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Sent: Monday, May 13, 2019 3:21 PM

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Cc: Chiang, Amy <Amy.Chiang@Honeywell.com>; Larissa Martin <lmartin@50-state.com>

Subject: Following up on question re construction industry

Hi, Laura,

We are following up on a question from the Committee about the effect of S. 30's transition dates on the construction industry. Below is a list of foam uses in the construction industry and the low-global-warming potential alternatives that are EPA-approved and commercially available.

1. Extruded polystyrene (XPS) board is used as foundation, roof and siding insulation and sometimes for siding and roofing. Today, XPS uses HFC-134a blowing agent, with a GWP of 1300 times that of carbon dioxide.
 - a. HFO-1234ze(E) is an approved alternative that has a GWP of less than 1.
2. Laminated boardstock is used for roofing and in siding insulation.
 - a. This sector is already using a low-GWP alternative, pentane (GWP of less than 11).
3. Some building panels use foam cores that are currently blown using HFC blowing agents.
 - a. These uses can convert to HFO-1233zd(E) (GWP of 1) or pentane.
4. There are several pour-in-place applications like insulated entry doors and garage doors that use HFC-blown foam.
 - a. Low-GWP alternatives available in this sector are HFOs, hydrocarbons (GWP of 5 or less), or water.
5. One-component and two-component low-pressure spray foam is used for crack sealing and insulation small spaces use HFC-134a. Available low-GWP alternatives are hydrocarbons and HFO-1234ze(E).

A complete list of EPA-approved alternatives for particular sectors is available here:

<https://www.epa.gov/snap/substitutes-foam-blowing-agents>

Jes