



Means
Business

Accelerating sustainable cybersecurity growth

Agenda

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Current trends in firewall deployments

Jody McCaskill

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Physical firewall demand
and sustainability implications

Jody McCaskill
Edit Sarkadi-Faragó

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Edit Sarkadi-Faragó
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Roshanak Partovi

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Conclusion and Q&A

Jody McCaskill

Speakers –



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Sustainability Proposition
Manager, BT



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Enterprise Architect,
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Sales of physical firewalls remain high, and the demand for cloud management systems is increasing.



The majority of sales are still for physical firewalls. 2% of firewall sales at BT are virtual.

Growth in physical firewalls is increasing in areas such as datacentres, HQ's and OT environments*.

Demand for cloud management systems is increasing.

Demand for physical firewalls

The physical firewalls market has witnessed significant growth, driven by the increasing need for cyber security solutions across various industries.

The size of the physical firewall market is estimated at **\$22.87 billion** in 2025.

It is expected to reach \$38.81 billion by 2030, at a **CAGR of 11.15%** between 2025-2030.



Increasing cyber threats

The proliferation of cyber attacks has made companies prioritise investment in advanced security solutions.



Rise of remote work

Remote workforces have created a need for enhanced security measures, including firewalls.



Regulatory compliance

Stringent regulations around data protection are driving organisations to implement hardware firewalls.



Integration with other security solutions

Hardware firewalls are becoming essential components of comprehensive security frameworks.

The sustainability impact

Physical will continue to dominate

Physical firewalls are accounting for
~**87%** of total firewall market

Many enterprises **retaining or returning**
to on-premises firewalls

Firewall energy demand is considerable

Shipped firewalls globally: **41 Million**

Global consumption of ~**38 TWh annually**¹

Carbon footprint²: **18MtCO₂**

Growth trend

10% annual growth ~ **7.26%** physical firewalls

Projected annual consumption in 5 years:
~**54 TWh annually**

Projected carbon footprint²: **25MtCO₂**

Emission impact

ICT sector accounts for **4%** of global electricity use

Firewalls contribute to **5%** of companies total ICT
energy footprint



Energy efficient network security design by BT

- Projected device count in 5 years ~ **58 Million**
- Projected annual, global consumption in 5 years:
~**13 TWh**³ annually
- Projected carbon²: **6 MtCO₂**
- ~ **75% decrease in energy and carbon**



Potential sustainability impact

Embodied emission cannot be tackled
~ 0.8 MtCO₂ annual growth
Increased E-waste by hardware deployment

¹ Calculating with average power consumption of a typical old generation firewall

² Using global intensity factor: Emissions – Global Energy & CO₂ Status Report 2019 – Analysis – IEA

³ Calculating with average power consumption of a typical next-generation firewall

Energy efficient secure networking



Carbon Network Dashboard

Energy-efficient **In-life managed** services.

Real-time power and energy for Fortinet devices*.

Power **optimisation**: ports, PoE, WAP optimisation. Energy optimisation use cases.

Sustainable device swap out **recommendations**.

Measure

Digital Carbon Calculator

Estimated carbon footprint (tCO₂) for Fortinet estate.

Calculate **energy savings** after swapping to next-generation firewalls.

Smart **recommendation** of device replacement.



Energy efficient devices

Upgrading inefficient, end-of-life devices to new energy-efficient ones.

Next-generation Fortinet Firewall devices.

Procure



Accelerating sustainable security

Reduce

Energy efficient security by design

Supports **security design** and managed service.

Manage



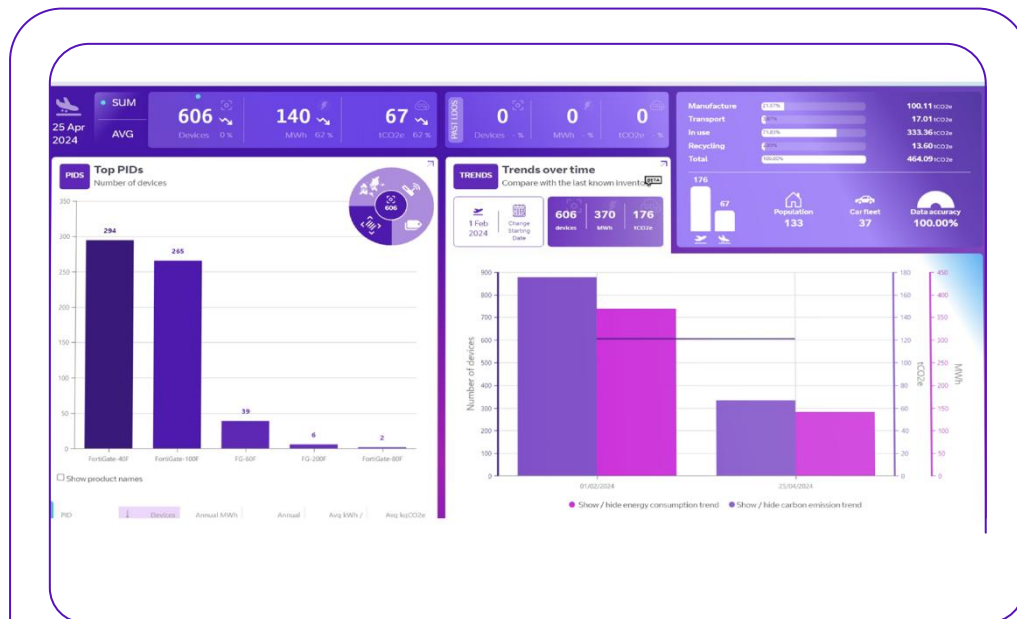


Fortinet in Digital Carbon Calculator

Fortinet devices are integrated into the Digital Carbon Calculator to generate baseline estimated carbon emissions.

Old generation devices: D & E series

Next generation devices: F series



tCO₂e

Estimate your monthly, quarterly, and yearly carbon footprint for your Fortinet estate.

MWh

Calculate energy savings after swapping to a new generation devices.

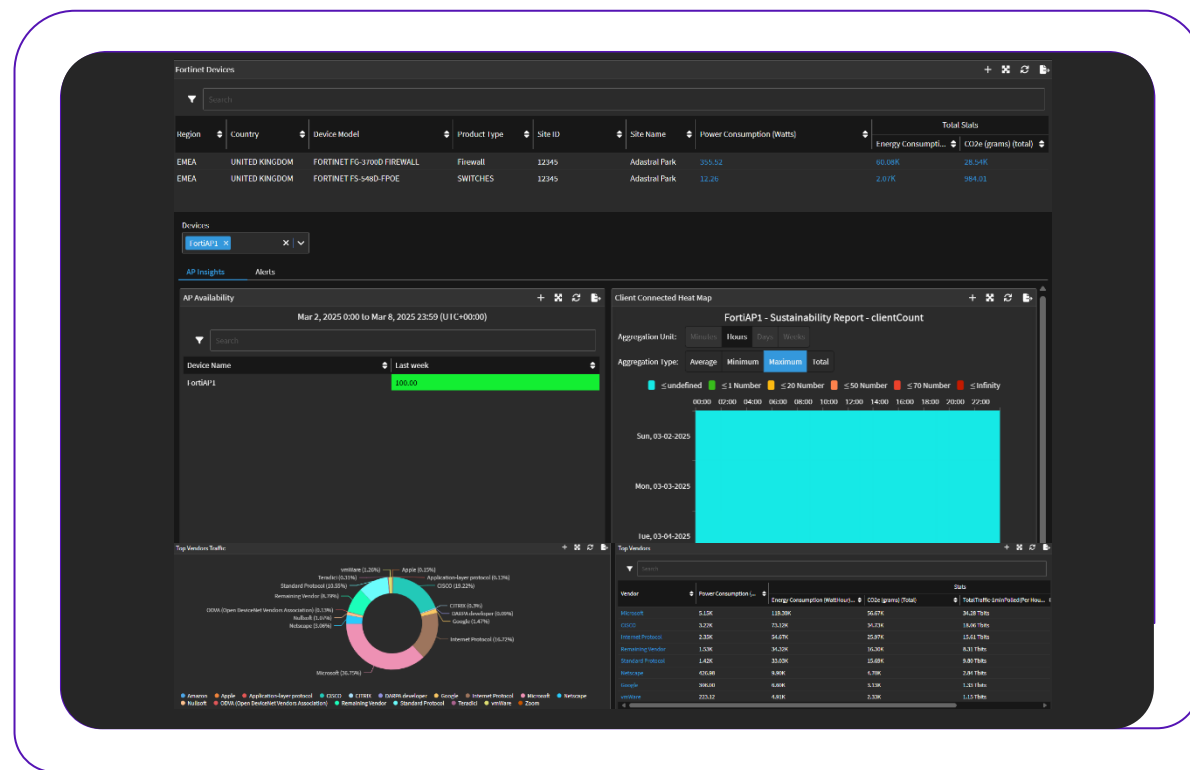
New gen Series

Benefit from smart recommendation of device replacement.



Fortinet in Carbon Network Dashboard

Fortinet firewalls are integrated into our Carbon Network Dashboard to optimise for low-carbon operations



MWh

Real-time power and energy for Fortinet devices*

Optimisation

Power optimisation: ports, PoE, WAP optimisation. Energy optimisation use cases

Application/
Workload

Netflow for application/workload level energy and carbon data

New gen Series

Sustainable device swap out recommendations

Energy-efficiency benefits of next-generation security devices

Upgrading inefficient, end-of-life devices to new energy-efficient ones.



Enhanced energy efficiency.



Reducing energy usage and carbon footprint.



Improved utilisation and throughput.



Increased bandwidth without the need for additional hardware.



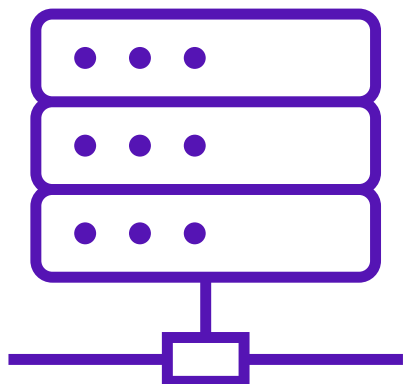
Smaller appliances.



Fewer materials, less energy to cool, and a positive impact on transporting.

Fortinet energy-efficient innovation

Next-generation Fortinet firewall devices consume less energy.



FortiGate F-series models consume 51%, and G-series models 70%, less power on average than the previous generation of equivalent models.

F-series consumes 80%, and G-series 97%, less power than rivals.

Reduced size of appliances* by 33% compared to previous generation.

The heat generated per one Gbps of firewall throughput on latest F series appliances is 48% lower, on G-series 85%.

A 5th generation chip consumes 88% less power compared to industry standards.

Energy-efficiency of FortiGate 1000F series is ~6X, 90G is 28X of the industry average.

Energy consumption comparison

End-of-life vs. next-generation Fortinet devices.

D series

Existing device model	Avg. power consumption (W)
100D	52.6
300D	106
500D	113

vs F series

New device model	Avg. power consumption (W)	Energy savings (%)	Carbon savings* (tCO ₂ e)
40F	7.7	▶ 85%	0.18
100F	26.5	▶ 75%	0.33
200F	101.9	▶ 10%	0.05

vs G series

New device model	Avg. power consumption (W)	Energy savings (%)	Carbon savings* (tCO ₂ e)
90G	19.9	▶ 62%	0.14
90G	19.9	▶ 81%	0.36
120G	38	▶ 66%	0.31



Benefits of cloud management

Increasing demand as businesses seek scalability, centralised control, and simplified deployment and maintenance within hybrid architectures.

Scalability and flexibility

Reduced operational overhead & automation

Decreased hardware waste

Centralised control and remote access

Reduced energy consumption

Optimised resource usage

BT and Fortinet for energy efficiency

Our partnership with Fortinet, a leading security provider, allows us to quickly roll out the latest environmental technology.

BT and Fortinet: better together

BT has partnered with Fortinet for over 20 years. Together, we've developed the comprehensive solutions that are offered to our customers today.

BT is an Expert partner with Fortinet, the highest for MSSP.



Our commitment

BT pledged to help customers avoid 60m tonnes of CO₂ by 2030.



Security expertise

Fortinet has a wealth of experience in the industry and works with more than 755,000+ customers around the world.



Validated results

In 2022 we cut our carbon emissions intensity by 55% and reduced our scope one and two emissions by 55% since 2016/17*.



Industry leader

Fortinet shipped 48% of the next-generation firewalls worldwide.



Renewable energy

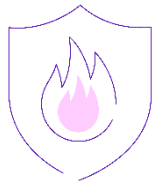
BT and Fortinet are using 100% renewable energy.

Key takeaways



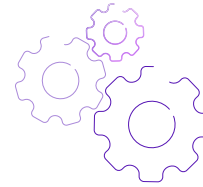
Physical firewall sales are not slowing down

The physical firewalls market has witnessed significant growth.



Next-generation firewalls

Next-generation Fortinet firewall devices consume less energy.



Embedding energy efficient networking

Security architecture should be designed with energy efficiency embedded.



Cloud management

With the growth for physical firewalls increasing, so does cloud management

