

# The American Innovation and Manufacturing Act

## *Overview*

January 2021

# The AIM Act

- Enacted as part of the Consolidated Appropriations Act, 2021 and signed into law on December 27, 2020
  - Bipartisan support from both House and Senate Committees of Jurisdiction
- Authorizes EPA to phase down HFC production and consumption, restrict HFC uses on a sector-specific basis, and adopt refrigerant management standards, such as for servicing and for reclaim
  - EPA lacked express authority to regulate HFCs under the Clean Air Act
- Complies with the Kigali Amendment to the Montreal Protocol
  - Biden Administration expected to submit agreement to Senate in 2021

# Rationale

- Global markets already beginning to transition out of HFCs
  - The Kigali Amendment to the Montreal Protocol agreed in 2016
- New federal standard protect against unfair trade practices
  - U.S. manufacturers hurt from dumping obsolete products in U.S. markets
- New federal standard also create jobs and stimulate investment
  - Meeting growing global demand for new products made in the United States
- The climate benefits of phasing down HFCs are significant
  - Studies estimate a global HFC phasedown avoids 0.5 C of projected warming

# History

- The United States leads the world in fluorocarbon technologies
  - U.S. companies supported the Montreal Protocol in the 1980s because it helped facilitate transitions into new fluorocarbon technologies
- Past transitions from CFCs, HCFCs, and halons benefitted U.S. companies, workers, and consumers
  - U.S. companies made significant investments in R&D to maintain technology leadership and expand global market share
- U.S. industry began planning for an HFC transition 10+ years ago
  - Investing billions in R&D to produce world-leading innovations in technology

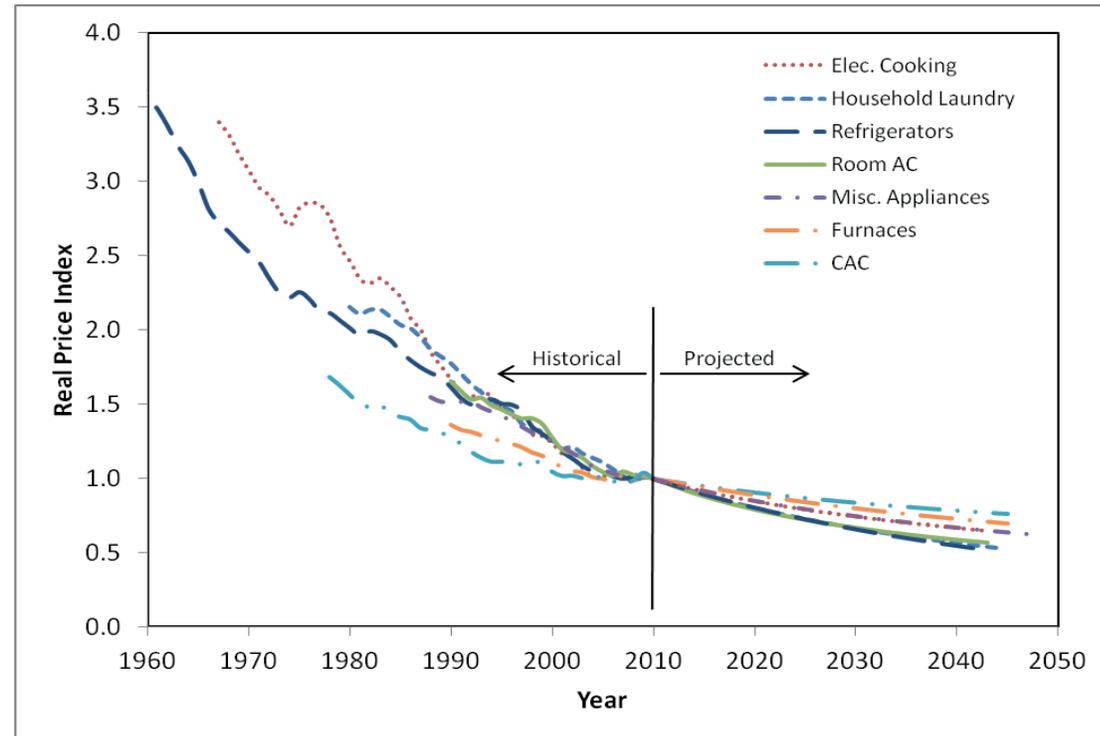
# Economic Benefits

- Increases direct manufacturing jobs by 33K
  - Manufacturing growth translates to incremental 150K jobs economy-wide
- Increases direct manufacturing output by \$12.5 billion
  - Increases total manufacturing output by \$33.8 billion
- Increases U.S. share of global market by 25 percent
  - Exports growing from 7.2 percent to 9.0 percent
- Increases U.S. supply to global HVACR markets by \$5 billion
  - Inhibits growth of old HVACR imports by \$6.5 billion

# Consumer Benefits

- The 30+ year history of the Montreal Protocol shows the industry has used innovation, new technologies, and more sustainable compounds to drive continued reduction of consumer costs.
- Industry innovation, gradual transition schedules, and avoiding impacts on existing equipment owners allowed the industry to accommodate major transition costs over time, minimizing impact on consumer prices.
- Most U.S. major appliance prices have declined over time and are expected to continue to do so.
- Room air conditioners, refrigerators, and central air conditioners have all seen real price declines despite major technology transitions under the Montreal Protocol.

## Historical & Projected Real Price Indices for U.S. Major Appliance Categories



See Desroches, et al. (2018). Historical trends based on the PPI published by the U.S. Bureau of Labor Statistics. Projected trends are experience curve fits to the historical data.

# EPA Authority

- Phase down HFC production and consumption
- Regulate for refrigerant management, coordinating with existing programs involving ODS and ODS substitutes
- Consider sector-based use restrictions, potentially pursuant to the Negotiated Rulemaking Act
- Ensure consistency with global standards

# Structure

- Follows the general architecture of Title VI of the Clean Air Act, but clarifying and streamlining for HFCs
- Provides a discrete grant of authority to EPA that has no precedential value for broader regulatory efforts
- Balances deference to EPA for some program details with explicit statutory guidance for others
- Focuses on economic benefits and does not reference Montreal Protocol, climate change, or other environmental issues

# Features

- HFCs listed by chemical name and assigned an “exchange value” for weighting and other calculations
- EPA can adjust exchange values in light of new scientific data and add unlisted HFCs with exchange values greater than 53
- Exceptions for essential uses, including several mandatory exceptions for five years following enactment
- Feedstocks exempted as per current practice under Title VI
- Accelerated schedule limited to picking up slack in the market

## HFCs

Chemical Name	Common Name	Exchange Value
$\text{CHF}_2\text{CHF}_2$	HFC-134	1100
$\text{CH}_2\text{FCF}_3$	HFC-134a	1430
$\text{CH}_2\text{FCHF}_2$	HFC143	353
$\text{CHF}_2\text{CH}_2\text{CF}_3$	HFC-245fa	1030
$\text{CF}_3\text{CH}_2\text{CF}_2\text{CH}_3$	HFC-365mfc	794
$\text{CF}_3\text{CHF}_2\text{CF}_3$	HFC-227ea	3220
$\text{CH}_2\text{FCF}_2\text{CF}_3$	HFC-236cb	1340
$\text{CHF}_2\text{CHF}_2\text{CF}_3$	HFC-236ea	1370
$\text{CF}_3\text{CH}_2\text{CF}_3$	HFC-236fa	9810
$\text{CH}_2\text{FCF}_2\text{CHF}_2$	HFC-245ca	693
$\text{CF}_3\text{CHFCH}_2\text{CF}_2\text{CF}_3$	HFC-43-10mee	1640
$\text{CH}_2\text{F}_2$	HFC-32	675
$\text{CHF}_2\text{CF}_3$	HFC-125	3500
$\text{CH}_3\text{CF}_3$	HFC-143a	4470
$\text{CH}_3\text{F}$	HFC-41	92
$\text{CH}_2\text{FCH}_2\text{F}$	HFC-152	53
$\text{CH}_3\text{CHF}_2$	HFC-152a	124
$\text{CHF}_3$	HFC-23	14800

# Baseline

Average annual HFC production and consumption in 2011-2013

15 percent HCFC production and consumption in 1989

0.42 percent CFC production and consumption in 1989

# Schedule

Year	Percentage of Baseline
2020-2023	90
2024-2028	60
2029-2033	30
2034-2035	20
2036-	15

# Monitoring & Reporting

- Requires annual reporting on any production, consumption, import, reclaim, destruction, and feedstock usage of HFCs
- Harmonizes with existing reporting requirements to avoid duplication and minimize bureaucratic load

# Phase Down

- Requires EPA to carry out the HFC phase down via an allowance allocating and trading program
  - EPA will issue rules establishing this program and has discretion in terms of number of years an allocation will cover
- Allows trading and transfers of allowances among entities subject to compliance obligations under the Act
  - This attempts to mirror ODS allowance trading and transfer programs
- Authorizes additional production solely for export, at EPA discretion
  - This production still falls under the “cap” created by the phase down

# Other Features

- Refrigerant management programs involving servicing, repair, installation, disposal, and reclaim similar to Title VI
  - EPA authorized to coordinate and harmonize with existing standards to avoid duplication and confusion
- Reclaim required for recovered refrigerants sold to new owner
  - EPA also authorized to consider new opportunities for reclaim
- Sector-based use restrictions subject to consideration of the Negotiated Rulemaking Act
  - EPA retains authority to use regular notice and comment rulemaking