EnergyEfficiency4HORECA

CO_2 reduction in the hotel and catering industry along the entire value chain

17th of October 2024
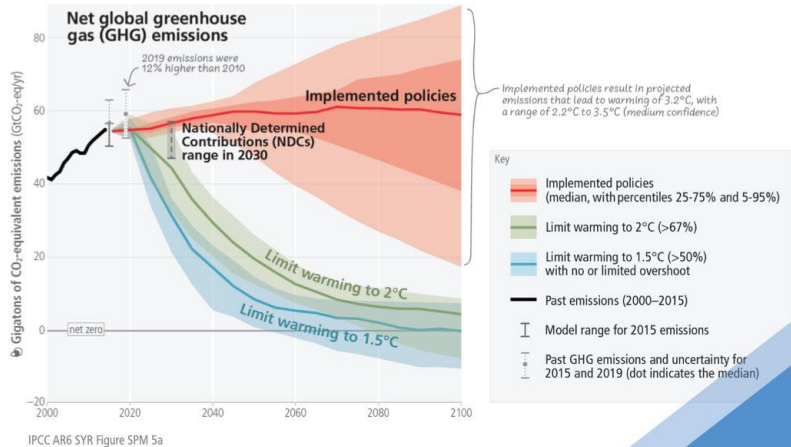
Climate change is the most urgent challenge facing humanity
CO$_2$ budget for 1.5°C will be used up in less than 3 years

1913

2015

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ClimatePartner customers along the tourism value chain

A selection of customers in tourism

Mobility

FREE NOW   TIER

erento   JOBRAD

zeelo   roadsurfer

SWITCH   /Flughafen München

Travel

CHECK24   EGENCIA BUSINESS TRAVEL • EXPEDIA, INC.

BAVARIA FILM   p

BCD travel   alpetour

aft TRAVEL MANAGEMENT   Lufthansa City Center

Hotels

H4Hotels   NoVUm group hotels

MARITIM HOTELS   DEUTSCHE HOSPITALITY

FREIGEIST·HOTELS   Dorint Hotels & Resorts

RETTER BIO-NATUR-RESORT   BIO HOTELS

Destinationen

WILDER KAISER   Kitzbühel

INNS'BRUCK   st.Anton ARLBERG

Zell am See – Kaprun Klima- und Energie Modellregion   WIEN

Kufsteinerland verbindet   St.Johann im Tirol Oberndorf • Kirchdorf • Erpfendorf

MICE

BUNDES PRESSEBALL   BITS & PRETZELS THE FOUNDERS FESTIVAL

EUROPEAN CHAMPIONSHIPS MUNICH 2022   Hamburg Messe + Congress

XING Events   gamescom

ticketmaster   Messe Stuttgart

Attractions

Dolomites Seiser Alm   saalbach HINTERGLEMM - LEOGANG - FIEBERBRUNN

SKIRAMA DOLOMITI adamello brenta   FLACHAU WAGRAIN SNOW SPACE ST. JOHANN SALZBURG

Ski Zürs SKI ARLBERG   Jochelspitze

ISCHGL Relax. If you can ...   STUBAIER GLETSCHER

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Trends, regulations & standards
Sustainability is omnipresent and will remain essential

Booking.com Studiy
- 76% of German travelers consider sustainable travel important (...)

First legal provisions
- The **Green Star** South Tyrol: In future, businesses that provide their guests with sustainable accommodation and care will be able to display a green star in addition to the classic star rating

- **CSRD** - Corporate Sustainability Reporting Directive: Large companies must report on sustainability on a mandatory basis

International Standards
- **GSTC** - Global Sustainable Tourism Council
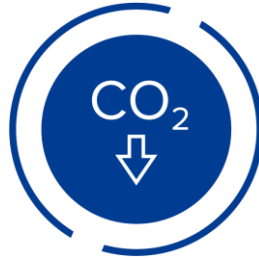- **HCMI** - Hotel Carbon Measurement Initiative

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A holistic climate action strategy consists of 5 steps

$\sum CO_2$

Measure carbon footprints

Set reduction targets
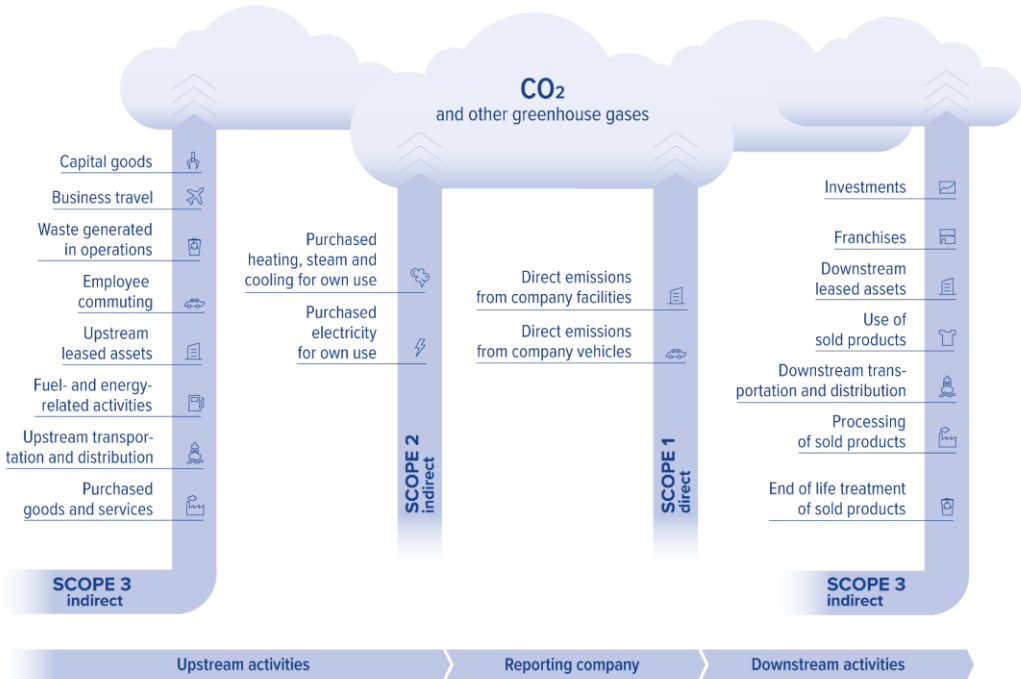
CO_2

Implement reductions

Finance climate projects

Communicate transparently

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The basis of every carbon footprint is the data on the generation of greenhouse gas emissions
Operational system limits by scopes

Scope 1
Self-regulated emissions (direct)

Scope 2
Purchased energy (indirect)

Scope 3
Upstream and downstream emissions (indirect)

Consumption data   **x**   **Emission factors**

- Quantification of relevant activities
- Example: Consumption of 100 liters of diesel

- Quantify greenhouse gas emissions per unit of activity
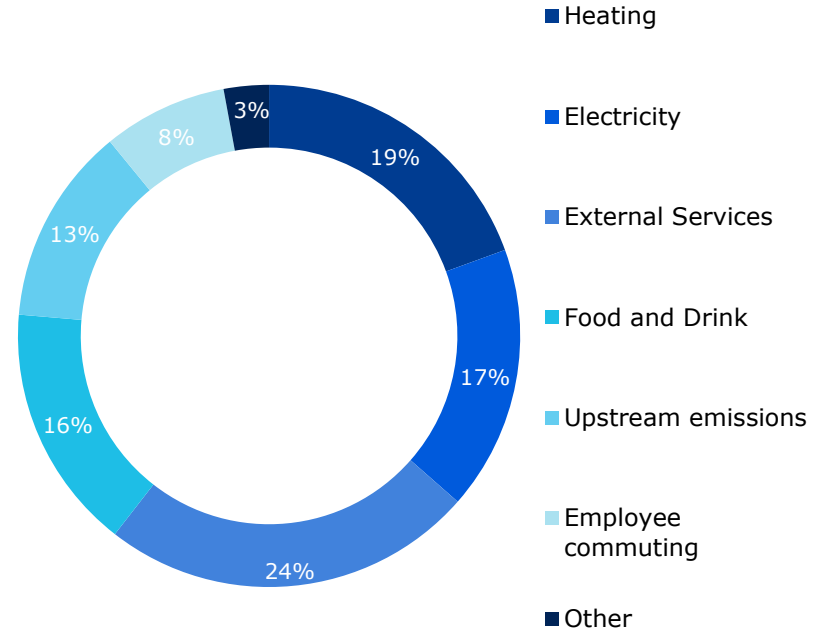- Example diesel fuel: 2,64 kg CO_2e / l

=

Emissions in CO_2e

Example diesel fuel: 264 kg CO_2e

Calculation of emissions based on consumption data and emission factors

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Corporate Carbon Footprint (CCF)
Example for a 4*S hotel (100 rooms, 1.000 m² wellness hotel)

		[t]	[%]
Scope 1	Heating	158,86	29,1
	Vehicle fleet	28,1	5,1
	Cooling agents	1,15	0,2
	Sub-total	**181,11**	**34,4**
Scope 2	Electricity	112,29	20,4
	Sub-total	**112,29**	**20,4**
Scope 3	Food and Drink	89,80	16,4
	External dry cleaning	19,21	3,5
	Upstream emissions (electricity, heat, fuels)	68,62	12,5
	Employee commuting	42,73	7,8
	Water	7,51	1,4
	Waste	19,08	3,5
	Office paper/Printed products	5,877	1,1
	Sub-total	**252,82**	**45,2**
Total		**546,22**	**100,0 %**

Legend:
- Heating
- Electricity
- External Services
- Food and Drink
- Upstream emissions
- Employee commuting
- Other

Chart values: 3%, 19%, 8%, 13%, 17%, 16%, 24%

The Corporate Carbon Footprint enables the recognition of reduction and avoidance measures
Reduction potentials of a 4*S hotel

		[t]	[%]
Scope 1	Heating	158,86	29,1
	Vehicle fleet	28,1	5,1
	Cooling agents	1,15	0,2
	Sub-total	**181,11**	**34,4**
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- Optimisation of the heat supply, insulation
- Intelligent heating control (room/floor)
- Energy audit, heat recovery

- Conversion to green electricity

- Increased vegetarian, vegan plates
- Seasonal, regional products
- Reduction of animal products

- Check cooperation with service providers
- Choose shorter transport routes

- Offer job ticket/bike leasing for employees

- Reduction of food waste

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Carbon Footprint of a hotel stay
Overnight stay 4*S hotel

5%
10%
25%
60%
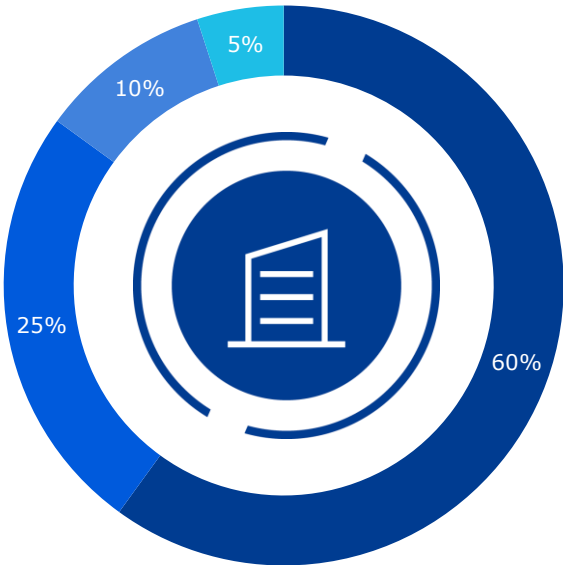
- Electricity & Heat
- Food & Drink
- Waste Disposal
- Wasser

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| Scopes	Average balance sheet share	Footprint reduction potential	Info
Scope 1	Scope 1	Scope 1	Scope 1
Heat	20%	ca. 15%	Switch to sustainable energy sources - emissions here not "0" as with green electricity, but significantly lower
Scope 2	Scope 2	Scope 2	Scope 2
Electricity	20-40%	20 - 40%	If the hotel has green electricity, there are no emissions in Scope 2
Scope 3	Scope 3	Scope 3	Scope 3
Gastronomy	15-40%	5-10%	Offer more vegetarian and vegan dishes, use seasonal products.
Dry cleaning	5-25%	1-10%	Reduction potential is often dependent on external service providers; reducing the amount of laundry always has a positive impact on the CO2 balance.
Employee approach	8-14%	5%	Good opportunities, e.g. by promoting tickets for public transport or organizing shuttle buses.
Water	1-8%	1%	Reduction potential through water-saving systems - depending on the facilities and services offered by the establishment (e.g. spa, wellness area).
Logistics	1-5%	1-5%	Promote climate-neutral delivery. Many service providers already offer this.

Important: Depending on how you set the system boundaries (i.e. what you include in the balance), the percentage distribution can vary, as this always relates to the total footprint.

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Carbon Footprint & reduction actions
Example prioritization of reduction measures in Scope 1+2

	Measures	CO_2 reduction	Cost efficiency	Easy to implement?	Priority
Optimize Energy consumption	Optimization of work processes	▰▰▰▱	▰▰▰▱	▰▱▱▱	**1**
	Modernized devices/equipment	▰▰▱▱	▰▱▱▱	▰▰▱▱	**2**
	Heat recovery from exhaust air	▰▰▰▱	▰▱▱▱	▰▰▱▱	**2**
	Insulation of buildings	▰▰▱▱	▰▱▱▱	▰▰▰▱	**3**
Switch to options with lower emissions	Own renewable energies (PV system, etc.)	▰▰▰▰	▰▰▱▱	▰▰▰▱	**2**
	Green energy tariff	▰▰▰▱	▰▰▰▱	▰▰▰▰	**1**
	Combined heat and power (CHP)	▰▰▱▱	▰▰▱▱	▰▰▱▱	**3**
	Switch to e-mobility	▰▰▰▰	▰▰▱▱	▰▰▰▱	**2**
Engage	Sensitise employees	▰▱▱▱	▰▰▰▰	▰▰▱▱	**1**

A comprehensive climate action strategy consists of measuring, reducing, and contributing
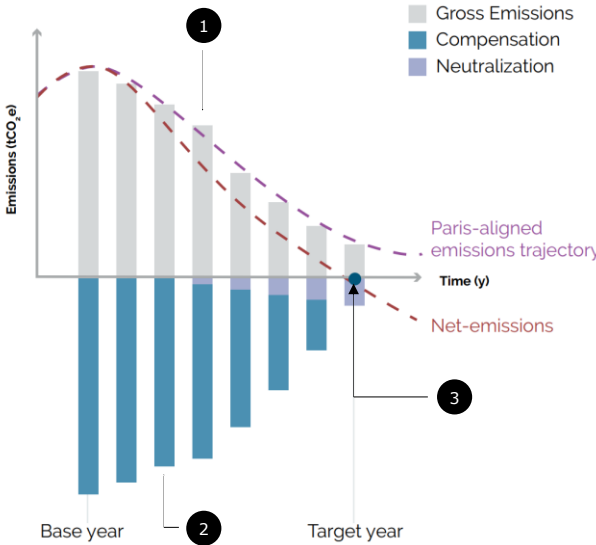
1 **Reduce** continuously

2 **Contribute** to finance climate projects worldwide

3 Achieve **Net Zero in the future**

Companies must scale up investment and go beyond their science-based targets by channeling additional **climate finance towards mitigation activities outside of their value chains** now to contribute towards reaching societal net-zero.

Finance, technology and international cooperation are critical **enablers for accelerated climate action**. If climate goals are to be achieved, both adaptation and mitigation **financing would need to increase many-fold**.

Source: sciencebasedtargets.org

Bio Natur Resort Retter

Living sustainability in hotel operations

- Heat generation with wood chips

- 100% green electricity

- Heat through optimized energy concept

- Saving 3 million liters of drinking water per year by flushing toilets with rainwater

- Conversion of vehicle fleet to e-cars

- 10 free e-charging stations

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Naturhotel Chesa Valisa
Organic and sustainability for generations

- The Chesa Valisa was one of the first organic hotels in Europe

- Credo: "Making the world a better place with our actions"

- 100% organic cuisine: regionality, seasonality and quality

- Cooperation with local farmers and certified organic producers

- Carbon neutral since 2007: offsetting of residual CO_2 emissions and use of renewable energy

- Own spring water from the hotel's own spring

- Ecological construction: Wood from regional forests, natural materials for the extension and energy efficiency

- Continuous improvement of sustainability standards and promotion of a conscious lifestyle - not only in the hotel, but also among employees and guests

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