
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 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 June 2012

Commission File Number 001-33159

AERCAP HOLDINGS N.V.

(Translation of Registrant's Name into English)

Stationsplein 965, 1117 CE Schiphol Airport, The Netherlands, +31-20-655-9655

(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

Form 40-F

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 June 5, 2012, AerCap Holdings N.V. announced that it will initiate a new share repurchase program. The new repurchase program will run through December 31, 2012 and will allow total repurchases of up to \$130 million in 2012.

This Form 6-K is incorporated by reference into the Company's Form F-3 Registration Statement File No. 333-155194 and Form S-8 Registration Statements File Nos. 333-180323, 333-154416 and 333-165839, and related Prospectuses, as such Registration Statements and Prospectuses may be amended from time to time.

Exhibits

99.1 AerCap Holdings N.V. press release dated June 5, 2012.

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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: June 5, 2012

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EXHIBIT INDEX

99.1 AerCap Holdings N.V. press release dated June 5, 2012.

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PRESS RELEASE

AerCap Will Initiate New Share Repurchase Program

Amsterdam, The Netherlands; June 5, 2011 - AerCap Holdings N.V. ("AerCap" or "the Company," NYSE: AER) today announced that it will initiate a new share repurchase program. The new repurchase program will run through December 31, 2012 and will allow total repurchases of up to \$130 million in 2012. The total amount for shares repurchased under previously announced programs in 2011 and 2010 was \$100 million.

Repurchases under the 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 shares of common stock to be purchased will be determined by the Company's management, in its discretion, and will depend upon market conditions and other factors. The program will be funded using the Company's cash on hand and cash generated from operations. The program may be suspended or discontinued at any time.

About AerCap

AerCap is the world's leading independent aircraft leasing company and has one of the youngest fleets in the industry. AerCap has a portfolio of 350 aircraft with a focus on fuel-efficient narrowbodies and widebodies. AerCap is a New York Stock Exchange-listed company (AER) headquartered in The Netherlands with offices in Ireland, the United States, China, Singapore, and the United Arab Emirates.

This press release may contain forward-looking statements that involve risks and uncertainties. In most cases, you can identify forward-looking statements by terminology such as "may", "should", "expects", "plans", "anticipates", "believes", "estimates", "predicts", "potential" or "continue" or the negative of such terms or similar terminology. Such forward-looking statements are not guarantees of future performance and involve significant assumptions, risks and uncertainties, and actual results may differ materially from those in the forward-looking statements.

For Media:

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