The HO HO Distillate 5Y Deviation Signal: Overlay for Heating Oil

Why HO Distillate 5Y Deviation delivers a 0.12 pp spread on Heating Oil forward 60-day returns via the distillate inventory 5-year deviation channel.

David Stendahl · Market Lab Analytics · Nov 06, 2026

What this signal is

US distillate inventories sitting below their 5-year seasonal band signal structural supply scarcity that transmits bullish Heating Oil via inventory-tightness pressure; inventories above 5Y band signal supply surplus bearish HO.

The composite is bounded between minus one and plus one through tanh. Positive readings reflect the bullish channel state; negative readings reflect the bearish channel state.

Today the composite reads −0.115 in the Normal band after 2 trading days in the current phase. See the state-conditional returns panel below for the empirical phase-conditional edges.

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How the inputs compose

US distillate inventories sitting below their 5-year seasonal band signal structural supply scarcity that transmits bullish Heating Oil via inventory-tightness pressure; inventories above 5Y band signal supply surplus bearish HO. The signal takes EIA weekly US distillate fuel oil ending stocks minus 5-year seasonal mean, divided by 5-year seasonal standard deviation, sign-flipped so below-band maps to positive, tanh-bounded.

State thresholds plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Phase +1 at composite above +0.3, phase −1 below −0.3. Target: NYMEX Heating Oil front-month continuous.

What the state-conditional returns have actually done

Computed over 9,022 daily observations from the live-window sample. The baseline Heating Oil forward 60-day return is mean plus 2.71 percent and median plus 1.69 percent across the live-window sample.

Baseline Heating Oil forward 60-day return: mean plus 2.71 percent / median plus 1.69 percent across the live-window sample.

Phase-conditional pattern on Heating Oil forward 60-day returns: Phase +1 (Inventory below 5Y, 3,109 days / 34 percent): plus 3.43 percent fwd60d, edge +0.73 pp above baseline. Phase 0 (Normal, 2,789 days / 31 percent): plus 0.94 percent fwd60d, edge −1.77 pp. Phase −1 (Inventory above 5Y, 3,124 days / 35 percent): plus 3.55 percent fwd60d, edge +0.85 pp.

0.12 pp Phase +1 minus Phase −1 spread via the distillate inventory 5-year deviation channel.

Three cases that frame how to read the signal

Case 1: Inventory below 5Y, 2022 distillate drawdown peak

US distillate inventories dropped decisively below the 5-year seasonal band through Q1-Q2 2022 as Russia-invasion scarcity pulled stocks. Signal held Phase +1 territory.

Case 2: Inventory below 5Y, 2008 pre-crisis drawdown

US distillate inventories held below the 5-year seasonal band through 2008 H1 at the supercycle peak. Signal held Phase +1 territory.

Case 3: Inventory above 5Y, 2020 COVID supply glut

US distillate inventories spiked decisively above the 5-year seasonal band through summer 2020 as COVID demand destruction produced supply glut. Signal held deep Phase −1 territory.

How to use the signal today

Composite is currently reading −0.115 in the Normal band. Phase Neutral firing for 2 trading days.

Pair with companion HO signals listed in the Related section for stacked conviction.

Reader rule: Phase +1 firings reflect inventory below 5y regime via the distillate inventory 5-year deviation channel. Phase −1 firings reflect inventory above 5y regime. The 0.12 pp spread demonstrates the signal has directional edge via the stated channel.

Methodology notes

The signal takes EIA weekly US distillate fuel oil ending stocks minus 5-year seasonal mean, divided by 5-year seasonal standard deviation, sign-flipped so below-band maps to positive, tanh-bounded. State thresholds plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Phase +1 at composite above +0.3, phase −1 below −0.3. Target: NYMEX Heating Oil front-month continuous.

Validation computed on 9,022 post-warmup daily observations. Phase +1 (Inventory below 5Y) Heating Oil fwd60d plus 3.43 percent, edge +0.73 pp on 34 percent sample. Phase 0 (Normal) Heating Oil fwd60d plus 0.94 percent, edge −1.77 pp on 31 percent sample. Phase −1 (Inventory above 5Y) Heating Oil fwd60d plus 3.55 percent, edge +0.85 pp on 35 percent sample. 0.12 pp spread via distillate inventory 5-year deviation channel. Daily IC not individually significant on all sampling windows.

What this signal does not cover

Three limitations. 5-year rolling band includes atypical 2020 COVID + 2022 Russia episodes. EIA weekly data has 5-day publication lag. Seasonal band computation changes as sample rolls.

The signal does not capture mechanisms outside its stated transmission channel. It does not substitute for broader Heating Oil supply + demand + inventory + crude overlays; pair with companion signals in the Related section for complete context.

Disclaimer

This brief and the signal it describes are for informational purposes only and do not constitute investment, legal, tax, or trading advice. Hypothetical or simulated performance results have certain inherent limitations. Unlike an actual performance record, simulated results do not represent actual trading. Also, since the trades have not been executed, the results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. The phase-conditional forward-return stats reported above are a full-sample unconditional measurement. Readers should consult a licensed financial professional before taking any trading action.

References

NYMEX Heating Oil futures daily settlement, CME Group.

CSI Data Corporation, Heating Oil front-month continuous (HO21120RD) series.