



**GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners**

OMB Control No.: 2060-0702  
Expiration Date: MM/DD/YYYY

**I. General Partner Information**

Company Name:	Banners Included:	This Reporting Year:	Number of Stores:
		2022	

Provide this data aggregated across all stores.

**II. Corporate-Wide Installed Refrigerant**

Note: Report aggregate information for all retail stores under the same Partner and/or banner name. Include offices, break-rooms, etc. co-located inside retail stores. Do not include separate office buildings, distribution centers, warehouses, etc. Do not include refrigerant stored in cylinders on or off site. Include other refrigerants not listed by using extra lines at the bottom of the table.

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge > 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

Reported values are in (select one):  
**Pounds**

**III. Corporate-Wide Refrigerant Emissions**

Note: Report aggregate information for all retail stores under the same Partner and/or banner name. Include offices, break-rooms, etc. co-located inside retail stores. Do not include separate office buildings, distribution centers, warehouses, etc. Do not include refrigerant recovered/recycled from equipment retired, but do include known emissions from those systems. Do not include first-fill charging when installing new systems or after remodels. Include other refrigerants not listed by using extra lines at the bottom of the table.

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge > 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

Reported values are in:  
**Pounds**

"I certify with my signature that the data reported herein represent the Reporting Party's best estimates and are the result of a good faith effort to obtain and report accurate information."

Signature: \_\_\_\_\_  
Name (please print): \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed forms by **March 31, 2023** by email to:  
Marissa Hoer, Abt Associates  
EPA\_GreenChill@abtassco.com  
Phone: 919-294-7923

You may also send a copy of completed forms by email to EPA:  
Kersey Manlicic, EPA GreenChill Partnership  
Manlicic.Kersey@epa.gov  
Phone: 202-566-9981

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2060-0702). Responses to this collection of information are voluntary (Clean Air Act). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting and recordkeeping burden for this collection of information is estimated to be 5 to 9 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

**CONFIDENTIAL BUSINESS INFORMATION**

**GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners**

Summary Sheet			
<b>Note: The total values are automatically calculated on this sheet.</b>			
Emission Rates	Commercial Refrigeration		Air-Conditioning
	Charge ≥ 50 Pounds	Charge < 50 Pounds	
Standard Emissions Rate			
GWP-Weighted Emissions Rate			
GWP Emissions Rate			
<b>Metric Tons of CO<sub>2</sub>e</b>			
Installed Refrigerant			
Emissions			
<b>Weighted Average Global Warming Potential (per pound)</b>			
Installed Refrigerant			
Emitted Refrigerant			

Your 2022 emissions rate goal should be based on this 2021 emissions rate.

CONFIDENTIAL BUSINESS INFORMATION

### GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners

Corporate-Wide Refrigerant Emissions Rates			
<b>Note: The standard emissions rate for each refrigerant is automatically calculated in this sheet as follows:</b>			
$[[Emissions\ Rate]]_{(Refrigerant\ X)} = (Pounds\ Emitted) / (Pounds\ Installed)$			
Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge ≥ 50 Pounds <b>REQUIRED</b>	Charge < 50 Pounds OPTIONAL	OPTIONAL
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Totals</b>			

CONFIDENTIAL BUSINESS INFORMATION



## GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners

**Corporate-Wide Installed Refrigerant and Emissions in Metric Tons of Carbon Dioxide Equivalent (CO2e)**  
**Note: Installed refrigerant and emissions are automatically converted into metric tons of CO2e in this sheet by multiplying the absolute amount of a refrigerant installed or emitted by the GWP for that refrigerant.**

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge > 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Total Installed Refrigerant in Metric Tons of CO2e</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>0</b>	<b>0</b>	

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge > 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Total Emissions in Metric Tons of CO2e</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>0</b>	<b>0</b>	

CONFIDENTIAL BUSINESS INFORMATION

**GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners**

**Corporate-Wide GWP-Weighted Refrigerant Emissions Rates**  
**Note: The GWP-weighted emissions rate for each refrigerant is automatically calculated in this sheet as follows:**

$$\text{[GWP Weighted Emissions Rate]}_{(\text{Refrigerant } X)} = (\text{Pounds Emitted} \times \text{[GWP]}_{(\text{Refrigerant } X)}) / (\text{Pounds Installed} \times \text{[GWP]}_{(R-22)})$$

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge ≥ 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	OPTIONAL
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Totals</b>			

**GreenChill Installed Refrigerant and Emissions Corporate Report for Food Retail Partners**

**Corporate-Wide GWP Refrigerant Emissions Rates**  
**Note: The GWP emissions rate for each refrigerant is automatically calculated in this sheet as follows:**

$$GWP \text{ Emissions Rate} = \frac{(\sum 1_{emitted} (GWP \times [Lbs. Ref ]_{-1}), (GWP \times [Lbs. Ref ]_{-2}), (GWP \times Lbs. [Ref ]_{-n}))}{(\sum 1_{installed} (GWP \times Lbs. [Ref ]_{-1}), (GWP \times [Lbs. Ref ]_{-2}), (GWP \times [Lbs. Ref ]_{-n}))}$$

Refrigerant	Commercial Refrigeration		Air-Conditioning
	Charge ≥ 50 Pounds	Charge < 50 Pounds	
	REQUIRED	OPTIONAL	OPTIONAL
R-11			
R-12			
R-13			
R-123			
R-134a			
R-143A			
R-22			
R-290 (Propane)			
R-401A (MP 39)			
R-401B (MP 66)			
R-402A (HP 80)			
R-402B (HP 81)			
R-404A (HP 62)			
R-407A (Klea 60)			
R-407C (Klea 66; Suva 9000)			
R-407D			
R-407F (Gen. Performax LT)			
R-408A (FX-10)			
R-409A (FX-56)			
R-410A (AZ-20, Puron)			
R-413A			
R-414A (GHG-X4)			
R-414B (Hot Shot)			
R-416A (FR 12)			
R-417A (NU-22, Isceon MO29)			
R-417C (Hot Shot 2)			
R-420A			
R-421A (Choice R421A)			
R-422A (Isceon 79)			
R-422B (XAC1)			
R-422C (XLT1)			
R-422D (Isceon MO29)			
R-427A (Forane 427A)			
R-437A (ISCEON MO49 Plus)			
R-438A (ISCEON MO99)			
R-441A (HC blend)			
R-448A (Solstice N-40)			
R-449A (Opteon XP 40)			
R-449B (Forane 449B)			
R-450A (Solstice N-13)			
R-453A (RS-70)			
R-500			
R-502			
R-507A (AZ-50)			
R-513A (Opteon XP 10)			
R-600a (Isobutane)			
R-717 (NH3)			
R-744 (CO2)			
R-407H			
R-452A			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
[INSERT OTHER]			
<b>Totals</b>			