ING Infrastructure, Industrials & Materials Fund Form N-Q July 21, 2010

OMB APPROVAL

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-Q

Quarterly Schedule of Portfolio Holdings of Registered

Management Investment Company

Investment Company Act file number: 811-22051

ING Infrastructure, Industrials and Materials Fund

(Exact name of registrant as specified in charter)

7337 East Doubletree Ranch Rd., Scottsdale, AZ 85258

(Address of principal executive offices) (Zip code)

Huey P. Falgout, Jr., 7337 East Doubletree Ranch Road, Scottsdale, AZ 85258

(Name and address of agent for service)

Registrant s telephone number, including area code: 1-800-992-0180

Date of fiscal year end: February 28
Date of reporting period: May 31, 2010

| Item 1. Schedule of Investments |
|---|
| The schedules of investments as of the close of the reporting period are set forth below for: |
| ING Infrastructure, Industrials and Materials Fund |
| The schedules are not audited. |

PORTFOLIO OF INVESTMENTS as of May 31, 2010 (Unaudited)

ING Infrastructure, Industrials and Materials Fund

| Shares COMMON STOCK: 96.6% | | | Value |
|----------------------------|---|--|--------------------|
| | | Brazil: 3.0% | |
| 429,200 | | All America Latina Logistica S.A. | \$ 3,475,237 |
| 259,400 | | Vale S.A. ADR | 7,053,086 |
| | | | 10,528,323 |
| | | Canada: 2.8% | |
| 1,172,400 | | Bombardier, Inc Class B | 5,447,583 |
| 45,000 | | Potash Corp. of Saskatchewan | 4,463,550 |
| | | | 9,911,133 |
| | | China: 0.4% | |
| 2,000,000 | | Harbin Power Equipment | 1,449,037 |
| | | | 1,449,037 |
| | | Finland: 1.2% | |
| 136,400 | | Outotec OYJ | 4,206,942 |
| | | | 4,206,942 |
| | | France: 6.8% | |
| 124,403 | | Alstom | 5,869,580 |
| 85,000 | @ | Compagnie Generale de Geophysique S.A. | 1,911,795 |
| 79,398 | | Lafarge S.A. | 4,527,927 |
| 141,290 | | Suez Environnement S.A. | 2,437,395 |
| 149,636 | | Veolia Environnement | 3,828,038 |
| 126,479 | | Vinci S.A. | 5,643,700 |
| | | | 24,218,435 |
| | | Germany: 7.8% | |
| 84,900 | | BASF AG | 4,467,617 |
| 141,596 | | E.ON AG | 4,290,555 |
| 227,504 | | GEA Group AG | 4,536,493 |
| 91,431 | | Siemens AG | 8,226,024 |
| 223,363 | | ThyssenKrupp AG | 6,053,000 |
| | | | 27,573,689 |
| | | Hong Kong: 2.9% | |
| 105,400 | | China Mobile Ltd. ADR | 4,908,478 |
| 454,300 | | China Unicom Ltd. ADR | 5,510,659 |
| | | | 10,419,137 |
| | | Ireland: 3.4% | < 4 - 4 000 |
| 277,472 | | CRH PLC | 6,171,008 |
| 152,200 | | Ingersoll-Rand PLC | 5,678,582 |
| | | L 1 120 | 11,849,590 |
| 205 (00 | | Italy: 1.3% | 4 615 225 |
| 305,600 | | Prysmian S.p.A. | 4,615,335 |
| | | 1 1 10 | 4,615,335 |
| 271 700 | | Japan: 1.4% | 5.062.442 |
| 271,700 | | Komatsu Ltd. | 5,062,442 |
| | | I | 5,062,442 |
| 169 900 | | Luxembourg: 2.9% ArcelorMittal | 5,118,016 |
| 168,800 62,700 | | Millicom International Cellular S.A. | 5,011,611 |
| 02,700 | | Minicoln International Centual S.A. | 10,129,627 |
| | | Netherlands: 1.9% | 10,129,027 |
| 352,820 | | European Aeronautic Defence and Space Co. NV | 6,890,898 |
| 332,020 | | European Acronaune Detence and Space Co. NV | 6,890,898 |
| | | Norway: 0.7% | 0,070,070 |
| 89,050 | | Yara International ASA | 2,623,098 |
| 07,030 | | i ara international ASA | 2,023,098 |

| | | | 2,623,098 |
|-----------|---|-----------------------------------|---------------------------------------|
| | | Russia: 1.3% | |
| 238,000 | | Mobile Telesystems Finance SA ADR | 4,576,740 |
| | | | 4,576,740 |
| | | South Korea: 1.6% | |
| 57,673 | | Posco ADR | 5,557,947 |
| | | | 5,557,947 |
| | | Spain: 3.0% | |
| 1,165,922 | S | Iberdrola Renovables | 3,558,306 |
| 213,521 | | Telefonica S.A. | 4,054,048 |
| 132,773 | @ | Telvent GIT S.A. | 3,077,678 |
| | | | 10,690,032 |
| | | Sweden: 2.0% | |
| 243,623 | | Atlas Copco AB - Class A | 3,436,671 |
| 238,209 | | Skanska AB | 3,484,015 |
| | | | 6,920,686 |
| | | Switzerland: 1.4% | |
| 337,165 | | Xstrata PLC | 4,894,812 |
| | | | 4,894,812 |
| | | United Kingdom: 10.1% | |
| 245,547 | @ | Anglo American PLC | 9,371,011 |
| 540,086 | @ | Cookson Group PLC | 3,687,269 |
| 1,331,260 | | International Power PLC | 5,532,279 |
| 131,100 | | Rio Tinto PLC | 6,016,572 |
| 3,490,114 | | Vodafone Group PLC | 6,913,256 |
| 303,974 | | Weir Group PLC | 4,064,358 |
| • | | • | 35,584,745 |
| | | | , , , , , , , , , , , , , , , , , , , |

PORTFOLIO OF INVESTMENTS

ING Infrastructure, Industrials and Materials Fund

as of May 31, 2010 (Unaudited) (continued)

| Shares | | | | Value |
|-------------|---------------------|---|--------|-------------------|
| | | United States: 40.7% | | |
| 114,700 | @ | AGCO Corp. | | \$ 3,299,919 |
| 77,900 | @ | Ansys, Inc. | | 3,406,567 |
| 64,500 | @ | Atlas Air Worldwide Holdings, Inc. | | 3,371,415 |
| 176,600 | @ | BE Aerospace, Inc. | | 4,789,392 |
| 380,700 | @ | Cal Dive International, Inc. | | 2,101,464 |
| 128,700 | | Caterpillar, Inc. | | 7,819,812 |
| 83,600 | @ | Cooper Industries PLC | | 3,926,692 |
| 111,200 | | Cummins, Inc. | | 7,559,376 |
| 98,500 | | Deere & Co. | | 5,681,480 |
| 120,000 | | EI Du Pont de Nemours & Co. | | 4,340,400 |
| 145,900 | | Fluor Corp. | | 6,845,628 |
| 91,700 | | Gardner Denver, Inc. | | 4,176,018 |
| 93,600 | | General Dynamics Corp. | | 6,355,440 |
| 149,500 | | Honeywell International, Inc. | | 6,394,115 |
| 57,900 | | Joy Global, Inc. | | 2,952,900 |
| 34,500 | | Kaiser Aluminum Corp. | | 1,291,335 |
| 161,500 | @ | McDermott International, Inc. | | 3,582,070 |
| 160,200 | | National Oilwell Varco, Inc. | | 6,108,426 |
| 116,400 | | Peabody Energy Corp. | | 4,534,944 |
| 301,100 | @ | Quanta Services, Inc. | | 6,241,803 |
| 107,400 | @ | SBA Communications Corp. | | 3,547,422 |
| 130,900 | | Schlumberger Ltd. | | 7,350,035 |
| 75,800 | @ | TransDigm Group, Inc. | | 3,999,208 |
| 223,400 | | Trinity Industries, Inc. | | 4,881,290 |
| 146,200 | | UGI Corp. | | 3,821,668 |
| 80,800 | | Union Pacific Corp. | | 5,771,544 |
| 111,600 | | United Parcel Service, Inc Class B | | 7,004,016 |
| 76,200 | | United Technologies Corp. | | 5,134,356 |
| 184,000 | @ | WABCO Holdings, Inc. | | 5,593,600 |
| 224,900 | @ | Willbros Group, Inc. | | 2,089,321 |
| | | | | 143,971,656 |
| | | Total Common Stock | | |
| | | (Cost \$361,755,253) | | 341,674,304 |
| PREFERRED S | STOCK: 1.0% | | | |
| | | Brazil: 1.0% | | |
| 145,600 | | Usinas Siderurgicas de Minas Gerais S.A. | | 3,611,410 |
| | | Total Preferred Stock | | |
| | | (Cost \$3,897,316) | | 3,611,410 |
| | | Total Long-Term Investments | | |
| | | (Cost \$365,652,569) | | 345,285,714 |
| SHORT-TERM | I INVESTMENTS: 2.4% | | | |
| | | Affiliated Mutual Fund: 2.4% | | |
| 8,373,000 | | ING Institutional Prime Money Market Fund - Class I | | 8,373,000 |
| | | Total Short-Term Investments | | |
| | | (Cost \$8,373,000) | | 8,373,000 |
| | | Total Investments in Securities | | |
| | | (Cost \$374,025,569)* | 100.0% | \$ 353,658,714 |
| | | Other Assets and Liabilities - Net | 0.0 | 72,623 |
| | | Net Assets | 100.0% | \$ 353,731,337 |
| | @ | Non-income producing security | | |
| | ADR | American Depositary Receipt | | |
| | IDR | | | |

- S All or a portion of this security has been identified by the Fund to cover future collateral requirements for applicable futures, options, swaps, foreign currency contracts and/or when-issued or delayed-delivery securities.
- * Cost for federal income tax purposes is the same as for financial statement purposes.

Net unrealized depreciation consists of:

Gross Unrealized Appreciation \$ 12,945,817 Gross Unrealized Depreciation \$ (33,312,672) Net Unrealized Depreciation \$ (20,366,855)

ING Infrastructure, Industrials and Materials Fund

PORTFOLIO OF INVESTMENTS as of May 31, 2010 (Unaudited) (continued)

| | Percentage of |
|------------------------------------|---------------|
| Industry | Net Assets |
| Energy | 6.8% |
| Industrials | 51.2 |
| Information Technology | 1.8 |
| Materials | 21.4 |
| Telecommunication Services | 9.8 |
| Utilities | 6.6 |
| Short-Term Investments | 2.4 |
| Other Assets and Liabilities - Net | 0.0 |
| Net Assets | 100.0% |

ING Infrastructure, Industrials and Materials Fund

PORTFOLIO OF INVESTMENTS as of May 31, 2010 (Unaudited) (continued)

Fair Value Measurements

The following is a summary of the fair valuations according to the inputs used as of May 31, 2010 in valuing the Fund s assets and liabilities:

| Asset Table | Quoted Prices in Active Markets for Identical Investments (Level 1) | | Significant Other Observable Inputs# (Level 2) | | Significant Unobservable Inputs (Level 3) | | | Fair Value at 5/31/2010 |
|--|--|-------------|---|-------------|--|-------------|----|-------------------------------|
| Investments, at value | | | | | | | | |
| Common Stock | | | | | | | | |
| Brazil | \$ | 10,528,323 | \$ | | \$ | | \$ | 10,528,323 |
| Canada | T | 9,911,133 | - | | T | | - | 9,911,133 |
| China | | - ,- , | | 1,449,037 | | | | 1,449,037 |
| Finland | | | | 4,206,942 | | | | 4,206,942 |
| France | | | | 24,218,435 | | | | 24,218,435 |
| Germany | | | | 27,573,689 | | | | 27,573,689 |
| Hong Kong | | 10,419,137 | | | | | | 10,419,137 |
| Ireland | | 5,678,582 | | 6,171,008 | | | | 11,849,590 |
| Italy | | | | 4,615,335 | | | | 4,615,335 |
| Japan | | | | 5,062,442 | | | | 5,062,442 |
| Luxembourg | | 10,129,627 | | | | | | 10,129,627 |
| Netherlands | | | | 6,890,898 | | | | 6,890,898 |
| Norway | | | | 2,623,098 | | | | 2,623,098 |
| Russia | | 4,576,740 | | | | | | 4,576,740 |
| South Korea | | 5,557,947 | | | | | | 5,557,947 |
| Spain | | 3,077,678 | | 7,612,354 | | | | 10,690,032 |
| Sweden | | | | 6,920,686 | | | | 6,920,686 |
| Switzerland | | | | 4,894,812 | | | | 4,894,812 |
| United Kingdom | | | | 35,584,745 | | | | 35,584,745 |
| United States | | 143,971,656 | | | | | | 143,971,656 |
| Total Common Stock | | 203,850,823 | | 137,823,481 | | | | 341,674,304 |
| Preferred Stock | | | | 3,611,410 | | | | 3,611,410 |
| Short-Term Investments | | 8,373,000 | | | | | | 8,373,000 |
| Total Investments, at value | \$ | 212,223,823 | \$ | 141,434,891 | \$ | | \$ | 353,658,714 |
| Liabilities Table Other Financial Instruments+: | | | | | | | | |
| Written options | | | | | | (4,512,180) | | (4,512,180) |
| Total Liabilities | \$ | | \$ | | \$ | (4,512,180) | \$ | (4,512,180) |

The following is a reconciliation of the fair valuations using significant unobservable inputs (Level 3) for the Fund s assets and liabilities during the period ended May 31, 2010:

| Beginning | Accrued | Total | Total Unrealized | Transfers | s Transfers | Ending |
|-----------|------------|----------|------------------|-----------|-------------|---------|
| Balance | Discounts/ | Realized | Appreciation/ | Into | Out of | Balance |

| | 2/28/2010 | Purchases | Sales | (Premiums) | Ga | nin/(Loss) | (Dep | reciation) | Level 3 | Level 3 | 5/31/2010 |
|---|----------------------|----------------|-----------|------------|----|------------|------|-------------|---------|---------|-------------------|
| Liabilities Table Other Financial Instruments+: | | | | | | | | | | | |
| Written options | \$ (2,267,022) \$ | (4,499,231) \$ | 4,514,802 | 2 \$ | \$ | (907,932) | \$ | (1,352,797) | \$ | \$ | \$ (4,512,180) |
| Total Liabilities | \$ (2,267,022) \$ | (4,499,231) \$ | 4,514,802 | 2 \$ | \$ | (907,932) | \$ | (1,352,797) | \$ | \$ | \$ (4,512,180) |

As of May 31, 2010, total change in unrealized gain (loss) on Level 3 securities still held at period end and included in the change in net assets was \$(13,748).

+ Other Financial Instruments are derivatives not reflected in the Portfolio of Investments and may include open forward foreign currency contracts, futures, swaps, and written options. Forward foreign currency contracts and futures are reported at their unrealized gain/loss at measurement date which represents the amount due to/from the Fund. Swaps and written options are reported at their market value at measurement date.

Transfers in or out of Level 3 represents either the beginning value (for transfers in), or the ending value (for transfers out) of any security or derivative instrument where a change in the pricing level occurred from the beginning to the end of the period.

The earlier close of the foreign markets gives rise to the possibility that significant events, including broad market moves, may have occurred in the interim and may materially affect the value of those securities. To account for this, the Portfolio may frequently value many of its foreign equity securities using fair value prices based on third party vendor modeling tools to the extent available. Accordingly, a significant portion of the Portfolio s investments are categorized as Level 2 investments.

ING Infrastructure, Industrials and Materials Fund

PORTFOLIO OF INVESTMENTS as of May 31, 2010 (Unaudited) (continued)

Written OTC Call Options

| # of Contracts | Counterparty | Description | Expiration Date | Strike Price/Rate | Premiums Received | Value |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------------------|-------------|
| | | Custom Basket of Equity | | | | |
| 239,184 | JP Morgan Securities | Securities | 06/18/10 | 100.00 EUR | 1,238,750 | (1,193,804) |
| | | Custom Basket of Equity | | | | |
| 93,750 | JP Morgan Securities | Securities | 06/18/10 | 100.00 GBP | 515,990 | (848,648) |
| | | Custom Basket of Equity | | | | |
| 241,380 | JP Morgan Securities | Securities 6.5 | 06/18/10 | 100.00 USD | 1,144,141 | (1,084,739) |
| 240 | TD 16 0 11 | Custom Basket of Equity | 064040 | 100 00 7700 | 4 600 2 70 | (4.204.000) |
| 348,660 | JP Morgan Securities | Securities | 06/18/10 | 100.00 USD | 1,600,350 | (1,384,989) |
| | | | | | ¢ 4.400.221.¢ | (4.512.190) |
| | | | | | \$ 4,499,231 \$ | (4,512,180) |
| | | | | | | |

ING Infrastructure, Industrials and Materials Fund

PORTFOLIO OF INVESTMENTS as of May 31, 2010 (Unaudited) (continued)

On March 19, 2008, the FASB issued Statement of Financial Accounting Standards No. 161 (SFAS No. 161), Disclosure about Derivative Instruments and Hedging Activities. This new accounting statement requires enhanced disclosures about an entity s derivative and hedging activities. Entities are required to provide enhanced disclosures about (a) how and why an entity invests in derivatives, (b) how derivatives are accounted for under SFAS No. 133, and (c) how derivatives affect an entity s financial position, financial performance, and cash flows. SFAS No. 161 also requires enhanced disclosures regarding credit-risk related contingent features of derivative instruments.

The following is a summary of the fair valuations of the Fund s derivative instruments categorized by risk exposure as of May 31, 2010:

| | Derivativ | Derivatives Fair Value* | | | |
|------------------|-----------|-------------------------|--|--|--|
| Equity contracts | \$ | (4,512,180) | | | |
| Total | \$ | (4.512.180) | | | |

^{*} Forward foreign currency contracts and futures are reported at their unrealized gain/loss at measurement date which represents the amount due to/from the Fund. Swaps, purchased options and written options are reported at their market value at measurement date.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant): ING Infrastructure, Industrials and Materials Fund

By /s/ Shaun P. Mathews

Shaun P. Mathews

President and Chief Executive Officer

Date: July 21, 2010

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By /s/ Shaun P. Mathews

Shaun P. Mathews

President and Chief Executive Officer

Date: July 21, 2010

By /s/ Todd Modic

Todd Modic

Senior Vice President and Chief Financial Officer

Date: July 21, 2010