How are operators driving sustainability in their metro networks?

In light of CSPs' net zero commitments, significant growth in network traffic makes it imperative to drive down emissions



Metro network traffic will grow by at least

3 times

by 2030, representing the largest growth area of the telco network

With the energy crisis, sustainability has now become top of the agenda. The CEO and CFO have become routinely involved in these discussions where they weren't before.

- EVP, Infrastructure, Tier-2 operator, EMEA

To meet their net zero commitments, operators must develop new strategies to reduce their Scope 1, 2 and 3 emissions



Direct emissions from daily operations e.g. fuel combustion



Indirect emissions from electricity suppliers



Indirect emissions from other suppliers e.g. embedded in kit



Most operators are actively pursuing 'common practice' initiatives to reduce energy consumption



Upgrading with modern technology Old, legacy technologies are replaced

with newer and more efficient alternatives (e.g. copper with fibre).





Sunsetting 2G/3G networks These networks are supported by less

efficient legacy equipment.





Eliminating waste

Improving reporting and tracking to identify and fix unintended, wasteful energy use e.g. blocked vents.



Upgrading from copper to fibre has also helped reduce fuel consumption - there are fewer breakdowns and truck tolls. - Corporate sustainability team, Tier-1 operator, EMEA

Reusing specific energy metrics (watt per GB), we can see the impact of sunsetting 3G in some areas and refarming the spectrum. SVP, Head of Network Architecture, Tier-1 operator, EMEA



Resource sharing Different services can be converged on a

single architecture, reducing resource duplications and improving utilisation.







Modular design

Modular components can be individually replaced resulting in longer hardware lifetime and fewer rip-and-replace.







Automation Al Ops can predict faults, optimise

operations, reduce energy intensity of HVAC and introduce sleep modes.



'best practice' initiatives, often learning from cloud practices



Any automation for remote troubleshooting

sustainability, we have seen benefits. We want to continue - fewer layers and devices to reduce consumption and embedded carbon. SVP, Head of Network Architecture, Tier-1 operator, EMEA

While network convergence was not driven by



already adopting 'best practice', focusing on 'next practice' will be key to meet net zero targets



Horizontal network design that simplifies 'scaling out' and provides

Spine and leaf architecture

greater network resilience.



Reduces Scope

Reduces Scope

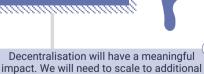


Edge deployments provide decentralisation by keeping more

Decentralising routing fabric

traffic local and reducing traffic to the core. Right-sizing equipment





footprint Operators are focusing on minimising their physical footprint with smaller equipment.

Spine and leaf architecture does provide direct connectivity back to every line card,



network locations, but will need physically scaled down solutions to deliver on this. VP, Wireless Strategy & 5G Services, Tier-1 operator, NAM

What should operators do next?

connecting them in a way that allows you to easily add more line cards. - Network planning and technology, Tier-1 operator, NAM

Systematically incorporate sustainability in design & planning

apply sustainability-by-design principles at all levels: technology, architecture, equipment

Operators should incorporate solutions that clearly

Embed sustainability more widely into your organisation

within their culture, evaluation tools, metrics, KPIs to ensure ongoing systemic and sustainable change.

Best practice telcos have sustainability integrated

Find out more in our full length report

Download the full report



