

CREATING A SUSTAINABILITY STRATEGY

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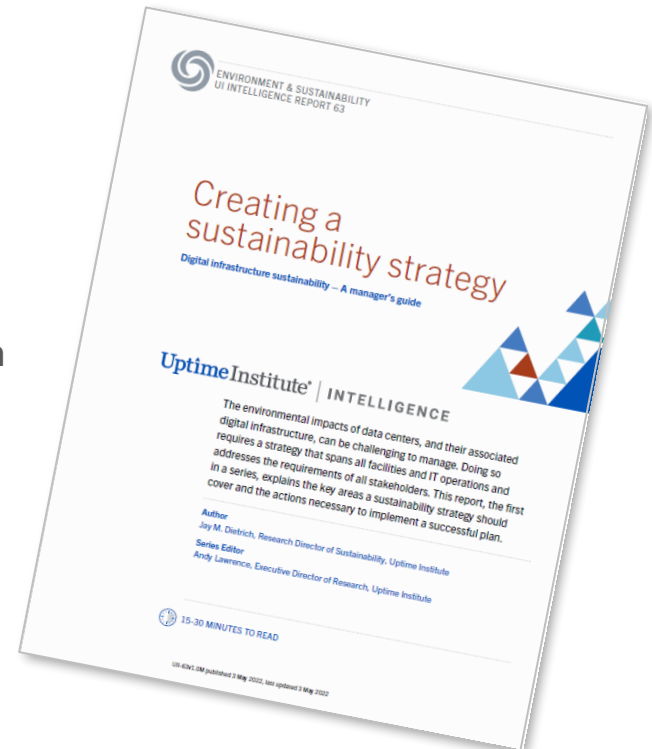


THERE IS NO MAGIC FIX
FOR RESPONDING TO
COMPLEX ESG RELATED
REGULATORY
REQUIREMENTS.

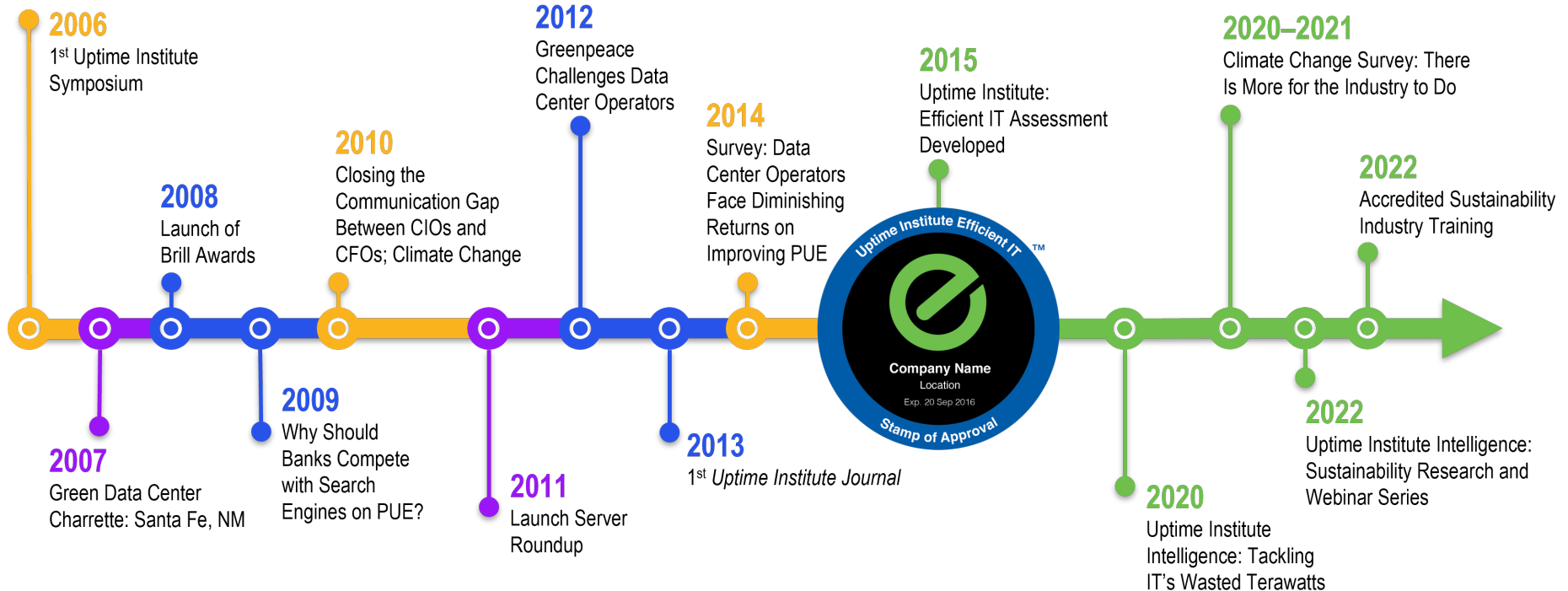
THERE ARE MEANINGFUL
STEPS WE CAN TAKE
RIGHT NOW, TO BE PART
OF THE SOLUTION FOR
HUMANITY.

Creating a Sustainability Strategy

- Today's Program
 - › Introduction
 - › The imperative
 - › Key elements
 - › Causes
 - › Questions and discussion
- Ask questions any time
- Reports available:
 - › www.uptimeinstitute.com
(Executive Summary)



Uptime Institute and Sustainability

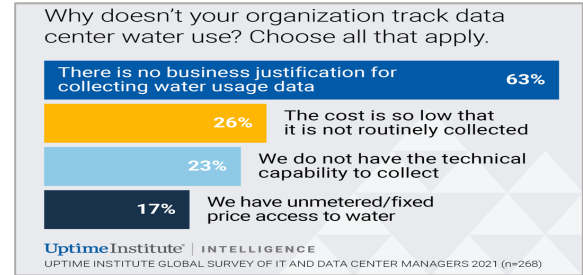
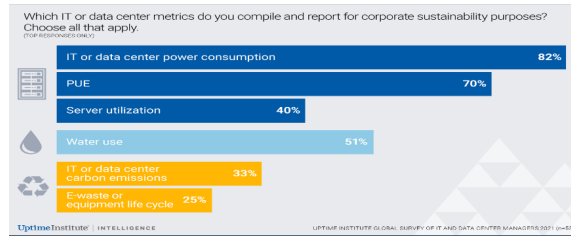
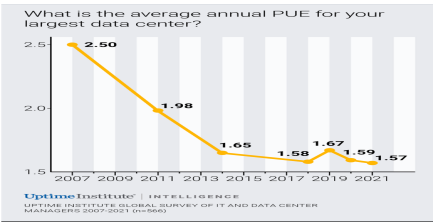


Uptime Sustainability Report Series



www.uptimeinstitute.com (Executive Summary)

Maturity Model For Sustainability



- Growing number of new builds have PUEs of 1.3 or better
- However, major efficiency overhauls are not regarded economically or technically feasible for many older facilities
- Focus on rack-level measures for greater efficiency gains is needed
- Immaturity in adopting comprehensive sustainability is reflected in low tracking of emissions and the disposal of end-of-life kit
- Most data center managers don't track and report server utilization, arguably the most important factor in overall efficiency
- Most don't track water because there is no business justification
- A low PUE may be achieved at the cost of high water use.
- Historically, water use has been a low priority for management – be it cost, risk or environmental considerations
- External and regulatory pressure may soon begin to drive down water use

Who is interested in Sustainability?

- Investors
- Standards organizations
- Users and suppliers of Information and Communication Technologies (ICT) services and equipment.
- Non-governmental and environmental rating organizations
- Legislators and regulators



Sustainability is a financial issue

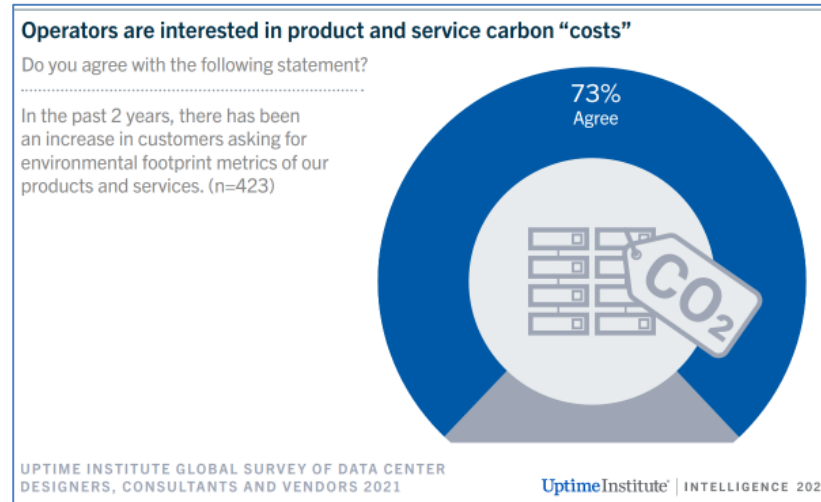


A company's stock price and access to capital can be enhanced by a proven sustainability program

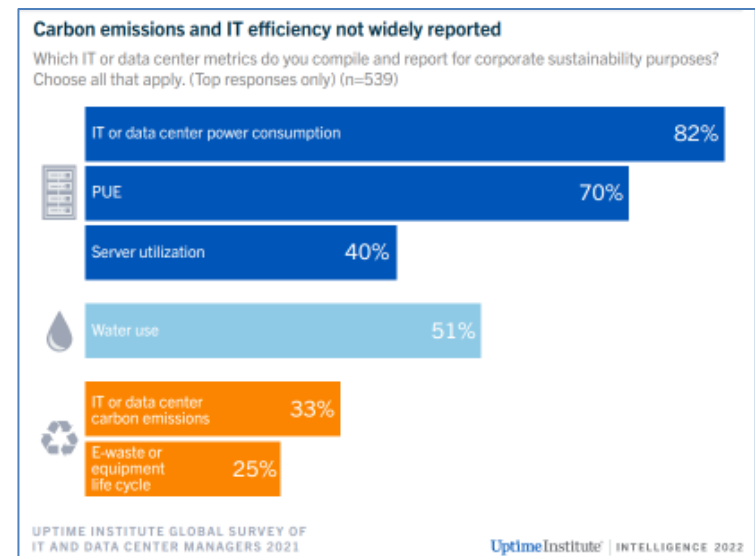
- Inclusion in ESG oriented funds
- Access to green bonds and other green financing options
- Inclusion in procurement by large customers

Actions should speak louder than words

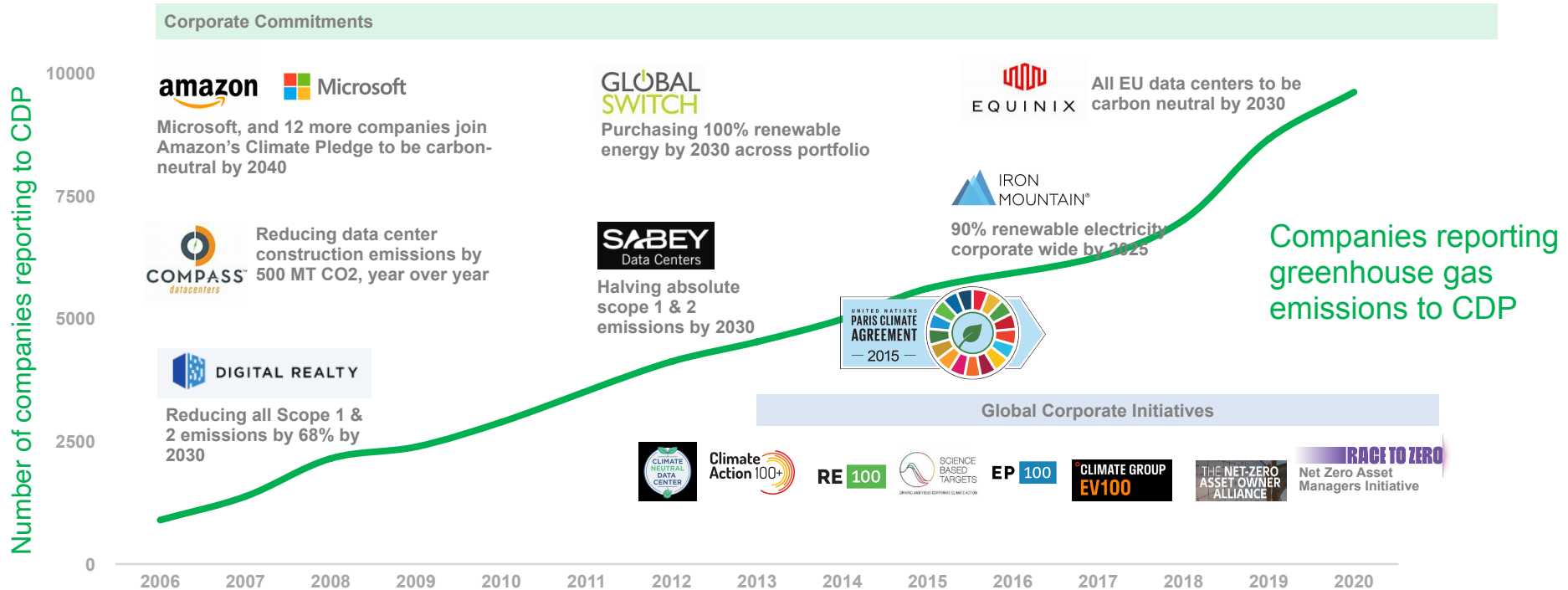
- Sustainability is important to Digital Infrastructure Operators



- Actions need to catch up with interest and intent.



Leaders make sustainability commitments

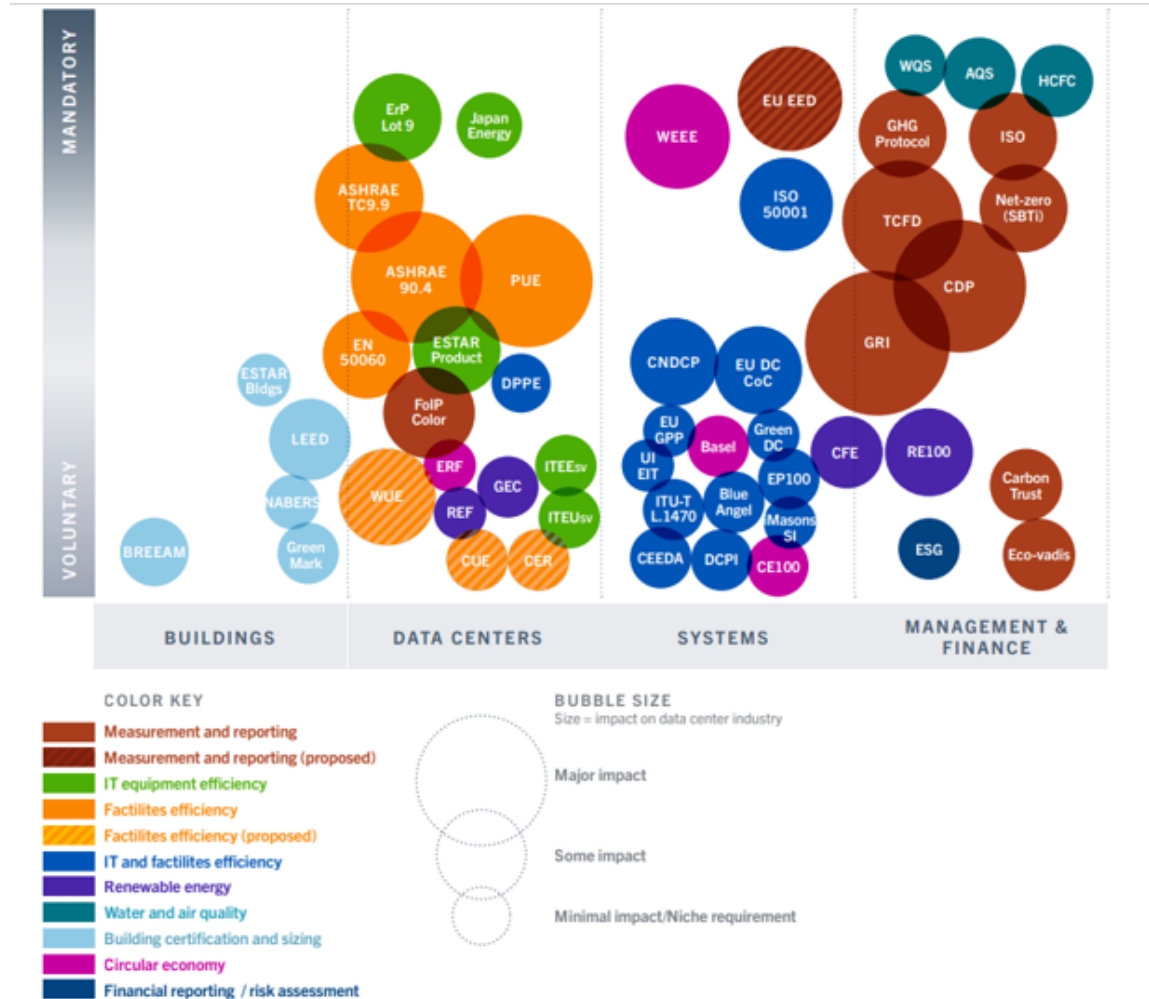


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Industry leaders have developed sophisticated sustainability strategies, but many digital infrastructure operators need to build and broaden their strategies.

Sustainability Regulations and Standards

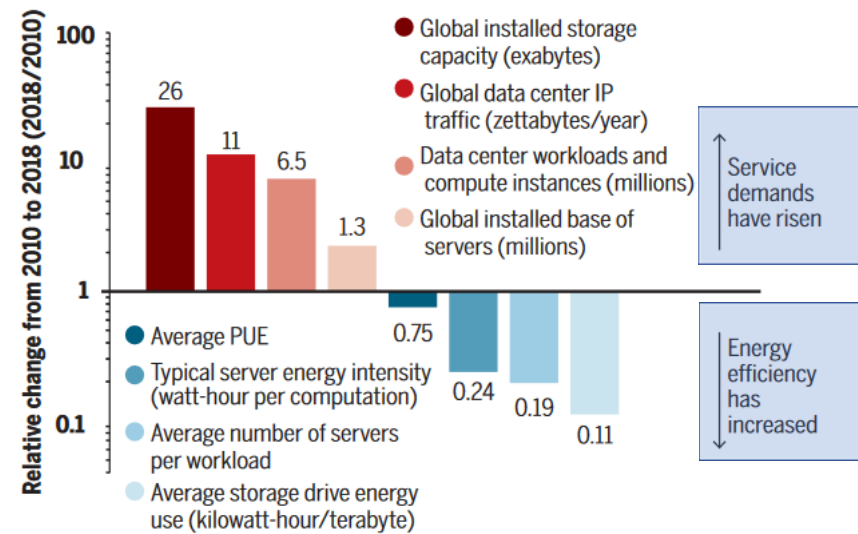
- There is a wide range of standards, regulations, and expectations with varying levels of importance
- Most requirements are voluntary (2Q22)
- Mandatory requirements will increase
- An IT efficiency workload/ unit of energy metric is needed.



Trends in Global Data Center Energy-use

- IT demand is growing exponentially
- How data centers offset energy growth
 - › Installing higher capacity IT equipment
 - › Increasing equipment utilization
 - › Optimizing infrastructure
- Workloads and data growth demand action
 - › Greater use of energy management
 - › Green energy required to reduce emissions
- Infrastructure sustainability strategy
 - › A sustainability strategy is essential to optimize environmental performance
 - › Comprehensive, with regular reporting

Trends in global data center energy-use drivers

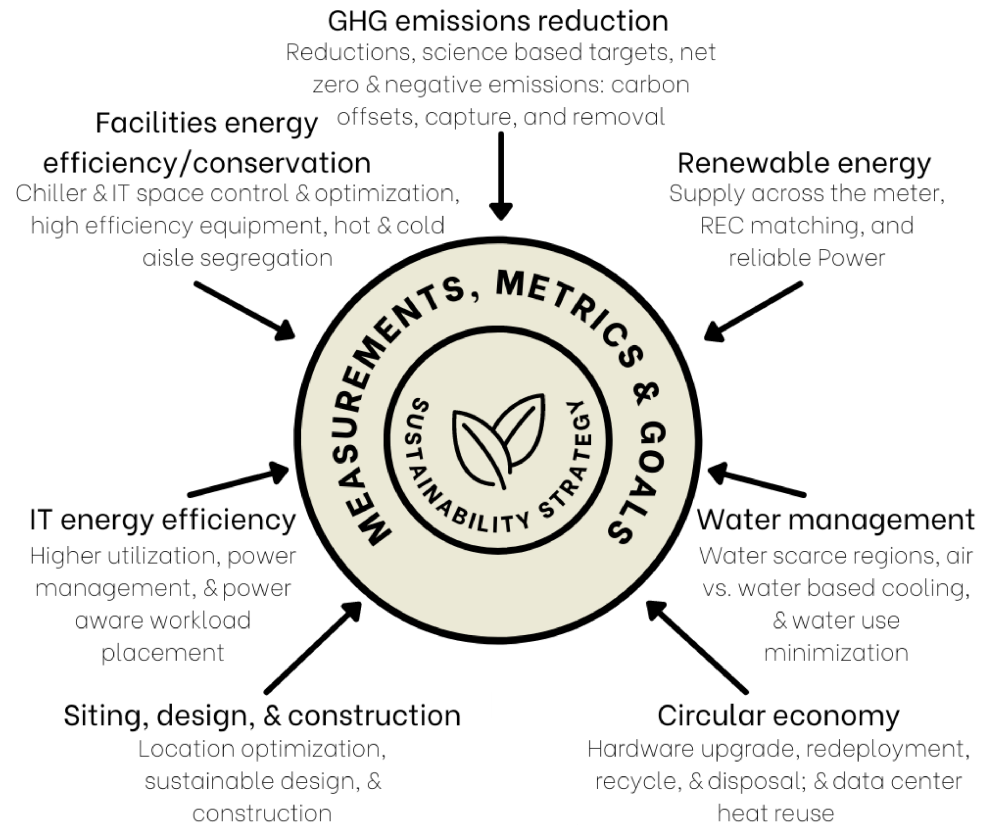


PUE, power usage effectiveness; IP, internet protocol.

(<https://www.gwern.net/docs/cs/2020-masanet.pdf>)

Elements of a data center Sustainability Strategy

- UI has identified seven strategy elements
 - › Each has multiple sub-elements
 - › To begin, select key elements and expand the strategy over time
- Report data & metrics internally and externally
- The strategy should address owned, co-location and cloud facilities.



Internal and external reporting: communicating progress and results

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Sustainability Strategy approach

- Measure and monitor operational activities:
 - › Collect operational data
 - › Track key equipment inventories
- Set sustainability metrics:
 - › Facility operations
 - › IT operations
- Establish sustainability goals
 - › GHG emissions reduction
 - › Carbon neutrality
 - › Energy use reduction
 - › Water use reduction
 - › Improved operational efficiency
 - › Others



There is no “one-size-fits-all” strategy

Sustainability Strategy: Key actions

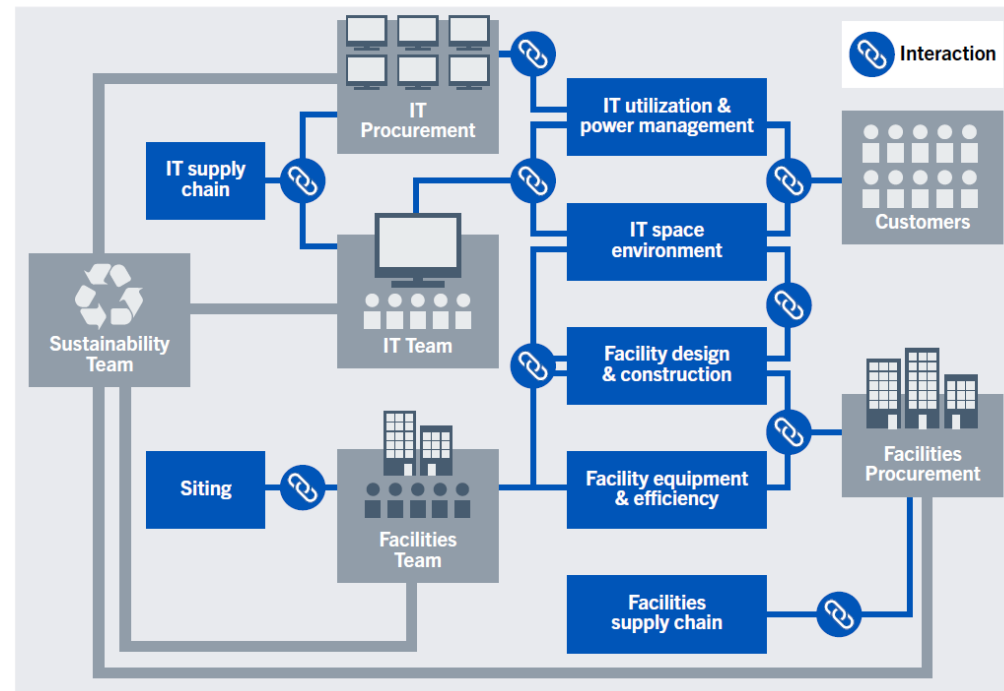
- Build a project plan of efficiency projects and renewable energy purchases
- Executive commitment
- Intra- and interorganizational cooperation
- Integration into business strategy
 - › Equal importance with reliability and resiliency
- Policy and regulatory requirements management



Sustainability Strategy – Delivery interactions

- Sustainability team enables and coordinates
- Business functions must own projects and performance central to the strategy
- Involve stakeholders
 - › Customers
 - › Colocation and Cloud service providers

Interactions among operations, customers and sustainability elements



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Creating a Sustainability Strategy: Summary

- Sustainability **requirements will become more mandatory**, and intrusive over the next decade.
- The evolving matrix of standards allows operators to **design a strategy that meets business and marketplace requirements**.
- A strategy should cover all **owned, colocation, and public cloud operations**.
- The most critical metric is the **maximization of work delivered per unit of energy consumed**. Other metrics should support its attainment.
- The **strategy must be integrated into the operational and financial plans** - and be owned by the operating units.
- Success requires a **cross-functional focus** on delivering results.
- **Anticipate and incorporate future requirements**.

Uptime Institute Education – New Course

Accredited Sustainability Advisor

- New qualification introduced, May 2022
 - › Four half-days, remote or on-site course
 - › Taught by Uptime Institute instructors
 - › Sustainability strategy reports included as course materials.



Accredited Sustainability Advisor – Key topics covered	
Sustainability Policy and Management	IT Energy Consumption and Efficiency
Regulatory Requirements	Renewable Energy Purchasing and Consumption
Facility Siting, Design and Certification	Green House Gas (GHG) Emissions
Facility Energy Consumption and Efficiency	Water Consumption and Efficiency
Circular Economy, Recycle and Reuse	Information Reporting
Sustainability Strategy in the Organisation	

- <https://uptimeinstitute.com/education/course-calendar/accruited-sustainability-advisor-course-calendar>
- Email: info@uptimeinstitute.com

Zero-hour: For Sustainable, Resilient Digital Infrastructure

- For every single company, for every single business model, at any scale, it's time to transition to a zero-carbon footprint and contribute to a sustainable economy.
- With a holistic science based approach to decarbonising ICT and reducing the environmental impact of the digital ecosystem, we can make a real and sustainable difference.
- After a decade of much talk but limited action, the time has come to act in the interest of shareholders and humanity alike.

The logo for Uptime Institute, featuring the word "Uptime" in a bold, blue, serif font and "Institute" in a black, serif font, with a registered trademark symbol (®) to the upper right of "Institute".

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Questions and discussion