

EZASSI SIGNALS

EU F-gas Regulation (EU) 2024/573

Regulatory Signals · September 2026

A Regulatory watch on how fast the EU is closing off fluorinated refrigerants for chillers, data center cooling and heat pumps: placing-on-the-market bans, exemption acts, quota cuts and prices, and how the F-gas timetable interacts with the proposed EU PFAS restriction. Five signals from one cycle.

#	SIGNAL	CONFIDENCE	HORIZON	STATUS
1	2027 Annex IV equipment bans confirmed on schedule; Article 16 exemptions are narrow and specialized, not a broad reprieve for commercial chiller or heat-pump markets	High	Immediate (0–3 months)	Review
2	Two 2026 exemption acts cover different equipment categories — the pattern-watch trigger for a same-class exemption pattern has not fired for chillers, heat pumps, or data-centre cooling	High	Immediate (0–3 months)	Review
3	2027–2029 HFC quota period confirmed as materially tighter and a Q4 2026 cut already reported, yet bulk prices remain near flat — the market has not yet priced the coming supply contraction	Medium	Short-term (3–12 months)	Review
4	SEAC's draft opinion subordinates PFAS refrigerant derogations to the F-gas framework, confirming that PFAS will not be the faster or independently accelerating closure instrument for chillers and heat pumps	Medium	Long-term (1–3 years)	Review
5	Harmonised safety standards for flammable refrigerants converging toward 2027 publication, progressively removing the technical-standards barrier to A2L and A3 adoption across chillers and heat pumps	Medium	Short-term (3–12 months)	Review

Every signal rests on two or more dated events. Confidence is published as a band. Where a signal sits below High, the reasoning names the evidence that is missing. Status says where the evidence stands: Verified, Review, or Inconclusive — we looked, and the evidence does not yet support a firmer call.

SIGNAL 1 OF 5

2027 Annex IV equipment bans confirmed on schedule; Article 16 exemptions are narrow and specialized, not a broad reprieve for commercial chiller or heat-pump markets

HIGH Immediate (0–3 months) · Regulatory Agency Actions · Review

The 1 January 2027 F-gas placing-on-the-market prohibitions for chillers and self-contained heat pumps are legally intact and operationally imminent, while the one confirmed 2026 exemption act targets only semiconductor-manufacturing chillers, leaving mainstream commercial and data-centre cooling equipment exposed to the full ban.

REASONING

This watch asks whether the EU is closing off fluorinated refrigerants faster than the equipment roadmap assumes. The clearest answer available from the evidence is that the statutory timetable has not slipped: Annex IV of Regulation (EU) 2024/573 retains its 1 January 2027 dates with no amendment or delay found in any source. The Commission's own legislation page confirms that Implementing Regulation (EU) 2026/286 grants an exemption exclusively for chillers used in semiconductor manufacturing — a highly specialised industrial use — from 1 January 2027 to 31 December 2029. Commission guidance directly confirms that chillers up to 12 kW containing F-gases at GWP 150 or above and chillers above 12 kW at GWP 750 or above face the January 2027 prohibition. The European Data Centre Association's August 2026 summary reproduces the same thresholds, confirming that the data-centre sector regards these dates as live compliance requirements, not as contingent on further action. The Article 16 exemption mechanism exists and is being used, but the semiconductor-chiller exemption shows the Commission applying it narrowly, to applications where alternatives are genuinely unavailable, not as a general safety valve for mainstream cooling equipment.

PATTERN

Regulation (EU) 2024/573 Annex IV retains 1 January 2027 prohibitions for chillers up to 12 kW (GWP 150+) and above 12 kW (GWP 750+) with no amendment adopted. Commission guidance confirms the 12 kW threshold and date. Commission Implementing Regulation (EU) 2026/286 granted a 2027–2029 exemption only for chillers used in semiconductor manufacturing. EUDCA's August 2026 document reproduces the same chiller thresholds and confirms the data-centre industry is treating them as binding.

IMPLICATION

Equipment manufacturers, data-centre operators, and building-HVAC specifiers cannot plan around a delay. The 1 January 2027 deadline is the operative compliance date for the relevant chiller and heat-pump categories, and the exemption route is demonstrably narrow. Procurement decisions for replacement equipment must be made now if 2027 installation targets are to be met.

RECOMMENDED ACTION

Map all in-scope chiller and heat-pump assets by GWP and capacity against the January 2027 thresholds; identify any that would require an Article 16 exemption (requiring a Member State request and

demonstration of technical unavailability), and begin procurement or derogation documentation immediately for units that cannot be replaced in time.

SOURCES & WHAT THEY SIGNAL

- [Regulation \(EU\) 2024/573 — EUR-Lex OJ text](#) — Primary statutory source confirming the Annex IV 1 January 2027 prohibitions for chillers by capacity and GWP threshold.
- [Regulation \(EU\) 2024/573 — EUR-Lex PDF](#) — Confirms Annex IV timetable and Article 16 exemption conditions including the up-to-four-year limit and labelling requirements.
- [European Commission — F-gas Legislation page](#) — Lists Commission Implementing Regulation (EU) 2026/286 as an exemption for certain chillers used in semiconductor manufacturing, 1 January 2027 through 31 December 2029.
- [European Data Centre Association — F-Gases Regulation update \(August 2026\)](#) — EUDCA reproduces the GWP 150 / 12 kW and GWP 750 / above-12 kW thresholds for 2027, confirming the data-centre sector regards these as live compliance requirements.
- [European Commission — Climate-friendly alternatives for air conditioning](#) — Commission guidance confirming that the 1 January 2027 prohibition applies to stationary chillers up to 12 kW containing F-gases at GWP 150 or above.

SIGNAL 2 OF 5

Two 2026 exemption acts cover different equipment categories — the pattern-watch trigger for a same-class exemption pattern has not fired for chillers, heat pumps, or data-centre cooling

HIGH Immediate (0–3 months) · Regulatory Agency Actions · Review

This watch requires two or more exemption acts on the same equipment class to constitute a signal; both 2026 acts identified target distinct categories — semiconductor-manufacturing chillers and compressed-air-drying equipment — leaving the general chiller and heat-pump market without a repeated exemption pattern.

REASONING

This watch explicitly states: 'One exemption act is a report entry; two or more on the same equipment class is the signal.' The Commission's legislation page lists, as far as public sources as of September 2026 could confirm, two 2026 implementing acts granting exemptions: (EU) 2026/286 for semiconductor-manufacturing chillers and (EU) 2026/1975 for compressed-air-drying equipment. These are categorically distinct. No second exemption act for semiconductor chillers was found in public sources, and no exemption act at all for commercial chillers, self-contained heat pumps, or data-centre cooling equipment was identified. On the basis of the acts identified, the pattern-watch trigger does not appear to have been met, which is itself analytically important: it suggests the Commission is not routinely extending the exemption route to mainstream cooling categories, and that the 2027 bans are expected to bite as written for those applications. The two acts are positively identified and their category difference is verifiable from the Commission's own listing, though whether further 2026 exemption acts exist that were not captured in the sources reviewed could not yet be confirmed.

PATTERN

Commission Implementing Regulation (EU) 2026/286 (11 February 2026) grants exemption for F-gas use in certain chillers used for semiconductor manufacturing. Commission Implementing Regulation (EU) 2026/1975 grants exemption for F-gas use in certain equipment used for drying compressed air; its precise issue date was not independently confirmed in the sources reviewed. Both acts are listed on the same Commission F-gas legislation page, making their distinct equipment categories directly comparable.

IMPLICATION

The absence of a repeated exemption pattern for commercial chiller or heat-pump categories means no regulatory signal identified in public sources indicates these mainstream markets will receive the same relief as semiconductor or industrial-process equipment. Equipment roadmap planning should not assume an analogous exemption is forthcoming for HVAC-R or data-centre cooling based on current evidence.

RECOMMENDED ACTION

Monitor the Commission's F-gas legislation page and the Comitology Register at each review cycle for any new implementing regulation granting an exemption to a chiller or heat-pump category other than semiconductor manufacturing; the moment a second same-class exemption appears, escalate to full review.

SOURCES & WHAT THEY SIGNAL

- [European Commission — F-gas Legislation page](#) — Lists both (EU) 2026/286 (semiconductor-manufacturing chillers) and (EU) 2026/1975 (compressed-air-drying equipment) as 2026 exemption acts, confirming they cover different equipment categories.

SIGNAL 3 OF 5

2027-2029 HFC quota period confirmed as materially tighter and a Q4 2026 cut already reported, yet bulk prices remain near flat — the market has not yet priced the coming supply contraction

MEDIUM Short-term (3-12 months) · Enforcement & Compliance Signals · Review

The Commission has adopted a materially tighter 2027-2029 HFC quota period and a further Q4 2026 allocation reduction has been reported, but bulk prices for R-410A and R-134a through September 2026 remain essentially flat, suggesting the market has not yet absorbed the forward supply shock that coincides with the 2027 equipment bans.

REASONING

This signal rests on a divergence between two sets of confirmed facts: forward supply constraints are tightening materially, while near-term prices are not yet reflecting that. The Commission's Q1 2026 price-monitoring document records year-on-year price declines for R-410A and R-134a, with supply described as broadly stable. Cooling Post's September 2026 report similarly shows only modest quarter-on-quarter changes for the same gases, confirming the price signal remains subdued. Yet Commission Implementing Decision (EU) 2026/1382 has established quota reference values for 2027-2029, and industry sources describe the coming period as representing roughly another halving of the preceding quota envelope — a fundamentally tighter supply ceiling beginning exactly when the Annex IV equipment bans take effect. A separate industry report also indicates that an additional quota reduction for high-GWP refrigerants including R-134a, R-404A, and R-410A has already been introduced for Q4 2026, though the amendment number and exact volume of that cut have not been independently verified. The divergence between stable current prices and confirmed forward supply contraction is the signal: it suggests either front-running stockpiles are masking the squeeze, or the price shock is deferred and will materialise as 2027 approaches and stockpiles clear. Confidence is held at Medium because the specific quota volume for 2027-2029 and the specific price-change figures cited in the source reports have not been independently confirmed, and the Q4 2026 cut report lacks a verified implementing regulation number.

PATTERN

Commission Implementing Decision (EU) 2026/1382 sets HFC quota reference values for 2027-2029. Industry sources Danrens and Koldwerk both describe the 2027-2029 period as representing roughly another halving compared with the preceding period, though the exact volume figure from those sources has not been independently confirmed against the Commission's implementing decision. SectorVantage reports an additional quota reduction for high-GWP refrigerants including R-134a, R-404A, and R-410A introduced for Q4 2026, though the amendment number and effective date require verification against official sources. Commission Q1 2026 monitoring records year-on-year price declines for R-410A and R-134a, with supply described as broadly stable. Cooling Post reports only modest price changes quarter-on-quarter as of September 2026, confirming the price signal remains subdued.

IMPLICATION

If prices remain artificially suppressed by stockpiling through early 2027, equipment buyers may underinvest in accelerated HFO or natural-refrigerant transitions, then face a sharp cost increase and availability crunch

precisely when the Annex IV bans take effect. Procurement teams and project planners should stress-test capital plans against a scenario where HFC bulk prices rise significantly in 2027 as stockpiles clear.

RECOMMENDED ACTION

Monitor Q3 and Q4 2026 Commission price-monitoring equivalents when published; track R-410A and R-134a bulk spot prices monthly beginning October 2026 to detect early signs of a stockpile drawdown and price inflection before the January 2027 ban date. Verify the Q4 2026 quota-cut amendment number and the official 2027-2029 quota volume against Commission Implementing Decision (EU) 2026/1382 directly.

SOURCES & WHAT THEY SIGNAL

- [European Commission — F-gas Legislation page](#) — Lists Commission Implementing Decision (EU) 2026/1382 as the adopted 2027-2029 HFC quota reference value decision, applicable from 1 January 2027.
- [SectorVantage — EU Q4 2026 F-Gas Quota Cut for High-GWP Refrigerants](#) — Reports an additional quota reduction for high-GWP refrigerants including R-134a, R-404A, and R-410A introduced for Q4 2026; amendment number and exact effective date require verification against official sources.
- [European Commission — Monitoring of Refrigerant Prices Q1 2026](#) — Official Commission data showing year-on-year price declines for R-410A and R-134a in Q1 2026, with supply described as broadly stable — the flat-price baseline against which the forward quota contraction is diverging.
- [Cooling Post — European F-gas prices remain stable \(September 2026\)](#) — September 2026 trade-press report confirming only modest quarter-on-quarter price movement for R-134a and R-410A, consistent with the Commission's description of a generally stable market despite confirmed forward supply tightening.
- [Danrens — HVAC Industry Update, September 2026](#) — Industry source describing the 2027-2029 quota period as roughly another halving of the preceding period; specific volume figure not independently confirmed against the Commission decision.
- [Koldwerk — F-gas quota 2027 preparation](#) — Independent industry source corroborating the Danrens characterisation of the 2027-2029 quota as a material further reduction; specific volume figure not independently confirmed.

SIGNAL 4 OF 5

SEAC's draft opinion subordinates PFAS refrigerant derogations to the F-gas framework, confirming that PFAS will not be the faster or independently accelerating closure instrument for chillers and heat pumps

MEDIUM Long-term (1-3 years) · [Regulatory Agency Actions](#) · [Review](#)

SEAC found proposed refrigerant-specific PFAS derogations unjustified as drafted because they could conflict with existing F-gas measures, and instead recommended aligning PFAS derogations with the F-gas prohibition timetable — a design choice that makes the F-gas Regulation the primary and more operationally certain closure instrument.

REASONING

This watch asks which instrument — F-gas bans/quota or the PFAS restriction — is closing off fluorinated refrigerants faster. The SEAC draft opinion, agreed 10 March 2026 and reported on by White & Case in April 2026, provides a direct and important answer: SEAC considered proposed derogations for refrigerant uses — including low-temperature refrigeration, laboratory equipment, refrigerated centrifuges, and HVACR equipment where national standards prohibit alternatives — to be not justified as proposed, specifically because they could conflict with existing F-gas measures. SEAC instead recommended designing derogations to avoid interfering with current and future F-gas prohibitions. This is a structural signal: the PFAS restriction, if and when it reaches final form, is being designed to run parallel to and consistent with the F-gas regime, not to impose an independent, faster phase-out. The Commission's work continues, the Commission proposal and REACH Committee vote are still future steps as of the EPRS briefing of 18 August 2026, and no binding PFAS restriction for refrigerants is yet in force. Confidence is held at Medium because the SEAC position is a draft and final Commission text could differ, but the direction of SEAC's reasoning is unambiguous and procedurally significant.

PATTERN

SEAC draft opinion agreed 10 March 2026. Eurovent reports ECHA published the SEAC draft opinion and opened consultation 26 March to 25 May 2026. White & Case (13 April 2026) reports SEAC found specific refrigerant derogations 'not justified' as proposed because they could conflict with existing F-gas measures, and recommended derogations be designed to prevent the PFAS restriction from interfering with F-gas prohibitions. EPRS briefing (18 August 2026) confirms the Commission proposal and REACH Committee vote remain future steps. Commission July 2026 statement says PFAS restriction work is continuing but no final restriction has been adopted.

IMPLICATION

For monitoring purposes, this means the PFAS restriction is not yet an independent accelerator — it is being shaped to defer to the F-gas timetable. Compliance planning should prioritise the F-gas Annex IV dates as the binding near-term driver, while tracking the PFAS Commission proposal for any derogation terms that might, if broader than expected, leave HFOs in play beyond the F-gas phase-out.

RECOMMENDED ACTION

Watch for the Commission's draft PFAS restriction text — the first document that will show whether SEAC's recommendation for F-gas alignment has been accepted or overridden; specifically check whether any HFO derogation period extends beyond the relevant F-gas Annex IV dates, which would create a window where HFOs remain legal under REACH but banned under F-gas, or vice versa.

SOURCES & WHAT THEY SIGNAL

- [European Commission — Commission advances work on restrictions of hazardous chemical substances \(2 July 2026\)](#) — Commission statement confirming PFAS restriction work is continuing but no final universal restriction has been adopted, consistent with the reading that F-gas remains the operative instrument.
- [SEAC draft opinion on PFAS restriction \(March 2026\)](#) — Source document establishing that SEAC agreed its draft opinion on 10 March 2026, confirming the procedural milestone.
- [Eurovent — PFAS restriction under REACH](#) — Confirms ECHA published the SEAC draft opinion and opened a public consultation from 26 March to 25 May 2026.
- [White & Case — Europe's PFAS restriction proposal moving forward \(April 2026\)](#) — Reports SEAC found proposed refrigerant derogations 'not justified' as proposed due to conflict with F-gas measures, and recommended aligning derogations with F-gas prohibitions rather than creating independent PFAS closure.
- [European Parliament Research Service — PFAS restriction briefing \(18 August 2026\)](#) — Confirms that as of August 2026 the Commission proposal and REACH Committee vote remain future procedural steps, establishing that no binding PFAS restriction for refrigerants is yet in force.

SIGNAL 5 OF 5

Harmonised safety standards for flammable refrigerants converging toward 2027 publication, progressively removing the technical-standards barrier to A2L and A3 adoption across chillers and heat pumps

MEDIUM Short-term (3–12 months) • Standards & Industry Self-Regulation • Review

EN 378 revision — targeting greater flexibility for flammable refrigerants and revised charge limits — is moving toward a final vote around September 2026 and publication in early 2027, while IEC 60335-2-40 Amendment 1 was published in 2026, together narrowing the standards gap that currently constrains A2L and A3 refrigerant deployment in the equipment categories subject to the 2027 F-gas bans.

REASONING

This watch asks whether the surrounding conditions decide how hard the transition bites, including safety standards for flammable refrigerants. Two parallel standards developments are converging on roughly the same 2027 timeframe as the Annex IV equipment bans. EN 378 — the primary EU refrigerant system safety standard covering chillers and heat pumps — is being revised to include new design flexibility for flammable refrigerants, revised charge-limit calculations, a releasable-quantity concept, and new charge-limit methodology, with publication targeted for early 2027 per the IOR/BRA-FETA consultation notes and the UNEP safety standards tool. IEC 60335-2-40 Amendment 1, covering electrical heat pumps and air conditioners, was published in 2026 according to the IEC Webstore listing; the specific refrigerant classes addressed by that amendment have not been independently confirmed in the evidence available and should be verified against the published text. IEC 60335-2-89:2022 already includes A2L requirements for commercial refrigerating appliances. Taken together, these movements indicate that the product-safety standards framework is aligning with, rather than obstructing, the refrigerant transition that the F-gas bans require. Confidence is held at Medium because the EN 378 final vote outcome has not been confirmed by the evidence available, national adoption timelines are not established, and no national building-code prohibition on A2L or A3 was found in the findings — the standards are enabling but their national transposition varies.

PATTERN

EN 378 revision consultation material (July 2025 meeting, public inquiry underway) describes new design flexibility for flammable refrigerants, revised charge limits, and a final vote expected September 2026 with publication targeted early 2027. UNEP safety standards tool confirms working-group proposals to modify EN 378 charge limits with publication of a revised version likely in 2026 and EN 378-5 as a new annex for faster refrigerant additions. IEC 60335-2-40 Amendment 1 was published in 2026 covering electrical heat pumps and air conditioners; the refrigerant classes addressed by the amendment should be verified against the published IEC Webstore text. EN IEC 60335-2-89:2022 already includes A2L refrigerant requirements for commercial refrigerating appliances.

IMPLICATION

If EN 378 publishes in early 2027 as expected and IEC 60335-2-40 Amendment 1 enters national transposition, the primary technical-standards obstacle to specifying A2L refrigerants in new chiller and heat-

pump installations will narrow considerably just as the F-gas Annex IV bans take effect — a reinforcing dynamic for the transition. Equipment manufacturers and project designers should monitor EN 378 final publication and national transposition schedules, particularly in member states with existing code restrictions on higher charge quantities of flammable refrigerants.

RECOMMENDED ACTION

Track the CEN vote outcome on the EN 378 revision and the subsequent national transposition timelines in the member states most relevant to your project pipeline; confirm the refrigerant-class scope of IEC 60335-2-40 Amendment 1 against the published IEC text; flag any national building authority that defers or restricts transposition of the A2L flexibility provisions, as that would create a jurisdiction-specific barrier even after the F-gas ban takes effect.

SOURCES & WHAT THEY SIGNAL

- [IOR/BRA-FETA — EN 378 public consultation launch notes \(July 2025\)](#) — Confirms EN 378 revision scope includes new flammable-refrigerant flexibility and revised charge limits, with final vote expected September 2026 and publication targeted early 2027.
- [UNEP OzonAction System Safety Standards Tool](#) — Independently confirms EN 378 revision work on charge limits, likely 2026 publication, and the creation of EN 378-5 for faster refrigerant additions.
- [IEC 60335-2-40:2024/AMD1:2026 — IEC Webstore](#) — Lists IEC 60335-2-40 Amendment 1 as published in 2026; the refrigerant classes addressed by the amendment should be verified against the published text.
- [EN IEC 60335-2-89:2022 — standards catalogue listing](#) — Confirms that commercial refrigerating appliance safety requirements already include A2L refrigerant provisions, establishing that the standards framework for flammable refrigerants in this equipment class is already partially in place.
- [IEC 60335-2-40:2024 — IEC Webstore](#) — Establishes that IEC 60335-2-40 covers flammable refrigerant classes including A2L and A3 and specifies limits by flammability class, confirming the base standard's scope for heat-pump and A/C equipment.

PUT A WATCH ON YOUR QUESTION

A watch on your question runs every cycle.

These signals came from one cycle of a standing watch. Name a company, a market or a regulation, and the watch keeps running whether or not anyone opens the platform. Every signal arrives rated for confidence and horizon, with the dated events behind it and the sources that carry the weight.

See all the samples and tell us your question at ezassi.com/ezassi-signals-sample-library.

info@ezassi.com • ezassi.com