Arc PROJECT REPORT - Jul 30, 2020

Arc Scoring Demonstration Project

2099 Pennsylvania Avenue, DC 20006

Report created on Jul 30, 2020

Data for Jun 30, 2019 to Jul 30, 2020

Contents

Arc Performance Score

The Arc Performance Score is the weighted combination of measured performance in five performance categories, including energy, water, waste, transportation, and human experience. A score of 100 indicates performance comparable to the best projects in the Arc Reference Set. Learn more about How Arc Scores.

Overall Performance Score

for 12 month performance period ending July 30, 2020

68/100

Global Average
68

68

67
Local Average
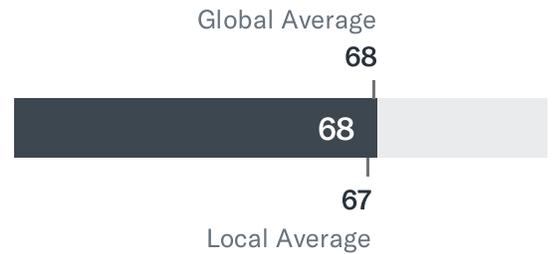
Monthly average Arc Performance Score

▬ Last 12 months average

74/100

Arc Score calculated for the first day of each month

Arc Performance Score (Continued)

Current Energy Score

⚡ **94**/100

Monthly average Energy Score

— Last 12 months average

Aug

Energy Score calculated for the first day of each month

Current Water Score

💧 **81**/100

Monthly average Water Score

— Last 12 months average

Aug

Water Score calculated for the first day of each month

Current Waste Score

♻ **64**/100

Monthly average Waste Score

— Last 12 months average
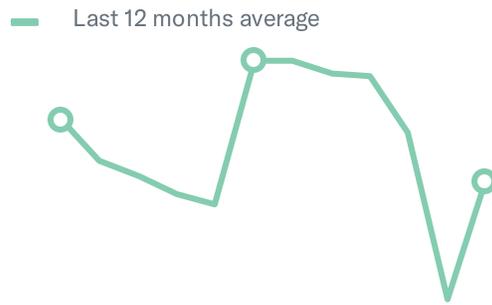
Aug

Waste Score calculated for the first day of each month

Current Transportation Score

🚗 **99**/100

Monthly average Transportation Score

— Last 12 months average
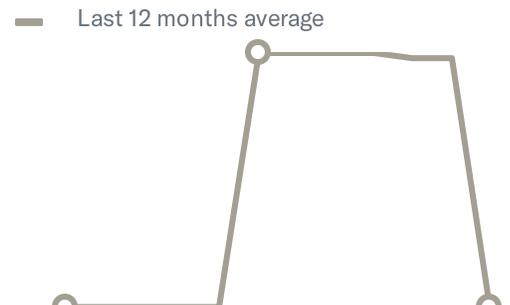
Aug

Transportation Score calculated for the first day of each month

Arc Performance Score (Continued)

Current Human Experience Score

🚶 **74**/100

Monthly average Human Experience Score

▬ Last 12 months average

Aug

Human Experience Score calculated for the first
day of each month

Energy Performance

Arc's energy performance score is based on carbon emissions. It reflects a building's carbon efficiency as a score between 0 and 100. A building with a higher score indicates lower carbon emissions. The energy score is determined using energy consumption data for a building, which is then converted to equivalent carbon emissions (CO2e). Arc's robust system tracks electricity, as well as various fuel sources, such as on-site renewable energy, gas and steam.

Arc ENERGY SCORE

Current Energy Score

⚡ **95/100**

Breakdown
Energy Intensity: **90.62**
Carbon Intensity: **100**

Global Average
69

95

63
Local Average
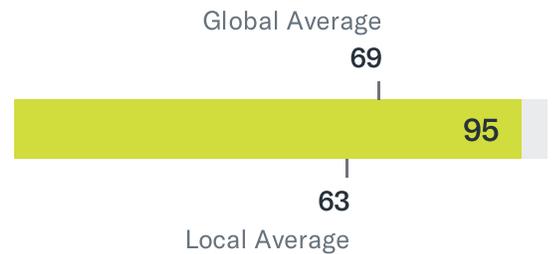
Monthly average Arc Energy Score

▬ Last 12 months average

94/100
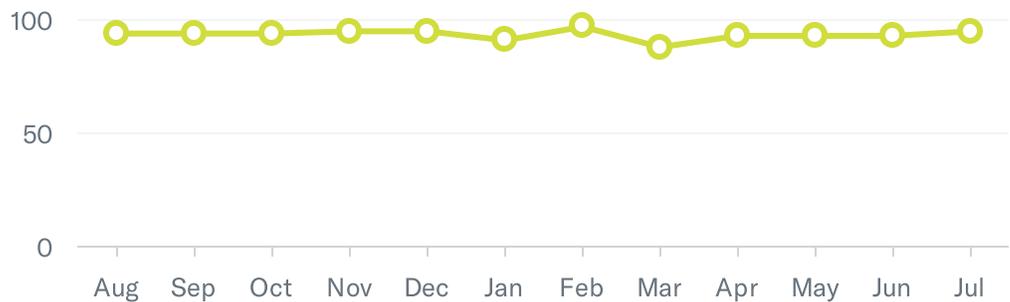
Energy Score calculated for the first day of each month

KEY PERFORMANCE INDICATORS

Electricity
Cumulative electricity use from July 30, 2019 to July 29, 2020

▬ Last 12 months

23.01K kBTU

⚡ Energy Performance (Continued)

**KEY PERFORMANCE
INDICATORS
(CONTINUED)**

Natural Gas
Cumulative liquid fuel use from July 30, 2019 to July 29, 2020
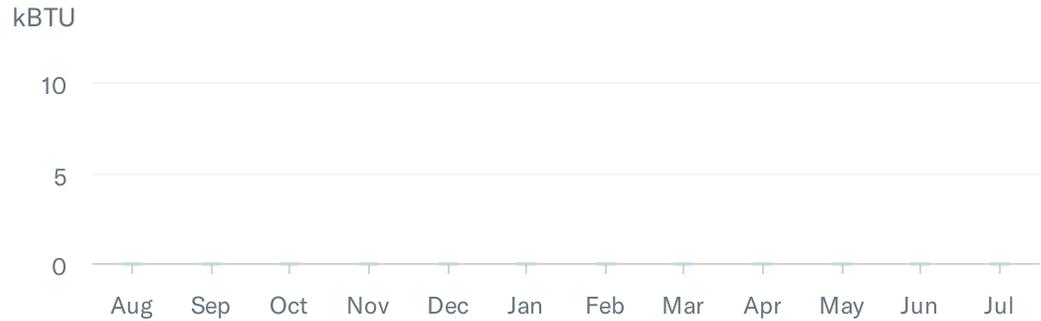
▬ Last 12 months

0 kBTU

kBTU

10											
5											
0											
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul

Total site energy
Cumulative site energy consumption from July 30, 2019 to July 29, 2020

▬ Last 12 months

23.01K kBTU

kBTU

3K											
2K											
1K											
0	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
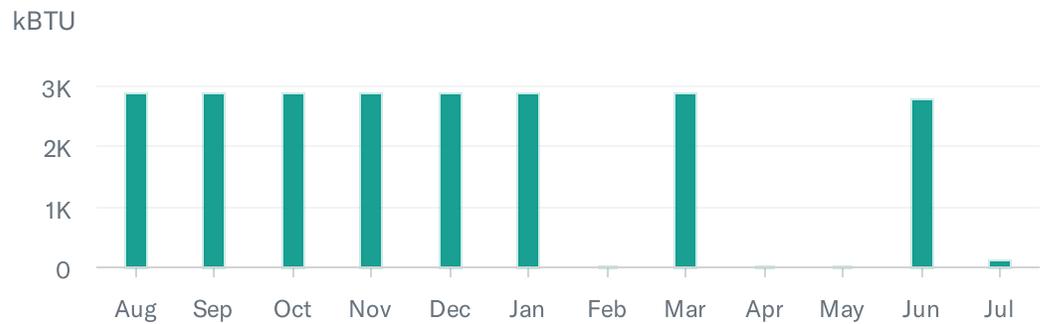
Site Energy is the amount of energy consumed by a building as measured by utility meters. It is typically the basis for energy bills.

⚡ Energy Performance (Continued)

KEY PERFORMANCE INDICATORS (CONTINUED)

Total source Energy

Cumulative source energy consumption from July 30, 2019 to July 29, 2020

━ Last 12 months

64.42K kBTU

kBTU

Source Energy represents the total energy used by the building, including energy consumed in extraction, processing and transport of primary fuels such as coal, oil and natural gas; energy losses in thermal combustion in power generation plants; and energy losses in transmission and distribution.

IMPROVEMENT SCORE

Arc Improvement Score

Arc Improvement Score provides a relative measure of the amount of change in performance between a 12-month performance period and a 12-month baseline period. Change between these periods is compared to improvements for participants in the annual GRESB assessment of property companies and funds. An Improvement Score of 100 indicates performance comparable to the best entities in GRESB. An Improvement Score of 0 indicates below average change. Learn more.

Current Improvement Score

⚡ **61** / 100   Estimated

|		Data Quality	▮▯▯ Poor	▮▮▯ Good	▮▮▮ Best
	Site Energy Intensity	**Source Energy Intensity**	**Energy Cost Intensity**	**Gross Area**	
	kBtu/floor area	kBtu/floor area	cost (USD)/sqft	sqft	
Change	▼ 31% (Less is better)	▼ 31% (Less is better)	NA	18.1%	
Baseline Period	9.123276 ▮▮▮	25.545173 ▮▮▮	NA ▮▯▯	5,081	
Performance Period	6.292961 ▮▯▯	17.620289 ▮▯▯	NA ▮▯▯	6,000	

Water Performance

A building's water performance in Arc is based on consumption in standard water quantities (gal, kgal, ccf) and reflects a building's water efficiency as a score between 0 and 100. Lower consumption overall is reflected in a higher water score. If a building has a water score of 100, it means the building has net zero water consumption.

Arc WATER SCORE

Current Water Score

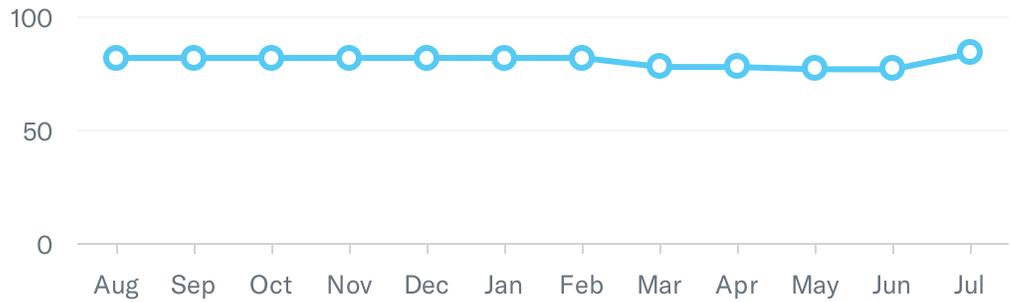💧 84/100

Global Average
58

Local Average
53

84
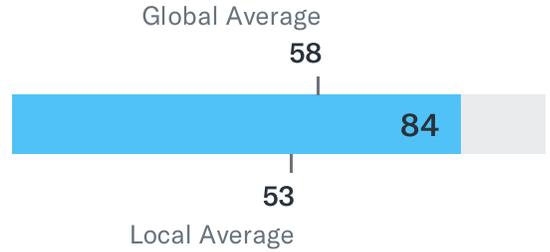
Monthly average Arc Water Score

■ Last 12 months average

81/100
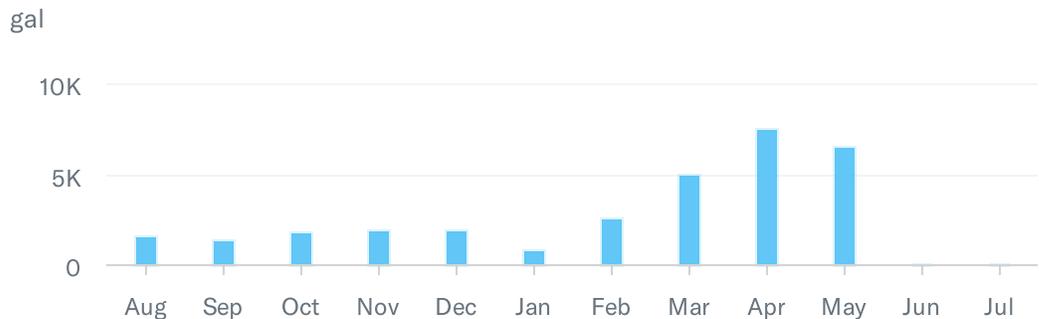

Water Score calculated for the first day of each month

KEY PERFORMANCE INDICATORS

Total water consumption
Cumulative water use from July 30, 2019 to July 29, 2020

■ Last 12 months

30.67K gal

💧 Water Performance (Continued)

IMPROVEMENT SCORE

Current Improvement Score

💧 **0** / 100   Estimated

	Data Quality	▮▯▯ Poor	▮▮▯ Good	▮▮▮ Best

|	Water	Gross Area
	gal/sqft	sqft
Change	▲ 3.5%	18.1%
	(Less is better)	
Baseline Period	6.224245 ▮▮▮	5,081
Performance Period	6.444153 ▮▮▯	6,000

Waste Performance

The waste score accounts for typical materials used in a building's operation. Users must account for safe disposal and diversion from landfills of ongoing consumable and durable goods, including the five most purchased product categories based on total annual purchases. The lower the quantity of materials generated and the higher the quantity of materials diverted, the better the score.
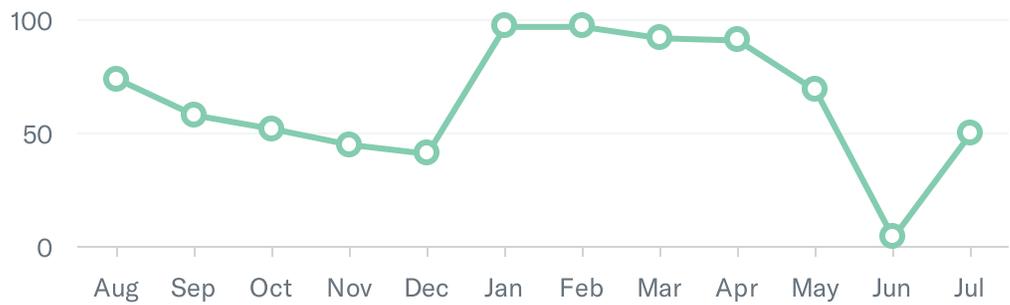
Arc WASTE SCORE

Current Waste Score

♻ 50/100

Global Average

72

| 50 |

68

Local Average
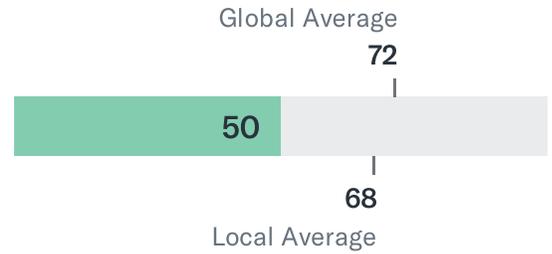
Monthly average Arc Waste Score

▬ Last 12 months average

64/100

Waste Score calculated for the first day of each month
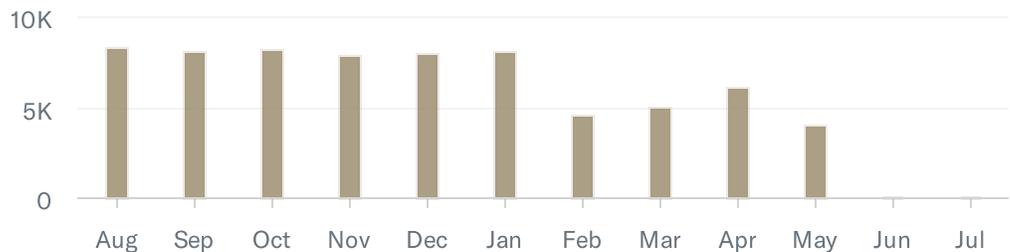
KEY PERFORMANCE INDICATORS

Waste Generation

Cumulative waste generation from July 30, 2019 to July 29, 2020

▬ Last 12 months

67.51K lbs
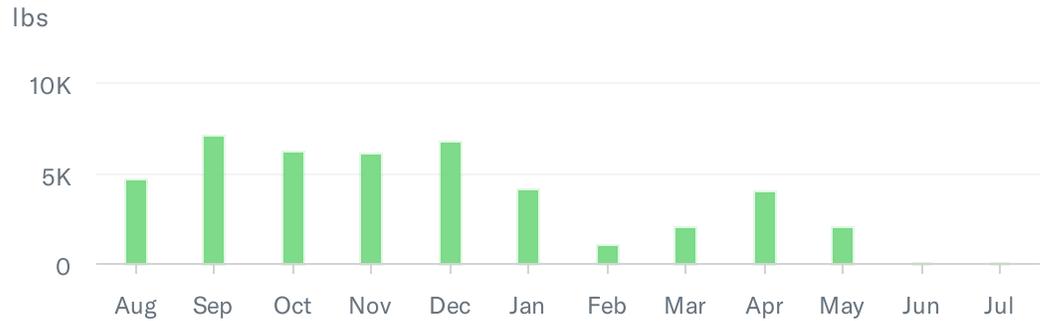
lbs

♲ **Waste Performance (Continued)**

Waste Diversion

Cumulative waste diversion from July 30, 2019 to July 29, 2020

━━ Last 12 months

43.63K lbs

lbs

IMPROVEMENT SCORE

Current Improvement Score

♲ **50** / 100   Estimated

Data Quality 🟥⬜⬜ Poor   🟧🟧⬜ Good   🟩🟩🟩 Best

|	Waste Generated	Waste Diverted	Occupants
	lbs/occupant/day	lbs/occupant/day	people
Change	▲ 188.1%	▲ 186.6%	233.3%
	(Less is better)	(More is better)	
Baseline Period	0.769999 🟩🟩🟩	0.499994 🟩🟩🟩	30
Performance Period	2.218321 🟧🟧⬜	1.433145 🟧🟧⬜	100

Transportation Performance

Transportation impacts are tracked in Arc based on the carbon impacts of occupants and visitors traveling to the building. The Transportation score rates the project's greenhouse gas emissions, measured in carbon dioxide equivalent emissions (CO2e) resulting from transportation to and from the building against that of other buildings worldwide. The score is a value from 1 to 100, based on the project's average CO2e per one-way trip per occupant.

Arc TRANSPORTATION SCORE

Current Transportation Score

🚘 **0/100**

Global Average

81
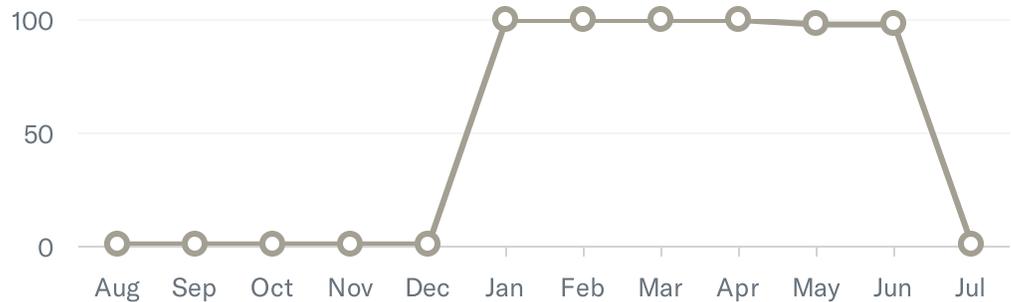
0

86

Local Average
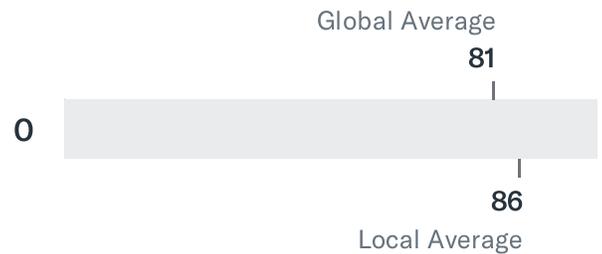
Monthly average Arc Transportation Score

▬ Last 12 months average

99/100

Transportation Score calculated for the first day of each month

KEY PERFORMANCE INDICATORS

Transportation GHG emissions

Cumulative transportation GHG emissions from July 30, 2019 to July 29, 2020

▬ Last 12 months average

0.0005 MTCO2e

🚗 Transportation Performance (Continued)

**KEY PERFORMANCE
INDICATORS
(CONTINUED)**

Transportation survey response rate

— percent of people responded

12.00%

|
25%
Required
Rate
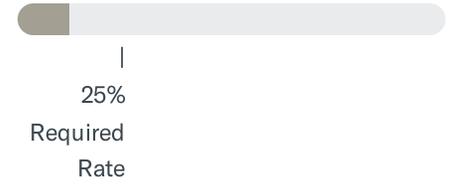
Transportation Survey Response breakdown

Cumulative survey responses from July 30, 2019 to July 29, 2020

— Last 12 months

12 Responses

Responses

Transportation modes

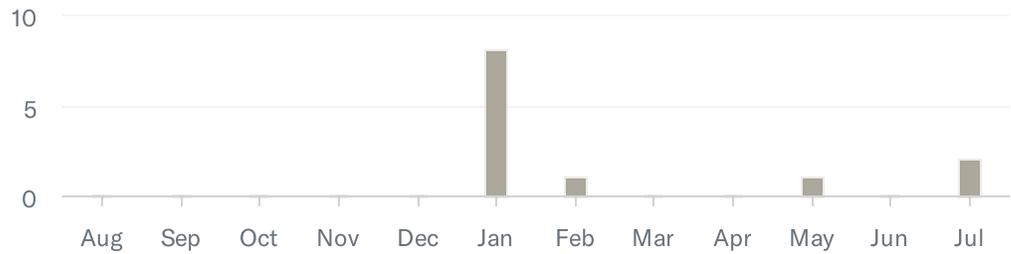Cumulative survey responses from July 30, 2019 to July 29, 2020

— Last 12 months

Responses

Transportation Performance (Continued)

KEY PERFORMANCE INDICATORS (CONTINUED)

Transportation distance

Average daily one-day commute from July 30, 2019 to July 29, 2020

▬ Last 12 months average

1.58 Miles

Miles
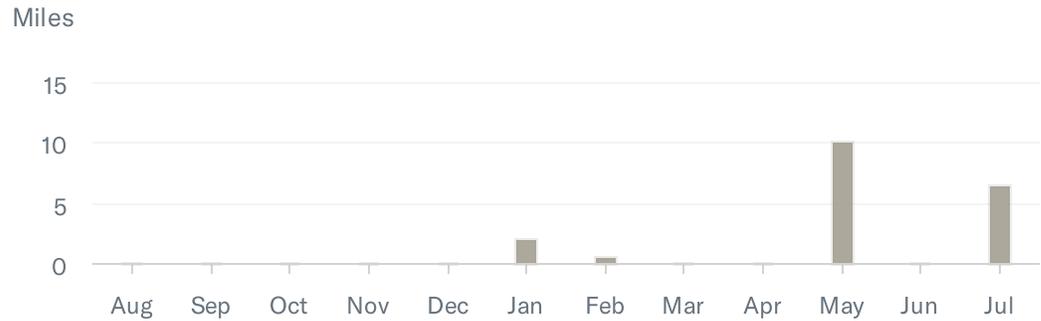
IMPROVEMENT SCORE

Current Improvement Score

🚗 **NA** / 100 ❓

Data Quality 🟥⬜⬜ Poor 🟧🟧⬜ Good 🟩🟩🟩 Best

	Average CO2e mtCO2e	Occupants people
Change	NA (Less is better)	233.3%
Baseline Period	NA	30
Performance Period	0.003084	100

Human Experience Performance

The Human Experience score is based on three data points: occupant satisfaction, interior carbon dioxide levels, and interior total volatile organic compound levels. Providing this data will generate a score between 0 and 100, and compares performance over time as well as with regional and global peers. Each data point contributes individually to the score and collectively offers the overall score for Human Experience.

Arc HUMAN
EXPERIENCE SCORE

Current Human Experience Score

48/100

Breakdown

Occupant Satisfaction: **0**
CO2 Level: **98.74**
Total VOC Level: **92.23**

Global Average
55

48

60
Local Average

Monthly average Arc Human Experience Score

Last 12 months average

74/100

Human Experience Score calculated for the first day of each month

Human Experience Performance (Continued)

KEY PERFORMANCE INDICATORS

Human Experience Survey Responses

Cumulative survey responses from July 30, 2019 to July 29, 2020
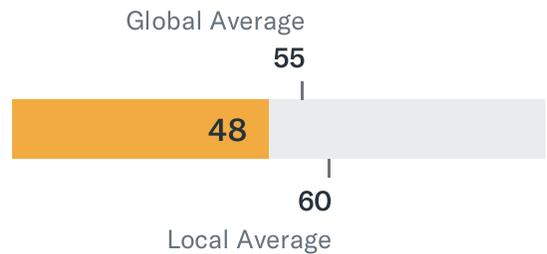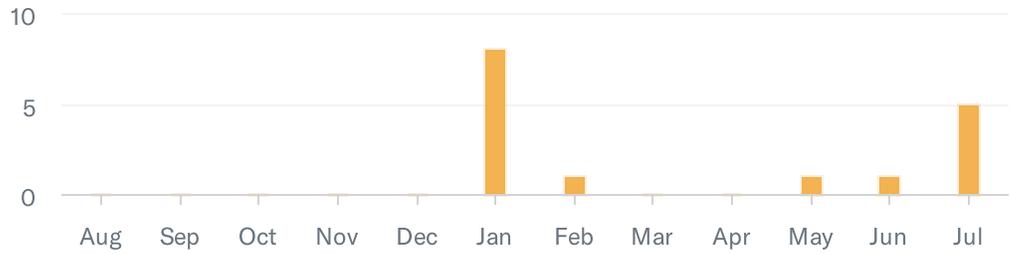
▬ Last 12 months

16 Responses

Responses

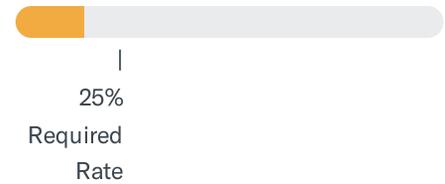### Human Experience Survey Response Rate

▬ percent of people responded

16.00%

25%
Required
Rate

Occupant satisfaction

Average occupant satisfaction from July 30, 2019 to July 29, 2020

▬ Last 12 months

percent response rate

Human Experience Performance (Continued)

KEY PERFORMANCE INDICATORS(CONTINUED)

Satisfaction details

 Last 12 months

Air quality	
Cleanliness	
Daylight	
Light	
Privacy	
Sound	
Thermal comfort	
Views to outdoors	

Dissatisfaction details

 Last 12 months

Bright		Humid	
Cold		Loud	
Dark		Smelly	
Dirty		Sound	
Drafty		Stuffy	
Glare		Views to outdoors	
Hot		Privacy	
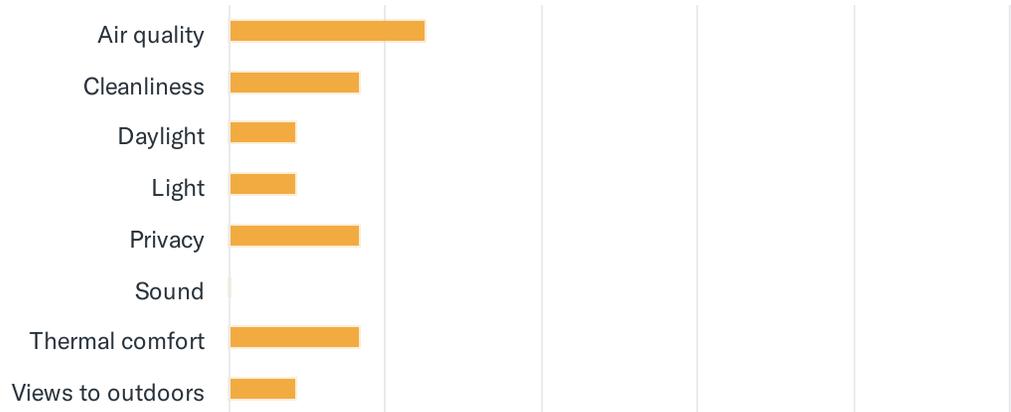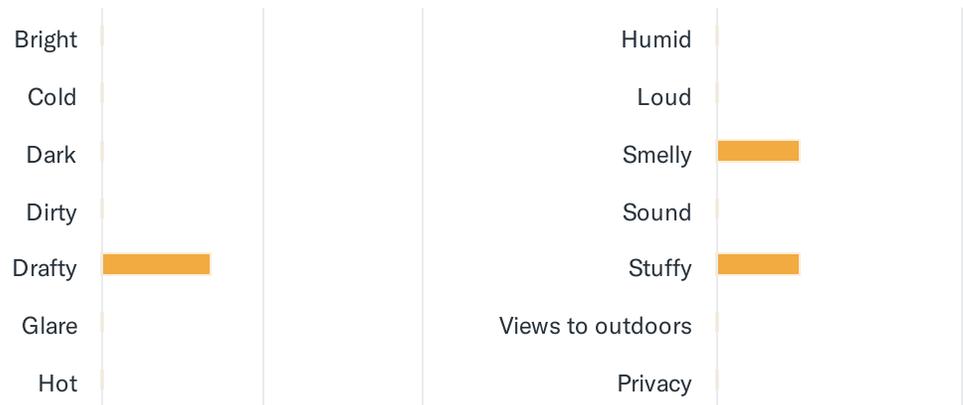
CO2 Concentration

Average 95% CO2 concentrations from July 30, 2019 to July 29, 2020

 Last 12 months average

152.83 ppm

ppm

1K	
500	
0	
	Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul
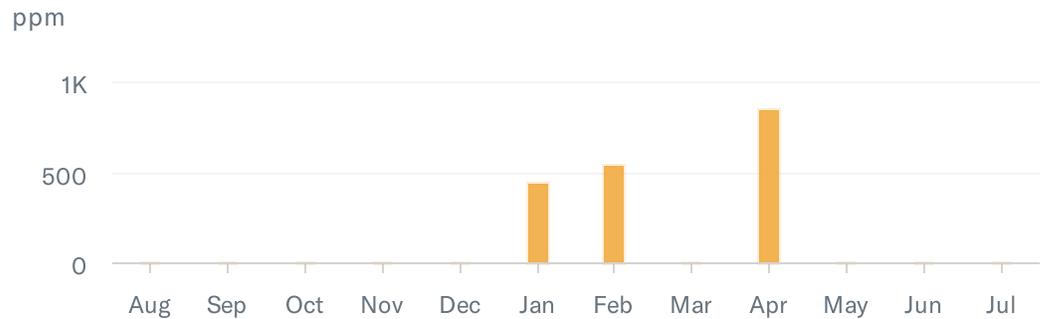
Human Experience Performance (Continued)

KEY PERFORMANCE
INDICATORS(CONTINUED)

TVOC Concentration

Average maximum TVOC concentration from July 30, 2019 to July 29, 2020

▬ Last 12 months average

25 µg/m3

µg/m3
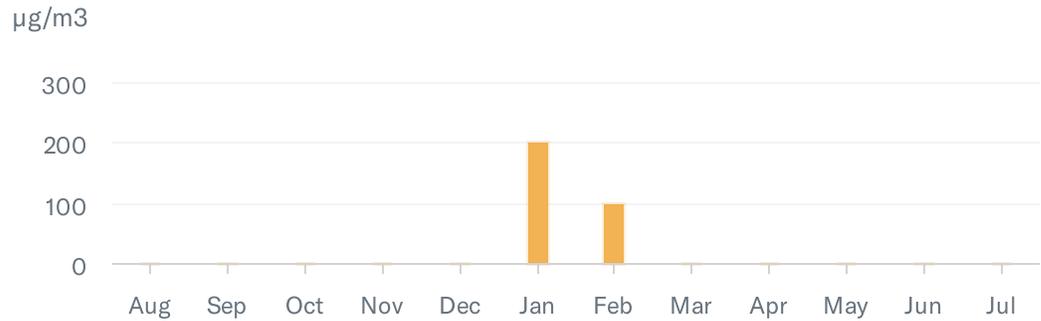
IMPROVEMENT SCORE

Current Improvement Score

NA / 100 ❓

Data Quality ▮▮▯ Poor   ▮▮▯ Good   ▮▮▮ Best

	Occupant Satisfaction occupant average	Occupants people
Change	NA (Higher is better)	233.3%
Baseline Period	NA	30
Performance Period	2	100

GHG Emissions

Spaces and buildings generate both direct and indirect greenhouse gas emissions (GHG). Direct emissions results from the on-site combustion of fossil fuels. These are described as Scope 1 emissions. Indirect emissions result from the purchase of energy from sources like electric utilities or steam plants. These are described as Scope 2 emissions.

KEY PERFORMANCE INDICATORS

Scope 1 and 2 emissions

Cumulative GHG emissions from July 30, 2019 to July 29, 2020

▬ Scope 1   ▬ Scope 2

0 MTCO2e

MTCO2e
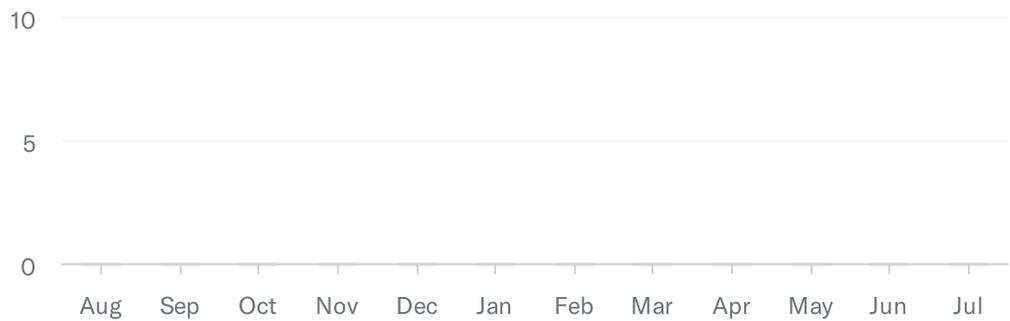
GHG emissions intensity - Scope 1 & 2

Average GHG emissions intensity from July 30, 2019 to July 29, 2020

▬ Last 12 months

0 MTCO2e

MTCO2e
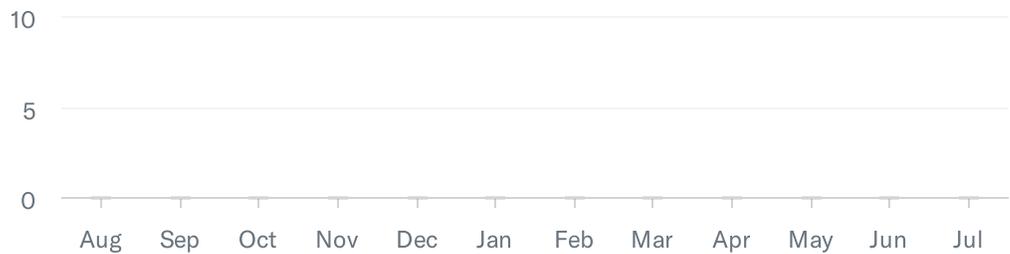
☁ GHG Emissions (Continued)

GHG Emissions by source

Source (MTCO2e)

0.01
MTCO2e

■ Fuel
0 (0%)

■ Electricity
0 (0%)

■ Transportation
0.01 (100%)

LEED v4.1 Readiness Analysis

Arc powers LEED. This means that Arc Performance Score serve as prerequisites and earn point for LEED v4.1 O+M, LEED Recertification, LEED Zero, and other rating systems. This section provides information about the readiness" of a project to pursue LEED certification, including prerequisite scores, data completeness, and documentation.

Certification Level

This project may be eligible for **LEED Gold** certification.

Certified Silver Gold Platinum

Data & Documentation

Category	Data completion		Documentation	
⚡ Energy	60.82%	✖	2	✓
💧 Water	78.9%	✖	3	✓
♻ Waste	100%	✓	1	✓
🚗 Transportation	0.72%	✖	0	✖
🚶 Human Experience	66.99%	✖	1	✓

Scores by Category

Category	Performance Score	Improvement Score
⚡ Energy	95/100	61/100
💧 Water	84/100	0/100
♻ Waste	50/100	50/100
🚗 Transportation	NA/100	NA/100
🚶 Human Experience	48/100	NA/100

LEED v4.1 Readiness Analysis (Continued)

LEED Certification History

Certification type	Level	Points	Certification date
LEED v4.1 O+M: EB	Gold	76	Feb 01, 2017

TOTAL LEED SCORE

⚡ **Energy**

💧 **Water**

♻️ **Waste**

🚗 **Transportation**

🚶 **Human Experience**

33   15   8   14   20

31

13

68

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

10

4

LEED v4.1 Readiness Analysis (Continued)

LEED ENERGY SCORE

current
Electricity
Gas
Smart meters
Load schedule

June

July 2019

100

99

100

95

94

CURRENT ENERGY
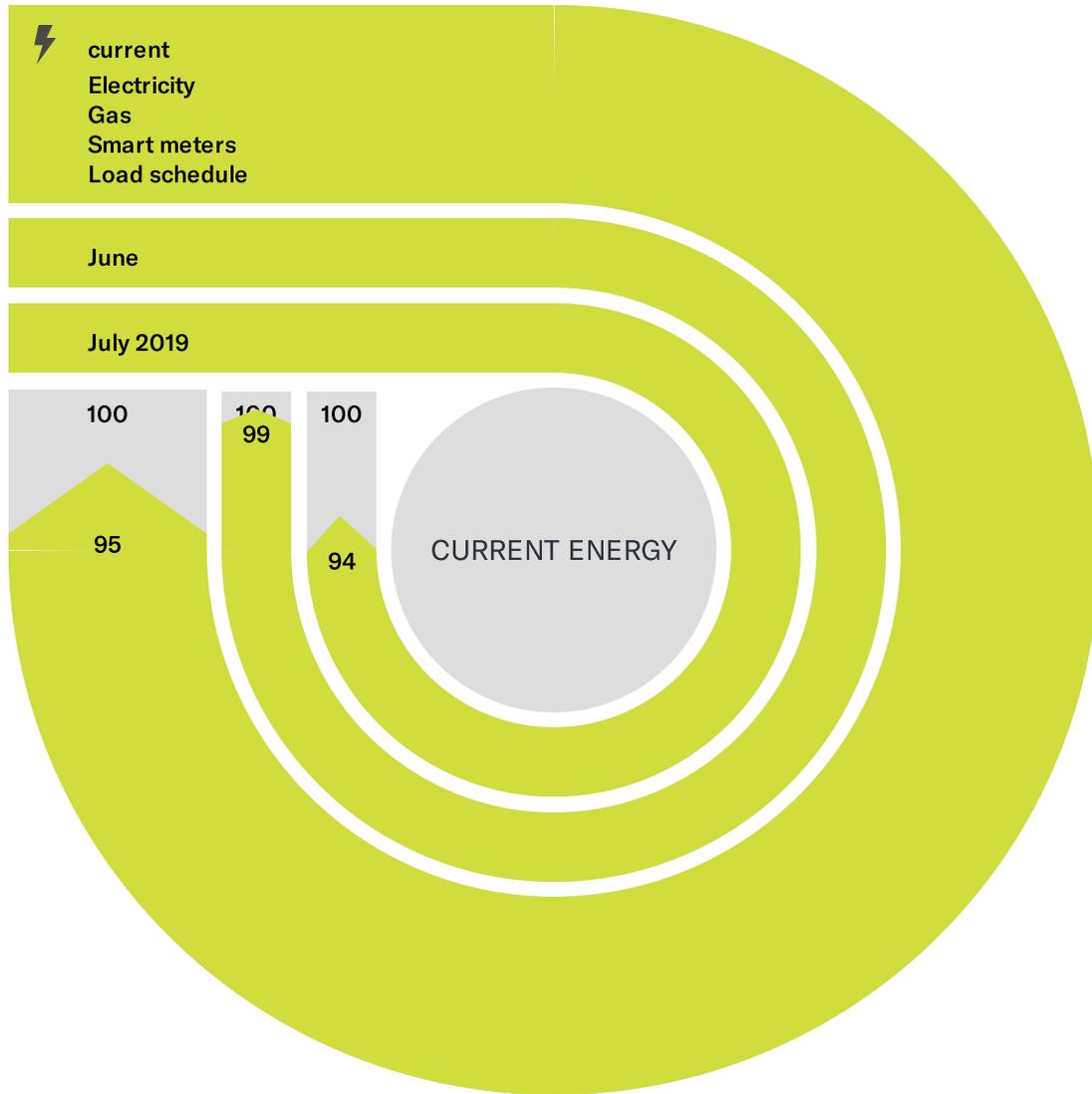
Local average Energy score	63	
Global average Energy score	69	
Highest Energy score	100	

	Project	Per square foot	Per occupant
Annual adjusted carbon emissions (MTCO2e)	0.0000	0.0000	0.0000
Daily adjusted carbon emission (MTCO2e)	0.0000	0.0000	0.0000
Annual carbon emissions (MTCO2e)	0.0000	0.0000	0.0000

## LEED v4.1 Readiness Analysis (Continued)

LEED WATER SCORE

	current Water consumption		
June			
July 2019			
100	100	100	
	98		
		82	
84			

CURRENT WATER
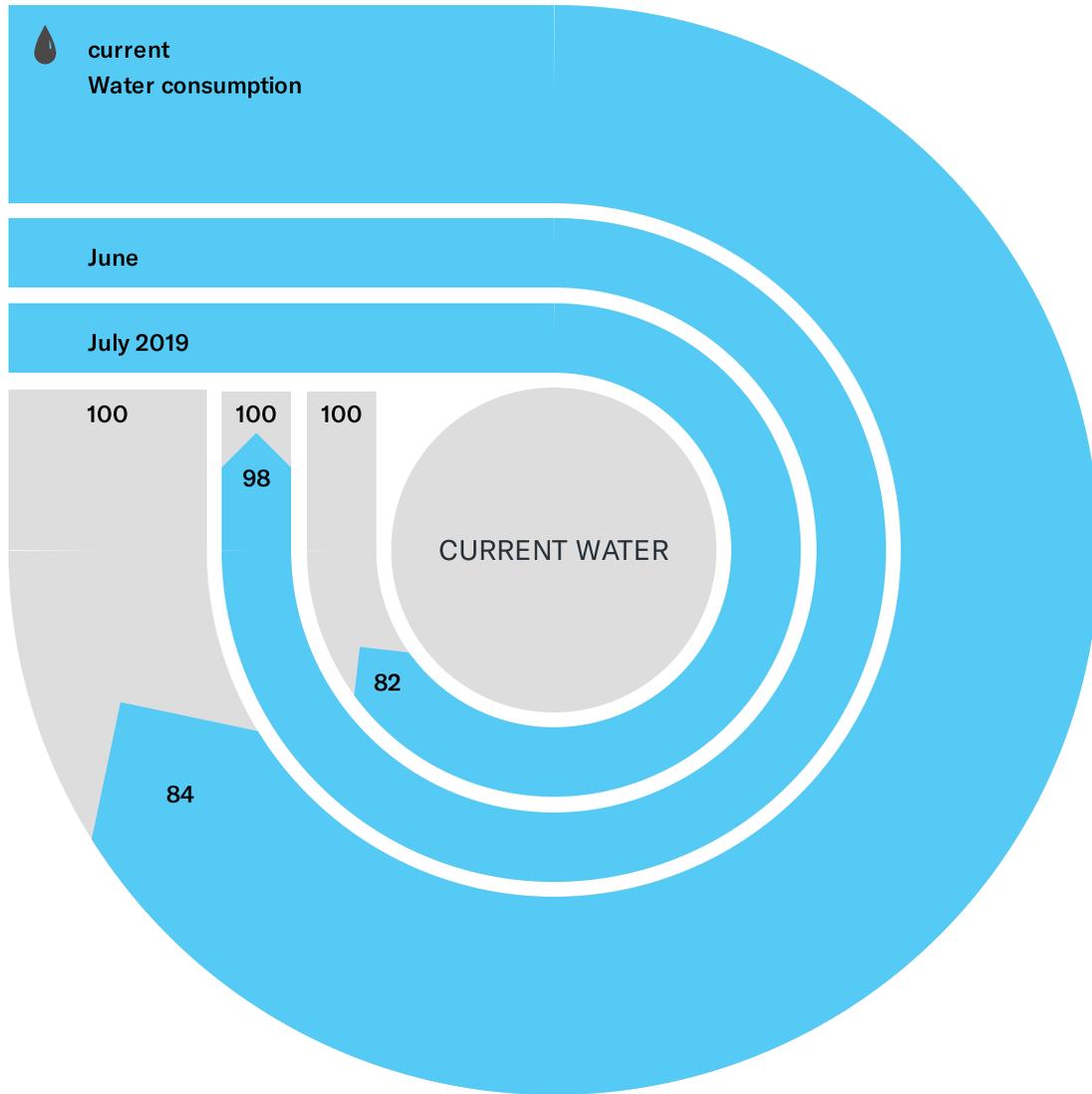
Local average Water score	53	
Global average Water score	58	
Highest Water score	100	

	Project	Per square foot	Per occupant
Annual water consumption (gal)	38,716.9067	6.4528	387.1691
Monthly water consumption (gal)	3,226.4089	0.5377	32.2641
Daily water consumption (gal)	106.0737	0.0177	1.0607

## LEED v4.1 Readiness Analysis (Continued)

LEED WASTE SCORE

current
Waste generated
Waste diverted

June

July 2019

100

99

100

CURRENT WASTE

74

50
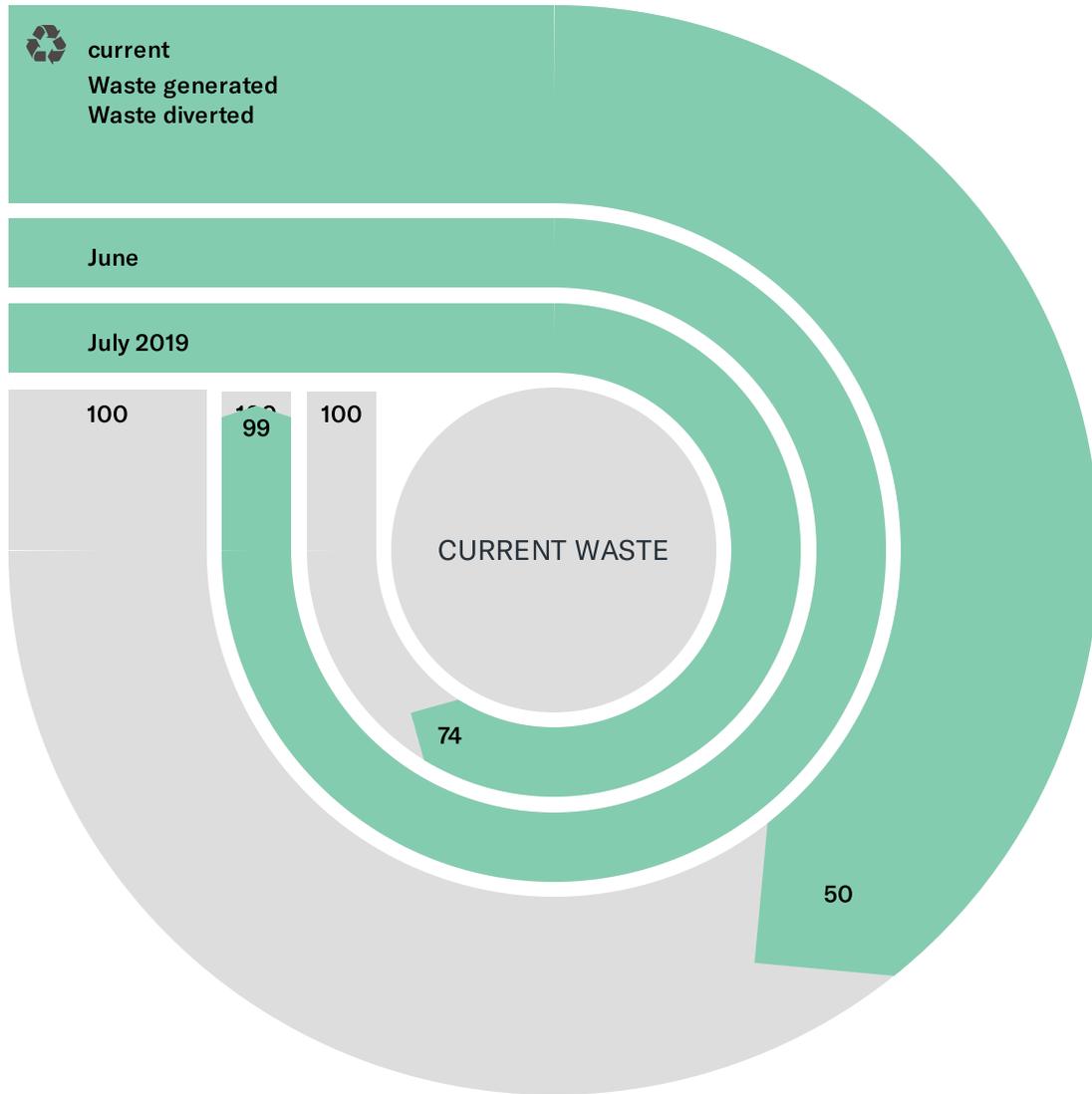
Local average Waste score	68		
Global average Waste score	72		
Highest Waste score	100		

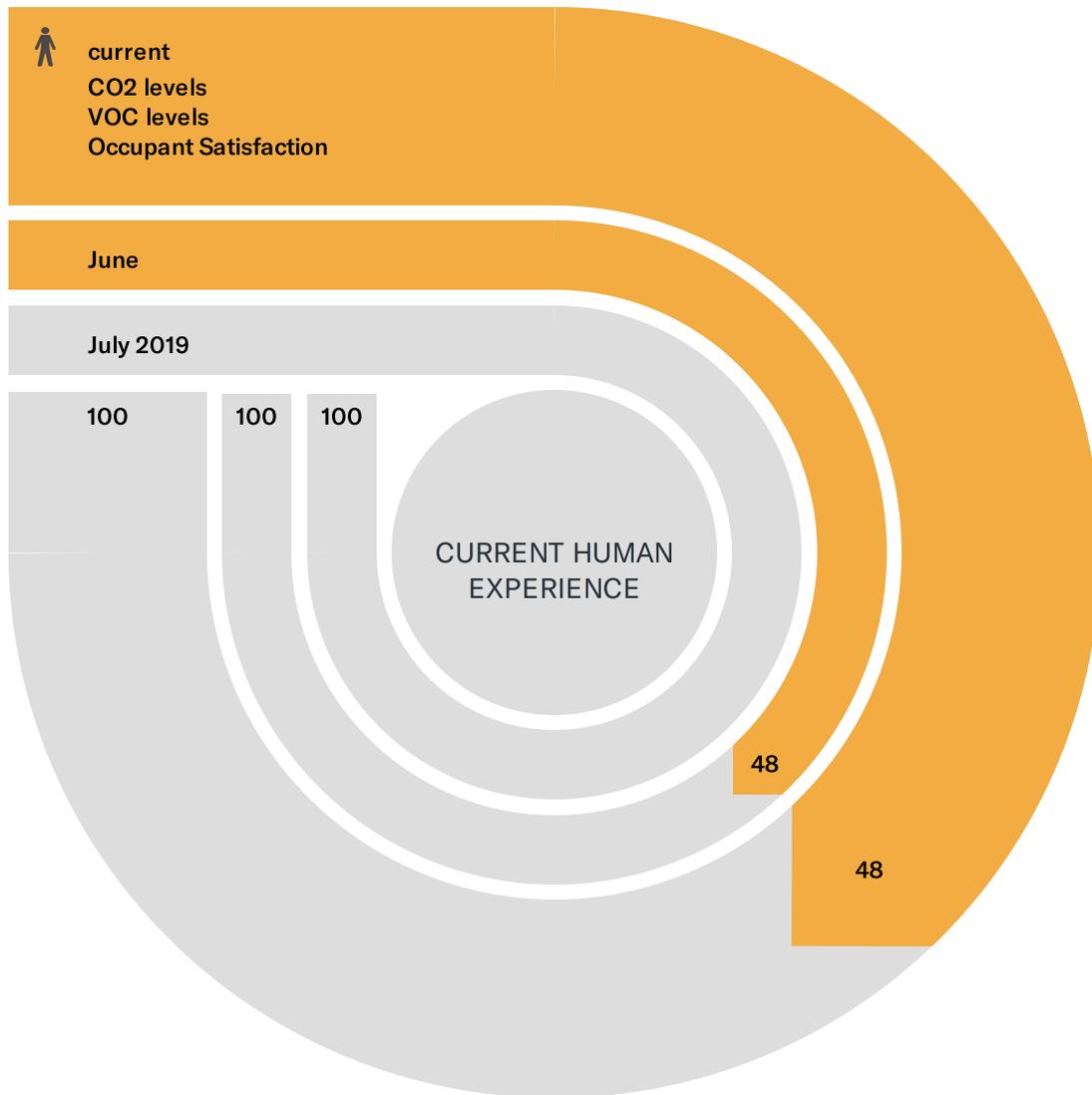|	Project	Per square foot	Per occupant
Average daily waste generated (lbs)	221.7114	0.0370	2.2171
Average daily waste diverted (lbs)	143.2489	0.0239	1.4325

LEED v4.1 Readiness Analysis (Continued)

LEED TRANSPORTATION
SCORE

current
Occupant travel

June

July 2019

100   100   100

CURRENT
TRANSPORTATION
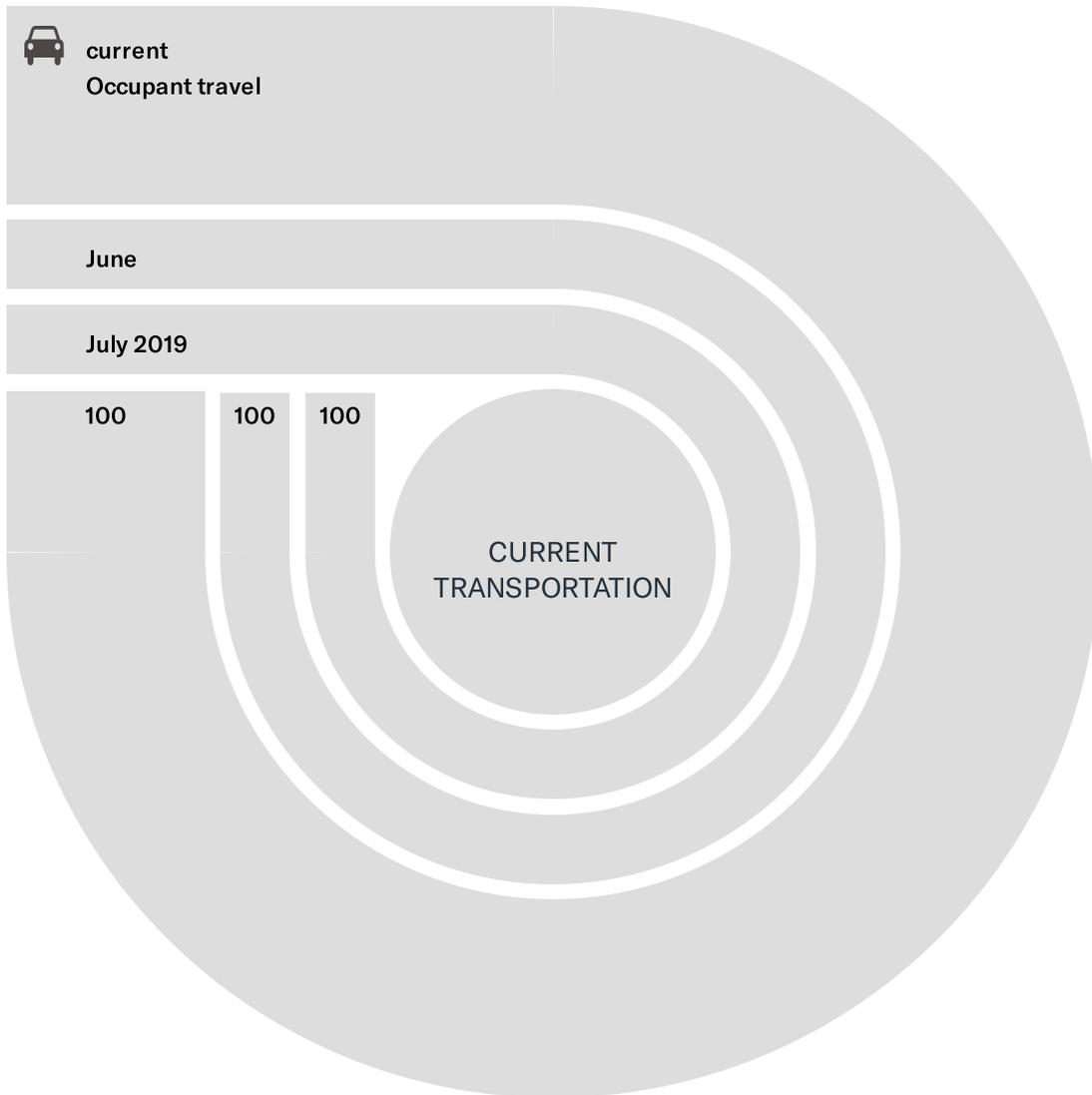
Local average Transportation score	86
Global average Transportation score	81
Highest Transportation score	100

	Project	Per occupant
Annual carbon emissions (lbs)	100,746.6660	1,007.4667
Daily carbon emissions (lbs)	314.8333	3.1483
Survey response rate	12 %	-

LEED v4.1 Readiness Analysis (Continued)

LEED HUMAN EXPERIENCE SCORE

current
CO2 levels
VOC levels
Occupant Satisfaction

June

July 2019

100   100   100

48

48

CURRENT HUMAN
EXPERIENCE

Local average Human Experience score	60
Global average Human Experience score	55
Highest Human Experience score	100
	Project
Interior carbon dioxide levels (ppm)	556.3750
Interior total volatile organic compound levels (ug/m3)	103.3333
Average occupant satisfaction	Very satisfied
Survey response rate	16 %

Project Details

Project name	**Arc Scoring Demonstration Project**
LEED Project ID	**1000127707**
Address	**2099 Pennsylvania Avenue** **Washington, DC 20006**
Project team members	**Chris Pyke Christopher Hoeh Claudio Leon** **Markus Henning Nicole Isking Gautami Palanki** **Mindaugas Mikolainis Arc Skoru Arc Skoru Qian** **Tang Jad Khalil Kay Killmann Ron Allan Go-Aco** **Chris Pyke Arc Skoru Ron Go-Aco Andrew Walker** **Green Sports Alliance Analytics**
Project space type	**Office: Administrative/Professional**
Project owner type	**Corporate: Privately Held**
Date of last certification	**Feb 01, 2017**
Project size	**6,000 sq. feet**

Project Details (Continued)

Energy

First measurement	**Aug 01, 2019**
Last measurement	**Jun 01, 2020**
Number of energy meters	**1**
List of energy meters	**Electric meter**
Total number of energy measurements	**27**
Number of measurements during the performance period	**8**

Water

First measurement	**Aug 01, 2019**
Last measurement	**May 01, 2020**
Number of water meters	**1**
List of water meters	**Water meter**
Total number of water measurements	**29**
Number of measurements during the performance period	**10**

Waste

First measurement	**Aug 01, 2019**
Last measurement	**May 01, 2020**
Total number of waste measurements	**30**
Number of measurements during the performance period	**11**

Project Details (Continued)

Transportation

Date of first survey	Jan 15, 2020
Date of last survey	Jul 23, 2020
Total number of respondents	13
Total number of respondents during the performance period	12
Percentage of total project occupants responding during the performance period	12%

Human Experience

Date of first survey	Jan 15, 2020
Date of last survey	Jul 29, 2020
Total number of respondents	16
Total number of respondents during the performance period	16
Percentage of total project occupants responding during the performance period	16%

GHG Emissions

|	
Electricity Emissions factor	0.83
Date of first GHG measurement	Aug 01, 2019
Date of last GHG measurement	Jun 01, 2020
Number of GHG data points	16

Learn More About Arc

Arc Skoru Inc. is a technology company that is affiliated with Green Business Certification, Inc and the U.S. Green Building Council. Arc Skoru Inc. believes that performance is the future of green building and created the "Arc" performance platform to help create better buildings and places for people and the environment. Arc empowers its users to understand and enhance their sustainability performance, promote human health and well-being and contribute to a higher quality of life.

Partners
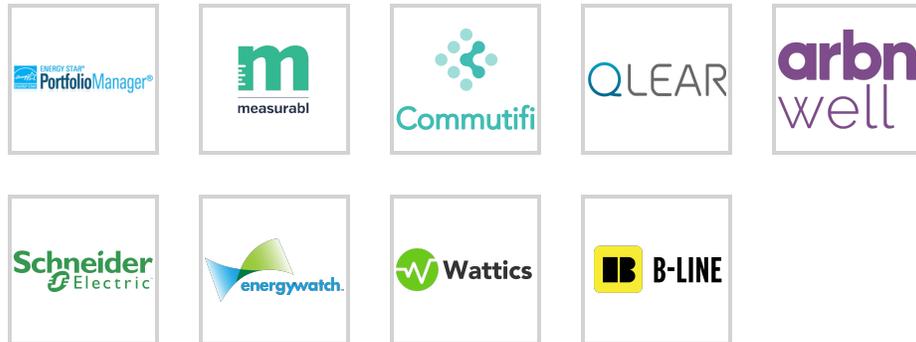
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