

The background features a vibrant, multi-colored abstract design. On the left, there are overlapping, wavy bands of color in shades of orange, red, and yellow. On the right, a bright white light source emits a series of colorful rays in shades of blue, green, and yellow, creating a sunburst effect. The overall composition is dynamic and energetic.

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The bridge to possible

Developing a Sustainability IT Framework

Dr Colin Seward, Director, Sustainability Technology & Data
PSOGRN-1010



#CiscoLive



Cisco Webex App

Questions?

Use Cisco Webex App to chat with the speaker after the session

How

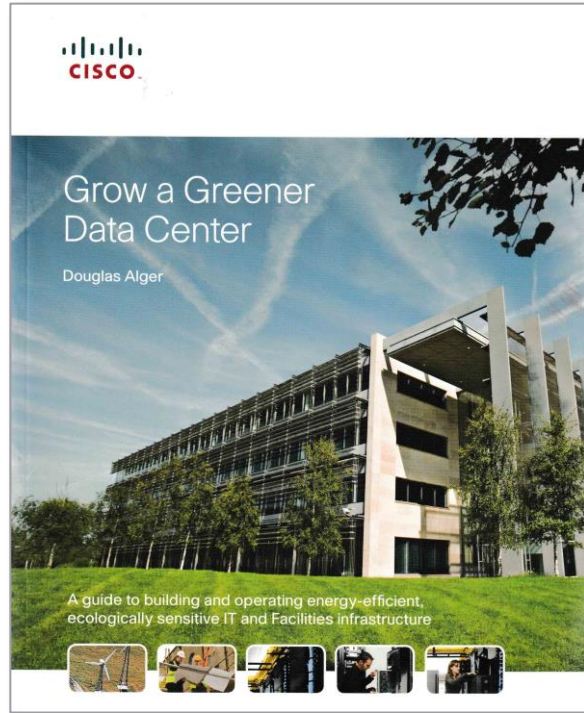
- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 9, 2023.



<https://ciscolive.ciscoevents.com/ciscolivebot/#PSOGRN-1010>

.... haven't we all been doing this for years?



“Grow a Greener Data Center” by Doug Alger, Cisco Press, 2009

- Explores how to green your DC project
- Offers green strategies for DC technologies
- Presents IT and facilities design strategies that can save \$'s
- Reveals financial incentive programs to help pay for green Data Center initiatives
- Outlines Data Center efficiency metrics
- Highlights the lessons of dozens of case studies
- Addresses broader green business practices

Why now? What's changed?



Urgent global problem
How can IT help?



Customer, investor &
employee pressure



Legislation, reporting
standards, scrutiny



Business efficiencies
& new opportunities

*“Transitioning to a net-zero world
is one of the greatest challenges
humankind has faced”*

United Nations

96%

of G250 companies
report on ESG or
sustainability¹

148 countries with a
Net Zero target²



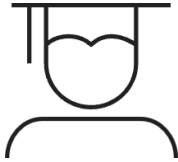
Important purchasing
factor for consumers³

67%

Hiring criteria for 69%
of workers⁴

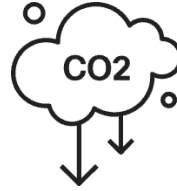


Building our IT Sustainability Strategy



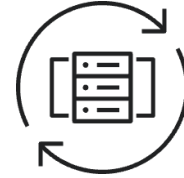
Researching Industry, viewpoints and standards

- ✓ Books, videos, scientific papers, specialist training & certification
- ✓ Supplier briefings, peer discussions, analyst reviews
- ✓ UN SDG, IPCC, ITU, GeSI, SBTi, GSMA, CDP, GRI, SASB, TCFD



Understanding our company emissions

- ✓ What goals did we have? Where did we report?
- ✓ Who completed the report? How did they do calculations?
- ✓ What best practices existed? Who can we partner with?

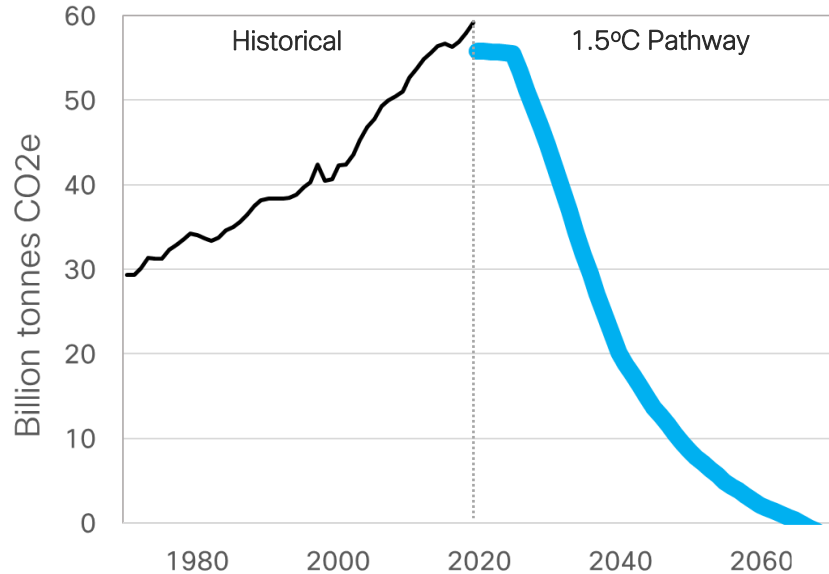


Building our IT Strategy & setting goals

- ✓ What was our IT footprint? Where was the opportunity?
- ✓ Drafted framework & objectives
Reviewed with service owners
- ✓ Calculated a baseline, set goals, started to measure progress

Putting IT in perspective

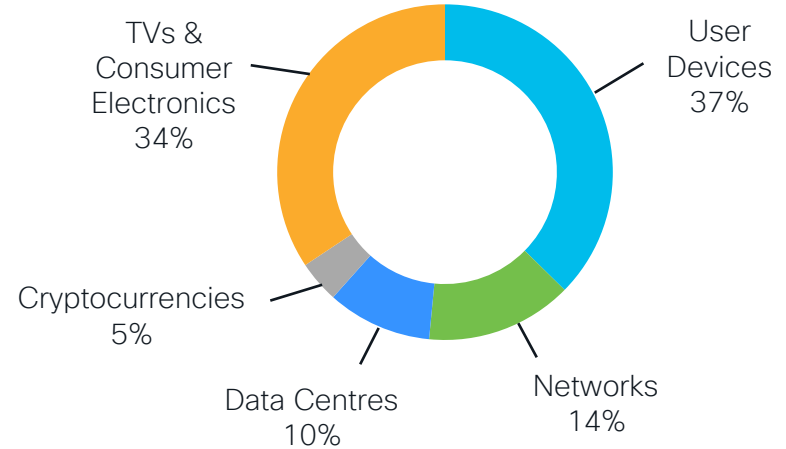
Total GHG emissions
~60 Billion tonnes CO₂e



Based on data from: EDGARv7.0, Crippa et al (2021, 2022), IIASA (AR6 Scenario database)

Digital GHG emissions

~1.4 Billion tonnes CO₂e (2-4% Total)



Digital = ICT + Entertainment & Media

Source: Freitag (2021), Berners Lee (2020), Malmodin (2018, 2023)

Dual Responsibility

“Sustainability in IT”

2-4%



- Renewable Energy
- Greener Data Centre



- Cloud Migration



- Energy Optimization
- Increased Asset Utilization



- Equipment Modernization



- Extended Life
- Remanufactured Equipment
- Supplier Management

15%



“Sustainability by IT”



- Connected Transport
- E-Work / Hybrid Work



- E-Health



- E-Learning



- E-Commerce



- Smart Buildings



- Smart Grid

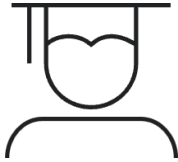


- Smart Agriculture

- Smart Manufacturing

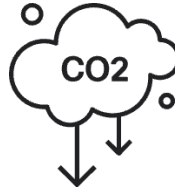
Based on Exponential Roadmap 1.5.1 (2020)
Smarter 2030 (GeSI 2015), Malmödin (2015)

Building our IT Sustainability Strategy



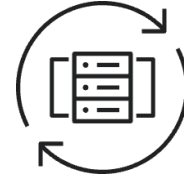
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Cisco's Goal

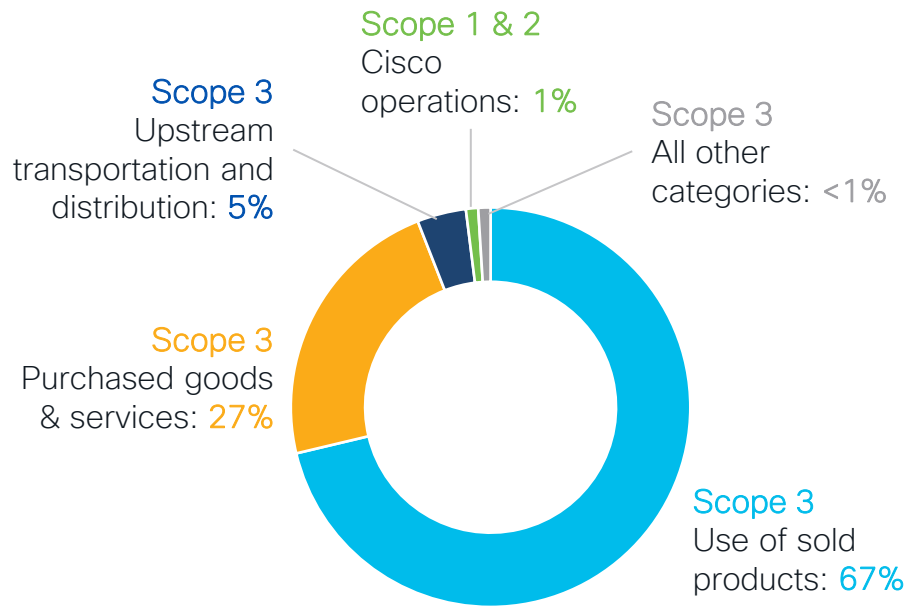
Net zero GHG emissions across our value chain by 2040

Our 2040 net-zero goals and near-term targets are approved by the Science Based Targets initiative (SBTi).



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

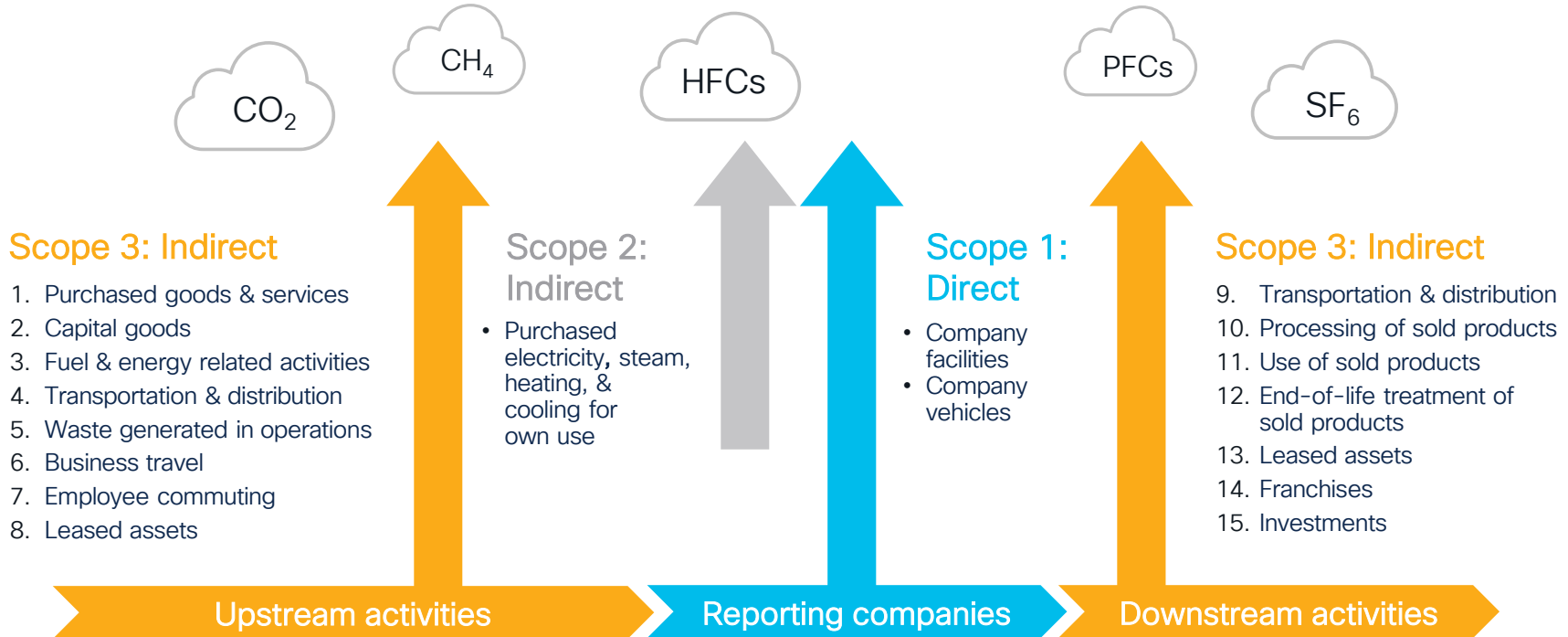
CISCO *Live!*



Source: Cisco's Fiscal Year 2022 ("FY 22") Scope 1, 2, and 3 GHG emissions



What are Scope 1, 2, & 3



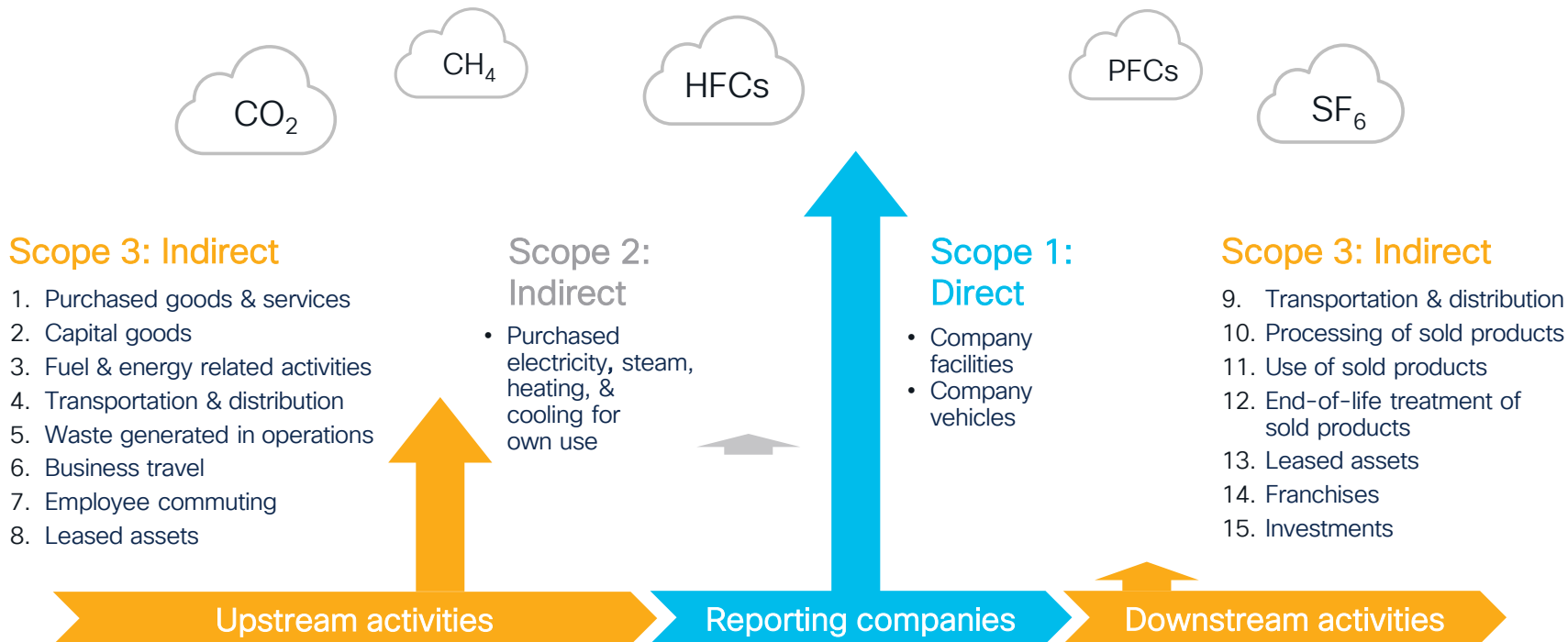
Based on: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

What are Scope 1, 2, & 3 | Cisco



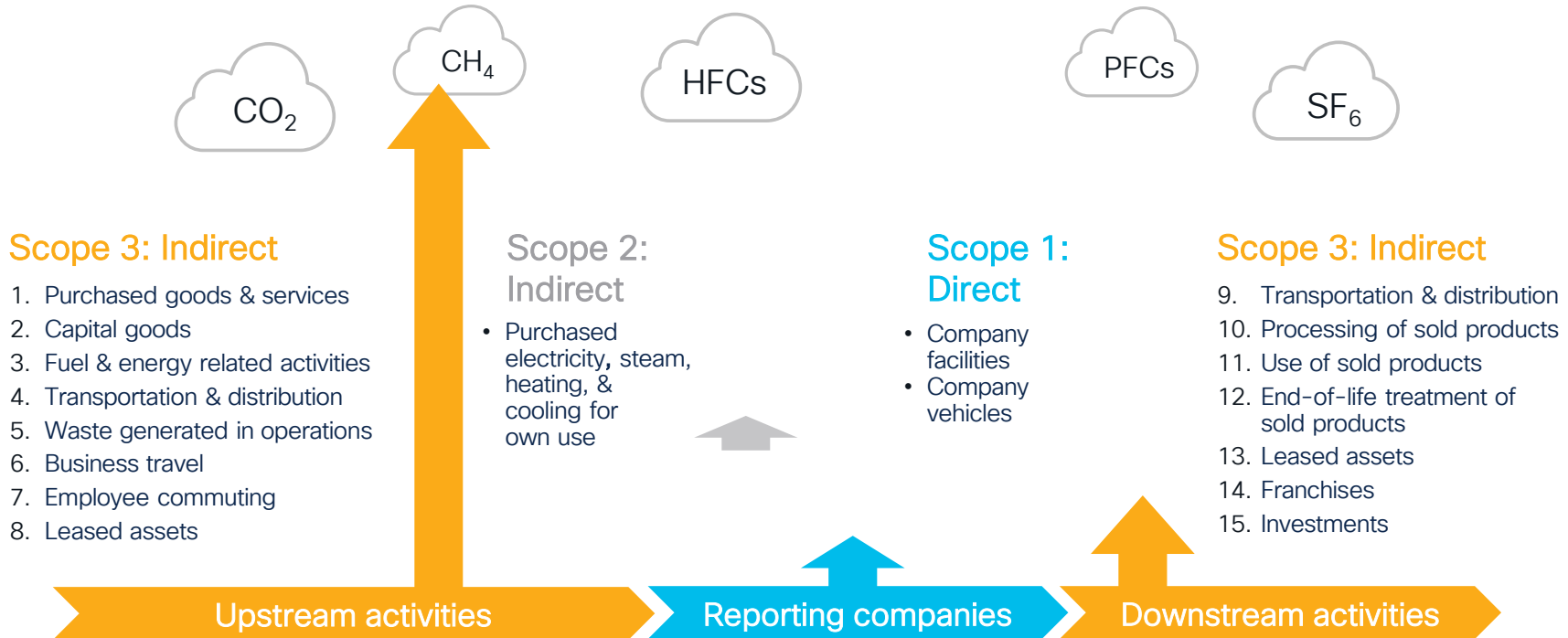
Based on: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

What are Scope 1, 2, & 3 | Transport Services



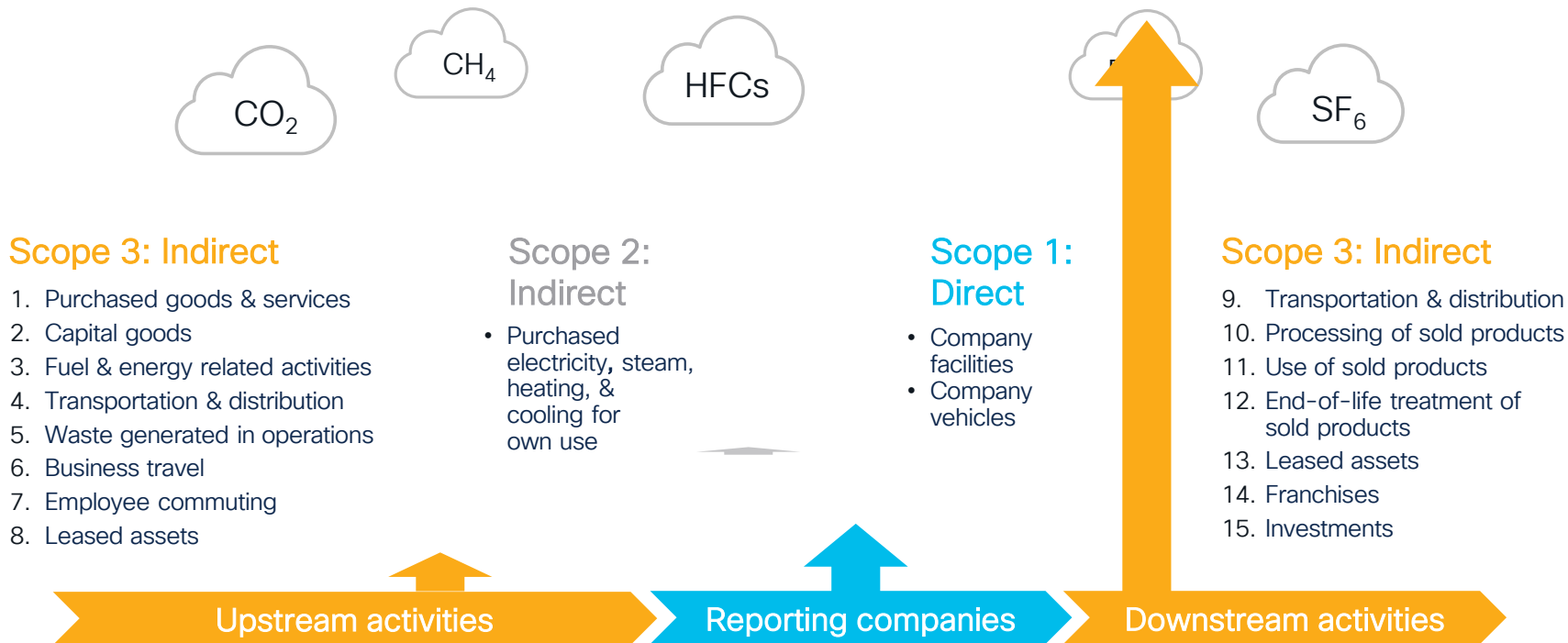
Based on: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

What are Scope 1, 2, & 3 | Food & Beverage



Based on: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

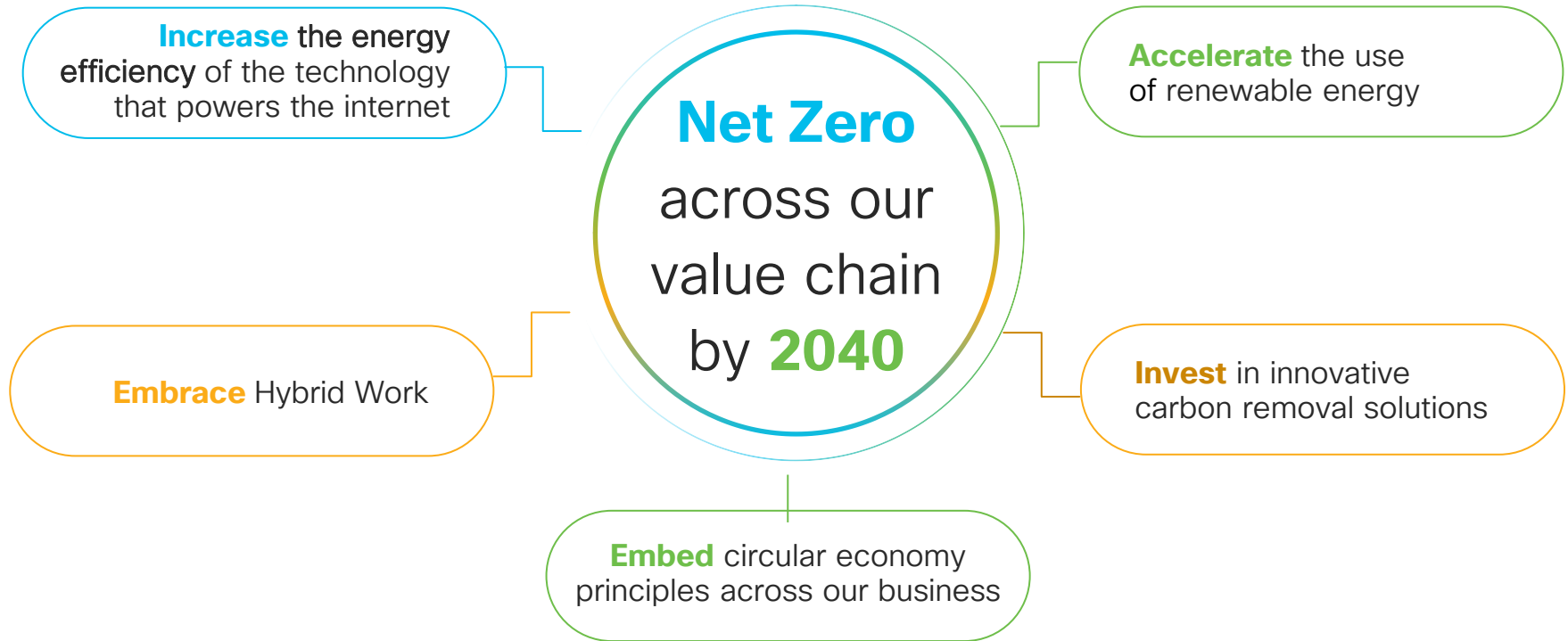
What are Scope 1, 2, & 3 | Oil & Gas



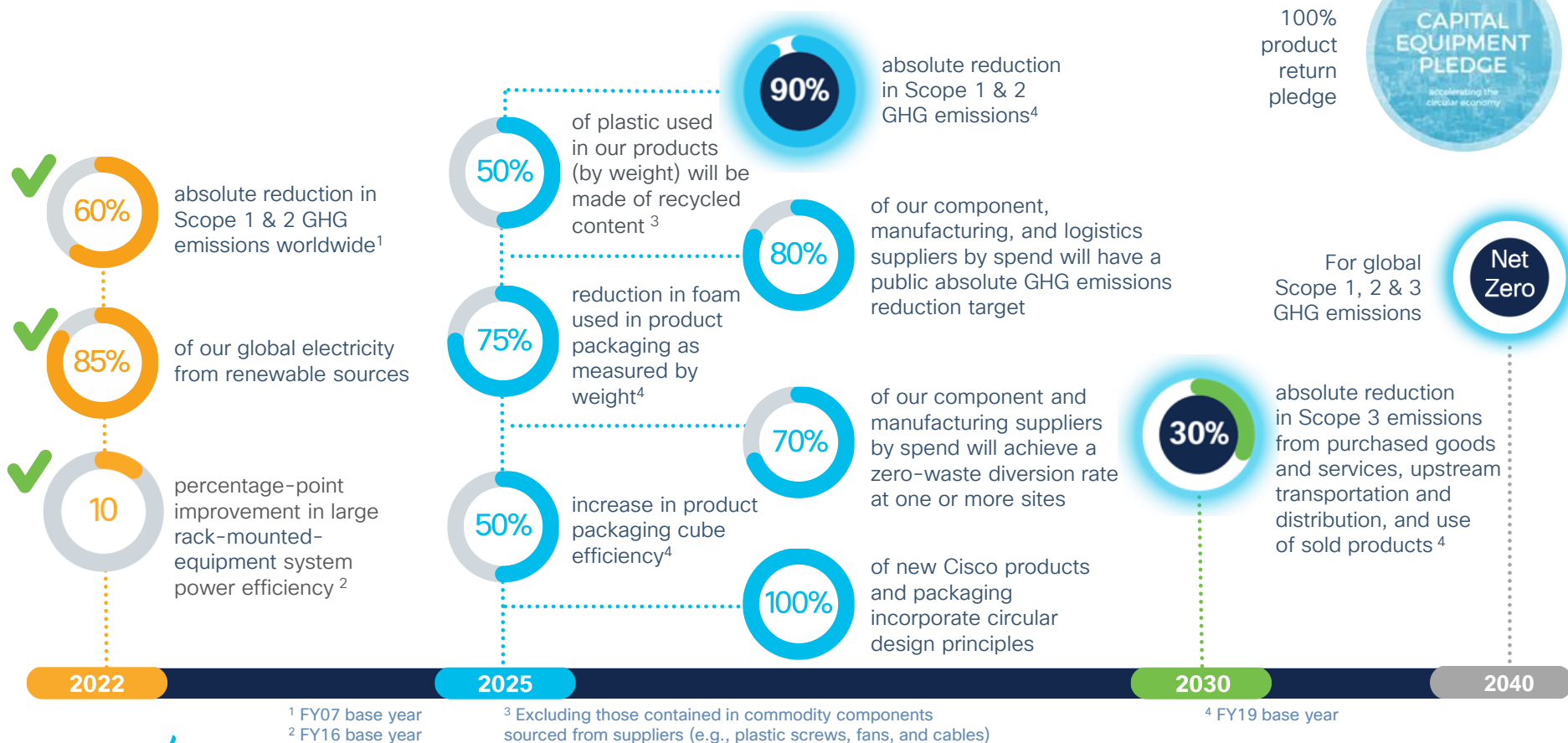
Based on: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

Based on data from CDP (2023)

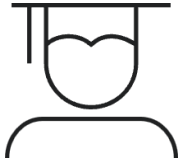
Cisco's strategies to get to Net Zero



Cisco's public sustainability goals

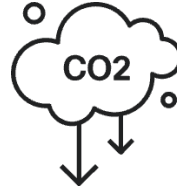


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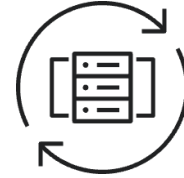
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Understanding our company emissions

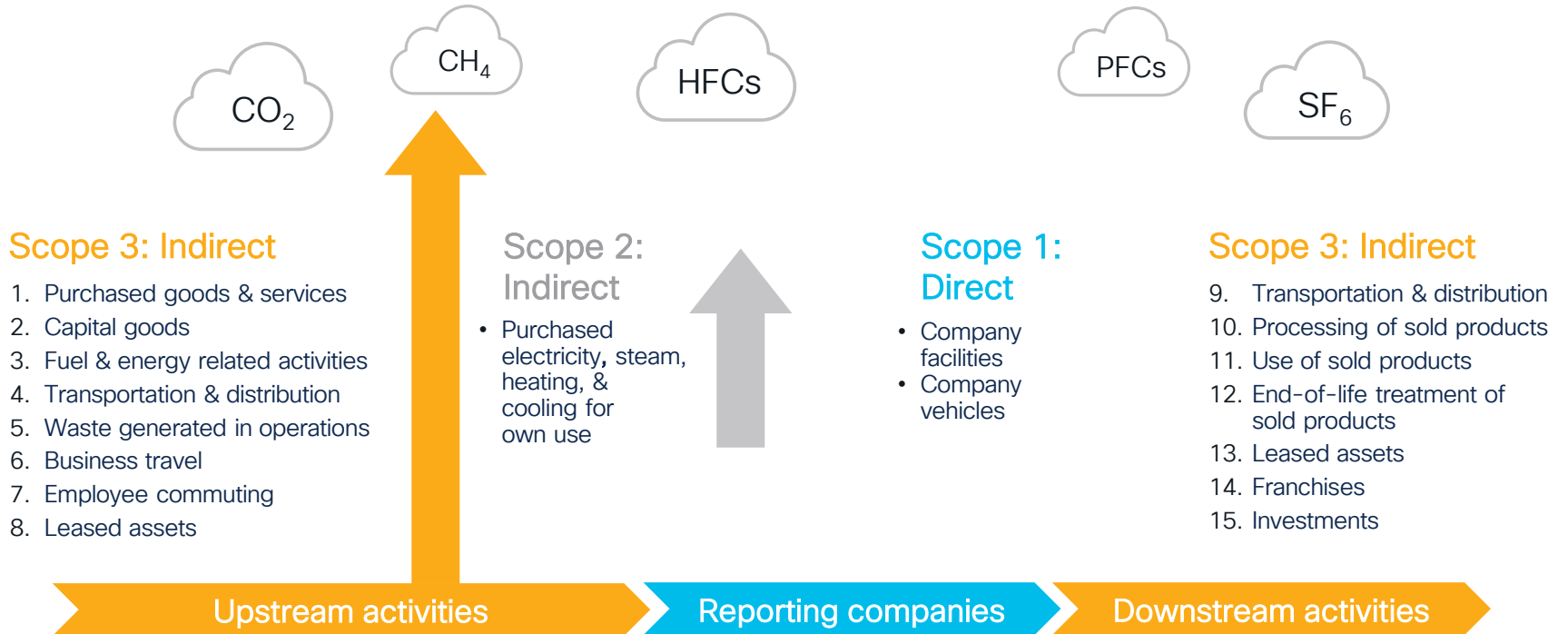
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What Are Scope 1, 2, & 3 | IT

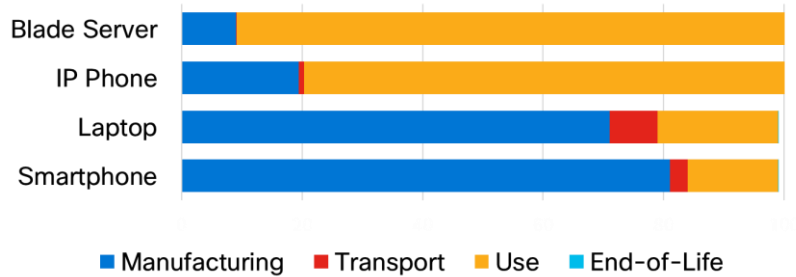


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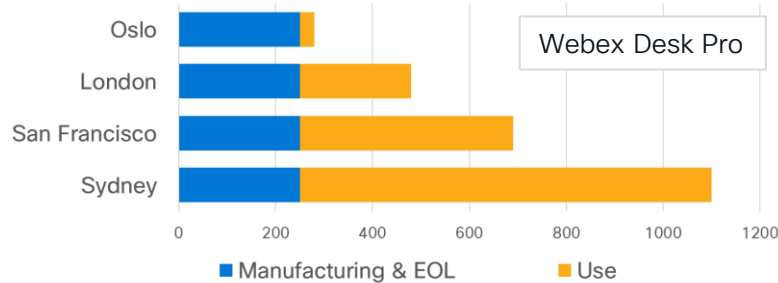
Based on data from Gartner (2022)

Carbon Footprint

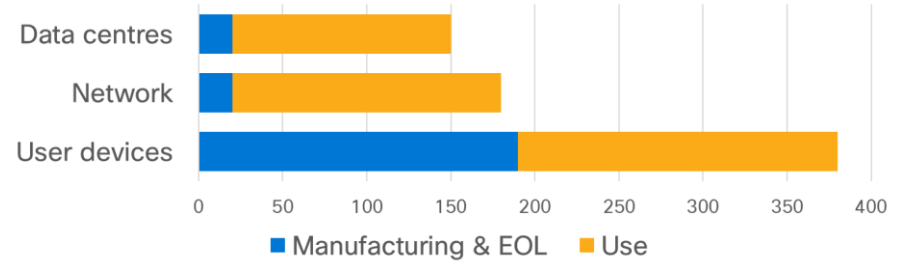
What it is?¹



Where it is?²



How many are there?³



Systems thinking⁴



Data Sources: ¹Cisco(2020) & Apple (2022), ²Cisco (2021), ³Malmodin (2018), ⁴Carbon Trust (2021)

Product Design



Designed for Reuse, Repair & Recycling

UCS-X servers are engineered to be **quickly assembled and disassembled**. The latest generation uses recycled plastic parts, recycled foam packaging, no wet paint, and has a 62% reduction in powder coat compared to the prior generation.



Modular for Easy Upgrades

This **“futureproof”** IR1101 router can adapt to 5G by switching out a small module.



Power Efficiency

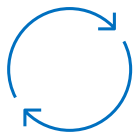
Cisco 8000 Series routers utilize Silicon One to achieve a **163x increase in power efficiency** over previous generations. The power required for memory is **reduced by 98%**.

Also allows for **a 202x reduction in transportation footprint**.

What did we include in our IT sustainability framework?

Circularity Principles

Focus on key stages of our IT service lifecycle: design, procurement, operations, and asset recovery and reuse



Company Alignment

Align and support corporate strategies and initiatives, and provide data foundation for company reporting



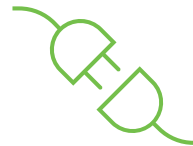
Supported by Culture

Increase awareness of industry standards and Cisco & IT emissions. Unleash employee passion, innovation and creativity



Special Areas of Focus

Alignment with goals for reducing Scope 1 & 2 emissions



Cisco IT Sustainability Framework

Align & Support Company Sustainability Goals & Initiatives

Sustainable by Design



- Design principles / Best practices
- Life Cycle & System Thinking
- Review design impact with stakeholders

Responsible Procurement



- Analyze IT spend
- Prioritize focus areas
- Supplier scorecard / goal tracking
- Supplier Code of Conduct

Optimization of Operations



- Holistic service view
- Extend life / Improve performance
- Asset utilization / Remove excess
- Automation to scale

Asset Lifecycle Management



- Consider at design phase
- Process assets to next-best use
- Leverage supplier best practices
- Asset traceability

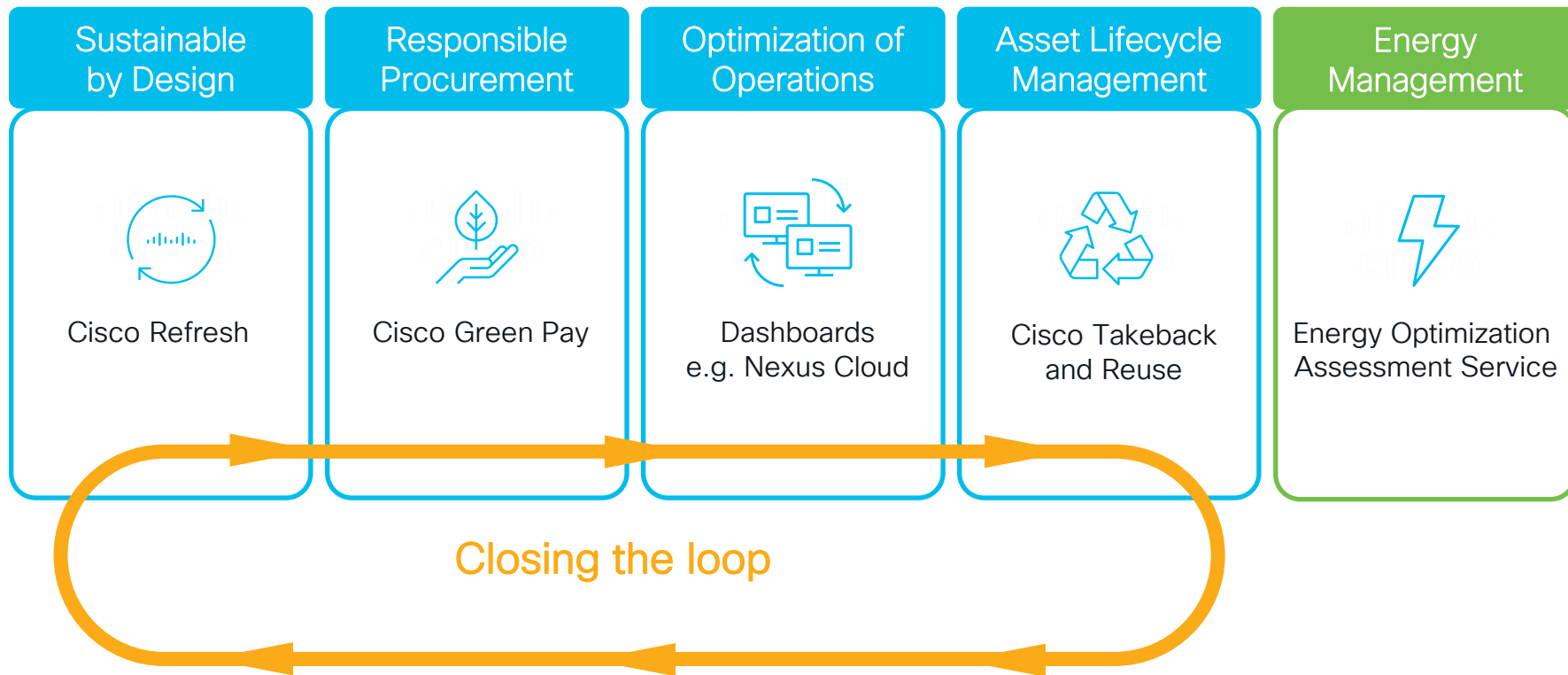
Energy Management



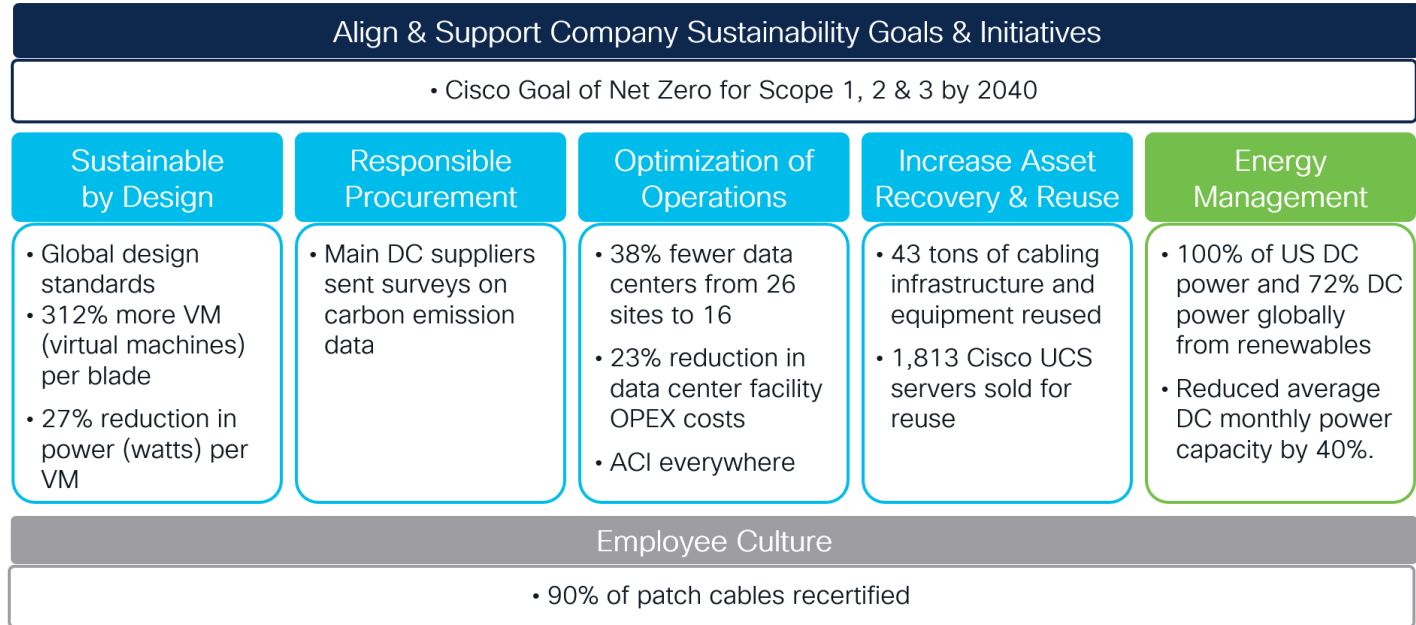
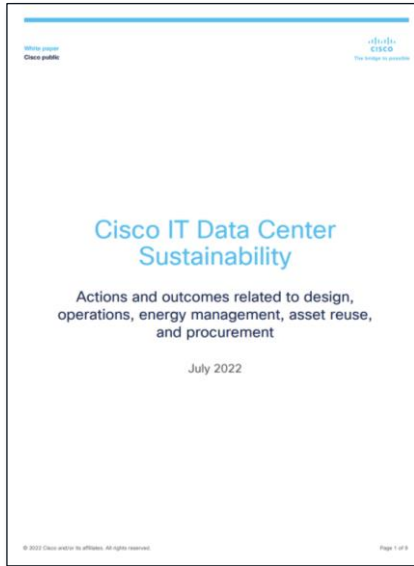
- Source renewables
- Measure & monitor use / energy visibility
- Improve power efficiency
- Optimize energy consumption

Employee Culture

Closing the Loop: Suppliers + Customers

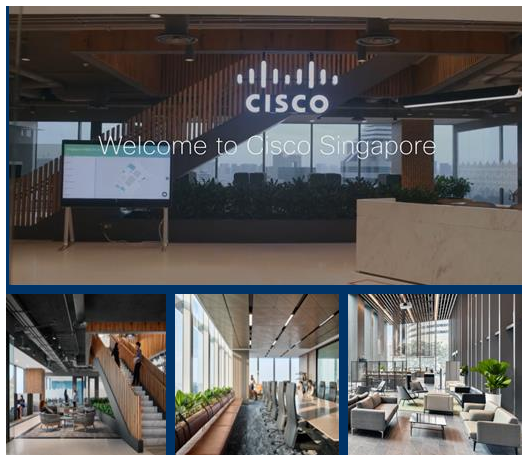


Cisco IT Data Center Sustainability Results



Smart Buildings for Hybrid Work

Singapore - Cisco Office



Retrofit existing space

Leverage existing ports and Wi-Fi
Upgrade to PoE switching infrastructure
Add Endpoints: Cisco + Partners
Maximum real estate utilization

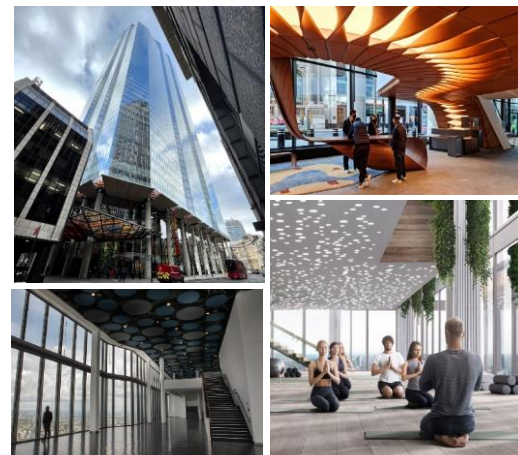
New York - Penn1



Tenant build-out

Converge building OT environment
Reduced power consumption and costs
Improved user experience
Data and insights

London - 22 BishopsGate



New build

Smart BMS, HVAC, CCTV
Converged IT, OT and energy management
Visibility and automation drives power efficiency
Reduce CapEx and OpEx

ESG Reporting Hub & Purpose Report

Cisco ESG Reporting Hub

2022 Cisco Purpose Report | GRI | SASB | TCFD | Archive | Index of tables

Q

Strategy and governanceIntegrity and trustOur peopleOur global communitiesSupply chainEnvironment

Welcome to the Cisco ESG Reporting Hub

Here, you will find relevant information and data related to many aspects of our environmental, social, and governance (ESG) initiatives, performance, and policies.

Cisco has a purpose to Power an Inclusive Future for All. Our 2022 Purpose Report summarizes how we have brought this purpose to life. The report describes our commitments, goals, progress, and impact for the ESG topics that are significant to achieving Cisco's purpose and are important for our stakeholders. This ESG Reporting Hub includes in-depth information on all reporting topics.

[Purpose Report \(PDF\)](#)



Visit: cisco.com/go/esg-hub

Accelerate your sustainability journey with Cisco CX

Leverage technology to simplify the delivery of more sustainable outcomes that align with your business and IT goals—no matter where you are on your journey.



Visit CX Services
to learn more

How we can help

Cisco Sustainability Services

Plan

Assess your journey, define roadmaps, plan your goals

Design

Explore the new sustainable network design practices with expertise

Migrate

Accelerate infrastructure upgrades while ensuring product sustainability

Optimize and Insights

Continuously optimize your metrics and KPIs with outcomes

Knowledge Transfer

Receive consulting support with dedicated advisors

Learning | Certifications

Learn new ways to use and reuse Cisco technology



Shape
your journey



Scale
your resources



Sustain
what matters

You don't have to do it alone.

For more insight, visit the Cisco CX booth #3310 in the World of Solutions for Lightning Talks and Demos

Fill out your session surveys!



Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Challenge** for every survey completed.



These points help you get on the leaderboard and increase your chances of winning daily and grand prizes

Continue Your Sustainability Education

CISCO *Live!*

Visit the Sustainability Zone for in-depth demos on solutions and programs

Attend Sustainability-Focused Sessions

Visit the On-Demand Library for more sessions at

www.CiscoLive.com/on-demand

Review our Sustainability Solutions eBook for more information



Read our eBook to
Learn More

Join the
Sustainability
Design Thinking
Workshop on
Thursday!



The bridge to possible

Thank you

CISCO *Live!*

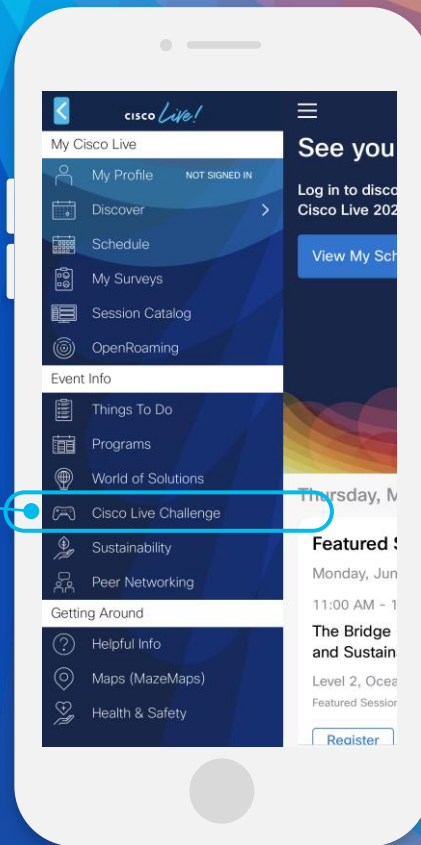
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Cisco Live Challenge

Gamify your Cisco Live experience!
Get points for attending this session!

How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



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