The Economic Impacts of Entergy Texas, Inc.'
Orange County Power Station

prepared for

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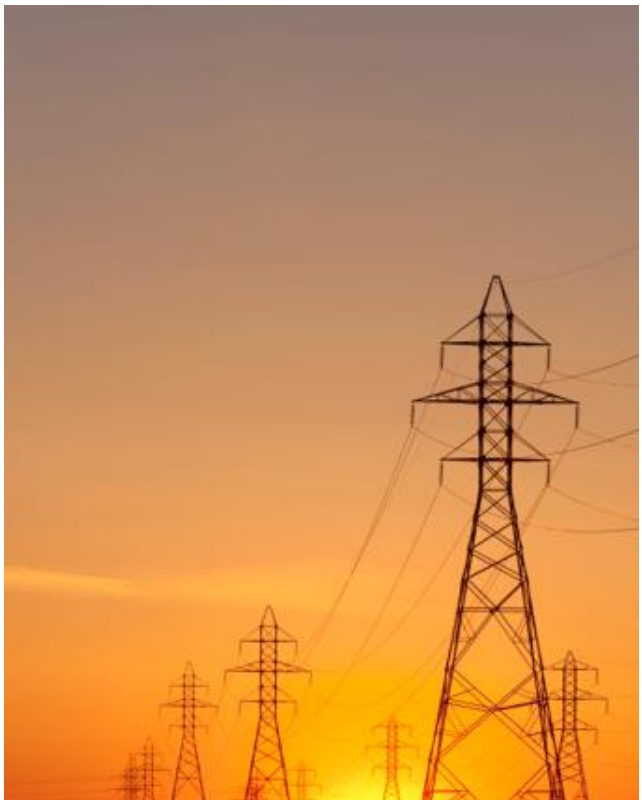

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Overview

There has been much academic review and discussion concerning the role of energy in economic development on a global scale, with consensus emerging that growth is dependent on access to reliable, affordable power. Beyond its role as a key factor of production, firms that provide electricity can also have a significant impact on regional economies in several ways, such as through their capital investments, the impact of their operations, and participation in efforts to recruit and retain firms to the region. In order to better understand this role and inform stakeholders, TXP was retained by Entergy Texas to evaluate the economic impact of its proposed Orange County Power Station (OCPS), a natural gas fired combined cycle gas turbine configuration expected to cost approximately $1 billion. Specifically, this analysis concentrates on the impact of construction spending and the impact of ongoing operations. The summary results are shown below.

Table 1. Summary Entergy OCPS Economic Impacts - TOTAL ($2021)

	Output/Activity	Gross State Product	Earnings	Employment
Construction	$1,803,518,080	$983,525,760	$629,886,080	11,081
Annual Operations	$65,424,762	$37,090,958	$6,881,219	89

Source: Entergy Texas,TXP;

Table 2. Summary Entergy OCPS Employment Breakdown

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Construction	7,157	1,374	2,550	11,081
Annual Operations	27	33	29	89

Source: Entergy Texas,TXP;

OCPS Economic Impact Analysis

Construction of significant capital assets such as OCPS yield local economic benefits, as much of the funding used to build the facility is injected into the regional economy. Once operational, the economic impacts are derived from the normal operating expenditures of the plant, including payroll and purchases from local vendors, and spending of people employed by these businesses. In both cases, the region realizes increased employment and income, along with taxes and fees paid to the State and local jurisdictions.

Modeling the Impacts

The economic impacts extend beyond the direct construction and operational activity outlined above. In an input-output analysis of new economic activity, it is useful to

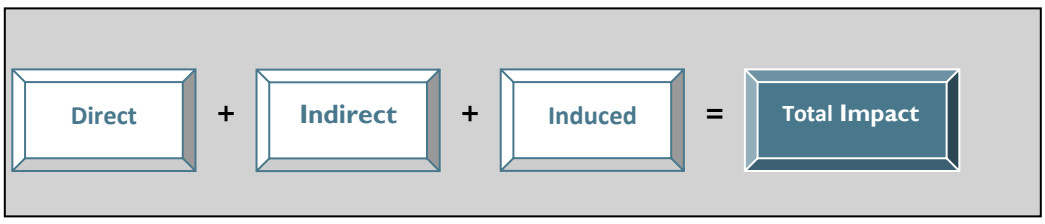
distinguish three types of expenditure effects: direct, indirect, and induced. Direct effects are production changes associated with the immediate effects or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries – typically, additional purchases to produce additional output. Satisfying the demand for electricity will require the utility to purchase feed stocks such as natural gas, for example, and the utility will have to purchase turbines and other equipment to turn the feedstock into electricity. These downstream purchases affect the economic status of other local merchants and workers.

Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects. Both the natural gas seller and turbine manufacturer realize increased revenue and income from providing goods to the utility, for example, as do the workers are the utility itself. Induced effects capture the way in which this increased income is in turn spent in the local economy. Once the ripple effects have been calculated, the results can be expressed in a number of ways. Four of the most common are "Output," equivalent to sales/receipts; "Gross State Product (GSP)," which corresponds to GDP and represents sales/receipts less cost of goods sold; "Earnings," which represents the compensation to employees and proprietors; and "Employment," which refers to permanent, full-time jobs that have been created in the local economy. These variables are not additive, but rather represent different points on the balance sheet at which the impact under analysis can be measured.

The interdependence between different sectors of the economy is reflected in the concept of a "multiplier." An output multiplier, for example, divides the total (direct, indirect and induced) effects of an initial spending injection by the value of that injection – i.e., the direct effect. The higher the multiplier, the greater the interdependence among different sectors of the economy.

For this study, TXP employed the RIMS II models of the Beaumont MSA maintained by the U.S. Commerce Department.[1]

Figure 1: The Flow of Economic Impacts



[1] For more information, see https://bea.gov/regional/pdf/rims/RIMSII_User_Guide.pdf

OCPS Construction Impact

Entergy intends to construct OCPS at a cost of $1.107.2 billion. Over the course of the project, this will translate into $1.80 billion in total economic activity, $983.5 million in Gross State Product (GSP), worker earnings of $629.9 million, and just over 11,000 total jobs. The impact is spread across every sector of the regional economy. For example, in addition to the obvious concentration in the construction sector (just under two-thirds of the total jobs impact), production sectors (Agriculture, Mining, Construction, and Manufacturing) account for almost 500 positions. Business support segments (i.e., transportation, wholesale trade, financial activities, information, professional and business services, etc.) represent another 750 jobs or so, with the balance found on the consumer side. Detailed results by industry are presented in Table 3.

Table 2. Detailed OCPS Construction Economic Impact – TOTAL ($2021)

	Output/Activity	GSP	Earnings	Employment
Agriculture, etc.	$1,107,200	$553,600	$332,160	14
Mining	$10,629,120	$6,421,760	$2,325,120	17
Utilities	$21,701,120	$12,732,800	$2,878,720	21
Construction	$1,113,621,760	$616,378,240	$443,433,600	7,182
Durable Manufacturing	$108,284,160	$38,752,000	$20,261,760	343
Non-Durable Manufacturing	$73,296,640	$16,054,400	$10,407,680	98
Wholesale Trade	$76,618,240	$46,170,240	$18,490,240	221
Retail Trade	$69,421,440	$46,170,240	$24,579,840	753
Transportation/Warehousing	$28,897,920	$13,507,840	$8,193,280	156
Information	$12,511,360	$6,532,480	$2,214,400	33
Finance & Insurance	$16,940,160	$11,072,000	$4,428,800	73
Real estate	$70,860,800	$49,491,840	$12,179,200	403
Prof./Technical Services	$49,934,720	$31,887,360	$21,922,560	263
Management of Companies	$4,318,080	$2,768,000	$1,992,960	22
Admin./Waste services	$17,161,600	$10,518,400	$6,532,480	192
Educational Services	$6,975,360	$4,982,400	$3,321,600	99
Healthcare & Social Services	$62,999,680	$38,862,720	$27,458,560	528
Arts, Entertainment, etc.	$1,882,240	$1,107,200	$664,320	28
Accommodation	$2,657,280	$1,550,080	$664,320	24
Food services, etc.	$23,915,520	$12,179,200	$6,975,360	311
Other services	$29,783,680	$15,832,960	$9,964,800	240
Households	NA	NA	$664,320	58
Total Annual	**$1,803,518,080**	**$983,525,760**	**$629,886,080**	**11,081**

Source: TXP

OCPS Annual Operations Economic Impact – TOTAL ($2021)

Once OCPS is operational, the plant will require approximately 27 permanent employees to maintain and run the facility. On an annual basis, this will translate into $65.4 million in total

economic activity, $37.1 million in Gross State Product (GSP), worker earnings of $6.9 million, and just under 90 total jobs.

As with construction, the impact also is felt in every sector of the regional economy. The Utility sector is where the direct impacts are felt; of the remainder, jobs are spread across a much of the regional economy, with slightly more than two additional jobs being created in the Beaumont area for every job at the facility. Detailed results by industry are in Table 3.

Table 3. Detailed OCPS Annual Operations Economic Impact – TOTAL ($2021)

	Output/Activity	GSP	Earnings	Employment
Agriculture, etc.	$17,817	$8,909	$2,699	0
Mining	$1,661,454	$1,020,035	$226,675	2
Utilities	$46,774,607	$27,166,777	$3,780,622	28
Construction	$1,193,752	$512,245	$159,213	3
Durable Manufacturing	$325,164	$120,266	$37,779	1
Non-Durable Manufacturing	$2,521,134	$512,245	$215,881	2
Wholesale Trade	$1,149,209	$694,871	$167,308	2
Retail Trade	$1,224,933	$792,865	$261,756	9
Transportation/Warehousing	$2,521,134	$1,336,290	$477,638	6
Information	$280,621	$146,992	$29,684	0
Finance & Insurance	$654,782	$436,521	$97,147	2
Real estate	$1,269,476	$913,132	$124,132	5
Prof./Technical Services	$1,082,395	$721,597	$288,741	4
Management of Companies	$84,632	$53,452	$21,588	0
Admin./Waste services	$873,043	$583,513	$234,771	7
Educational Services	$146,992	$102,449	$43,176	1
Healthcare & Social Services	$1,131,392	$699,325	$299,535	6
Arts, Entertainment, etc.	$35,634	$22,272	$8,096	0
Accommodation	$66,815	$40,089	$10,794	0
Food services, etc.	$592,422	$311,801	$110,639	5
Other services	$1,817,355	$881,951	$275,249	5
Households	NA	$13,363	$8,096	1
Total Annual	**$65,424,762**	**$37,090,958**	**$6,881,219**	**89**

Source: TXP

Conclusions

Entergy Texas and the OCPS will touch the local and statewide economy in a number of ways. First, the presence of cost-effective and reliable energy is crucial to the modern economy, especially in a region with such a strong concentration of capital-intensive manufacturing and petrochemical activity as the Gulf Coast and Southeast Texas. Beyond its crucial role in providing a factor of production competitively for the region, Entergy's operations also have

a substantial annual economic impact, adding millions of dollars in worker income and thousands of permanent, good-paying jobs to the area. The firm also is actively engaged in recruiting business and industry to the region, creating additional prosperity that can at least partially be attributed to Entergy's efforts. Taken together, Entergy provides a product that is a fundamental underpinning of the regional economy while also directly adding to the area's economic base through its own operations and economic development efforts. The combination clearly serves the Gulf Coast and Southeast Texas well.

About TXP

TXP, Inc. is an economic analysis and public policy consulting firm founded in 1987 in Austin, Texas that consults on a range of projects across the country. Jon Hockenyos founded TXP while attending the LBJ School of Public Affairs at the University of Texas at Austin in 1987. In his role as President of the firm, Mr. Hockenyos is involved in managing the day-to-day operations of the organization, performing technical analysis, and developing strategies for clients. In addition, he makes numerous public presentations and speeches, and has served as a resource witness on a variety of issues in front of city councils, state legislatures, and the U.S. Congress.

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