

Vale S.A.  
Form 6-K  
September 24, 2010

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**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  
of the  
Securities Exchange Act of 1934  
For the month of  
September 2010  
Vale S.A.**

Avenida Graça Aranha, No. 26  
20030-900 Rio de Janeiro, RJ, Brazil  
(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.)

(Check One) 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))

(Check One) Yes  No

(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))

(Check One) Yes  No

(Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.)

(Check One) Yes  No

(If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b). 82-\_\_\_\_.)

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**Vale announces share buy-back program**

Rio de Janeiro, September 23, 2010 Vale SA (Vale) announces that its Board of Directors have approved today a proposal from Vale's Executive Board to establish a share buy-back program. The shares are to be held in treasury for subsequent sale or cancellation, amounting up to US\$ 2 billion and involving up to 64,810,513 common shares and up to 98,367,748 preferred shares, which correspond to 5% of the free floating shares of each class as of August 31, 2010. The share buy-back program will be executed over the next 180 days, from that date, closing, therefore, on March 22, 2011.

The program is in accordance with capital markets laws and regulations of Brazil, the United States and France, and the buy-back will be performed through the following financial institutions:

- a) Bradesco S.A. CTVM Avenida Paulista, 1450 7º andar, São Paulo/SP
- b) Itaú CV S.A. Avenida Brigadeiro Faria Lima, 3400 10º andar,- São Paulo/SP
- c) Ágora CTVM S.A. Praia de Botafogo, 300 6º andar, Rio de Janeiro/RJ
- d) Fator S.A. CV Rua Doutor Renato Paes de Barros, 1017 11º e 12º andares, São Paulo/SP
- e) Credit Suisse Hedging-Griffo CV S.A. Avenida Presidente Juscelino Kubitschek, 1830 6º e 7º andares Torre IV, São Paulo/SP
- f) Magliano S.A. CCVM Rua Bela Cintra, 986 2º andar, São Paulo/SP, CEP: 01415-000
- g) Credit Suisse Brasil S.A. CTVM Avenida Brigadeiro Faria Lima 3064, 13º andar, São Paulo/SP
- h) Santander CCVM S.A. Avenida Presidente Juscelino Kubitschek, 2041, 2235 24º andar, São Paulo/SP
- i) J.P. Morgan CCVM S.A. Avenida Brigadeiro Faria Lima 3729, 13º andar, São Paulo/SP

The main purpose of the share buy-back program is to employ Vale's excess cash in order to optimize asset allocation and to maximize shareholder value.

**For further information, please contact:**

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This press release may contain statements that express management's expectations about future events or results rather than historical facts. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected in forward-looking statements, and Vale cannot give assurance that such statements will prove correct. These risks and uncertainties include factors: relating to the Brazilian and Canadian economy and securities markets, which exhibit volatility and can be adversely affected by developments in other countries; relating to the iron ore and nickel business and its dependence on the global steel industry, which is cyclical in nature; and relating to the highly competitive industries in which Vale operates. For additional information on factors that could cause Vale's actual results to differ from expectations reflected in forward-looking statements, please see Vale's reports filed with the Brazilian Comissão de Valores Mobiliários and the U.S. Securities and Exchange Commission.

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**Signatures**

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.

Vale S.A.  
(Registrant)

Date: January 22, 2010

By: /s/ Roberto Castello Branco  
Roberto Castello Branco  
Director of Investor Relations