

ET Summit 2021

Presented by



California: Hydrofluorocarbon (HFC) Policy and Regulations

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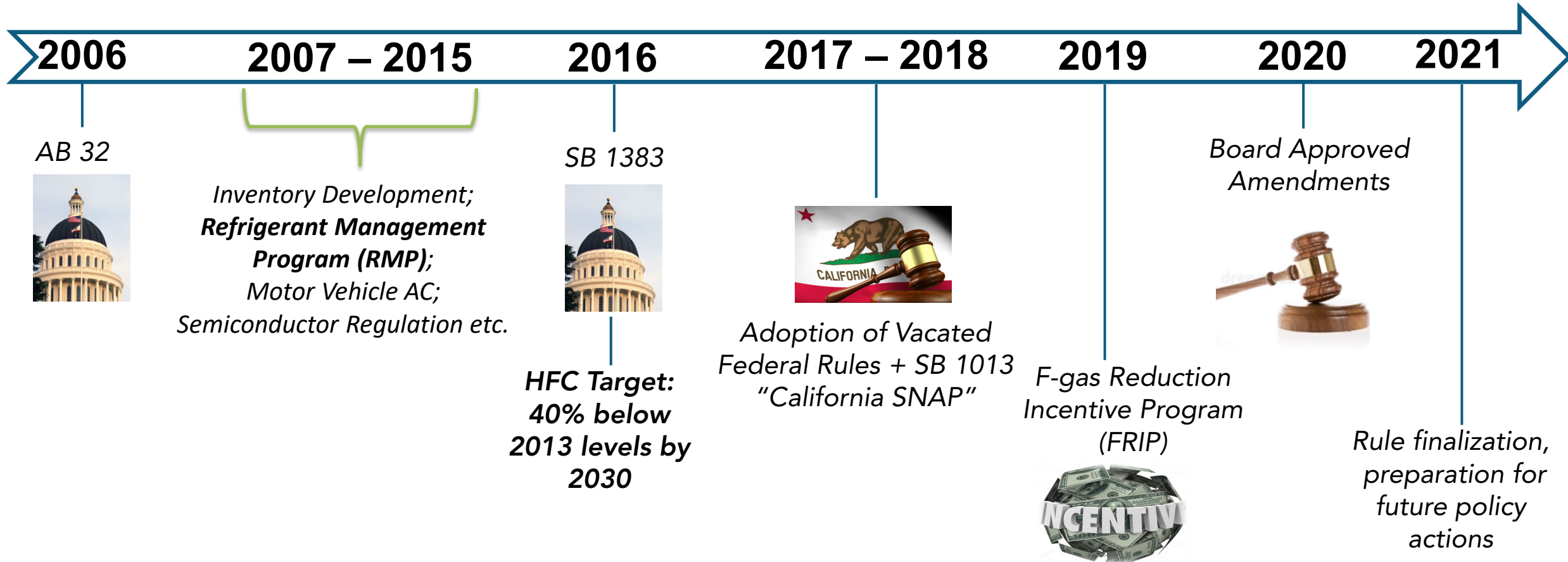
California Air Resources Board

Hydrofluorocarbons (HFCs) are potent Short-Lived Climate Pollutants (SLCP)

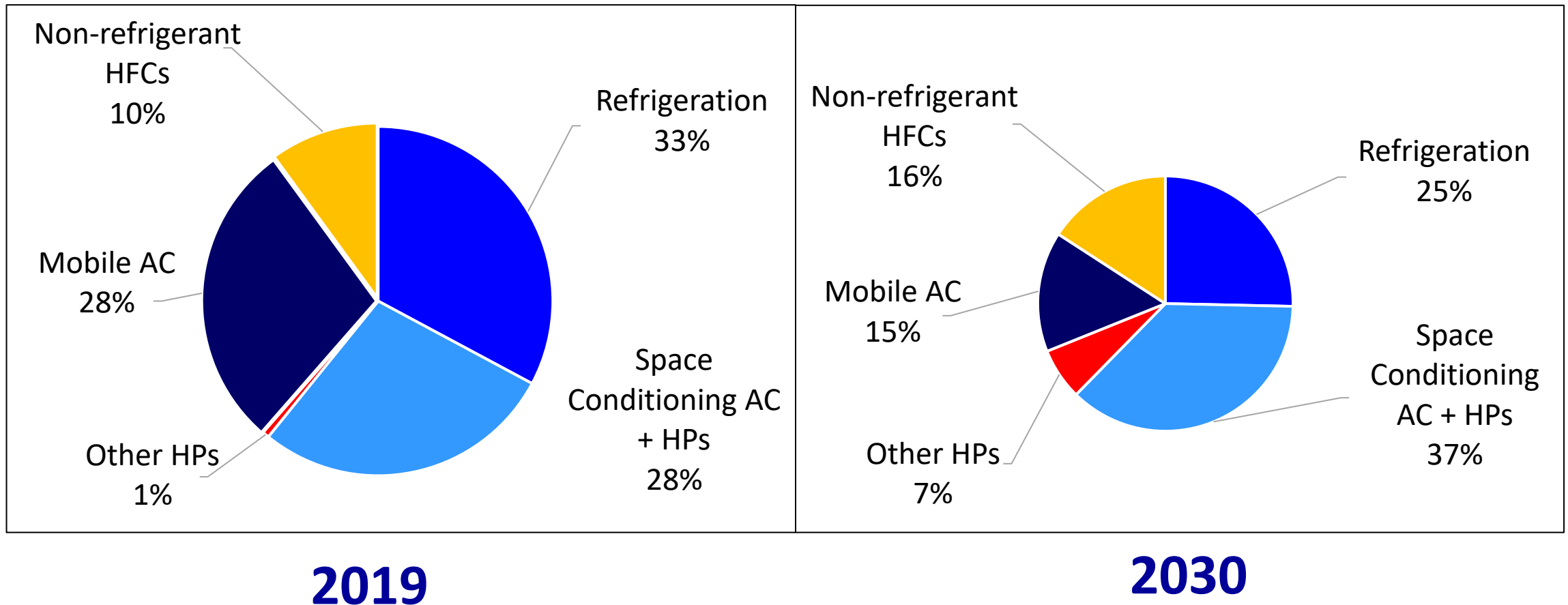
- Commonly used as refrigerants in air conditioning and refrigeration, in foams, as aerosol propellants and for a variety of other uses
- As Climate Change increases, need for cooling increases
- Most HFCs used today have very high GWP values
For example: 1 lb of refrigerant R-507 (GWP 3,985)
= 3,985 lb of CO₂



What is CA doing to reduce HFC Emissions?



Sources of HFC Emissions in California (with current and proposed regulations in place)



Source: CARB F-Gas Inventory, 2019

Proposed HFC Regulation (2020)

Stationary Refrigeration

- New equipment containing more than 50 lb of refrigerant, GWP < 150, starting January 1, 2022 (*>90% reductions per facility*)
- Company-wide reduction targets for supermarkets and grocery stores by 2030 (*>50% reductions statewide*)

Retail & Commercial



Cold Storage



Industrial Process



Proposed HFC Regulation (2020)

Stationary Air-conditioning

- New Equipment, GWP < 750
 - Room AC and other small equipment: January 1, 2023
 - Other residential and commercial AC: January 1, 2025
 - Variable Refrigerant Flow Systems: January 1, 2026

Room ACs + Dehumidifiers



AC Equipment used in Residences



AC Equipment used in Commercial/ Non-residential Buildings



Proposed HFC Regulation (2020) R4 Program

- Refrigerant Recovery, Reclaim and Reuse (R4)
- AC manufacturers to use at least 10% reclaimed high-GWP refrigerant
- First of its kind - promotes end-of-life recovery



Incentives for Low-GWP Refrigerant Technologies

SB 1013

The California Cooling Act

- Established an incentive program for low-GWP refrigerant technologies
- Requires other agencies including the CPUC, CEC and CSD to consider low-GWP refrigerants in existing energy efficiency programs

FRIP

F-gas Reduction Incentive Program

- \$1M allocated from the GGRF in 2019-2020
- Statewide incentive program launched in August 2020, focused on supermarkets
- Partnership with The Emerging Technologies Program

The First Round of FRIP was Successful

Program Metrics

Subscription Rate	22% oversubscribed
Projects	15 (9 new facilities and 6 existing) 13 best available technologies and 2 conventional refrigerant retrofits
Priority populations	~50% projects located in low-income and disadvantaged communities
M&V	100% of projects
Emission Reductions	~38,000 MTCO ₂ e; \$27/MTCO ₂ e

Additional funding and partnership with utilities important for climate goals

Achieving California's short and long-term Climate Goals

- GWP limits for new sources like heat pumps
- Tighten limits for existing sources
- Enhance recovery, reclaim and reuse

Regulations

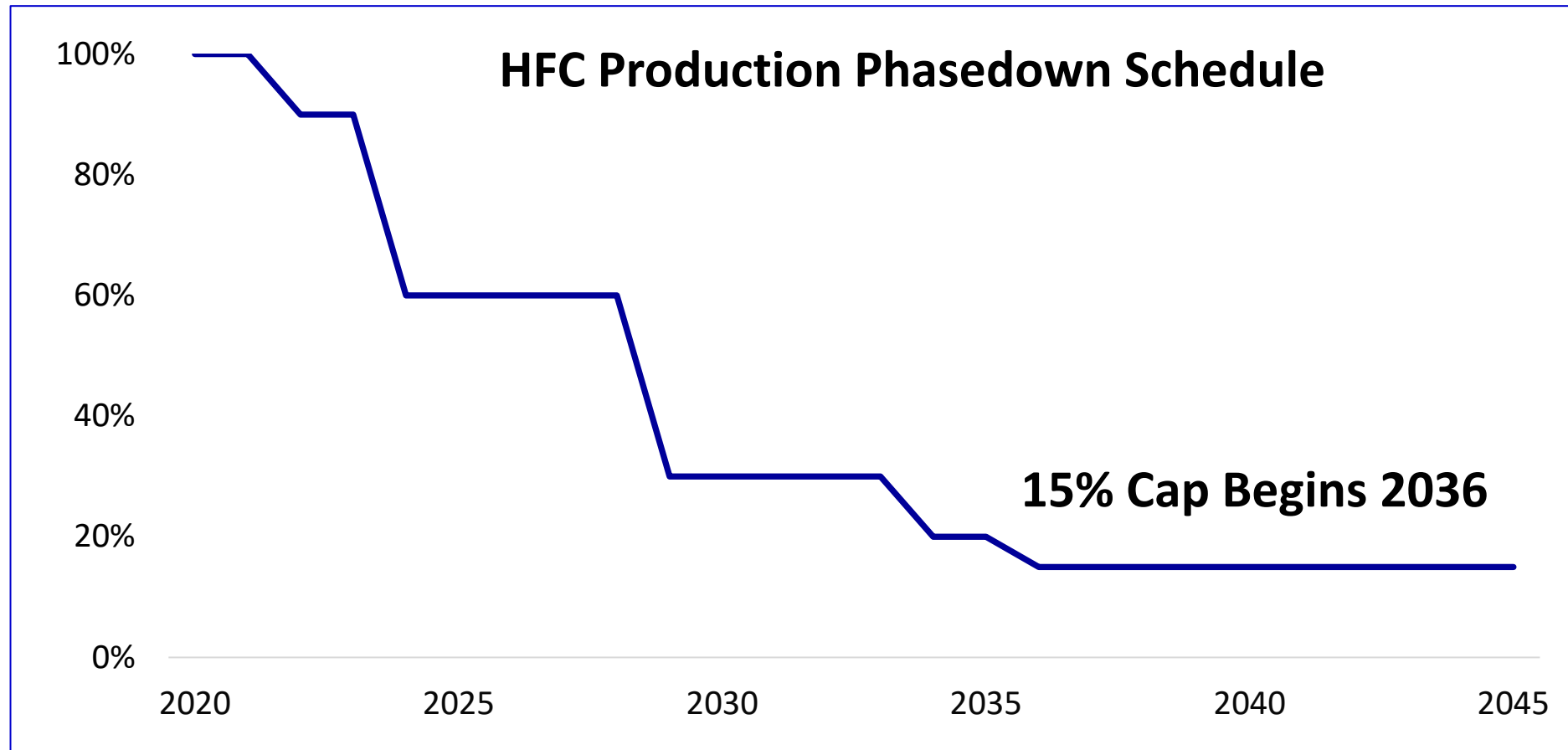


- Overcome barriers for ultra-low-GWP technologies
- Partner to maximize incentives, broaden the reach
- Assist low-income and disadvantaged communities

Incentives



National Action on HFCs: American Innovation and Manufacturing (AIM) Act 2020



Thank you

Subscribe to the HFC listserv for updates:

https://public.govdelivery.com/accounts/CARB/subscriber/new?topic_id=hfc-measures

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<https://ww2.arb.ca.gov/our-work/programs/stationary-hydrofluorocarbon-reduction-measures>