



Arc PROJECT REPORT - Jul 29, 2020

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# Demo project - 1

2099 Pennsylvania Avenue, DC 20006

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Report created on Jul 29, 2020

Data for Jun 29, 2019 to Jul 29, 2020

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# Arc Performance Score



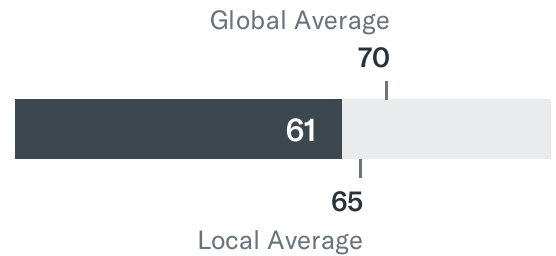
The Arc Performance Score is the weighted combination of measured performance in five performance categories, including energy, water, waste, transportation, and human experience. A score of 100 indicates performance comparable to the best projects in the Arc Reference Set. Learn more about [How Arc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

## Overall Performance Score

for 12 month performance period ending July 29, 2020



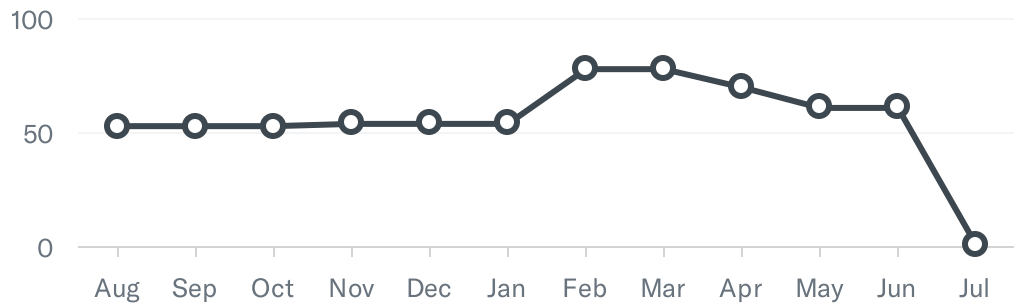
**61/100**



## Monthly average Arc Performance Score

■ Last 12 months average

**61/100**



Arc Score calculated for the first day of each month

### Arc Performance Score (Continued)

#### Current Energy Score

 **83/100**

#### Monthly average Energy Score

 Last 12 months average



Energy Score calculated for the first day of each month

#### Current Water Score

 **81/100**

#### Monthly average Water Score

 Last 12 months average



Water Score calculated for the first day of each month

#### Current Waste Score

 **96/100**

#### Monthly average Waste Score

 Last 12 months average



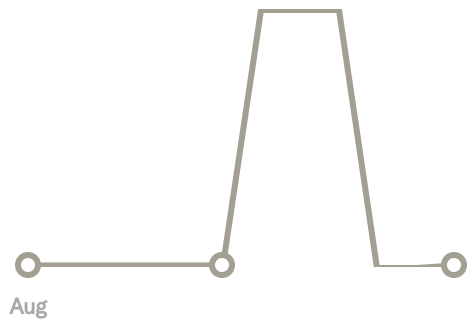
Waste Score calculated for the first day of each month

#### Current Transportation Score

 **60/100**

#### Monthly average Transportation Score

 Last 12 months average



Transportation Score calculated for the first day of each month

## Arc Performance Score (Continued)

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### Current Human Experience Score

 **48/100**

### 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 (CO<sub>2</sub>e). Arc's robust system tracks electricity, as well as various fuel sources, such as on-site renewable energy, gas and steam.

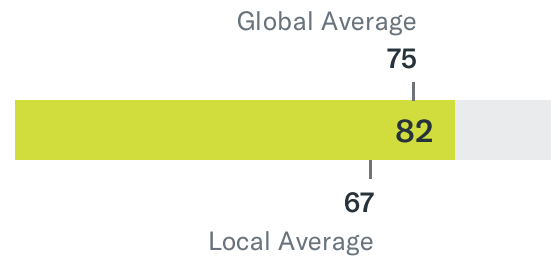
## Arc ENERGY SCORE

### Current Energy Score

**82/100**

#### Breakdown

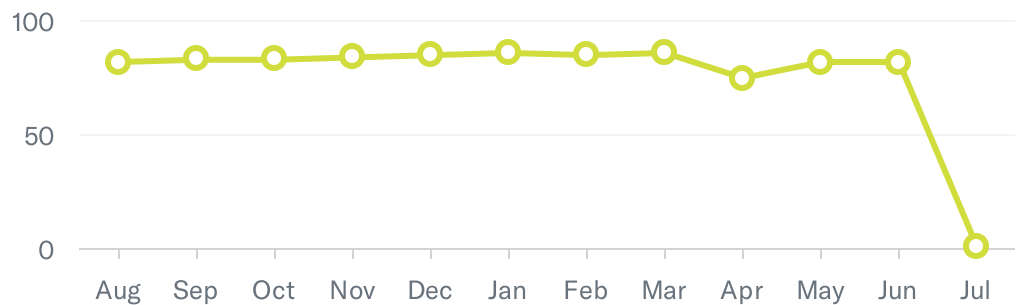
Energy Intensity: 82.76  
Carbon Intensity: 80.53



### Monthly average Arc Energy Score

— Last 12 months average

**83/100**



Energy Score calculated for the first day of each month

## KEY PERFORMANCE INDICATORS

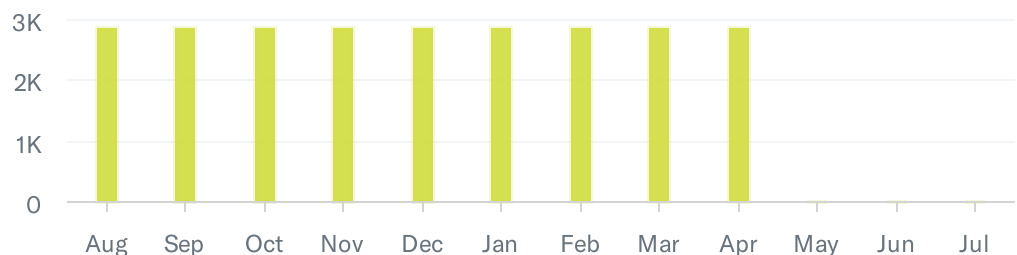
### Electricity

Cumulative electricity use from July 29, 2019 to July 28, 2020

— Last 12 months

**25.88K** kBTU

kBTU



## Energy Performance (Continued)

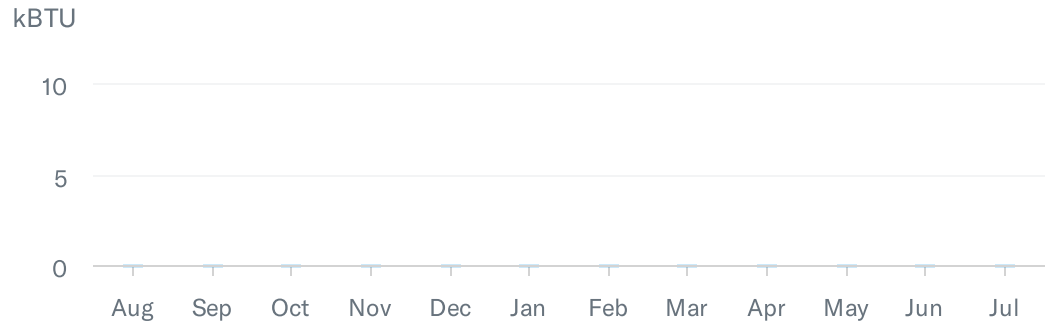
### KEY PERFORMANCE INDICATORS (CONTINUED)

#### Natural Gas

Cumulative liquid fuel use from July 29, 2019 to July 28, 2020

— Last 12 months

**0** kBTU

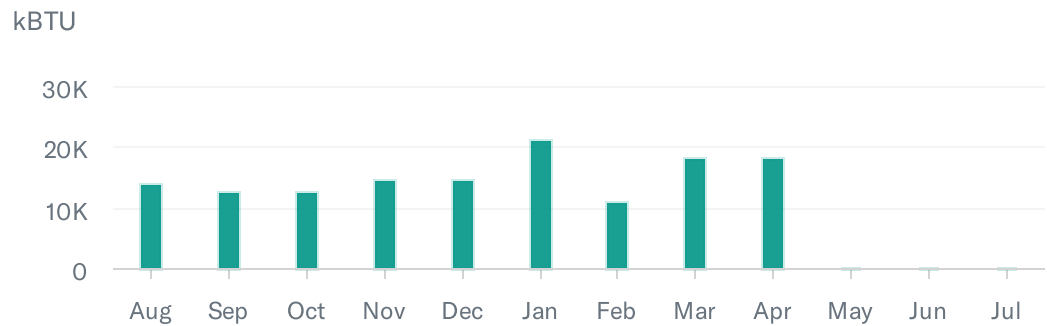


#### Total site energy

Cumulative site energy consumption from July 29, 2019 to July 28, 2020

— Last 12 months

**136.43K** kBTU



**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)

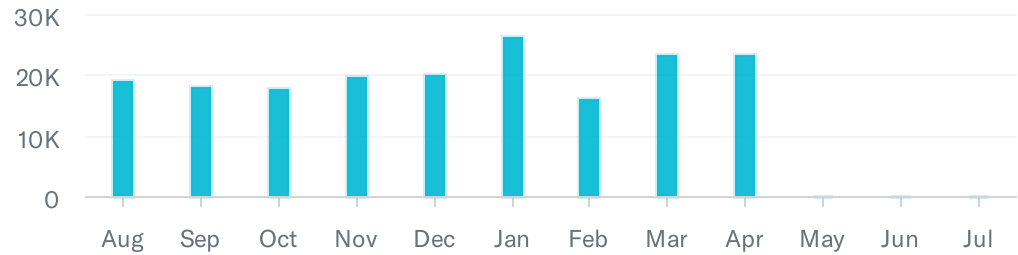
#### Total source Energy

Cumulative source energy consumption from July 29, 2019 to July 28, 2020

 Last 12 months

**184.13K** 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

 **67 / 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
<b>Change</b>	 <b>36.2%</b> (Less is better)	 <b>38.2%</b> (Less is better)	NA	18.1%
Baseline Period	47.125578 	65.713515 	NA 	5,081
Performance Period	30.045949 	40.6222 	NA 	6,000



# Water Performance

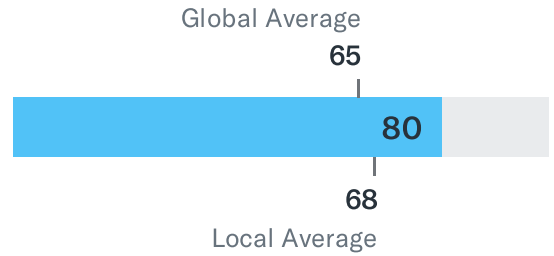


A building's water performance in Arc is based on consumption in standard water quantities (gal, kgal, ccf) and reflects a building's water efficiency as a score between 0 and 100. Lower consumption overall is reflected in a higher water score. If a building has a water score of 100, it means the building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

## Arc WATER SCORE

### Current Water Score

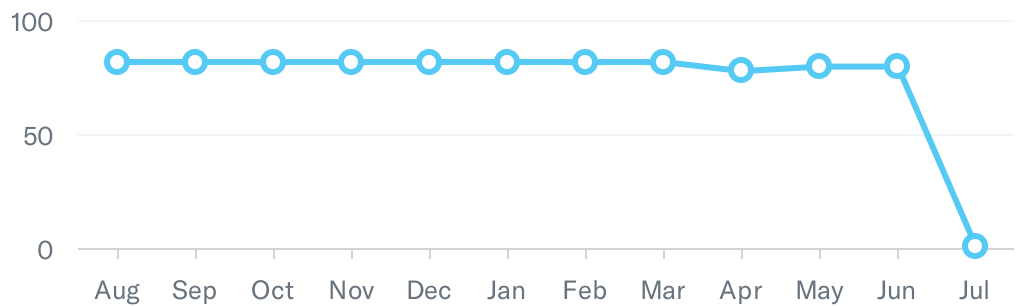
**80/100**



### Monthly average Arc Water Score

Last 12 months average

**81/100**



Water Score calculated for the first day of each month

## KEY PERFORMANCE INDICATORS

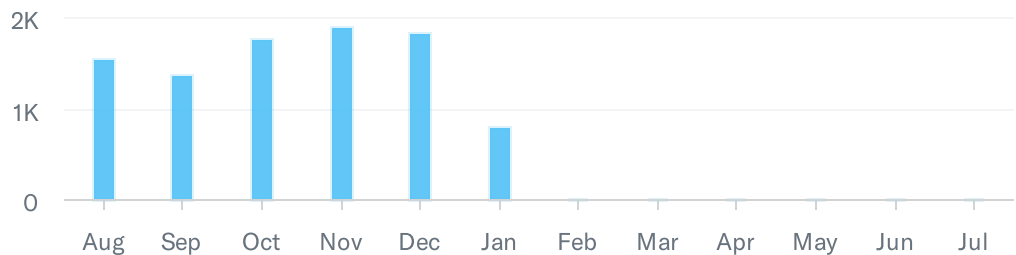
### Total water consumption

Cumulative water use from July 29, 2019 to July 28, 2020

Last 12 months

**9.17K gal**

gal





 **Water Performance (Continued)**

IMPROVEMENT SCORE

Current Improvement Score

 **100 / 100** Estimated

Data Quality  Poor  Good  Best

**Water**

**Gross Area**

gal/sqft

sqft

**Change**

▼ **47.7%**

**18.1%**


(Less is better)

Baseline Period

6.543187 

5,081

Performance Period

3.424146 

6,000

# Waste Performance

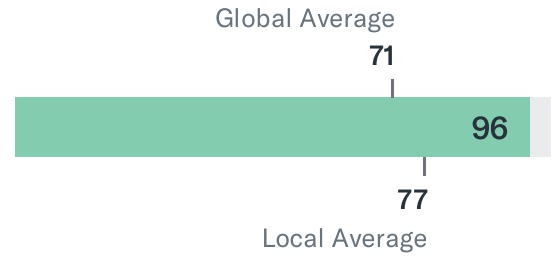


The waste score accounts for typical materials used in a building's operation. Users must account for safe disposal and diversion from landfills of ongoing consumable and durable goods, including the five most purchased product categories based on total annual purchases. The lower the quantity of materials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

## Arc WASTE SCORE

### Current Waste Score

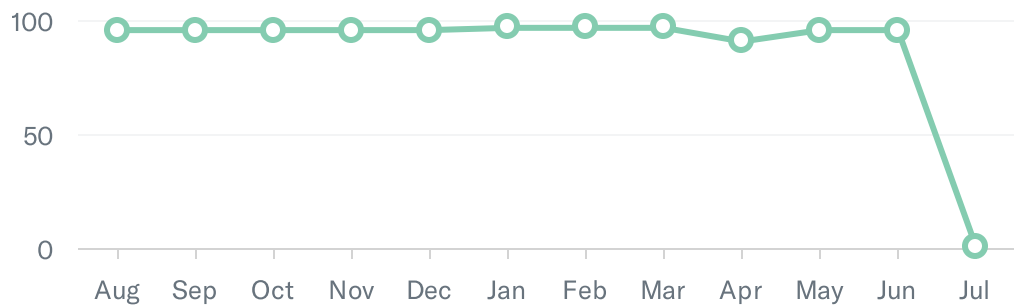
**96/100**



### Monthly average Arc Waste Score

Last 12 months average

**96/100**



Waste Score calculated for the first day of each month

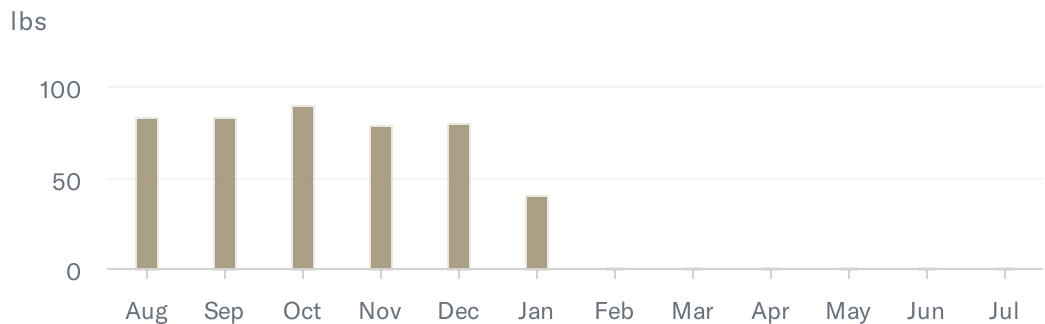
## KEY PERFORMANCE INDICATORS

### Waste Generation

Cumulative waste generation from July 29, 2019 to July 28, 2020

Last 12 months

**450 lbs**



 **Waste Performance (Continued)**

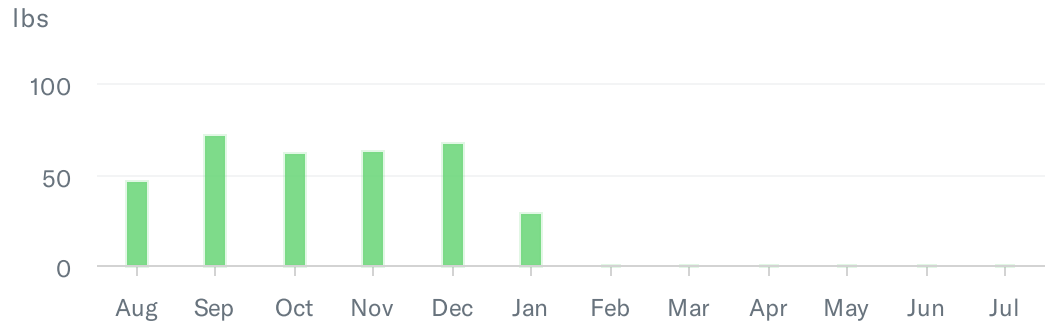
**KEY PERFORMANCE INDICATORS (CONTINUED)**

**Waste Diversion**

Cumulative waste diversion from July 29, 2019 to July 28, 2020

 Last 12 months

**338 lbs**









**IMPROVEMENT SCORE**

**Current Improvement Score**

 **23 / 100** Estimated

Data Quality  Poor  Good  Best

	<b>Waste Generated</b> lbs/occupant/day	<b>Waste Diverted</b> lbs/occupant/day	<b>Occupants</b> people
<b>Change</b>	 <b>7.8%</b> (Less is better)	 <b>10.4%</b> (More is better)	<b>33.3%</b>
Baseline Period	0.147196 	0.110658 	30
Performance Period	0.135653 	0.099186 	20

# Transportation Performance

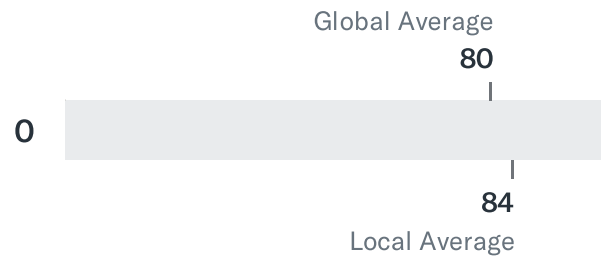


Transportation impacts are tracked in Arc based on the carbon impacts of occupants and visitors traveling to the building. The Transportation score rates the project's greenhouse gas emissions, measured in carbon dioxide equivalent emissions (CO<sub>2</sub>e) resulting from transportation to and from the building against that of other buildings worldwide. The score is a value from 1 to 100, based on the project's average CO<sub>2</sub>e per one-way trip per occupant.

## Arc TRANSPORTATION SCORE

### Current Transportation Score

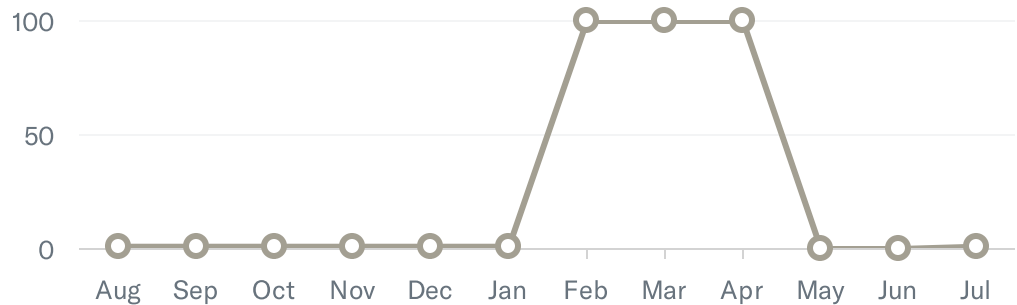
**0/100**



### Monthly average Arc Transportation Score

■ Last 12 months average

**60/100**



Transportation Score calculated for the first day of each month

## KEY PERFORMANCE INDICATORS

### Transportation GHG emissions

Cumulative transportation GHG emissions from July 29, 2019 to July 28, 2020

■ Last 12 months average

**0.0002** MTCO<sub>2</sub>e

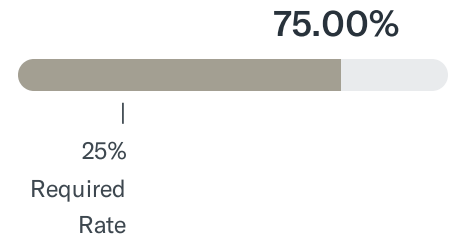


 **Transportation Performance (Continued)**

**KEY PERFORMANCE INDICATORS (CONTINUED)**

**Transportation survey response rate**

— percent of people responded



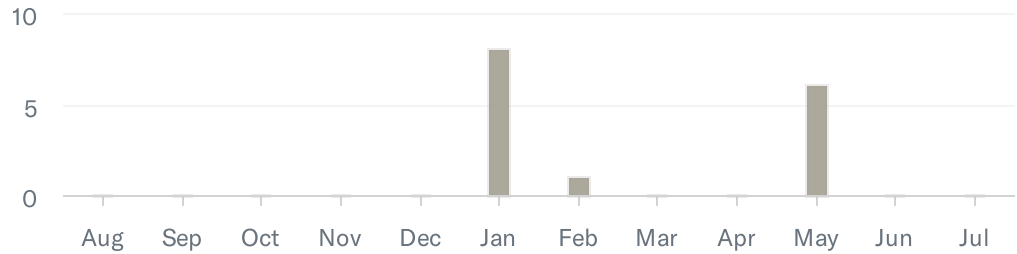
**Transportation Survey Response breakdown**

Cumulative survey responses from July 29, 2019 to July 28, 2020

— Last 12 months

**15** Responses

Responses

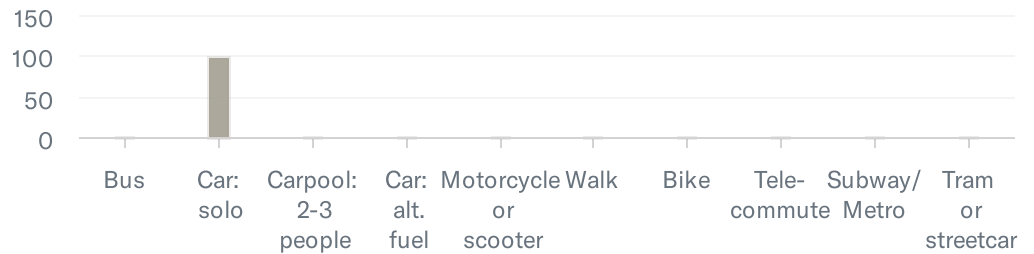


**Transportation modes**

Cumulative survey responses from July 29, 2019 to July 28, 2020

— Last 12 months

Responses



 **Transportation Performance (Continued)**

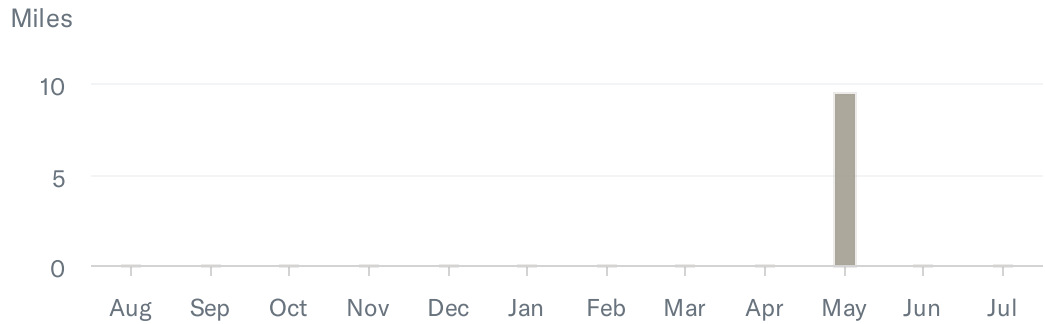
**KEY PERFORMANCE INDICATORS (CONTINUED)**

**Transportation distance**

Average daily one-day commute from July 29, 2019 to July 28, 2020

 Last 12 months average




**0.79** Miles



**IMPROVEMENT SCORE**

**Current Improvement Score**

 **100 / 100** Estimated

Data Quality  Poor  Good  Best

**Average CO2e**

mtCO2e

**Change**

 **86.1%**

(Less is better)

**Occupants**

people

**33.3%**

Period	Average CO2e (mtCO2e)	Occupants (people)
Baseline Period	0.017613	30
Performance Period	0.002454	20

# 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

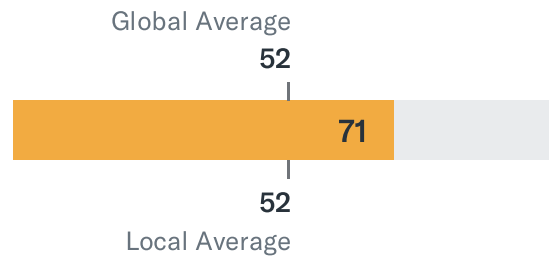
 **71/100**

#### Breakdown

Occupant Satisfaction: **83.28**

CO2 Level: **99.4**

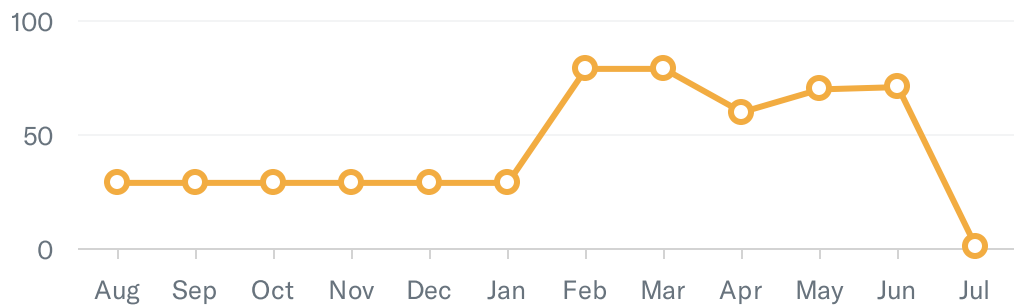
Total VOC Level: **18.06**



### Monthly average Arc Human Experience Score

 Last 12 months average

**48/100**



Human Experience Score calculated for the first day of each month



**Human Experience Performance (Continued)**

**KEY PERFORMANCE INDICATORS**

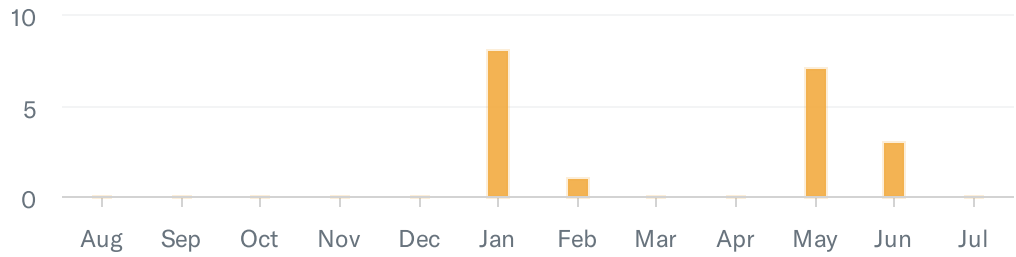
**Human Experience Survey Responses**

Cumulative survey responses from July 29, 2019 to July 28, 2020

— Last 12 months

**19** Responses

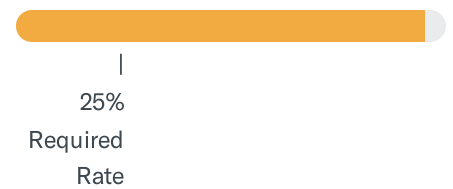
Responses



**Human Experience Survey Response Rate**

— percent of people responded

**95.00**

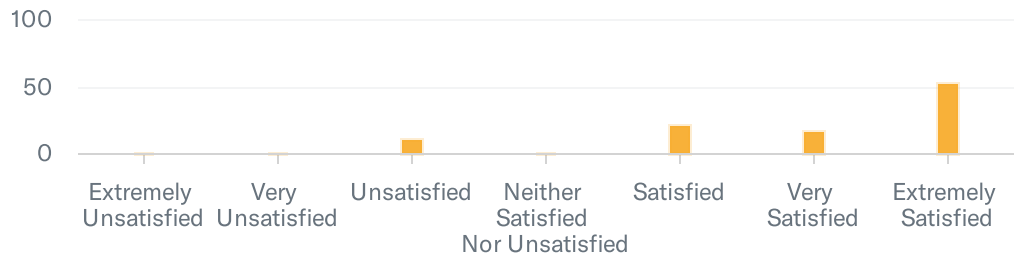


**Occupant satisfaction**

Average occupant satisfaction from July 29, 2019 to July 28, 2020

— Last 12 months

percent response rate

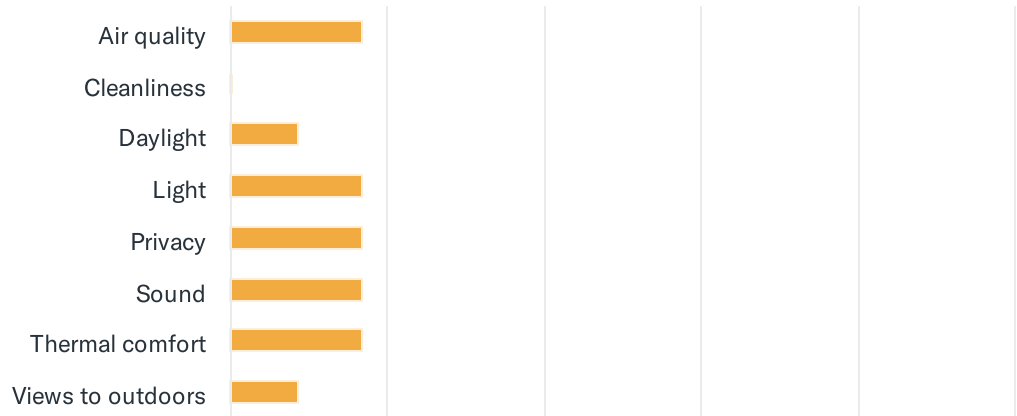


**Human Experience Performance (Continued)**

**KEY PERFORMANCE INDICATORS(CONTINUED)**

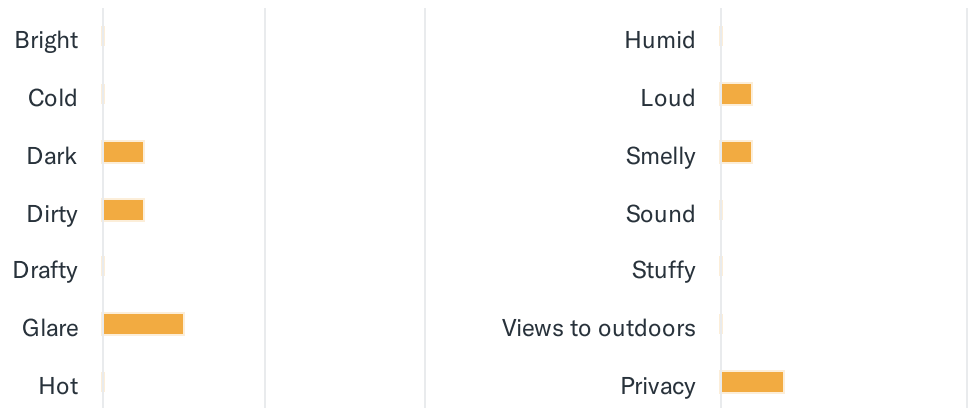
**Satisfaction details**

— Last 12 months



**Dissatisfaction details**

— Last 12 months

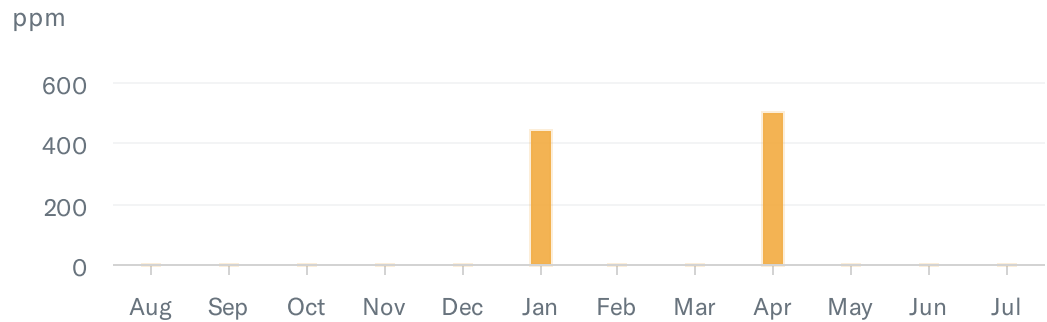


**CO2 Concentration**

Average 95% CO2 concentrations from July 29, 2019 to July 28, 2020

— Last 12 months average

**78.67** ppm



 **Human Experience Performance (Continued)**

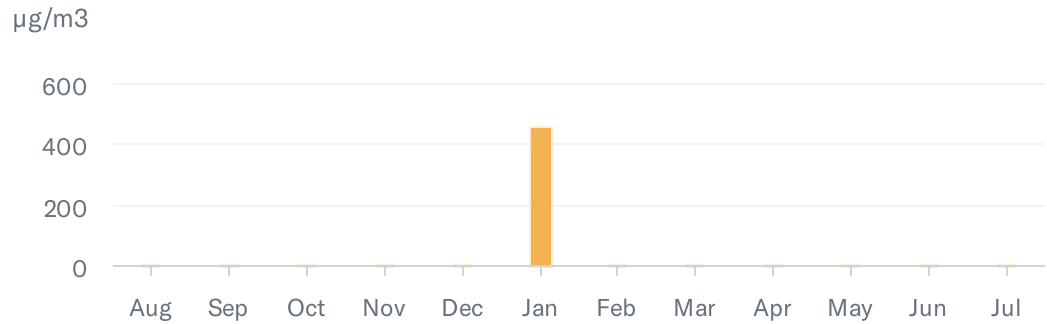
**KEY PERFORMANCE INDICATORS(CONTINUED)**

**TVOC Concentration**

Average maximum TVOC concentration from July 29, 2019 to July 28, 2020

 Last 12 months average

**37.75** µg/m<sup>3</sup>



**IMPROVEMENT SCORE**

**Current Improvement Score**



**100 / 100** 

Estimated

Data Quality



Poor



Good



Best

	<b>Occupant Satisfaction</b>	<b>Occupants</b>
	occupant average	people
<b>Change</b>	<b>▲ 79.2%</b> (Higher is better)	<b>33.3%</b>
Baseline Period	-2.75	30
Performance Period	2	20

# 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

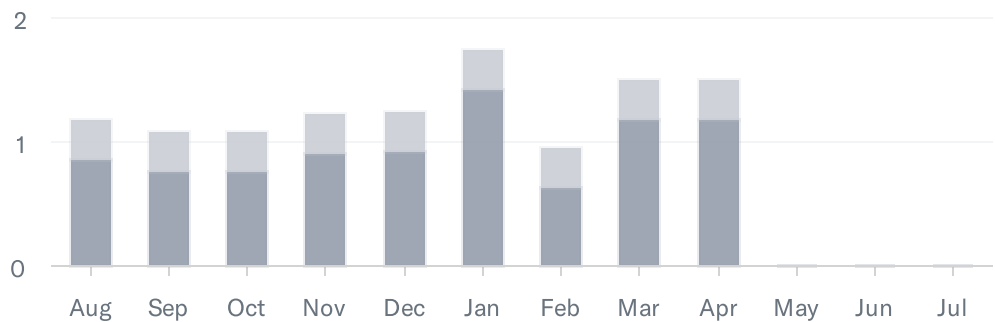
### Scope 1 and 2 emissions

Cumulative GHG emissions from July 29, 2019 to July 28, 2020

■ Scope 1    ■ Scope 2

**11.46** MTCO<sub>2</sub>e

MTCO<sub>2</sub>e



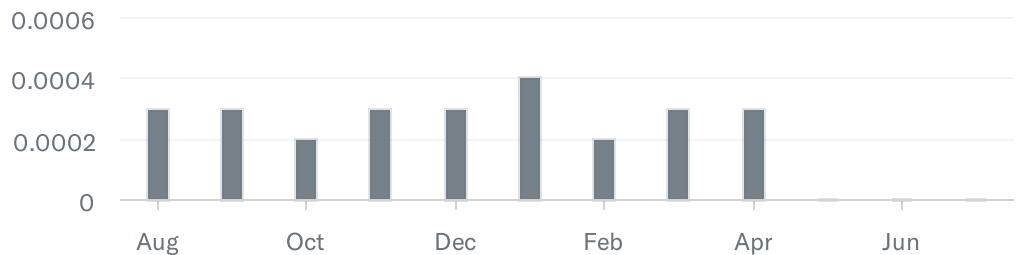
### GHG emissions intensity - Scope 1 & 2

Average GHG emissions intensity from July 29, 2019 to July 28, 2020

■ Last 12 months

**0.0026** MTCO<sub>2</sub>e

MTCO<sub>2</sub>e

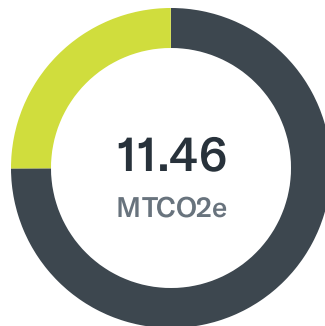




## GHG Emissions (Continued)

KEY PERFORMANCE  
INDICATORS  
(CONTINUED)

### GHG Emissions by source



Source (MTCO2e)

- Fuel  
8.59 (74.93%)
- Electricity  
2.87 (25.05%)
- Transportation  
0 (0.02%)

# 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.



## Data & Documentation

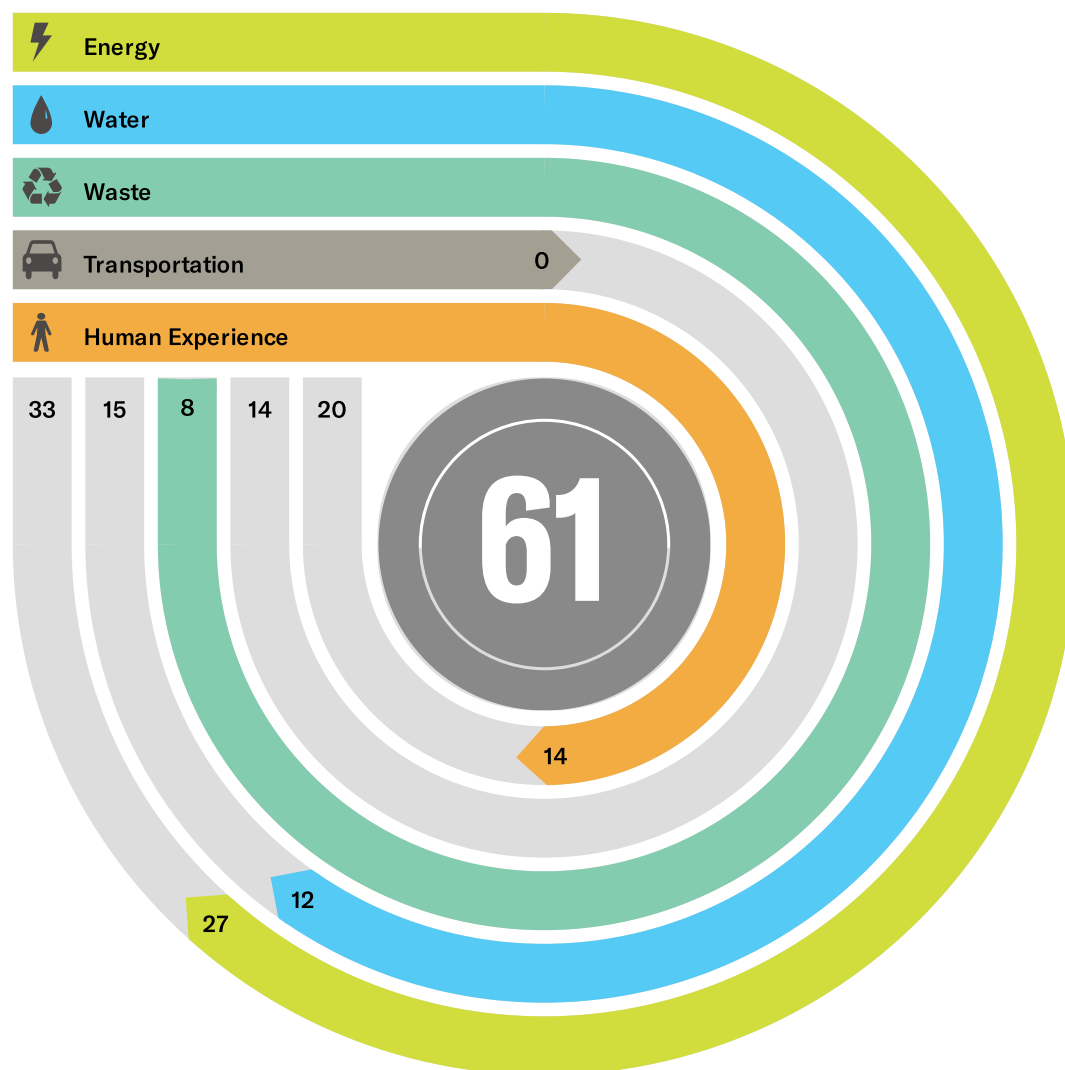
Category	Data completion	Documentation
Energy	82.33%	4
Water	54.25%	0
Waste	100%	0
Transportation	5.65%	0
Human Experience	69.05%	3

## Scores by Category

Category	Performance Score	Improvement Score
Energy	82/100	67/100
Water	80/100	100/100
Waste	96/100	23/100
Transportation	0/100	100/100
Human Experience	71/100	100/100

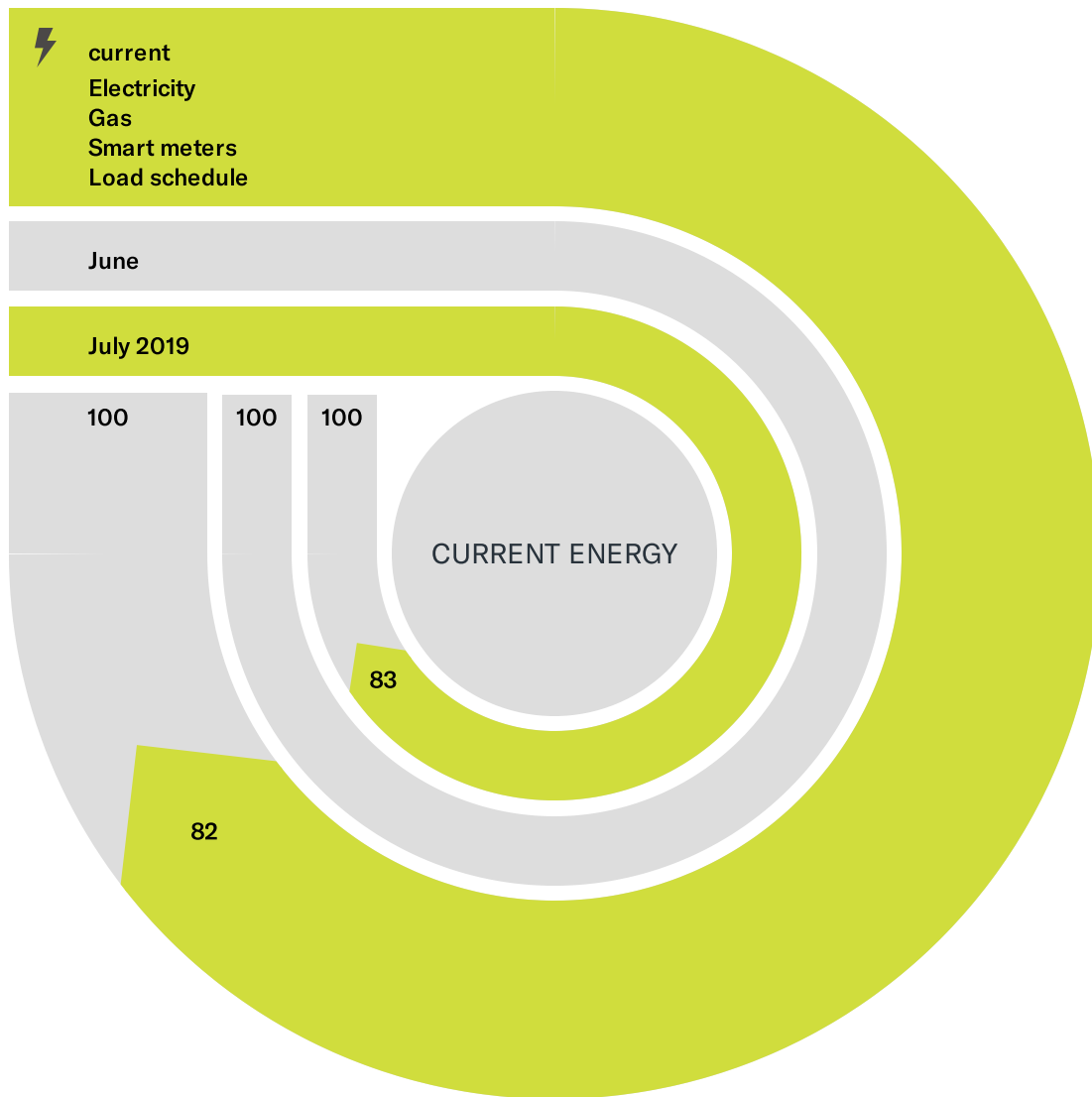
 **LEED v4.1 Readiness Analysis (Continued)**

TOTAL LEED SCORE



 **LEED v4.1 Readiness Analysis (Continued)**

LEED ENERGY SCORE



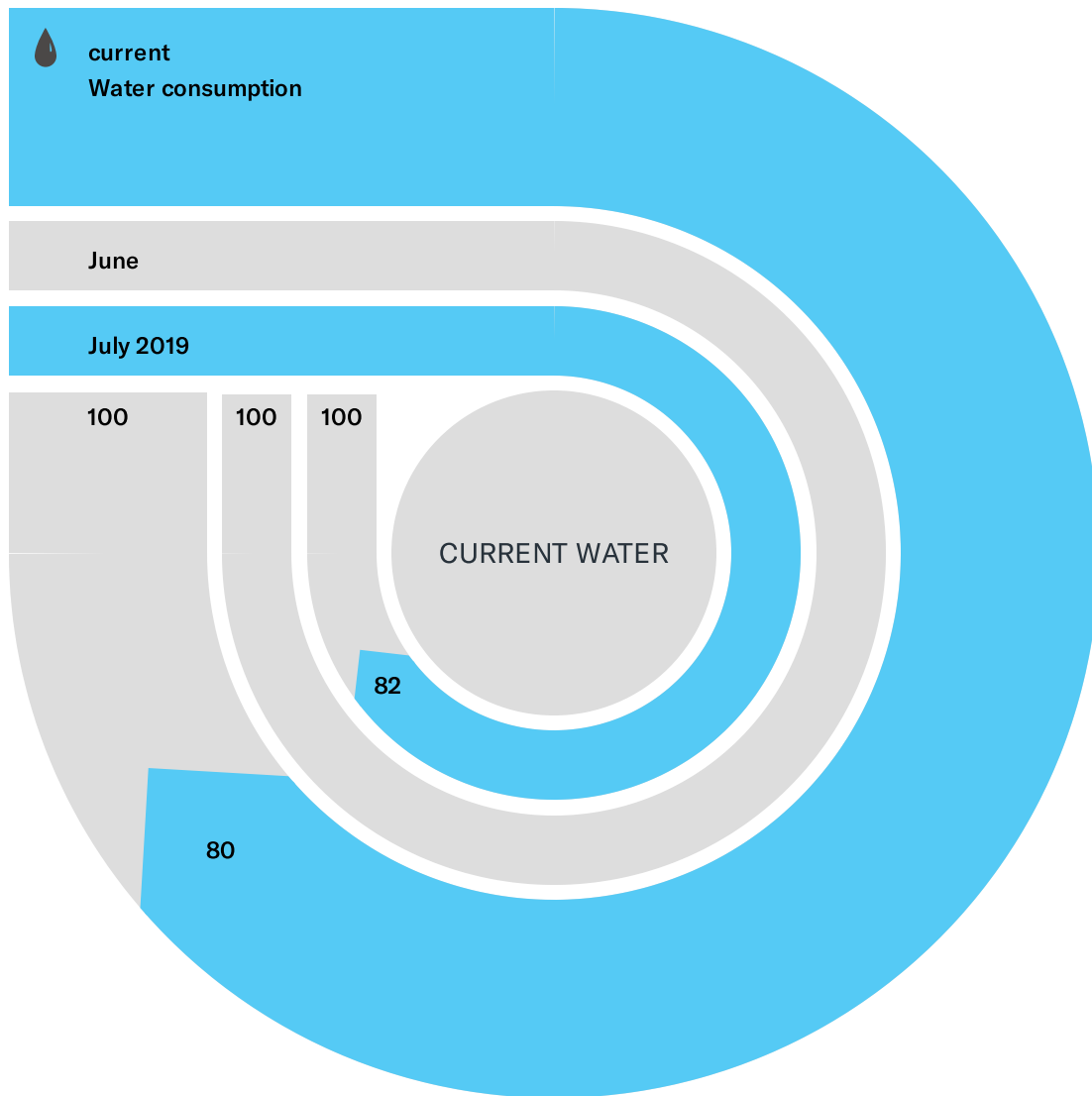
Local average Energy score	67
Global average Energy score	75
Highest Energy score	100

	<b>Project</b>	<b>Per square foot</b>	<b>Per occupant</b>
Annual adjusted carbon emissions (MTCO <sub>2</sub> e)	16.4484	0.0027	0.8224
Daily adjusted carbon emission (MTCO <sub>2</sub> e)	0.0451	0.0000	0.0023
Annual carbon emissions (MTCO <sub>2</sub> e)	15.1782	0.0025	0.7589



 **LEED v4.1 Readiness Analysis (Continued)**

LEED WATER SCORE

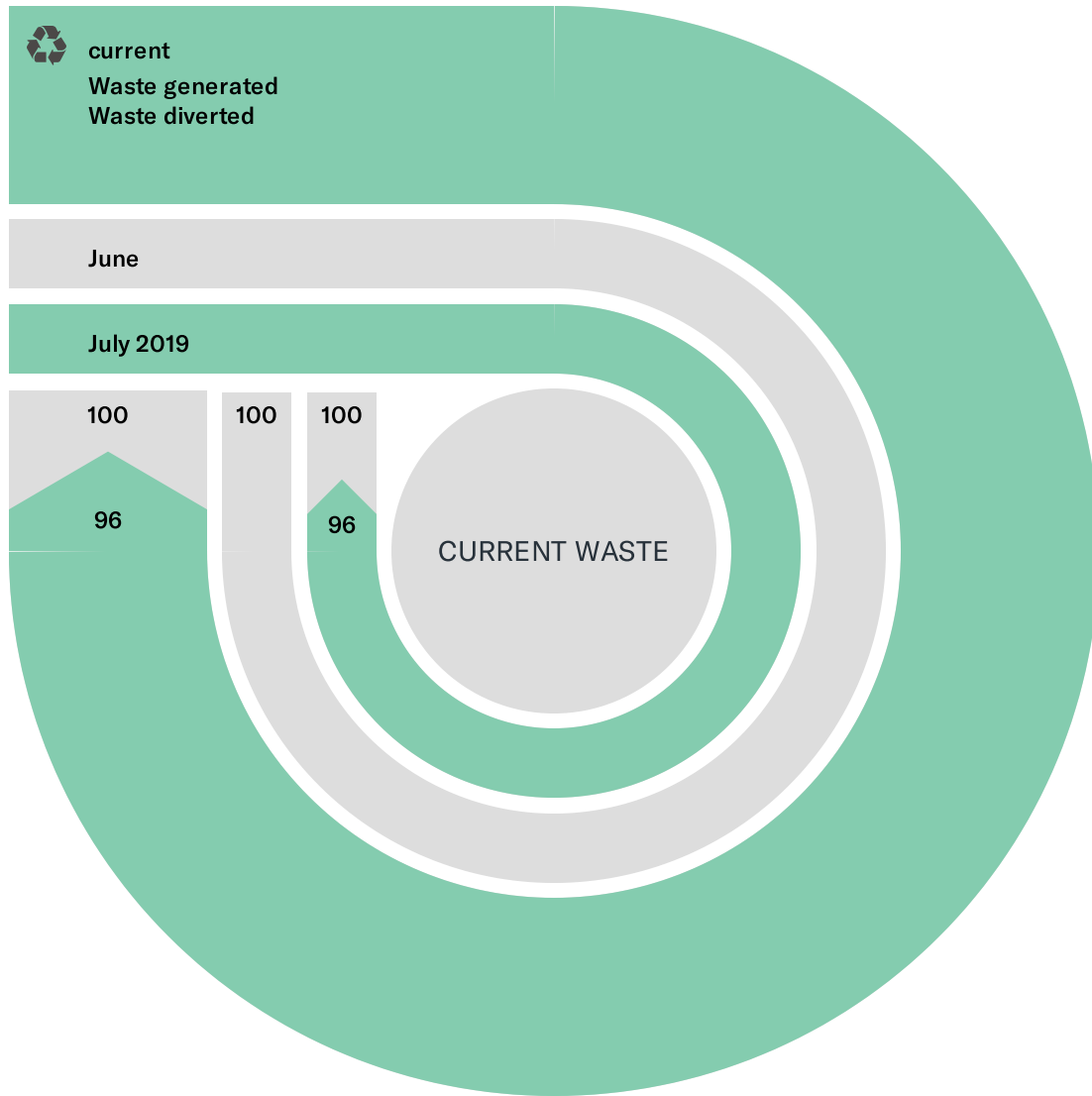


Local average Water score	68
Global average Water score	65
Highest Water score	100

	<b>Project</b>	<b>Per square foot</b>	<b>Per occupant</b>
Annual water consumption (gal)	20,544.8765	3.4241	1,027.2438
Monthly water consumption (gal)	1,712.0730	0.2853	85.6037
Daily water consumption (gal)	56.2873	0.0094	2.8144

 **LEED v4.1 Readiness Analysis (Continued)**

LEED WASTE SCORE

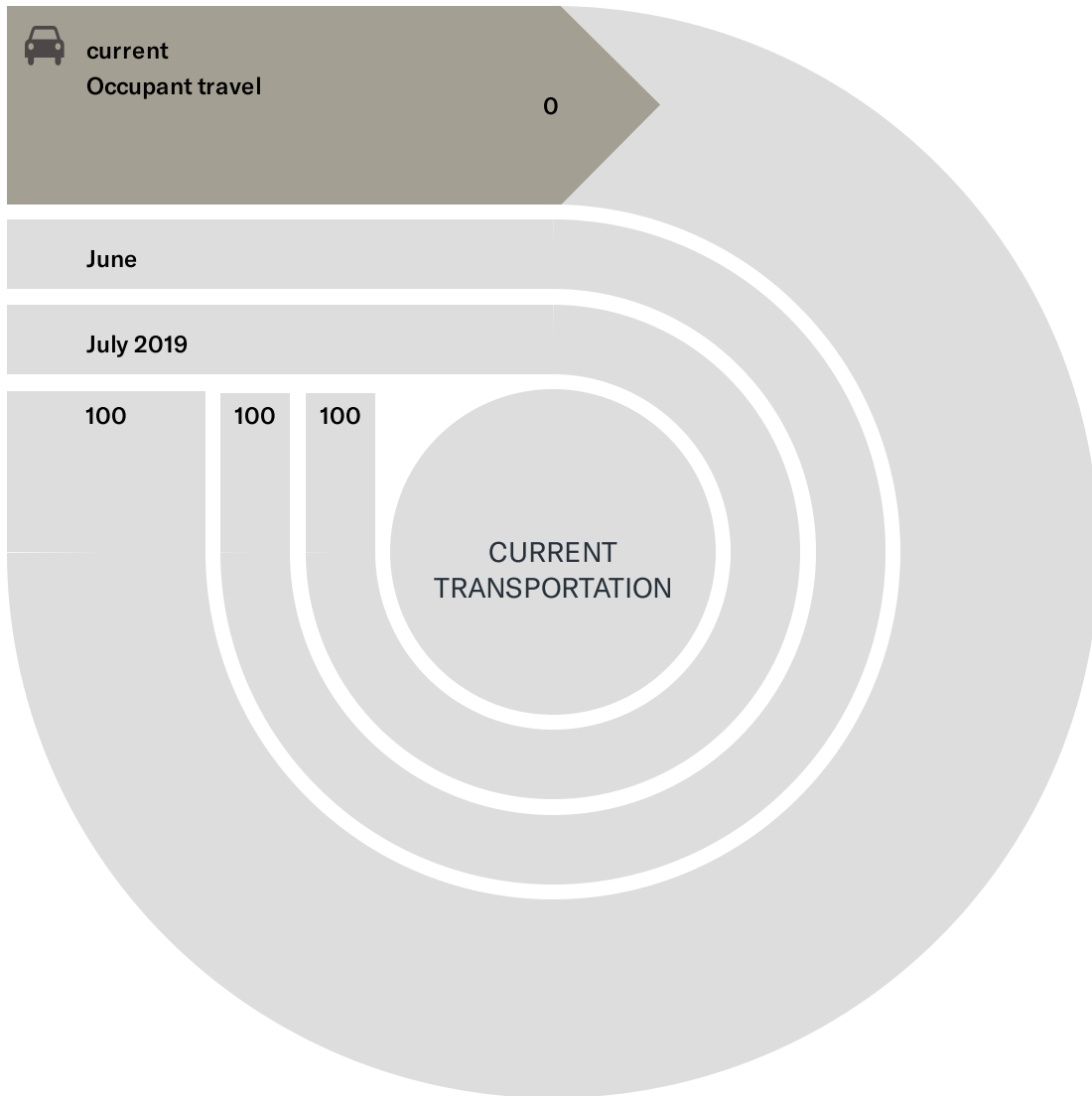


Local average Waste score	77
Global average Waste score	71
Highest Waste score	100

	<b>Project</b>	<b>Per square foot</b>	<b>Per occupant</b>
Average daily waste generated (lbs)	2.6943	0.0004	0.1347
Average daily waste diverted (lbs)	1.9936	0.0003	0.0997

 **LEED v4.1 Readiness Analysis (Continued)**

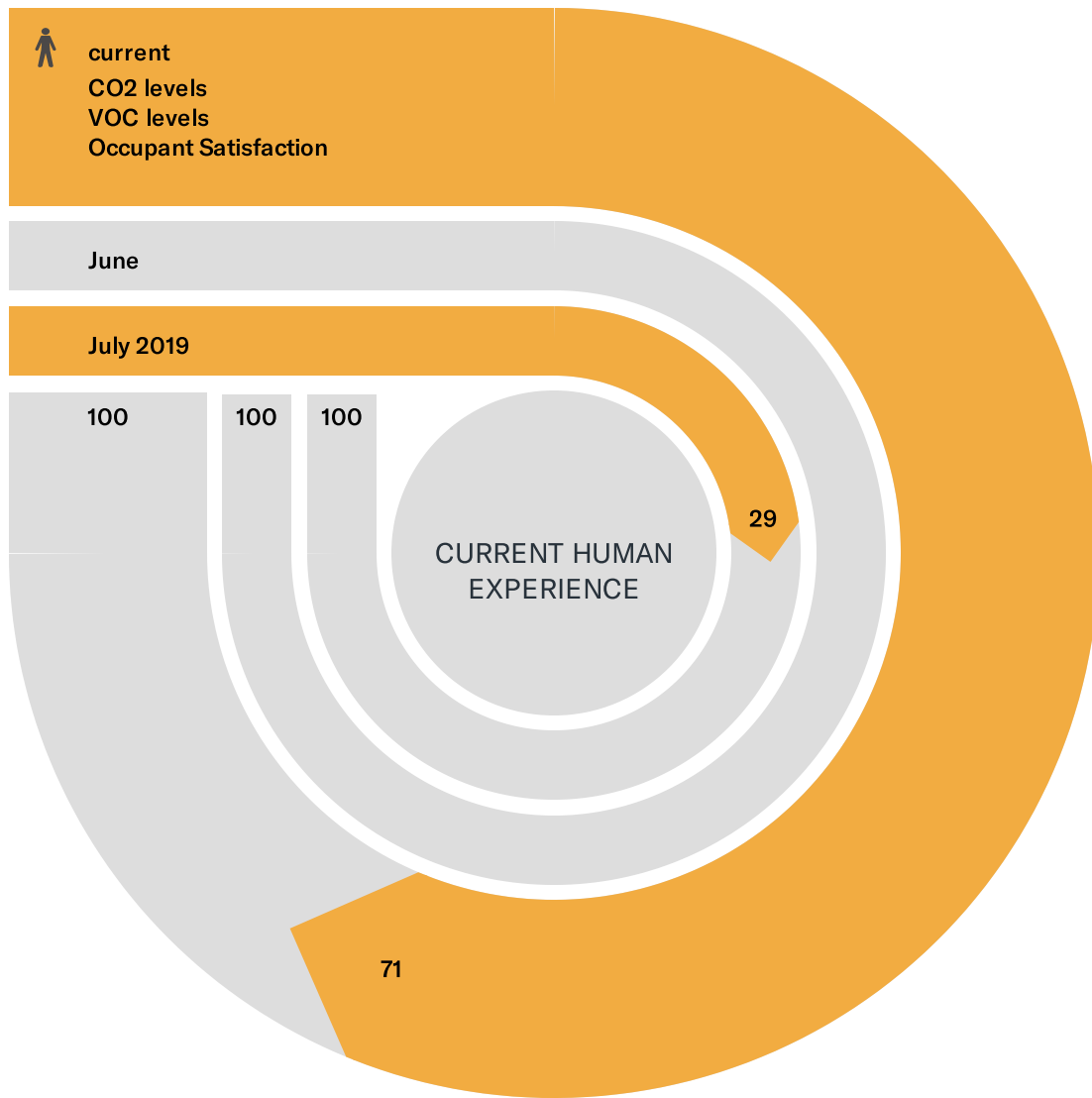
LEED TRANSPORTATION SCORE



Local average Transportation score	<b>84</b>	
Global average Transportation score	<b>80</b>	
Highest Transportation score	<b>100</b>	
	<b>Project</b>	<b>Per occupant</b>
Annual carbon emissions (lbs)	<b>1,904,853.3334</b>	<b>95,242.6667</b>
Daily carbon emissions (lbs)	<b>5,952.6663</b>	<b>297.6333</b>
Survey response rate	<b>75 %</b>	<b>-</b>

**LEED v4.1 Readiness Analysis (Continued)**

LEED HUMAN EXPERIENCE SCORE



Local average Human Experience score	52
Global average Human Experience score	52
Highest Human Experience score	100
	<b>Project</b>
Interior carbon dioxide levels (ppm)	481.3333
Interior total volatile organic compound levels (ug/m3)	453
Average occupant satisfaction	Very satisfied
Survey response rate	95 %

# Project Details

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Project name	Demo project - 1
LEED Project ID	8000001937
Address	2099 Pennsylvania Avenue Washington, DC 20006
Project team members	Tarun Bisht    Rajiv Sharma
Project space type	Office: Administrative/Professional
Project owner type	Corporate: Privately Held
Date of last certification	NA
Project size	6,000 sq. feet

## Project Details (Continued)

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### Energy

First measurement	Jul 01, 2019
Last measurement	Apr 01, 2020
Number of energy meters	2
List of energy meters	Fuel meter    Electric meter
Total number of energy measurements	53
Number of measurements during the performance period	20

### Water

First measurement	Jul 01, 2019
Last measurement	Jan 01, 2020
Number of water meters	1
List of water meters	Water meter
Total number of water measurements	25
Number of measurements during the performance period	7

### Waste

First measurement	Jul 01, 2019
Last measurement	Jan 01, 2020
Total number of waste measurements	25
Number of measurements during the performance period	7

## Project Details (Continued)

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### Transportation

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Date of first survey	Jan 15, 2020
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Date of last survey	May 14, 2020
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Total number of respondents	20
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Total number of respondents during the performance period	15
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Percentage of total project occupants responding during the performance period	75%
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### Human Experience

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Date of first survey	Jan 15, 2020
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Date of last survey	Jun 11, 2020
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Total number of respondents	23
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Total number of respondents during the performance period	19
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Percentage of total project occupants responding during the performance period	95%
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### GHG Emissions

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Electricity Emissions factor	0.83
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Date of first GHG measurement	Jul 01, 2019
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Date of last GHG measurement	Apr 01, 2020
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Number of GHG data points	23
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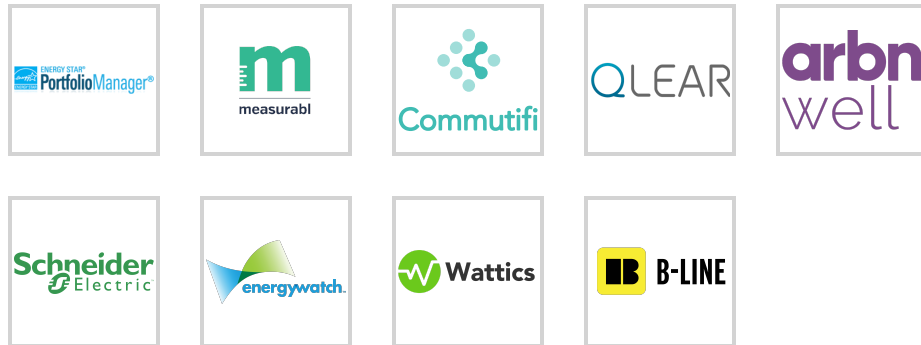
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