

ARCH CAPITAL GROUP LTD  
Form 424B3  
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**ARCH CAPITAL GROUP LTD.**

**PROSPECTUS SUPPLEMENT DATED NOVEMBER 22, 2004  
TO  
PROSPECTUS DATED AUGUST 30, 2002**

This prospectus supplement supplements our prospectus dated August 30, 2002 relating to the reoffers and resales of our common shares, par value \$.01 per share, issued or issuable under our 2002 Long Term Incentive and Share Award Plan (the "*Plan*"). This prospectus supplement sets forth a list of the current selling shareholders and updates the number of common shares available to be resold by each selling shareholder under the Plan. This prospectus supplement should be read in conjunction with the prospectus and this prospectus supplement is qualified by reference to the prospectus except to the extent that the information contained herein supersedes the information contained in the prospectus.

**SELLING SHAREHOLDERS**

The following table sets forth certain information concerning the selling shareholders as of November 22, 2004. Except as disclosed below, none of the selling shareholders has, or within the past three years has had, any position, office or other material relationship with us:

<b>Name</b>	<b>Position with the Company</b>	<b>Shares Owned Prior to Offering</b>	<b>Maximum Number of Shares Owned and/or Subject to Outstanding Options Which May Be Offered Hereby (1)</b>
Peter A. Appel	Director, former President & Chief Executive Officer	889,175(2)	11,994(2)
Wolfe H. Bragin	Director	4,960(3)	4,960(3)
John L. Bunce, Jr.	Director	14,360,182(4)	4,795(4)
Sean D. Carney	Director	22,922,876(5)	3,601(5)
Robert Clements	Chairman	1,506,276(6)	18,882(6)
Dwight R. Evans	Chairman & Chief Executive Officer of Arch Reinsurance Ltd. and President & Chief Executive Officer of Arch Worldwide Reinsurance Group	252,421(7)	79,794(7)
Marc Grandisson	President & Chief Operating Officer of Arch Reinsurance Ltd.	108,621(8)	43,716(8)
Constantine Iordanou	Director, President & Chief Executive Officer	983,406(9)	174,525(9)
Ralph E. Jones, III	President & Chief Executive Officer of Arch Insurance Group Inc.	140,100(10)	199,671(10)
Kewsong Lee	Director	22,922,876(11)	5,734(11)
James J. Meenaghan	Director	28,347(12)	5,234(12)
John M. Pasquesi	Vice Chairman & Director	1,553,711(13)	3,024(13)

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Name	Position with the Company	Shares Owned Prior to Offering	Maximum Number of Shares Owned and/or Subject to Outstanding Options Which May Be Offered Hereby (1)
Louis T. Petrillo	President & General Counsel of Arch Capital Services Inc.	123,941(14)	30,084(14)
John F. Rathgeber	President & Chief Executive Officer of Arch Reinsurance Company	108,998(15)	33,998(15)
David R. Tunnell	Director	14,360,182(16)	4,280(16)
John D. Vollaro	Executive Vice President, Chief Financial Officer & Treasurer	188,350(17)	53,350(17)
Robert F. Works	Director	31,206(18)	5,734(18)

- (1) Represents the number of common shares issued or issuable under the Plan to each selling shareholder. Does not constitute a commitment to sell any or all of the stated number of common shares. The number of shares offered shall be determined from time to time by each selling shareholder at his discretion.
- (2) Amounts include (a) 149,347 common shares owned directly by Mr. Appel (including 522 restricted shares which are subject to vesting), (b) 688,207 common shares issuable upon exercise of currently exercisable stock options and (c) 51,621 common shares issuable upon conversion of preference shares.
- (3) Amounts include (a) 3,160 common shares owned directly by Mr. Bragin (including 522 restricted shares which are subject to vesting) and (b) 1,800 common shares issuable upon exercise of stock options.
- (4) Amounts include securities held by or for the benefit of HFCP IV (Bermuda), L.P. ("HFCP IV Bermuda"), H&F International Partners IV-A (Bermuda), L.P. ("HFIP IV-A Bermuda"), H&F International Partners IV-B (Bermuda), L.P. ("HFIP IV-B Bermuda") and H&F Executive Fund IV (Bermuda), L.P. ("HFEF Bermuda," and together with HFCP IV Bermuda, HFIP IV-A Bermuda and HFIP IV-B Bermuda, the "H&F Funds"). H&F Investors IV (Bermuda), L.P. ("HFI IV Bermuda") is the sole general partner of the H&F Funds. H&F Corporate Investors IV (Bermuda) Ltd. ("HFCI Bermuda") is the sole general partner of HFI IV Bermuda. HFI IV Bermuda may be deemed to control the H&F Funds. Mr. Bunce is a member of an investment committee of HFCI Bermuda which has investment discretion over the securities held by the H&F Funds. Mr. Bunce is a 9.9% shareholder of HFCI Bermuda. All shares indicated as owned by Mr. Bunce are included because he is a member of the board of directors of ACGL and is affiliated with HFCI Bermuda. Mr. Bunce may be deemed to have an indirect pecuniary interest (within the meaning of Rule 16a-1 under the Exchange Act) in an indeterminate portion of the shares beneficially owned by the H&F Funds. Mr. Bunce disclaims beneficial ownership of all shares owned by the H&F Funds, except to the extent of his indirect pecuniary interest in the issuer held through the H&F Funds. Based on Form 4s dated March 4, 2003 and October 5, 2004 filed with the Securities Exchange Commission ("SEC") by Mr. Bunce.
- (5) Amounts include securities held by or for the benefit of Warburg Pincus (Bermuda) Private Equity VIII, L.P. ("WP VIII Bermuda"), Warburg Pincus (Bermuda) International Partners, L.P. ("WPIP Bermuda"), Warburg Pincus Netherlands International Partners I, C.V. ("WPIP Netherlands I") and Warburg Pincus Netherlands International Partners II, C.V. ("WPIP Netherlands II"). Warburg Pincus (Bermuda) Private Equity Ltd. ("WP VIII Bermuda Ltd.") is the sole general partner of WP VIII Bermuda. Warburg Pincus (Bermuda) International Ltd. ("WPIP Bermuda Ltd.") is the sole general partner of WPIP Bermuda. Warburg, Pincus & Co. ("WP") is the sole general partner of WPIP Netherlands I and WPIP Netherlands II. WP VIII Bermuda, WPIP Bermuda, WPIP Netherlands I and WPIP Netherlands II are managed by Warburg Pincus LLC ("WP LLC"). The foregoing is based on a Schedule 13D dated December 18, 2002 and filed with the SEC by these entities. Mr. Carney is a general partner of WP, a managing director and member of WP LLC and a beneficial owner of certain shares of capital stock of WP VIII Bermuda Ltd. and WPIP Bermuda Ltd. All shares indicated as owned by Mr. Carney are included because he is a member of our Board and is affiliated with these Warburg Pincus entities. Mr. Carney may be deemed to have an indirect pecuniary interest (within the meaning of Rule 16a-1 under the Exchange Act) in an indeterminate portion of the shares owned by WP VIII Bermuda, WPIP Bermuda, WPIP Netherlands I and WPIP Netherlands II. Mr. Carney disclaims beneficial ownership of all shares owned by these Warburg Pincus entities.

- (6) Amounts include (a) 601,220 common shares (including 1,066 restricted shares which are subject to vesting), 51,875 common shares issuable upon exercise of class B warrants and 117,125 common shares issuable upon exercise of stock options owned directly by Mr. Clements (6,666 of such shares are issuable upon exercise of stock options which are subject to vesting), (b) 605,708 common shares and 19,677 common shares issuable upon exercise of class B warrants owned directly by the spouse of Mr. Clements, (c) 24,381 common shares owned by a grantor retained annuity trust established for the benefit of the children of Mr. Clements and (d) 2,725 common shares acquired from the exercise of class A warrants and 103,242 series A convertible preference shares ("preference shares") acquired directly by Sound View Partners, L.P. ("Sound View") as part of the November 2001 capital infusion. Sound View is a limited partnership, the general partners of which are Mr. Clements and his spouse. Taracay Investors ("Taracay") owns approximately 50% of Sound View. Taracay is a general partnership, the general partners of which consist of Mr. Clements and members of his family and the managing partner of which is Mr. Clements. Mr. Clements disclaims beneficial ownership of (a) all securities owned directly by his spouse, (b) approximately 97% of the securities owned directly by Taracay, which represents the ownership percentage of Taracay by Taracay partners other than Mr. Clements and (c) approximately 98% of the securities directly owned by Sound View, which represents the ownership percentage of Sound View by Sound View partners other than Mr. Clements, but excluding that portion of Sound View held by Taracay to the extent of Mr. Clements' ownership of Taracay as stated herein.
- (7) Amounts include (a) 66,773 common shares owned directly by Mr. Evans (including [59,403] restricted shares which are subject to vesting), (b) 165,000 common shares issuable upon exercise of stock options 26,666 of such shares are issuable upon exercise of stock options which are subject to vesting and (c) 20,648 common shares issuable upon conversion of preference shares.
- (8) Amounts include (a) 26,216 common shares owned directly by Mr. Grandisson (including 19,907 restricted shares which are subject to vesting), (b) 69,500 common shares issuable upon exercise of stock options (21,333 of such shares are issuable upon exercise of stock options which are subject to vesting) and (c) 12,905 common shares issuable upon conversion of preference shares.
- (9) Amounts include (a) 420,738 common shares owned directly by Mr. Iordanou (including 351,059 restricted shares which are subject to vesting and 7,419 common shares owned directly by Mr. Iordanou's children) and (b) 545,000 common shares issuable upon exercise of stock options (80,000 of such shares are issuable upon exercise of stock options which are subject to vesting). In addition, as listed in the column entitled, "Maximum Number of Shares Owned and/or Subject to Outstanding Options Which May be Offered Hereby", Mr. Iordanou holds 17,668 restricted common share units (8,834 of such units are subject to vesting) which will be settled in common shares of Arch Capital Group Ltd. upon termination of Mr. Iordanou's employment. Mr. Iordanou disclaims beneficial ownership of all shares owned by his children.
- (10) Amounts include (a) 100 common shares owned directly by Mr. Jones and (b) 140,000 common shares issuable upon exercise of stock options (59,998 of such shares are issuable upon exercise of stock options which are subject to vesting). In addition, as listed in the column entitled, "Maximum Number of Shares Owned and/or Subject to Outstanding Options Which May be Offered Hereby", Mr. Jones holds 59,571 restricted common share units (6,678 of such units are subject to vesting) which will be settled in common shares of Arch Capital Group Ltd. upon termination of Mr. Jones' employment.
- (11) Amounts include securities held by or for the benefit of Warburg Pincus (Bermuda) Private Equity VIII, L.P. ("WP VIII Bermuda"), Warburg Pincus (Bermuda) International Partners, L.P. ("WPIP Bermuda"), Warburg Pincus Netherlands International Partners I, C.V. ("WPIP Netherlands I") and Warburg Pincus Netherlands International Partners II, C.V. ("WPIP Netherlands II"). Warburg Pincus (Bermuda) Private Equity Ltd. ("WP VIII Bermuda Ltd.") is the sole general partner of WP VIII Bermuda. Warburg Pincus (Bermuda) International Ltd. ("WPIP Bermuda Ltd.") is the sole general partner of WPIP Bermuda. Warburg, Pincus & Co. ("WP") is the sole general partner of WPIP Netherlands I and WPIP Netherlands II. WP VIII Bermuda, WPIP Bermuda, WPIP Netherlands I and WPIP Netherlands II are managed by Warburg Pincus LLC ("WP LLC"). The foregoing is based on a Schedule 13D dated December 18, 2002 and filed with the SEC by these entities. Mr. Lee is a general partner of WP, a managing director and member of WP LLC and a beneficial owner of certain shares of capital stock of WP VIII Bermuda Ltd. and WPIP Bermuda Ltd. All shares indicated as owned by Mr. Lee are included because he is a member of our Board and is affiliated with these Warburg Pincus entities. Mr. Lee may be deemed to have an indirect pecuniary interest (within the meaning of Rule 16a-1 under the Exchange Act) in an indeterminate portion of the shares owned by WP VIII

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Bermuda, WPIP Bermuda, WPIP Netherlands I and WPIP Netherlands II. Mr. Lee disclaims beneficial ownership of all shares owned by these Warburg Pincus entities.

- (12) Amounts include (a) 10,047 common shares owned directly by Mr. Meenaghan (including 522 restricted shares which are subject to vesting) and (b) 18,300 common shares issuable upon exercise of stock options.
- (13) Amounts include (a) 3,024 common shares owned directly (including 522 restricted shares which are subject to vesting), (b) 37,110 common shares owned directly by Otter Capital, LLC, for which Mr. Pasquesi serves as the managing member, (c) 1,126,419 common shares issuable upon exercise of currently exercisable options and (d) 387,158 common shares issuable upon conversion of preference shares.
- (14) Amounts include (a) 12,141 common shares owned directly by Mr. Petrillo (including 4,304 restricted shares which are subject to vesting) and (b) 111,800 common shares issuable upon exercise of stock options (16,000 of such shares are issuable upon exercise of stock options which are subject to vesting).
- (15) Amounts include (a) 19,998 common shares owned directly by Mr. Rathgeber (including 16,046 restricted shares which are subject to vesting) and (b) 89,000 common shares issuable upon exercise of stock options (16,000 of such shares are issuable upon exercise of stock options which are subject to vesting).
- (16) Amounts include securities held by or for the benefit of HFCP IV (Bermuda), L.P. ("HFCP IV Bermuda"), H&F International Partners IV-A (Bermuda), L.P. ("HFIP IV-A Bermuda"), H&F International Partners IV-B (Bermuda), L.P. ("HFIP IV-B Bermuda") and H&F Executive Fund IV (Bermuda), L.P. ("HFEF Bermuda," and together with HFCP IV Bermuda, HFIP IV-A Bermuda and HFIP IV-B Bermuda, the "H&F Funds"). H&F Investors IV (Bermuda), L.P. ("HFI IV Bermuda") is the sole general partner of the H&F Funds. H&F Corporate Investors IV (Bermuda) Ltd. ("HFCI Bermuda") is the sole general partner of HFI IV Bermuda. HFI IV Bermuda may be deemed to control the H&F Funds. The foregoing is based on a Schedule 13D and a Form 4 dated March 4, 2003 and December 18, 2002, respectively, and filed with the SEC. Mr. Tunnell is a member of an investment committee of HFCI Bermuda which has investment discretion over the securities held by the H&F Funds. Mr. Tunnell is a 5.45% shareholder of HFCI Bermuda. All shares indicated as owned by Mr. Tunnell are included because he is a member of the board of directors of ACGI and is affiliated with HFCI Bermuda. Mr. Tunnell may be deemed to have an indirect pecuniary interest (within the meaning of Rule 16a-1 under the Exchange Act) in an indeterminate portion of the shares beneficially owned by the H&F Funds. Mr. Tunnell disclaims beneficial ownership of all shares owned by the H&F Funds, except to the extent of his indirect pecuniary interest in the issuer held through the H&F Funds.
- (17) Amounts include (a) 63,350 common shares owned directly by Mr. Vollaro (including 57,674 restricted shares which are subject to vesting) and (b) 125,000 common shares issuable upon exercise of stock options (26,666 of such shares are issuable upon exercise of stock options which are subject to vesting).
- (18) Amounts include (a) 9,906 common shares owned directly by Mr. Works (including 522 restricted shares which are subject to vesting) and (b) 21,300 common shares issuable upon exercise of stock options.

Information concerning the selling shareholders may change from time to time and will be set forth in future supplements. Accordingly, the identity of the selling shareholders may change and the number of shares of common shares offered hereby may increase or decrease. Full copies of the prospectus will be provided upon request.

QuickLinks

ARCH CAPITAL GROUP LTD. PROSPECTUS SUPPLEMENT DATED NOVEMBER 22, 2004 TO PROSPECTUS DATED AUGUST 30, 2002  
SELLING SHAREHOLDERS