

Asiera

Advancing Services for Irish Education, Research & Academia

Sustainable Working practices in Asiera

Andy Byrne - Nordunet Conference

September 2026



- The Sustainability Challenge
- What we have learned
- What we are doing
- Irish view on Sustainability
- What can you do today

Photo : Robert Hackett – Asiera
Glendalough, County Wicklow, Ireland

Why this matters

- NREN's have a role to play
- Cost, regulation, carbon targets, reputation
- Energy Efficiency – do the same, by using less

Today 23% of
Ireland's Electricity
supply is consumed
by Data Centres

Focus Areas



Be climate aware

Integrate sustainability into our service lifecycle, from design and development to deployment and end-of-life management, to minimise our carbon footprint and contribute positively to the fight against climate change.

Sustainability



As Asiera evolves to meet the needs of a rapidly changing education and research landscape, sustainability must sit at the centre of how we think, plan, and operate. We will reduce our environmental impact through low-carbon, resource-efficient practices, maximise our social impact by supporting an inclusive, engaging and high-performing workplace and community investment, and ensure long-term financial viability through close engagement with our funders and prudent investment. Together, these priorities will enable Asiera to remain a trusted, digital partner for the sector.

Environmental responsibility

We will reduce our environmental impact by designing and operating energy efficient digital infrastructure, optimising data centre performance, and supporting low carbon technology choices across the sector. We have made significant progress in recent years in lowering our greenhouse gas emissions and improving our energy efficiency. We remain committed to building on this momentum and advancing our contribution to a more sustainable future throughout the course of this strategy and beyond.

Social impact

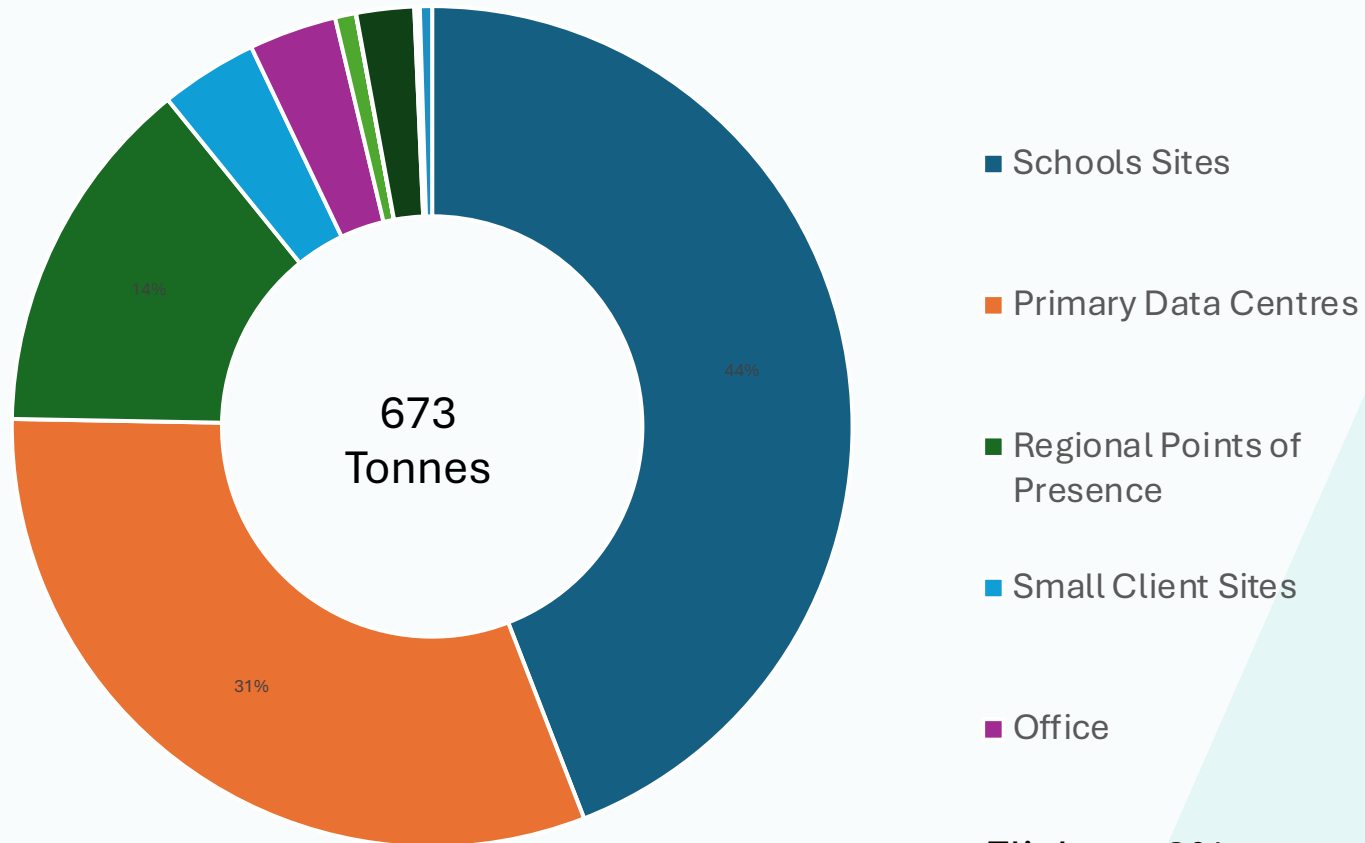
We have a strong record of delivering positive social outcomes, and we are committed to building on this foundation. Working closely with our stakeholders, we will continue to promote the wellbeing of our people and communities while strengthening a culture rooted in equality, diversity and inclusion. Our goal is to be recognised as an employer of choice and as an organisation that consistently contributes to meaningful social impact.

Sustainability	Department of Climate, Energy and the Environment	Ireland's Climate Action Plan Public Sector Climate Action Mandate
	Department of the Taoiseach	Harnessing Digital - The Digital Ireland Framework (Digital Inclusion)



Aseira's Co2 Emissions – Scope 1&2

HEAnet Co2 Emissions 2025



673
Tonnes

- Schools Sites
- Primary Data Centres
- Regional Points of Presence
- Small Client Sites
- Office
- Flights – 3%

Average Irish dairy farm produces approximately **606 tonnes of CO₂ equivalent** annually.



seai
SUSTAINABLE
ENERGY AUTHORITY
OF IRELAND

96% Grid Electricity

Asiera

Household devices V's Asiera Devices

12 Hours a Day ?

60 W

6 Hour

1. Power

Power : watt (w)
1,000 watts
= 1 kilowatt (kW)

2. Energy

Energy = Power x Time

Energy is measured in
hourly = kWh

350W – 2 hours a day – 258 kWh (year)
350W – 24 hours a day – 3,087 kWh (year)

2 Hours a Day ?

2,700 Watts

4 Devices

Electricity Strategy

- Renewable Utility Provider
- Use more efficient equipment
- Have a target
- Design Choices
 - Mean ambient temperature
 - PUE Data Centers

.....what else ?



Retire



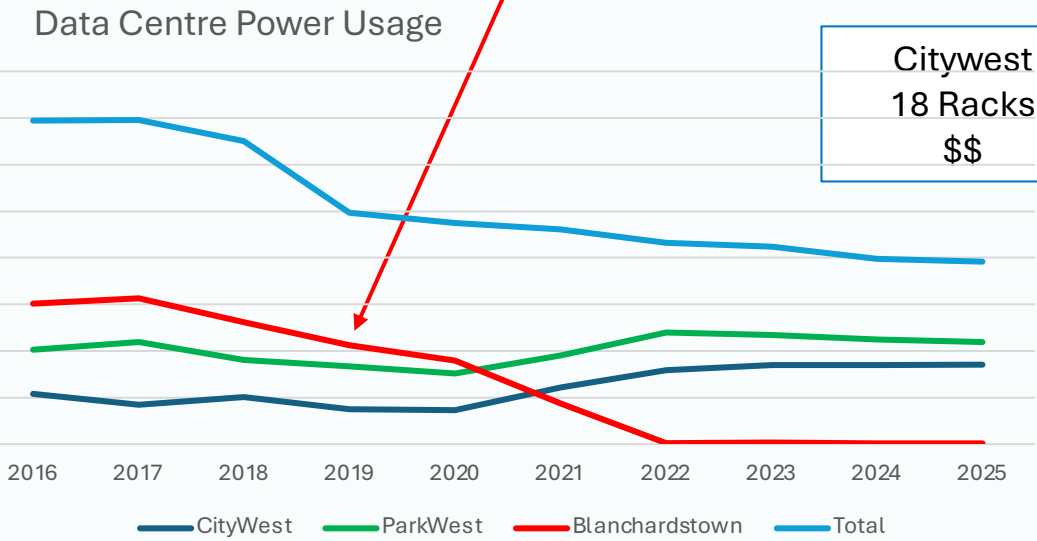
Consolidate/Virtualise



Move to the Cloud



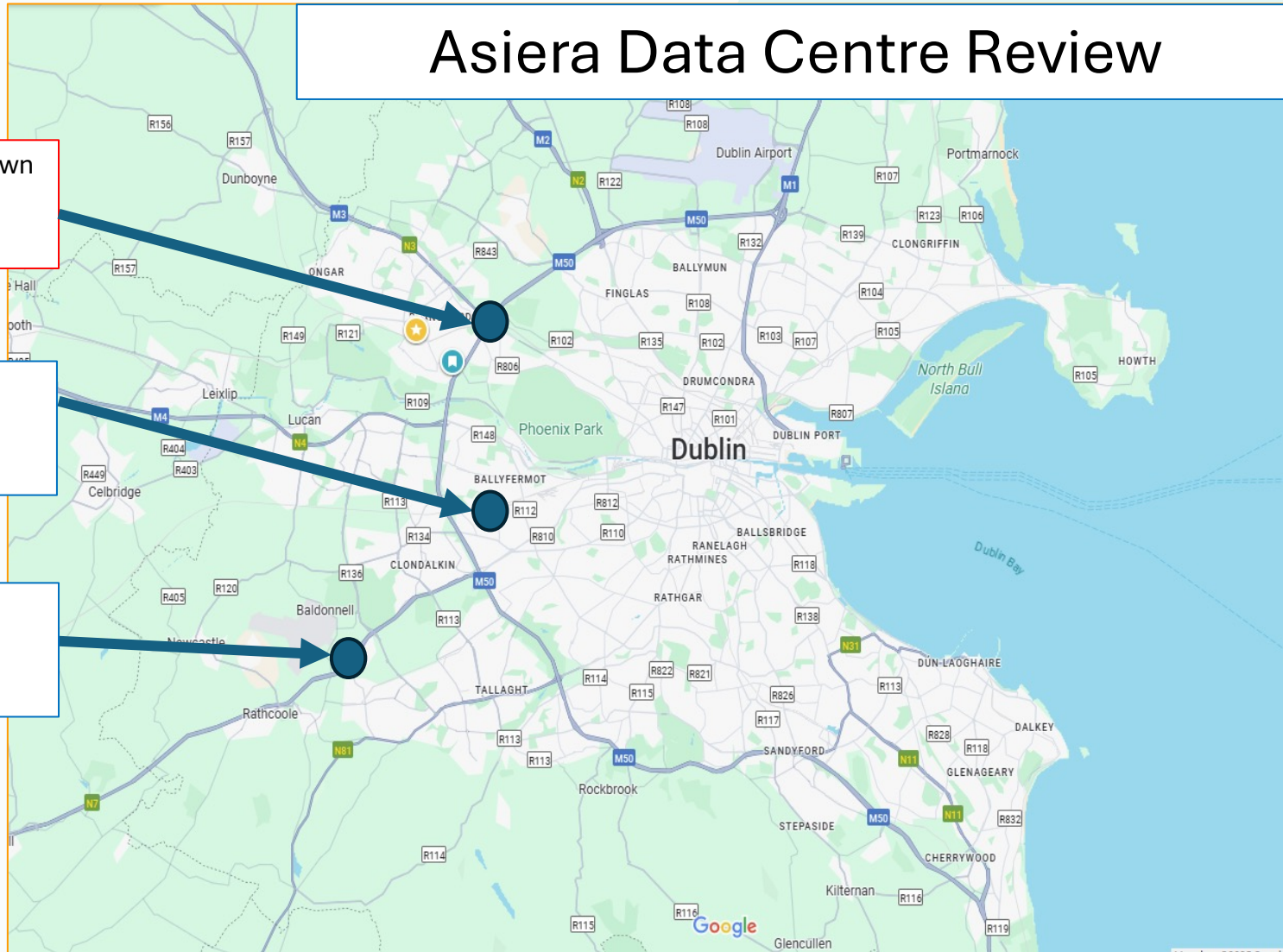
- Most expensive rental
 - Least used % for space and power
 - Activities scaled down
 - Moodle, Hosting, Multimedia, Storage
 - Least client circuit connections
- ~ €2.5M Rental Savings over 5 years



Blanchardstown
58 Racks
\$\$\$

Parkwest
34 Racks
\$\$

Citywest
18 Racks
\$\$



Asiera Data Centre Review

Data Centre Consolidation Results

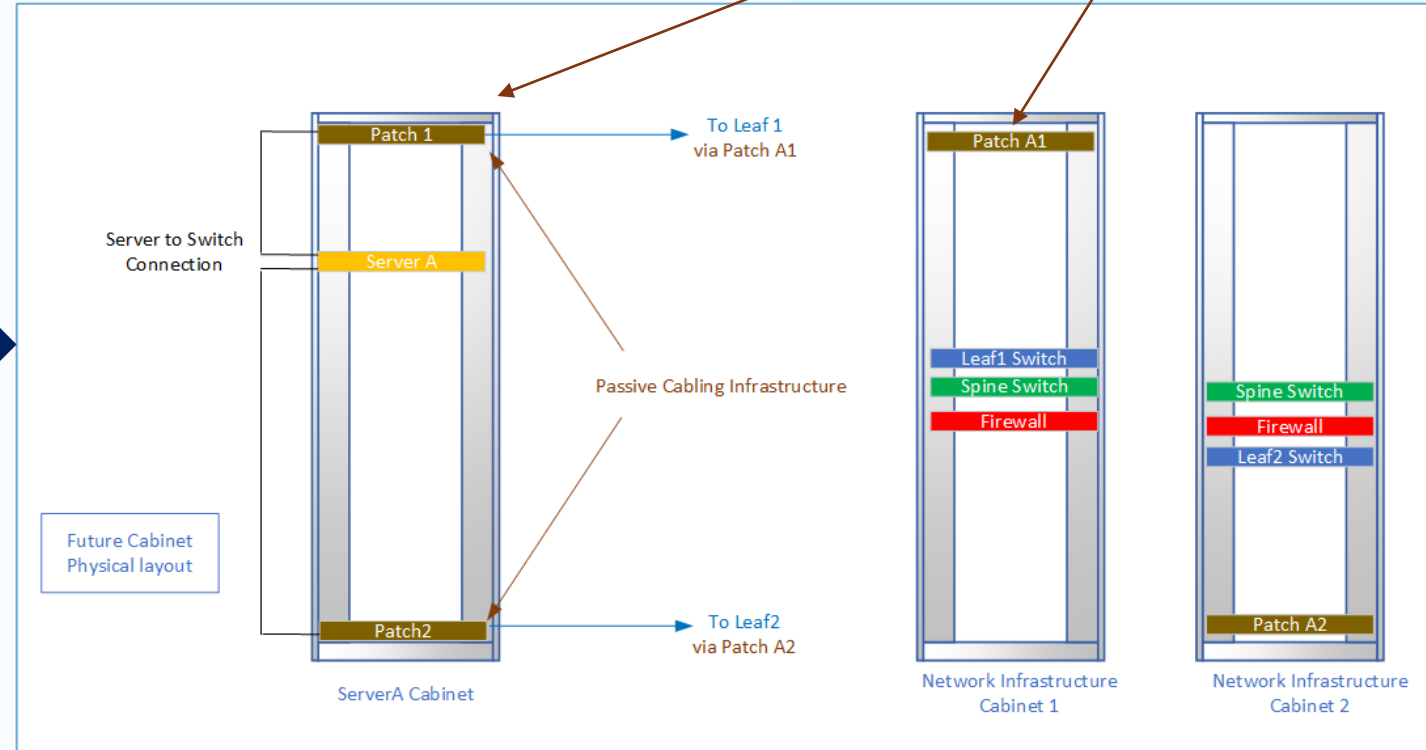
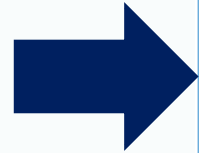
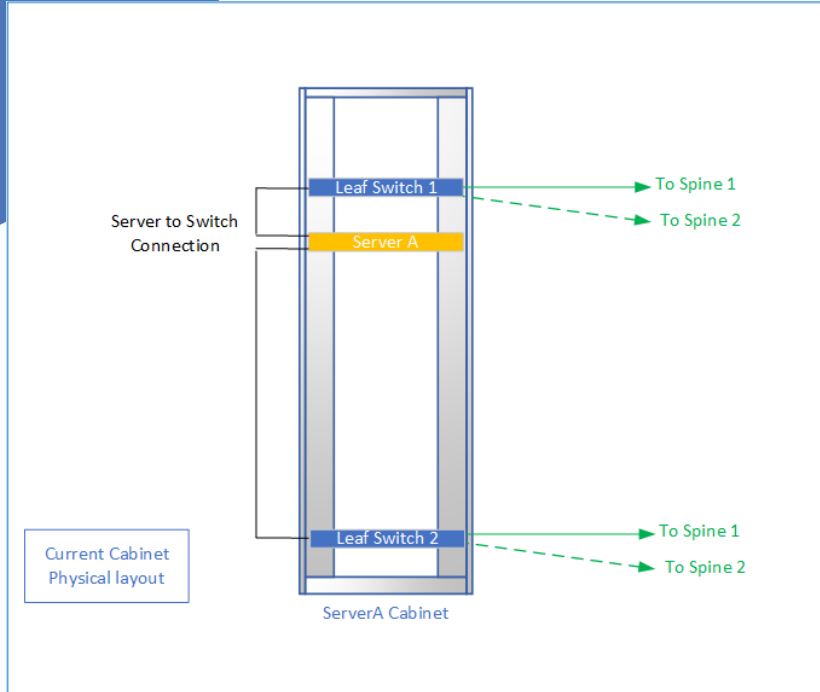
45 % Reduction of Electricity in Data Centres

Cost Savings (Per Year)	~€165,000
Co2 Emissions Savings (Per Year)	~170 Tonnes



26 Million
cups of Tea !

Consolidation in Data Centre



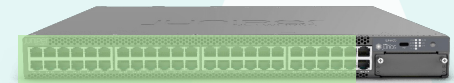
30 % Switch Utilisation



Co2 Emissions Savings (5Yr)

: ~19 Tonnes

95 % Switch Utilisation



Equivalent of :
4 Homes Electricity for 1 year

Network Upgrade Programme



OLD KIT



39 x MX104
450 Watts



27 x ACX5048
354 Watts



New KIT



47 x ACX7024X
97 Watts



29 Million
cups of Tea !

Co2 Emissions Savings (5Yr)

: ~157 Tonnes

Equivalent of :
31 Homes Electricity for 1 year

Sustainability Fund

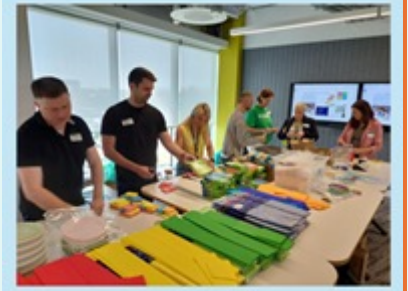


CYBERSAFETY
EMPOWERING A CYBER-SAFE SOCIETY



STEM Education-Focused Employee Volunteering

Organised by Volunteer Ireland

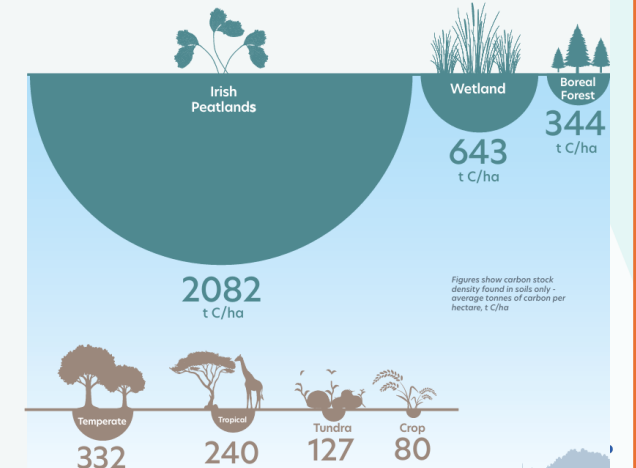


**PEATLAND
FINANCE
IRELAND**

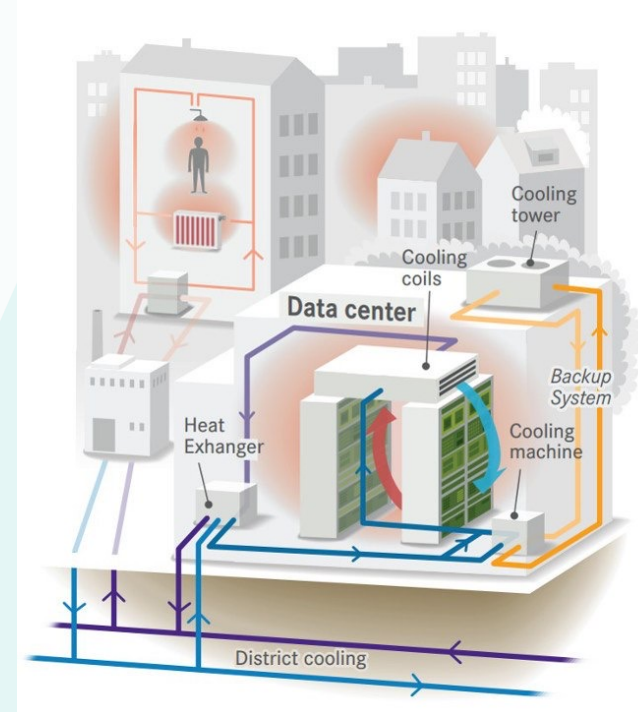
Establishing blended finance
for restoration

Ireland's peatlands store 3 times
as much carbon as international
wetland soils on average

They also hold 10 times as much
carbon as tropical soils



Energy Efficiency in Networks



Asiera

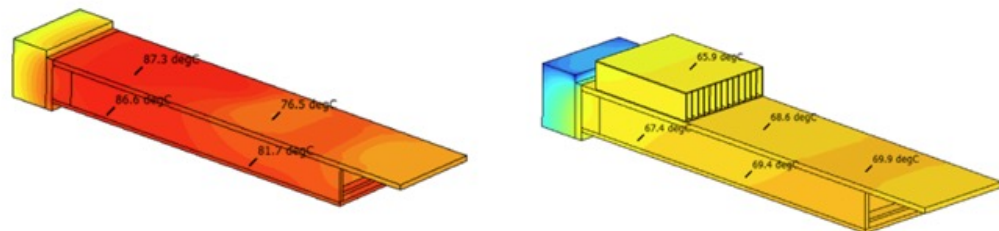
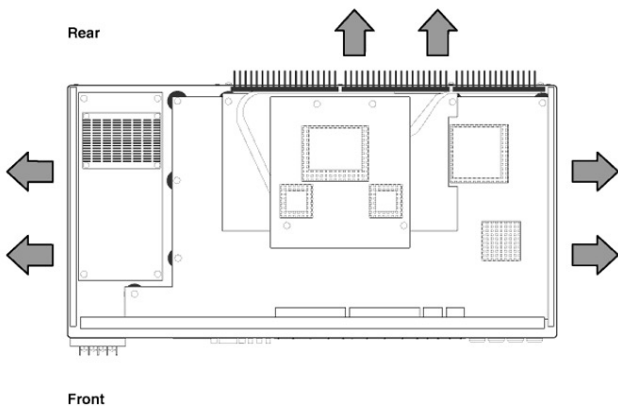


Figure 2 Surface Temperature Maps of Thermally Inefficient and Optimized High-power Optical Modules Under the Same Boundary Conditions



Figure 10: Cooling System and Airflow in an ACX2200 Router



```
user@host# set interfaces interface-range powersaving member-range et-0/0/24 to et-0/0/47
```

To enable power saving mode on all the unused ports, use the following command:

```
user@host# set interfaces interface-range powersaving unused
```

[edit]

```
user@host# set chassis ambient-temperature 25|40
```

```
user@router# set chassis psm max-power 1600
```

```
user@router# commit
```

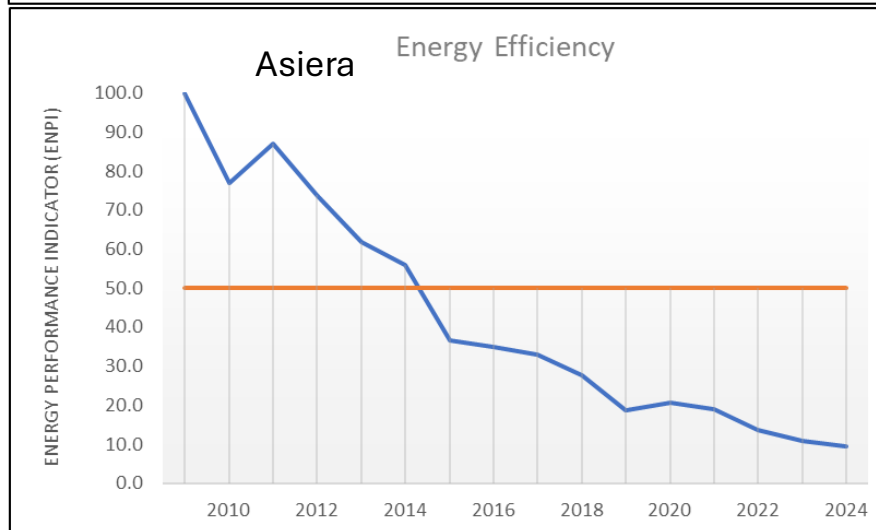
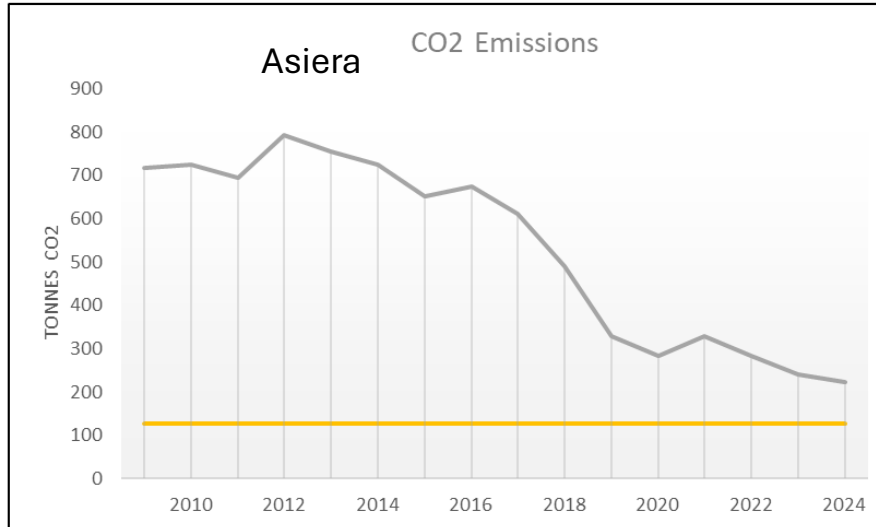
To power off a Packet Forwarding Engine, use the following steps:

```
user@host# set chassis fpc slot-number pfe pfe-id power off
```

```
user@host# commit
```

Ireland's GHG Targets

SEAI Reporting and Gov Climate Action Plan

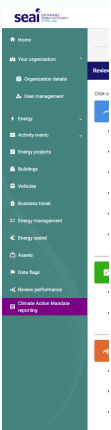


Reduce our greenhouse gas emissions by 51% by 2030



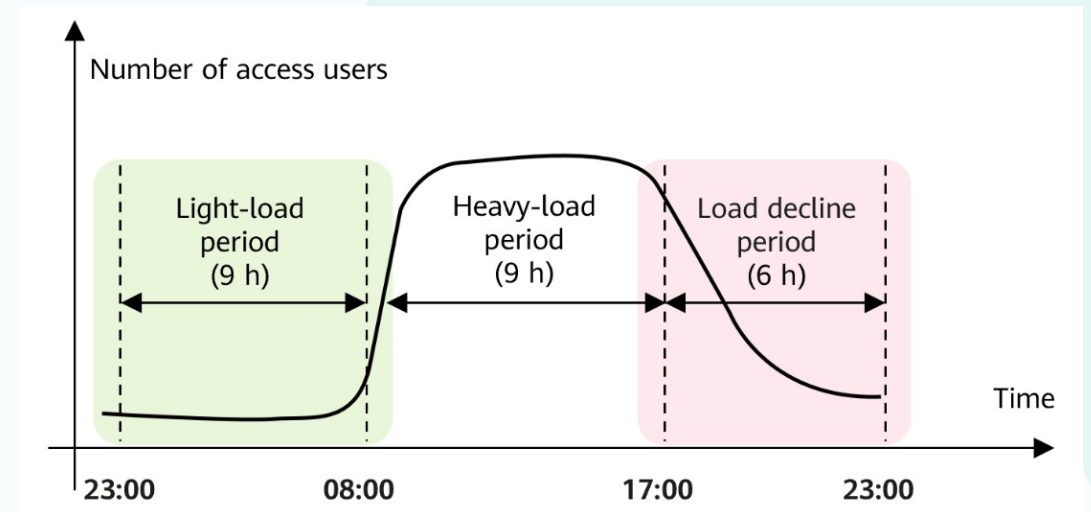
Increase the improvement in our energy efficiency to 50% by 2030

SEAI Monitor



Campus Networks Energy Efficiencies

- Concentrate on the Multiples of Devices
 - Access Switches, Access Points
- Sleep Mode / Inactivity Timer / Power Save Mode / EEE
- PoE Scheduling
- SSID Scheduling
- Fibre V's Copper implementations
- Use the Network as a Sensor
- Shared Infrastructure



In Conclusion

- Build networks that work for people and the planet
- Incorporate Sustainability into your working practices
 - Design
 - Procurement
 - Measure & Report
- Share ideas
- Share Successes
- Collaboration is key

sig-sustainability@lists.geant.org



Asiera

Advancing Services for Irish Education, Research & Academia

info@asiera.ie

asiera.ie

Asiera

Advancing Services for Irish Education, Research & Academia

Extra Slides

info@asiera.ie

asiera.ie



Core Routers



Single Juniper MX960 ~ 2,700 Watts

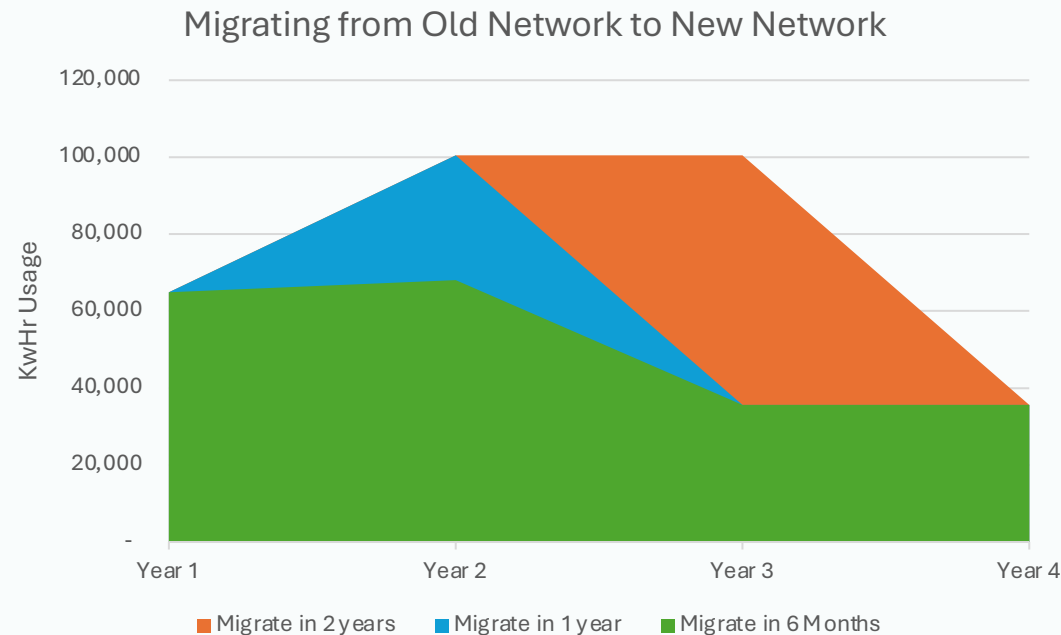
~24,000 KwHr a year

2.2 petrol powered passenger vehicles driven for one year

1.3 homes energy use for one year

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>

Sample Project – Network Migration



	Total KwHr
Migrate in 2 years	301,453
Migrate in 1 year	236,599
Migrate in 6 Months	204,172

Old Network Consumed 64k KWHr a year
New Network Consumes 35k KWHr a year

eWaste & Waste

Option A:



Income Guaranteed

Option B:



Client Auction

Shared Revenue

Option C:



I.T. ASSET DISPOSAL
AND SECURE
DATA DESTRUCTION



Incurs a Costs



Visit mywaste.ie for more information

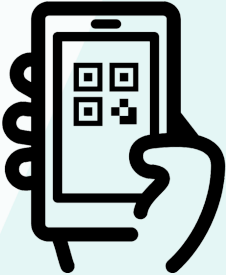
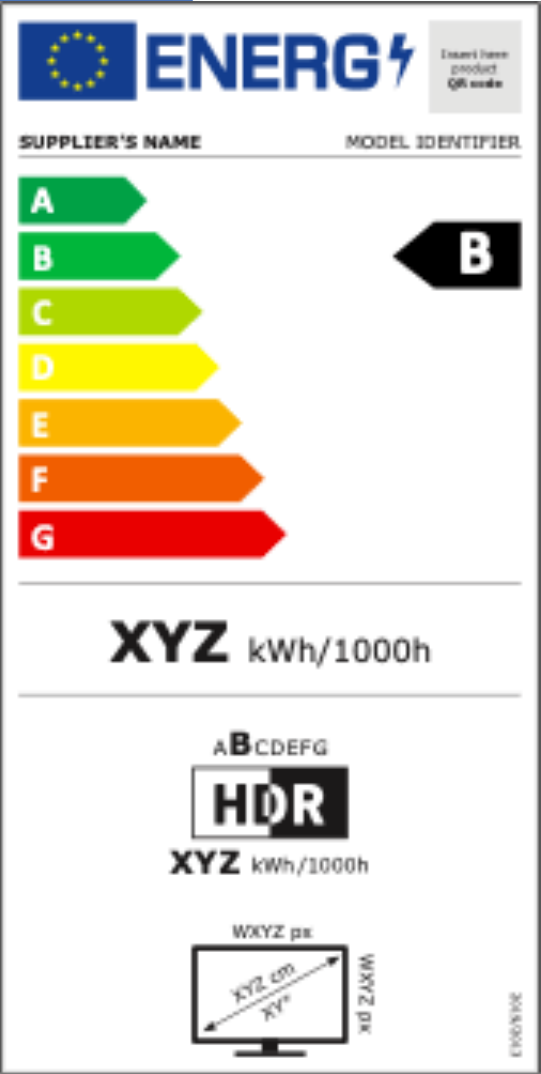
Ireland's guide to waste
mywaste



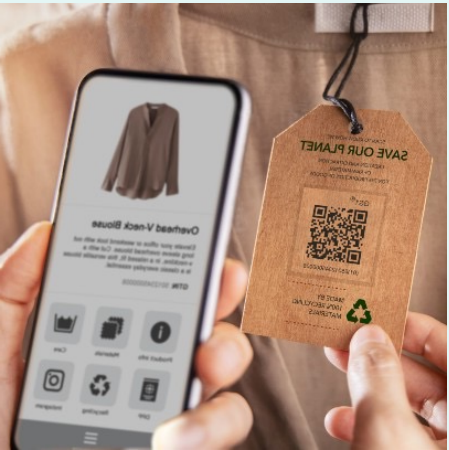
Rialtas na hÉireann
Government of Ireland

Asiera

Energy Rating for Networks



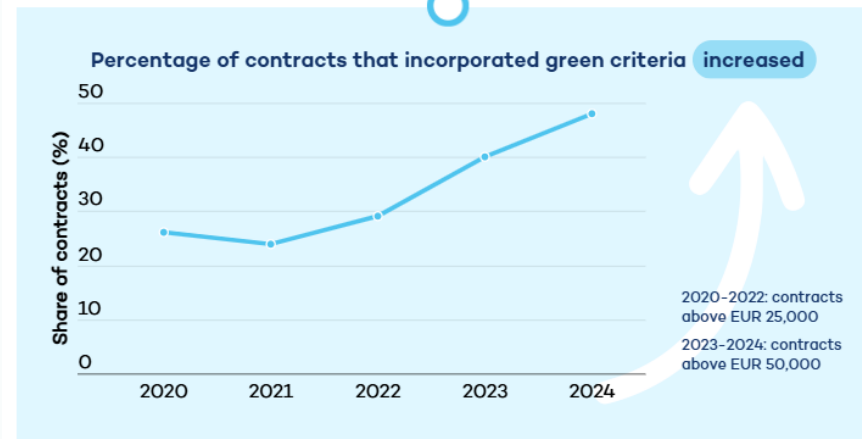
DIGITAL
PRODUCT
PASSPORT



Green Public Procurement in Ireland



Based on Ireland's strong GPP policies, public contracts increasingly include green criteria.



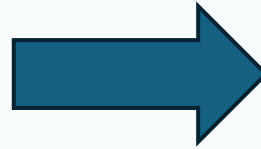
In Asiera every tender has a minimum 5% “Green” award ;
PUE, Power Usage, Qualitive

CPE Projects

OLD KIT



192 x ACX2200
60G Throughput
60 Watts



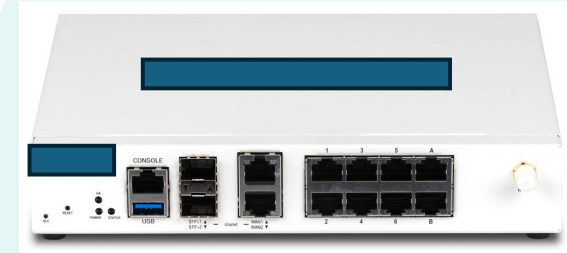
New KIT



192 x ACX7020 Device
100G Throughput
65 Watts



800 x SRX240
600Mb Throughput
150 Watts



800 x XXX Device
28 Gb Throughput
20 Watts

Electricity Savings (5 Years)	: ~4.5M KWHr
Cost Savings (5 Years)	: ~€1.1M
Co2 Emissions Savings (5Yr)	: ~1,181 Tonnes



182 Million
cups of Tea !