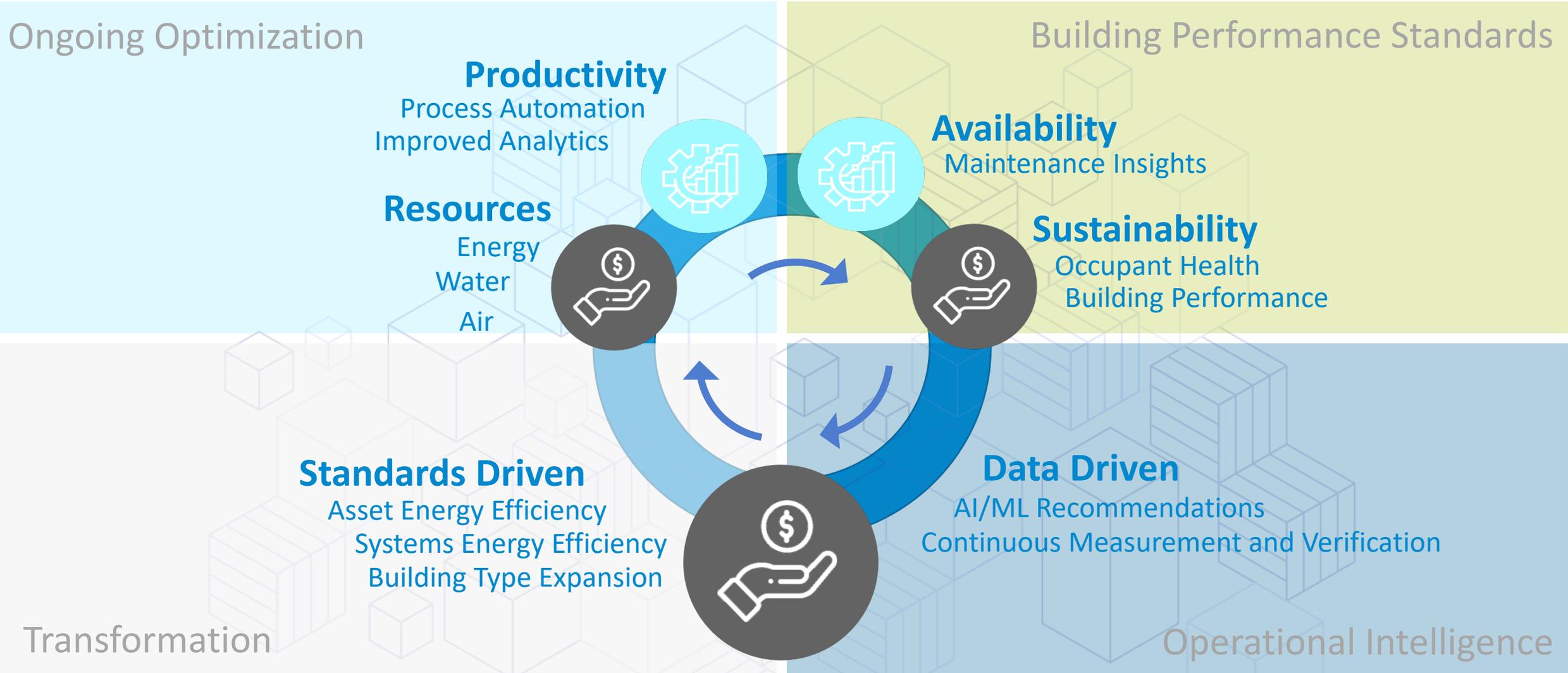
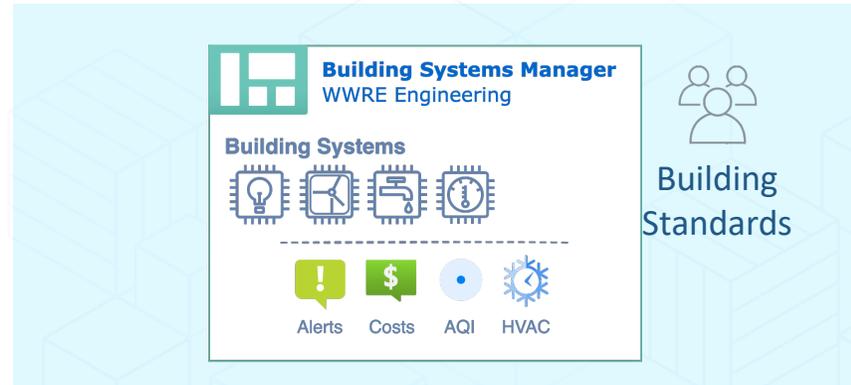


# ESG Strategy



# The Vision : A Data Driven, Enterprise Building Systems Manager (eBSM)

- Improved building performance services
- New consumption options; pay as you go



- Serverless building management capability across the RE portfolio
- Energy efficient by design and operations
- Sustainability reporting for buildings as a standard

- Flexible Edge, bring your own device and “add my asset”
- High performing data model with many automation options
- Pre-configured analytics tied to WWREE standards
- Automated data extraction and normalization
- New asset management options; open ontologies, self serve, drag and drop
- Improved maintenance services



  
Maintenance Insights



  
Sustainable Buildings and Operations

- Cost optimization for building operations and services
- Utilizes ML/AI throughout

# Expected Outcomes

- Improved Building Performance
- Improved Occupant Health
- Improved Resource Management
- Data Driven Strategy
- Reduced OpEx
- Improved Analytics



# New Pressures on RE Portfolio Managers to Report Emissions

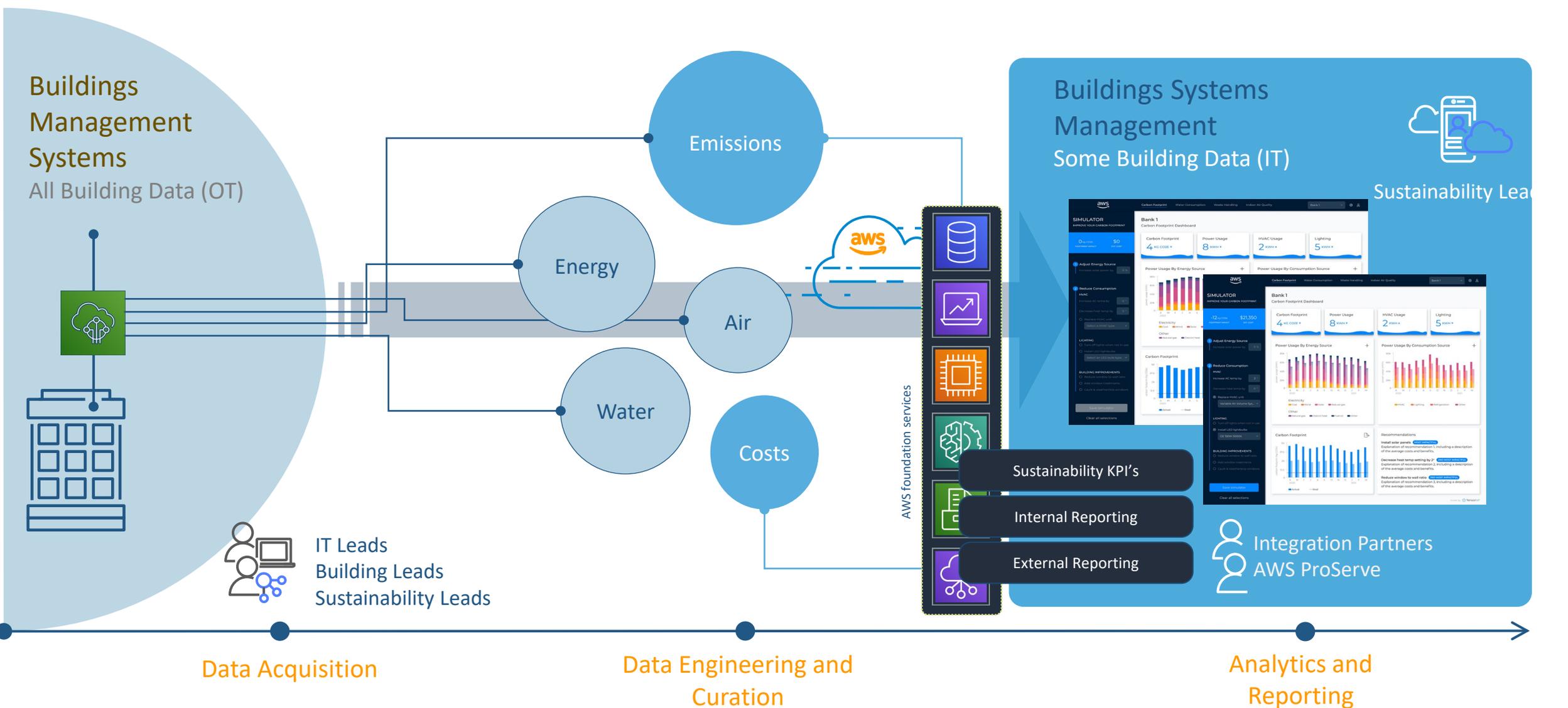
## Business Pressures

- Explosive growth
- HVAC changes in support of COVID (advanced filtration)
- High expectations for data services and data extensibility
- New assets being added (solar panels, air quality sensors)
- Regional differences in procurement and infrastructure management
- Lack of standardization across BMS systems
- Data ownership expectations

## Limitations of Legacy Approach

- Tedious data acquisition and integration from disparate sources with no common data standards
- Complex and time-consuming configuration and commissioning
- Rigid architectural constraints and deployment options for *on premises or hosted*
- Require specialized, third party support and training
- Rigid analytic constraints; no data engineering and management tools

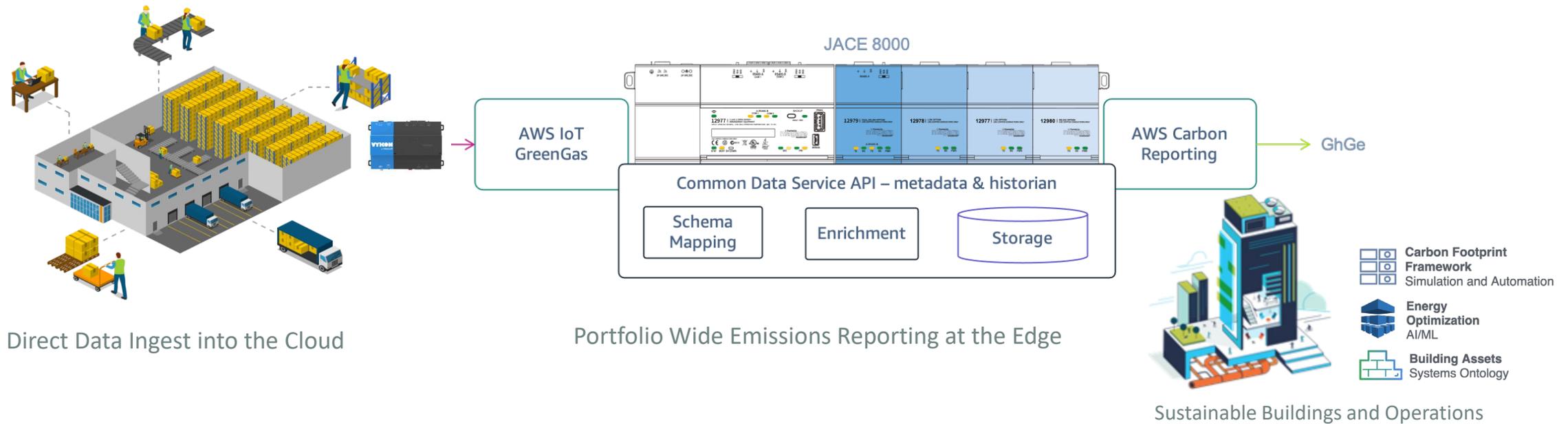
# Moving to Building System Management



# The Sustainable Buildings and Operations Offer

## Start Small with Emissions Reporting at the Edge

- Simplified Edge (e.g., JACE 8000) Device Qualification to Connect Enterprise IT network
- Template-based data model to support Carbon Reporting



# DEMO SCENE

*Tridium Jace 8000*

*Workbench*

*RTU*



# Enterprise Building Systems Management

## Driving Performance and Maintenance Standards at Scale

Amazon WW Real Estate Engineering  
Enterprise Building Systems Manager

Global View

Building Insights

Site	Avg Temp	Cooling Setpoint	Heating Setpoint	Potential Savings
★ ALO2	80	20	24	37
☆ AU12	75	20	37	45
☆ BR31	75	20	37	45
★ L022	75	20	37	45
☆ LV11	75	20	37	45
☆ MU42	75	20	37	45
☆ NY11	75	20	37	45
☆ TN15	75	20	37	45
☆ TO21	75	20	37	45

LO22 Operations

Jakob Donkin  
Building Manager

90°  
43% HUMIDITY 7 mph WINDS

HVAC

Rooftop Unit **MAINTENANCE REQUIRED**

78°F SET TEMP / 79°F ACTUAL TEMP  
12 ALARMS

Energy Usage

LO22 Performance Analysis  
Total vs Benchmark Separation

310.36 KWH  
Metric one label  
second line

Meet The Team

Worldwide Real Estate Engineering Engineering (WWREE)

Learn more at the Real Estate Engineering Wiki Reference

[GO TO WIKI →](#)

Ashlynn Korsgaard  
Building Systems Manager  
korsash@

Madelyn Baptista  
Sr Engineering Program Manager  
baptma@

# Enterprise Building Systems Management

# Management

## Driving Performance and Maintenance Standards at Site

Amazon WW Real Estate Engineering  
Enterprise Building Systems Manager  
Last 7 Days

**Global View**

Map showing locations: Lisbon, Porto, Madrid, Valencia, Murcia, Seville, Tangier, Oran, Tare, Oujda.

**Building Insights**

Site	Avg Temp	Cooling Setpoint	Heating Setpoint	Potential Savings
★ ALO2	80	20	24	37
☆ AU12	75	20	37	45
☆ BR31	75	20	37	45
★ LO22	75	20	37	45
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**LO22 Operations**  
Jakob Donkin, Building Manager  
90°  
43% HUMIDITY WINDS 7 mph

**Rooftop Unit**  
78°F SET TEMP / 79°F ACTUAL TEMP  
12 ALARMS  
MAINTENANCE REQUIRED

**Energy Usage**  
310.36 KWH  
Metric one label second line

**Meet The Team**  
Worldwide Real Estate Engineering Engineering (WWREE)

**Learn more at the Real Estate Engineering Wiki Reference**

Ashlynn Korsgaard, Building Systems Manager (korsach@)  
Madelyn Baptista, Sr. Engineering Program Manager (baptma@)

Central Operation

Px View  
https://wsamzn-98bvsv5s/ordr/file/px/BuildingSystems.px/view?chc=PxView

**Fulfillment Center AL02**  
Systems Insights  
Back | Return to AL02 | Open ticket | Page oncall

**Energy used by system (YTD)**

System	Energy used (kWh)
Lighting	142088.31
HVAC	288153.62
Electrical	11257.29

**Energy used by device (YTD)**

Device	System	Energy used
RTU01	HVAC	5924.75
RTU02	HVAC	5927.32
RTU03	HVAC	5981.29
RTU04	HVAC	5928.46
RTU05	HVAC	6138.57
RTU06	HVAC	6026.93
RTU07	HVAC	6037.07
RTU08	HVAC	5970.10
RTU09	HVAC	6044.65
RTU10	HVAC	5869.44

**Energy forecast (EOY)**

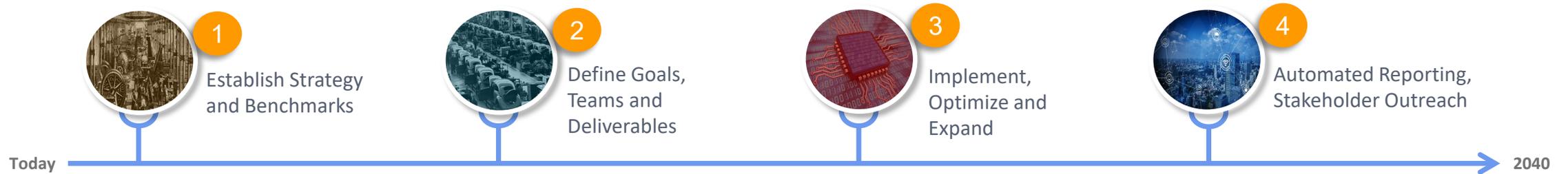
Forecast	LOW	MID	HIGH
Energy	489 MWh	537 MWh	611 MWh
CO2e	97 kt CO2e	126 kt CO2e	170 kt CO2e

Energy and emissions insights powered by Amazon Web Services. Data based on real systems but does not reflect real devices, places, or people.

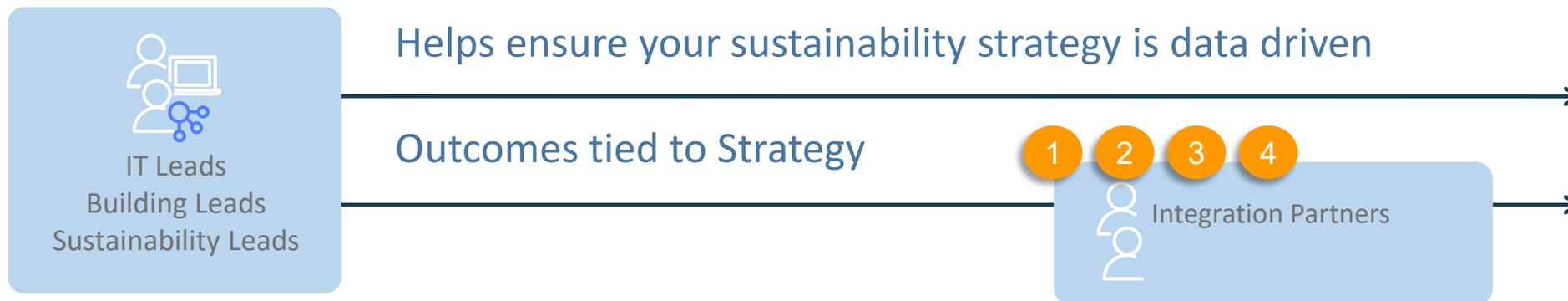
Site Operation

# How We Get Started

## Sustainability Strategy and Planning



### Sustainability Transformation Roadmap



# Summary and Next Steps

Interested in Learning More?

- *Visit us at the Community Sandbox*
- <https://aws.amazon.com/sustainability/>
- <https://sustainability.aboutamazon.com/>



**Amazon  
Sustainability**  
*Further and Faster,  
Together*

