

Wie nachhaltig ist die ITK-Branche?

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Sustainability is a core ingredient of Colt's DNA and its future business strategy

Sustainability defines the future of our industry

Our carbon reduction targets are science-based, credible and customer focused.



We integrate sustainability into everything we do



Sustainability is central to how we do business



Our science-based targets will drive the future of Colt

Nachhaltigkeit

Ein junger Begriff mit
langer Geschichte

Nachhaltende Nutzung der
Wälder

Oberberghauptmann
Hans Carl von Carlowitz (1645-1714)
aus Freiberg (Sachsen)



Reduce carbon emissions

More than 90% of operator's carbon footprint is due to electricity consumed.

ABI Research



What are our baseline Scope 1, 2 and 3 emissions?

Scope 1



Direct Emissions

from own combustion activities (on site) e.g., gas consumption, diesel & transport

Scope 2



Indirect Emissions

from purchased electricity for own use.

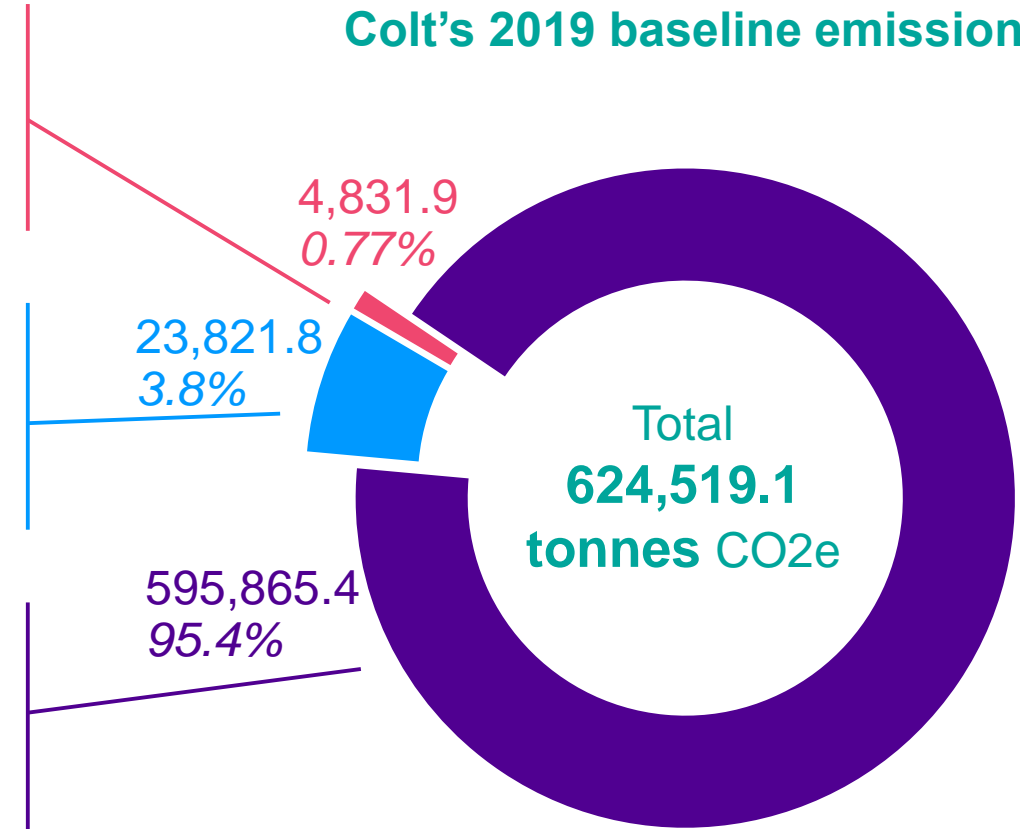
Scope 3



Value Chain Emissions

from production of purchased materials & services in supply chain. upstream and downstream leased assets business travel

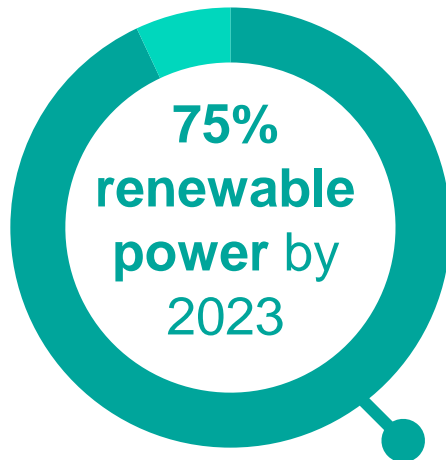
Colt's 2019 baseline emissions



We can achieve Scope 1 and 2 targets while growing our business

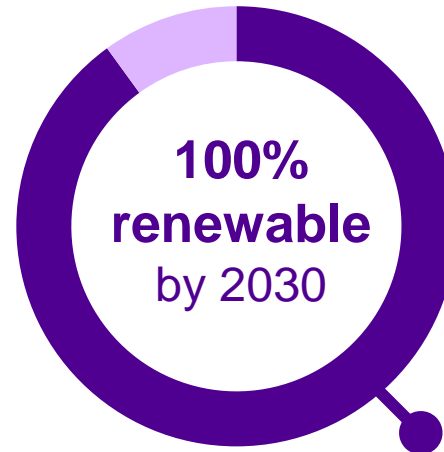
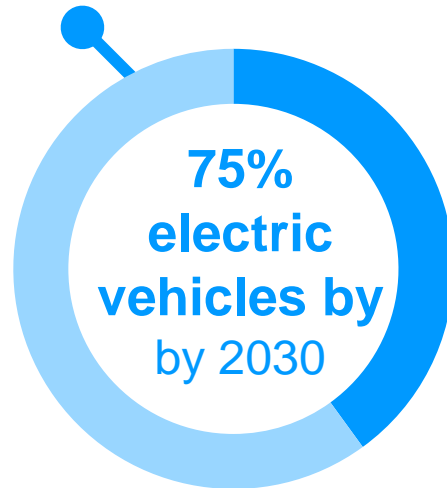
LEASED VEHICLES

All leased vehicles to be electric



ELECTRICITY

Renewable energy procurement.
Future savings through purchase agreements or self-generation.



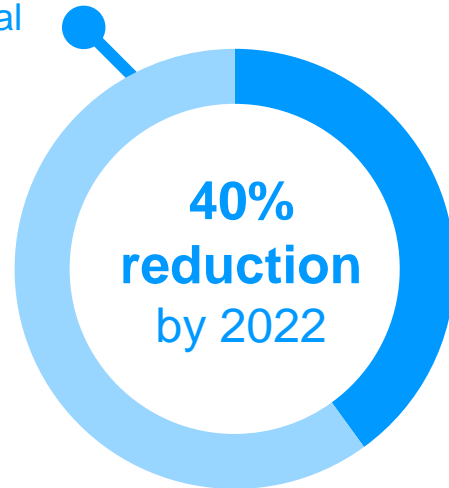
NATURAL GAS

Switch to renewable fuels away from natural gas

We are working with our value chain to reduce our scope 3 emissions

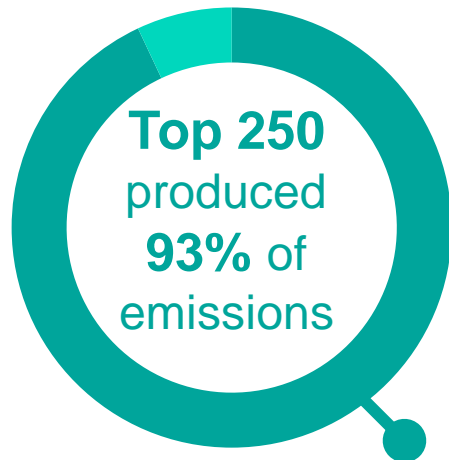
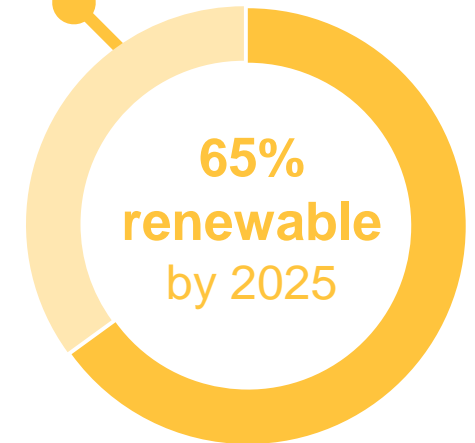
BUSINESS TRAVEL

Reduced travel through video conferencing and carbon removal offsets



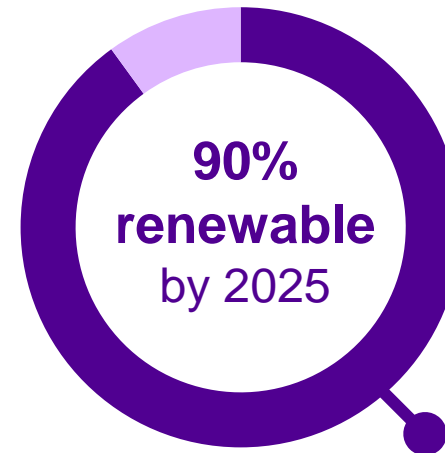
DOWNSTREAM LEASED ASSETS

Renewable energy procurement



PG&S AND CAPITAL GOODS

Supplier engagement



UPSTREAM LEASED ASSETS

Renewable energy procurement

Reduce carbon emissions per bit of data

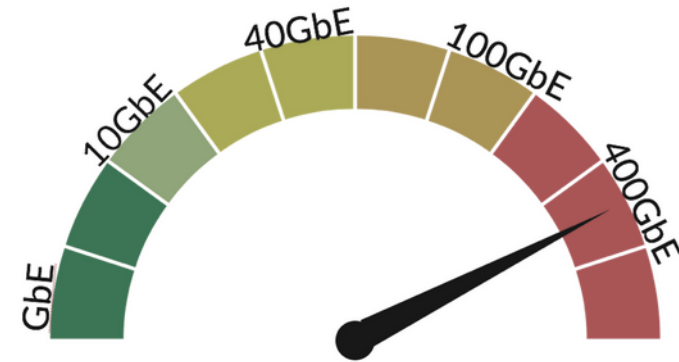
Offset by constantly increasing volume of data traffic

Different metrics for calculating energy efficiency in telecoms

Advancements in technology help a lot

- 10G wavelengths at 1.9 W/Gbps
- 100G wavelengths at 0.83 W/Gbps
- 400G wavelengths at 0.46 W/Gbps

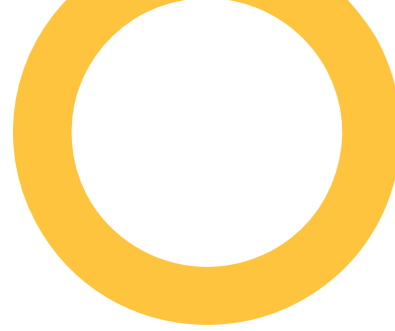
Still net increase annually



Run green networks

Networks consume more than 75% of all the electricity a service provider uses.

STL Partners



Making networks green

Passive reduction of carbon footprint

- Renewable energy to power networks
- Often beyond operator's control – local climate, regulatory environment, price of energy

Active reductions

- Preference for optical vs. Ethernet/IP technology
- Shared vs. dedicated services



Use AI and machine learning

- Tools providing useful information about energy consumption
- Adjusting network capacity during busy hours and slower times – e.g. nights and weekends
- Advanced root cause analysis making field operations more efficiently



Nothing will change just by collecting information

Stats about energy use don't matter unless somebody acts on them

Increase level of automation

1

Transforming our network to a green network through the power of **SDN**, **NFV**, and **AI**

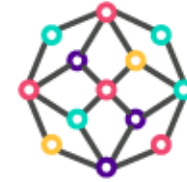


SDN-enabled self-provisioning

Customers can order and activate Colt services through an online portal, or via APIs (Application Programming Interfaces) - no need to physically install the service each time



On Demand On Demand customers can turn the bandwidth of their services up and down as they need it. This means that network services are never over-provisioned, reducing energy consumption.

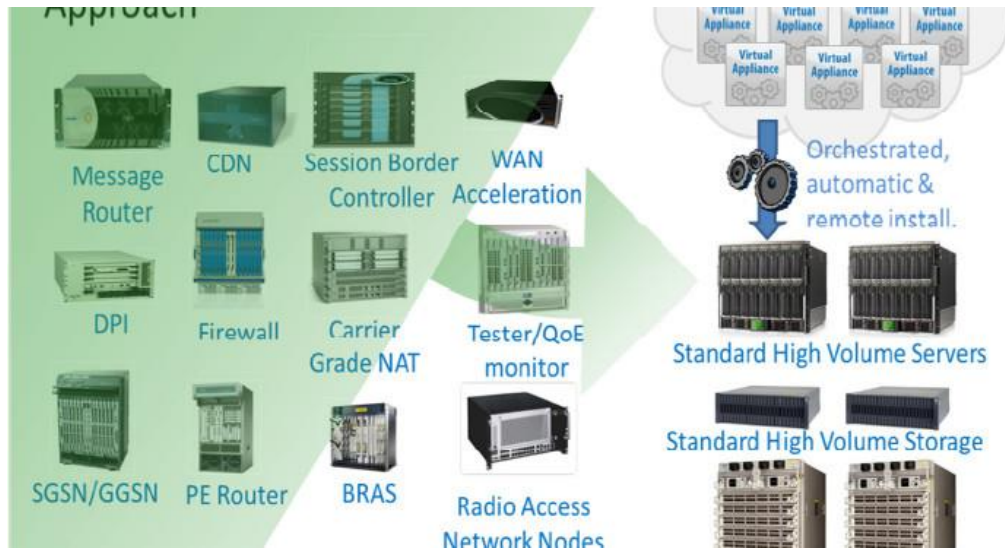


Network Function Virtualisation (NFV)

NFV moves us away from needing multiple units of hardware at each site, to using single centralised servers where multiple virtualised network functions can be performed.



Prioritize device longevity



- NFV and Universal CPE – extend lifetime of NEs
- Implement virtualization to reduce dependence on physical devices
- Drive reuse of older platforms for new services
- Also minimizes supply chain emissions
- Not the original intention of NFV but helps a lot

Shut down legacy networks

- From SDH end-of-life alone, Colt forecasts to reduce power consumption by 14 GWh per year
- Consolidation of technologies – e.g. 4G/5G RAN
- Evolutionary process – new technology developed with energy efficiency in mind



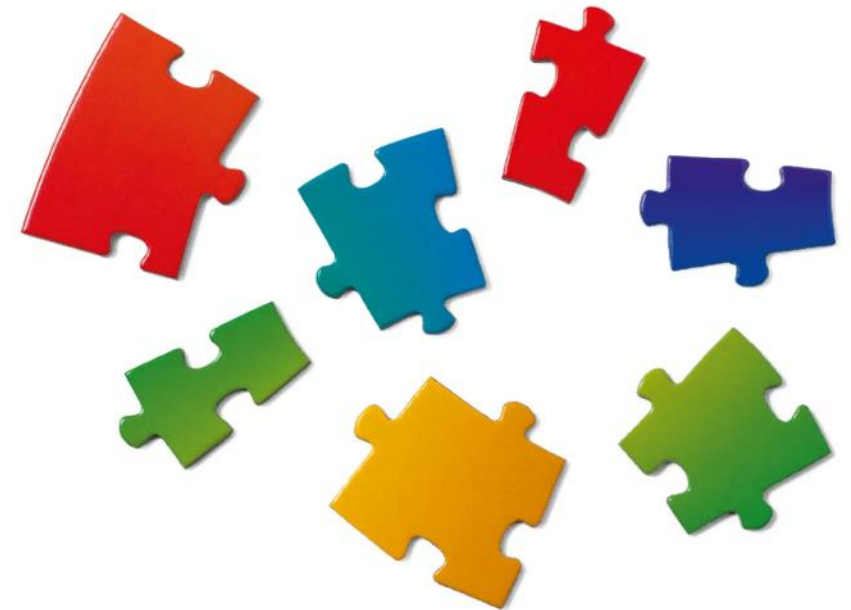
A complex puzzle, in essence

Telcos are focusing on sustainability since years, to some extent unknowingly

A wide range of contributors

But

- Network performance still must be prioritized
- Reliability remains a key metric



colt



Thank you

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