



**FMHERO<sup>®</sup>**

# Profits in the AtmosFear

Turning Environmental Regulations  
from Risk into Reward



# Agenda



**01** FMHero Background

**02** Regulatory Landscape

**03** Profits In The AtmosFear

**04** Review

**05** Q&A



# Key Questions

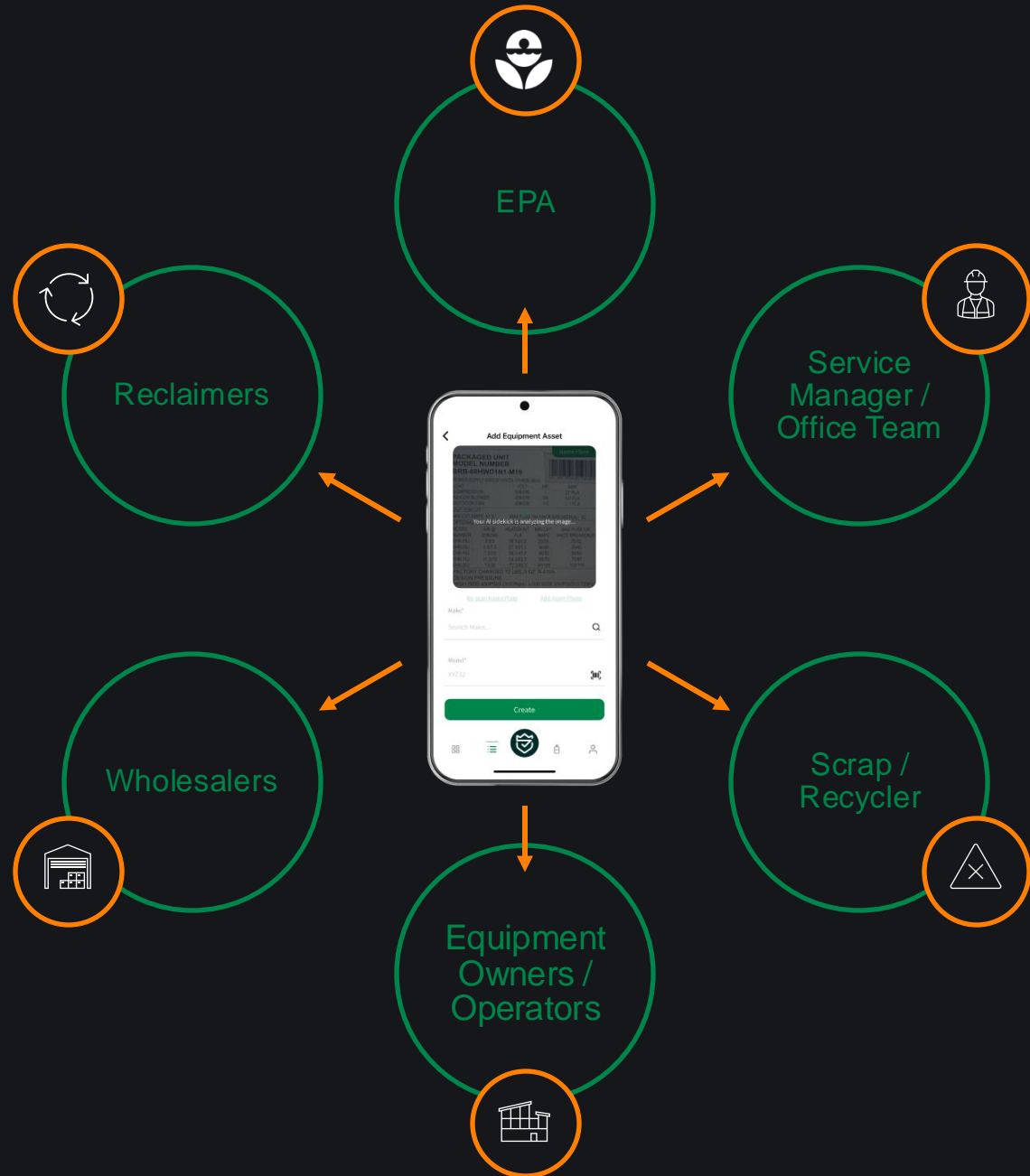


- “What are the rules?”
- “Who is responsible?”
- “How to protect profits?”



FMHero

# Single Source of Truth





# Regulatory Landscape

“What are the rules?”

# 608 Regulatory Requirements

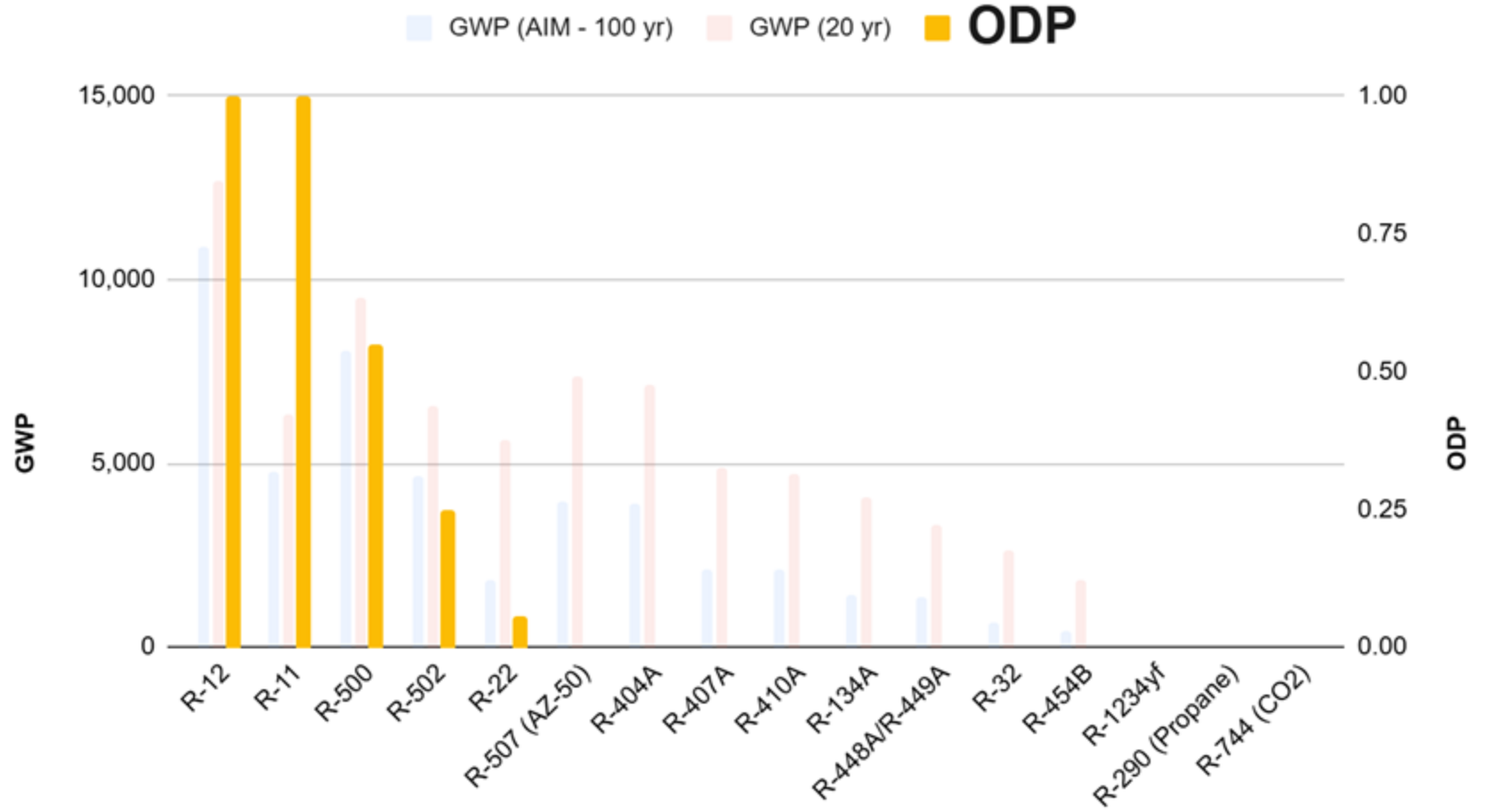


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# All About ODP



## ODP Comparison





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# 2016 & 2020 Updates

1. Extend rules to substitutes
2. Lower leak rate thresholds
3. Require recurring inspections or ALDs if exceeded
4. Exceedance Submissions (125%)
5. Expanded & Clarified “who”

<https://www.epa.gov/section608/regulatory-updates-section-608-refrigerant-management-regulations#2016-rule>





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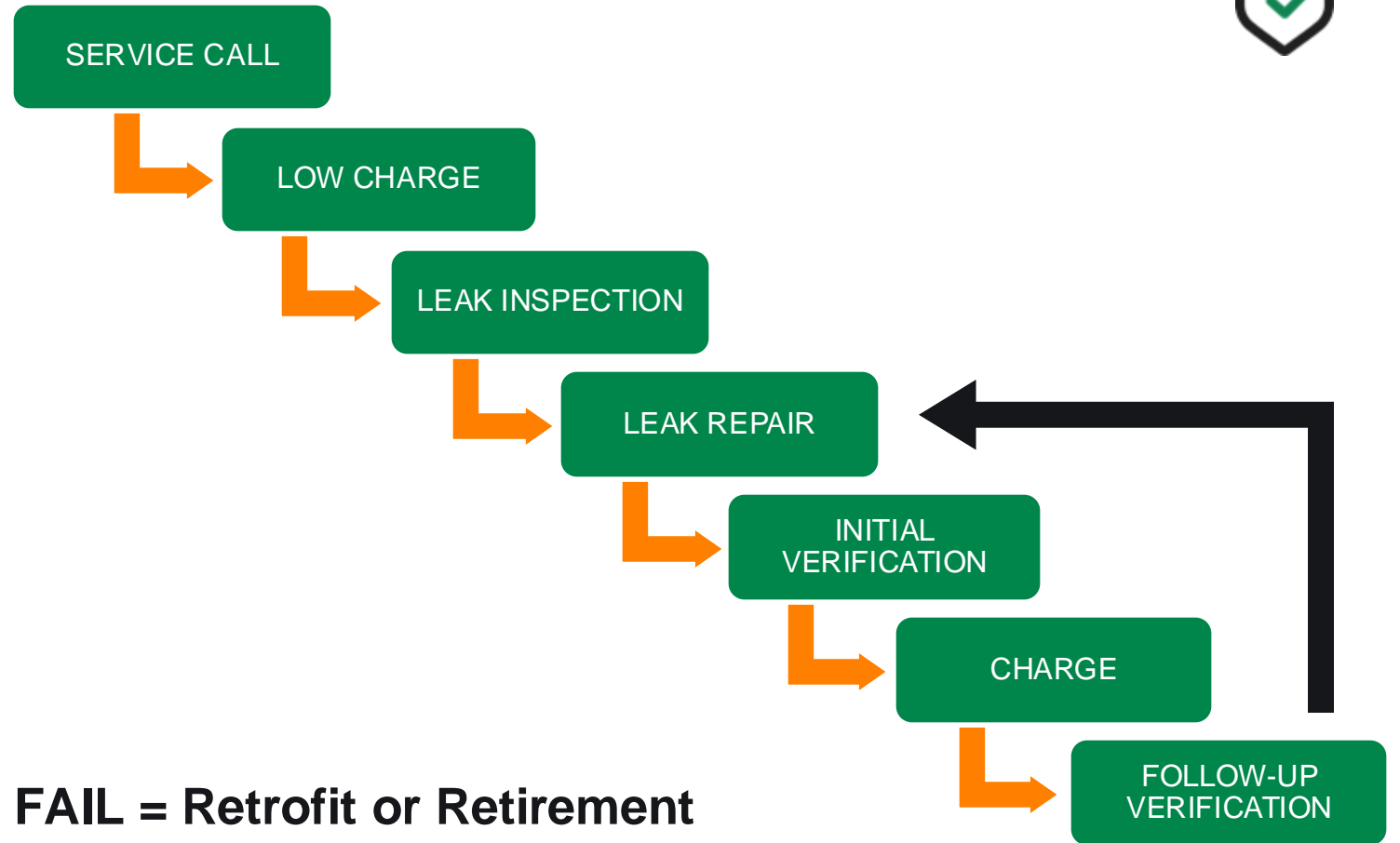
# Leak Rate Reduction

INDUSTRIAL PROCESS	35%	→	30%
COMMERCIAL	35%	→	20%
COMFORT COOLING	15%	→	10%

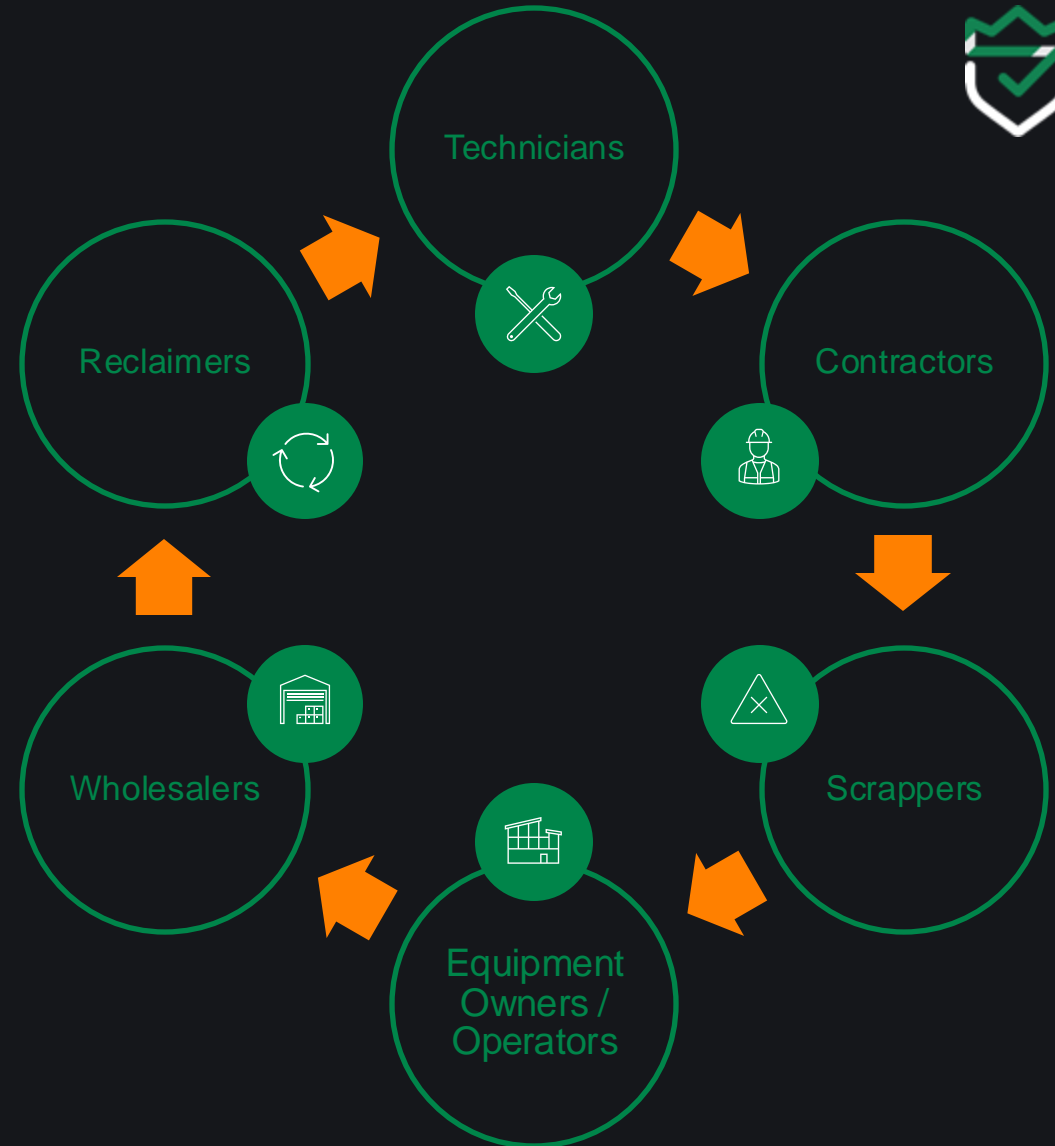
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# Leak Rate Inspection

**≥50 lbs**



# Who Is Responsible?





## TECHNICIAN

Means any person who could be reasonably expected to violate the integrity of the refrigerant circuit during the maintenance, service, repair, disposal or charging of an appliance.

Activities reasonably expected to violate the integrity of the refrigerant circuit include but are not limited to: Attaching or detaching hoses and gauges to and from the appliance; adding or removing refrigerant; adding or removing components; and cutting the refrigerant line.

Technicians could include but are not limited to installers, contractor employees, in-house service personnel, and owners and/or operators of appliances.

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# “Who” Technician



## TECHNICIAN

Means any **person**...

## PERSON

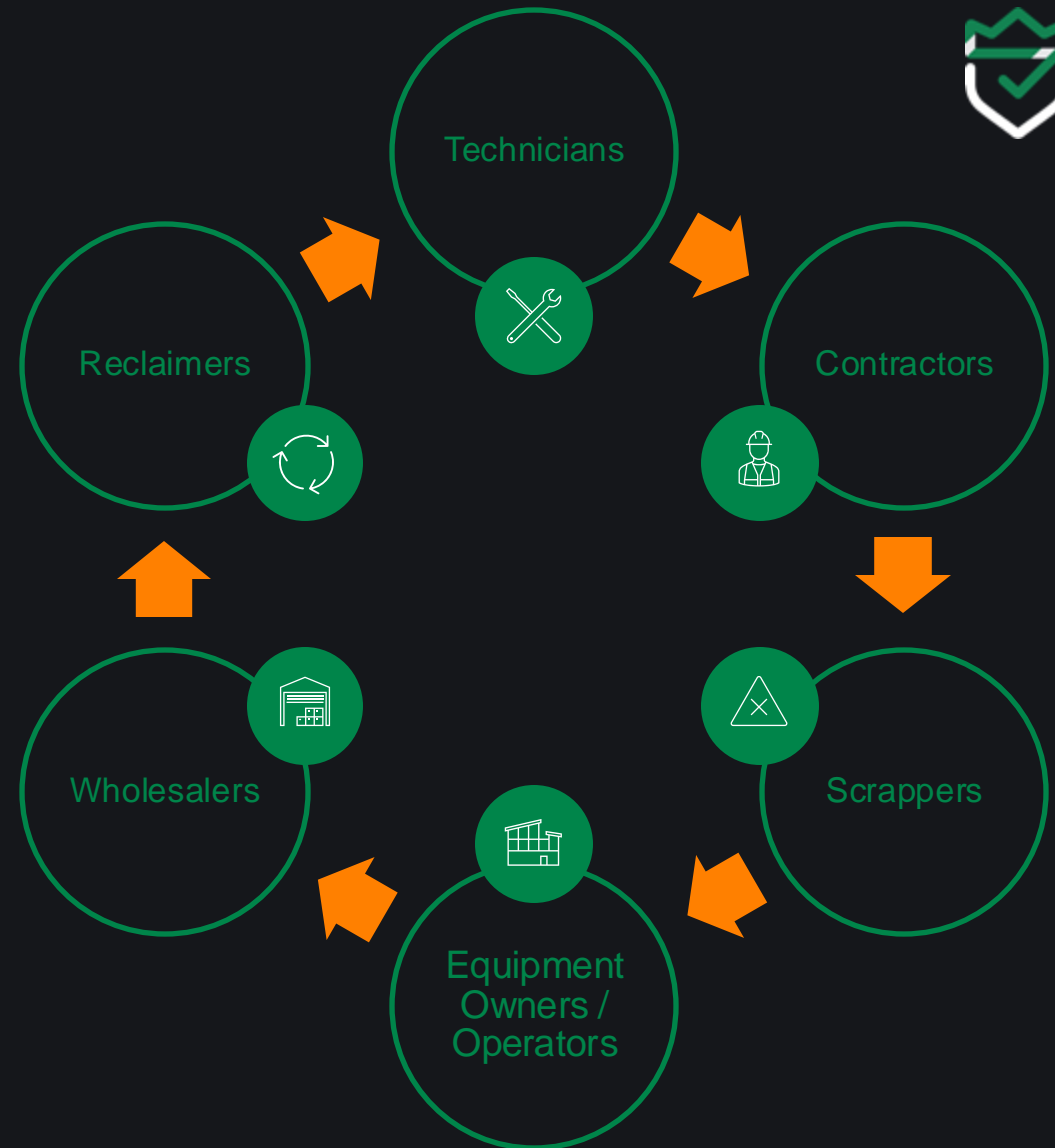
Means any individual or legal entity, including an individual, corporation, partnership, association, state, municipality, political subdivision of a state, Indian tribe, and any agency, department, or instrumentality of the United States, and any officer, agent, or employee thereof.

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-82/subpart-F/section-82.152>

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# “Who” Technician

# Who Is Responsible?





The “Who” Is YOU!

“Who Is Responsible?”



AIM

# American Innovation & Manufacturing

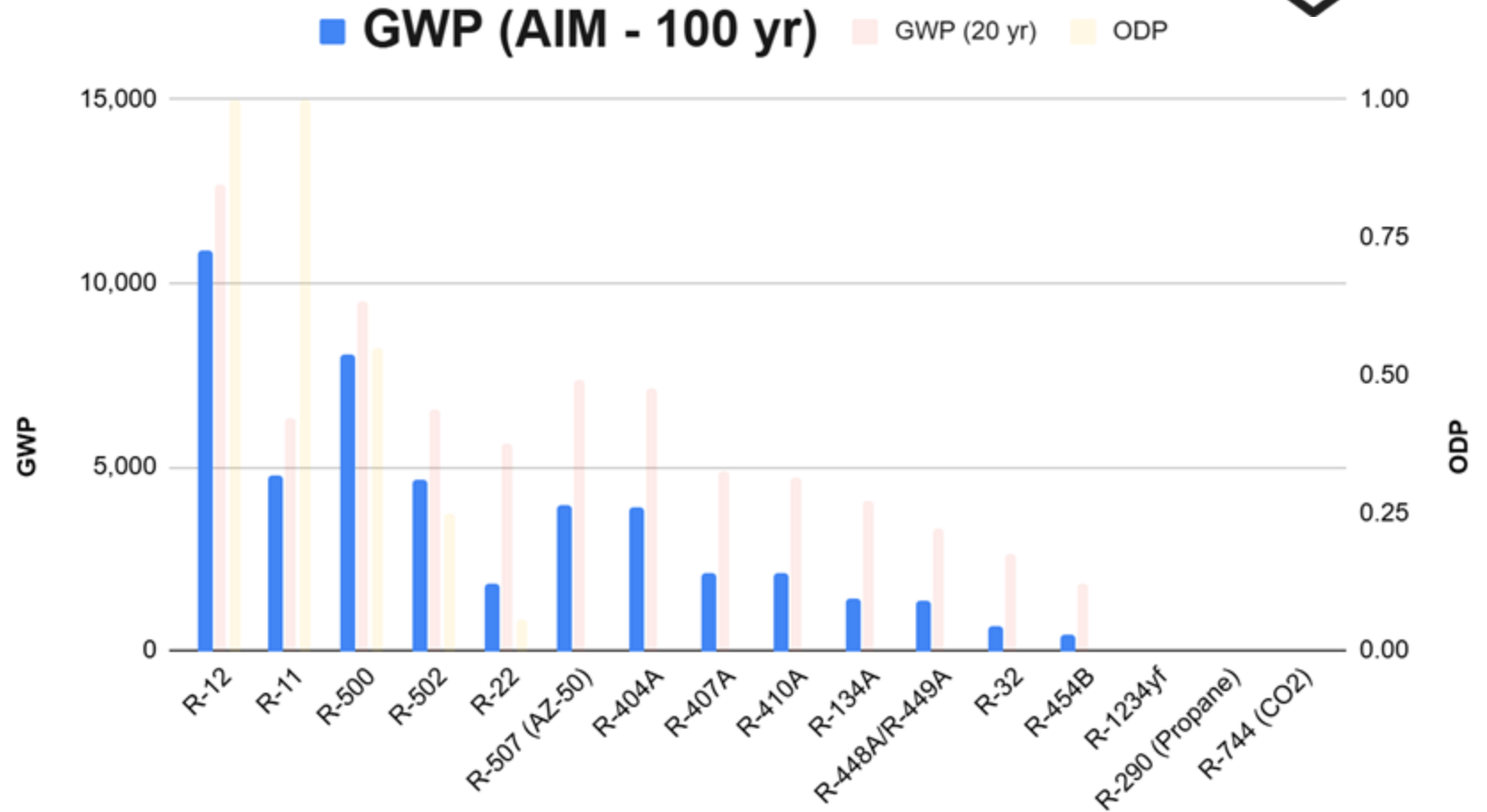
## AIM - All about GWP

1. Allocation & Import Reductions
2. Technology Transition
3. Emission Reduction & Reclamation



AIM

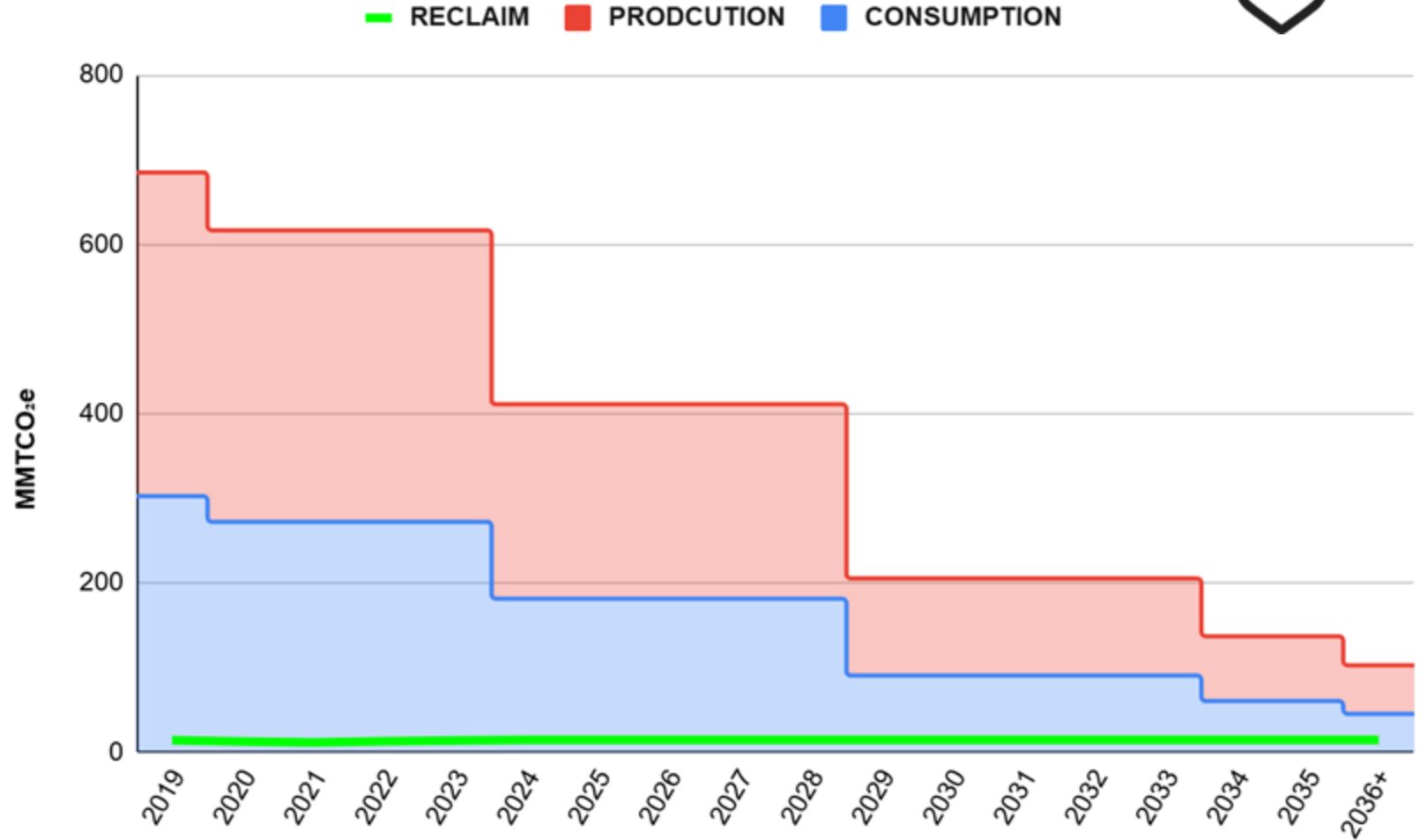
# GWP Comparison



AIM

# Allocations & Reclaims

PHASE DOWN



<https://www.epa.gov/section608/summary-refrigerant-reclamation-trends>









# Where Is It All Headed?





ER&R

# Emission Reduction & Reclamation

 <b>Leak Repair</b> Suite of leak repair provisions for certain refrigerant-containing appliances, including ensuring that applicable leak rates are not exceeded	 <b>Automatic Leak Detection</b> Certain new and existing appliances must install and use ALD systems
 <b>Reclamation Standard</b> Reclaimed HFC refrigerants can contain no more than 15% virgin HFCs, by weight and must be labeled	 <b>Service/Repair with Reclaim</b> Servicing and/or repair of refrigerant-containing equipment must be done with reclaimed HFCs in supermarket systems, refrigerated transport, and automatic commercial ice makers
 <b>Disposable Cylinders</b> Removal of HFCs from certain disposable cylinders prior to discarding them	 <b>Recordkeeping, Reporting, and Labeling</b> For certain provisions



ER&R

# Leak Rate System Size Reduction

	608 ≥ 50 lbs	→	AIM ≥ 15 lbs
INDUSTRIAL PROCESS	30%		30%
COMMERCIAL	20%		20%
COMFORT COOLING REF TRANSPORT & OTHER	10%		10%

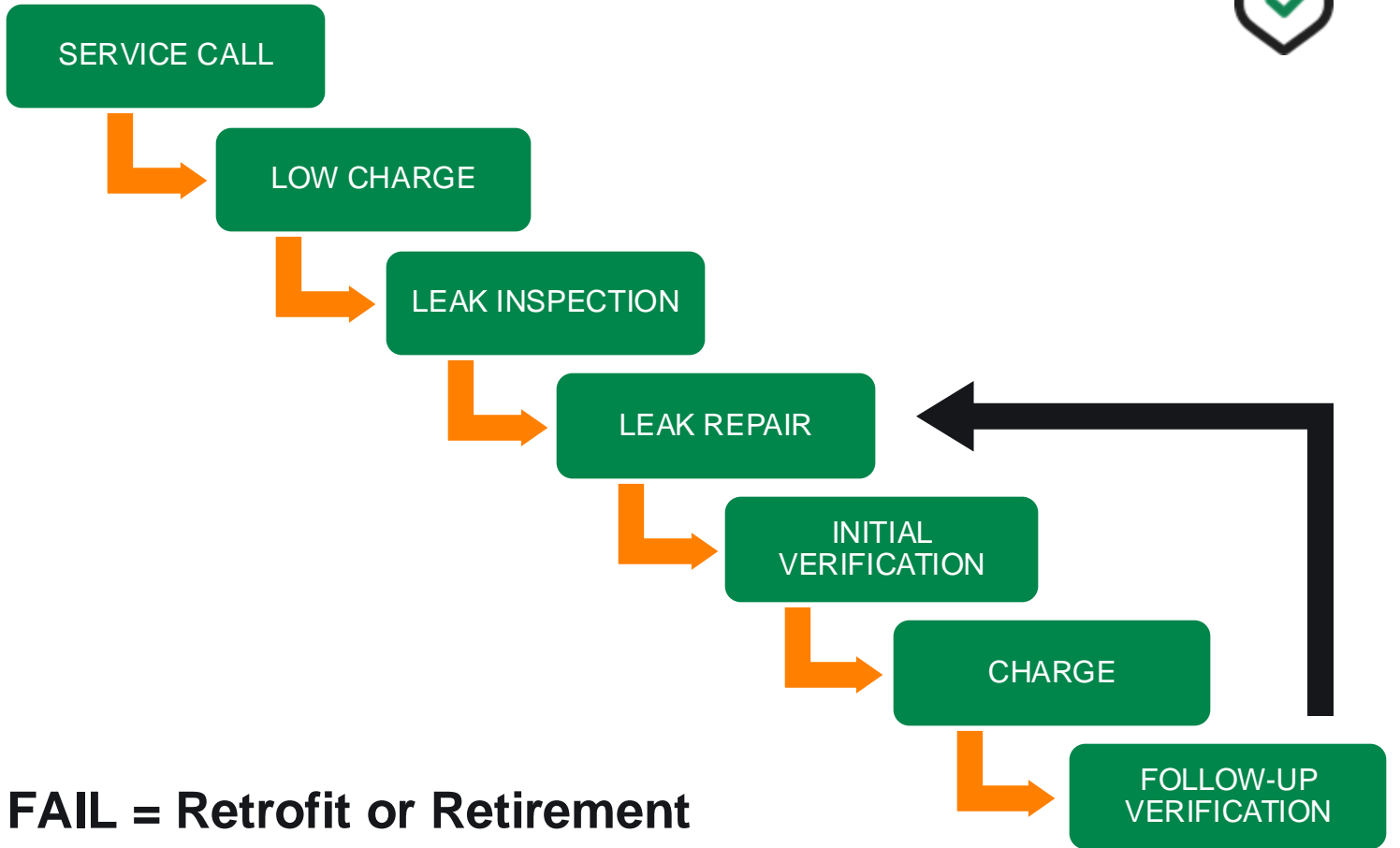
Begins: Jan 1, 2026

Excludes residential & light commercial & GWP(AIM) <53

AIM

# Leak Repair Inspection

**≥15 lbs**



**FAIL = Retrofit or Retirement**

Begins: Jan 1, 2026  
Excludes residential & light commercial & GWP(AIM) <53



# ER&R ALDs

## ALD (AUTOMATIC LEAK DETECTION) SYSTEMS

INSTALL DATE	COMPLIANCE
NEW INSTALL (w/i 30 days)	JAN 1, 2026
EXISTING (after Jan 1, 2017)	JAN 1, 2027

APPLICATION: Commercial & IPR > 1,500 lbs HFC (GWP(AIM) >53)

ALDs can also be used to alleviate the quarterly or annual inspections on previously leaking systems.



ER&R

# Reclaim Use Requirement

## RECLAIM USE REQUIREMENTS

### REQUIREMENT

### COMPLIANCE

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RECLAIM = 15% OR LESS VIRGIN

JAN 1, 2026

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### RECLAIM USE REQUIREMENT

- Supermarket Systems
- Refrigerated Transport
- Auto Commercial Ice Makers

JAN 1, 2029





## DISPOSABLE CYLINDER REQUIREMENTS

ER&R

# Disposable Cylinders

### REQUIREMENT

### COMPLIANCE

SEND FOR EVAC TO QUALIFIED:

- RECLAIMER
- FINAL PROCESSOR
- SCRAP RECYCLER
- WHOLESALER / SUPPLIER

JAN 1, 2028

OR

CERTIFIED TECH RECOVERY TO 15" Hg\*

*\*Requires signed certification statement by the technician including Technician's Name, Address, Date & Statement of Evacuation sent along with the disposable to its destination.*



# State Highlights

California & New York



# California

<b>SALE &amp; USE BAN</b>	<b>GWP (AR4 -100 yr)</b>	<b>EXAMPLES</b>
NOW (2025)	>2,200	R-404a / 507
2030	>1,500	R-410a / 407a,c,f / 452a
2033	>750	R-134a / 449a / 448a

Reclaimed refrigerant is exempt from the sale & use ban.  
State owned / operated equipment = reclaim or GWP <750

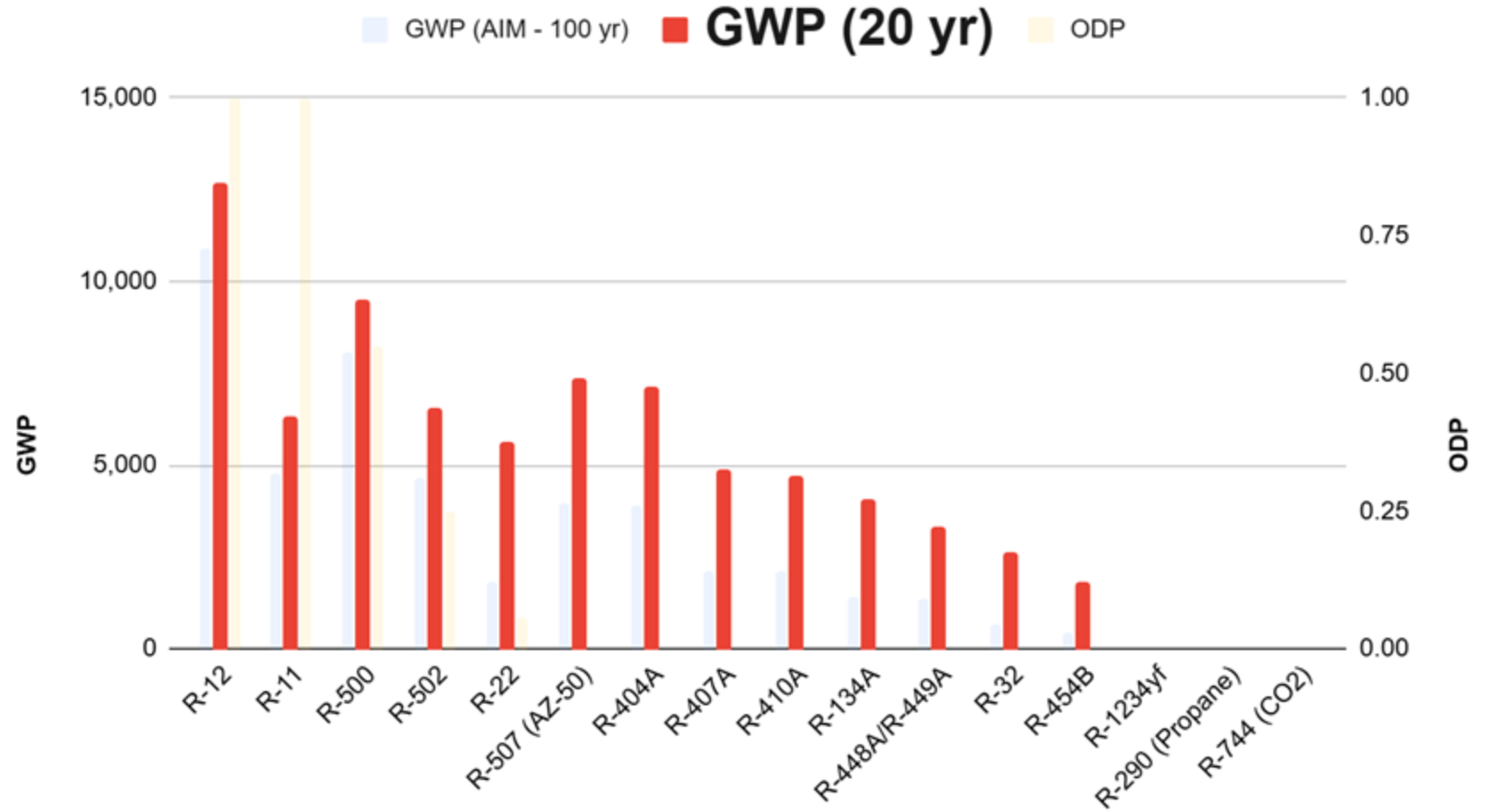


# NY Leak Rate Details

EQUIPMENT TYPE	LEAK RATE
Packaged A/C or Refrigeration Equipment	2%
Field-charged A/C Equipment	10%
Field-charged Refrigeration Equipment	20%
Split A/C ( $\leq 2$ Internal Connections)	2%
Split A/C (3-9 Internal Connections)	6%
Split A/C ( $\geq 10$ Internal Connections)	10%

$$\text{ROLLING AVG} = \left[ \frac{\text{LBS ADDED IN THE LAST 365 DAYS}}{\text{LBS FULL CHARGE}} \right] \times 100$$

# NEW YORK GWP 20 Comparison





# New York

WHEN	GWP (20 or 100 yr)	WHAT
2026	< 580 (20)	>50 lb (supermarket & remote condensing)
2026	< 943 (20)	< 50 lb
2026 - 2034	< 700 (100)	ALL
2034	< 10 (20)	ALL residential & light commercial, supermarket, remote condensing, low & med temp stand alone, vending & cold storage warehouses

Reclaimed refrigerant can be used for service.



# Reclaim Supply

Without a dramatic increase in recovery, reclaim cannot meet service demand.

Higher GWP gasses: R-404a / R-507



# The “Who” Is YOU!

Documentation is **KEY**

“If you can’t prove it – you didn’t do it!”



## TELEPHONE GAME

# Lost in Translation



# The Oversharer

ACCOUNTING SYSTEM:

A TALE OF TELLING TOO MUCH



# EPA ENFORCEMENT MANDATE

# It Can Happen To You



## Office of Enforcement and Compliance Assurance (OECA)

“For the first time, we will focus enforcement and compliance resources on mitigating climate change...”

“OECA selected a new initiative that would focus on mitigating climate change by reducing noncompliance with the Clean Air Act and the American Innovation and Manufacturing Act.”

“OECA will strategically deploy its criminal and civil enforcement resources in each initiative, in ways that OECA has not done before, to hold polluters accountable, reduce noncompliance with environmental laws and protect communities from environmental harm.”

“OECA will reduce harmful HFC emissions through criminal and civil enforcement of the AIM Act.”



# Profits in the AtmosFear

REVENUE  
OPPORTUNITIES

**Expert  
Knowledge**



REVENUE  
OPPORTUNITIES

# Equipment Upgrades



REVENUE  
OPPORTUNITIES

# Leak Repair / Inspection



REVENUE  
OPPORTUNITIES

# Automation Leak Detection



## Step 1

*The Multi-Zone detects a leak.*

## Step 2

*The Parasense Platform alerts the facility managers.*

## Step 3

*A technician pinpoints the leak with the PGM-IR, enabling a fast repair.*





COST SAVINGS  
MEASURES

# Zero Sum Tracking



INITIAL INVENTORY  
+  
PURCHASED REFRIGERANT

-

CHARGE EVENTS  
+  
ENDING INVENTORY

---

**ZERO**

COST SAVINGS  
MEASURES

**Purchase =  
Sold**



COST SAVINGS  
MEASURES

# Use Gas Value



COST SAVINGS  
MEASURES

# Audit Cost



COST SAVINGS  
MEASURES

# Violation Cost



COST SAVINGS  
MEASURES

# Tech Time



The image displays the FMHERO software interface on both a laptop and a smartphone. The laptop screen shows a 'Location Summary' page with tabs for 'Location Information', 'Asset Details', 'Nearby Facilities', and 'FSOs'. Under 'Asset Details', there is a table of 'Equipment Assets (2)'. Below the table is a satellite map with a location marker '2'. At the bottom, it shows 'Cylinder Assets (0)'. The smartphone screen shows a 'Details' view for a specific asset, including fields for Make, Model, Serial Number, Operational Status, Refrigerant Type, and Field Charge, along with an 'Add Service' button and a 'Completed Services' section.

ID	Last Serviced	Make	Model	Serial #	Refrigerant type	Refrigerant Charge	Multi Circuit
1		SAMSUNG	ARI2TSFYBWKN	3LCWAM210S	R-410A	0lb	
2		TOSHIBA	RAC-WK1011ESCWU	3406894	R-410A	2.4lb	

**Details**

Make: ADMIRAL  
Model: Dhk7392  
Serial Number: 748297  
Operational Status: Normal Operation  
Refrigerant Type: R-134A  
Field Charge: 20 lb

Buttons: Add Service, Add Asset, Done



# Review



# Q&A