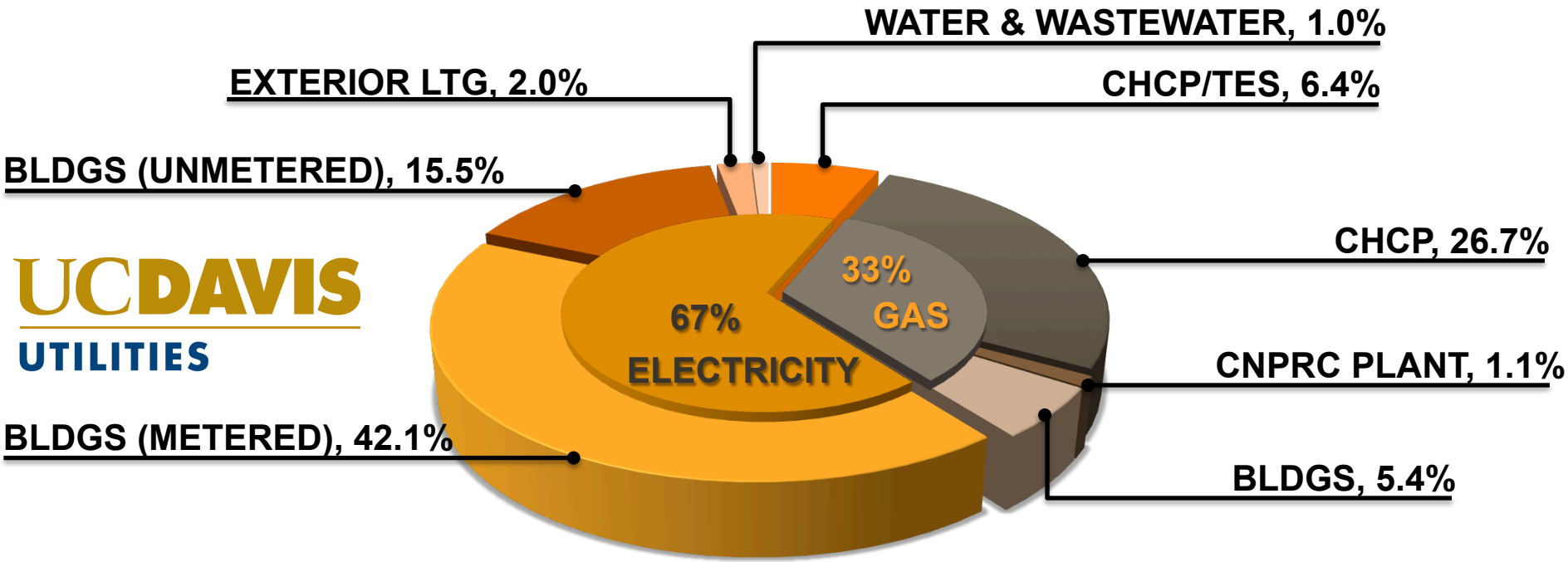
Using Utility Data to Meet Sustainability Goals for Diverse Customers

Presented by **Joshua Morejohn, Utilities Engineer**

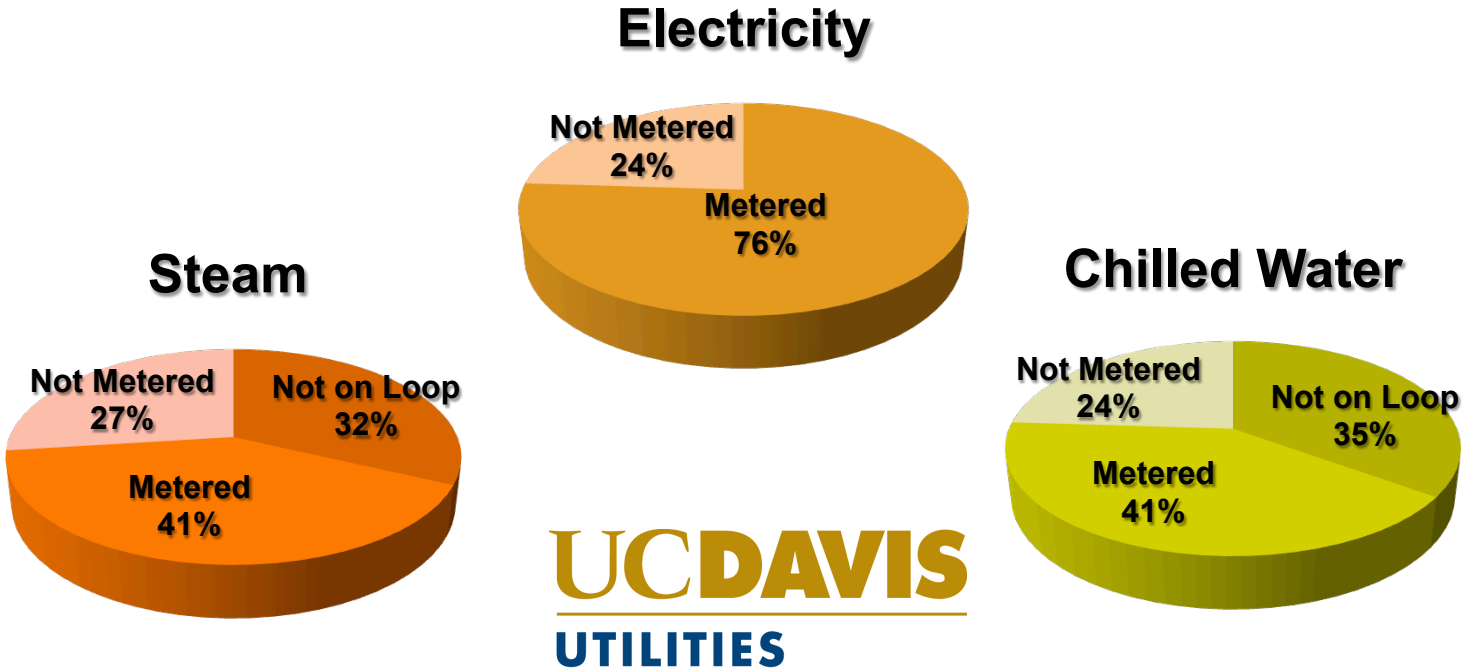
UC DAVIS UTILITIES



UCDAVIS
UTILITIES

ANNUAL TOTAL CAMPUS ENERGY COSTS: $22.2 M

Energy Metering as % of Total Campus Building Space (10.6M SF)



What do you do with your data?

Common Problems

Not enough data

“Too much” data

Hard to decipher

Wrong people looking at it

No one looking at it

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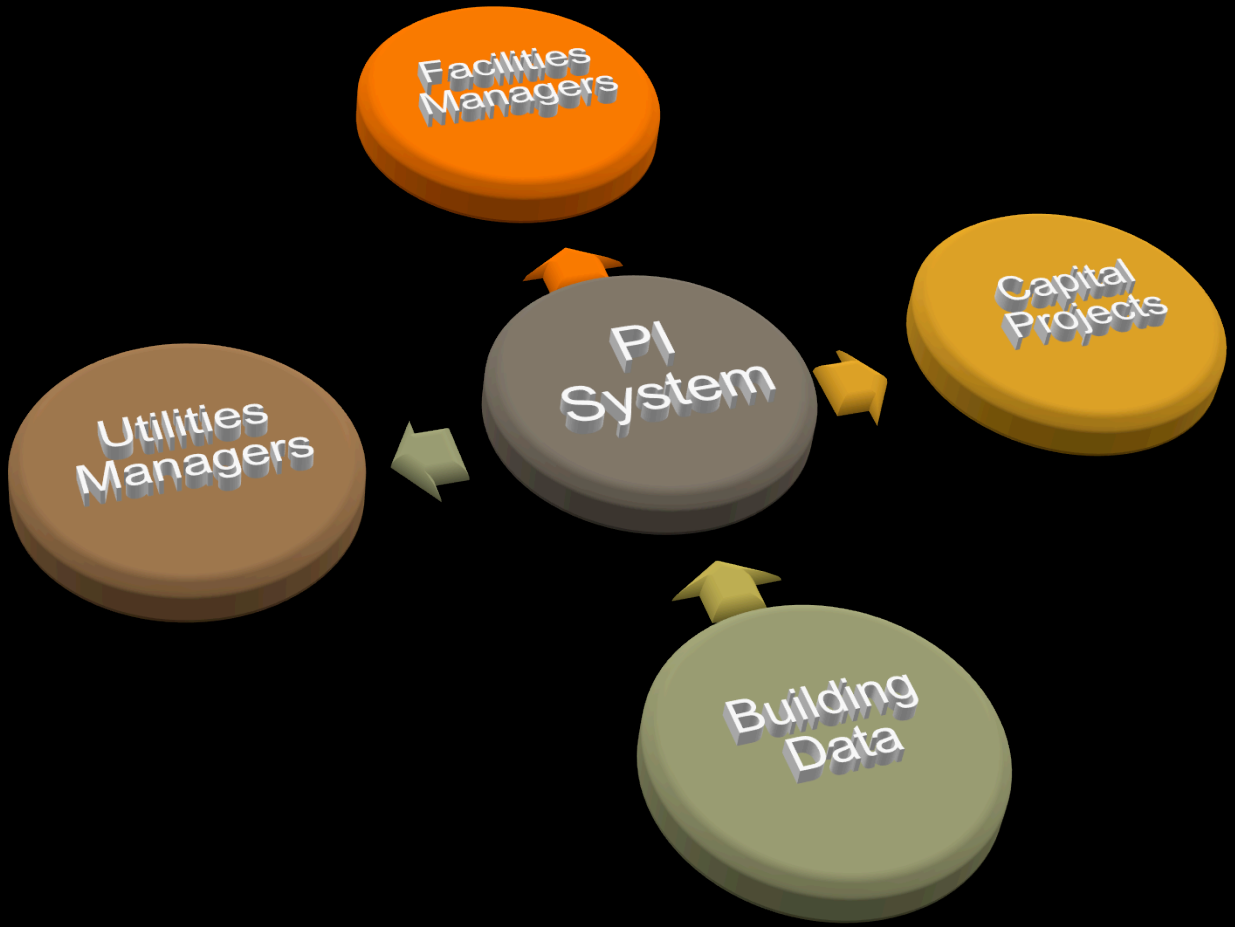

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Student Community Center Detail

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Operations & Maintenance UTILITIES University of California, Davis
ION SCADA Network
Campus Network

kW tot:	74.9
kVAR tot:	9.3
kVA tot:	75.5
PF sign tot:	-99.2 %
V a:	285.8
V b:	285.1
V c:	285.9
Vln avg:	285.6
Vll avg:	494.7
I a:	109.3
I b:	94.6
I c:	68.4
Iavg:	90.8
kWh:	149,023.5

Utility Meters Pending Validation
Contact Alan - 530-754-5586

Student Community Center: Digital In -Point Summary

CHW Tonh	0	REFS ON	1
Condensate (gal)	0	CHWP VFD kWh	0
Dom Water gal	0	Dom Hot Water (Btu calc)	1,840,700
GAS cf	972	GEF-1	1

Student Community Center: Analog In -Point Summary

Space Heating	291.21	kBtu	
HWP1	2.1 amps	1.8 kW	81.2 kWh
HWP2	0.0 amps	0.0 kW	131.7 kWh
AHU1-2 VFD's kW	12.9 kW		

kW tot:	14.2	15.7	3.6	3.2	2.0	16.4	2.0	12.1

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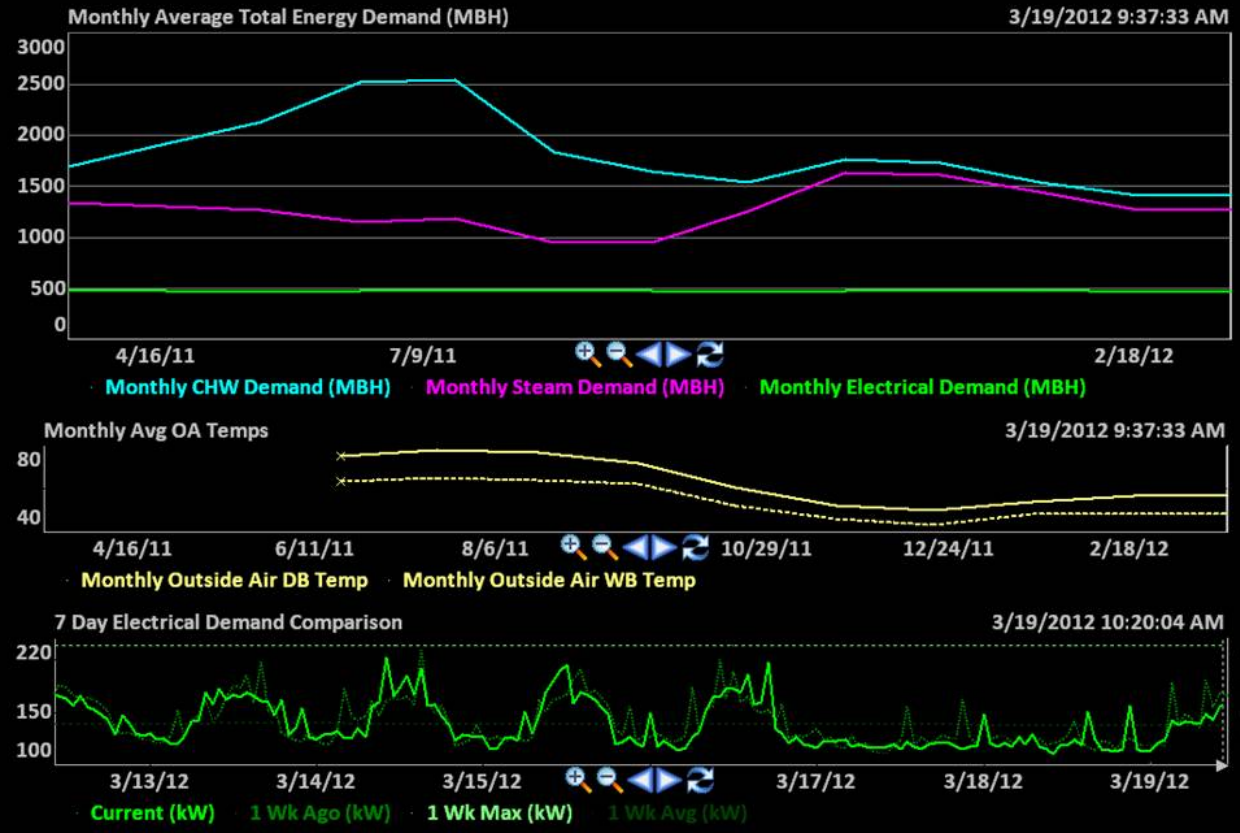
0
10
20
30
40
50
60
70
80
90
100
MPH
0 9 7 5 3 4 5

BUILDING ENERGY DASHBOARD



CURRENT CONDITIONS	
OA DB TEMP	51 Deg F
OA WB TEMP	44 Deg F
OA REL HUM	63 % RH

SERVICE	UNITS	LAST 4h vs 30d AVG	
ELECT DEMAND	kW		164
CHW DEMAND	TONS		8
STM DEMAND	LBS/HR		1224
GAS DEMAND	CFH		0
WATER DEMAND	GPH		6062

BUILDING ENERGY DEMAND BREAKDOWN

CURRENT		ANNUAL AVG	
25 %	ELECT	26 %	ELECT
4 %	CHW	30 %	CHW
71 %	STM	44 %	STM

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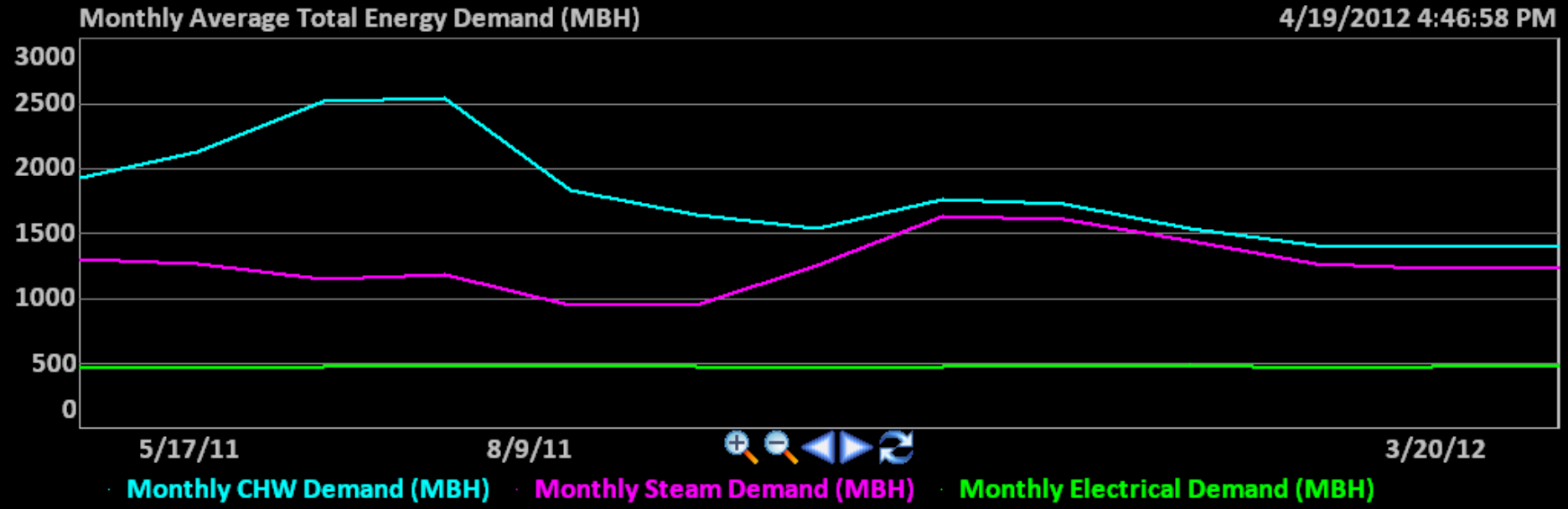

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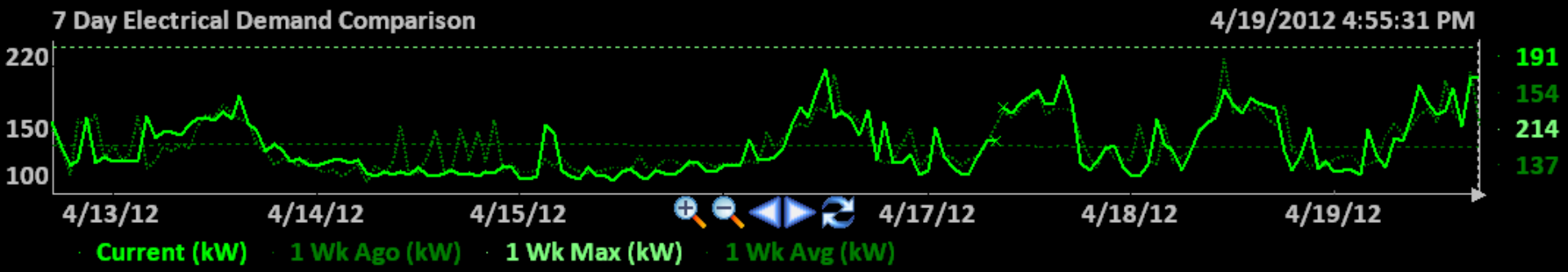

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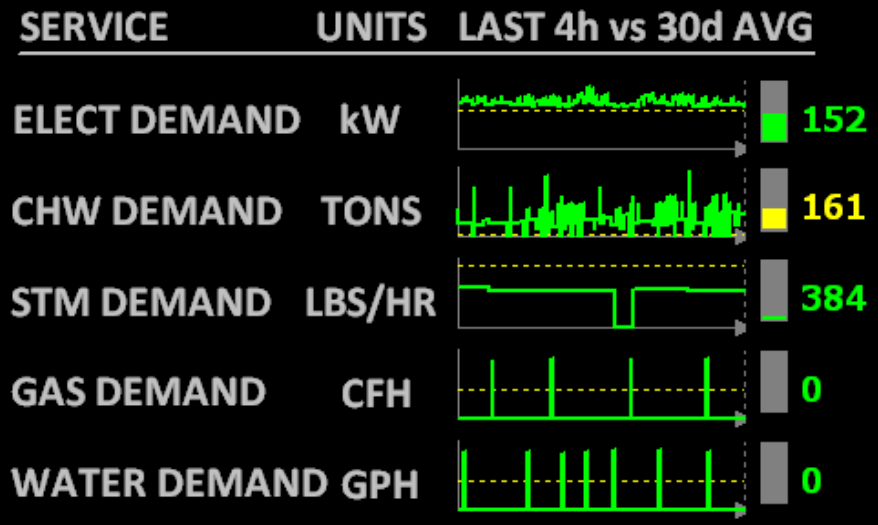

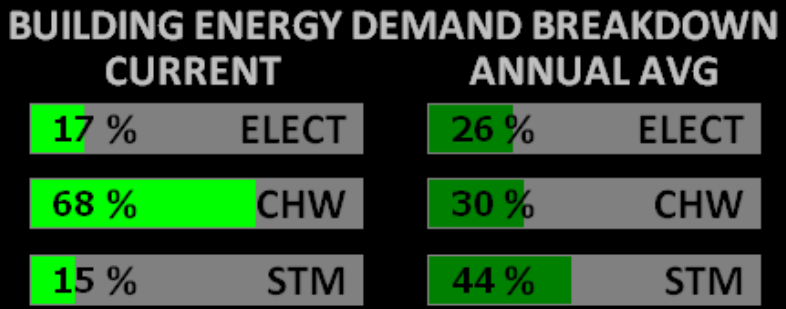

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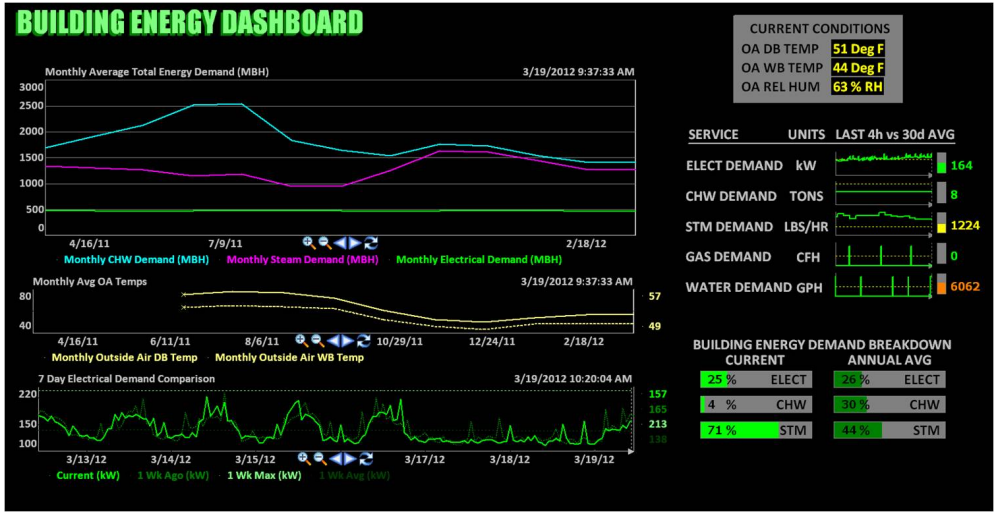
Making Data Useful

Match the **right data** to the **right people** in a format that is **actionable**



Challenge

- Too much data
- Too little action

Process

- Who needs it?
- What do they need?

Solution

- Data you can act on
- Customizable

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Make your data do something!

- Find the **people** who can use the data
- Find out **what data** they want to see
- Find a way to make the data **accessible**
- **Format** data so it tells a story
- Keep the **feedback loop** open

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THANK YOU

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