

Executive Summary

Project Background

Amid the languid economic recovery from the Great Recession, public and private economic development organizations are actively using incentives to attract employers that promise sustainable, higher wage jobs while also capable of developing a network of local suppliers. Big River Steel (BRS) proposes to build a \$1.1 billion electric arc furnace (EAF) steel mill in Mississippi County in northeast Arkansas. The proposed plant will be located on a 1,140-acre site about seven miles southeast of the City of Osceola with frontage on the Mississippi River, have an initial annual production capacity of 1.7 million short tons per year and create 525 full-time jobs.

Amendment 82 of the Arkansas Constitution enables the General Assembly to authorize the issuance of general obligation (GO) bonds to attract large economic development projects having a minimum investment of \$500 million and creating at least 500 permanent jobs with an average annual salary of at least \$70,000. The State is considering Amendment 82 bonds to support the development of the BRS Project. In order for the General Assembly to evaluate the bond issue, the Arkansas Economic Development Commission (AEDC) has conducted a cost-benefit analysis of the proposed incentive package that solely considers the costs incurred and benefits accrued by the State. Amendment 82 grants the State the option to hire independent consultants to perform a third party review of the AEDC's cost-benefit analysis. IHS Global Insight (IHS) was retained by the State of Arkansas to perform such a review, focusing on two areas: 1) the long-term economic viability of the proposed BRS plant; and 2) the benefit-cost analysis performed by the AEDC. The results of IHS Global Insight's review are summarized below.

The economic incentive package being considered will consist of a \$125 million GO bond issue with two components: 1) a \$75 million issue to pay for site improvements and 2) \$50 million as a low-interest loan to BRS. The State will also provide other types of economic incentives in form of tax credits, deductions, and refunds and in-kind services. The major incentive being considered is a credit against the State's corporate income tax under the Recycling Equipment Tax Credit Program that has a potential value of up to \$216 million. Other incentives under consideration include: the Arkansas Advantage Program; Tax Back Program; provision of \$10 million in customized job training; and exemptions to or refunds of the sales and use tax for purchases of equipment, materials, electricity and natural gas. Further detail on the economic incentives is provided in the full IHS report.

Economic Viability of the Big River Steel Plant

Steel Market Sizing

To determine the long term viability of Big River Steel, IHS assessed the potential market size for the products the facility will produce. Over the next ten years, IHS research indicates the largest total addressable US market available to BRS for its steel products is slightly less than 9 million short tons. We define the market size opportunity for BRS as steel consumption in excess of pre-

recession levels and some portion of non-NAFTA imports that depend on the individual dynamics of each market defined below. Each market is assessed based on our ten year forecast (i.e. market conditions in 2023).

Using IHS estimates of operating costs for electric arc furnace facilities in the United States, we expect an industry-wide average operating profit of \$90/ton over the next decade. This equates to an operating margin of 12%, based on our price and cost estimations. Projected BRS capital cost figures are in line with comparable facilities built in recent years.

The steel industry can absorb the addition of Big River Steel, both Phase I and Phase II, from a capacity perspective. However, if any other major facilities, other than projects already announced, were to be added to the US steel stock, the industry would quickly find itself in a highly competitive, zero-sum environment. If this occurs, the BRS production goals and operating margins are not achieved. While decreasing margins will affect profits and corporate income taxes, the real threat to not having a positive benefit-cost ratio is the level of production; if these decline, then the indirect and induced effects decline, which drags down tax revenues.

Financial Cost-Benefit Analysis

The AEDC performed two cost-benefit scenarios that included the \$10 million in job training services: 1) a 20-year analysis with no early payoff of the \$50 million incentive loan; and 2) a 20-year analysis with an early payoff. The AEDC's analysis estimated positive net economic benefits, on a net present value basis (NPV), for both combinations, ranging from \$54.2 million for the former to \$49.8 million for the latter. The AEDC did not provide any detail on the specific types and values of the individual benefits in its report, but nonetheless identified and described the general methodologies employed in a written response requested by IHS. In our judgment, the types of benefits and costs considered in the AEDC cost-benefit analysis were appropriate, and to the best of our judgment, the methodologies were sound. The AEDC also employed generally conservative assumptions so as not to overestimate the benefits or underestimate the costs.

IHS asserts that the AEDC has, to some extent, overestimated the long-term, net economic benefits of the incentives being considered for the BRS project, primarily because they did not fully consider the uncertainties that surround some of the key assumptions identified in the following paragraph. These uncertainties could negatively impact the project's net economic benefits or possibly result in costs exceeding benefits. IHS agrees with AEDC's finding that modest net economic benefits are likely to be generated from the incentive package if the BRS plant operates consistently at the projected levels of employment and output, and achieves the operating margin noted above. However, there is at least some chance that costs could exceed benefits if these operating criteria are unmet and other uncertainties (see paragraph below) emerge. We recommend the AEDC conduct additional sensitivity analyses to determine the extent to which these uncertainties would significantly reduce the benefits or result in the State incurring higher net costs for the benefit package being considered. The State has appropriately inserted claw back and penalty language in its offer letter to recover costs if BRS does not meet defined performance criteria.

The major sources of uncertainty affecting the cost-benefit analysis are: 1) the likelihood that the BRS plant will operate consistently at the projected levels of production and employment so as to yield the overall economic impacts and attendant increases in tax revenues necessary to pay off the bonds; 2) the large size and timing of the Recycling Equipment tax credit which will prevent the State from receiving any increase in corporate income tax revenues until late in the project; 3) the share of inputs and supplies that will be purchased from Arkansas vendors during operations; and 4) the share of BRS's income that will be subject to the corporate income tax since the majority of the BRS plant's production will be sold out of state. Other variables, such as the effective tax rates, are also uncertain and will affect the level of tax revenues generated by the project.

IHS' cost-benefit analysis yielded slightly lower net economic benefits than those estimated by the AEDC, and in certain scenarios resulted in costs exceeding benefits. Our baseline scenario that attempted to mirror AEDC's analysis yielded positive net economic benefits with an NPV of +\$50.4 million using the 3% discount rate, and +\$30.13 million using a 5% discount rate. The AEDC did not indicate the discount rate they used; the bond schedule indicates the State's current cost of capital is 3%. If AEDC used a 5% discount rate, then the net benefits of our baseline scenario are about half the AEDC estimate; if AEDC used a 3% discount rate, our baseline results are similar.

IHS then performed a variety of sensitivity analyses to evaluate the areas of uncertainty by decreasing performance (i.e., lowering the capacity utilization factor, allowing for a ramp up in production, decreasing effective tax rates, changing growth rates in prices, etc.) to evaluate the downside risk. In virtually all scenarios the net economic benefits were barely positive and in some cases costs exceeded benefits.