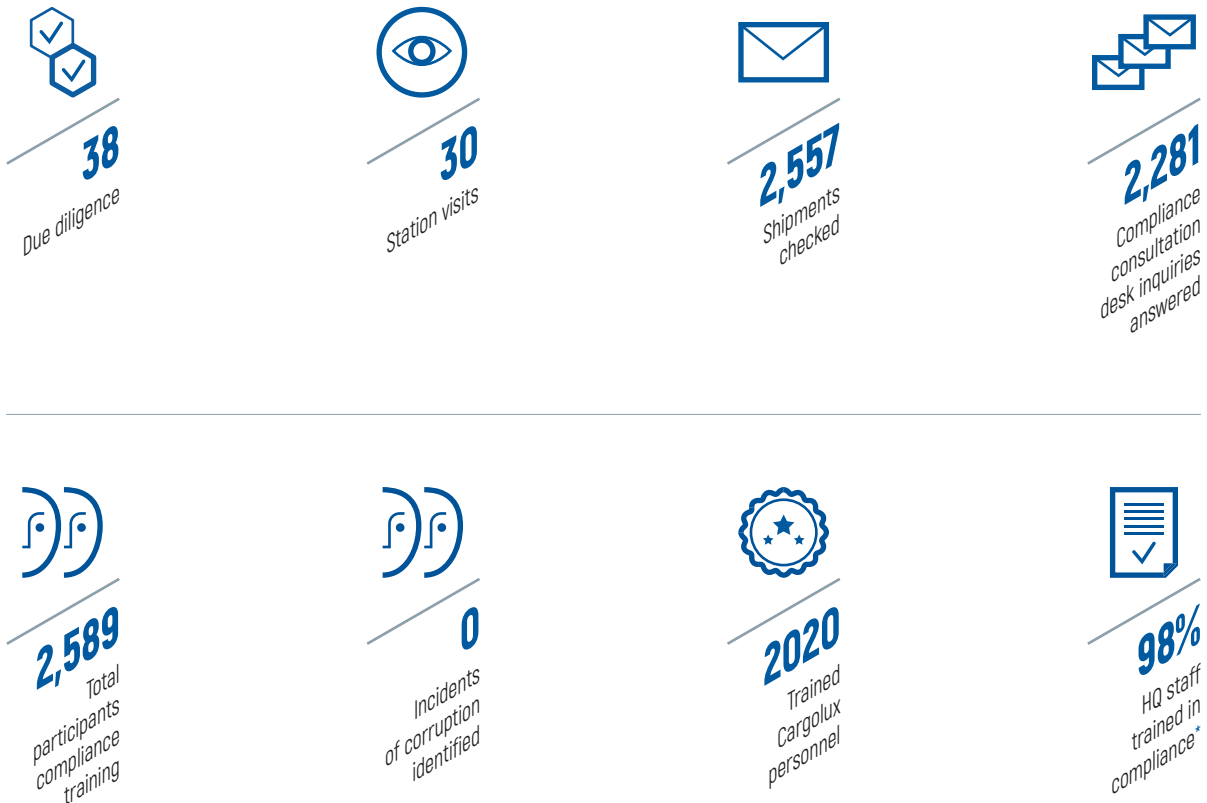
**EVALUATION & ADJUSTMENTS**

Compliance is structured to provide outstanding service to the company and clients, and to further strengthen ethical supply chain activities. Clear targets provide a solid base for measuring direct and indirect impacts, collecting statistics and analyzing trends. The Compliance and Ethics team stays on the leading edge of the industry. All elements of the Compliance and Ethics program are reviewed and simplified regularly to ensure ease of use and thorough understanding of main elements.

The Cargolux focus remains on priority policies. The main areas include ethical supply chain mechanisms, compliance updates and training, and GDPR. Export Control is aided by the shipment integrity system, which is built upon ethical supply chain principles.

Ethics and compliance training targets specific groups, while on-demand webinars are an additional tool to ensure accessibility. Topics include personal data protection, embargoes, harassment in the workplace, understanding and preventing fraud, corruption, and confidential reporting. A consultation desk assists employees in the practical application of policies.

**Compliance & Ethics**



\*The compliance training includes all relevant ethical topics for Cargolux such as anti-corruption, respect for human rights, conflict of interest, etc.





## Animal welfare and preservation

GRI 304-2

As well as business ethics, Cargolux is strongly committed to conservation and animal welfare. The airline's dedication to preserving and protecting animals, endangered species and wildlife include a ban on hunting trophies.

In 2019 the company also preemptively banned the transport of lion bones. This, hopefully, will assist in the effort to combat a growing trend linked to poaching and breeding these animals for trophy hunts. More than just implementing embargoes, Cargolux works with non-profit organizations such as the Aspinall Foundation, SEA LIFE TRUST and the Whale and Dolphin Conservation (WDC) to move animals to sanctuaries that are more akin to their natural habitat.

In 2019, Cargolux collaborated on a groundbreaking project to transport two adult beluga whales, Little Grey and Little White, 6,000 miles from China to Iceland. Cargolux joined forces with SEALIFE Trust and the Whale and Dolphin Conservation (WDC) in planning and executing an epic journey that saw the whales arrive at the world's first open water beluga whale sanctuary. The complex journey by land, air, and sea, required cooperation between logistics organizations and many other groups including Changfeng Ocean World and the community at Heimaey, where the sanctuary is based. The journey took months to plan. The main focus was to ensure that the two belugas were moved safely and comfortably. The secluded bay which is approximately 32,000 square meters, with depths of up to 10 meters, provides a more natural sub-Arctic environment for the whales.



GRI 103-1 | GRI 103-2 | GRI 103-3

IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT & BOUNDARY

Cargolux strives to provide assistance to groups that focus on protecting endangered species, upholding animal welfare, and ensuring biodiversity on the planet. The airline transports husbanded animals and repatriates wildlife to preserves. Cargolux embraces the importance of the survival of endangered species as integral to biodiversity and sustainability. Some of the ground-breaking projects that hold animals' welfare as a top priority include the transport of breeding pairs to help repopulate local environments, endangered species to new homes, and marine life (cetaceans) to a new sanctuary where they can live safely in the most natural habitat possible. Beyond that, Cargolux has several embargoes on the transport of wildlife and goods harvested from endangered species.

MANAGEMENT APPROACH & COMPONENTS

As part of its Live Animal transportation policy, the airline operates in full compliance with the IATA Live Animal Regulations (LAR) and the Convention on International Trade in Endangered Species (CITES). The Luxembourg facility is designed to handle a variety of animals and is an EU Certified Veterinary station following IATA guidelines. Its dedicated and experienced staff are available 24/7.

Cargolux is a signatory of the United for Wildlife International Taskforce on the Transportation of Illegal Wildlife Products. The airline's embargoes include shark fins, ivory, lion bones, animals for lab research and infected, genetically modified, or contaminated animals. The company does not transport hunting trophies, or live animals listed under CITES' Appendix I, unless it is for conservation or within an exchange program. In recent years, Cargolux has worked with organizations to transport some of the world's most endangered species such as belugas, gorillas, tigers, and African wild dogs to their new, natural homes.

Cargolux rejects applications for animal transports if the recipient does not comply with international rules and standards. The company enforces a hunting trophy embargo and has signed the United for Wildlife Pledge. This non-legally binding document confirms the airline's commitment to ethical and sustainable business practices as well as to animal welfare. Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION & ADJUSTMENTS

Cargolux teams work with shippers, ensuring that the air transport leg of the journey is as low-stress as possible for every animal. Attention is paid to the quality of the animal's container and the condition of its surrounding environment throughout the journey. Frequent "lessons learned" and activity reviews are built into the animal transportation process. Adjustments are made as new options and/or technology become available.



# AN EPIC JOURNEY BACK TO THE OCEAN

FLYING LITTLE GREY AND  
LITTLE WHITE TO THE WORLD'S FIRST  
BELUGA WHALE SANCTUARY

Transporting animals is an interesting challenge. The unnatural surroundings, pressure, and motion can cause distress to even the most resilient creatures, so when you carry two large mammals that need tonnes of water, things can get tricky. Our multidisciplinary team of experts worked together to analyze, assess, and find safe solutions.

For almost a year, the Cargolux teams in both Luxembourg and Shanghai worked with international partners to cover all aspects of an incredible journey. From planning to loading and unloading, every facet of the flight was monitored by dedicated employees who went above and beyond to guarantee a successful outcome.

## SUCCESS!

As the aircraft touched down in Keflavik, emotions were high. The specially branded freighter taxied into a delighted team. The operating crew, Captains Claude Zehren and Brynjar Sveinjonsson, and First Officer Joe Diebolder, were greeted enthusiastically after safely delivering the two belugas to their new forever home. The flight went swimmingly, Claude explained after landing in Iceland. "The voyage was smooth and uneventful, which reflects the detailed groundwork and exceptional preparation that everyone invested in the project. Indeed, months of behind-the-scene planning and analyzing took place before this epic journey."



## OVERCOMING CHALLENGES

During the project, an extensive risk assessment determined the requirements for a safe and smooth flight. All potential risks were identified and analyzed to create adapted solutions. "In addition to the regular safety requirements, items specific to the transport of the belugas were addressed; the requirements for care teams and veterinarians on board, safe access to the whales in flight, safe water transfer and temperature control, possible diversion airports, routing, and turbulence were just a few considerations", explained Mattias Pak, Head of Aviation Safety. For each challenge a suitable solution was found.

Due to the complexity of the project, the multidisciplinary coordination, and the integration of the risk assessment, many Cargolux departments were involved including Ground Operations, Flight Operations, and Engineering (System and Avionics) as well as Aviation Safety. There had never been such huge amount of water (up to 7000 liters) in an open container so forces from water sloshing and the risk of spillage on board had to be considered. It was also the first time that a camera system was used on the main deck for the care team to supervise the belugas during take-off and landing.

One of the most complex aspects carefully analyzed by the Cargolux teams was the aircraft weight and balance. Michael Verhuelsdonk, the Ground Operations Engineer who traveled on board, explains:

"Our main concerns related to in-flight water transfer and the resulting change of the aircraft's center of gravity. To reduce the influence of water transfer, the beluga tanks and the spare water tanks were placed as close as possible to the center of gravity to avoid large weight changes during the transfer. Simulations before the flight ensured that under no circumstance would the aircraft's center of gravity exceed the limits."

The Cargolux and beluga care teams worked together to strike a balance between the whales' requirements and the operational safety of the flight. According to Marc Roveri, Head of Global Customer Services: "The biggest challenge was to meet the shipper's requirements for the wellbeing of the whales while complying with physical constraints. We came up with the solution of lowering the amount of water during take-off and landing and increasing it at cruising altitude. Almost 3 tons of water per tank had to be moved in and out."

These various constraints required patience and hard work from our teams who faced a number of complex issues throughout the project. The original design of the containers, although very well-conceived in terms of stability, was also modified to strengthen operational safety. To ensure secure transport, features such as footprint, location, required rating of lugs, and elements related to the risk assessment were considered.









**SEA LIFE**  
**TRUST**

Beluga W

**SEA LIFE**  
**TRUST**

Beluga W

Airport  
Associates

cargolux

2

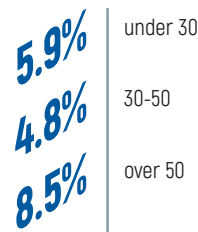
12V 交流电源系统  
12V AC Power Supply System

### Our people (31/12/2019)



### Employee development

### Turnover



### Parental leave



GRI 103-1 | GRI 103-2

Cargolux is comprised of highly skilled and dedicated people. In this dynamic industry, the airline strives to recruit and retain the best possible fit for its business and compliance needs. The blend of talent and skill that Cargolux staff bring to innovate, improve or solve business and logistic process each day, is inspirational. They prove again and again that this airline is more than its equipment and services. It is a company with a spirit that is demonstrated each day through its staff's enthusiasm for, and devotion to, its ideals. More than the commitment 'you name it, we fly it', the team is an expression of the company's desire to excel at every level; to be role models for the industry and for future generations of Cargolux employees.

## Talent management

With relatively stable workforce growth, Cargolux supports numerous jobs in industries, locally and abroad, that are directly related to its air freight activities. This includes employment of workers in freight forwarding, storage facilities, and airports<sup>[1]</sup>.

## Talent attraction & retention

It takes a special person to work at Cargolux. Many roles require a high level of technical expertise, and virtually every aspect of work in aviation has safety as its first priority. "Our focus is to ensure we strategically develop an energetic, highly qualified workforce. Much effort is put into understanding short-, mid- and long-term requirements," says Emese Bekessy, EVP HR, Legal Affairs and Compliance, "to build a workforce that can fulfill and continue to support the company in its goals and objectives."

2019 was an extremely productive year for the HR team. As well as producing regular updates via a newsletter, the HR team managed its own transition, supported department reorganizations, and the movement of people within the company's different departments. One such transition was the preparation for the move to the new Headquarters to take place during Cargolux's 50<sup>th</sup> anniversary year (2020). More than just a new workspace configuration, the building is designed to promote more effective work habits that reduce silos and encourage cross-pollination of ideas through collaboration between teams.

<sup>[1]</sup> <http://www.statistiques.public.lu/fr/actualites/entreprises/transports/2015/05/20150527/20150527.pdf>

## GRI 103-2

HR was instrumental in employee engagement regarding the new Headquarters. Employees participated in feedback sessions that focused on easing the transition to the new space, and Co-living Workshops provided input to a Co-living Etiquette guide for the open plan building. HR teamed up with the OHSE, Facility Management, and Corporate Communications teams to organize tours of the new building during its construction. Employees were also consulted on furnishing styles via a 'showroom' that allowed them to see and try out the different options, before voting for the style they favored. As well as the Co-living Etiquette brochure, outcomes produced by this robust transition process included decisions to allow meeting rooms to be used for social and sport activities and creating definition between private areas and shared spaces. Throughout this engagement process, employees were regularly provided with the latest news, such as an overview of the project steps, monthly construction progress photos and updates on the most recent collaboration initiatives (e.g. survey; 'clean-up for charity day'; various workshops) as well as their outcomes.

HR partnered with Jobs.lu and HR One to bring more visibility to the company's recruitment efforts, highlight career potential within the company<sup>[2]</sup>, and provide information on Brexit to employees with British citizenship. The team also worked closely with its social partners, LCGB and OGBL to define a new Collective Work Agreement (CWA), in line with their common vision for stability, growth, and prosperity at Cargolux. The HR HUB, which is HR's HCM (Human Capital Management) tool saw a review, re-vitalization and digitalization of some existing programs, as well as the introduction of new functionalities.

- **Digitalized Appraisal Process:** This new talent management system is based on workflow. This automated system for self-evaluation and progress tracking is efficient and provides traceability in the system. Automatic reminders keep everything on track. This system, in addition to providing enhanced transparency and security, reduces paper use and decreases the time required to manage these important elements of staff management.
- **Succession Planning:** A key pillar on the Cargolux 2025 Strategy, it highlights critical positions required to future-proof the company. In conjunction with the succession map, this system provides an overview of career paths, potential candidates who might be eligible to fill critical roles, and also forecasts the organization's future needs.
- **Global Competency Framework:** This was aligned to the Cargolux vision and strategy. Competency mapping provides a clear view of potential opportunities within existing roles and other career paths. This transparent roadmap makes it easier for possible employees to see the potential in working at Cargolux, but also enables staff to be accountable for their own progress and professional development.

<sup>[2]</sup> <https://www.hrone.lu/actualites/cargolux-recruits-jobslu>

IN THIS AREA..

CARGOLUX DOES THIS ...

**IMPACT & BOUNDARY**

Cargolux's HR practices aim to foster productive and forward-looking collaboration between generations. The airline puts strong emphasis on supporting future professionals and participates in a range of initiatives that include school visits and internship programs. The company participates in events that give youths the chance to gain personal impressions of daily work requirements in the air freight industry, and first-hand information about career opportunities. These programs allow youths to explore job opportunities and possible career paths in the company.

**MANAGEMENT APPROACH & COMPONENTS**

Recruiting new staff that is frequently comprised of the next generation provides an exciting view of what is to come for Cargolux. The influx of young professionals is a welcome trend that brings dynamic energy and enthusiasm which are the hallmarks of the Cargolux culture. Established employees enthusiastically mentor and guide new recruits; helping them build confidence in their ideas. This also provides an avenue for engaging colleagues in dialogue about how their ideas support the company's goals and objectives. Different generations working side-by-side changes the conversation. The older generation feels confident that it is leaving a legacy while the younger generation benefits from the running start that comes with rapid knowledge transfer.

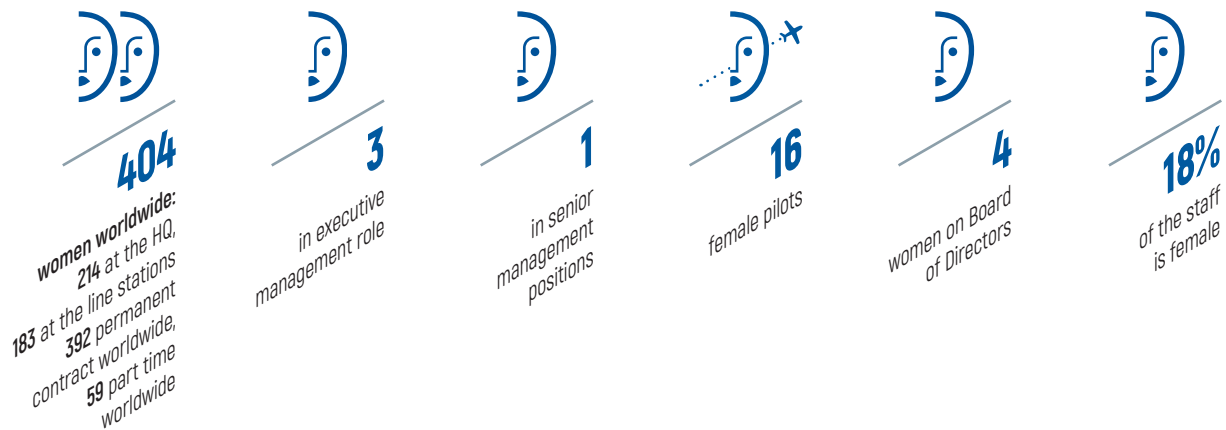
Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

**EVALUATION & ADJUSTMENTS**

Employee consultation follows a structured approach that allows practical engagement. Communication to the impacted employee groups is followed up with interviews and collaborative problem-solving. A cost-benefit analysis, which includes safety considerations, is performed for leading ideas/suggestions and key influencers in each area are selected to help guide the required behavior change. An anonymous survey conducted each year provides input from the employee population about issues, challenges, and successful programs. This feedback is combined with executive comments and advice to create a 'living snapshot' of the current state and the requirements going forward. Programs are tweaked and/or reorganized to better address the needs of the staff and the organization.

A great 'litmus test' for whether the system is working, is the level of push-back from employees - which for the new building and other initiative was close to nil.

## Diversity at Cargolux: women



## Talent development

GRI 103-2 | GRI 404-2 | GRI 405-1

### Developing People

Cargolux staff are highly skilled, experienced professionals, who follow an extensive program of mandatory, regulatory, and professional training. As in previous years, Cargolux continued to provide a range of learning opportunities for staff in 2019, which goes above and beyond regulatory requirements. In addition to the high-quality mandatory and regulatory training, the department also provided a wide range of technical, soft skills, IT, languages, and profession-based training opportunities. In 2019 the Training Catalogue was extended to:

- provide more extensive training opportunities linked to the top learning priorities identified by staff through the Corporate Training Survey
- offer a wider range of workshops related to the Cargolux competencies, and
- enhance the opportunities available for personal development

### Developing management and leadership skills

Cargolux continues to invest in the growth of leadership capabilities aligned with the organization's vision and corporate strategy. Outstanding leadership is a key tool associated with implementing the Corporate Strategy. The HR department has development programs in place for different levels of responsibility, related to the different stages of a manager's career. A range of individual modules which sit outside of these programs, focus on particular management skills or activities.

### Enhancing digital skills and capabilities

The development of digital skills and tools has been a key focus in workplaces globally in 2019. This has also been a key focus of learning and development at Cargolux. Over the course of the year, HR launched a new digital tool to assist managers with performance appraisals. An integral part of this is the identification of learning gaps and the creation of a development plan. The process provides both the manager and the employee the opportunity to identify learning needs, to create a personalized development plan, and to record, monitor and discuss progress towards their development goals. It also better enables the organization to obtain an overview of the learning needs of the team. The integrated peer-to-peer feedback tool provides an additional opportunity for staff to learn and grow.

2019 has also seen the introduction of a mobile learning tool that helps managers develop their leadership and people management skills in bite-sized learning chunks via a leadership development application.

IN THIS AREA..

CARGOLUX DOES THIS...

IMPACT & BOUNDARY

Cargolux sees its future in its people. The aviation industry requires high levels of expertise that come from a well-aligned training, development, and regulatory compliance program. Cargolux Corporate Training has, at its core, a philosophy of continuous learning and development, with on-the-job training, in-class and online learning as primary focus. Cargolux acknowledges that this is a pillar in retaining, attracting and developing talent, which impacts its success. Learning opportunities go well beyond the mandatory technical qualifications trainings. In line with the philosophy of continuous learning, employees are encouraged to work towards relevant degrees or other professional accreditation, and to develop essential soft skills.

Performance management and succession planning are the backbone of organizational achievement. Success depends on a dedicated and talented team. A structured succession planning framework aligns internal knowledge and skills to ongoing operational activity. Cargolux's commitment to career development for all employees in the company's global network is unwavering.

MANAGEMENT APPROACH & COMPONENTS

Cargolux makes every effort to treat all personnel equally. To this end, the organization focuses on cross-pollination and collaboration to promote equality and reduce the gender imbalance.

**Standardize and Sustain** focuses on maintenance and engineering. This program uses a systematic method for organizing and maintaining activities and equipment. The emphasis is on minimizing wasted effort and costs, while integrating Lean Philosophy into day-to-day activities and leadership practices.

**Brainwaves:** This is a digitized suggestion program on the HR HUB. It encourages employees' creative thinking and provides a channel for innovative ideas to enhance the airline's efficiency, productivity and to improve the performance and quality of day-to-day work. Suggestions are evaluated by specialists in the relevant area of the organization, successful proposals are implemented, and the creative employees are rewarded.

Cargolux operates under the **Just Culture** principles, which enhance the reporting of safety, and other related issues and/or events throughout the organization. Just Culture reinforces an atmosphere of trust and fair treatment. The Just Culture approach balances the objective to establish a constructive, non-punitive reporting and learning environment, with the recognition of the need for accountability of individuals for their actions.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION & ADJUSTMENTS

As well as quarterly reports to the executive, the team's work on the HR HUB allows individuals and managers to extract the appropriate reports from the system in real-time. HR's process of large-scale engagement is complemented by data collection and evaluation. A regular newsletter allows staff to provide feedback and to understand what developments may impact their area and/or work. Focus is put on in-person contact and conversation. Feedback, evaluation results, and quantitative data are all used during the decision-making process.



## SUSTAINABLE PROCUREMENT

The focus for 2019 was to build upon gains made previously and to ensure that good general procurement practices reside in every part of the organization. "We want the Cargolux brand to symbolize sustainability," says Javier Coto, Vice President Compliance, "and our employees to be proud of the company." He and his team are working to help customers understand the impact of their actions and decisions.

2019 saw requirements being better identified and gaps being filled. Main activities included restructuring the department and benchmarking the compliance program, as a first step toward ensuring that Cargolux is aligned with ISO 37001<sup>[1]</sup> Anti-bribery Management Systems standards and reporting measures. The Code of Conduct was refined, and main compliance areas were mapped to the UN's SDGs. A formalized risk assessment for the procurement process included a two-day review of the risk assessment and management methodology and approach by the Committee of Sponsoring Organizations (COSO) with all key actors (13 permanent & 3 temporary staff) in the Compliance department<sup>[2]</sup>. "Helping our customers to really understand the impact of their decisions and actions is central to our mandate in C&P." Javier Coto explained as he summarized the team's 2019 accomplishments.



<sup>[1]</sup> International Organization for Standardization

<sup>[2]</sup> COSO: <https://www.coso.org/Documents/2017-COSO-ERM-Integrating-with-Strategy-and-Performance-Executive-Summary.pdf>



IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT & BOUNDARY

Cargolux purchases a wide variety of goods (e.g., fuel, equipment, office supplies, etc.) and services (e.g., legal, brokerage, accounting, GHA, GSA, security, OSSA, authority & airport services, cargo handling, etc.) from over 640 suppliers worldwide. No significant changes to the organization and its supply chain has been implemented.

Sustainable procurement is a priority and the Cargolux **Procurement Policy** guides all staff through a consistent and vetted process which considers the environmental impact of goods (e.g. investments, transportation, storage, etc.). As well as protecting and guiding the organization, the policy positively impacts suppliers and local communities connected to Cargolux by causing them to consider their decisions regarding important aspects of their business model. In general, better and more transparent C&P processes have a positive impact within the company, communities and the industry.

Cargolux's objective is to guarantee the optimal balance between the quality of goods and/or services and cost effectiveness. This fundamental principle ensures that the airline can support its partners and service providers with sustainable business practices. This is especially important in such a highly competitive field.

Generally, each department throughout Cargolux uses a standard tender process to procure its required goods/services with the support of the procurement department. The Cargolux Business Partner Vetting External Questionnaire ensures that no matter who is contracted for services or goods, there is a consistent approach to vetting providers. Potential suppliers are selected based on objective criteria such as technical expertise, level of experience, quality of proposed service, relevant credentials, resources, geographical coverage, and/or possession of necessary licenses (where applicable). Cargolux takes pride in working with suppliers of different sizes and ownership structures. It chooses suppliers based on their ability to provide high-quality, cost effective goods/services.

MANAGEMENT APPROACH & COMPONENTS

Cultivating and encouraging local providers is an important element in the process. From order placement to fulfillment, the whole Cargolux supply chain is transparent. The company uses a system that streamlines procurement process tasks. This enables compliance to be completed with little delay or lag time.

The contracts and procurement process provide direction on how to assess targets and impacts, while adjusting for the highest possible effect. The validation program guarantees transparency in the selection process and provides a platform where skilled providers can easily be found. The tender process includes receiving at least three bids for any specific requirement and then conversations with the supplier and process owner to refine their understanding of any boundaries or constraints. All contracts must specify the goods/services required, milestones, and the method and timing of payments. As an international company, suitable segregation of decision-making and duties between the department requiring the goods/services, the procurement process, and payment approval is fundamental.

Compliance staff liaise with all parts of the organization, but mainly station and regional managers, for day-to-day consultation. They regularly conduct due diligence exercises and formal reviews, with key procurement departments (Fuel, Ground Handling, Sales Dept for General Sales Agents...). The compliance team works with Internal Audit (investigations and audits), and Finance (monitoring financial activities). Three different sections deal with reporting & control, training & communications, and general compliance support for the business. The formalized risk program, which includes an extensive business partner vetting questionnaire, ensures that internal and external documentation communicates standard processes and reinforced measures for identifying risk, ensuring due diligence, and considering the ethics-side of the SDGs.

Grievances are handled using a standardized approach which includes an anonymous hot-line where employees can ask questions, gain clarification, and register issues.



**EVALUATION & ADJUSTMENTS**

IN THIS AREA..

CARGOLUX DOES THIS ...

Simplification, optimization, alignment and standardization of the expression of risk to ensure clarity throughout the organization is an important area. Risk assessment practices, including clarity of expression of risk, terms of reference, rating system, and process steps, are available and aligned throughout the organization.

Evaluations are done in conjunction with local staff and suppliers. Procurement trends are reviewed periodically to ensure the Cargolux procurement policy reflects the current, and global, supply/demand landscape. Compliance Officers are involved in all aspects of assessment and improvement. Examples include eliminating plastics in the pallet packing area and members of the team have gone so far as to visit flower farms in Kenya to assess adherence to guidelines and rules.

**Procurement practices**

GRI 103-3 | GRI 204-1

DISCLOSURE PROPORTION OF SPENDING ON LOCAL SUPPLIERS

	2019	TOTAL	LOCAL
Number of vendors		691	371
Number of orders		3,999	3,251
	2018	TOTAL	LOCAL
Number of vendors		642	335
Number of orders		5,609	4,842



**81%**  
of orders done by General Purchasing are with local suppliers



**69%**  
The order value of local procurement





## DIGITALIZATION AND ASSET SECURITY

Cargolux is ever vigilant, taking measures to ensure its property and assets (e.g. equipment, aircraft, software, databases, IT processes, etc.) are working effectively, protected from damage (e.g., cyber- or other attacks), and performing optimally. Continued digitalization which improves safety, streamlines processes, increases visibility associated with cost management, and expands business capability, is a cornerstone in every area.

The focus for 2019 was the move and integration of all Cargolux systems and digital information into its cloud-based data center, and on-boarding Champ Cargosystems personnel who had been responsible for externally managing Cargolux's systems before the transition. This huge activity ensured Cargolux's physical control not only over its data, but over the processes for updating, upgrading, and changing any of its digital knowledge assets. Alfons Seesink, Chief Technology Officer at Cargolux is proud of his team's effort, "Basically, we did 2 to 3 years' work in 7 months."

As well as the technical side of the change, Alfons' team managed the rolling upgrade of required hardware and kept a keen eye on the human side of change, providing training and adding on-site user support throughout the migration. 2019 also saw the completion of the work which moved infrastructure and network management to Cargolux. This enabled staff to access data and meaningful information securely, quickly, and more easily. The focus was to increase the speed of transactions, improve information visibility throughout the organization, and streamline connections between employees, with industry partners and customers.

The team engaged in a 'debrief and lessons learned' session for the whole 2019 exercise. "The company population was flexible and forgiving," said Alfons, "we learned a lot during 2019, including how to give better service going forward."

In 2019, the LIDO (Lufthansa Integrated Dispatch Operation), system was fully implemented. This is a proven solution that automates and optimizes flight planning, route management, and control processes. Using all possible flight-related data, such as current weather, airspace restriction, etc., LIDO automatically calculates the most efficient route in terms of cost, flight time and fuel consumption, giving the Cargolux team indications of how to save costs and optimize routings. The long-term agreement with Lufthansa provides cloud-based, real-time information that is another building block in assuring the highest quality service possible.

IN THIS AREA...

CARGOLUX DOES THIS...

IMPACT & BOUNDARY

From virtual reality training for mechanics and pilots (in addition to simulator training), to predictive maintenance programs and CRM sales solutions, digital touches every corner of Cargolux. Customer satisfaction is at the heart of the Cargolux philosophy, so client-facing platforms also have enhanced interfaces. Cargolux uses a vast amount of digitalized information to make decisions throughout the organization. Ensuring the integrity of that data is of utmost importance. The Cargolux 2025 strategy, drafted in 2017, guides the organization in accommodating and keeping abreast of digital trends. The strategy has three pillars: Strategic Measures, Business Process Review, and a Digital Roadmap. This roadmap is at the heart of ongoing updates and the evolution of systems, processes and procedures, across Cargolux. It also ensures that the organization has physical control over its digital assets.

Cargolux staff focus on projects that increase efficiency throughout operations. Ongoing process review and streamlining procedures allows teams to consider the big picture and how it connects tactical activities with strategic possibilities in the future.

MANAGEMENT APPROACH & COMPONENTS

Cargolux uses a 'high-return' strategy to determine the focus of its digital transformation energy. Some of the projects that are netting huge returns include:

**The CV pharma Service Capabilities Map** indicates important pharma capabilities within the CV network. This interactive map enables customers to swiftly and remotely match comprehensive services to their needs (e.g.: CV pharma service [2-8°C/15-25°C/frozen], CV pharma active/passive solutions).

**TEAMworks!** This cross-divisional system saves time and effort while streamlining processes. The system provides a single digital overview of information that predicts the schedule and shows the real-time status for all the steps of a turn-around from the aircraft's arrival at the gate for loading/off-loading, fueling and take-off. This allows any issue to be mitigated quickly and transparently, substantially reduces paper use, and improves communication and visibility for both internal and external stakeholders.

Paperless CMR consignment notes (**e-CMR**) provide real-time access to shipment information, they accelerate administration, improve accuracy, reduce discrepancies and handling costs, and improve the control and monitoring of shipments.

**TMS** (truck management system) supports the logistics process and reduces waiting time and fuel burn.

The electronic Air Waybill (**e-AWB**) simplifies the air cargo process, reduces paper, administration time, and delays. It also provides transparency regarding the provenance and destination of every shipment.

**Electronic Flight Bags** (EFBs) provide pilots with ongoing connections to flight and ground operations and a variety of data and information.

**Validaide CSR Global Logistics:** This supplier qualification and risk assessment tool removes guesswork, manual effort, and paper from the transport supply chain. Customers and Cargolux teams use one platform where data is compiled automatically to access current, real-time service capability information for suppliers at cargo origins, transit, and destinations.

**Paperless checks** reduce thousands of pages of documents down to an electronic tablet.

Grievances and issues are handled in a standardized manner with end users contacting the end-user service desk to register an issue. Each issue is tracked to completion, closed out within the system, and follow-on developments noted.

EVALUATION & ADJUSTMENTS

The Cargolux roadmap for automation and digitalization is the focus on identifying opportunities for further digitalization and automation, as well as opportunities to streamline processes. This focus ensures continuous and high-quality tools, systems and processes. The ongoing focus on individual project debriefs and lessons learned exercises, ensures that suggestions for improvement are captured and codified to be used to create innovations for future projects.

Each system provides structured reports and efficiently evaluates associated processes and procedures. Quarterly reports that detail progress, issues, and suggested solutions, are provided to the executive so their input can be used during the decision-making process.



# DEVELOPING SUSTAINABLE OPERATIONS



## HEALTH & SAFETY

At Cargolux, operational safety, occupational health and safety, go hand-in-hand with communication, and a focus on service excellence and innovation. Quite an achievement in 2019 was the completion of the peer-to-peer support program. The allocation of resources to data cleansing and mining will further benefit the management and development of this area. Luc Loschetter, Head of Occupational Health, Safety & Environment believes that technology can enable the organization to hold and make use of the highest standards, "Continued certification across the organization allows information and issues to be consolidated and data from a multitude of systems and applications provided in streamlined tools and systems."



**14,682**

lost days  
for sickness



**347**

lost days  
from accidents

### Occupational Health & Safety

GRI 103-2

2019 saw OHS working closely with M&E (Maintenance & Engineering) and Global Logistics to certify in the new ISO 45001: Occupational Health and Safety standards. The certification process was just a validation of work that has been on-going for many years. This project brought the advisory, supervisory, and risk identification skills of the OHS assessors to the forefront. The changes took into digitalization, focusing on ease of implementation and process integration. The new approach guides organizations to be forward-thinking, concentrating on health and safety leadership by identifying and controlling potential risks both for the company and suppliers.

In 2019, risk assessments were completed in cooperation with Luxair Cargo. These assessments included improving communication and collaboration, increasing inspections and visits, participating in working groups and on-site presence of Cargolux and Luxair Cargo OHS staff at the cargo center. OHS staff reviewed building plans and drawings for the new headquarter with internal and regulatory bodies. They provided consultation regarding health & safety impacts, occupational and fire safety, and ergonomic advice with respect to furnishing solutions. These consultations helped ensure that all employees' health and safety needs were considered and met.

A feasibility study was also undertaken for a global well-being program that includes lifestyle management programs (e.g., nutrition/stress) and on-site medical consultation (e.g., blood work, prescriptions, cardiovascular fitness checks) as well as 30 to 60 "Lunch and Learn" workshops.

GRI 103-1

IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT &  
BOUNDARY

OHS is a critical internal service provider. Worker health and well-being is influenced by a myriad of situations and circumstances, so the OHS team works fluidly with different parts of the organization to ensure optimal conditions. The Cargolux Health and Safety team is vigilant in its mission to improve the quality of activities that ensure a healthy and safe work environment.

Occupational Health & Safety are significant pillars for all Cargolux teams and a primary focus within all of their activities. There is nothing more important than keeping Cargolux and associated staff safe and healthy, as this impacts the company, the community and the industry. By disseminating high-quality safety thinking and practices beyond the borders of Cargolux installations, the perception of issues and challenges related to Health and Safety activities are changed, but also the value of life and a hazard-free work environment are emphasized.

OHS follows the ISO 45001: Occupational Health and Safety guidelines which include hazard management throughout the whole organization. The use of the IQ SMS system underscores the importance of people's safety and wellbeing.

Occupational Safety supports managers throughout the company to keep their specific risk low by disseminating information and encouraging collaboration. Digitized operational safety data provides big data analytics that cover every aspect of operational safety, ensuring that most of the information available can be accessed during analysis. Having a system that can process big data and produce meaningful information allows Cargolux to use data-driven decision-making. This improves accuracy, and provides objective, valid information. It also reduces silos and increases understanding of occupational problems and/or issues which, in turn leads to a safer and more reliable environment for all staff. A well-functioning system means that incidents and disruptions during aircraft operations are kept at low level and the potential for accidents is reduced.

Managers and process owners are responsible for ensuring that risks are addressed. They use the Safety Management System to ensure transparency and effective management of processes and potential hazards. The resolution of all issues, no matter what their origin, usually starts with open conversations and meaningful dialogue informed by the Cargolux focus on staff and asset safety.





GRI 103-2 | GRI 103-3 | GRI 403-2

IN THIS AREA..

CARGOLUX DOES THIS ...

MANAGEMENT  
APPROACH &  
COMPONENTS

An important component of OHS work is communication and education regarding personnel health and safety.

Ongoing activities and campaigns include:

**OHS posters (digital and hard copy)**, working at height assessments, vibrating tools practices, digitalized risk assessment (which provides information and recommendations regarding road safety), and an international vaccination program. An HQ influenza vaccination campaign aligns health and safety management for staff travelling abroad. To ensure staff and third-party contractors are following labor code regulations and best practices, training and controls implementation are also areas of focus.

**Security Campaign:** A 'security culture' program for employees and sub-contractors ensures that the whole company is aligned with security best practices. The program includes training, educational campaigns with posters in high-visibility areas, newsletter articles, testimonials, interviews with ExCom members, and intranet postings that reinforce key security messages.

**Regulatory Compliance Training:** standardization enables the highest level of training quality for the flight crews and third-party customers. Continuous investments ensure that training devices are operating to the latest standards and requirements.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION &  
ADJUSTMENTS

The OHS team tracks and rates all types of injury, occupational diseases, lost days, absenteeism, and number of work-related fatalities. OHS provides information on workload stress, monitors and follows up with anyone who is absent from work for more than 6 consecutive weeks.

### OHS in figures ...

#### Summary

	2019	2018	2017
<b>I. Number of incidents</b>			
Internal incidents	42	36	41
External incidents	18	15	11
<b>Total incidents</b>	<b>60</b>	<b>51</b>	<b>52</b>
<b>II. Lost days</b>			
Accidents	347	321	386
Sickness	14,682	14,722	13,576

## Operational safety

GRI 103-1 | GRI 103-2 | GRI 103-3

IN THIS AREA...

CARGOLUX DOES THIS...

IMPACT &  
BOUNDARY

The airline industry is filled with complex objects, machines, technology, processes, and systems. Operational Safety is a collaboration between many teams throughout the company. Due to its control mechanisms, it is considered a high-risk, ultra-safe industry. Identifying risks and barriers in order to mitigate them is extremely important in this field. Operational Safety supports managers throughout the company to keep their specific risk low by disseminating information and encouraging collaboration. Digitized operational safety data provides big data analytics that cover every aspect of operational safety, ensuring that most information available can be accessed during analysis. Having a system that can process big data and produce meaningful information, allows Cargolux to keep risks under control by using data-driven decision-making. This improves accuracy and provides objective, valid information. It also reduces silos and increases understanding of operational problems and/or issues. This leads to a safer and more reliable environment for all operational staff. A well-functioning system means that incidents and disruptions during aircraft operations are kept at low level and reduces the potential for accidents.

MANAGEMENT  
APPROACH &  
COMPONENTS

**Fatigue management:** Cargolux Flight and Rest provisions are governed by EASA's FTLs. A Fatigue Safety Action Group, composed of pilots, management, aviation safety, and human factors representatives meets quarterly and manages all aspects of the FRM.

Fatigue reporting uses a mathematical model, live data, and surveys. Results are used by the FRM group to issue recommendations designed to reduce overall pilot fatigue.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION &  
ADJUSTMENTS

Data is consolidated from a multitude of systems and applications to provide easy-to-use information that streamlines flight operations processes for Cargolux and third parties. Analytical tools allow Cargolux to gain intelligence that Operational Safety uses when presenting findings and recommendations to management. The Safety Management System provides a conduit to the operational team where standard systems allow consistency of processes.







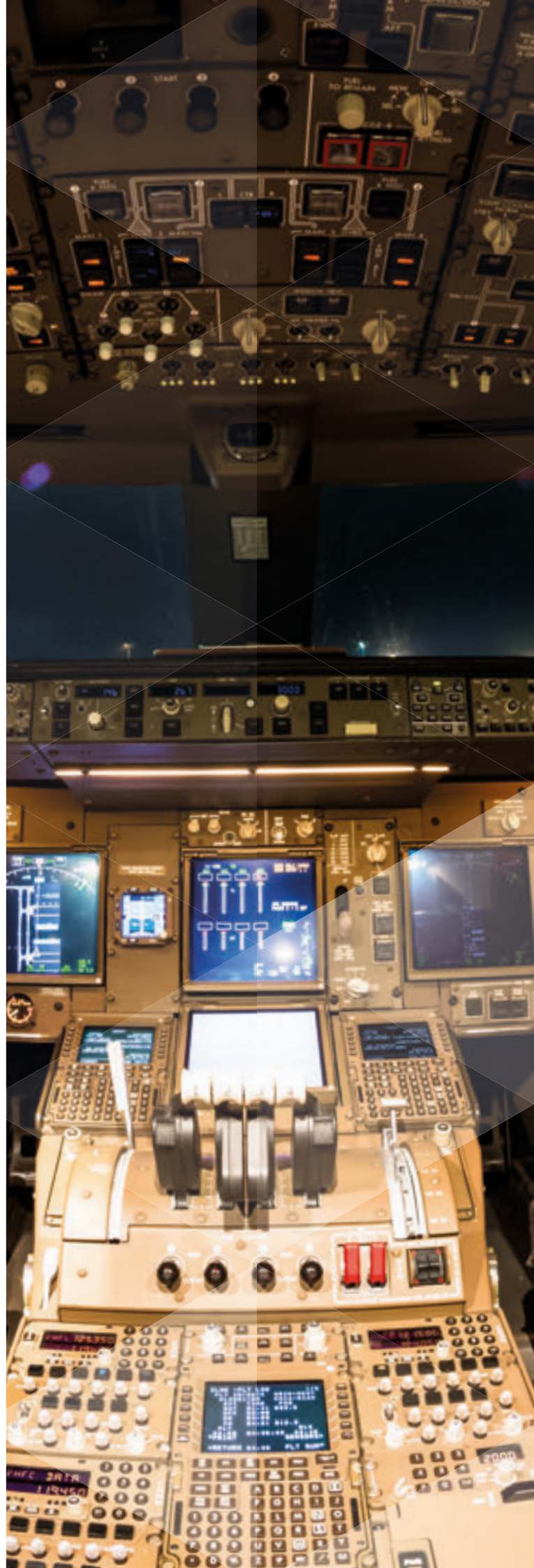
## Human Factors: Pilot Peer Support & Development Programs

"2019 saw the full implementation of the Cargolux Pilot Peer Support Program in close cooperation with the Mayday Foundation" beamed Gunnar Steinhardt, Cargolux's Human Factors Manager, as he talked about the Cargolux program.

In 2019, Gunnar presented highlights of the program to EASA (European Aviation Safety Agency), DAC (Direction de l'Aviation Civile Luxembourg), the EPPSI (European Pilot Peer Support Initiative), and EAAP (European Association for Aviation Psychology).

The Pilot Development Program, which aims to help pilots to advance along their career path within Cargolux, also moved ahead with the completion of its design phase. The Pilot Selection Validation Study that started in the Autumn of 2019 uses data sets that reach back as far as 2015. This project required large amounts of existing data to be collected, anonymized, analyzed and correlated, to generate a list of valid psychometric and behavioral predictors within the Cargolux flight crew selection system. Ultimately, this allows the team to forecast potential performance in training and on the flight deck more accurately.

The selection system draws on a detailed mapping of all the individual selection steps and associated requirements to establish a snapshot of the performance dimensions that fit well into the overall operational environment, its community and the organizational culture. From this snapshot, predictions regarding the potential level of job and cultural fit for each candidate can be formulated. The aim is to better refine hiring success metric and to improve the level of success of future colleagues. The system also enhances training provision for successful candidates, once onboarded. During the selection process, each candidate is also provided with a detailed and personalized explanation of their results. This transparency mirrors Cargolux's core value of treating people in a respectful and collaborative manner. It also provides significant value as each candidate receives tailored feedback which helps create a clear understanding of their level of fit with the company profile, the performance standards required for the job, Cargolux as an organization, as well as its unique community. Data from the selection process is also taken forward into the Pilot Development Program, to ensure continuity, and to provide colleagues from the flight deck with development recommendations that are relevant to each individual.



IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT &  
BOUNDARY

Cargolux's Pilot Peer Support Program, that considers the individual, is a shining model for the industry. Offered in close cooperation with the Mayday Foundation and Cargolux's Human Factors Manager Gunnar Steinhardt, it guarantees extensive, confidential assistance to pilots who must work through the challenges of a serious incident and/or other issues impacting a pilot's wellbeing and/or mental health.

MANAGEMENT  
APPROACH &  
COMPONENTS

The peer-to-peer support is highly appreciated within the pilot community. Pilots in need may request assistance via the Mayday Foundation either from a peer within the Cargolux volunteer group, or from others in the Mayday Foundation pilot peer community. Cargolux's Human Factors Manager Gunnar Steinhardt, an MHP (Mental Health Professional), is also available to provide assistance. The support system is designed, implemented, and monitored by the Cargolux Advisory Group comprised of colleagues from the group of pilot representatives, the Chief Pilot, and the Human Factors Manager. Peer-to-peer volunteer pilot counsellors call upon their years of professional experience during counselling calls. This shared background allows them to understand, at a deep level, the concerns and impacts of the caller's issue. Volunteers are trained and supported by the independent Mayday Foundation. This highly confidential program, which was activated close to 2 years before being required by the upcoming mandatory EASA regulation (February 2021), holds empathy and strict confidence as central. All volunteers in the program sign a confidentiality agreement and are trained to respect, understand, and protect the callers' confidentiality. If necessary and requested, a professional referral is coordinated by the Mayday Foundation.

Grievance resolution, which constitutes one of the program's cornerstones, is also of utmost importance. Should the caller be dissatisfied with the assigned peer, that person can provide the caller with alternatives such as switching to a different peer or contacting the Clinical Director of the Mayday Foundation. In its aim to assist pilots in need of support, the Mayday Foundation has access to a wide range of resources and channels. If a grievance is not resolved, the individual has the option to send a complaint to any of the following: the Cargolux PSP Advisory Group, Human Factors Manager, EVP Flight Operations, VP Flight Operations, CPO, or HR, where the complaint is handled discretely and appropriately.

EVALUATION &  
ADJUSTMENTS

All electronic communication and records are securely stored within encrypted systems and are destroyed according to the Data Protection Act. Personal data is bound by confidentiality and restricted to the CISM (Critical Incident and Stress Management) Team of the Mayday Foundation for the duration of the support provided. The Mayday Foundation is completely independent from Cargolux. No data or information is shared with Cargolux unless explicit permission has been granted. General, de-identified high-level data is provided to the PSP Advisory Group and appropriate management bodies to ensure oversight and action.





### Emergency Preparedness & Business Continuity

The importance of emergency preparedness and business continuity cannot be under-estimated. The business continuity measures that have been in place for more than 2 decades keep staff safe and enable critical services and products to be delivered seamlessly to clients. Actively maintaining a business continuity plan helps to ensure that an organization has the resources and information required to deal with emergencies.

"It's really quite amazing," says Brian Houston, Emergency Response & Resilience Specialist, "we are formally re-codifying the emergency response plan, but emergency response and business continuity are in every part of the organization; it is in the DNA of Cargolux. Everyone has thought about it and has a good grasp of what is required."

IN THIS AREA...

CARGOLUX DOES THIS...

IMPACT & BOUNDARY

As well as protecting staff, customers, suppliers and communities throughout the world, the business continuity and emergency preparedness plan ensures the continued operation of Cargolux. Always intent on being a good corporate citizen, the plan takes into consideration local requirements (such as health and emergency response regulation) and adheres to the highest global standards. Given the high-risk classification of the air transport and logistics industry, Cargolux works to ensure it meets and even exceeds required standards. The team shares its knowledge regularly with other industry groups and associations.

The business continuity and emergency preparedness plans cover, but are not limited to; natural disasters (such as tornadoes, floods, blizzards, earthquakes, and fires), accidents, sabotage, power and energy disruptions, communications, transportation, safety and service sector failure, environmental disasters (such as pollution and hazardous materials spills), cyber-attacks and hacker activity.

MANAGEMENT APPROACH & COMPONENTS

The Cargolux plan is incorporated into all parts of the organization. Key influencers are actively engaged in emergency preparedness and business continuity discussions. Integration points and overlaps are clearly defined through assessment exercises that pinpoint strengths. Defined areas of focus and/or improvement ensure there are no gaps. Scenario planning, redundancy in systems and processes, integrated reviews, and training, all combine to ensure that every person associated with the company understands and is knowledgeable. Each person involved in the plan is apprised of their specific responsibilities and duties related to continuity and preparedness. (e.g. business continuity checklists for staff and suppliers). Ultimately, the overarching plan is to have mitigation measures in place for any potential occurrence.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION & ADJUSTMENTS

The highest standards are applied in this critical area. Reports are provided to the Executive Committee, but more than standard reports, the Emergency Preparedness and Business Continuity team understands that the plan is only as good as the knowledge and skill of people associated with it. Knowledge-sharing and meaningful exchange of new ideas and concepts is a top priority. Team members throughout the organization are engaged in the conversation of preparedness. Emergency response and business continuity exercises include reviewing global best practices, trends, and the evolution of this important area.





## Fuel & network efficiency

GRI 103-2 | GRI 302-4

2019 saw Cargolux make significant progress towards improved operational efficiency, reaching a 'sweet spot' in terms of fuel efficiency. "Aerodynamics dictate a balance between weight, thrust, lift and drag. Change one of these elements and the laws of physics will impose a performance cost in one of the others", says Jeff Huntoon, of the Fuel Efficiency Program in Flight Operation Support. "Our goal, and our challenge is to constantly strive to find the optimum balance between safety, operating costs, and the environment on each and every flight."

Safety is always the first consideration when making any decisions at Cargolux. The Flight Operations team works closely with pilots to ensure that solutions and initiatives make sense overall, but especially in the air. Once safety has been assured, operational costs and environmental impacts, which can be far-reaching, are weighed. For example, using less engine thrust can reduce internal temperature significantly thus extending the operational life of the engine.

Roughly 15 fuel efficiency initiatives were tested and measured over a 3-year period with the most effective initiatives being adapted into a 5-year program. An additional element in 2019 was the introduction of a new flight planning system (LIDO navigation solution). LIDO (Lufthansa Integrated Dispatch Operation) is a next generation flight planning system designed to provide a more streamlined approach towards decision-making within the limits of both company and industry standard operating procedures. However, benefiting fully from this new system will take its time as flight crews and dispatchers build confidence in it.

In support of LIDO, and as a way for flight crews to assess its accuracy in terms of fuel provisioning, Cargolux is developing a Preflight Fuel Briefing Dashboard (FBD). This dashboard is designed to provide a summary of various historical data points specific to a given city pair. The FBD allows flight crews to evaluate current flight-specific information and compare it with the relevant LIDO-produced flight plan. In addition, crews have the added benefit of being able to evaluate up to 60 days of historical data from previous flights. Once pilots build confidence in the reliability of LIDO's fuel provisioning, their ability to securely adjust variables such as the percentage of their discretionary fuel load will increase. Reducing this load will greatly lower both operational cost as well as the airline's carbon footprint, without compromising safety.



GRI 103-1 | GRI 103-2 | GRI 103-3 | GRI 302-4 | GRI 305-5

IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT & BOUNDARY

The Fuel Efficiency Round Table, ongoing since 2016, has identified most areas of potential savings. Cargolux uses 15 different fuel-saving programs to reduce consumption and has gone from a 3- to a 5-year fuel management plan with the most effective initiatives.

The LIDO system provides data that will allow further savings as it becomes embedded and pilots are more confident in its use.

MANAGEMENT APPROACH & COMPONENTS

The airline adheres to several programs that are designed to achieve substantial reductions in CO<sub>2</sub> emissions, save fuel, improve safety, and/or decrease congestion. Many of these programs also have added community benefits such as noise reduction. Programs include:

**CDO** (Continuous Descent Operations) & **CDAs** (Continuous Descent Operations and Approach) create efficient descents.

**Performance Based Navigation** (PBN) uses generic navigation requirements that reduce the need to maintain sensor-specific measures for routes and procedures.

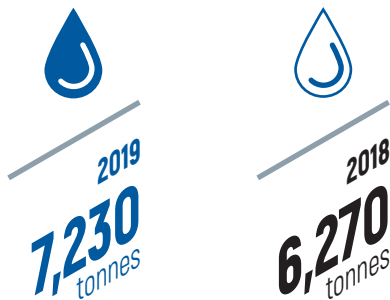
**Core Engine Compressor Wash** process (for GENX-2B, CF6-80C2B5F and selected RB211-524H2-T engines with low N3 speed margin).

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

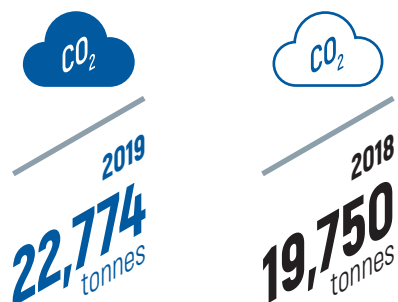
EVALUATION & ADJUSTMENTS

Cargolux cooperated with the local ANSP to develop CDO arrivals for Luxembourg. A number of waypoints were created that allow pilots to efficiently plan the descent. CDOs and CDAs (Continuous Descent Operations and Approach) methodologies are a huge step-change in the industry and represent potential for significant fuel savings as well as substantial reduction in CO<sub>2</sub> emissions. A CDO(F) arrival can log fuel savings of approximately 250 kg per flight for a B747, as the engines stay at near-idle thrust during the process. The lack of thrust during descent also means a quieter arrival; reducing noise for surrounding communities. Factors and programs such as these are reviewed regularly with the appropriate authorities and stakeholders and adjusted as needed.

Savings due to the fuel savings initiatives



CO<sub>2</sub> emissions saved





## Emissions

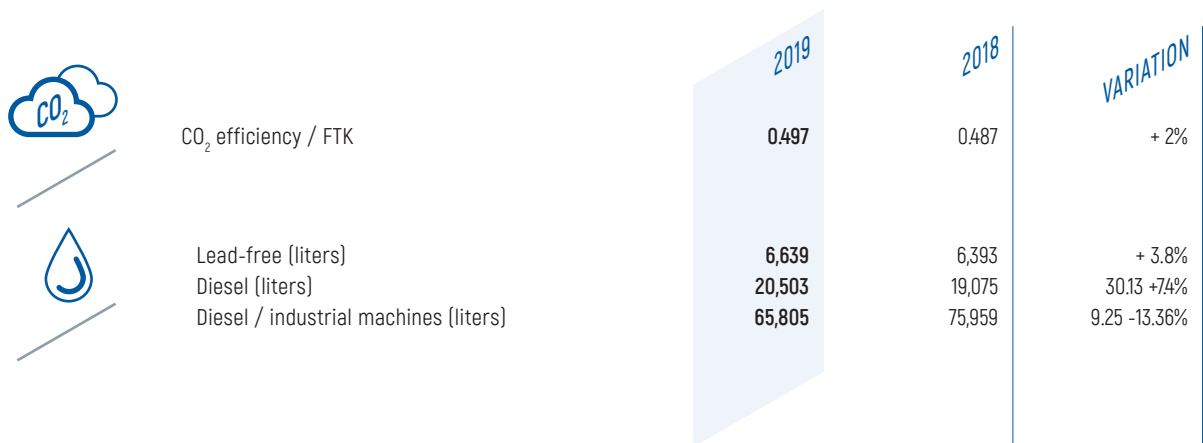
GRI 305-4

CO<sub>2</sub> emissions are a major environmental aspect of climate change. Sustainability and being a good environmental citizen are key elements of the Cargolux philosophy, in terms of an overarching strategy and specific goals that reside outside of regulated areas. Long-haul routes and heavy loads contribute to Cargolux's carbon footprint being one of the lowest in the industry, even though the company's carbon footprint increased ever so slightly in 2019. The year saw the conversation begin around further defining wider-ranging strategic targets that include recycled waste and enhanced environmental targets.

For most projects to be realized effectively, engagement of cross-functional teams is a critical prerequisite. The NASI project undertook substantial modifications, changing out elements in the aircraft's air conditioning system. Another project that engaged teams from the top of the organization to even local service providers was the removal of single use plastics.

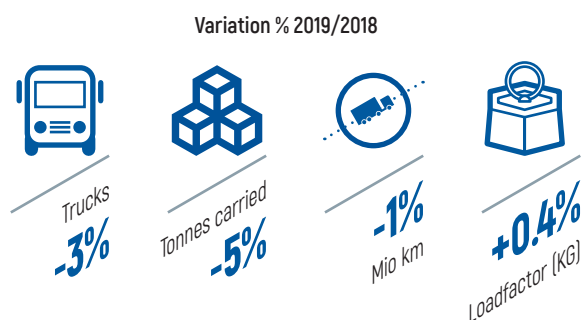
According to the EPA and other sources, polyethylene (PET) has a huge environmental footprint; realizing its own weight in CO<sub>2</sub> during the production process (e.g.: 28 grams of PET production = 28 grams of CO<sub>2</sub>).

In 2019, the optimized Trucking Management System (TMS) allowed more precise scheduling of the different types of trucks and brought visibility to the contents of each trailer. This allowed the team to increase the load factor out of Luxembourg airport significantly and increase transparency within this important activity. Combined with the use of power units to facilitate the loading and unloading of trailers, Cargolux's trucking management team optimized time and effort while lowering emissions. The increased accuracy of information allows trucks to be on their way in record time.



### Road Feeder Service

Category	NUMBER OF TRUCKS	%
Euro 6	996	98.42%
Euro 5	10	0.99%
Euro 4	6	0.59%
<b>TOTAL</b>	<b>1012</b>	<b>100%</b>

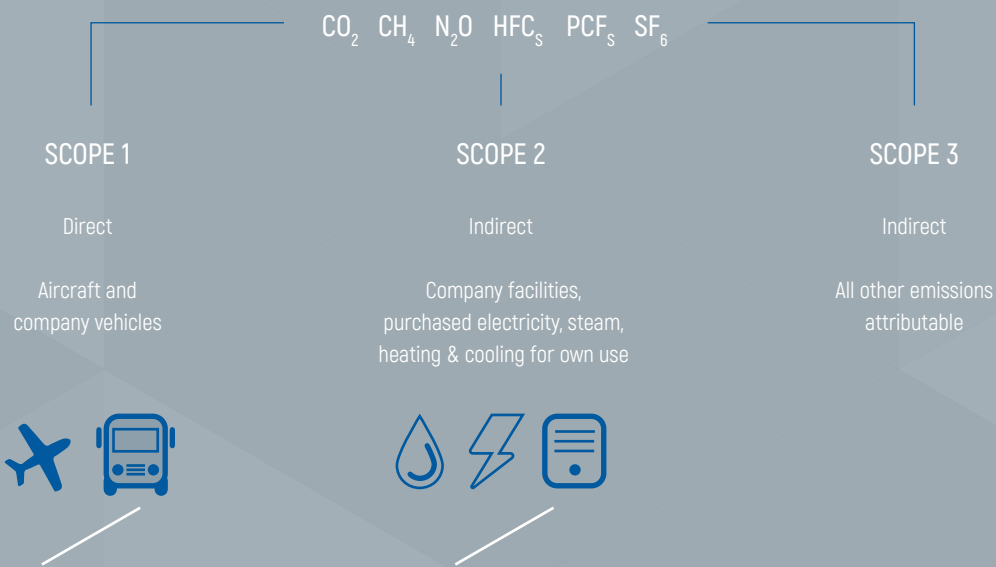






# THE GREENHOUSE GAS PROTOCOL DEFINES THREE SCOPES OF EMISSIONS

GRI 305-1 | GRI 305-2



## Scope 1

The Cargolux Group shows exemplary greenhouse gas (GHG) emissions management for its fleet. For the Cargolux and Cargolux Italia fleets, CO<sub>2</sub> efficiency was 0.497 kg CO<sub>2</sub> / FTK in 2019.

## Scope 2

Cargolux offices and facilities recorded CO<sub>2</sub> emission of 2,392.21 tonnes for fuel and gas consumption during 2019. Use of electricity emitted no CO<sub>2</sub> as it comes from renewable sources.

## Scope 3

Category that covers all other indirect emissions attributable to the activities of Cargolux, but those from the company. Scope 3 is not relevant to the reporting of Cargolux and is not included here.





**30**

Boeing 747-400F  
and Boeing 747-8F  
(31/12/2019)



**14:28**

hours average  
daily aircraft  
utilization



**137,247**

total block hours  
(including ACMI)



**8,091**

million  
tonne-kilometers  
flown



**269,589**

product tonnage  
(excl. CV classic)



**1,009,338**

tonnes sold  
(incl. CV Italia)



**5.70%**

Overall  
load factor



GRI 103-1 | GRI 103-2 | GRI 103-3

IN THIS AREA..

CARGOLUX DOES THIS ...

IMPACT & BOUNDARY

This area is quite advanced in Cargolux, so the team focuses on optimizing environmental management program activities. More people within Cargolux understand the importance of the measures being taken but also the bottom-line impacts.

The trucking management system and e-booking paperless processes all contribute to reducing waste and energy use. Portable Electronic Flight Bags are just one example of the focus on reducing unnecessary aircraft weight (which results in fuel savings).

MANAGEMENT APPROACH & COMPONENTS

Cargolux adheres to the EU Trading Systems (EU ETS) and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) from ICAO. It follows the 2018 process for monitoring emissions. The organization has defined near- and long-term goals that follow IATA's targets for airlines to reduce CO<sub>2</sub> emissions and achieve carbon-neutral growth:

- An average improvement in fuel efficiency of 1.5% per year from 2009 to 2020
- A cap on net aviation CO<sub>2</sub> emissions from 2020 (carbon-neutral growth)
- A reduction in net aviation CO<sub>2</sub> emissions of 50% by 2050, relative to 2005 level

The airline is certified in the ISO 14001:2015 Environmental Management System Standard; a voluntary set of standards for effective environmental management. It includes identifying key stakeholders and determining their requirements and risks for their areas. Opportunities that might impact the environmental management system (EMS) supply chain are also considered.

In addition to ongoing and new projects, Geraldine Guebel, Manager Environmental Management takes time to answer queries and concerns from staff and external parties in a timely manner.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION & ADJUSTMENTS

CO<sub>2</sub> emissions reduction & control are important elements associated with a carbon-neutral company. Cargolux complies with the European Union's Emissions Trading System (EU ETS) reporting requirements and continues to monitor and report CO<sub>2</sub> emissions. The airline adheres to the European requirement for a blended reporting solution with elements from each regulation (listed above). Documentation and reporting templates, designed to fulfill requirements associated with the regulations, support the methodology and emission calculation. Cargolux follows and meets industry targets focused on carbon neutral operations. The organization passed its last ISO 14001 audit with an excellent 'no findings'.

Communication programs provide information regarding environmental successes in emissions control, fuel management, digitalized cargo management and logistics systems.







## Waste management

GRI 103-1 | GRI 103-2

Waste management protects the environment, the health of workers and that of the population. Waste management, reduction, and responsible waste elimination are all key elements in the Cargolux strategy. In fact, Cargolux has built such a reputation in this area that organizations in the industry call upon them to test or develop new solutions. "Central to Cargolux's approach is waste avoidance," says Alexander Riemann, Facility Management, Head of Building Projects. "The team was involved in a number of important projects in 2019. The Trax eMobility installation, involvement in the design, construction and other aspects of the new headquarter, as well as the change in management of offices no longer required in Luxembourg were just a few of the initiatives that engaged the team during 2019."

In terms of eMobility, in 2019 the Trax suite of applications that manages the aircraft fleet was extended to Maintenance & Engineering; line maintenance, followed by hangar maintenance, repair and refurbishment shops, and material control. This suite of software allows the maintenance organization to digitally manage and maintain all information generated by the different areas, and enables complete information flow from planning, to executing, through the sign off of work on aircraft.

IN THIS AREA...

CARGOLUX DOES THIS ...

IMPACT & BOUNDARY

Like all businesses, Cargolux produces a certain amount of standard waste such as paper, and plastic, but the aviation industry also uses a number of products which are considered toxic. Additionally, the company performs on-site C-checks that produce different categories of waste and require specific reporting procedures. Activities handled by the Facility Management team include contractor control for the removal and disposal of hazardous substances (e.g., waste removal process validation, adherence to regulations and certifications). This team also tracks ongoing developments and innovations that could improve their handling practices and improve waste avoidance programs. With dozens of hazardous substances from kerosene to cement/concrete used in the construction of the new building, Facility Management is the central point of contact for all organizational requirements. Cargolux is committed to excellent recycling, reusing, and waste management programs. The airline's focus is to protect against local ground, air and water pollution, and to ensure the health and well-being of staff, communities, and stakeholders throughout the supply chain.

MANAGEMENT APPROACH & COMPONENTS

Cargolux's commitment to environmental awareness is ongoing. Lean and agile processes are at the heart of its strategy. The company's waste management program covers the headquarters in Luxembourg, the maintenance center, and rented offices at other locations. The "Superdreckskešcht fir Betriber" environmental label is renewed each year (via an audit) and recognizes the organization's exemplary management practices in waste avoidance, safe and environmentally friendly waste storage, selective collection, transparent waste recycling and disposal system. The airline has an ambitious, organization-wide program to reduce paper consumption and waste. It has worked towards eradicating paper from all divisions. Decision-making is effectively executed by an on-site presence in each building. More stringent waste avoidance and reduction measures are continuously iterated and implemented throughout the organization not just to reduce waste but to boost efficiency. Avoidance measures such as digitalization of processes and procedures (e.g., Electronic Flight Bags and crew iPads, removal of single-use plastics, replacing incandescent bulbs with LED lights, and extending recycling schemes) yield clear reductions in waste volumes. LED also replace traditional bulbs on the aircraft's vertical fin and wing illumination.

Cargolux has a strict no-printing policy for operations manuals thus reducing the amount of paper required on board.



The grievance process is built upon well-defined, stable processes and reinforces good behavior and Cargolux's drive to be a good corporate citizen.

GRI 103-3 | GRI 306-2 | GRI 306-3

IN THIS AREA.. CARGOLUX DOES THIS...

**EVALUATION & ADJUSTMENTS**

Not only does ongoing review and iteration of positive environmental options reduce waste, it helps eliminate dependency on paper and other heavy processes that cause waste. By continuously reviewing data and using the results to search for better solutions, Cargolux staff are able to improve and adjust as new solutions come on the market.

	DESCRIPTION	DISPOSAL METHOD	WEIGHT IN KG 2019	2019
	Hazardous Material	Composted	33,000	<b>0</b> accidental spillage in CMC / hangar
		Other	161,725	
		Recycled	32,502	
		<b>TOTAL</b>	<b>227,227</b>	
	Non-Hazardous Material	Landfilled	1,180	<b>9</b> spills reported by M&E on P7
		Other	9,684	
		Recycled	231,903	
		<b>TOTAL</b>	<b>242,767</b>	



**Noise management**  
GRI 413-2

Cargolux operates the world's quietest 747 freighter aircraft. The advanced engine technology and wing design of the -8F reduces the already low 85db take-off noise footprint of the -400F by another 30%. Both aircraft types fully comply with ICAO chapter 4, the most stringent aviation standard.

**Noise abatement**

Tailored procedures to further reduce noise:  
**flaps management, idle reverse thrust, 3-engine taxi-in.**

**100%**  
of the fleet  
compliant with  
**ICAO CHAPTER 4**

GRI 103-1 | GRI 103-2 | GRI 103-3

IN THIS AREA..

CARGOLUX DOES THIS...

**IMPACT & BOUNDARY**

Cargolux's **noise abatement program** ensures minimum noise disturbance to the surrounding area on approach . The airline does all it can to minimize noise pollution and reduce its impact on the quality of life for neighboring communities.

**MANAGEMENT APPROACH & COMPONENTS**

APU off, Active Quiet Climb, Three Engine Taxi, and Constant Descent Approach all make a difference for the communities around the Luxembourg hub. Additional noise abatement measures can be seen in the CDO(N) program.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

**EVALUATION & ADJUSTMENTS**

Following a similar protocol to the CDO(F) (Fuel), CDO (N) (Noise) uses different parameters to ensure minimum noise disturbance to the surrounding area on approach. Ultimately, this leads to reliable, flexible, all-weather operations that enjoy infrastructure interoperability and reduced environmental impact.

# SHARING VALUE WITH COMMUNITIES

## GRI 103-1

Cargolux recognizes the value of supporting local and global community events that work to create a healthier, kinder and better future for all.

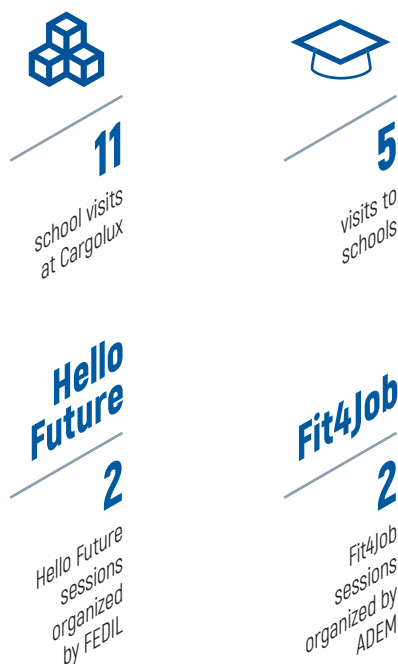
To achieve a healthy future society, the community and individuals must work together. Cargolux cares about team spirit and, whenever possible, supports its employees to build ties to their business and social community. Not only does the organization provide ongoing support and sponsorship for many initiatives locally and abroad, most are spearheaded by Cargolux staff who are personally involved. The organization encourages its team to partner with associations that focus on improving physical, mental and/or emotional well-being.

### Local community development

2019 saw many exciting initiatives come to fruition in the area of local community development. Cargolux provided support to DIMAS, a project to initiate a diploma in aeronautical and space professions. The company hosted 5 school visits on its premises. The Cargolux Maintenance Center also welcomed 6 additional school visits, where children from 3 primary schools learned about the beluga whale transport project.

The airline participated in two Fit4Job sessions organized by ADEM; Jugendjobdag in Diekirch; Fit fir den Aarbechtsmaart, in Esch-sur-Alzette; and two Hello Future sessions organized by FEDIL.

### Local community investment



### DIMAS – Diplôme d'initiation aux métiers aéronautiques et spatiaux

Luxembourg Flight Training Academy, in partnership with the Service de Coordination de la recherche et de l'Innovation pédagogiques et technologiques – SCRIPT, has introduced the training program DIMAS for secondary school students in Luxembourg.

In their program, DIMAS aims to raise awareness of students to the aeronautical and aerospace professions and provide opportunities for students to prepare for graduate studies in aviation and aerospace.



IN THIS AREA...

CARGOLUX DOES THIS...

IMPACT &  
BOUNDARY

Cargolux recognizes that ties to local and global communities bring benefit to the business, the country, and society. The organization goes above and beyond with efforts to connect with and support the community. It supports apprenticeship programs, environmental research, the preservation of endangered species, cultural exchanges, and sponsors community events and non-profit organizations.

The organization cares about team spirit and, whenever possible, supports its employees to build ties to their business and social community. The airline partners with associations and organizations that focus on improving physical, mental or emotional well-being.

MANAGEMENT  
APPROACH &  
COMPONENTS

Cargolux runs an Apprenticeship Program for aircraft mechanics (Maintenance & Engineering division) via the airline's long-term, cooperative relationship with Luxembourg's Lycée Technique Privé Emile Metz (LTPEM). Successful apprentices are awarded a Luxembourg end-of-school certificate (Diplôme de Technicien) as well as an Aircraft Maintenance License that is recognized throughout the European Union. Other community programs that receive support from Cargolux include: **Reaching Children & Youth:** kids.cargolux.com is an interesting and exciting vehicle to introduce children to the world of air freight. The site provides information and activities related the air transport industry and Cargolux's business.

**FOC (Free of Charge)** transports: support a range of initiatives such as art, cultural institutions, research and humanitarian causes that add to the cultural vibrancy and reputation of Luxembourg and expose other populations to art and culture that they would otherwise not experience. **Art2Cure New York** is an art event that raises funds for Parkinson's disease research by the Luxembourg Centre for Systems Biomedicine (LCSB). Art2Cure recognizes that to build a sustainable event, everyone who participates must benefit. Artists receive 40% of sales proceeds. **International Bazaar:** Cargolux sponsors the shipment of goods for the USA, Canada, Hungary, South Africa, and South America.

**Shoebboxes/SIPO collection:** Cargolux staff donate colorfully wrapped Christmas shoe boxes with a hand-written note to various charities each year. The boxes contain non-perishable food items for the homeless, and toys and games for children.

**Fight Against Cancer:** Cargolux staff raised money for **Aktioun Télévie** (RTL RTI) in support of leukemia research by the Scientific Research Fund (Belgium). The **#Flypink campaign** sees crew members exchange their standard stripes to pink epaulettes in support of breast cancer awareness and to raise funds for cancer research.

**Rock Against Cancer:** Cargolux sponsors this music event supporting Foundation Cancer Luxembourg and Fondation Kriibskrank Kanner in the fight against cancer. Cargolux also donated a flight simulator session for **Children's Wish Foundation's** (Kanner Wonsch) annual auction.

**Corporate teams and sports clubs:** A healthy population is happier and more resilient. The organization supports active sports clubs that are run by its employees, corporate teams and other sports clubs in a variety of sport-related leagues and competitions. **Widdebierglaf** in Mendsdorf is a cross-country run in the vicinity of the airport. Basketball club **AB Contern**, **Tennis Club** Senningerberg, **Fédération Luxembourgeoise de Tennis de Table** (FLT), and **Top Squash** Sandweiler also benefit from the company's support.

**Other Areas of Support and Sponsorship:** **Natur & Umwelt** a.s.b.l. works to protect biodiversity in a varied natural and cultural landscape, through awareness-raising, advice, practical, scientific and political actions, at the local, national and international level. **Tolmachevo Airport's social outreach initiative** introduces the world of aviation to children from social institutions in the Novosibirsk region. **Formida Centre:** Cargolux donates to this center. Established by the Ministry of Education, this center distributes waste or surplus resources free of charge to professionals working in formal and non-formal training and education, artists and designers, etc. Donations come from businesses in the Greater Region. The materials are managed by about 20 youths who work in the "supply center for ideas and materials" and receive therapeutic and social support. As well, Cargolux supports a variety of **prizes** and **awards** for community events

EVALUATION &  
ADJUSTMENTS

Ongoing partnerships are integral within a well-functioning and community-minded organization. These partnerships only work with employee engagement and due diligence. Cargolux staff suggest and/or select community outreach programs to review. All requests are funneled through the HR department using standard application forms that must be completed by the applying association. Selections are based upon the charity's reputation, focus of their activity, and alignment with Cargolux values. Ongoing partnerships are created with successful applicants.

**Inspiration of future talent**

GRI 203-1

Science, technology, and the environment are all closely related to the air cargo industry and to Cargolux's CSR endeavors. The Cargolux team sees the importance of science and technology daily. Projects in recent years have included proactive notifications and access to real-time temperature readings on perishable cargo. From the automation of repetitive "on-demand" tasks to reducing stress and improving employee satisfaction.

2019 saw much support for the LCL (Luxembourg Center for Logistics) Chair at the University of Luxembourg . The company welcomed Master students working on their dissertation and participated and sponsored the TrustSquare Hackathon on the application of blockchain technology for supply chain in the pharma industry with a strategic customer. Cargolux staff also attended two major start-up events in Europe with Luxembourg's Chamber of Commerce delegation: Vivatech in Paris and WebSummit in Lisbon.



IN THIS AREA..

CARGOLUX DOES THIS...

IMPACT & BOUNDARY

The logistics and aviation industries are being molded by advances in digitalization, automation and materials engineering. The importance of stable and consistent support for local science and technology events and activities means that this community can plan and execute a robust and fruitful schedule that takes into consideration the many facets of good community development. Cargolux is proud and supportive of active and theoretical research that provides keener insight into the expansive logistics and air cargo industries.

MANAGEMENT APPROACH & COMPONENTS

Cargolux participates in a wide variety of endeavors to support this community and to inspire its talent for the future. Some ongoing support includes:

**Luxembourg Science Center:** The airline partners with the science and technology discovery center to help spark children's interest in this area. Cargolux sponsors exhibits, transports equipment and supports elements of interactive displays such as a wind tunnel.

**Luxembourg Open Innovation Club (LOIC):** An event was organized with LOIC where start-ups pitched their AI business concepts, and networking centered around smart solutions and open innovation.

**Cargo IQ's Quality Rally:** (Q Rally) showcases operational improvements, to boost data quality and performance, that are developed collaboratively, and create tangible benefits such as automatic RCSs (Ready for Carriage) notifications for FWBs (Air Way Bill data messages) that eliminated delays, and improved Luxembourg airport's supply chain quality rating to 94%.

**Conferences and Learning Events:** International Federation of Airline Pilots' Associations (IFALPA) 2018 conference and general assembly: where professionals from the airline pilot community meet to discuss current developments and to recommend policies which will promote the highest level of flight safety. | Cluster for Logistics Smart Start-Ups and New Business Models in Supply Chain | Mind & Market in Luxembourg (Deloitte) guides innovative project holders, helps set up a team and provides advice on how to test an idea on the market | Luxembourg Centre for Logistics: annual eXplore Conference: Navigating the green supply chain.

**Social Media Etiquette** is becoming more and more important. Cargolux published a social media etiquette guide to help employees understand required boundaries to being a savvy social media ambassador.

**Support for field research:** Solar Power is an important research area for Cargolux that provided FOC (Free of Charge) transport for Anne Quemere's Solar Boat, the Icade, a solar propulsion prototype.

Grievance resolution follows the Cargolux standard practice of engaging all parties in meaningful dialogue focused on positive resolution and outcomes.

EVALUATION & ADJUSTMENTS

Cargolux follows a robust and well-thought-through process that encourages and supports personnel to present their ideas for evaluation against a backdrop of robust fact-finding and reporting. Decision making is based upon criteria that consider value-add and alignment with overarching corporate goals.

# ECOSYSTEM OF INNOVATION & RESEARCH

GRI 203-1

Innovation is the cornerstone of Cargolux's success. In 2019, a partnership agreement was signed with Sonoco ThermoSafe; a leading global provider of temperature assurance packaging, for the lease of PharmaPort 360 temperature-controlled bulk shipping container. Especially for sensitive and time-critical shipments such as pharmaceuticals, PharmaPort 360 containers are the only smart active temperature-controlled containers that are fully integrated. FAA-approved telemetry systems provide real-time, cloud-based data on payload and ambient temperature, and key mechanical components are precisely synchronized with GPS location.

The airline leverages advances in thinking and technology. 2019 saw the Datakeen project implemented. Datakeen uses AI (artificial intelligence) to classify and store invoices in the appropriate folder for accounting processing. This automation saves time and removes 'low value-add' tasks from staff, allowing them to focus on high value, customer-facing activities. Automation of back-office financial processes, such as checking VAT amounts, is a focus for Cargolux as the company concentrates on serving their customers better and faster.



IN THIS AREA..

CARGOLUX DOES THIS...

IMPACT & BOUNDARY

Cargolux goes above and beyond to offer its customers the latest technology in transport solutions. It is on a journey to better leverage its expertise, enable faster processes and streamline its connection with the customer, industry and staff. Innovation, automation and digital transformation enable creative solutions and inspiring design as tasks are automated. Cargolux continually seeks better, faster, more accurate and safer ways to do things. Most project are synced with the ePMO (Program Management Office).

MANAGEMENT APPROACH & COMPONENTS

**Lean Maintenance & Engineering (M&E):** Lean training complements improvement projects in capacity management, line, hangar and shops, material, sales, digital & paperless steering cockpit and aircraft modifications.

**M&E's e-mobility project:** uses digitalized processes for aircraft maintenance. iPads and electronic process management software save thousands of pages of paper, time, effort, and enables better information sharing, including optimization of maintenance and allowing data to be tracked and reported more easily and accurately.

**Advanced Tool Management System (ATMS):** uses ubiquitous RFID (Radio Frequency Identification) technology to: 1) identify and trace tools, 2) decentralize storage solutions, and 3) improve tool maintenance.

**Capacity planning improvements:** matching capacity to workload on the line and in the hangar. M&E management reviews the workload for the year and look for activity peaks and valleys. The schedule is then organized to ensure a steady, achievable level of activity, which considers team availability.

**Light-weight solutions:** The implementation of **SquAIR** timber that began in 2017 was extended in 2018 to include animal transport. **10ft Connectors:** Building upon the success of the environmentally friendly beam solution implemented in 2017, Cargolux helped with the certification of 10ft connectors (10-foot pallet connectors) and acquired the solution in 2018. This certified component is constructed of aluminum. Typically, a 20ft pallet weighs around 500kg. This connector affords the possibility to safely connect two 10-foot pallets (that weigh around 120kg each). This is an optimal way to enable the transport of long cargo on the main deck via nose-loading while saving weight/fuel.

Other corporate projects included: **LEAP** and **TMS** begun in 2018, and **EnPlore:** a software and data-platform that enables advanced data manipulation, data visualization, descriptive and predictive analytics which helps M&E improve the aircraft technical reliability and its repair and overhaul operations.

Connected ULDs with Unilode units equipped with Bluetooth tracking tags, enable digital visibility over ULDs. This offers further transparency and enhanced tracking for shipments via Bluetooth readers at all warehouses operated by its customers.

EVALUATION & ADJUSTMENTS

Cargolux follows a robust and well-thought-through process that encourages and supports innovation which includes evaluating ideas, solutions and new projects throughout the process.

# ABOUT THIS REPORT





# ABOUT THIS REPORT

GRI 102-42 | GRI 102-43 | GRI 102-45 | GRI 102-46 | GRI 102-48  
GRI 102-49 | GRI 102-50 | GRI 102-51 | GRI 102-52 | GRI 102-53  
GRI 102-54 | GRI 102-56

This CSR annual report provides information about CSR performance and achievements during the period from 01/01/2019 to 31/12/2019. Information contained here pertains to Cargolux's overall operations and geographic presence, except where otherwise specified in the report:

- Occupational Health and Safety related indicators cover the parent company only. Data monitoring and the company's waste disposal also relate to its facilities in Luxembourg.
- Monitoring of fuel consumption and CO<sub>2</sub> emissions for the fleet includes data from both Cargolux and Cargolux Italia. 93% of flight related CO<sub>2</sub> emissions were in 2019 audited by Verifavia. Facilities related fuel consumption and CO<sub>2</sub> emissions only includes Cargolux HQ building and the Maintenance Center.

This report has been prepared in accordance with the GRI standards - core option. The previous report was published in June 2019. The next publication will be released in 2021 and will cover Cargolux's sustainable development achievements and performance for 2020.

Cargolux invites all interested parties to enter into dialogue about its sustainability policy, its activities, and this report. The company's policy, details about its activities, and previous reports, can be found on its website at <http://csr.cargolux.com>. This report will also be registered on the databases of the UN Global Compact and the Global Reporting Initiative. All comments and enquiries are welcome and can be forwarded through the contact form on the aforementioned webpage, or by writing to [corpcom@cargolux.com](mailto:corpcom@cargolux.com).

## GRI CONTENT PRINCIPLES NOTE

To prepare this report, Cargolux conducted a materiality analysis to identify the priority topics to report on according to the Stakeholder Inclusiveness and Materiality principles, with the support of the sustainability advisory firm Forethix. For more than 4 years, Cargolux has published a CSR report sharing its CSR ambitions based on both business priorities and in-depth stakeholder dialogue.

### Step 1: Raising awareness internally

In 2017, Cargolux's CSR team launched a first materiality assessment. It started with an exhaustive list of issues (42 topics - 7 economic topics, 13 environmental topics, and 21 social topics) based on in-depth desktop research on current market trends using a sector-specific benchmark analysis. The analysis was carried out using the applicable GRI sector supplement, as well as reports of the aviation sector and B2C companies displaying high maturity in terms of CSR reporting and performance.

In October 2017, Cargolux gathered input from internal stakeholders through 4 thematic workshops, organized around the domains of Economy, Environment, and Society and brought together experts from the various Cargolux corporate and operational areas: Human Resources & OHS, Compliance, Maintenance & Engineering, Environmental Management, Procurement, Flight Operations, Corporate Finance, Strategy & Development, Sales & Marketing, Global Logistics, and Corporate Communications.

The above-mentioned 42 topics were prioritized according to their level of impact, occurrence, and the control that Cargolux holds. An initial list of material topics emerged from these workshops.

After completing the workshops involving a sample of internal collaborators, Cargolux mapped both internal and external stakeholders which would gradually engage in the materiality analysis.



GRI 102-42 | GRI 102-43 | GRI 102-44 | GRI 102-46

The mapping workshop resulted in a list of 19 stakeholder groups, prioritized according to their level of dependence on, and influence exerted upon Cargolux (see mapping page 20).

Based on this mapping, a stakeholder engagement plan was designed to cover the 2018-2020 period. Cargolux expects that increasing engagement will allow it to identify and anticipate future sustainability risks and opportunities, and respond to stakeholder expectations more effectively.

## Step 2: Engaging strategic internal body & customers

In 2018, Cargolux continued to improve the engagement process, involving external stakeholders in the materiality process. Aligned with the mapping and the engagement plan, customers were the first group to be involved. 17 customers were selected based on the sales volume, the nature of the relationship (short versus long term), and the capacity to be engaged (depending on their CSR maturity and their will to be engaged). They were mainly asked – by questionnaire – to assess the influence of Cargolux's economic, social, and environmental impacts on their assessments and decisions. The topics were rated from 1-not important, to 4-critical. The participation rate was 53% with 9 participants. Key topics were raised such as Cargolux's supply chain management (supplier environmental assessment, human rights assessment in the supply chain, and purchasing practices) and reporting practices relating to sustainability action plan & objectives.

Simultaneously, the CSR Board - composed of operational managers and top management - was integrated in the annual engagement process. They were mainly asked – by questionnaire – to assess the influence of Cargolux's economic, social, and environmental impacts on their assessments and decisions. The topics were rated from 1-not important, to 4-critical. The participation rate was 63% with 50 participants. Key topics were raised such as efficient air traffic management, attracting talents, and employee engagement in CSR programs as well as CSR integration in the core business through values, policy, increasing employees' involvement in objectives and internal training.

## Step 3: Engaging employees & suppliers

In 2019, Cargolux continued to improve the engagement process, involving its suppliers and employees.

Suppliers were asked – by questionnaire – to answer the main following elements:

- Their main expectations as suppliers in terms of Cargolux's purchasing practices
- The influence of Cargolux's economic, social, and environmental impacts on their assessments and decisions. The topics were rated from 1-not important, to 4-critical.
- Their feedback on the report quality and content

The questionnaire was sent to 62 suppliers – representing our main suppliers in terms of volume/spending – and the participation rate was 6.82% with 11 participants. Key topics were raised such as the digital and physical asset security, job creation & retention, supplier environmental assessment and network efficiency.

Simultaneously, employees were asked – via questionnaire – to answer the main following elements:

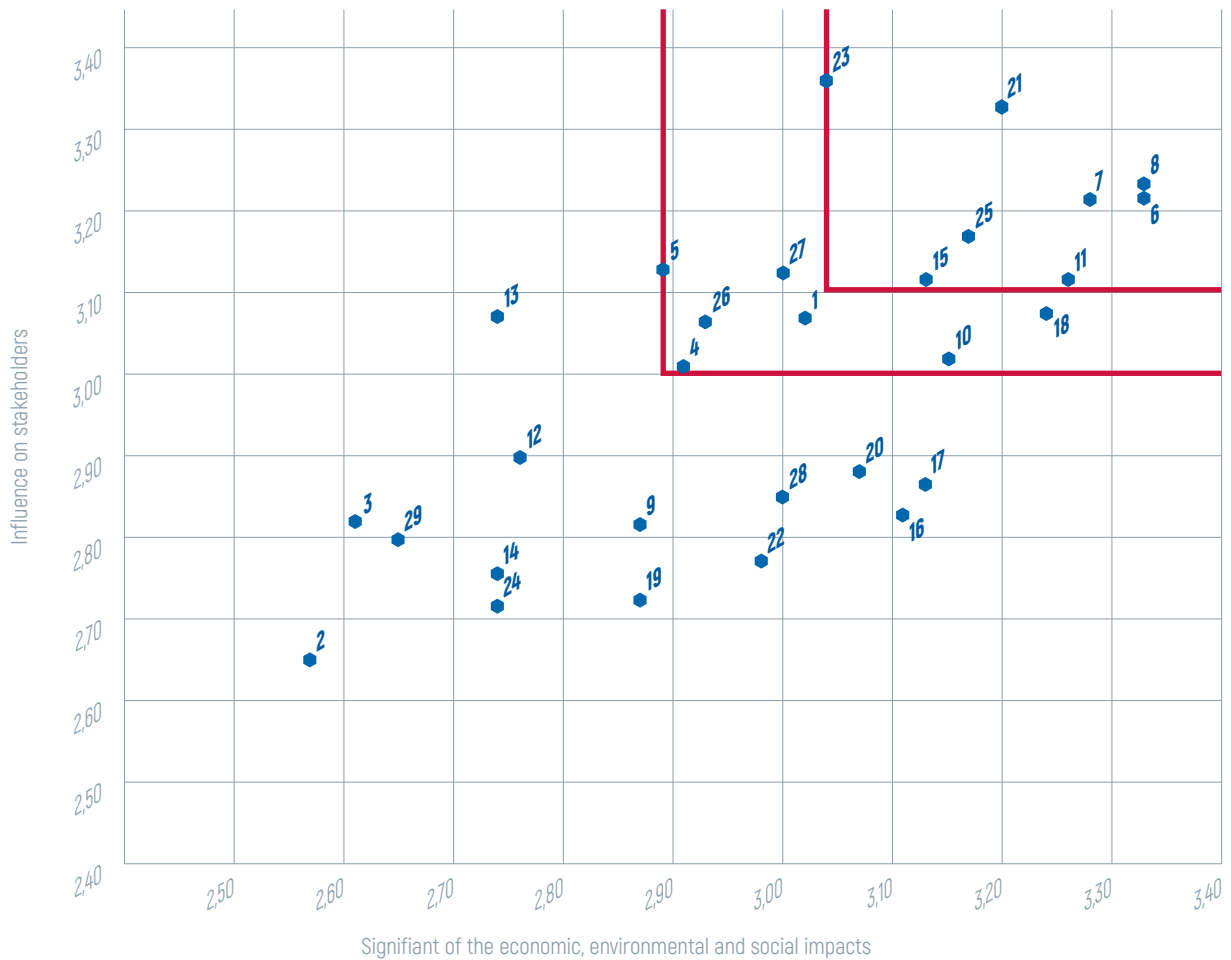
- Their CSR knowledge
- The influence of Cargolux's economic, social, and environmental impacts on their assessments and decisions. These topics were rated from 1-not important, to 4-critical.
- Their will to be further engaged in the Cargolux's CSR journey

The questionnaire was sent to all employees and the participation rate was 9.9% with 263 participants. Key topics were raised such as aircraft fuel efficiency, training and development, occupational health & safety and network efficiency.

Since 2017, all stakeholders engaged were weighted identically (without a multiplier) to give each participant equal importance.

### Step 4: Selecting material topics

Through analysis of activities, the activities' economic, social, and environmental impacts and consulting both internal and external stakeholders, the following materiality matrix was created:



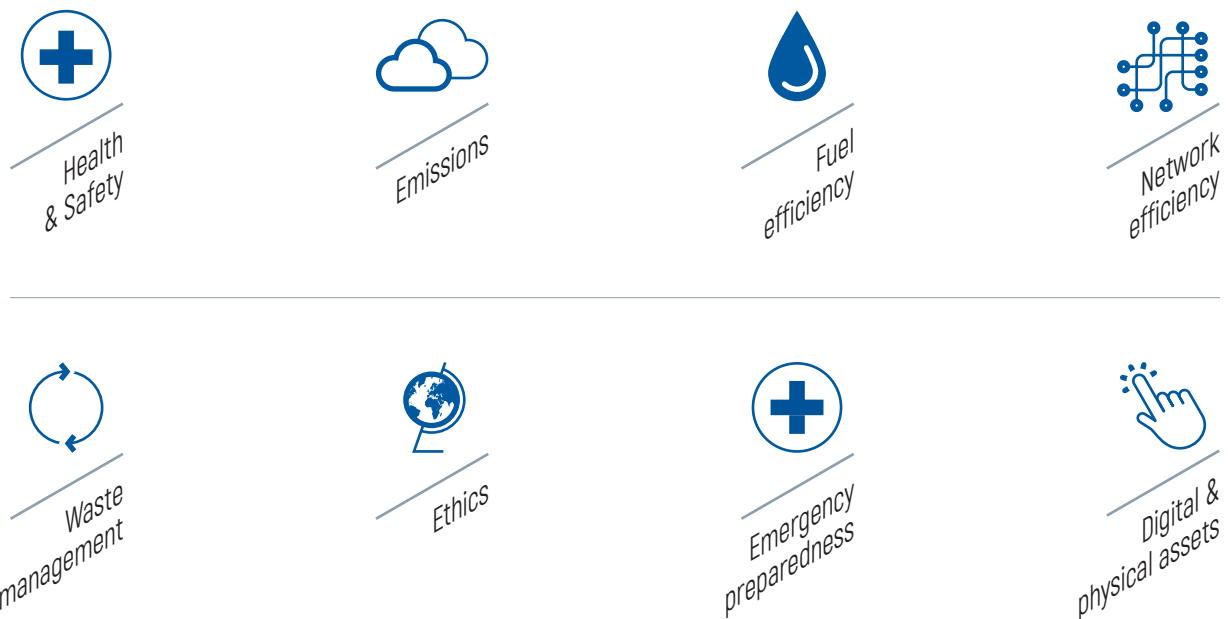
- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li><b>1</b> Job creation-retention</li> <li><b>2</b> Investment in local infrastructures</li> <li><b>3</b> Economic value distributed to communities</li> <li><b>4</b> Investment for sustainable innovation</li> <li><b>5</b> Purchasing practices and supply chain sustainability</li> <li><b>6</b> <b>Ethic practices in business relationships</b></li> <li><b>7</b> <b>Emissions (aircraft and ground climate change)</b></li> </ul> | <ul style="list-style-type: none"> <li><b>8</b> <b>Fuel efficiency</b></li> <li><b>9</b> Noise</li> <li><b>10</b> Efficient air traffic management</li> <li><b>11</b> <b>Network efficiency</b></li> <li><b>12</b> Material sourcing in procurement process</li> <li><b>13</b> Supplier environmental assessment</li> <li><b>14</b> Biodiversity and animal welfare</li> <li><b>15</b> <b>Waste management</b></li> <li><b>16</b> Water management</li> <li><b>17</b> Attracting talent</li> <li><b>18</b> Training and development for staff</li> <li><b>19</b> Staff diversity</li> </ul> | <ul style="list-style-type: none"> <li><b>20</b> Staff welfare</li> <li><b>21</b> <b>Occupational health and safety</b></li> <li><b>22</b> Employee engagement in CSR programs</li> <li><b>23</b> <b>Digital and physical asset security</b></li> <li><b>24</b> Package contents responsibility</li> <li><b>25</b> <b>Emergency preparedness and business continuity</b></li> <li><b>26</b> Local community investment</li> <li><b>27</b> Human rights: intermediaries and shippers</li> <li><b>28</b> Human rights in the supply chain</li> <li><b>29</b> Humanitarian relief and resilience</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

GRI 102-44 | GRI 102-46 | GRI 102-47

Primary and secondary topics were established using a materiality threshold determined collectively by the Cargolux CSR Board:

- Primary material topics correspond to coordinates greater than or equal to (3.04 ; 3.10)
- Secondary material topics correspond to coordinates greater than or equal to (2.89 ; 3.01)
- Tertiary material topics correspond to coordinate below (2.89 ; 3.01)

As a result, the material topics that Cargolux will focus on are:



## Next steps

Fuelled by a process of continuous improvement and dialogue with all stakeholders, the Cargolux CSR approach is based on a progressive and inclusive program of stakeholder engagement. At its heart is the fine balance between stakeholder engagement, continuous focus on sustainable business practices and innovation. This program will be renewed periodically to continuously engage new groups.





CONTRIBUTION TO  
THE UN'S SUSTAINABLE  
DEVELOPMENT GOALS

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# OUR CONTRIBUTIONS TO THE SDGS



ENSURING A RESPONSIBLE & INCLUSIVE CORPORATION						
Ethics, p 40						
Our people, p 50	X		X	X	X	
Sustainable procurement, p 56						
Digitalization & asset security, p 59			X	X		
DEVELOPING SUSTAINABLE OPERATIONS						
Health & Safety, p 61			X	X		
Emergency Preparedness & Business Continuity, p 67			X			
Emissions, p 71						
Fuel & network efficiency, p 69						
Waste management, p 77						
Noise management, p 78			X			
SHARING VALUE WITH COMMUNITIES						
Local community development, p 80	X		X	X		
Inspiration of future talents, p 82				X	X	
Ecosystem of innovation & research, p 84						



	7	8	9	10	11	12	13	14	15	16	17
								X	X	X	X
	X	X									X
	X			X						X	X
	X	X				X					X
	X										X
	X	X									X
X	X						X				X
	X	X				X	X				X
	X	X			X	X					X
	X										X
	X										X
			X		X	X	X				X

# GRI APPENDIX





# GRI APPENDIX

## SOCIAL

GRI 102-41 | GRI 401-1 | GRI 401-3 | GRI 405-1



## EMPLOYMENT

### Number of staff \*

	2019	2018	2017
Worldwide	2,253	2,031	1,916
Headquarter	1,630	1,531	1,436
Rest of the world	623	500	480
Cargolux Italia	121	-	-
Percentage of women	18	19	19
Permanent contract	2,208	1,996	1,865
Newly hired	241	243	149
<b>Collective Work Agreement</b>	<b>1,387</b>	<b>1,316</b>	<b>1,240</b>
Female	170	172	160
Male	1,217	1,144	1,080
Turnover	134	141	87
Retention rate after parental leave			
<b>Number of employees by age groups</b>			
under 30	321	302	269
30-50	1,347	1,214	1,162
over 50	585	515	485



## ABSENTEEISM

	2019	2018	2017
Lost days for accidents	347	321	386
Lost days for sickness	14,682	14,722	13,576
Maternity leave	6,744	5,072	6,278

\* The 2019 figures include Cargolux Italia.

GRI 403-2, 404-1



### OCCUPATIONAL HEALTH & SAFETY

**Number of injuries (accidents)**

Internal  
External

2019	2018	2017
42	36	43
18	15	11



### TRAINING

Number of training hours per employee

2019	2018	2017
76	73	77

# GRI APPENDIX

## ENVIRONMENT

GRI 301-1, GRI 305-1, GRI 305-2



### MATERIALS

A/C cleaning products, TOTAL (ltrs)			
Honey bee			
A/C cleaner			
Hydraulic removal			
A/C dry wash soap			
De-icing and anti-icing product, TOTAL (kgs)			
Tarmac/airside (ltrs/kgs)			
Salt (parking/road)			
Paper (DIN A4) (kgs)			
Cartridges (pcs)			

	2019	2018	2017
	32,074	36,457	31,075
	270	362	349
	29,035	32,720	27,326
	2,769	3,375	3,400
	-	-	311
	2,800/500	6,350/700	8,900/2,000
	11,150	9,120	11,675
	14,490	23,905	28,906
	0	9 <sup>1</sup>	37 <sup>2</sup>



### EMISSIONS

<b>Direct emissions</b>			
CO <sub>2</sub> emitted by aircraft (tonnes)			
CO <sub>2</sub> emitted by GSE vehicles			
<b>Indirect emissions</b>			
Facilities			

	2019	2018	2017
	4,022,178	4,093,521	4,119,139
	70	66	49
	2,392	2,065	2,003

<sup>1</sup> 497 cartridges for shared printers  
<sup>2</sup> 858 cartridges for shared printers

GRI 302-1, GRI 302-2, GRI 303-1, GRI 306-2



## CONSUMPTION

	2019	2018	2017
Water (ltrs)	10,501	9,683	10,877
Fuel (Heating systems)	79,360	75,457	86,517
Fuel (sprinkler pumps)	2,326	4,438	4,508
Electricity (kWh)	6,040,235	6,081,304	5,814,638
<b>The following data regarding the indirect Energy Consumption are only available for CMC:</b>			
Heating (kWh)	5,338,400	4,346,000	4,667,700
Cooling (kWh)	482,900	527,200	426,900
Compressed air (m <sup>3</sup> )	1,348,663	1,289,051	1,120,870
Gas (m <sup>3</sup> )	958,223	887,631	889,081
<b>Fuel</b>			
Jet A (tonnes)	1,276,882	1,299,531	1,307,663
GSE vehicles			
Industrial Fuel (ltrs)	65,805	75,959	69,530
Diesel (ltrs)	20,503	19,075	14,658
Industrial Fuel (ltrs)	6,639	6,393	3,984



## WASTE

	2019
<b>Hazardous waste</b>	
Composted	33,000
Other	161,725
Recycled	32,502
<b>Total</b>	<b>227,227</b>
<b>Non-Hazardous Material</b>	
Landfilled	1,180
Other	9,684
Recycled	231,903
<b>Total</b>	<b>242,767</b>

Wastewater from our maintenance operations at the maintenance facilities in Luxembourg are directly collected by the airport sewage system prior to a wastewater treatment plant.





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# GRI CONTENT INDEX

GRI 102-55

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INDEPENDENT  
AND LIMITED  
ASSURANCE REPORT

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To the Shareholders of  
Cargolux Airlines International S.A.  
Aéroport de Luxembourg  
L-2990 Sandweiler

#### **Independent Limited Assurance Report to Cargolux Airlines International S.A.**

##### **Scope of work**

We have been engaged by the Management of Cargolux Airlines International S.A. ("Cargolux") to provide limited assurance on the "Sustainability Report" (or "Corporate Social Responsibility Report", or "CSR Report") of Cargolux for the year ending 31 December 2019.

The sustainability information, narratives and indicators presented in the Corporate Social Responsibility Report of Cargolux are included in the scope of our assurance engagement, with the exception of the indicators below:

- Jet fuel consumption
- CO2 emissions emitted by aircraft
- CO2 efficiency of aircraft operations
- Any indicator of which calculation depends on the above (e.g. Total Scope 1 emissions)

##### **Criteria**

The Management of Cargolux prepared this Corporate Social Responsibility Report in accordance with GRI Standards of the Global Reporting Initiative ("GRI"). The Management reported on various relevant Environmental and Social objectives under CSR Pillars in order to be in line with the reporting criteria. We provided a review of reported data and associated information defined in the assurance scope based on ISAE 3000 Assurance Engagements standard, issued by the International Auditing and Assurance Standard Board (IAASB) of the International Federation of Accountants (IFAC), with a limited scope of assurance.





### **Management's responsibility for the Sustainability Report**

The management of Cargolux is responsible for the preparation and fair presentation of the Corporate Social Responsibility Report in accordance with the Criteria, for determining Cargolux's objectives in respect of sustainable development performance and reporting, including the identification of stakeholders and material issues, and is also responsible for the selection of methods used in the Criteria. Further, Cargolux's management is responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the Corporate Social Responsibility Report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate criteria; maintaining adequate records and making estimates that are reasonable in the circumstances.

### **Assurance practitioner's responsibility**

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed according to the applied procedures and the scope of work.

We conducted our engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion, and, as such, do not provide all of the evidence that would be required to provide a reasonable level of assurance. The procedures performed depend on the assurance practitioner's judgement including the risk of material misstatement of the Corporate Social Responsibility Report, whether due to fraud or error. While we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls.

Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems, which would have been performed under a reasonable assurance engagement.

### **Applied Procedures**

A limited assurance engagement on a sustainability report consists of making inquiries, primarily of persons responsible for the preparation of information presented in the sustainability report and applying analytical and sampling tests, as appropriate. These procedures included:



Building a better  
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- Assessment of the suitability of the reporting criteria and their consistent application.
- Inquires of management to gain an understanding of Cargolux processes for determining the material issues for Cargolux key stakeholder groups. Interviews with senior management and relevant staff at group level and selected business unit level concerning sustainability strategy and policies for material issues, and the implementation of these across the business.
- Interviews with relevant staff at corporate and business unit level responsible for data capture and preparation of the information in the CSR Report.
- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation.
- Checks on a sample basis of the quantitative information included in the CSR Report as well as its adequate compilation from data supplied by information sources. The tests have been defined to provide limited assurance levels in line with the criteria described in this report.
- Review of material qualitative statements in the report with regard to consistency and plausibility.

#### **Independence, competence and experience**

We have performed our work in accordance with the standards of independence required by the Code of Ethics of the International Federation of Accountants (IFAC).

We have the required competencies and experience to conduct this assurance engagement.



**Limited Assurance Conclusion**

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the CSR Report of Cargolux for the year ended 31 December 2019 is not presented fairly, in all material respects.

Ernst & Young  
Société anonyme  
Cabinet de révision agréé



Olivier Lemaire

Luxembourg, 21 October 2020

## **ASSURANCE STATEMENT**

### **Context**

We have been engaged by Cargolux Airlines International S.A. to perform an independent verification with reasonable assurance of the CO2 emissions from flights operated in 2019 subject to the Directive 2018/101/EC (EU ETS) and flights operated in 2019 subject to ICAO's Carbon Offsetting & Reduction Scheme for International Aviation (CORSA).

### **Criteria**

In order to prepare its 2019 emissions report for EU ETS and CORSA, Cargolux Airlines International S.A. followed the following rules:

- The EU ETS Directives (Directive 2008/101/EC of 19 November 2008 and Directive 2009/29/EC of 22 April 2009 amending Directive 2003/87/EC)
- The Commission Regulation 421/2014 of the European Parliament and of the Council of 16 April 2014 amending Directive 2003/87/EC
- The Commission Delegated Regulation 2019/1603 of 18 July 2019 supplementing Directive 2003/87/EC
- The Commission Regulation 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC (MRR)
- The Commission Regulation 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse

We conducted the independent verification based on the following verification criteria:

- ISO 14065:2013 – Greenhouse Gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition
- ISO 14064-3:2019 – Greenhouse Gases – Specification with guidance for the validation and verification of greenhouse gas emissions and removals
- The IAF MD 6:2014 - IAF Mandatory Document for the Application of ISO 14065:2013;
- The Commission Regulation 2018/2067 of 19 December 2018 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC (AVR)

### **Responsibilities**

Cargolux Airlines International S.A. is solely responsible for the preparation and reporting of their emissions data, for any information and evidence that support the reported data, for determining the company's objectives in relation to emissions information and management, and for establishing and maintaining appropriate performance management and internal control systems from which reported information is derived.

In accordance with our verification contract with Cargolux Airlines International S.A., it is our responsibility to form an independent opinion, based on the examination of information and data presented in the emissions report, and to report that opinion to Cargolux Airlines International S.A.

We conducted our examination having regard to the verification criteria documents listed above. This involved a site visit previously to inspect the facilities and interview the staff responsible. It also included examining, on a test basis, evidence to give us reasonable assurance that the amounts and disclosures

relating to the data have been properly prepared in accordance with the rules in terms of relevance, completeness, consistency, transparency and accuracy.

**Independence statement**

We confirm that Verifavia (UK) Ltd and the verification team are independent of Cargolux Airlines International S.A. and have not assisted in any way with the development of the emissions report, with the exception of this Assurance Statement.

**Opinion**

We conducted a verification of the 2019 emissions by Cargolux Airlines International S.A. in its emissions report dated 20 March 2020. On the basis of the verification work undertaken to reasonable assurance, these data are fairly stated and contain no material misstatements or material non-conformities.

CO2 emissions from flights subject to EU ETS: 54,349 TCO2

CO2 emissions from flights operated in 2019 subject to CORSIA: 3,371,604 TCO2



Paris & London, 17 May 2020

Julien Dufour, CEO, VERIFAVIA (UK) LTD





# GLOSSARY

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# GLOSSARY

<b>A</b>	<b>ADEM</b>	Agence pour le développement de l'emploi (Employment Development Agency)
	<b>AI</b>	Artificial Intelligence
	<b>ANSP</b>	Air Navigation Service Provider
	<b>APU</b>	Auxiliary Power Unit
	<b>ATA</b>	Animal Transportation Association
	<b>ATK</b>	Available Tonne Kilometers
	<b>ATMS</b>	Advanced Tool Management System

<b>C</b>	<b>C&amp;P</b>	Contracts & Procurement
	<b>CAPA</b>	Centre for Aviation
	<b>CDA</b>	Continuous Descent Operations & Approach
	<b>CDO</b>	Continuous Descent Operations
	<b>CDO (F)</b>	Continuous Descent Operations (Fuel)
	<b>CDO (N)</b>	Continuous Descent Operations (Noise)
	<b>CHINALUX</b>	China-Luxembourg Chamber of Commerce
	<b>CISM</b>	Critical Incident & Stress Management
	<b>CITES</b>	Convention on International Trade in Endangered Species
	<b>CO<sub>2</sub></b>	Carbon Dioxide
	<b>CORSIA</b>	Carbon Offsetting & Reduction Scheme for International Aviation
	<b>CPO</b>	Chief Pilot's Office
	<b>CSR</b>	Corporate Social Responsibility
	<b>CWA</b>	Collective Work Agreement

<b>D</b>	<b>DAC</b>	Direction de l'Aviation Civile Luxembourg
	<b>DIMAS</b>	Diplôme d'Initiation aux Métiers Aéronautiques et Spatiaux

<b>E</b>	<b>e-AWB</b>	Electronic Air Waybill
	<b>e-CMR</b>	Electronic Consignment Notes (Convention relative au contrat de transport international de marchandises par route)
	<b>EAAP</b>	European Association for Aviation Psychology
	<b>EASA</b>	European Aviation Safety Agency
	<b>EPPSI</b>	European Pilot Peer Support Initiative
	<b>EFB</b>	Electronic Flight Bag
	<b>EMS</b>	Environmental Management System
	<b>eMobility Trax</b>	Electronic mobility
	<b>ePMO</b>	Enterprise Project Management Office
	<b>ERP</b>	Enterprise Resource Planning
	<b>EU</b>	European Union
	<b>EU ETS</b>	EU Trading Systems
	<b>EVP</b>	Executive Vice President
	<b>ExCom</b>	Executive Committee



<b>F</b>	<b>FAA</b>	Federal Aviation Administration
	<b>FBD</b>	Fuel Briefing Dashboard
	<b>FEDIL</b>	Business Federation Luxembourg
	<b>FJD</b>	Federation des Jeunes Dirigeants (Young Leaders' Federation)
	<b>FLTT</b>	Fédération Luxembourgeoise de Tennis de Table
	<b>FOC</b>	Free of Charge
	<b>FRM</b>	Fatigue Risk Management
	<b>FTE</b>	Full Time Employee
	<b>FTK</b>	Freight Tonne Kilometers
	<b>FWB</b>	Freight Weight Bills

<b>G</b>	<b>GDP</b>	Good Distribution Practice
	<b>GDPR</b>	General Data Protection Regulation
	<b>GHA</b>	Ground Handling Agreement
	<b>GHG</b>	Greenhouse Gas
	<b>GPS</b>	Global Positioning System
	<b>GRI</b>	Global Reporting Initiative
	<b>GSA</b>	General Sales Agent

<b>H</b>	<b>H&amp;S</b>	Health & Safety
	<b>HAWB</b>	House Air Waybill
	<b>HCM</b>	Human Capital Management
	<b>HQ</b>	Headquarters
	<b>HR</b>	Human Resources

<b>I</b>	<b>IAAIA</b>	International Association of Airline Internal Auditors
	<b>IATA</b>	International Air Transport Association
	<b>IATP</b>	International Airlines Technical Pool
	<b>ICAO</b>	International Civil Aviation Organization
	<b>IIA</b>	Institute of Internal Auditors
	<b>IOSA</b>	IATA Operational Safety Audit
	<b>IPATA</b>	International Pet & Animal Transportation Association
	<b>IQSMS/IQ SMS</b>	Safety Management Systems
	<b>ISO</b>	International Organization for Standardization
	<b>IT</b>	Information Technology

<b>K</b>	<b>Km</b>	Kilometer
<b>L</b>	<b>LAPB</b>	Live Animal & Perishables Board
	<b>LCL</b>	Luxembourg Center for Logistics
	<b>LCSB</b>	Luxembourg Center for Systems Biomedicine
	<b>LED</b>	Light-Emitting Diode
	<b>LTF</b>	Lightning Training Flight
	<b>LIDO</b>	Lufthansa Integrated Dispatch Operation
	<b>LOIC</b>	Luxembourg Open Innovation Club

**M****M&E** Maintenance & Engineering**MHP** Mental Health Professional**N****N3 speed margin****NASI** Cargo Door Venting Systems**O****OHS** Occupational Health & Safety**OPS/Ops** Operations**OSSA** Open Secure Storage Area**P****PBN** Performance Based Navigation**PET** Polyethylene (plastic)**PSP** Peer Support Program**R****RFID** Radio Frequency Identification**RSB** Roundtable on Sustainable Biomaterials**RCS** Ready for Carriage**S****SAFUG** The Sustainable Aviation Fuel Users Group**SIPO** Suivi Pédagogique et Thérapeutique du jeune enfant et de sa famille**SDG** Sustainable Development Goals**SRF** Scientific Research Fund (Belgium)**T****TTTF** Time & Temperature Task Force**TMS** Trucking Management System**U****UFW** United for Wildlife**ULD** Unit Load Device**UN** United Nations**US** United States**V****VAT** Value-Add Tax**VP** Vice-president**W****WDC** Whale & Dolphin Conservation



**Cargo**



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