

LOW GWP REFRIGERANTS

CEDA targets decarbonization and electrification strategies for the built environment. A potential high-performance measure to decarbonize and meet CARB 2030 goals is to provide low GWP refrigerant HVAC systems. This will comply with future California regulations, meet innovative technology and reduce carbon emissions.

What Are Low GWP Refrigerants?

GWP stands for Global Warming Potential, it is a metric used to establish how harmful a refrigerant is to our atmosphere. The lower the value, the less damaging a refrigerant is to the environment if it were to leak out of its housing unit. This measure encourages project teams to select a refrigerant with a “low” GWP value.

California SB1206 prohibits entry into commerce, sale or distribution of HFCs above GWP limits. Beginning at prohibition of 2,200 and above GWP in 2025 and progressively reducing to 750 in 2035.

Common refrigerants range between R-32 and R-513A. Some others that have been mentioned being put into production by manufacturers are CO₂, 1234ze(E) and ammonia.

Qualifications for CEDA Inducements

Projects would need to install equipment with a refrigerant that has a GWP under 750 in alignment with the upcoming SB1260 requirement for 2035.

Not all equipment in the project needs to have low GWP. However, we would recommend adopting in main equipment, HPWH, HVAC, SWH.

Metrics Needed for Inducements from Design Teams

Inducements will be calculated using the Refrigerant Avoided Cost Calculator created by E3. Inducements are based on tons of CO₂ avoided. Inducements may be capped at 70% of incremental costs.

Documentation needed for inducement:

- Equipment type (HPWH, Chiller, AC) and quantity planning to have low GWP refrigerant
- Cutsheet for equipment with the planned Low GWP refrigerant and refrigerant charge of the unit
- Cost of equipment with the Low GWP refrigerant
- Lifetime of equipment, and installation year

Main Refrigerants at Play

The graph below shows the relationship between lower GWP refrigerants values and density (pressure) of main refrigerant groups to when considering capacity needs and products that may meet your project needs.

GWP	> 2500	-	-	R422B/D	R404A	-	-
	< 2500	-	-	R438A R22	R452A R407A/F/H	R410A	-
	< 1500	-	R134a	-	R449A R449B R448A	-	-
	< 750	-	R450A R513A R513B R515A R515B	-	R454A	R32/R452B R454B	-
	< 150	R123 R1336mzz(Z) R514A R1233zd(E)	R516A R1270 R5600a R1234ze/yf	R444B	R454C R455A R290	No LGWP option. Must move to low density	R744/CO ₂ R717/NH ₃
			Vacuum	Low	Medium		High
Density							

Benefits of Adoption

- Decarbonization and meet CARB 2030 goals
- In alignment with SB1206
- Less harmful to the environment
- Using low GWP refrigerants safeguard your long term investment

Challenges or Constraints of Adoption

- Low GWP and high capacity are considered mildly flammable
- Less efficient, more electric use
- Equipment change out (have to upsize equipment for new refrigerant)
- Price increase
- Equipment availability

Contact us today to learn more about these programs and how they can benefit your projects!

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📍 CaliforniaEDA.com



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