



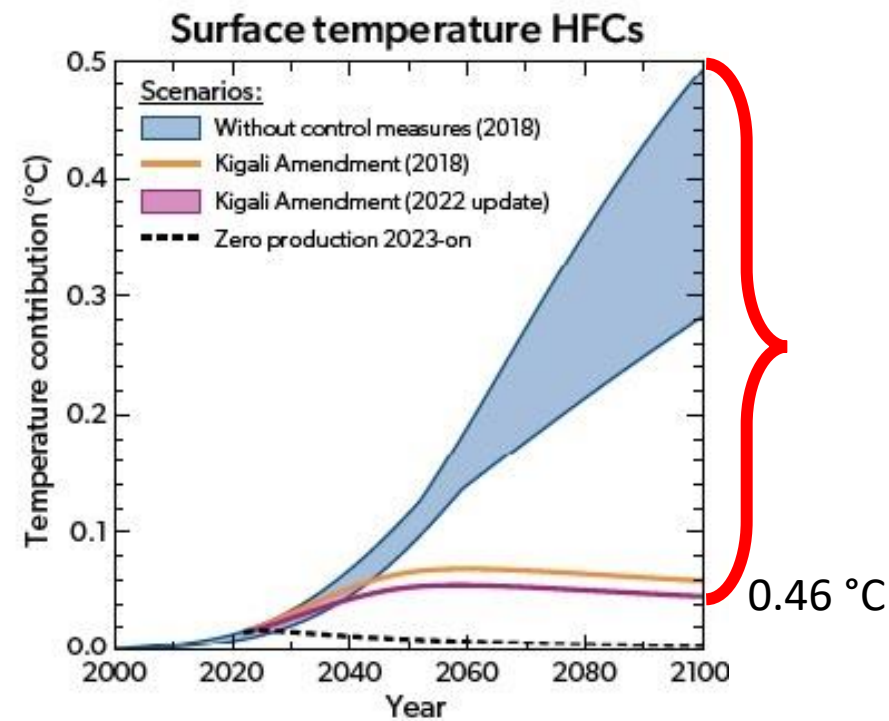
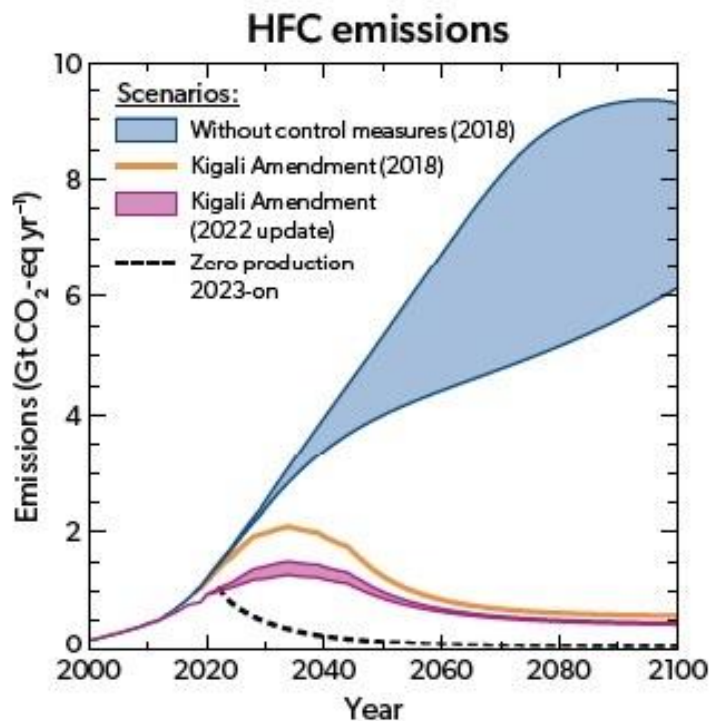
# **INFLATION REDUCTION ACT AIM ACT HFC RECLAIM AND DESTRUCTION GRANTS (SEC. 60109)**

Reclaim Listening Session

April 11, 2023

# A global HFC phasedown is expected to avoid up to 0.5 °C of global warming by 2100

- HFCs are used as replacements for ozone-depleting substances (ODS) in refrigeration, air conditioning, foam blowing, aerosols, and fire suppression
- HFCs are climate-damaging greenhouse gases with global warming potentials (GWPs) hundreds to thousands of times higher than carbon dioxide (CO<sub>2</sub>)
- Absent effective regulations, HFC use and emissions are expected to continue increasing rapidly worldwide



WMO Scientific Assessment of Ozone Depletion: 2022, GAW Report No. 278, Figure ES-4

# Today's Agenda



- Welcome and Opening Remarks (*Cindy Newberg, Director, Stratospheric Protection Division*)
- Logistics (*James Casey, Stratospheric Protection Division*)
- Opportunities for Input (*Annie Kee, Stratospheric Protection Division*)
- Inflation Reduction Act and the American Innovation and Manufacturing (AIM) Act Grants
- Hydrofluorocarbons (HFCs) and the AIM Act
- HFC Reclamation and Destruction
- Typical EPA Grants Process
- Discussion Questions

# Webinar Logistics

Unless called to speak,  
please keep your  
speaker on **MUTE**

- If joining by phone unmute by entering **\*6**

During Q&A session

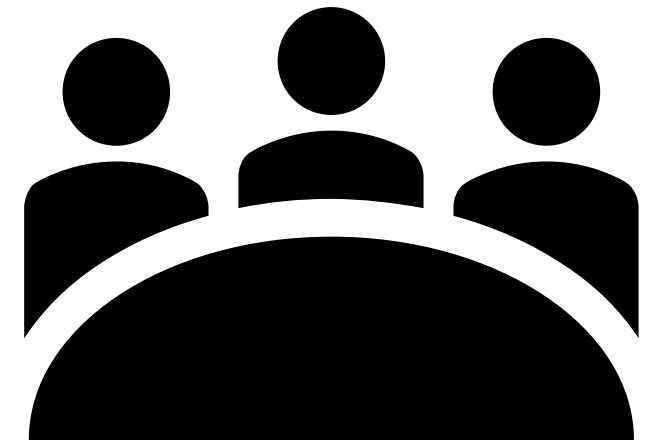
- Raise your **HAND** to ask to speak 
- Open **CHAT** to submit questions or ask to speak 
- Please indicate your **NAME** and **AFFILIATION**
- Please be mindful of time to allow others opportunity to ask questions or speak

If your internet  
connection is unstable

- Turning off your **VIDEO** might help

# Opportunities for Input

- EPA Inflation Reduction Act listening sessions - [www.epa.gov/inflation-reduction-act](https://www.epa.gov/inflation-reduction-act)
- Closed non-regulatory docket (EPA-HQ-OAR-2022-0877)
- Two listening sessions to obtain initial feedback
  - **Reclaim listening session: April 11**
  - Destruction listening session: April 13



# Overview of the Inflation Reduction Act

- **Inflation Reduction Act of 2022** makes historic investments in climate action, air quality and environmental justice
  - Expected to reduce U.S. greenhouse gas emissions ~40% by 2030 while supporting disadvantaged communities and clean energy

Climate Pollution  
Reduction Grants



Methane Emissions  
Reduction Program



Funding for  
American Innovation  
and Manufacturing Act



Transportation  
Programs



Funding to Address  
Air Pollution



Low Emission  
Electricity Program  
and Greenhouse Gas  
Corporate Reporting



# AIM Act Grants under the Inflation Reduction Act

- **Sec. 60109** provides \$38.5 million to carry out implementation of and compliance with the AIM Act
  - Of this funding, \$15 million is for competitive grants for reclaim and innovative destruction technologies

*\$15,000,000, to remain available until September 30, 2026, for competitive grants for reclaim and innovative destruction technologies under subsections (a) through (i) and subsection (k) of section 103 of division S of Public Law 116-260 (42 U.S.C. 7675)*



# What are HFCs?

- Hydrofluorocarbons (HFCs) are potent greenhouse gases intentionally developed as replacements for ozone-depleting substances (ODS) in the refrigeration, air conditioning, aerosols, fire suppression, and foam blowing sectors
- HFCs have global warming potentials (GWPs) that can be hundreds to thousands of times greater than CO<sub>2</sub>
- HFC use is growing worldwide due to the phaseout of ODS and increasing use of refrigeration and air-conditioning equipment globally

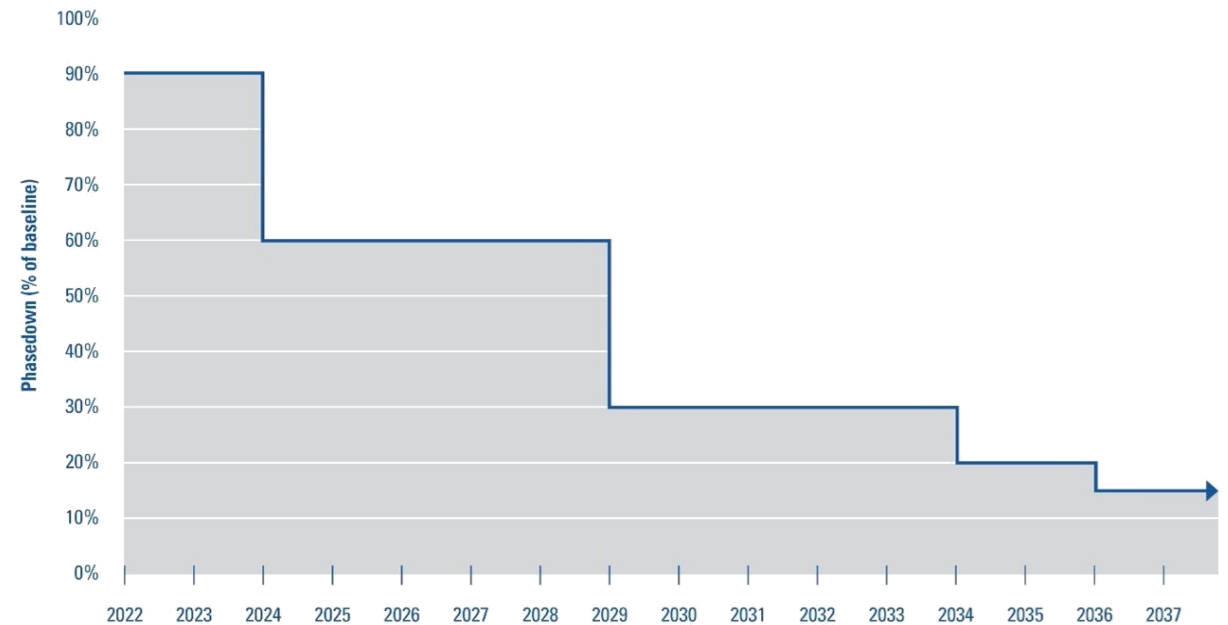




# The AIM Act

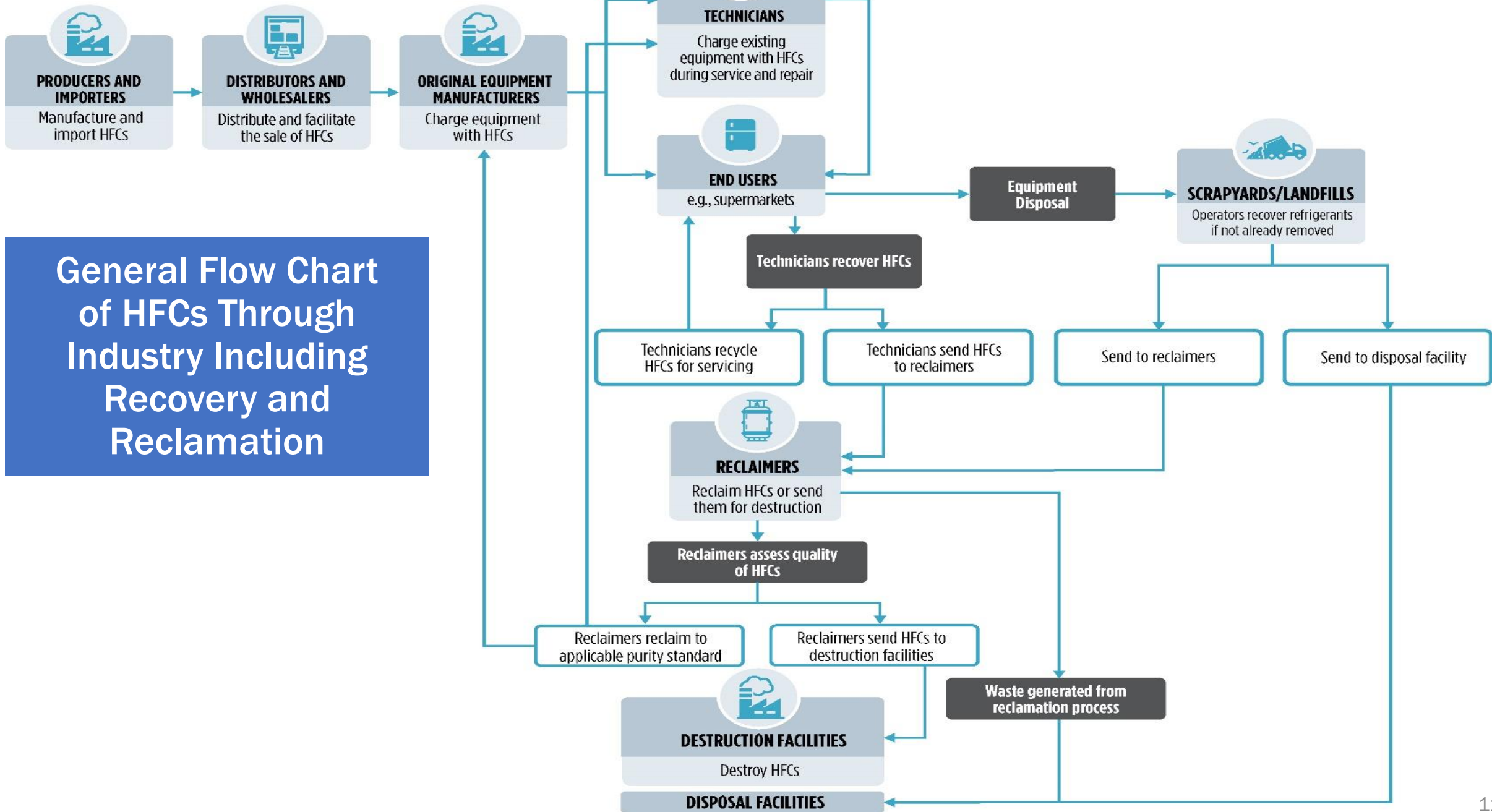
- The American Innovation and Manufacturing (AIM) Act was enacted by Congress on December 27, 2020
  - Phases down HFC production and consumption by 85% by 2036
- A global HFC phasedown is expected to avoid up to 0.5°C of global warming by 2100

In 2024, the United States will reduce HFC production and consumption by 40% as compared to historic baseline levels



# HFC Reclamation

- Reclamation involves reprocessing and upgrading recovered substances through such mechanisms as filtering, drying, distillation, and chemical treatment to restore the substance to industry specifications
- Benefits of HFC reclamation
  - Supports a smooth transition to alternatives by bolstering the current supply of HFCs
  - Can minimize disruption of the current capital stock of equipment by allowing its continued use with existing supplies
- Are there regulatory requirements related to HFC reclamation?
  - Existing requirements under CAA Title VI (e.g., Sections 608 and 609) apply to HFCs and substitutes (e.g., HFOs), such as servicing practices, recovery and recycling equipment, and venting prohibition
  - Under the AIM Act, subsection (h) directs EPA to establish regulations to control, where appropriate, practices, processes, or activities regarding the servicing, repair, disposal, or installation of equipment for purposes of:
    - Maximizing the reclamation and minimizing the release of HFCs from equipment
    - Ensuring the safety of technicians and consumers



# HFC Destruction

- Destruction of regulated substances occurs when reuse is not practicable
- Benefits of HFC destruction
  - Destruction ensures unwanted or unusable HFCs are not emitted to the atmosphere where they contribute to climate change
- Are there regulatory requirements related to HFC destruction?
  - Technologies listed in the Table are approved for destruction of regulated substances

All regulated substances except HFC-23 40 CFR §84.29(a)	HFC-23 40 CFR §84.29(b)
Cement kiln	Gaseous/fume oxidation
Gaseous/fume oxidation	Liquid injection incineration
Liquid injection incineration	Reactor cracking
Porous thermal reactor	Rotary kiln incineration
Reactor cracking	Argon plasma arc
Rotary kiln incineration	Nitrogen plasma arc
Argon plasma arc	Chemical reaction with hydrogen and carbon dioxide
Nitrogen plasma arc	Superheated steam reactor
Portable plasma arc	
Chemical reaction with hydrogen and carbon dioxide	
Gas phase catalytic de-halogenation	
Superheated steam reactor	

# Typical EPA Grant Process

1. Review Request for Application (RFA) (will be posted when available)
2. Eligible applicants may apply via [www.grants.gov](http://www.grants.gov)
3. EPA selects applicants based on criteria outlined in the RFA
4. EPA awards grants
5. Recipient project begins
  - Programmatic and financial reporting required

More information and training opportunities are available at [www.epa.gov/grants](http://www.epa.gov/grants)

## EPA Grants



Read the [Frequent Questions about Grants and Coronavirus \(COVID-19\)](#)

Every year, EPA awards more than \$4 billion in funding for grants and other assistance agreements. From small non-profit organizations to large state governments, EPA works to help many visionary organizations achieve their environmental goals. With countless success stories over the years, EPA grants remain a chief tool to protect human health and the environment.

### Application Process



- [How to Register to Apply](#)
- [How to Apply](#)
- [Grantee Forms](#)
- [Competition Resources](#)

### Available Training



### Grant Opportunities



- [Search Grants.gov](#)
- [Regional Grants Information](#)
- [Specific EPA Grant Programs](#)
- [Special Appropriation Act Projects](#)
- [EPA Programs in Assistance Listings \(CFDA\)](#)

### Rules and Policies



### Learn About EPA Grants

- [EPA Grants Overview for Applicants and Recipients](#)
- [EPA's Grants Management Plan](#)

### Key Resources



Join Our Listserv

# Discussion Questions:

- What should EPA consider in designing this grant program for HFC reclaim and innovative destruction technologies?
  - What kinds of activities could qualify? E.g., research, testing, pilot projects?
  - What products could be delivered? E.g., reports, case studies, prototypes?
  - How will results be communicated? E.g., publication, workshop, presentations?
- In what areas could the biggest environmental benefits be achieved?
- How can this grant program address potential cumulative (environmental/health) impacts near reclamation and destruction facilities and advance environmental justice?

# Discussion Questions, cont.

- What can be done to increase reclamation of HFCs through a better understanding of the potential technical and economic barriers?
- What emerging technologies, e.g., mobile reclaim technologies, show promise in addressing potential technical barriers?
- What activities could address economic barriers to increased reclamation?
- What information related to the reclamation industry and current market do you think would be important for EPA's consideration in the design of these grants?



# Conclusion



- Thank you for your input!
- Next steps
  - We will post this presentation on our website  
<https://www.epa.gov/climate-hfcs-reduction/inflation-reduction-act-provisions-aim-act-implementation>
  - We will provide further information as we design the grants
- If you have any questions or additional feedback, please email “AIMActGrants@epa.gov”

