
AN ANALYSIS OF THE ECONOMIC IMPACTS AND FINANCING OF THE PROPOSED COAL-FIRED POWER PLANT IN EARLY COUNTY

An Economic Brief by the Ochs Center for Metropolitan Studies

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the **Ochs Center**
for metropolitan studies

EXECUTIVE SUMMARY

In December 2004, Early County and the Early County Industrial Development Authority entered into an agreement with Longleaf Energy Associates (LEA) whereby the Development Authority and County will provide a series of tax benefits and financing support for construction of a coal fired plant along the banks of the Chattahoochee River.

County officials acted on the basis of both projected economic benefits and additional tax revenue. County officials also were led to believe that the project would be largely risk-free – the County and Development Authority would not assume any liability for debt or other related costs.

The Tax Agreement is set to expire on March 31, 2009 unless the permitting process is completed by that date. Now is the right time for County officials to review the Agreement, ask hard questions and re-assess the County's position in light of a series of changes that have occurred. Since 2004, increasing construction costs, impending federal regulation and the escalating cost of coal have greatly increased the risk of financial failure of coal-fired power plants nationally.

Escalating cost of coal: The fundamental justification for the construction of new coal fired power plants has been the abundance of cheap coal. However, since 2004, the price of coal has significantly increased.

Increasing construction costs: Increased worldwide competition for construction resources and materials has caused a dramatic increase in the cost of building coal-fired power plants. The estimated \$2 billion cost of the LEA plant in Early County is outdated and falls far below the norm for current construction estimates for coal plants across the country. It is reasonable to expect that the real construction cost for the plant today could be as much as twice the original estimate – or \$4 billion.

Impending federal regulation: President Obama has made it clear that his administration will pursue greater regulation of greenhouse gases through a cap and trade program. These impending regulations are likely to greatly increase the cost of producing energy from coal, even for plants with the most state of the art carbon abatement equipment. The recent spill of coal fly ash at the TVA's Kingston Plant in Tennessee has also increased the potential of additional regulation and new cost related to the operation of coal fired plants.

Changes in the corporate structure of LEA reflect a growing uncertainty around the financial feasibility of new coal fire plants.. On January 2nd 2009 Dynegy, Inc. announced that it would terminate its agreement with LS Power to build four coal-fired power plants, one of which was the 1200 MW plant proposed for Early County. According to Bruce Williamson, Chairman, President and Chief Executive Officer of Dynegy, Inc, “[T]he development landscape has changed significantly since we agreed to enter into the development joint venture with LS Power in the fall of 2006. Today, the development of new generation is increasingly marked by barriers to entry including external credit and regulatory factors that make development much more uncertain.”

Given these changes, the County and Development Authority have a fiduciary responsibility to revisit the terms of the 2004 Tax Agreement. The current Tax Agreement between LEA and the Development Authority is clear that the flow of the bulk of revenue to the County is dependent on plant operation. Project failure for economic reasons would mean that most of the tax revenue would never be realized. Yet, if construction were to proceed, there are unresolved issues of potential liability for the County.

Moreover, our analysis suggests that the originally promised economic benefits of the plant to Early County will not be realized even if the plant were constructed and went into operation.

Most employment benefits will not go to Early County. Given the population trends and demographics of Early County and the surrounding region, even the Troy University study projects that less than one in five jobs created through construction would go to Early County.

Estimates of Projected Economic Benefits to Early County have been overstated. The 2004 Economic Impact Study by Troy University significantly overstated the direct and indirect economic impacts for both the construction and operations of the LEA Plant. Given the demographics and economics of the region, it seems unlikely that construction related employment in Early County would rise to the 254 jobs per year projected by the Troy University study. If construction employment were allocated in proportion to the seven county region population, just 347 years of construction employment would benefit Early County residents – or just under 70 jobs per year.

Overall economic benefits to the County would be lower than projected even if construction employment in Early County reached 254 jobs. Instead of a direct, indirect and induced five year economic impact on Early County totaling \$377.9 million, the Ochs Center estimates an impact of \$163.5 million – 56.7% lower than the Troy University study.

The Troy University study projects a total average annual economic impact and employment for plant operation of \$301.96 million and 178 jobs. The Ochs Center Analysis suggests a much lower employment and economic impact of 36 annual jobs and \$34.69 million in total compensation, proprietary income, and output.

For all of these reasons, the time is ripe for the County and Development Authority to revisit the terms of the initial Tax Agreement. The Agreement terminates if permitting is not in place by March 31, 2009. This is an opportunity for the County to reassess the terms of the Agreement, better protect against potential liability, and consider the potential for other less risky, more certain forms of job creation and economic development.

INTRODUCTION

On January 2nd 2009 Dynegy, Inc. announced that it would terminate its agreement with LS Power to build four coal-fired power plants, one of which was the 1200 MW plant proposed for Early County. According to Bruce Williamson, Chairman, President and Chief Executive Officer of Dynegy, Inc, “[T]he development landscape has changed significantly since we agreed to enter into the development joint venture with LS Power in the fall of 2006. Today, the development of new generation is increasingly marked by barriers to entry including external credit and regulatory factors that make development much more uncertain.”

Since 2004, the cost of coal, increasing construction costs and impending federal regulation have greatly increased the risk of financial failure of coal-fired power plants. Dynegy’s decision to withdraw from its partnership is a direct result of these increased risks.

Early County’s original decision to support the construction of the Longleaf plant in 2004 was based on a series of analyses suggesting both tax revenue and employment benefits for the residents of Early County. However, given these recent developments and the growing risks associated with coal, it may be an appropriate time to reevaluate the financial viability of the plant and whether or not it has potential to provide viable economic benefits to the citizens of Early County.

At the request of concerned taxpayers from Early County and with funding from the Rockefeller Family Fund, the Ochs Center for Metropolitan Studies has examined a series of questions related to the economics and finances of the proposed plant.

The analysis includes the following components:

- A review of all financial documents related to the decision and approval of financing and tax agreements between LEA and Early County
- Consultation with national experts and a review of recent trends in the coal and coal-based energy industries
- An economic impact analysis of the construction and operation phases of the plant

This report outlines the Ochs Center’s assessment of the economic impacts and general concerns raised regarding the financing and long-term viability of the plant.

FINANCING AND ECONOMIC CONCERNS

DEVELOPMENTS IN THE COAL AND COAL-BASED ENERGY INDUSTRIES SINCE 2004 HAVE INCREASED THE COSTS AND RISKS ASSOCIATED WITH COAL-FIRED POWER PLANTS

Across the country, dozens of proposed coal-fired power plants have been canceled or postponed due to their inherent risks. Rapidly rising construction costs, impending carbon regulation, and escalating coal fuel costs over the past five years have dramatically increased the financial risk of developing coal-fired power plants. These cumulative risks have caused concern in the investment community about the financing of new coal plants through bonds and potential negative ratings for public power providers.

THE COST OF COAL

The price of coal has soared since the December 2004. The two potential sources of coal for the LEA plant were identified as either the Powder River Basin or Central Appalachia. According to spot market pricing data from the federal Energy Information Administration, the per ton cost of Powder River Basin coal was \$5.75 the week that the LEA Tax Agreement was signed: the week ending January 9, 2009, the cost was more than double -- \$13.00. The cost of Central Appalachia coal had also increased from \$66.50 to \$76.80 per ton.

RISING CONSTRUCTION COSTS¹

Coal power plant construction costs have risen dramatically in recent years as a result of a worldwide competition for design and construction resources, equipment and commodities like concrete, steel, copper and nickel. Coal-fired power plants that were estimated to cost \$1500 per kilowatt in 2002 are now projected to cost in excess of \$3500 per kilowatt.

The December 2004 Tax Agreement between LEA, Early County and the Development Authority states that the construction costs for the plant will be not less than \$920 million. Since then, published reports have placed the cost at \$2 billion, or about \$1,667 per kilowatt. Unfortunately, there are no details for this cost estimate and it is not clear whether this \$2 billion figure represents only the estimated construction cost or also includes the cost of borrowing the funds needed to construction expenditure (i.e., financing costs).

Even assuming that LEA's \$2 billion cost only includes the cost of construction, the plant's projected \$1,667 per kilowatt construction cost is significantly lower than the recently estimated costs of other coal-fired power plants that are being proposed for the same approximate time frame as the Early County plant.²

Recent Coal-Fired Power Plant Cost Estimates (nominal year dollars, no financing costs)

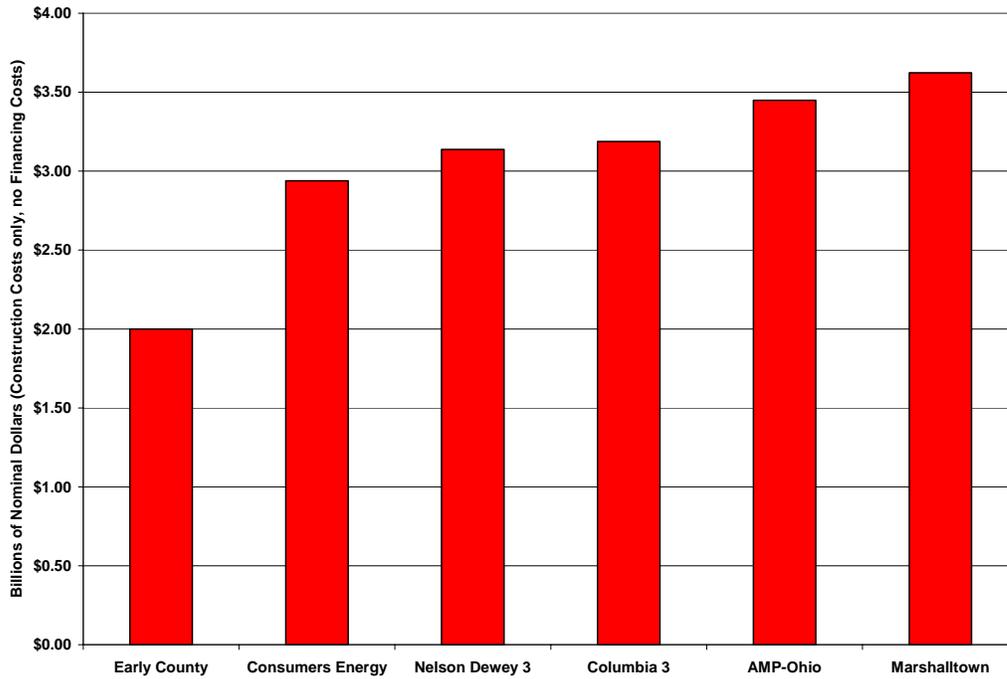
Plant	Owner	Date of Estimate	Total Cost (Billions)	Size (MW)	Cost/kW
Early County	Longleaf Energy Associates	Unknown	\$2.00	1200	\$1,667
Consumers Energy	Consumers Energy	September-07	\$2.21	800	\$2,765
Nelson Dewey 3	AMP-Ohio	January-08	\$1.26	326	\$3,865
Columbia 3	Wisconsin Power & Light	September-08	\$1.28	326	\$3,926
AMP-Ohio	Wisconsin Power & Light	September-08	\$2.95	960	\$3,073
Marshalltown	Iowa Power & Light	September-08	\$2.23	600	\$3,717

This comparison shows that the \$2 billion estimated construction cost of the Longleaf Energy Associates plant is only about 60 percent to two-thirds of the recently estimate costs of other coal plants, even if a conservative adjustment is made to reflect economies of scale that might be gained from building a 1200 megawatt facility.

¹ The analysis for this section was prepared by David Schlissel, of Synapse Energy Economics, Inc.

² The announced \$2 billion cost for the plant in Early County would be even more inconsistent with the recently estimated costs of other coal plants if the figure includes both construction and financing costs.

Comparison of Estimated Construction Cost of LEA’s 1200 MW Plant with Recent Power Plant Construction Cost Estimates (adjusted for 1200 MW size)



It is reasonable to expect that the actual cost of building the LEA plant in Early County will be significantly higher than estimated. This will increase the cost of generating power at the plant and will make alternatives to coal-based energy more economically feasible.

IMPENDING NEW FEDERAL REGULATION

None of the underlying assumptions for the proposed plant in Early County appear to consider the cost of impending new greenhouse gas emissions regulations. Cap and trade legislation for greenhouse gases has been proposed in Congress and President Obama’s current proposed budget projects revenue from a cap and trade program. As a result of this impending regulation, several large investment banks are now requiring enhanced due diligence for new coal plants. The federal Department of Agriculture’s Rural Utilities Service has initiated a moratorium on certain federally subsidized coal fired power plant projects, stating that rising construction costs and the uncertainty of future carbon risks have made these investments “speculative” and unsuitable risks for the investment of tax dollars.

The recent spill of coal ash at the TVA coal fired plant in Kingston Tennessee has also led to new calls for regulation of that aspect of coal fired plant operation as well. Recent published reports suggest that industry officials have acknowledged both the likelihood of new regulation and its cost of implementation, estimated at as much as \$5 billion a year nationally.³

³ Bloomberg News, December 31, 2008.

POTENTIAL RISKS FOR EARLY COUNTY

The Tax Agreement between LEA and the Early County Development Authority is clear that the flow of revenue to the County is dependent on plant operation. Project failure for economic reasons would mean that most of the tax revenue would never be realized. With the exception of the upfront payments provided in the Tax Agreement, Early County and the Development Authority would apparently not receive any of the tax or other fiscal benefits contemplated under the agreement in the event of default or other project failure: the Tax Agreement provides that “[E]xcept for the upfront payment, the Company shall not be required to make any additional supplemental payments to the Authority or the County until the Date of Initial Operation of the Project.” Rent to be paid to the Development Authority – for the purposes of paying off the bonds – is, under the Tax Agreement, “nonrecourse to the Company and payable only from the revenues and other amounts generated by the Project and secured by the Project under the Security Documents.”

There does not seem to be potential risk to the County and Development Authority for the actual debt. The Tax Agreement provides that the financing “shall be non-recourse to the Authority and all other public bodies and without pecuniary liability to the Authority or any other public bodies.”

But both the County and the Development Authority could face other potential legal liability. The Tax Agreement has certain provisions whereby LEA will indemnify the County and Development Authority against potential liability “in connection with the acquisition, construction, installation, equipping, use and/or operation of the Project, including, without limitation any such liability or costs incurred by the Authority in connection with environmental or other claims arising as a result of the Authority’s ownership of the Project.”

But the indemnification would seemingly be of little value if the indemnifying entity LEA – not LS Power – were to go bankrupt. For example, if construction began, LEA defaulted and went bankrupt, the Development Authority as property owner might be liable for environmental or construction related claims. Unpaid contractors could seek recovery through mechanic’s liens on the property and regulatory agencies could seek redress from the County or Development Authority.⁴ Whether such actions would be successful or not, the County and Development Authority would face costs related to litigation.

Issues related to potential legal liability could all be cured through additional protections in the Tax Agreement. For example, the County and Development Authority could require an escrow account for payment of all construction costs and bonds for any potential environmental liability.

But if the plant is never completed or operation ends, none of the projected economic impact will be realized. Instead of an economic boon, the plant could be a “white elephant” along the shores of the Chattahoochee River.

⁴ Generally, mechanic’s liens cannot be filed on public property in public use. Some states, however, have applied exceptions to this rule in the case of public properties in private use.

Economic Impact Analysis

Even if, despite economic and financial risk, the LEA plant were to go forward, it would not result in the employment and economic benefits to Early County that have been promoted by proponents of plant construction.

2004 TROY UNIVERSITY ECONOMIC IMPACT ANALYSIS FINDS THAT MOST EMPLOYMENT BENEFITS WILL NOT GO TO EARLY COUNTY

While Early County will bear most of the potential environmental risk and all of the legal, economic and financial risk of the proposed LEA plant, most of the projected economic benefits will go to non-Early County residents and businesses.

A 2004 economic impact analysis conducted by Troy University (hereafter “the Troy University study”) projected that the construction of the proposed LEA plant in Early County would produce 9,455 jobs and a total direct, indirect and induced impact of \$1.069 billion over the five-year construction period.⁵ The Troy University analysis was based on a \$1.265 billion total cost for the proposed plant, with a local, non-equipment construction cost of \$625.1 million. As noted earlier, it is likely that the overall cost of the plant will significantly exceed this estimate: virtually all of these increases in plant construction cost, however, would affect those aspects of the total construction cost unrelated to local employment or acquisition of equipment or material.⁶

In assessing the overall economic impact of the plant – both the construction phase and subsequent operation – the Troy University study makes clear that a significant portion of the employment and other economic benefits that it projects would go to residents outside of Early County and outside of Georgia.

The Troy University study estimates direct employment on the construction project at 4,390 jobs over five years – or an average of 878 jobs per year. Out of this total, the Troy University study estimates that just 1,270 – or 254 jobs per year – would go to Early County residents. Overall, out of the projected \$1.069 billion in economic impact, less than one-quarter (23.9%) would go to Early County. Similarly, less than one in five jobs projected to be created – directly and indirectly -- through construction would go to Early County residents.

The Troy University study acknowledges that “a significant portion of the construction contractors and labor would come from Henry and Houston counties” and “the number of Early County residents likely to work on construction of the proposed plant would be somewhat limited.”⁷ As for indirect and induced economic impact, the study notes that “[Early County’s] retail base would likely be limited in its ability to respond to this

⁵ Holmes, Mac, *Projected Economic Impacts of a Proposed Electric Power Plant in Early County, Georgia*. Troy University Center for Business and Economic Services, November 2004.

⁶ For a discussion of plant costing issues, see The Brattle Group, *Rising Utility Construction Costs: Sources and Impacts*, The Edison Foundation, September 2007; Wald, Matthew, *New Type of Coal Plant Moves Ahead, Haltingly*, New York Times, December 18, 2007; DOE/NETL, *Cost and Performance Baseline for Fossil Energy Plants, Volume I, Bituminous Coal and Natural Gas to Electricity, Parameter Assumptions for Capital Charge Factors*, pg. 52, Revision: August 2007.

⁷ Holmes at p. 13, 18.

relatively temporary boom in spending (during the construction phase), and much of the impact would likely be spread into surrounding counties.”⁸

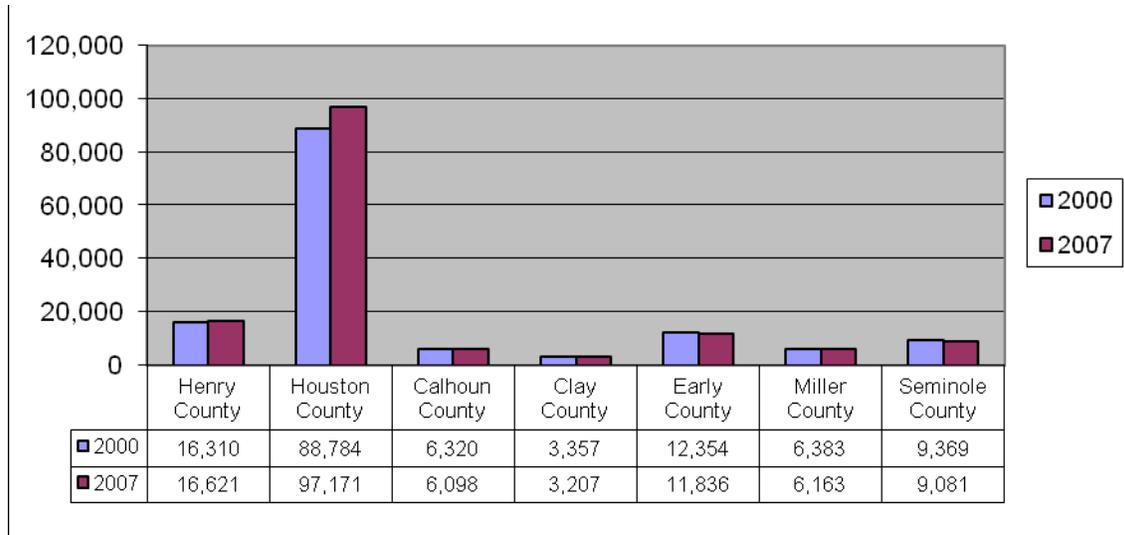
THE TROY UNIVERSITY STUDY MAY OVERESTIMATE EARLY COUNTY EMPLOYMENT DURING THE CONSTRUCTION PHASE

The disproportionate degree to which projected benefits would flow out of Early County is consistent with the demographics and economics of the region. Still, the Troy University study may overestimate the degree to which construction employment will go to Early County residents and firms.

While Early County accounts for just 7.9% of the region’s population, the Troy University study projects that 28.9% of construction employment would go to Early County residents.

Based on County population estimates from the U.S. Census Bureau for 2007, there are just over 150,000 residents of Early County and the six neighboring counties (Calhoun, Clay, Henry, Houston, Miller and Seminole). A majority – 64.7% -- now live in Houston County, Alabama. While Early County’s population has declined by 4.2% since 2000, Houston County’s population has grown by 9.4%.

2000-2007 Population Increase: Early County and Surrounding Counties



Compared to Houston County, the economic infrastructure of Early County is very limited. For example, according to 2007 Bureau of Labor Statistics Quarterly Census of Employment and Wages data, Houston County had 2,971 private sector firms employing 42,123 individuals: Early County had less than one-tenth of the number of private sector firms (281) and just seven percent of the workforce of Houston County. Houston County had nearly twenty five times the number of employees in construction as Early County.

⁸ Holmes at p. 20.

Given the demographics and economics of the region, it seems unlikely that construction related employment in Early County would rise to the levels projected by the Troy University study. If construction employment were allocated in proportion to the seven county region population, just 347 years of construction employment would benefit Early County residents – or just under 70 jobs per year.

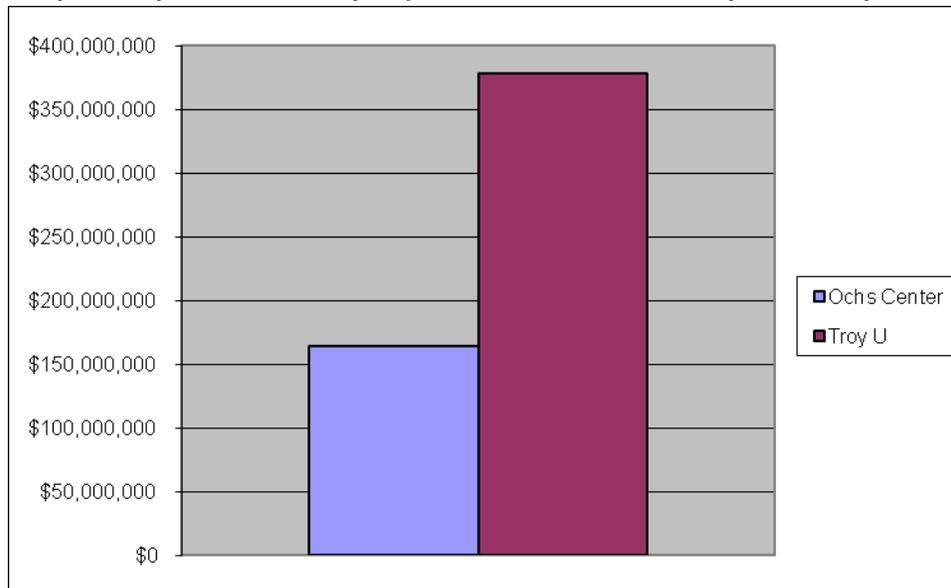
ESTIMATES OF PROJECTED ECONOMIC BENEFITS TO EARLY COUNTY ARE OVERSTATED IN THE TROY UNIVERSITY STUDY

Even if employment in Early County reached projected levels, the Troy University study significantly overstates economic benefits. Using the direct construction employment figures for Early County presented in the Troy University study, the Ochs Center constructed an input-output impact model. This model was developed using IMPLAN, an impact modeling software program created by the Minnesota IMPLAN Group, Inc.

Instead of a direct, indirect and induced five year economic impact on Early County totaling \$377.9 million, the Ochs Center estimates an impact of \$163.5 million – 56.7% lower than the Troy University estimate.

Using the same employment projections, the Troy University study projected a direct economic impact of \$327.2 million for Early County. The Ochs Center estimate is significantly lower -- \$138.4 million, or 57.7% less than the Troy University projection. While the underlying assumptions of the Troy University study are unknown, one explanation for the difference may be in estimated compensation for construction work. Overall, the Troy University study estimates total construction wages and salaries of \$98.1 million over five years for the equivalent of 1,886 full time job-years of employment – an average of \$52,014 per position. By comparison, the Ochs Center estimates average compensation of \$27,608 per position.⁹

Early County Total Monetary Impact: Ochs Center vs. Troy University



⁹ IMPLAN estimates income from U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages program and U.S. Bureau of Economic Analysis Regional Economic Information System program.

The reduced estimate of direct impact leads to lower estimates of indirect and induced impacts. The Ochs Center projection of indirect impact for the project in Early County is \$10.9 million – or 46.1% less than the Troy University projection of \$20.2 million. Moreover, the related indirect employment projection of 88 jobs is significantly less than the projection of a five year total of 223 jobs under the Troy University study, or an average of 17 jobs per year rather than the original projection of 45.

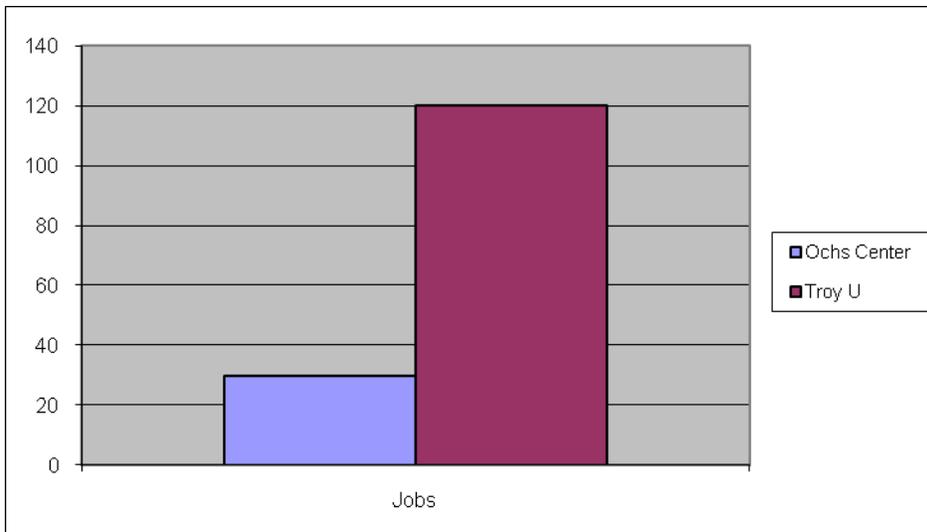
The Ochs Center projection of induced impact for the project in Early County is \$14.3 million – or 53.2% less than the Troy University projection of \$38.4 million. Moreover, the related indirect employment projection of 123 jobs is significantly less than the projection of a five year total of 393 jobs under the Troy University study, or an average of 25 jobs per year rather than 79.

TROY UNIVERSITY STUDY OF ECONOMIC IMPACT OF PLANT OPERATION FAILS TO RECOGNIZE THAT MOST EMPLOYEES AT THE PLANT WOULD NOT BE FROM EARLY COUNTY

The Troy University study also projected that 40% of the 120 workers employed due to plant operation will reside in Early County, resulting in \$3.4 million in annual employee compensation, including \$2.62 million in wages and salaries.

This assumption, the validity of which itself is questionable, is not reflected in the direct impact estimates provided in the Troy University study. Instead, for the purposes of determining direct impact, the Troy University study assumes that all 120 jobs and \$6.54 million in wages in the initial year of operation, the entirety of which will be retained within Early County – despite the fact that only 7.9% of the region’s population is in Early County.

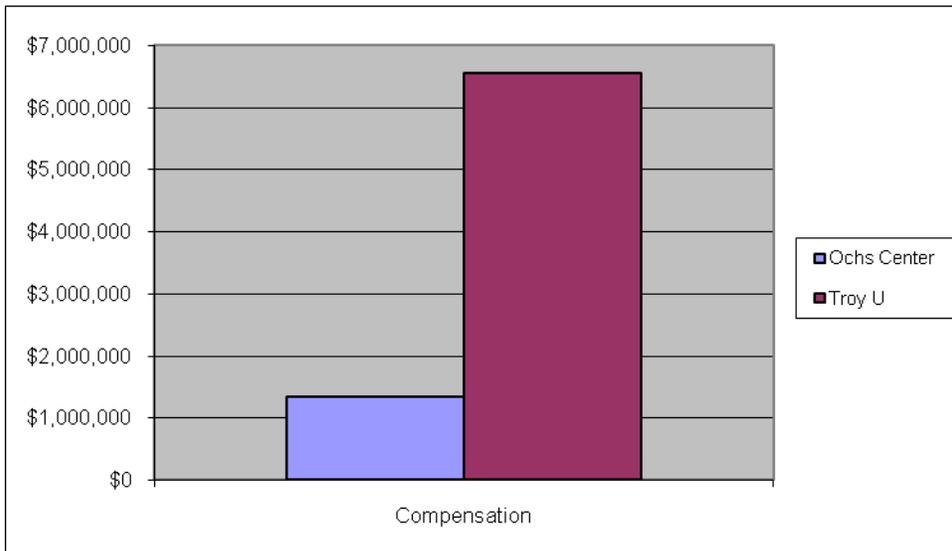
Early County Direct Employment Effect: Ochs Center and Troy University, 2011



For the purposes of estimating the impact of construction, the Troy University study even assumes that only 28.9% of jobs will be held by Early County residents. In the operations phase, Troy University estimates that 40% of workers will reside within the county.

A more realistic assumption would be that 25% of plant employees would reside in Early County. Based on this assumption, the Ochs Center projects a total of 30 employees with an aggregate compensation of \$1.3 million in the initial year of operations. The Ochs Center projects an average salary of \$44,790 for Early County Plant workers based on BLS Quarterly Census of Employment and Wages (ES202) and REIS data.

Early County Direct Compensation Effect: Ochs Center and Troy University, 2011



In subsequent years of operation, the Ochs Center estimates a 5% decrease in workers retained within Early County based on existing and projected population trends in Early and Houston Counties¹⁰.

TROY UNIVERSITY STUDY OVERSTATES INDIRECT AND INDUCED EFFECTS FROM PLANT OPERATIONS

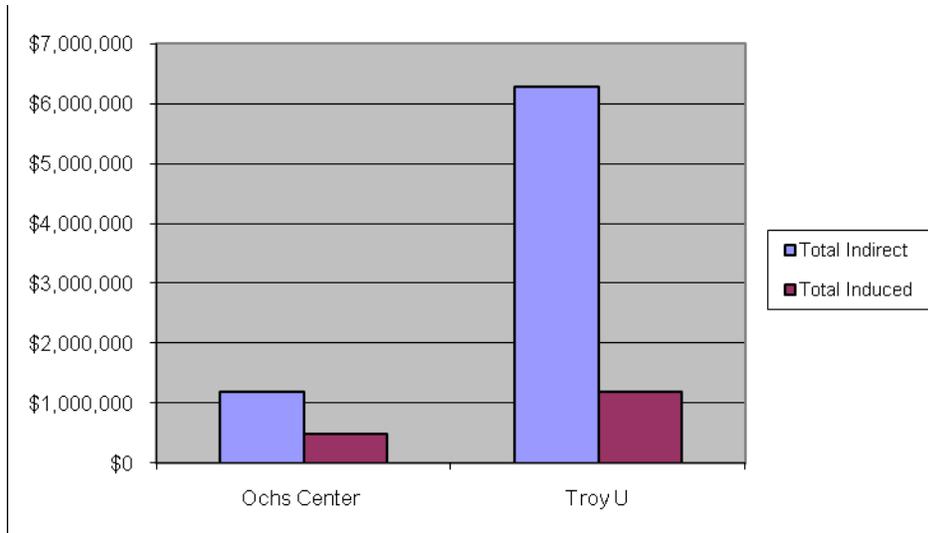
Given the differing assumptions on direct impact, it appears that the Troy University study has significantly overstated the induced and indirect impacts of the plant in Early County.

In its first year of operation, the Troy University study projects that the plant – through indirect and induced impacts – would produce another 70 jobs and \$7.47 million in compensation, proprietor’s income, and output. Using the Ochs Center’s projection of direct impact and the IMPLAN model, the Ochs Center projects that in its first year the plant would only yield 13 jobs and \$1.67 million in compensation, proprietor’s income, and output.

¹⁰ Estimated reduction in resident workforce after 2015 is based on projected increases in commuting from Houston County, Alabama.

This pattern holds true over the twenty-year horizon of analysis in the Troy University study. Over the full period, the Troy University study projects an average of 178 jobs per year – over five times that estimated by the Ochs Center. Similarly, the Troy University estimate projects an average of \$5.87 million in induced and indirect compensation, proprietor’s income, and output over the twenty-year horizon – over four times the Ochs Center estimate.

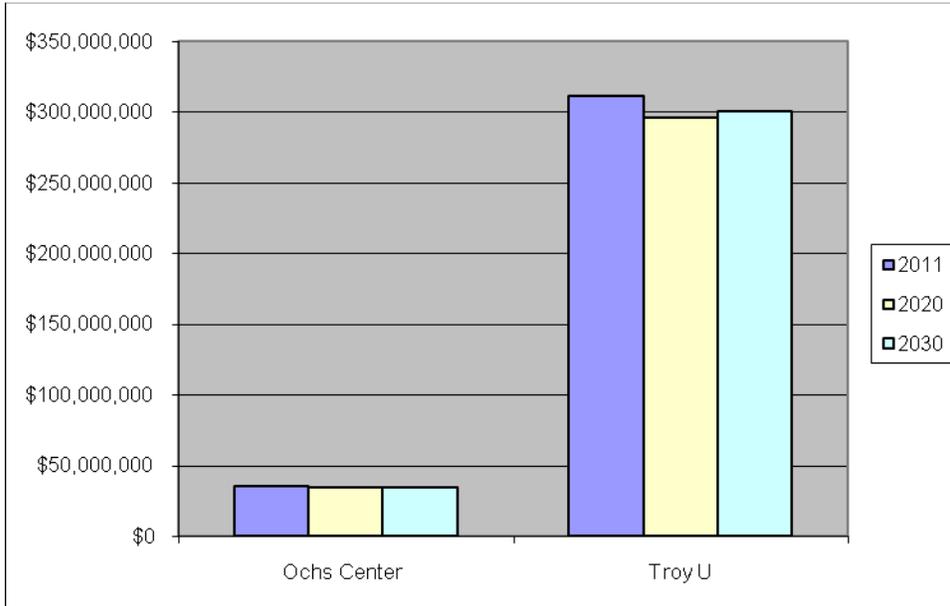
Early County Total Indirect and Induced Effects: Ochs Center and Troy University, 2011



TOTAL IMPACTS RESULTING FROM PLANT OPERATIONS

For the years included in the analysis (2011, 2015, 2020, 2025, and 2030), the Troy University study projects total average annual economic impact and employment of \$301.96 million and 178 jobs. The Ochs Center analysis – based on IMPLAN and a more modest assumption regarding the residence of plant workers – suggests a much lower employment and economic impact. Ochs Center estimates the creation of an average of 36 annual jobs and \$34.69 million in total compensation, proprietary income, and output.

Early County Total Impacts, Ochs Center and Troy University



CONCLUSION

Absent permitting of the plan, the Tax Agreement signed in December 2004 between LEA, the Development Authority and Early County is subject to termination on March 31, 2009. Given the major uncertainties in construction costs, the cost of coal, impending federal regulations, and the limited economic benefits for Early County, now is the right time for the County and Development Authority to reassess the terms of the Agreement, better protect against potential liability, and consider the potential for other less risky, more certain forms of job creation and economic development.

About the Ochs Center and the Authors

The Ochs Center for Metropolitan Studies (formerly known as the Community Research Council) is a not for profit corporation based in Chattanooga, Tennessee that conducts data analysis and policy research. In addition to its work in the Chattanooga area, the Ochs Center also works on select projects at the regional and national level.

Dr. William Tharp is a Senior Policy Analyst at Ochs Center. His recent work includes an analysis of the economic impact of the proposed May Town Center development in Nashville, a year long study of the economic impact of the Chattanooga Metropolitan Airport, a detailed analysis of workforce trends and needs for the Chattanooga Area Chamber of Commerce and a soon to be published study of the use of broadband access as an economic development tool by the IBM Center for the Business of Government. Prior to joining the Ochs Center, Dr. Tharp was a Finance Officer with the Metro Nashville Office of Management and Budget. He holds his Ph. D. in Urban Affairs from the University of Louisville has taught as an adjunct at Vanderbilt and currently holds the rank of Associate Professor of Public Administration at the University of Tennessee at Chattanooga.

David Eichenthal is President and CEO of the Ochs Center. He also holds the title of Nonresident Senior Fellow at the Brookings Institution Metropolitan Policy Program. Prior to joining the Ochs Center, Mr. Eichenthal was Chief Finance Officer of the City of Chattanooga. He also served as the Chair of the Chattanooga Downtown Redevelopment Corporation. Mr. Eichenthal holds a B.A. in Public Policy Studies from the University of Chicago and a J.D. from New York University School of Law. He has taught as an adjunct at New York University, Baruch College and Georgia State University and currently holds the rank of Associate Professor of Public Administration at the University of Tennessee at Chattanooga.