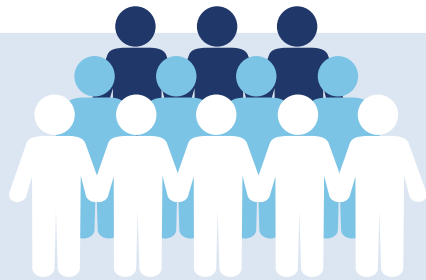


About NASRC

A 501c3 nonprofit working to create a sustainable future for supermarket refrigeration by removing barriers to natural refrigerant adoption.




200+
member
companies



55K+
food retail
locations



Goals

-  Build a sustainable technician workforce
-  Increase funding for natural refrigerant equipment
-  Improve technology options, education, and awareness

What are Natural Refrigerants?

CO_2

R744
Carbon Dioxide

C_3H_8

R290
Propane

NH_3

R717
Ammonia

ALL MEMBERS

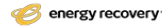
TITANIUM



PLATINUM



GOLD



SILVER



HFC Transition Drivers



**Refrigerant
Regulations**



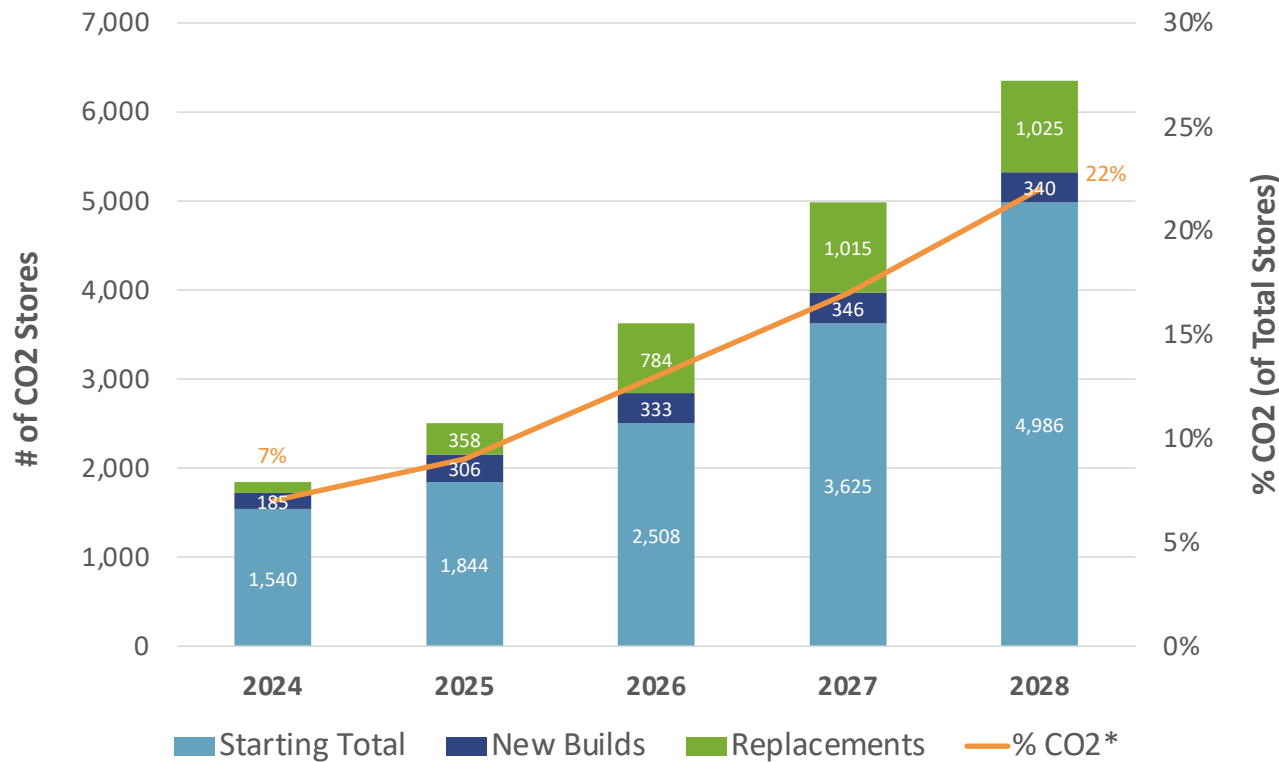
**Refrigerant
Costs**



**Corporate
Climate Targets**



Projected Count of U.S. CO2 Stores (2024-28)



* % CO2 = Projected CO2 stores divided by projected total store count for respondents ONLY

** Growth in CO2 stores represents respondents ONLY

*Based on survey data from
14 food retail companies
representing nearly 28,000
U.S. store locations.*

**312% projected
growth in U.S. CO2
stores by 2028****



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Food Retail - A3 and CO2 Applications

Ultra-low GWP Solutions	Considerations & Benefits
CO2 (R744) Condensing Units	<ul style="list-style-type: none"> ➤ Capacity range from small format, convenience store to large supermarket ➤ Ideal for modular or phased remodel approach ➤ Cost barrier (3-5X traditional HFC)
Propane (R290) Monoblocks	<ul style="list-style-type: none"> ➤ Potential for efficiency gains ➤ Best application for walk-in coolers and freezers
CO2 (R744) Transcritical System	<ul style="list-style-type: none"> ➤ Most common architecture for food retail globally ➤ "Future-Proof" investment ➤ Potential for energy penalty
CO2 (R744) Secondary System	<ul style="list-style-type: none"> ➤ More cost-effective approach ➤ Less intensive remodel, maintains current rack ➤ Flexibility for primary refrigerant
Propane (R290) Air-Cooled or Micro-distributed System	<ul style="list-style-type: none"> ➤ Range of energy performance ➤ Increased charge from 150g to 300-500g ➤ Can allow flexibility in store layout and remodel phasing



F-Gas Reduction Incentive Program (FRIP)

Goals

- Reduce hydrofluorocarbons (HFCs) emission
- Alleviate barriers to adopting ultra-low-global warming potential (GWP) refrigeration equipment
- Prioritize facilities in disadvantaged and low-income communities, small businesses, & independent facilities

Program Highlights

- [Funding Guidelines](#) and [Addendums](#)
- Application portal: www.FRIPfunding.com
- First come, first served. Apply by Dec 15, 2025



Sector	Funding
Commercial and industrial refrigeration	\$38.5M



FRIP Program Status

COMMERCIAL AND INDUSTRIAL REFRIGERATION: Incentive Awards, Climate Impact, and Project Highlights

Incentive awards from the California Air Resources Board (CARB) F-gas Reduction Incentive Program (FRIP) for the installation of climate-friendly, ultra-low-global warming potential (GWP) refrigerant technologies in existing California-based commercial and industrial refrigeration facilities.

Number of
Projects Awarded

29

Total
Incentive Award

\$7M

Total MTCO₂e
Emissions Reduced

220K

% of Projects in
Priority Communities

76%

\$/MTCO₂e

\$32



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FRIP Awarded Projects

AWARDED PROJECTS

Priority Communities:

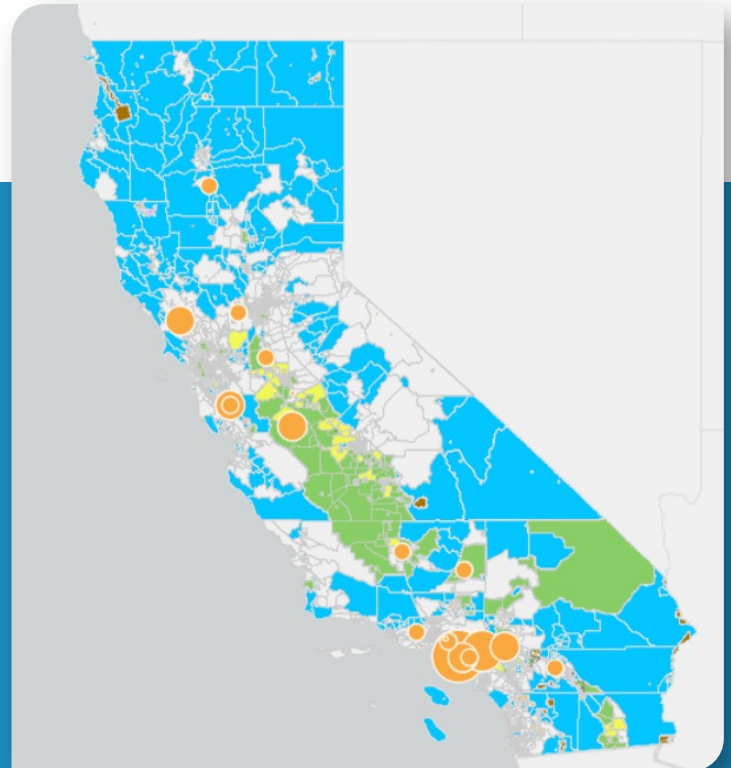
Disadvantaged community - yellow shading

Low-income community - blue shading

Low-income & disadvantaged community - green shading

Awarded Projects:

Each orange circle represents an awarded project. The bigger the circle, the larger the project's estimated greenhouse gas (GHG) reductions.



TRADER JOE'S



UNFI
BETTER FOOD. BETTER FUTURE.



GROCERYOUTLET
bargain market



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FRIP Project Trends

Retail Food Refrigeration

\$4,561,664
Grant \$'s Awarded

95,276
GHG Reduction (MTCO₂e)

Industrial Process Refrigeration

\$612,000
Grant \$'s Awarded

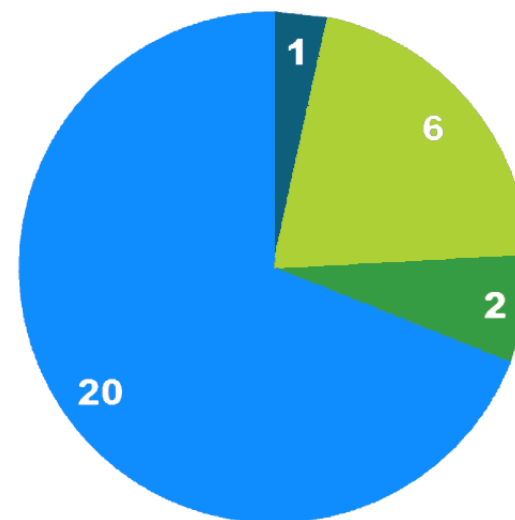
8,707
GHG Reduction (MTCO₂e)

Cold Storage and Other Refrigeration

\$1,874,630
Grant \$'s Awarded

116,510
GHG Reduction (MTCO₂e)

Ultra-low-GWP Refrigerants Used



- R-1234yf
- R-290 (Propane)
- R-717 (Ammonia)
- R-744 (Carbon Dioxide)



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R-TRADE

(Refrigeration Technician Recruitment,
Advancement, Development and Education)



R-TRADE

Powered by NASRC



**NASRC's comprehensive workforce development program to
build a sustainable and skilled technician workforce**

Build a robust pipeline of refrigeration technician candidates

Increase access to comprehensive training on advanced refrigeration technologies

Increase the number of existing technicians who remain in the refrigeration trade

FOUNDING PARTNERS



nasrc.org/r-trade



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R-TRADE Solutions



Recruit

Build a robust pipeline of refrigeration technician candidates

HVACR Faculty "Train-the-Trainer" Program

Equipment Access for HVACR Schools

Student Recruiting & Career Campaign

HVACR Work-Based Learning Program

Train

Increase access to comprehensive training on advanced refrigeration technologies

Natural Refrigerant Training Summits

Natural Refrigerant Training Workshops

On-Demand Training Series

On-Demand Troubleshooting Series

Retain

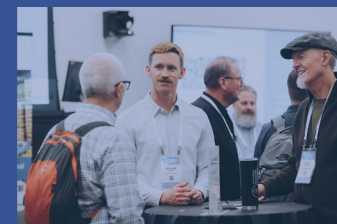
Increase the number of existing technicians who remain in the refrigeration trade

Best Practices Guideline

Technology Guideline

Managerial Training

On-Going Survey and Data Collection



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CARB FRIP WFD Program

Phase I Activities

RECRUIT

1. HVACR Faculty Training
2. Equipment Access Network for Schools
3. HVACR Student Recruitment

TRAIN

4. Technician Training Summits
5. Technician Training Workshop
6. On-Demand Training Video Series
7. On-Demand Troubleshooting Video Series



Up to \$3M funding for Workforce Development



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2025-26 Training Schedule

Event & Dates	Location	Co-Host
Training Summit November 4 – 6, 2025	Concord, CA	UA Local 342
Training Workshop December 4 – 5, 2025	Stockton, CA	PG&E
Training Summit April 21 – 23, 2026	Irwindale, CA	SCE

Training Summits to include HVACR Student Career Fairs



nasrc.org/training



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Actions for Utilities

1. Drive Energy Efficiency

- Best opportunity to influence savings

2. Leverage TSB

- Incentivize refrigeration and electric benefits

3. Support Technician Training

- Accelerate successful adoption

Site	Ref. Benefits	Electric Benefits	Total System Benefits
1	\$258,000	\$88,000	\$346,000
2	\$271,000	\$176,000	\$447,000
3	\$496,000	\$264,000	\$760,000

\$1,553,000 Total TSB!



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Thank you!

Danielle Wright

Executive Director

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Disclaimer: The information in this slide deck is not intended to and does not constitute regulatory or legal advice.

