CERN's Environmental Objectives

Domain	What	Baseline	Horizon End Run 3	Horizon 2030
Energy	**Electricity Consumption**	**1251 GWh** in 2018	Limit increase to **5%** vs. 2018 (1314 GWh)	**1500 GWh / year maximum** **10% Renewable** (PV PPAs*)
	Gas Consumption			**Reduce by 60%** vs. 2018
Greenhouse Gas Emissions	**Direct Emissions**	**192 100 tCO_2e** in 2018	Reduce by 28% vs. 2018	**Reduce by 50%** vs. 2018
	Indirect Emissions – Commuting	**62%** used Individual MT† in 2022		**50% or fewer** in Individual MT†
	Indirect Emissions – Duty Travel	**3330 tCO_2e** in 2019		**Reduce** duty travel emissions **by 30%**
	Indirect Emissions – Catering			**50%** of menu** **vegan/vegetarian**
	Indirect Emissions – Procurement		**Environmentally Responsible Procurement Policy** implementation and actions to **minimise the environmental impact** throughout the lifecycle of goods & services purchased by CERN	
Water	**Total Consumption**	**3477 ML** in 2018	Limit increase to **5%** vs. 2018 (3651 ML / year)	**Below 3600 ML / year**
	Effluent			**Increase retention volume** Reduce Zinc load by **90%**
Waste	**Non-hazardous Waste**	**56%** recycling rate in 2018	**Increase** recycling rate	**Keep recovery rate above 70%** **Increase reuse** by **10%** vs. 2022 **Reduce** per-person waste **5%** vs. 2022
	Radioactive Waste		-	Keep recycled waste from clearance of former radioactive waste **above 55t/y**
Noise	**Volume**	Yearly noise measurement campaigns since 2018	Below **70 dB by day** at perimeter Below **60 dB by night**	**Reduce noise hotspots** (>40 dB) **in residential areas**

*Photovoltaic Power Purchase Agreements †Individual Motorised Transport **50% of meal options offered in canteens

Whilst...

Continually **optimising** our machines and operations to **reduce energy consumption, increase efficiency and recover waste heat**

Producing **5 – 7.5 x more data** using a **maximum of 14% more electricity**

Undertaking significant **consolidation and renovation projects** to ensure the **environmental sustainability** of our infrastructure

Continuing to **develop new technologies** that help mitigate society's impact on the environment

Supporting our **global collaboration** of over **12 400 scientists‡**

Inspiring **over 350 000** visitors, students and teachers from across the world each year in the **CERN Science Gateway**

Fostering **peaceful collaboration between nations** and acting as a role model for environmentally responsible research

‡Number of registered CERN Users as of 31.12.2024.

Ionising Radiation

CERN **continuously monitors** radiation levels in real-time both on and off its sites.

The European annual dose limit for public exposure to artificial sources is 1 mSv.

CERN is committed to keeping its contribution to no more than 0.3 mSv per year.

At horizon 2030, CERN commits to keep the radiological environmental impact due to ionising radiation on the reference population groups **below 0.02 mSv per year.**

Hazardous Substances

CERN aims to **reduce the potential environmental impact** of any hazardous substances used in its activities.

At horizon 2030, CERN commits to reduce the amount of **transformer oil** present on its sites by switching to **dry electrical transformers**.

Biodiversity

In 2022, CERN completed its first **biodiversity inventory**.

The CERN site spans **625 hectares** of **grasslands, shrublands, meadows, woodlands and wetlands.**

At horizon 2030, CERN commits to **preserve the fauna and flora** in identified **areas of ecological interest**, and **reduce** the presence of **urban heat islands** on its sites.