

**Axion Is Delivering By Rail and Bridge**

**“Our country’s future prosperity depends on its having an efficient and well-maintained rail system.”** Commenting on Berkshire Hathaway’s acquisition of rail operator Burlington Northern Santa Fe, Warren Buffett cited the fundamental importance of the nation’s rail system. Maintaining this rail system therefore is of equal importance and presents a \$2 billion per year opportunity for Axion as operators begin to recognize the superior economics of investing in AXIH rail ties. As estimated<sup>1</sup> by The American Association of State Highway and Transportation Officials, it would require \$140 billion to repair every deficient bridge in the U.S. The Congressional Budget Office estimates<sup>2</sup> that \$400 billion is spent per year in the U.S. on infrastructure including transportation, utilities, and some other public facilities, presenting another sizeable near-term opportunity for Axion.



**Outlook for Axion:** Axion has delivered bridges at Ft. Bragg and now will be delivering both bridges and rails at Ft. Eustis. Preliminary testing at Ft. Bragg has been positive and the superior physical properties and environmental aspects of the AXIH technology make it a unique fit for the military and federal government. There are tremendous bridge and rail opportunities within the U.S. and the Company also is developing business internationally. Based on the progress AXIH is making across these target markets, Murphy Analytics is affirming a 12-month price target of \$5.00.

<b>AXIH Recent Price</b>	<b>\$2.45</b>	<b>Please review the risk factors outlined later in this report and the important disclosures and disclaimers at the end of this report.</b>
<b>AXIH - Recent Market Cap</b>	<b>\$40.5 million</b>	
<b>AXIH 52-Week Price Range</b>	<b>\$0.51 - \$3.35</b>	
<b>MA 12-Month AXIH Price Target</b>	<b>\$5.00</b>	

<sup>1</sup> <http://www.infrastructurereportcard.org/fact-sheet/bridges>  
<sup>2</sup> <http://cboblog.cbo.gov/?p=145>

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## AXIH – Recent Business Development and Corporate Highlights

**AXIH Announces Availability of Railroad Tie White Paper:** The report, published by SmallcapInsights.com<sup>3</sup>, contains a detailed discussion of the market for rail ties. Highlights from the report include:

- The U.S. maintains a network of 140,490 miles of railroad tracks, with over 3,000 ties per mile, or a total of over 420 million ties, approximately 20 million of which are replaced in the U.S. annually. At a price of \$120 / plastic tie, this implies a domestic market opportunity of over \$2 billion annually.
- From 1980 – 2003, the Class I rail carriers spent \$320 billion on capital expenditures and maintenance, with track related comprising about 2/3<sup>rd</sup> of that total.
- Wood ties typically last only 10 years on average, with shorter lives in wet climates. As noted below, although the installation cost is higher for plastic ties, a wood tie needs to be replaced as many as 4 – 6 times during the time a plastic tie remains usable.

Tie Type	Approximate Purchase Price	Approximate Installation Cost	Approximate Cost / Mile	Approximate Life
Plastic	\$120	\$35	\$465,000	40 - 60 years
Wooden	\$45	\$35	\$240,000	5 - 15 years

- The annual replacement of wood ties is estimated to require 5 million old growth hardwood trees, enough to cover 71 square miles. A study estimated that replacing 100 miles of track with plastic ties could reduce greenhouse gas emissions by the equivalent of 25,000 passenger cars. There are efforts in New York and elsewhere to ban the use of creosote, which is used as a preservative for wood ties. Creosote has been banned in the European Union<sup>4</sup>.

### Composites Technology<sup>5</sup> Releases Case Study on AXIH Thermoplastic Technology:

Among other findings, the report cites that preliminary testing of the AXIH bridge at Ft. Bragg indicates an estimated service life of over 50 years compared to 8 – 12 years for a comparably rated wooden bridge and 20+ years for a steel bridge. Additionally the thermoplastic bridge cost less than a conventional treated wood timber bridge designed to carry the same load. In summarizes the technical findings of the report, AXIH engineering manager George Nagle states that:

*“In a way, it’s a one plus one equals three situation in terms of strength factors and toughness. Once it’s extruded, the final material has specific strength equal to or greater than steel on a weight-by-weight basis.”*

<sup>3</sup> [http://www.trilogy-capital.com/sci/sci\\_wp122109.pdf](http://www.trilogy-capital.com/sci/sci_wp122109.pdf)

<sup>4</sup> <http://www.onlinelawyersource.com/creosote/poisoning.html>

<sup>5</sup> <http://www.compositesworld.com/articles/tough-i-beam-bridge-for-tank-traffic.aspx>

**AXIH Signs Milestone \$957,000 Contract for Construction of Railroad Bridges Made from Recycled Plastic:** Commissioned by the U.S. Army for installation at Fort Eustis, Virginia, home of the US Army Transportation Corps., these bridges will have a load rating capacity of 130 tons compared to 73 tons for tracked vehicles and 88 tons for wheeled vehicles at the AXIH Ft. Bragg bridges. The design and engineering work is being supported by general contractor Centennial Contractors Enterprise<sup>6</sup> and by Parsons Brinckerhoff<sup>7</sup>, a leading global infrastructure developer. The installations will include AXIH recycled structural composite (RSC) technology for both the bridge and the rail ties. Founded in 1885 and headquartered in New York City, PB is a leader in the development and operation of infrastructure to meet the needs of communities around the world. The firm provides strategic consulting, planning, engineering, and program and construction management services to both public and private sector clients. On 10/27/09, PB was acquired for \$626 million by U.K. based Balfour Beatty plc<sup>8</sup> (London Stock Exchange: BBY.L). BBY Founded in 1974, Centennial Contractors Enterprises, Inc. provides responsive contracting services that support large facilities and infrastructures by managing multiple construction projects focused on renovation, rehabilitation and repair work. In addition to being a pioneer and expert in Job Order Contracting (JOC) programs, Centennial provides solutions that are not only “best value” but integrated with the customer’s needs.

**AXIH Featured on CNN:** In early December, CNNMoney.com, a division of TimeWarner, interviewed CEO James Kerstein and profiled the AXIH technology, citing both the environmental and structural benefits.

**AXIH appoints Gary Anthony as CFO:** Mr. Anthony had been serving the Company in the position of Controller since September 2009 and became CFO in October. With his appointment as Chief Financial Officer and Secretary, Mr. Anthony assumes executive officer status with the Company and Subsidiary. Since October 2007, Mr. Anthony served as Controller of Xenomics, Inc., a molecular diagnostics company and from October 2008 through June 2009, as a Vice President. From November 2004 through October 2007, Mr. Anthony served as the Director of Accounting and Compliance for Palatin Technologies, Inc., a publicly traded pharmaceutical company. Mr. Anthony earned his BS in Accounting from Monmouth College in 1983.

**AXIH Completes Private Placement Financings:** On 9/25/09, AXIH completed the sale of 500,000 shares of restricted common stock and 50,000 3-year warrants with an exercise price of \$3.13 per share, raising \$975,000 in gross proceeds. On 11/16/09, AXIH completed the sale of 200,000 restricted common shares and 20,000 3-year warrants exercisable at \$2.91 per share, raising \$410,000 in gross proceeds. This investment was made by the same accredited investor who invested on 9/25/09 and serves as evidence of AXIH’s ability to raise capital outside the banking system.

<sup>6</sup> <http://www.cce-inc.com/>

<sup>7</sup> <http://www.pbworld.com/>

<sup>8</sup> <http://www.balfourbeatty.com/bby/about/strategy/>

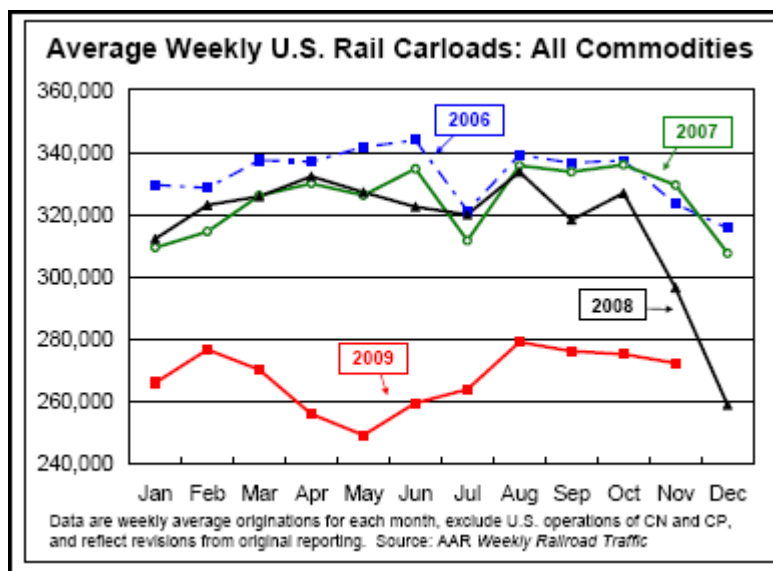
## Developments in the U.S. Rail Industry

**Berkshire Hathaway (NYSE: BRK-A) to Acquire Burlington Northern Santa Fe (NYSE: BNI) for \$100 / Share, approximately \$44 Billion in Cash and Stock:** Commenting on the acquisition<sup>9</sup>, Berkshire Chairman and CEO Warren Buffett said:

*“Our country’s future prosperity depends on its having an efficient and well-maintained rail system. Conversely, America must grow and prosper for railroads to do well. Berkshire’s \$34 billion investment in BNSF is a huge bet on that company, CEO Matt Rose and his team, and the railroad industry. Most important of all, however, it’s an all-in wager on the economic future of the United States. I love these bets.”*

BNI<sup>10</sup>, which operates 32,000 route miles in 28 states and two Canadian provinces, reported spending \$124 million for rail ties during Q3 09, consistent with a pace of approximately \$120 million per quarter during 2009. Operating roughly 20% of the nation’s rail lines, BNI’s rail tie expenditure implies a domestic rail tie market of well over \$2 billion (\$120 million / quarter \* 4 quarters / 20%) currently if all lines are maintained at a similar pace.

**The Association of American Railroads AAR Reports November Traffic<sup>11</sup> Continues to Show Improvement:** While the AAR graphic below<sup>12</sup> illustrates that rail traffic is significantly lower than during 2006 and 2007, it also shows a trend in 2009 that clearly is different from 2008. It seems reasonable to expect that as traffic stabilizes and eventually rises, the rail operators will have increased capital and need to address the maintenance of their networks.



<sup>9</sup> [http://www.bnsf.com/investors/berkshire-hathaway/pdf/berkshire\\_pressrelease20091103.pdf](http://www.bnsf.com/investors/berkshire-hathaway/pdf/berkshire_pressrelease20091103.pdf)

<sup>10</sup> [http://www.bnsf.com/investors/investorreports/3Q\\_2009\\_Investors\\_Report.pdf](http://www.bnsf.com/investors/investorreports/3Q_2009_Investors_Report.pdf)

<sup>11</sup> [http://www.aar.org/Home/AAR2/NewsAndEvents/PressReleases/2009/12\\_WTR/120909-RailTimeIndicators.aspx](http://www.aar.org/Home/AAR2/NewsAndEvents/PressReleases/2009/12_WTR/120909-RailTimeIndicators.aspx)

<sup>12</sup> [http://www.aar.org/Home/AAR2/NewsAndEvents/PressReleases/2009/12\\_WTR/~media/AAR/RailTimeIndicators/RailTimeIndicatorsDecember2009.ashx](http://www.aar.org/Home/AAR2/NewsAndEvents/PressReleases/2009/12_WTR/~media/AAR/RailTimeIndicators/RailTimeIndicatorsDecember2009.ashx)

## Infrastructure and Cleantech Index Overview

### PowerShares Cleantech Portfolio Fund<sup>13</sup>

#### Year to Date Performance:



#### Recent Top Holdings:

Corning Inc. - 3.46%  
 Cree Inc. - 3.12%  
 Schneider Electric S.A. - 2.92%  
 Siemens AG - 2.87%  
 ABB Ltd. - 2.71%  
 Iberdrola Renovables S.A. - 2.54%  
 Novozymes A/S - 2.51%  
 Roper Industries Inc. - 2.43%  
 Autodesk Inc. - 2.39%  
 Ansys Inc. - 2.34%

#### Select Metrics as of 9/30/09:

Recent Price/Earnings Multiple: 20.9x  
 Top Holding: 3.1% of the Fund  
 Top Country Allocation: U.S. 53%  
 Top Sectors: Industrials 61%, IT 24%, Utilities 6%  
 Current Price: \$24.16  
 52 Week Low and High: \$12.84 - \$24.98  
 1 Year Performance: -37%  
 Ticker: PZD

**Methodology:** Based on the Cleantech Index™ (Index). The Fund will normally invest at least 90% of its total assets in securities that comprise the Index and ADRs based on the stocks in the Index. The Index is designed to track the leading cleantech companies, from a broad range of industry sectors that offer the best investment returns.

### iShares S&P Global Infrastructure Index Fund<sup>14</sup>

#### Year to Date Performance:



#### Recent Top Holdings:

TRANSCANADA CORP - 4.98%  
 ENBRIDGE INC - 4.67%  
 ABERTIS INFRAESTRUCTURAS SA - 4.14%  
 E.ON AG - 4.02%  
 SPECTRA ENERGY CORP - 3.70%  
 GDF SUEZ - 3.69%  
 TRANSURBAN GROUP - 3.65%  
 ATLANTIA SPA - 3.63%  
 WILLIAMS COS INC - 3.13%  
 IBERDROLA SA - 2.84%  
 Total 38.46%

#### Select Metrics through 11/30/09:

Recent Price/Earnings Multiple: 17.7x  
 Top Country Allocation: U.S. 23%  
 Top Sectors: Industrials 39%, Utilities 39%, Energy 21%  
 Current Price: \$33.95  
 Year to Date Performance: 15.7%  
 1 Year Performance: 19.6%  
 Ticker: IGF

**Methodology:** The iShares S&P Global Infrastructure Index Fund seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of the S&P Global Infrastructure Index.

<sup>13</sup> <http://www.invescopowershares.com/products/overview.aspx?ticker=PZD#perfchart>

<sup>14</sup> [http://us.ishares.com/product\\_info/fund/overview/IGF.htm?qt=IGF](http://us.ishares.com/product_info/fund/overview/IGF.htm?qt=IGF)

## AXIH Risks

As discussed in detail in AXIH's SEC filings, which should be read in conjunction with this report, the Company faces various risks, including:

- The Company may not be able to generate profits.
- The Company is dependent on the ability to raise capital from external funding sources.
- Company auditors have expressed substantial doubt about the ability to continue as a going concern.
- Company products are new and have limited acceptance in the marketplace.
- The Company's operations will be highly reliant on 3<sup>rd</sup> party manufacturers.
- The Company's ability to generate profitable operations most likely will be materially affected depending on the availability and cost of the materials.
- Existing and potential competitors may have significantly greater financial, marketing and research resources.
- Company is dependent upon senior management.
- The Company may not have adequate protection for the IP rights upon which the business depends.
- Management and affiliates own enough shares to have a substantial impact on shareholder votes.
- Environmental liabilities and regulations may have an adverse effect on Company business.
- Warrants, debentures, options, preferred stock and new capital raises have the potential to dilute common shareholders.
- The Company is involved in certain legal proceedings including an action against Tonga Partners et al in which the Company was awarded a summary judgment of \$4.9 million related to the disgorgement of short-swing profits. The defendants have indicated that they will appeal the order.

## AXIH Historical Price Chart



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**Overview of the OTC Bulletin Board<sup>15</sup>**

The OTC Bulletin Board<sup>®</sup> (OTCBB) is a regulated quotation service that displays real-time quotes, last-sale prices, and volume information in over-the-counter (OTC) equity securities. An OTC equity security generally is any equity that is not listed or traded on NASDAQ<sup>®</sup> or a national securities exchange. OTCBB securities include national, regional, and foreign equity issues, warrants, units, American Depositary Receipts (ADRs), and Direct Participation Programs (DPPs). The OTCBB is a quotation medium for subscribing members, not an issuer listing service, and should not be confused with The NASDAQ Stock Market<sup>SM</sup>. There are no minimum quantitative standards which must be met by an issuer for its securities to be quoted on the OTCBB; however, the new Eligibility Rule limits quotations on the OTCBB to the securities of issuers that are current in their reports filed with the SEC or other regulatory authority. Issuers do not have any filing or reporting requirements with The NASDAQ Stock Market, Inc., or FINRA. Market Makers will be required to provide the periodic financial reports filed by OTCBB issuers with the SEC or other regulatory authorities pursuant to the Eligibility Rule. NASDAQ has no business relationship with the issuers of securities quoted on the OTCBB. Investors must contact a broker/dealer to trade OTCBB securities. Investors do not have direct access to the OTCBB service. The Securities and Exchange Commission's (SEC's) Order-Handling Rules which apply to NASDAQ-listed securities do not apply to OTCBB securities. It is important to note that FINRA has no regulatory authority over OTC Bulletin Board issuers. FINRA's responsibilities include establishing rules governing its broker/dealer members' business conduct; setting qualification standards for securities industry professionals; examining members for their financial and operational condition as well as their compliance with appropriate rules and regulations; investigating alleged violations of securities laws; disciplining violators of applicable rules and regulations; and responding to inquiries and complaints from investors and members. Due to the high level of risk involved in investing in Penny Stocks, the SEC created Rule 15g-2, which makes it "unlawful for a broker or dealer to effect a transaction in any penny stock for or with the account of a customer unless, prior to effecting such transaction, the broker or dealer has furnished to the customer a document containing the information set forth in Schedule 15G, Rule 15g-100, and has obtained from the customer a manually signed and dated written acknowledgement of receipt of the document." (SEC Rule 15g-2(a), Risk Disclosure Document Relating to the Penny Stock Market). If you believe that you have been defrauded by an OTC Bulletin Board issuer, you may file a complaint with your State Securities Regulator or contact the SEC's Office of Investor Education and Assistance.

<sup>15</sup> <http://www.otcbb.com/investorinformation/investorinfo.stm>