



Refrigerant Banking: A Different Kind of Asset Management

June 15, 2022

Today's Host



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Kersey has worked in various sectors before coming to the U.S. Environmental Protection Agency (EPA). Most recently, he worked for 3.5 years at the California Air Resources Board implementing an incentive program for cleaner agricultural equipment and ensuring that Cap-and-Trade incentive programs benefitted disadvantaged communities. Prior to that, he worked with state agencies to plan hydrogen fueling infrastructure for fuel cell electric vehicles. He holds a Bachelor of Science (BS) in Mechanical Engineering, a BS in Materials Science & Engineering, a Masters of Science (MS), and a PhD in Environmental Engineering, all from the University of California, Irvine.

Questions and Webinar Feedback

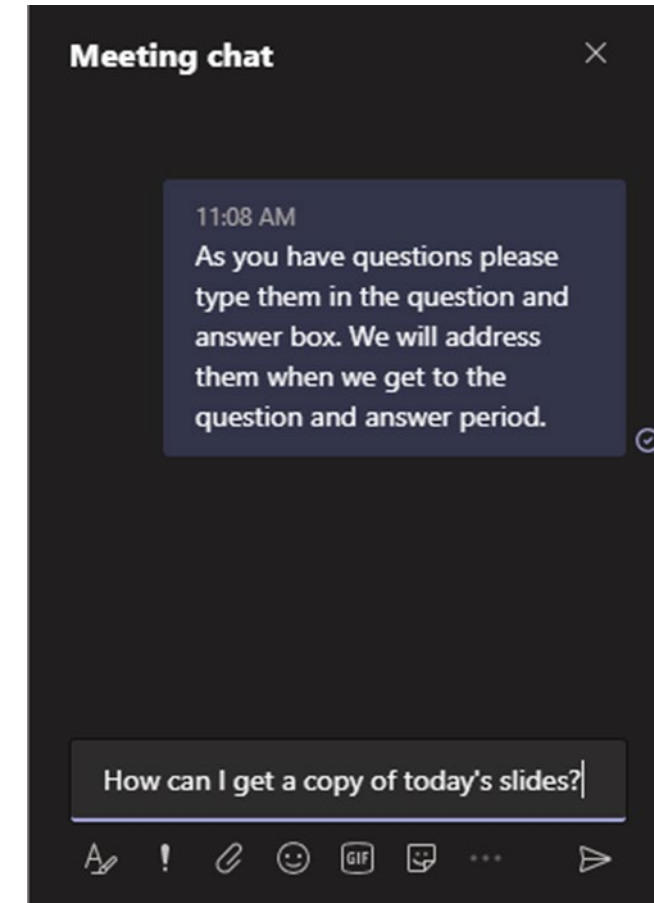


Question and Answer Session

- Participants are muted
- Questions will be moderated at the end
- To ask a question, enter your comment into the chat box

Feedback Form

- We value your input!
- The link to a feedback form will appear in the chat window





Recording and Slides

- Webinar is being recorded
- Materials will be posted on the GreenChill website under Events and Webinars: www.epa.gov/greenchill
- To receive notification when materials are posted email: EPA-GreenChill@abtassoc.com

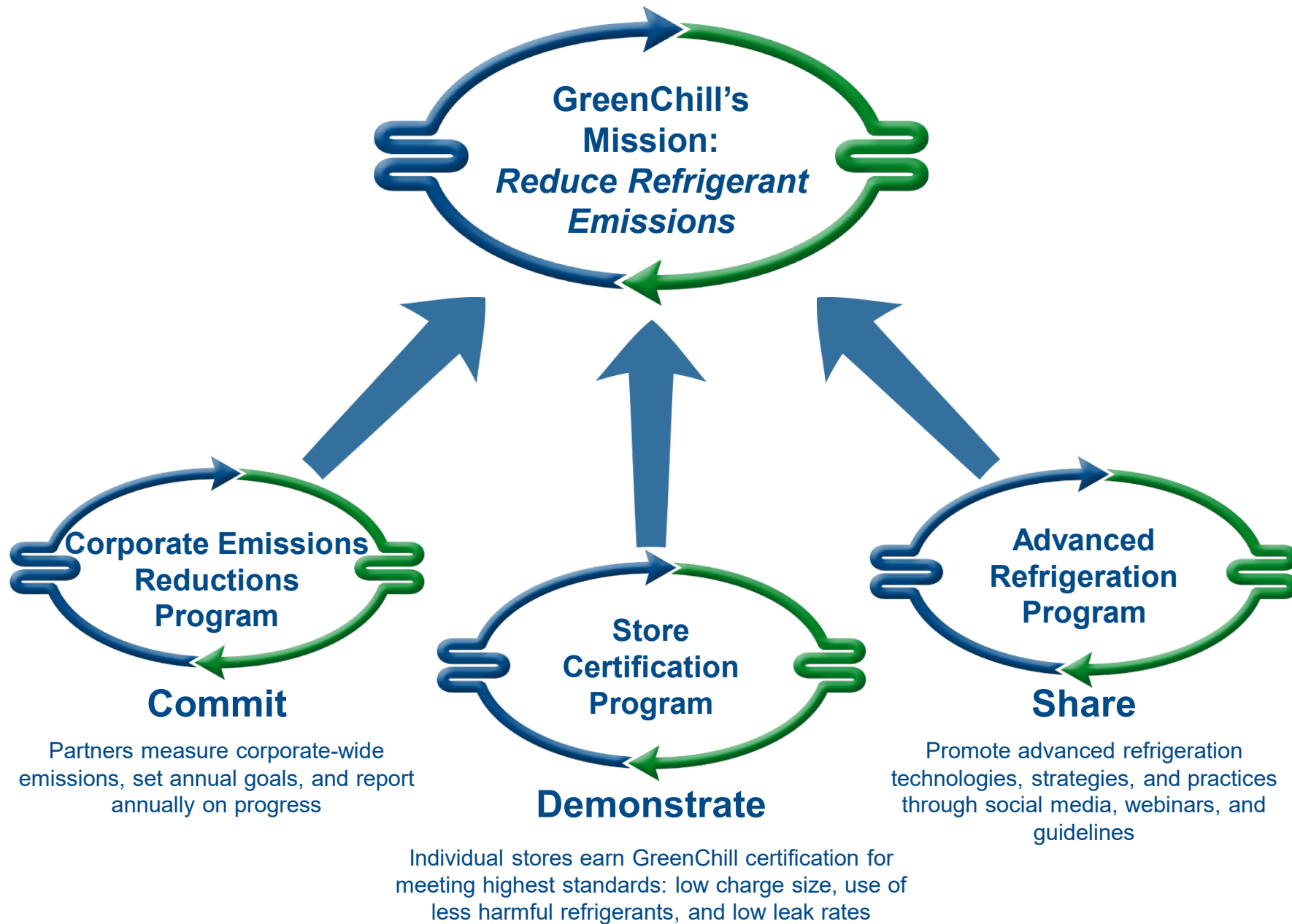


www.epa.gov/greenchill

GreenChill is a voluntary partnership program that works collaboratively with the food retail industry to reduce refrigerant emission and decrease stores' impact on the ozone layer and climate system

GreenChill works to help food retailers:

- Lower refrigerant charge sizes and eliminate leaks
- Transition to environmentally friendlier refrigerants
- Adopt green refrigeration technologies and best environmental practices



Upcoming GreenChill Webinars



- **July 12 at 1 PM Eastern: Exploring the True Cost of Refrigerant Leaks and Proactive Solutions**
 - This webinar will feature presenters from the North American Sustainable Refrigeration Council (NASRC) and a refrigeration consultant. Reducing refrigerant leaks is critical for food retailers to successfully navigate the phasedown of hydrofluorocarbons (HFC) refrigerants. In this webinar, NASRC will highlight its retailer-led effort to identify the top leak issues, strategies to assess costs, and the solutions to proactively reduce leaks over the lifespan of the refrigeration system.
- To be added to our webinar invitation list, email EPA-GreenChill@abtassoc.com

Celebrating 15 Years of GreenChill



2022 is the 15th anniversary of GreenChill!

- 15th anniversary report later this year
- Explore GreenChill's Partner accomplishment page
- Email greenchill@epa.gov if you have ideas on how to celebrate!

Partnership Accomplishments

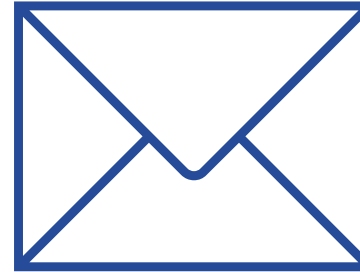


Each year GreenChill Partner companies share data on the amount of refrigerant contained in their systems and the amount of refrigerant leaked from those systems. These data demonstrate that GreenChill Partners generate environmental and economic benefits by transitioning to environmentally friendlier refrigerants, reducing the amount of refrigerant used by stores, eliminating refrigerant leaks, adopting green refrigeration technologies, and implementing environmental best practices.

[Refrigerant Types](#) [Using Less Refrigerant](#) [Reducing Emissions](#) [Saving Money](#)

www.epa.gov/greenchill/partnership-accomplishments

Learn More



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Today's Speaker...

Joe Pellecchia



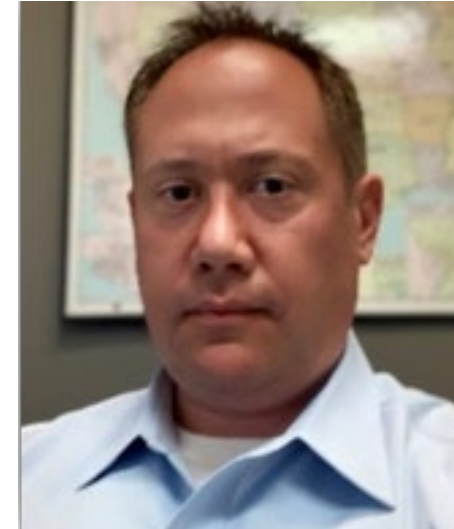
Joe Pellecchia

Vice President (VP) Sales & Marketing

National Refrigerants

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Joe grew up in the heating, ventilation, and air conditioning (HVAC) business and started his career over 23 years ago as an outside salesperson with an HVAC contractor in Connecticut. Joe has a BS in Food Marketing from St. Joseph's University. Upon graduating Joe joined an industry leading wholesale heating, ventilation, air conditioning, and refrigeration (HVACR) distributor as a sales representative. In 2004, Joe moved into a Business Unit Manager role where he led the Foodservice Equipment Business Unit. Joe has been with National Refrigerants as VP of Sales and Marketing for over four years.



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Presented by:
Joe Pellecchia – VP Sales & Marketing
June 15, 2022



NATIONAL REFRIGERANTS, INC.

Founded: 1983

Headquarters: Philadelphia, Pennsylvania

Plant Location: Rosenhayn, New Jersey

UK Plant: Hinckley, Leicestershire, England

- National Refrigerants, Inc. (NRI) independent worldwide distributor of refrigerants, glycol and lubricants
- Air Conditioning, Heating, and Refrigeration Institute (AHRI) Certified Laboratory on site in Rosenhayn, New Jersey
- EPA Certified Reclaimer since 1993
- Banking program started in early 1990s



PRODUCTS OFFERED

Refrigerants

- HFC, Hydrochlorofluorocarbons (HCFC), Chlorofluorocarbon (CFC)
- Hydrocarbons
- Hydrofluoro Olefin (HFO)

Propylene Glycol

- Various blends 35%–96% inhibited with or without dye

Lubricants

- Mineral, Alkybenzene and Polyolester Oils
- Vacuum Pump Oil
- Solest Specialty Polyolester Oils



SERVICES



- Refrigerant & Oil Analysis
- Cylinder Refurbishing
- Recovery Cylinders
- International Organization for Standardisation (ISO) Leasing
- Refrigerant Reclamation and Banking



American Innovation and Manufacturing (AIM) Act

NOW



PHASE DOWN

United States Cap on HFCs
Allocation system

SUPPLY

FUTURE



TECHNOLOGY TRANSITIONS

Sector Based Controls
Significant New Alternatives
Policy Program restrictions
Global warming potential (GWP)
limit new equipment

USE



REFRIGERANT MANAGEMENT



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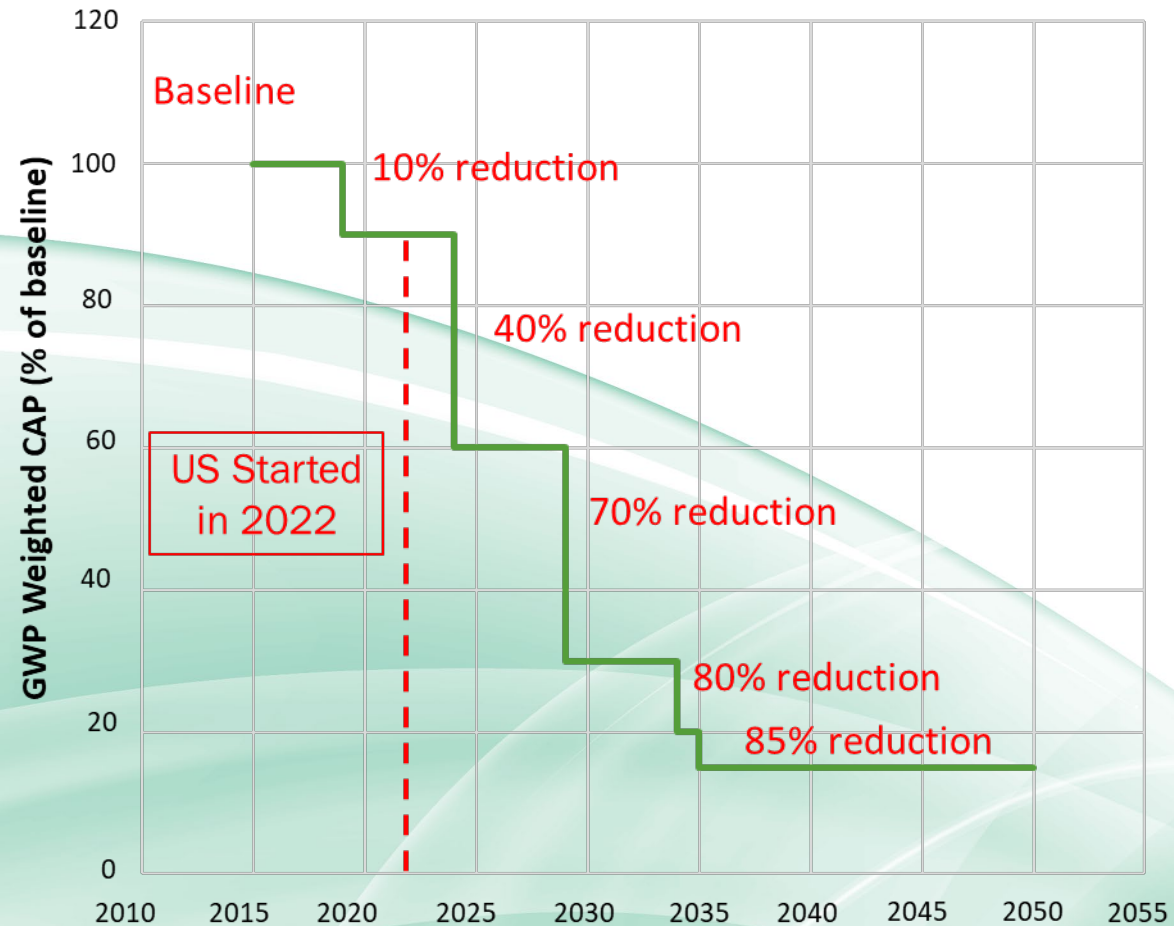
AIM Act HFC Phasedown

AIM Act

HFC Phasedown Schedule as % of Baseline

Year	% of Cap
2019*	90%
2022**	90%
2024	60%
2029	30%
2036	15%

* Start date for developed countries
 ** US start date



US Baseline (Cap) = 303 million metric tons (MMT) Carbon Dioxide Equivalent (CO₂e)

Current US demand = 342MMT CO₂e

Sectors affected:

- HVACR
- Foam
- Fire suppression
- Medical
- Aerosols



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AIM Act HFC Phasedown



PRESERVE SUPPLY



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Refrigerant Management — Reclaim



Recover: To remove refrigerant in any condition from an appliance and store it in an external container without necessarily testing or processing it in any way.

Recycle: To extract refrigerant from an appliance and clean refrigerant for reuse without meeting all of the requirements for reclamation.

Reclaim: To reprocess refrigerant to at least the purity specified in the AHRI Standard 700 Specifications for Fluorocarbon Refrigerants, and to verify this purity using the analytical methodology prescribed in the Standard. Requires specialized equipment.

IMPORTANT...

EPA restricts the resale of used refrigerant to a new owner, unless it has been reclaimed by an EPA-certified refrigerant reclaimer.



Advantages of Refrigerant Banking

- ✓ Customer retains ownership of the asset
- ✓ Reduced refrigerant costs
- ✓ AHRI 700 Quality Guaranteed – “Good as new!”

Avoid issues re-using recovered only refrigerant:

Mixed refrigerants
Fractionation
Excessive Moisture
Non-Condensables

- ✓ Flexibility to use the refrigerant where and when needed
- ✓ Integral part of successful refrigerant management



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Refrigerant Banking Process

- Acceptable recovery cylinder sizes:
 - > 125 pound (lb.)
 - > 1000 lb.
- Recovered refrigerant is returned to the wholesaler and shipped back to National Refrigerants for processing
- Each cylinder is weighed and receipt logged into our banking system
- Each cylinder is analyzed by the laboratory to determine if it meets NRI's recovered refrigerant Acceptance Specifications
- Contaminant weight (ex. oil) deducted from gross recovered refrigerant weight
- Recovered refrigerant processed to AHRI 700 standard
- Reclaimed refrigerant credited to the bank account



Refrigerant Banking Highlights

DEPOSIT

- **Initial deposit** of recovered refrigerant to open bank account
- **Minimum balance** required
- **Recovered refrigerant** must meet NRI's Acceptance Specifications
- **Repurification fee** charged upon deposit; storage fee billed monthly
- **Withdrawals** are available at over 390 locations in the USA
- **Available** in the contiguous USA
- **Monthly statement** issued including all withdrawals and deposits... also available electronically via a banking portal



Refrigerant Banking Highlights

WITHDRAWAL PROCESS



Customer requests withdrawal



Customer picks up refrigerant at an authorized wholesaler

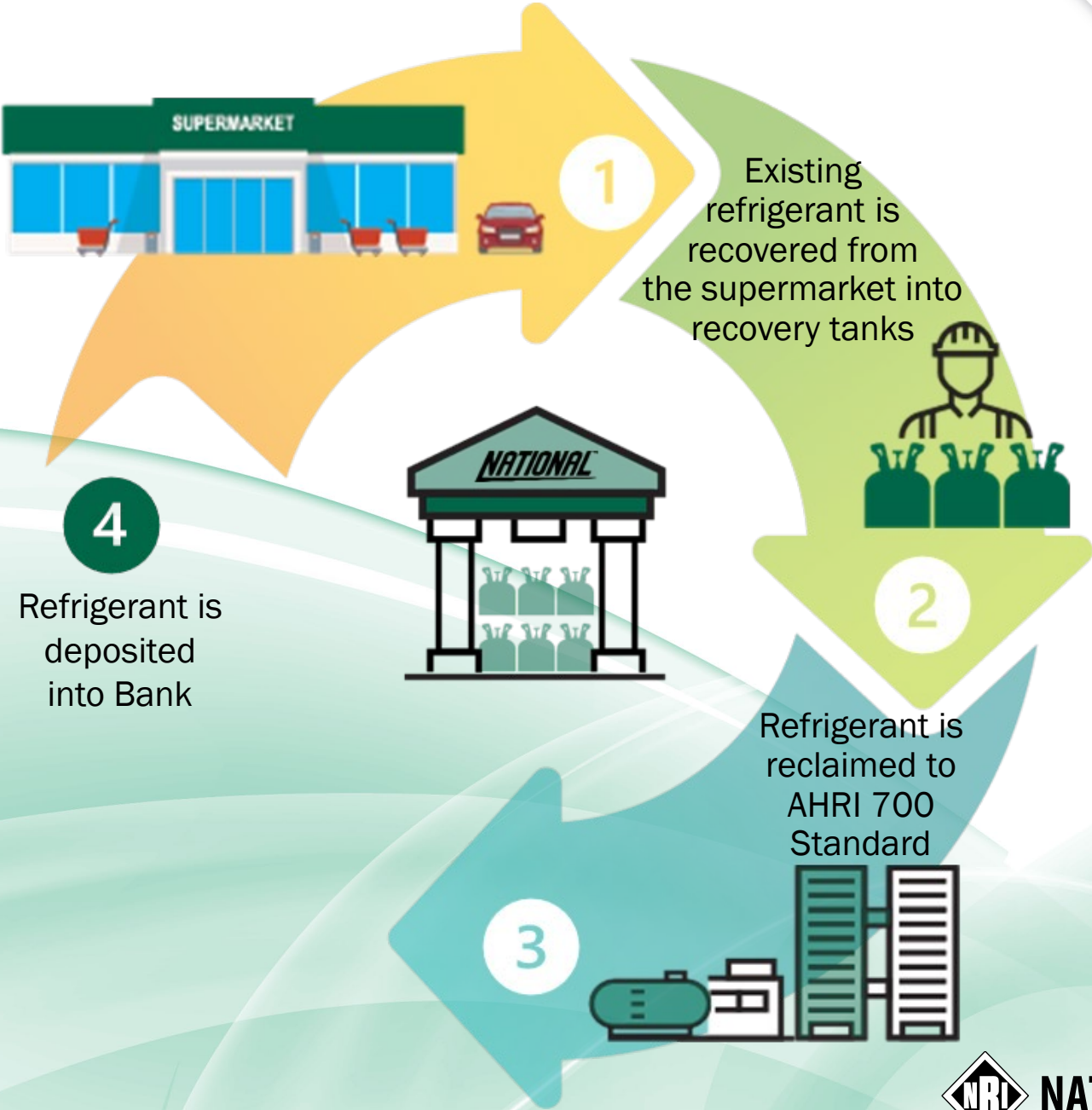


Withdrawal from bank account is recorded.

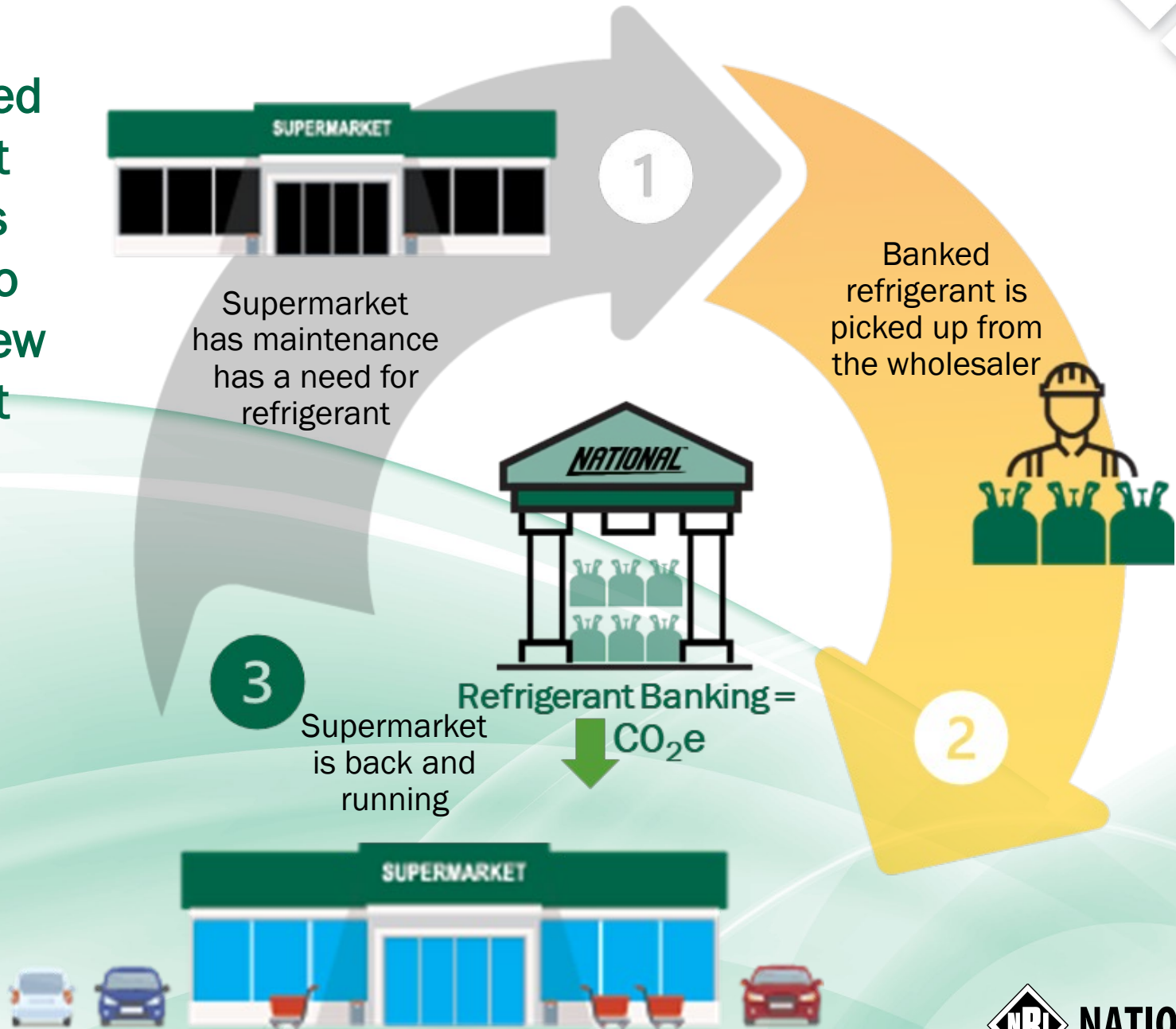


NATIONAL REFRIGERANTS, INC.

Supermarket retrofitting to a lower GWP Refrigerant



Using banked refrigerant eliminates the need to purchase new refrigerant



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Benefits of Refrigerant Banking

A Different Kind of Asset Management

- ✓ Reclaim and store higher GWP refrigerants from systems they are retrofitted or decommissioned
- ✓ Existing stores can be serviced using banked refrigerant
- ✓ As HFC's are phased down, the retailer can rely on banked refrigerant to continue servicing systems
- ✓ Banked refrigerant can be accessed independent of current market pricing



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NATIONALTM

For more information please contact National:
800-262-0012

BANKING@REFRIGERANTS.COM



NATIONAL REFRIGERANTS, INC.

Contacts and Upcoming Webinars



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GreenChill Contacts

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Upcoming Events

Date	Webinar Topic
7/12/22	Exploring the True Cost of Refrigerant Leaks and Proactive Solutions

Join our webinar invitation list or request today's slides: EPA-GreenChill@abtassoc.com

Access past webinar slides: www.epa.gov/greenchill/events-and-webinars