UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of September 2024

Commission File Number 001-33159

AERCAP HOLDINGS N.V.

(Translation of Registrant's Name into English)

AerCap House, 65 St. Stephen's Green, Dublin D02 YX20, Ireland, +353 1 819 2010 (Address of Principal Executive Office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F \boxtimes

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): □

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): □

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

Other Events

On September 18, 2024, the board of directors (the "Board") of AerCap Holdings N.V. ("AerCap") approved a share repurchase program authorizing total repurchases of up to \$500 million of AerCap ordinary shares through March 31, 2025 (the "Share Repurchase Program"). This program is in addition to the \$105 million of capacity remaining under the share repurchase program announced on May 8, 2024, which runs through December 31, 2024.

Repurchases under the Share Repurchase Program may be made through open market purchases or privately negotiated transactions in accordance with applicable U.S. federal securities laws. The timing of repurchases and the exact number of ordinary shares to be purchased will be determined by AerCap's management, in its discretion, and will depend upon market conditions and other factors. The Share Repurchase Program will be funded using AerCap's cash on hand and cash generated from operations. The Share Repurchase Program may be suspended or discontinued at any time.

The information contained in this Form 6-K is incorporated by reference into the Company's Form F-3 Registration Statement File No. 333-260359 and Form S-8 Registration Statements File Nos. 333-194638, 333-194637, 333-180323, 333-165839, and 333-154416, and related Prospectuses, as such Registration Statements and Prospectuses may be amended from time to time.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AERCAP HOLDINGS N.V.

By: /s/ Aengus Kelly

Name: Aengus Kelly Title: Authorized Signatory

Date: September 19, 2024