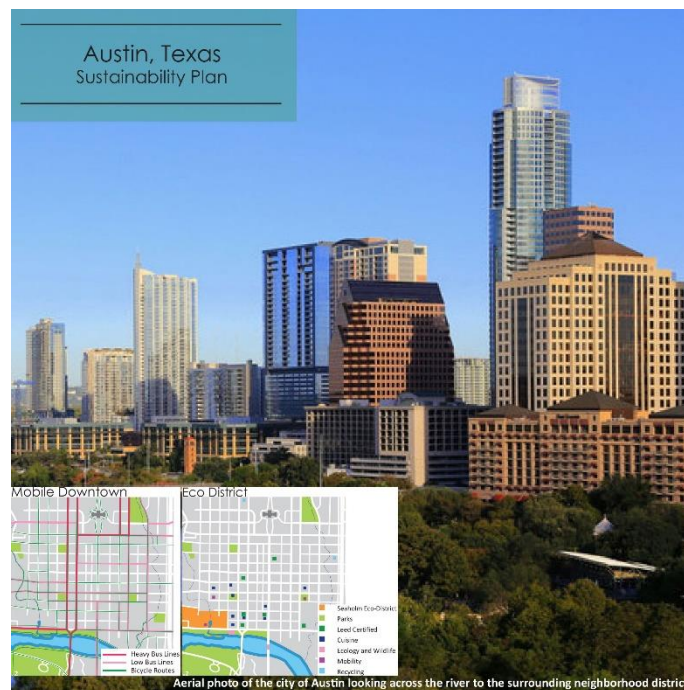


Tucson 2050:

Beyond the Sightline of a Standard City Plan









PIMA PROSPERS

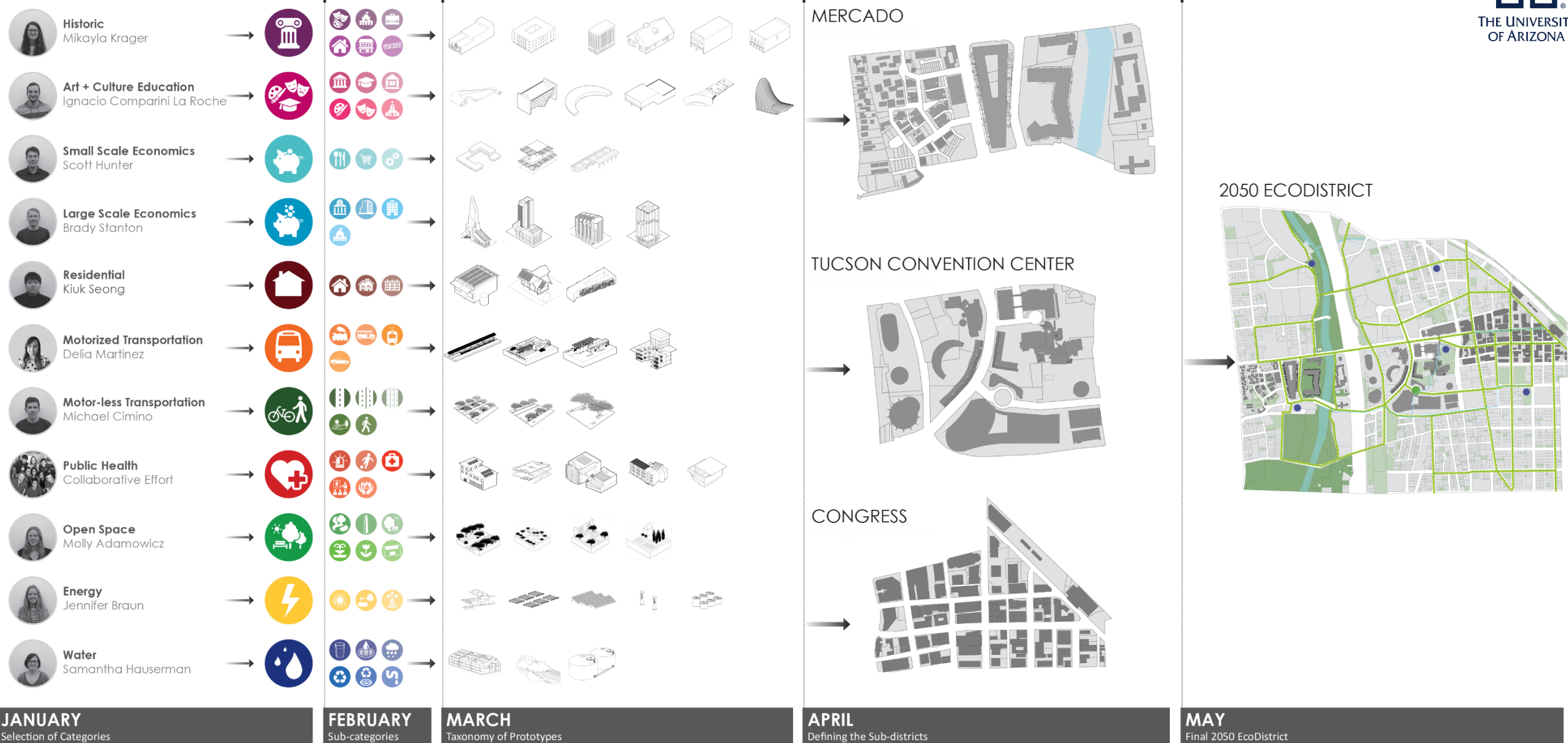
Pima County Comprehensive Plan Initiative

PLAN TUCSON

CITY OF TUCSON GENERAL & SUSTAINABILITY PLAN 2013



Work Flow Stages Through the Semester

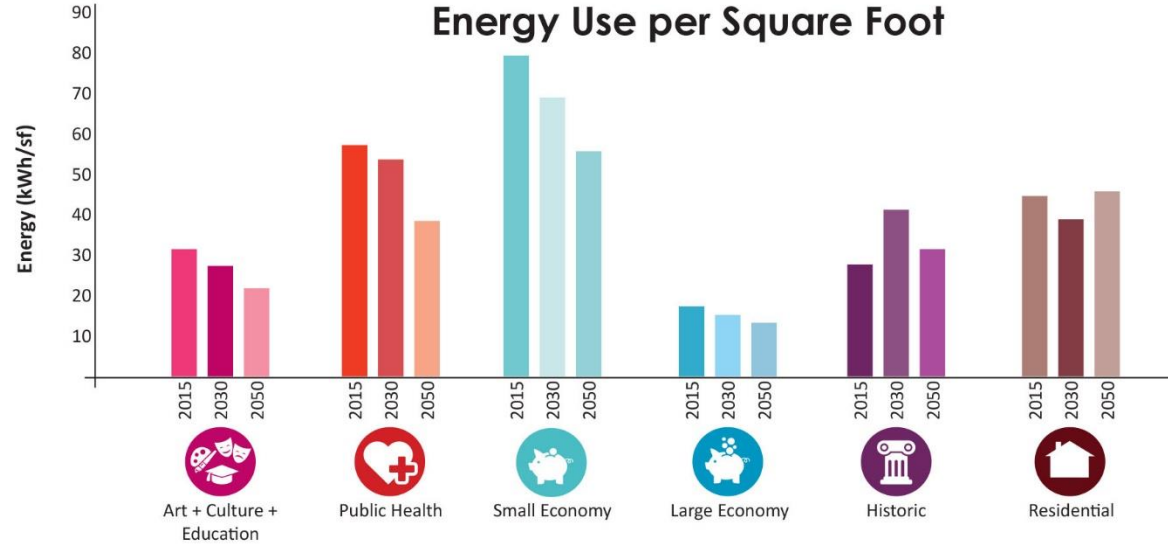


MASTER PLAN

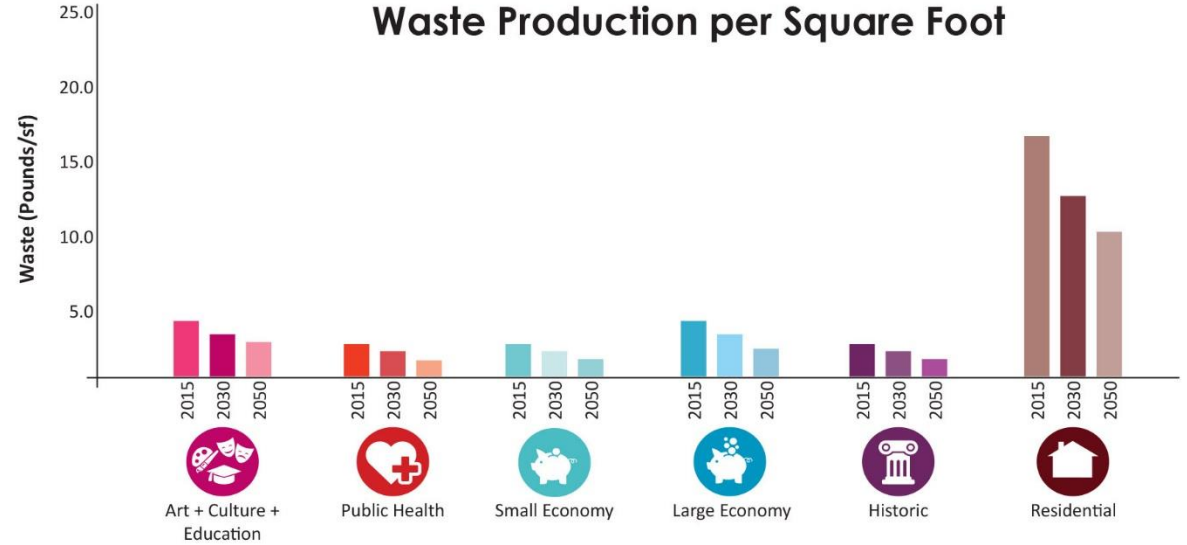


Resource Projection

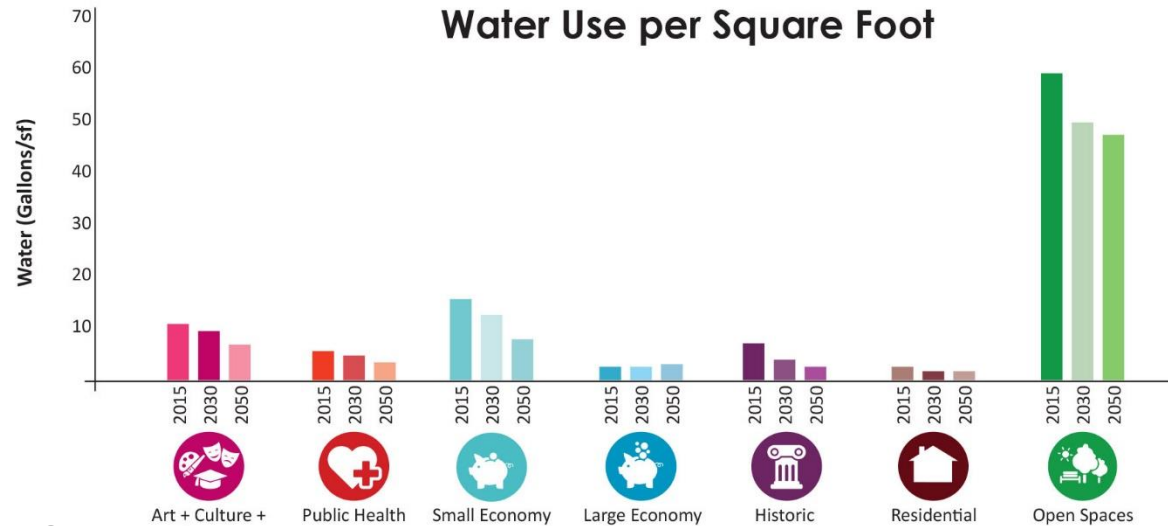
Energy Use per Square Foot



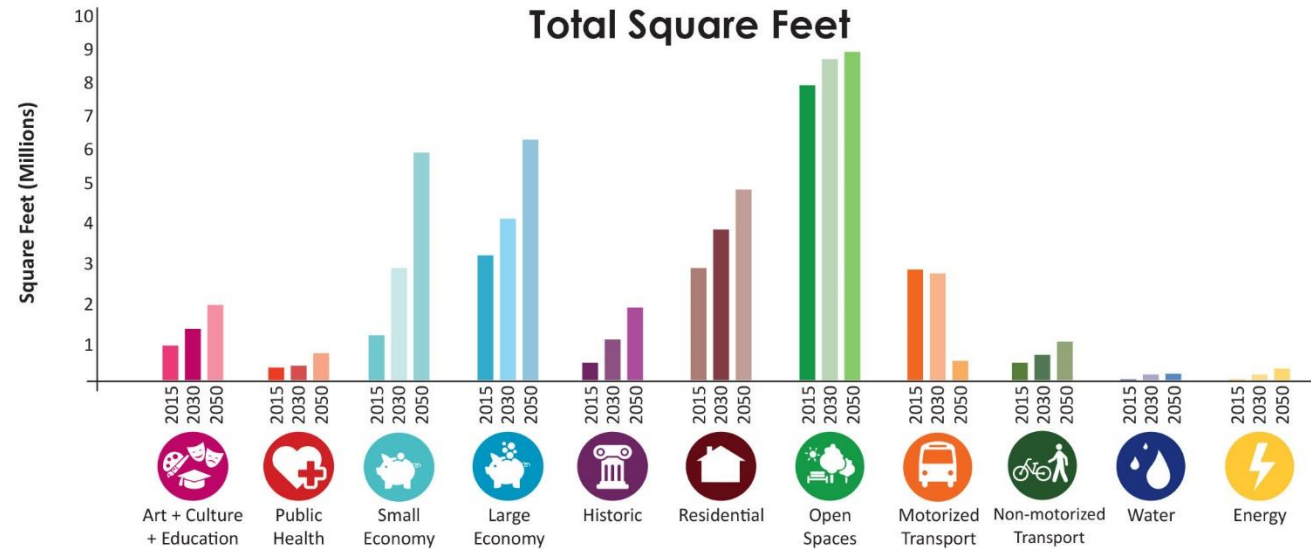
Waste Production per Square Foot



Water Use per Square Foot

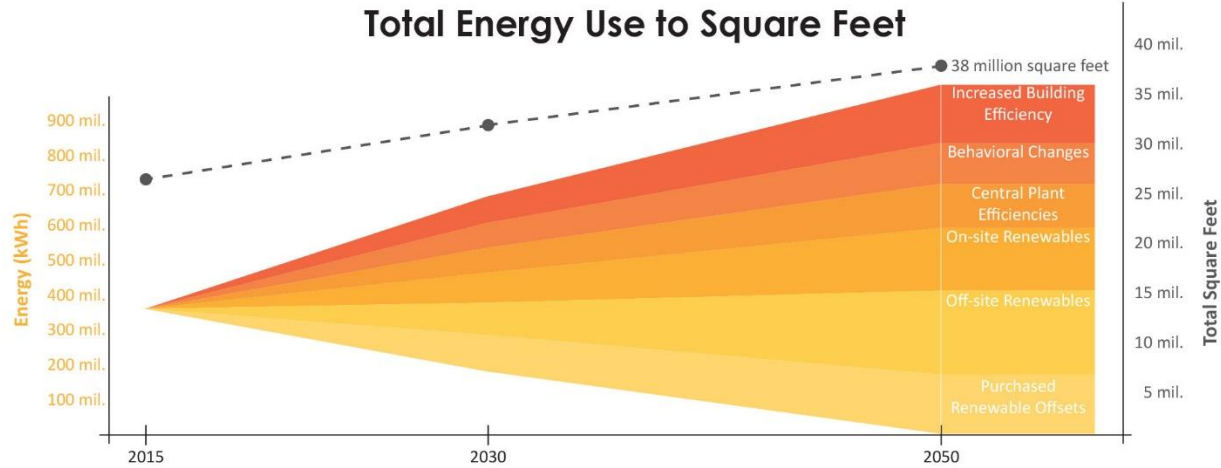


Total Square Feet

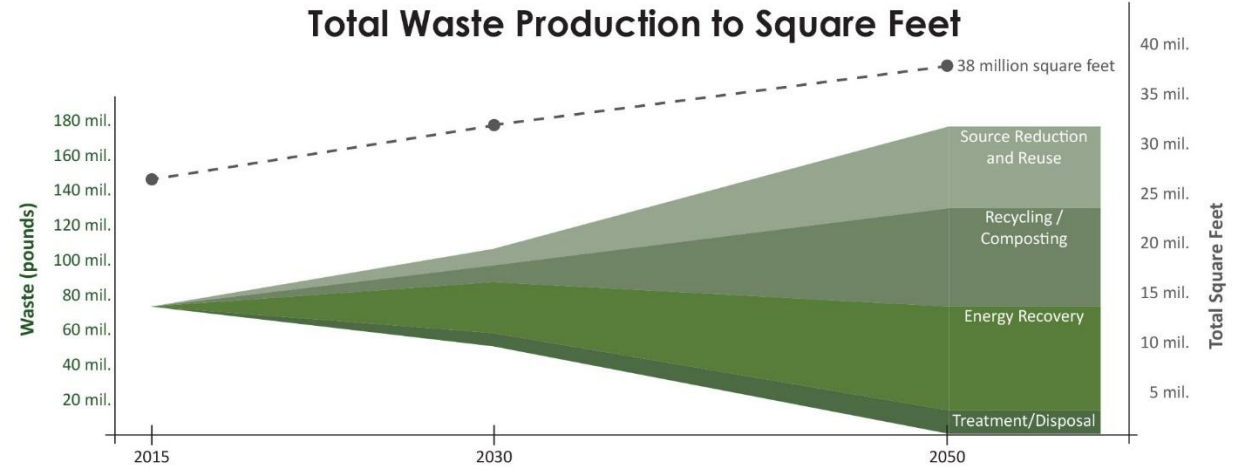


Resource Projection

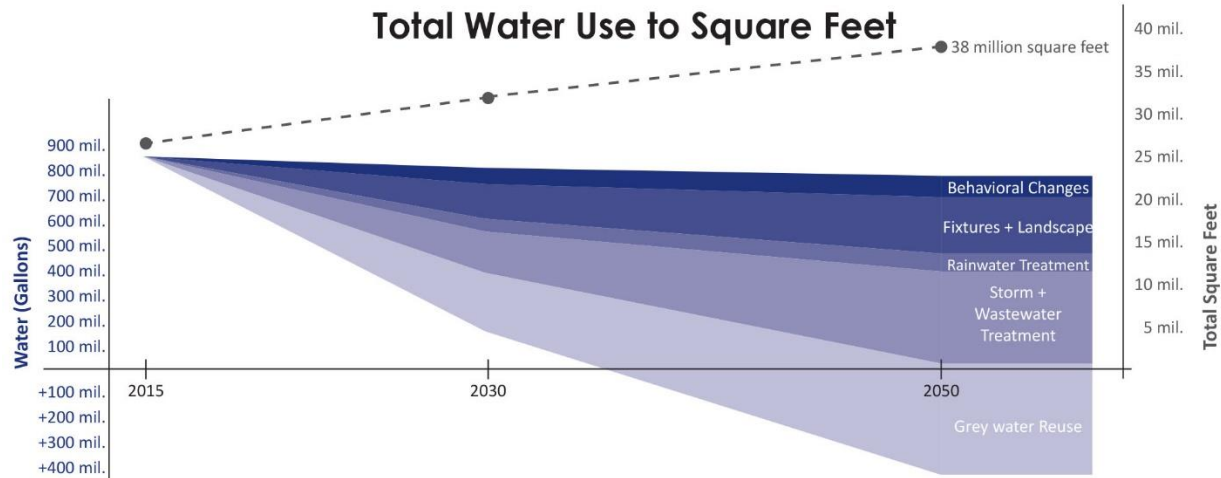
Total Energy Use to Square Feet



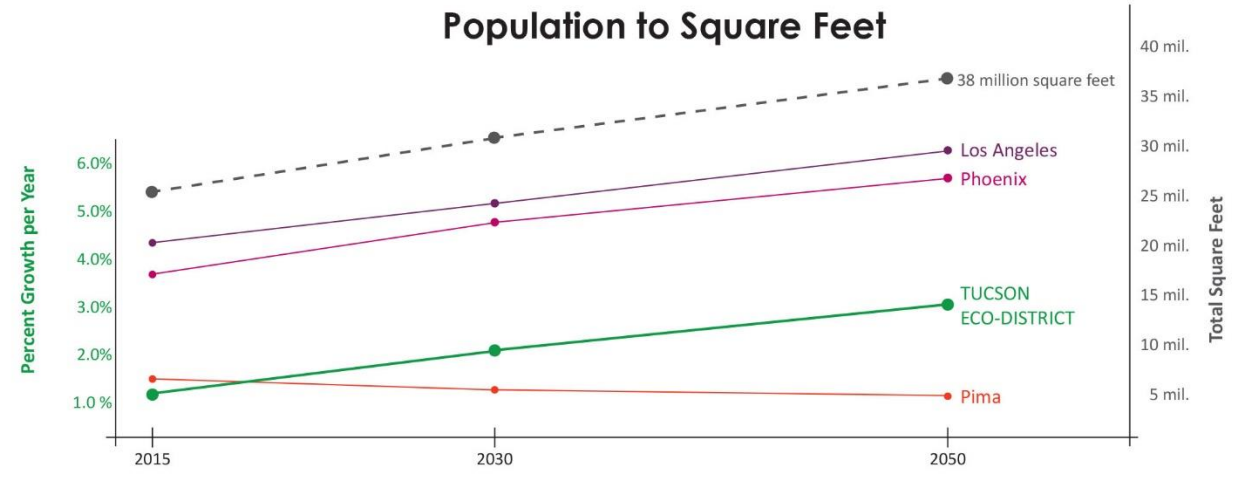
Total Waste Production to Square Feet



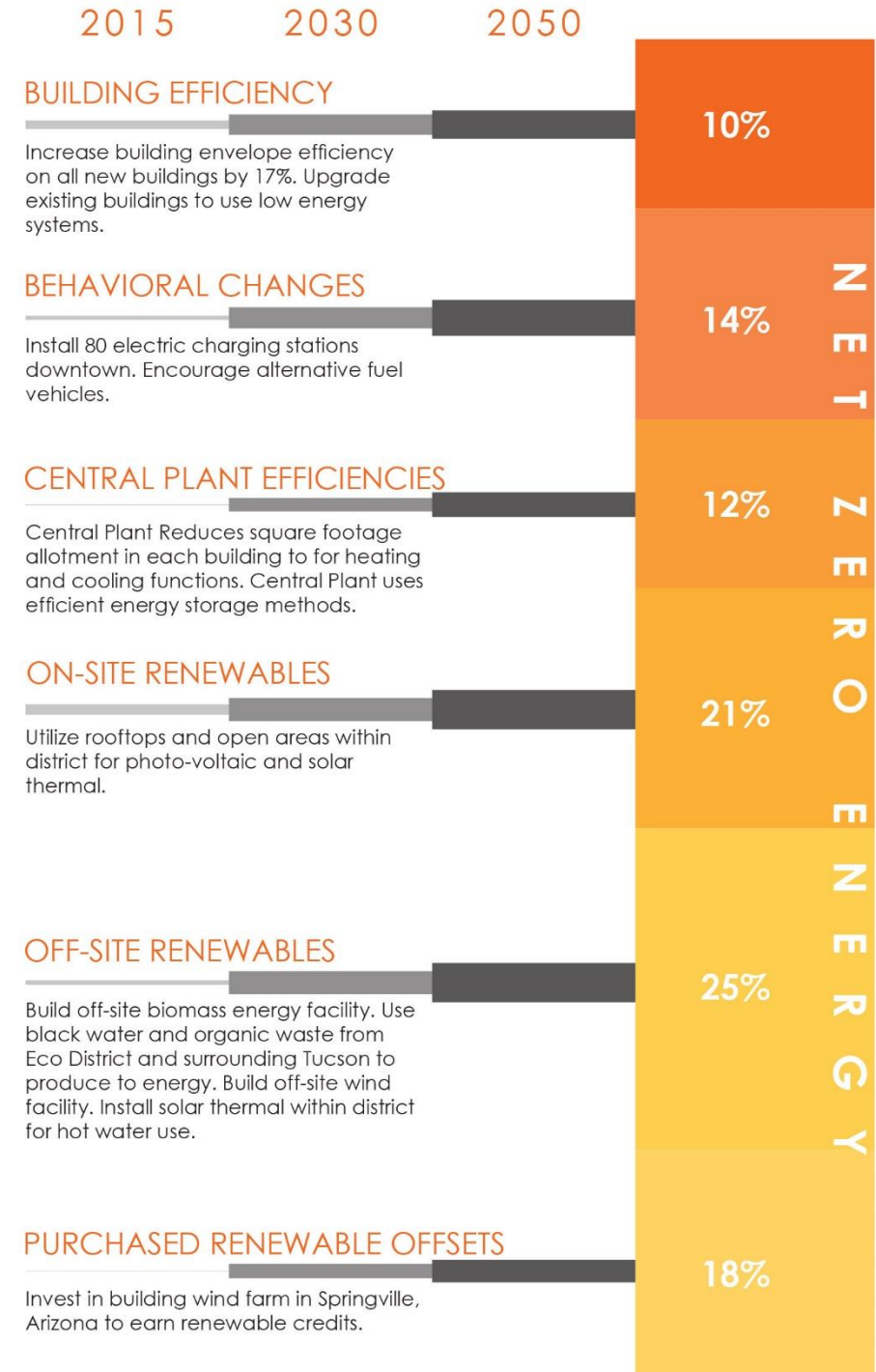
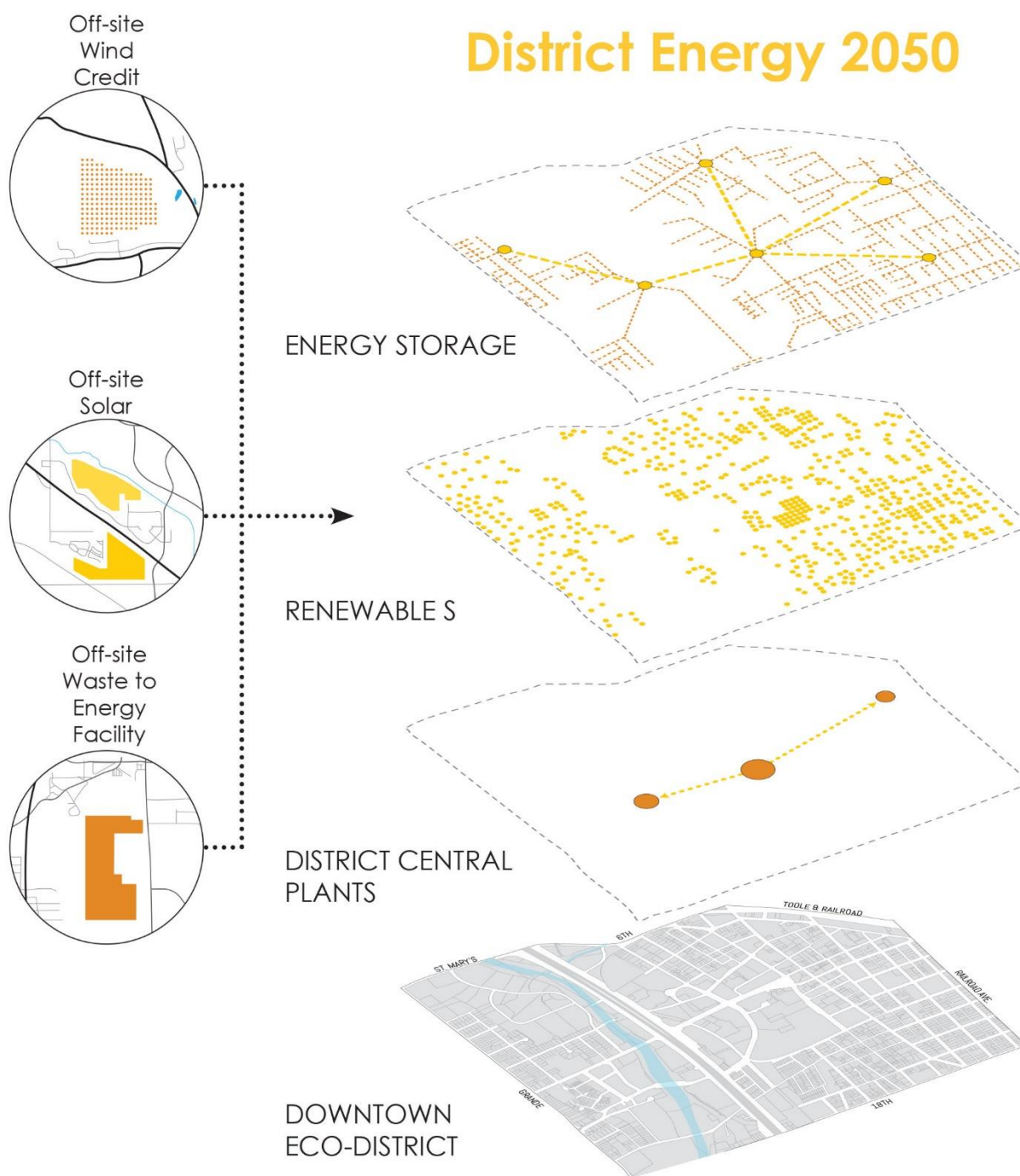
Total Water Use to Square Feet



Population to Square Feet



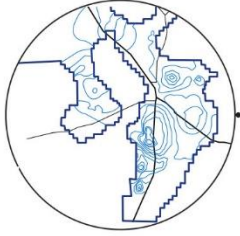
District Energy 2050



District Water 2050

2015 2030 2050

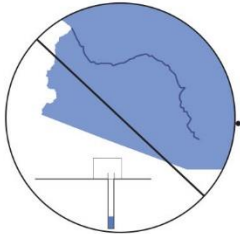
Aquifer
Recharge



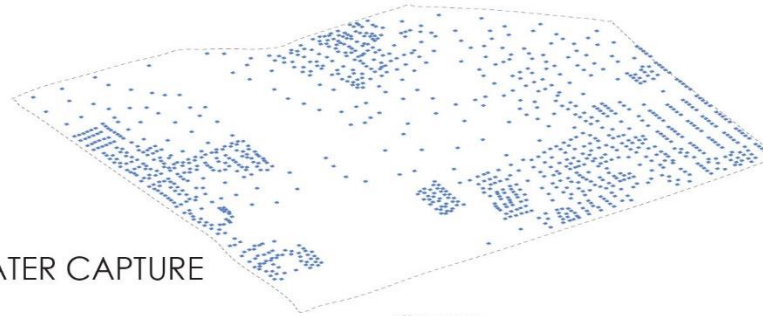
Restored
Santa Cruz



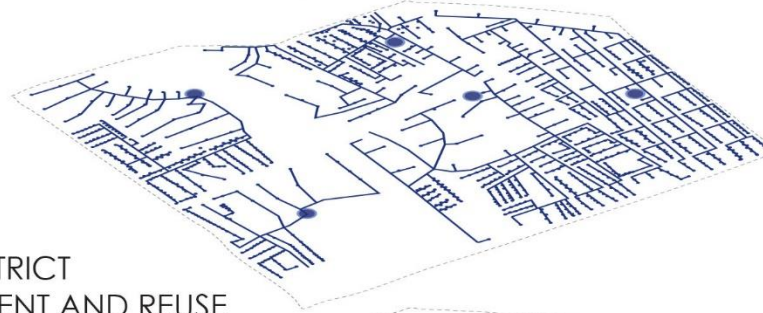
Elimination
of CAP and
Water Wells



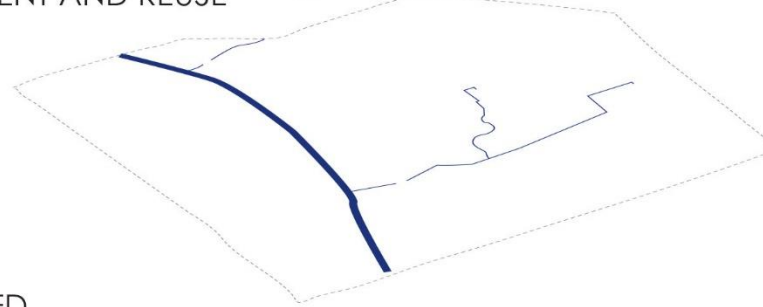
RAINWATER CAPTURE



SUB-DISTRICT
TREATMENT AND REUSE



RENEWED
SURFACE WATER



DOWNTOWN
ECO-DISTRICT



BEHAVIORAL CHANGES

Create a culture of water conservation through design

FIXTURE + LANDSCAPE EFFICIENCY

Increase building water and landscape irrigation efficiency by 40%

RAINWATER TREATMENT

100% of rainwater harvested and treated for potable needs

GREY WATER REUSE

100% of grey water re-used for localized irrigation needs

STORM AND WASTEWATER TREATMENT

100% blackwater reclamation

10%

40%

9%

38%

+50%

NET POSITIVE WATER

2050 Living Infrastructure

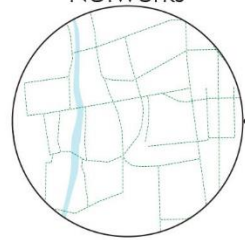
2015

2030

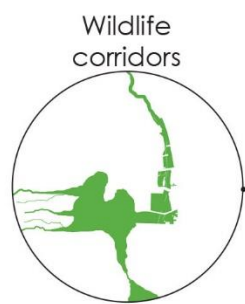
2050



Mitigate
Urban Heat
Island Effect



Integrated
Bicycle
Networks



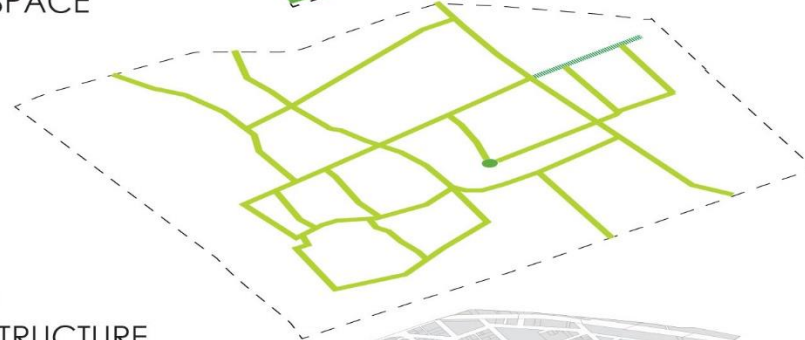
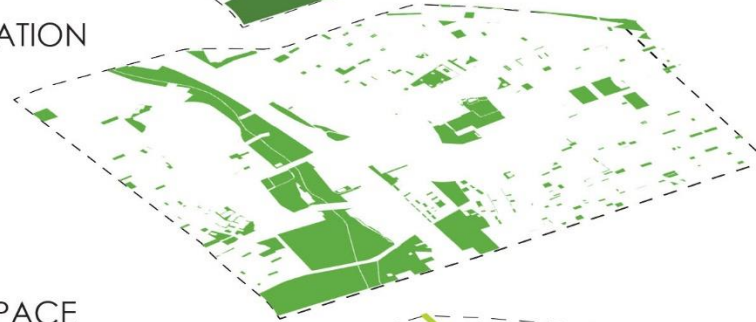
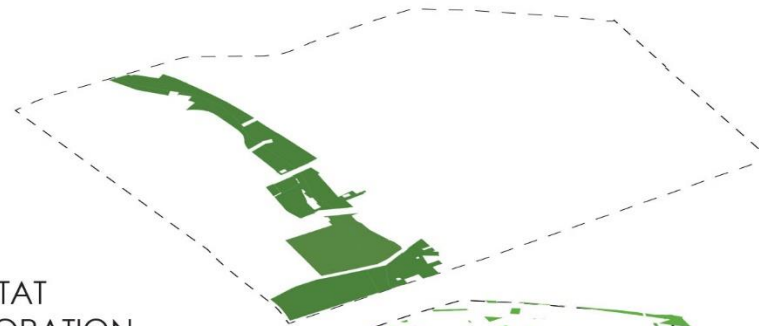
Wildlife
corridors

HABITAT
RESTORATION

OPEN SPACE

GREEN
INFRASTRUCTURE

DOWNTOWN
ECO-DISTRICT



EXPANDED OPEN/ GREEN SPACE

Increase in total open space will result in greater stormwater capture through pervious surfaces.

GREEN INFRASTRUCTURE

Curb cuts, bioswales and retention basins capture stormwater runoff from roads and other impervious surfaces.

ACTIVE WATER HARVESTING

Active rainwater capture is achieved through the implementation of building modifications, cisterns, and storage tanks.

25%

35%

40%

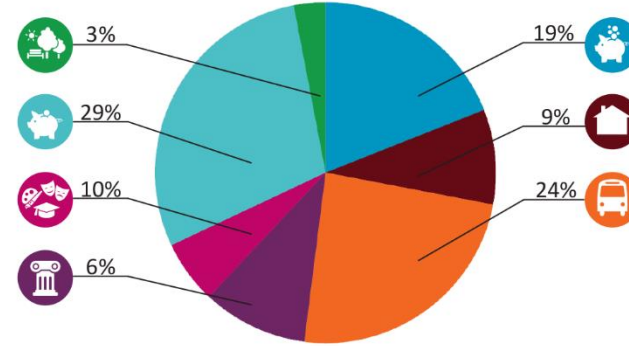
100% STORMWATER RETENTION

Congress Change Over Time

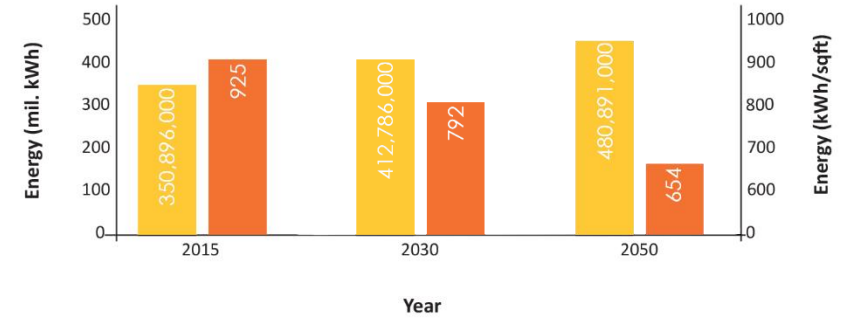
2015 Land Use



2015 Land Use



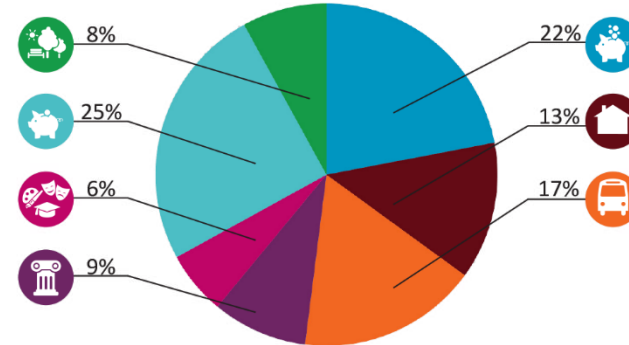
Congress Energy Use by Year



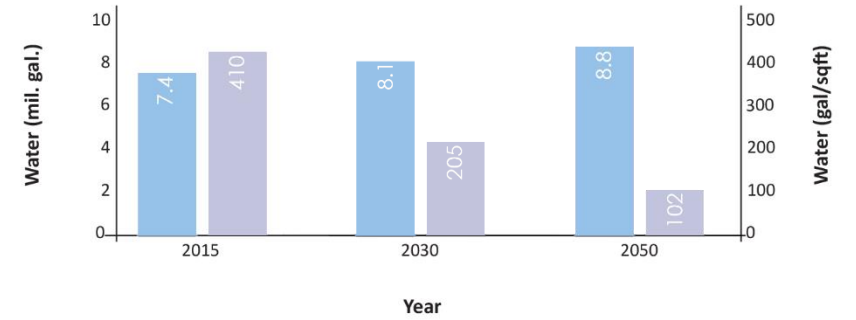
2030 Land Use



2030 Land Use



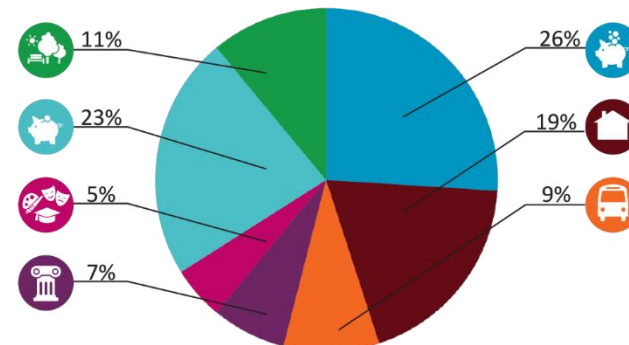
Congress Water Use by Year



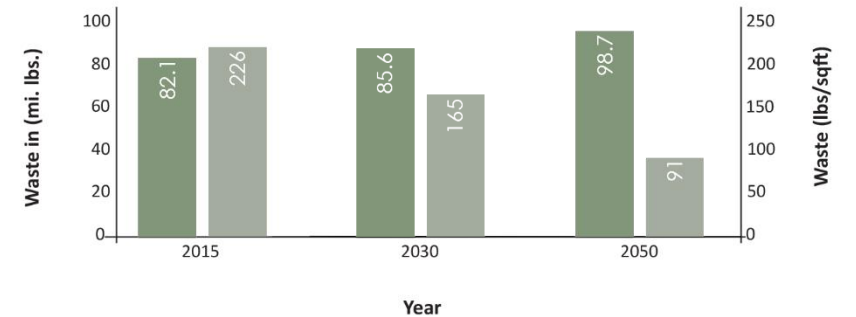
2050 Land Use



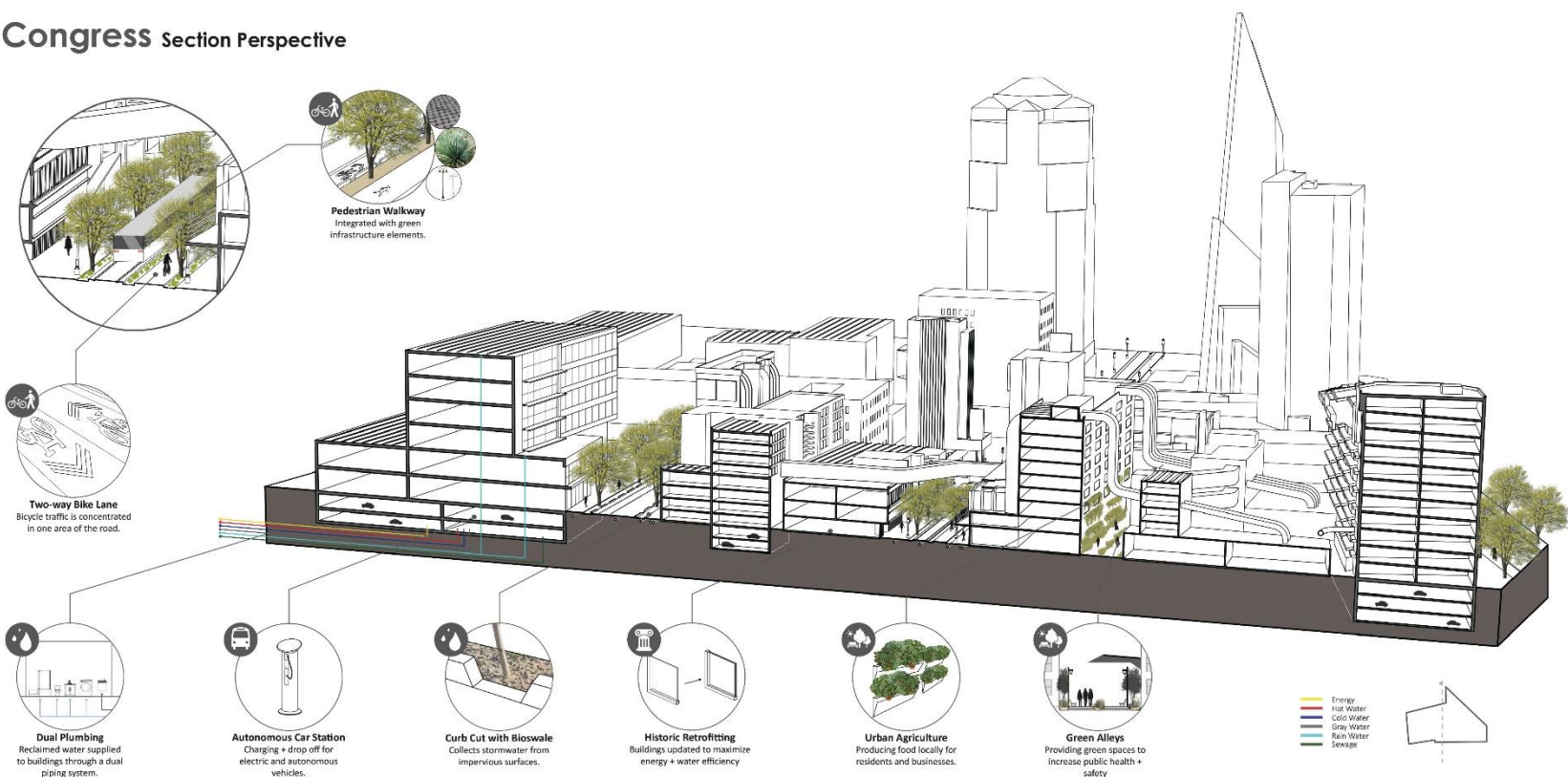
2050 Land Use

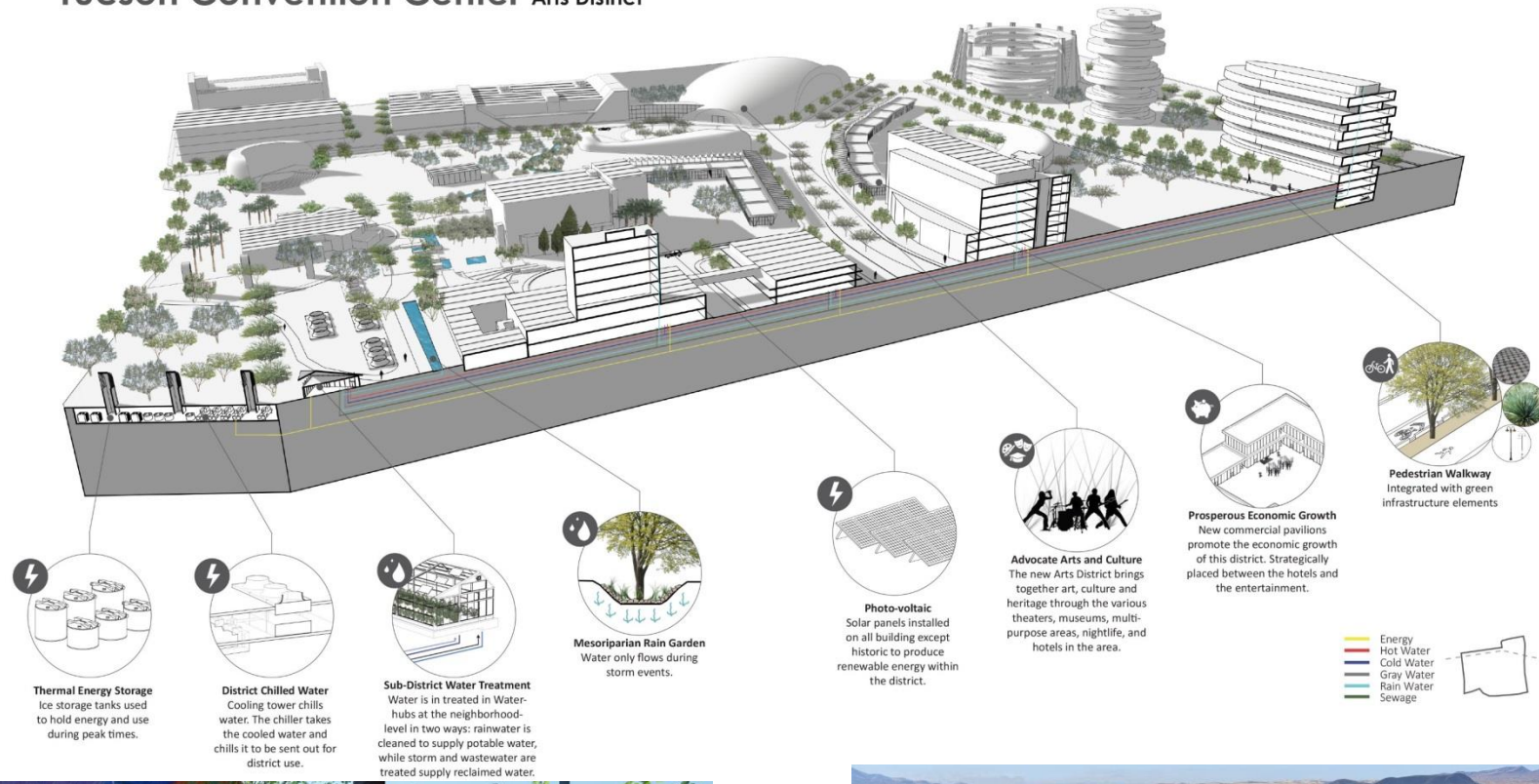


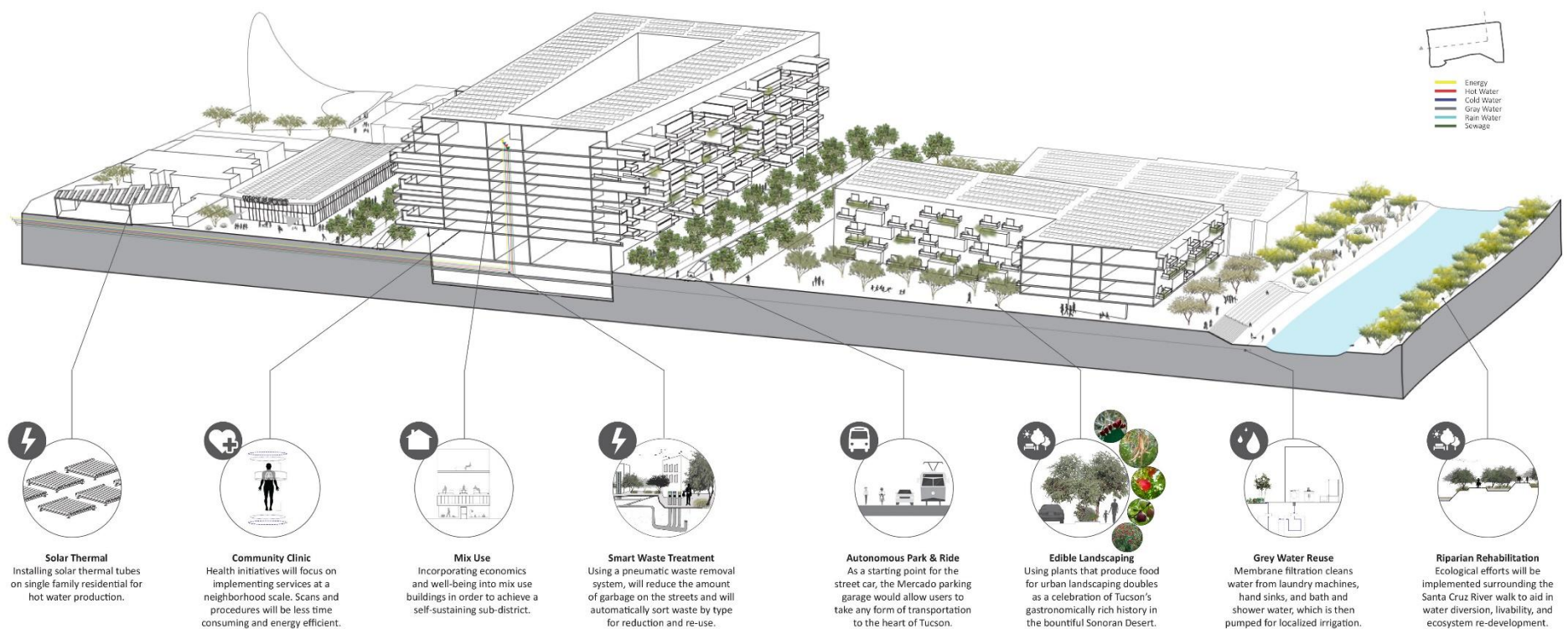
Congress Waste by Year



Congress Section Perspective







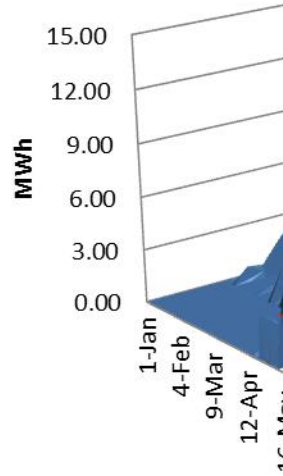
District Projections

Type	Year	Total Sq Ft
Residential	2015	2,336,887
	2030	4,223,243
	2050	7,627,647
Arts	2015	852,082
	2030	1,022,498
	2050	1,329,248
Parks	2015	9,551,824
	2030	11,462,189
	2050	14,900,845
Large Econ	2015	533,684
	2030	640,421
	2050	832,547
Small Econ	2015	1,291,449
	2030	1,896,568
	2050	3,175,499
Govt.	2015	191,995
	2030	230,394
	2050	299,512
Health	2015	318,000
	2030	412,463
	2050	744,954
Historic	2015	219,045
	2030	219,045
	2050	219,045
total	2015	5,743,142
	2030	8,644,632
	2050	14,228,452

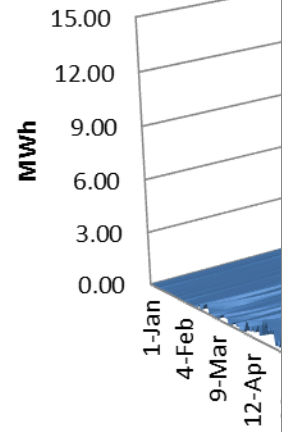
Energy Model Inputs

Occupancy Type	input values here	input values here
	SF	# Bldg
Large Office	362,840	5
Medium Office	322,862	15
Small Office	645,724	30
Warehouse	-	-
Stand Alone Retail	-	5
Strip Mall	-	-
Primary School	-	-
Secondary School	852,082	3
Supermarket	107,620.67	2
Quick Service Restaurant	219,045	20
Full Service Restaurant	219,045	-
Hospital	-	-
Outpatient Health Clinic	318,000	6
Small Hotel	181,419.75	1
Large Hotel	181,420	1
Midrise Apt	2,336,887	10
User Building 1	-	-
User Building 2	-	-
User Building 3	-	-
User Building 4	-	-
User Building 5	-	-
Total	5,746,945	98

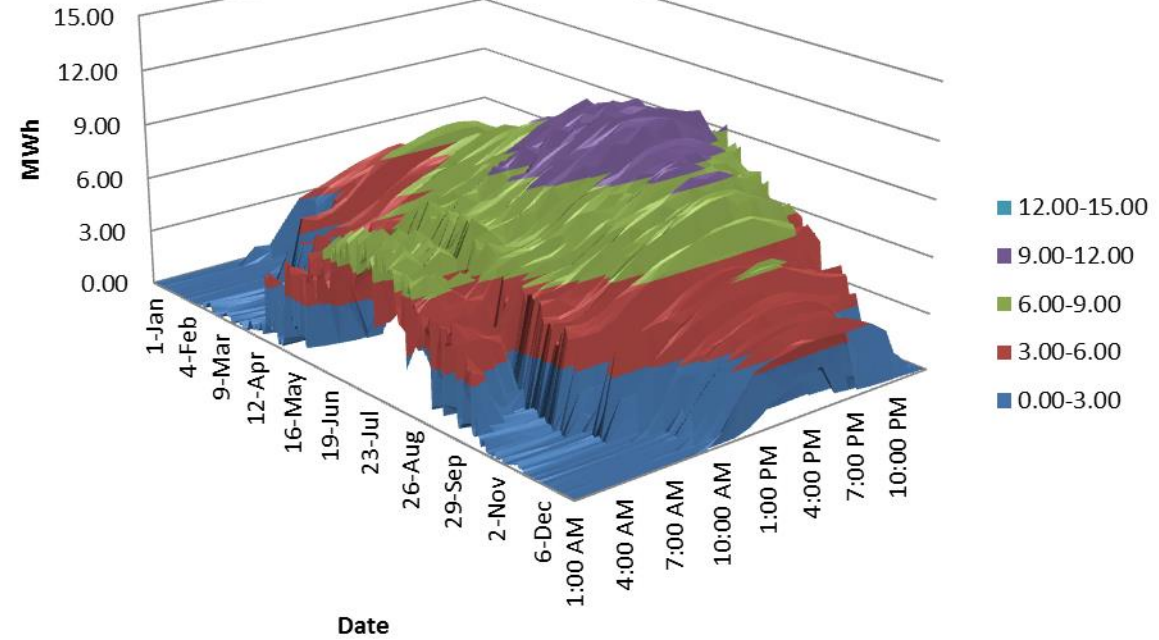
**annual office
elec chilling**



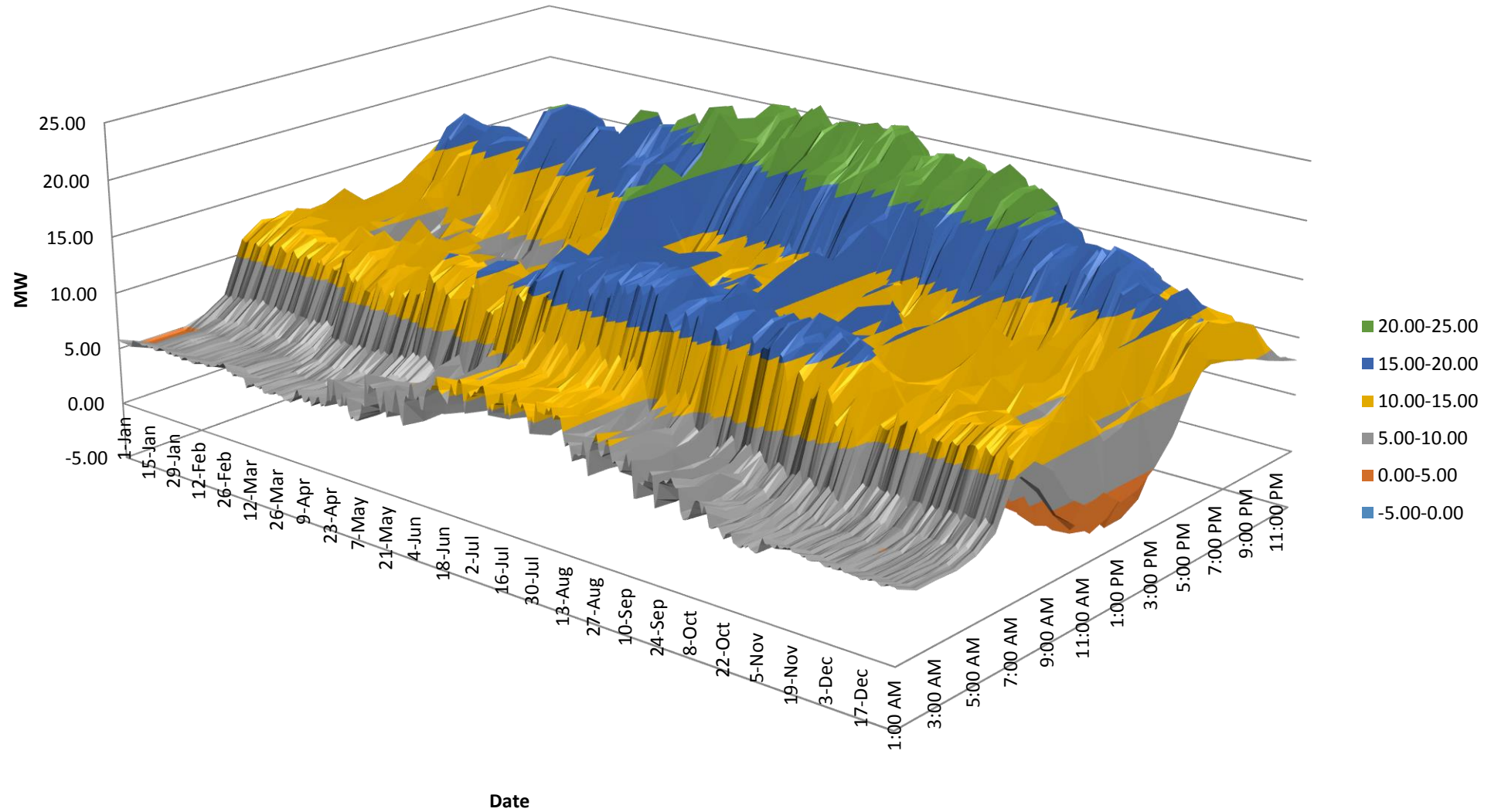
annual midrise apt



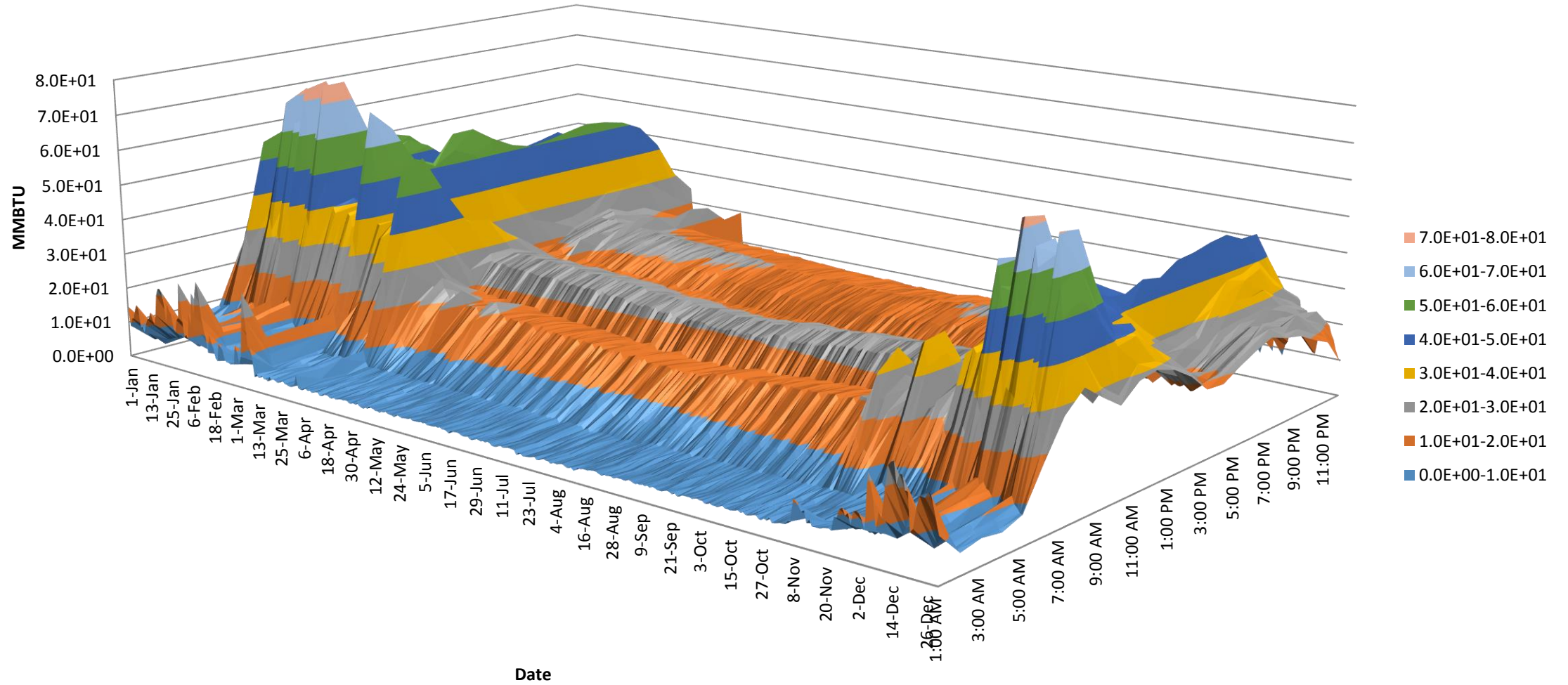
**annual composite
elec chilling**



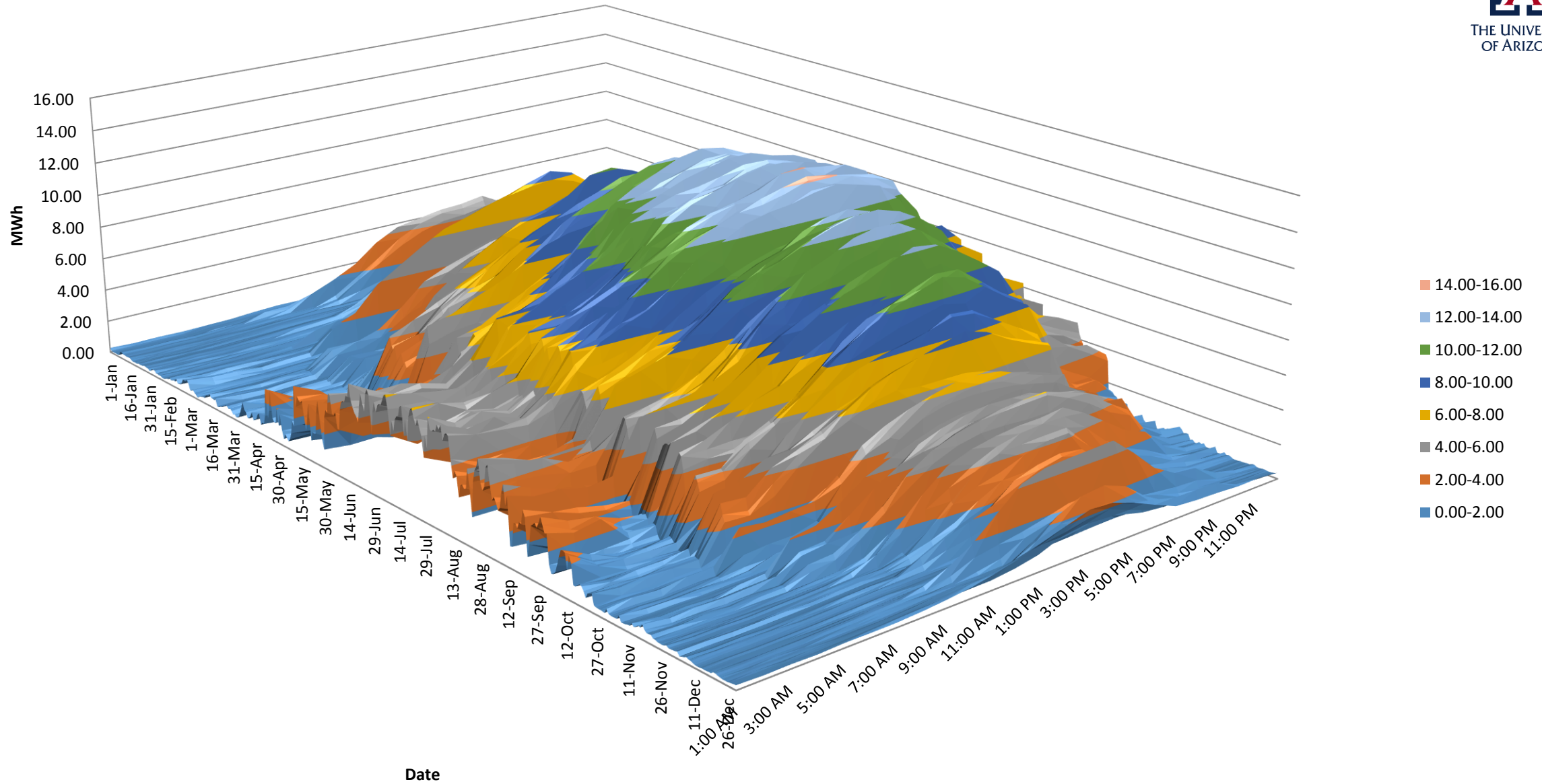
24x365 district electric demand



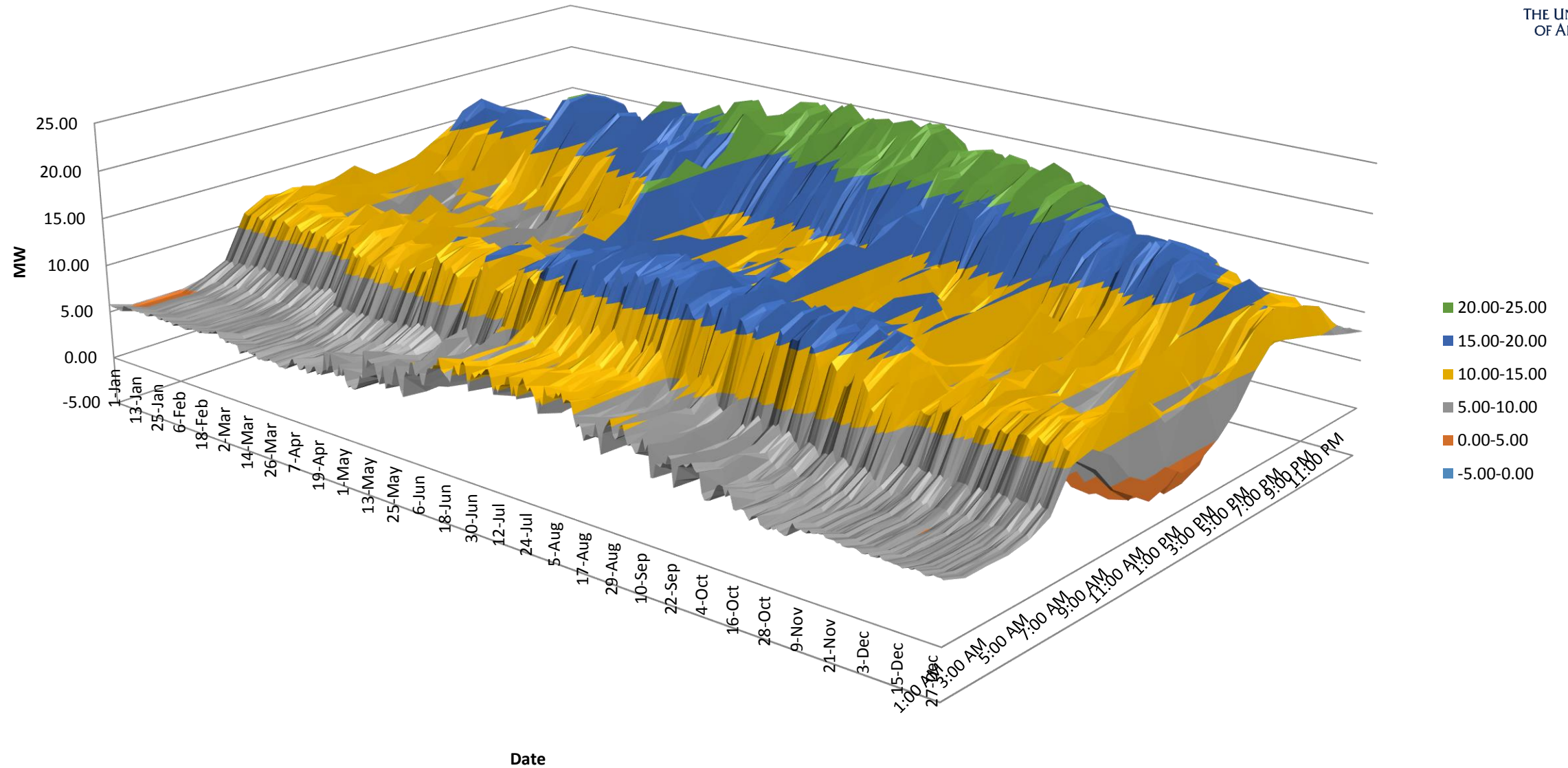
24x365 district heating demand



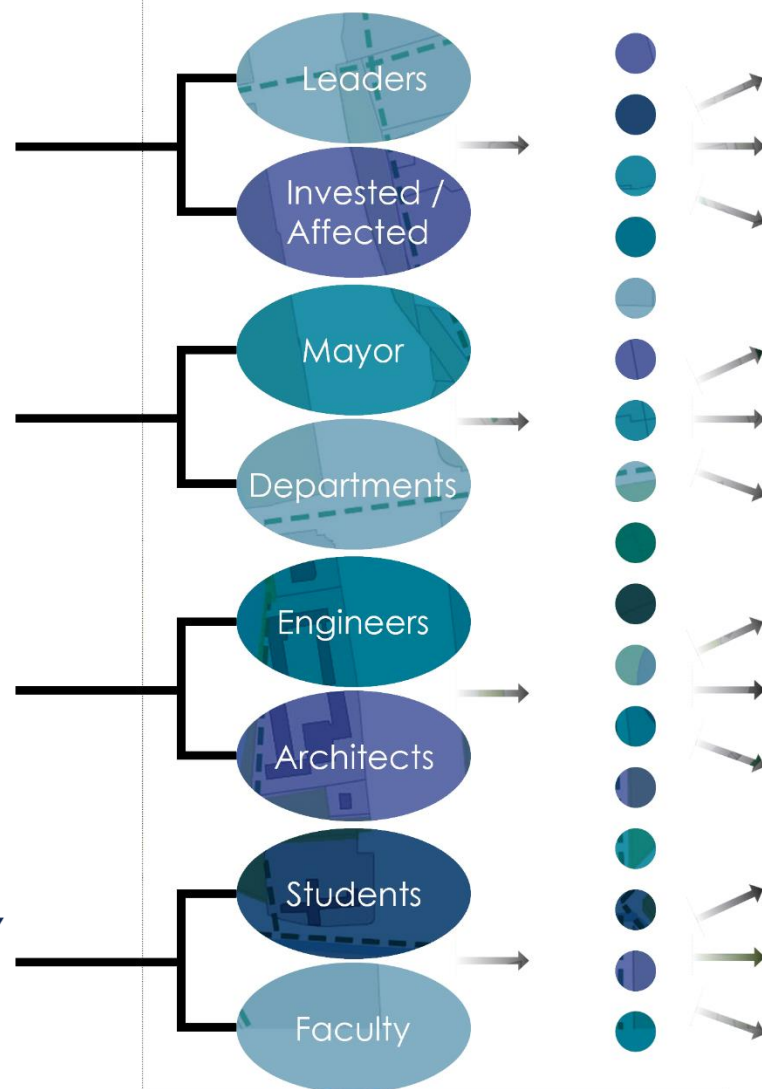
24x365 district chilling demand



24x365 district electric demand



Next Steps



Feedback & Refining Plan

Assemble Invested Teams

Implement Plans & Policies to Achieve 2050 Goals