

Appendix B: Global Warming Potential (GWP) Standards

Per [Senate Bill 1013](#), the California Cooling Act, which went into effect on January 1, 2019, many traditional refrigerants are prohibited in specific equipment types in California. See chart of some of the relevant CA regulations below. Manufacturers should only sell units that comply with current regulations.

Additionally, based on the Short-Lived Climate Pollutant plan mandated by Senate Bill 1383, the [California Air Resources Board](#) (CARB) is proposing additional measures to reduce emissions of high global warming potential (GWP) refrigerants. There is a strong movement to transition to low-GWP technologies in every sector.

For this grant process, units with the lowest GWP are preferred. Below is guidance for stand-alone units (also known as self-contained, plug in, or plug and play units) commonly used in corner stores:

- Hydrocarbon-based units are the most energy efficient and climate-friendly solution currently on the market for stand-alone units. They typically use R-290 (propane) or R-600 (isobutane) as the refrigerant. These units are approved by the EPA and UL-certified.
- Applicants proposing to purchase units with these refrigerants will receive full points for GWP.
- **Applicants may wish to view [products certified by Energy Star](#), which specifies refrigerant type – or view manufacturers listed as [Energy Star partners](#) that utilize these refrigerants – in order to earn full points for both energy efficiency and GWP.**
- There may also be other products and manufacturers that meet the same criteria. Applicants specifying the type of equipment and whether it meets criteria can receive full points for all qualifying equipment.
- Also allowable are HFC solutions with mid-range GWP such as R-513A and R-450A. These are acceptable choices for applicants but will not receive preferential scoring due to their higher GWP. See [EPA listing](#) of all approved (and prohibited) refrigerants for stand-alone units.

For other types of units, such as mobile carts or refrigerated trucks: applicants must specify the type and explain why it is necessary for their operations. Note that efficiency and emissions standards for refrigerated trucks/Transport Refrigeration Units are being revised by CARB and public workshops will be offered in spring 2019. Interested applicants may wish to sign up for the CARB workshop list via the [website](#) now. Applicants are encouraged to select zero-tailpipe emission technology, such as electric vehicles, and specify this selection in the proposal.

Select regulations for stand-alone units for reference: California adopted US EPA SNAP restrictions from 2016 in [Senate Bill 1013](#). Beginning 2019/2020 the following traditional refrigerants will not be permitted in stand-alone units in California (Source: <https://ww2.arb.ca.gov/resources/fact-sheets/hydrofluorocarbon-hfc-prohibitions-california>):

Stand-Alone Units (Retrofit)	R-404A, R-507A	Unacceptable as of January 1, 2019
Stand-Alone Medium-Temperature Units with a compressor capacity below 2,200 Btu/hour and not containing a flooded evaporator (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	Unacceptable as of January 1, 2019
Stand-Alone Medium-Temperature Units with a compressor capacity equal to or greater than 2,200 Btu/hour and Stand-Alone Medium-Temperature Units containing a flooded evaporator (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03.	Unacceptable as of January 1, 2020
Stand-Alone Low-Temperature (<0°C) Units (New)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	Unacceptable as of January 1, 2020