

3.11 SOCIAL AND ECONOMIC VALUES AND ENVIRONMENTAL JUSTICE

This section describes the existing social and economic conditions in the area that may be affected by the Project and estimates potential social and economic effects that may result from Project implementation. The Project Area is defined as Harney County for the analysis of social and economic values (some information about population is also presented at the Census Block Group and selected city levels). For the environmental justice analysis, the Project Area is primarily defined as Harney County, however, where data are available analysis is also presented at the levels of smaller geographic units, such as Census Tracts, Census Block Groups, and selected cities. The Project Site is the physical footprint of the proposed Project.

The key social and economic resources addressed in this section include population, employment, income, tax revenues, property values, social values, and environmental justice. The existing social and economic conditions are discussed in the Affected Environment section followed by the Environmental Consequences detailing potential effects resulting from Project implementation.

3.11.1 Methodology

This section provides an overview of the methodology used to estimate economic and social effects of the Proposed Action. The social and economic values analysis presented in this section relies on data published by a variety of local, state, and Federal sources. Data was gathered for the Project Area as defined by Harney County and for comparison purposes, Oregon State and the United States, subject to availability. In addition, where available, data is also presented at the Census Block Group and Block levels and for the two larger cities of Burns and Hines. The Project Site (including all alternative routes and the Echanis Project) is contained within Harney County.

The analysis was informed by comments from the public scoping process which occurred from July to September 2009. Comments from agency representatives, local organizations, and private citizens requested that the following issues be addressed with regards to social and economic values and environmental justice:

- Potential effects to all segments of the local economies, including impacts to private property values
- One comment requested that the analysis avoid using IMPLAN and economic base models.
- Comparison of the cited benefits of the project (job creation, revenue from energy generation, climate benefits) to the cited costs (loss of other opportunities and values on public lands).
- Evaluation of potential effects to minority and low-income populations.
- Analysis of whether the amount of taxes generated by the Project would offset potential losses in revenue generated through tourism.
- Potential benefits to the local and regional economies in terms of job creation and tax revenue.
- Assessment of the potential benefits that could accrue if the proposed transmission line were sited on brownfields instead of on undeveloped lands and on private property instead of on federal lands.
- Potential effects to non-market values associated with undeveloped lands, including local quality of life and recreational and aesthetic opportunities.
- Exploration of other means of generating revenue for those ranchers offering portions of their property for Project development.

3.11.1.1 Social and Economic Methodology

Employment and labor income are common economic indicators used to measure the value of economic activity in an economy. Labor income is the sum of employee compensation (including all payroll costs and benefits) and proprietor income (profits). Employment is the average number of employees, whether full or part-time, of the businesses producing output. Income and employment represent the net economic benefits that accrue to a region as a result of increased economic activity.

This section analyzes the effect of the Project Alternatives on county employment and labor income using an IMPLAN (IMpact analysis for PLANning) model. IMPLAN models include data on the linkages between different industries and facilitate the estimation of total economic effects. Total economic effects include direct effects attributed to the activity being analyzed, as well as the additional indirect and induced effects resulting from money circulating throughout the economy. Because the businesses within a local economy are linked together through the purchase and sales patterns of goods and services produced in the local area, an action which has a direct effect on one or more local industries is likely to have an indirect effect on many other businesses in the region. For example, an increase in construction would lead to increased spending in the adjacent area. Firms providing production inputs and support services to the construction industry would see a rise in their industry outputs as the demand for their products increase. These additional effects are known as the indirect economic effects. As household income is affected by the changes in regional economic activity, additional effects occur. The additional effects generated by changes in household spending are known as induced economic effects.

IMPLAN is used to estimate the total economic effects of the Action Alternatives based on the direct expenditures during construction and operations on Project-related materials and labor. Estimation of these direct expenditures is based on personal communication with the Applicant as well as interviews with county businesses. (Norling/Kane, 2008-9; Elder, 2009) Certain assumptions were required regarding the pattern of expenditure, such as what sectors provided Project inputs and what proportion of materials were locally sourced. The data from the Applicant as well as the assumptions are documented in the text. To the extent that the actual Project-related expenditure pattern in the county varies from that used in the analysis, the results presented in this section may underestimate or overestimate effects.

Effects of the Action Alternatives are estimated for both the transmission line and the Echanis Wind Energy Project (Echanis Project). Data on the Echanis Project is largely based on previous research on the economic effects on the county of the East and West Ridge wind projects. (ENTRIX, Inc., 2008) According to the Applicant, the economic effects of the Echanis Project should be very similar. (Norling/Kane, 2009)

Finally, no economic costs of the Alternatives are estimated. The two primary sources of cost examined were changes in land use from grazing to energy production and transmission, and potential change in recreation visitation and expenditure. As the Project footprints in the Action Alternatives are relatively small and gross grazing revenue per acre is also quite small (approximately \$15 per acre), no opportunity cost on county income or employment is estimated for reduced grazing opportunity. As discussed in Section 3.7 Recreation, there are no expected effects to recreation-related visitation (and associated spending) to the Project Area, so no economic costs are anticipated with recreation.

Additional effects such as potential property value effects and fiscal effects are estimated using GIS technology, Excel, and a benefit transfer of appropriate studies to the Project Area.

3.11.1.2 Environmental Justice Methodology

The social and economic information and other relevant data are used to address environmental justice in compliance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income*, Block-Group, and Block levels and supplemented with other more recent data

from reliable sources, GIS tools are employed to identify and examine the distribution of minority and low-income populations in the vicinity of the *Populations*,” issued February 11, 1994. The environmental justice concerns are addressed by determining whether low-income and/or minority populations reside within the Project Area and, if present, whether disproportionately high and adverse human health, environmental, and/or social and economic effects of the Proposed Action and Alternatives are anticipated for these populations based on U.S. Census data at the county, city/town Project. Following this, any disproportionately high human health, environmental, and/or social and economic effects on these groups (relative to total population effects) that are predicted to occur as a consequence of the proposed Project and Alternatives are identified and characterized. The findings reflect the results of discussions with local governments, state and county officials, relevant agencies, and other stakeholders, as well as from public input and review of relevant published documents and data.

3.11.2 Affected Environment

The Affected Environment section identifies and quantifies, where appropriate, the current social and economic and environmental justice conditions of the Project Area. The section includes examining trends, current conditions, and other factors of important social and economic and environmental justice indicators to provide an accurate baseline assessment of the Project Area in relationship to the state and nation.

3.11.2.1 Social and Economic Values

This section describes the existing conditions and important trends relating to the population, economic base, taxes, and minority populations in the Project Area. State and national level data are provided for comparison. The economic base includes employment, unemployment, income and poverty, and housing issues. This information is presented here for comparison purposes against the social and economic effects discussed later.

Population Trends and Projections

The proposed Project would be located in Harney County, a sparsely populated rural county in southeast Oregon. There is an average of less than one person per square mile in the county, compared to an average of almost 40 people per square mile in Oregon and an average of 86 people per square mile nationwide. The population of Harney County grew by almost eight percent between 1990 and 2000, but this growth slowed down to a little over one percent between 2000 and 2008. (Portland State University, 2009; U.S. Census Bureau, 2008-9) In comparison, the population of Oregon increased by over 20 percent from 1990 to 2000, and another 11 percent from 2000 to 2008. Oregon outpaced the national population growth over both the 1990 to 2000 and 2000 to 2008 periods. As shown in Table 3.11-1, the present (2008) population of Harney County is 7,705, accounting for only about 0.2 percent of the population of Oregon. The two cities of Burns and Hines house about 64 percent of the county population.

The U.S. Census Bureau has divided Harney County into two Census Tracts (CT), 9801 and 9802 (see Figure 3.11-1 for the locations of these CTs). CT9801 is comprised of six Census Block Groups (BG), while CT9802 is divided into two BGs. The Project would primarily be located in CT9802, BG2, which is the largest BG in the county in terms of area. However, this analysis covers all eight BGs in the county given some effects, such as employment, are anticipated to go beyond the actual Project Site. Further, while the two larger cities of Burns and Hines are located outside the Project Site, data on these areas are presented where available due to the potential effects on them.

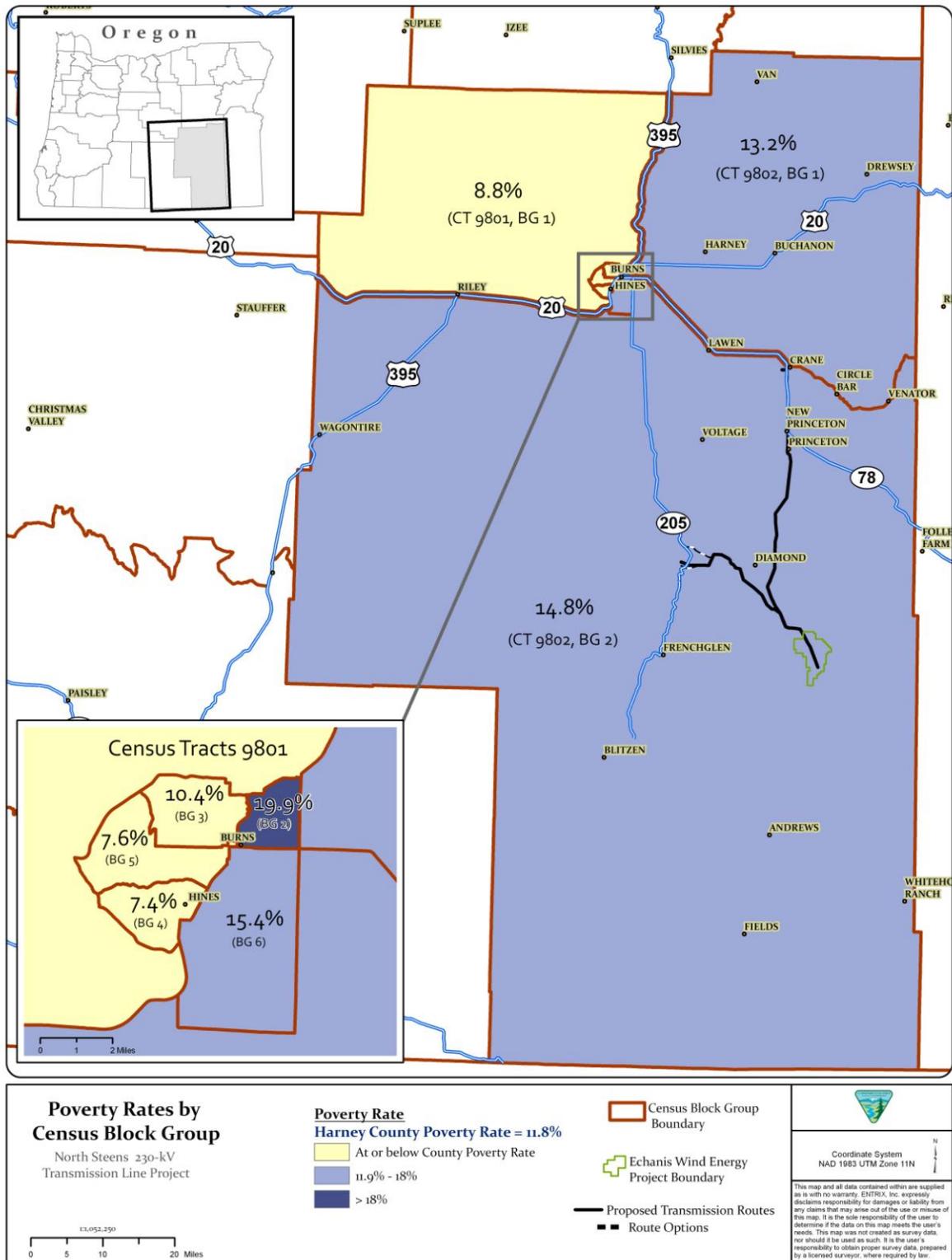


Figure 3.11-1 Poverty Rates by Block Group.

Table 3.11-1 Population and Population Change

Area	Population			Population Change (%)			Population Density (People per Square Mile)
	1990	2000	2008	1990-2000	2000-2008	1990-2008	
Burns City	2,913	3,064	3,025	5.2%	-1.3%	3.8%	n/a
Hines City	1,452	1,623	1,870	11.8%	15.2%	28.8%	n/a
Harney County	7,060	7,609	7,705	7.8%	1.3%	9.1%	0.7
State of Oregon	2,842,321	3,421,399	3,791,075	20.4%	10.8%	33.4%	39.5
U.S.A.	248,709,873	281,421,906	304,059,724	13.2%	8.0%	22.3%	86.0

Note: Population density figures are based on the 2008 population estimates. n/a: Data not available

Sources:

Portland State University, Population Research Center, *Table 4. Population Estimates for Oregon and Its Counties and Incorporated Cities: April 1, 1990 - July 1, 2008*. Portland, Oregon, March 2009.

U.S. Census Bureau, Population Division, *Table 1. Annual Estimates for the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2008 (NST-EST2008-01)*, December 22, 2008. Website (<http://www.census.gov/popest/states/tables/NST-EST2008-01.xls>) accessed November 3, 2009.

U.S. Census Bureau, *DP-1. General Population and Housing Characteristics: 1990, 1990 Summary Tape File 1 (STF 1) - 100-Percent Data, United States, 1990*. Website (<http://factfinder.census.gov>) accessed November 3, 2009.

At the BG level, the most recent population information available is for 2000, which is presented in Table 3.11-2. The CT9801, BG4 has the highest population in the county with 1,500 people in 2000. Based on 2000 Census data, the five smallest BGs in the county in terms of area, BG2, BG3, BG4, BG5, and BG6 in CT9801 contain almost 69 percent of the county population. This is primarily due to the presence of the main population centers of Burns and Hines in these BGs. Between 1990 and 2000, the population of Burns grew by over five percent, but experienced a reduction of more than one percent between 2000 and 2008 (see Table 3.11-1). Hines, on the other hand, has experienced population increases of about 12 percent from 1990 to 2000 and by over 15 percent from 2000 to 2008. Based on 2008 population estimates, roughly 64 percent of the county population resides within the incorporated cities of Burns and Hines.

Population projections through 2030 for Harney County, Oregon, and the United States are shown in Table 3.11-3. (State of Oregon, 2004; U.S. Census Bureau, 2009) It is projected that the population of Harney County will decrease by two percent between 2000 and 2010. The population of the county is expected to experience a net gain of almost nine percent over the 10-year period between 2010 and 2020, and eight percent between 2020 and 2030. These figures represent a net 14.9 percent gain over the entire 30-year period (2000-2030) incorporating annual fluctuations (both positive and negative) in the population estimates. At the state level, higher growth rates are expected, increasing by 43 percent cumulatively from 2000 through 2030.

Area Economy

The Harney County economy is based upon employment, income, the unemployment rate, housing, and industry employment characteristics. To understand the economic and social and economic makeup of the Project Area, economic indicators such as employment and unemployment, income by sector, and poverty are further explored here.

Table 3.11-2 Population by Census Block Group in Harney County

Area	Population in 2000
Census Tract 9801, BG 1	390
Census Tract 9801, BG 2	827
Census Tract 9801, BG 3	1,022
Census Tract 9801, BG 4	1,500
Census Tract 9801, BG 5	1,129
Census Tract 9801, BG 6	753
Census Tract 9802, BG 1	1,021
Census Tract 9802, BG 2	967

Source: U.S. Census Bureau, Population Division. Website (<http://www.census.gov>) accessed November 3, 2009.

Table 3.11-3 Population Projections (2000 to 2030)

Area	Population				Population Change (%)		
	2000	2010	2020	2030	2000-2010	2010-2020	2020-2030
Harney County	7,609	7,454	8,098	8,745	-2.0%	8.6%	8.0%
State of Oregon	3,421,399	3,843,900	4,359,258	4,891,225	12.3%	13.4%	12.2%
U.S.A.	281,421,906	310,233,000	341,387,000	373,504,000	10.2%	10.0%	9.4%

Sources:

State of Oregon, Department of Administrative Services, Office of Economic Analysis, *Forecasts of Oregon's County Populations and Components of Change, 2000 - 2040*, Salem, Oregon, April 2004.

Harney County Planning Department, *Harney County Comprehensive Plan*, adopted November 2009.

U.S. Census Bureau, Population Division, *Table 1. Projections of the Population and Components of Change for the United States: 2010 to 2050 (NP2008-T1)*, August 14, 2008. Website (<http://www.census.gov/population/www/projections/files/nation/summary/np2008-t1.xls>) accessed November 3, 2009.

U.S. Census Bureau, Population Division, *Table 1. Annual Estimates for the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2008 (NST-EST2008-01)*, December 22, 2008. Website (<http://www.census.gov/popest/states/tables/NST-EST2008-01.xls>) accessed November 3, 2009.

EMPLOYMENT

Industry specific employment information provides important insight into the make up of a regional economy. Total nonfarm employment in Harney County was 2,220 jobs in November 2009. (Oregon Employment Department website) Nonfarm employment in the county is evenly divided between private employment (50 percent) and government employment (50 percent). Comparatively, private employment comprises 81 percent of Oregon’s nonfarm employment, with Government accounting for only 19 percent of Oregon’s nonfarm employment. The industrial category employing the most people in Harney County is local government with 32 percent of the workforce, compared with only 12 percent statewide. The trade, transportation, and utilities industry is the largest private employer in Harney County with 370 employees constituting 17 percent of the employment countywide. Similarly, the trade, transportation, and utilities industry accounts for 20 percent of employment statewide. Table 3.11-4 presents employment by industry in November 2009 for the county and state.

Table 3.11-4 Nonfarm Employment by Industry, November, 2009

	Harney County		Oregon	
	Employees	% of Total	Employees	% of Total
Total nonfarm employment	2,220	100%	1,626,800	100%
Total private	1,110	50%	1,321,500	81%
Mining, logging, and construction	90	4%	83,300	5%
Manufacturing	10	0%	162,800	10%
Trade, transportation, and utilities	370	17%	320,100	20%
Wholesale Trade	30	1%	75,300	5%
Retail trade	290	13%	190,900	12%
Transportation, warehousing, and utilities	50	2%	53,900	3%
Information	20	1%	34,700	2%
Financial activities	70	3%	93,200	6%
Professional and business services	90	4%	180,600	11%
Educational and health services	180	8%	229,200	14%
Leisure and hospitality	220	10%	160,300	10%
Other services	60	3%	57,300	4%
Government	1,110	50%	305,300	19%
Federal government	260	12%	29,000	2%
State government	140	6%	79,900	5%
Local government	710	32%	196,400	12%

Source: Oregon Employment Department, 'Current Employment Statistics,' accessed at <http://www.qualityinfo.org/olmisj/CES>.

Harney County nonfarm employment lost 360 employees between 2001 and November 2009, a decrease of 14 percent. (Oregon Employment Department website) The manufacturing industry was hit the hardest over this time period with a 96 percent decrease in industry employment or 230 employees. The decline of the manufacturing industry was fueled by the closure of the Louisiana-Pacific Corporation's lumber mill in Hines, which produced laminated veneer until its closure in late 2007. (Oregon Employment Department website) Additionally, Monaco Coach Corporation's Harney County plant furloughed many of its workers in 2008 (Oregon Employment Department website) before closing its doors in 2009 (The Bulletin, 2009). Countywide employment also decreased for local government (a 60-employee reduction) and the retail trade industry (a 50-employee reduction) since 2001, as indicated in Table 3.11-5. Industries increasing employment between 2001 and November 2009 included professional and business services and the educational and health services industry, each with an increase of 20 employees.

These trends are inconsistent with statewide industry employment between 2001 and November 2009. Statewide, a 25 percent decrease occurred in the manufacturing industry, though at a significantly lower rate (96 percent) than in Harney County. (Oregon Employment Department website) Additionally, the information industry decreased employment in the state by 13 percent over the same time period. Employment gains in Oregon helped to offset these losses, particularly in the education and health services industry with an increase in employment of 28 percent and an increase in employment of 10 percent and nine

percent, in the state and local government respectively. Overall, statewide nonfarm employment increased by one percent or 21,300 employees between 2001 and November 2009 (see Table 3.11-5).

Table 3.11-5 Changes in Industry Employment, 2001 to 2009

	Harney County			Oregon		
	2001	Nov 2009	% Change	2001	Nov 2009	% Change
Total nonfarm employment	2,580	2,220	-14%	1,605,500	1,626,800	1%
Total private	1,380	1,110	-20%	1,323,700	1,321,500	0%
Mining, logging, and construction	90	90	0%	89,800	83,300	-7%
Manufacturing	240	10	-96%	215,700	162,800	-25%
Trade, transportation, and utilities	430	370	-14%	320,800	320,100	0%
Wholesale Trade	30	30	0%	74,800	75,300	1%
Retail trade	340	290	-15%	189,200	190,900	1%
Transportation, warehousing, and utilities	50	50	0%	56,800	53,900	-5%
Information	40	20	-50%	39,900	34,700	-13%
Financial activities	70	70	0%	95,200	93,200	-2%
Professional and business services	70	90	29%	177,100	180,600	2%
Educational and health services	160	180	13%	178,800	229,200	28%
Leisure and hospitality	230	220	-4%	149,600	160,300	7%
Other services	50	60	20%	56,700	57,300	1%
Government	1,200	1,110	-8%	281,800	305,300	8%
Federal government	260	260	0%	30,000	29,000	-3%
State government	160	140	-13%	72,500	79,900	10%
Local government	770	710	-8%	179,400	196,400	9%

Source: Oregon Employment Department, 'Current Employment Statistics,' accessed at <http://www.qualityinfo.org/olmisi/CES>.

In addition to a changing industry profile, Harney County has faced a reduction in jobs. Between 2001 and November 2009, 360 jobs were lost in Harney County or a decrease of 14 percent. In comparison, the number of state jobs increased by 1 percent or 21,300 employees over the same time period. (Oregon Employment Department website)

Although not classified as a separate industry, there are numerous businesses in the retail and services sectors in Harney County that serve the tourism and recreation economy. In particular, the accommodation and food services, and the arts, entertainment, and recreation sectors are supported by the spending of recreation visitors. As indicated in Table 3.11-5, the Oregon Employment Department does not report the individual total employment in these industries, instead presenting the combined data for these two industries. In November 2009, an estimated 220 employees were employed in the Harney County leisure and hospitality sectors. Employment in these sectors has remained fairly constant in the county, fluctuating between 220 to 260 employees since 2001.

Tourism is also important to the Harney County economy. Section 3.7 Recreation describes the various recreational activities in Harney County that attract non-local visitors and support retail and lodging establishments in Harney County.

INCOME

Though Harney County has a relatively low per capita personal income at almost \$7,000 below that of Oregon and more than \$10,000 below national per capita income, the annualized rate at which per capita income grew between 2001 and 2007 within the county (five percent) is greater than the state or national rate of 3.9 percent and 4.4 percent, respectfully. (U.S. Bureau of Economic Analysis website) A low per capita income in a community indicates the presence of low paying employment opportunities. See Table 3.11-6 for a summary of personal income and employment levels.

Table 3.11-6 Personal Income, 2007

	Per Capita Personal Income		
	2001	2007	Annualized Rate of Change (%)
Harney County	21,706	28,238	5.0%
Oregon	28,530	35,143	3.9%
United States	30,582	38,615	4.4%

Source: U.S. Bureau of Economic Analysis, Regional Economic Accounts, accessed at www.bea.gov/regional/ on June 4, 2009.

In fact, Federal non-military government employment accounts for the highest per employee earnings of any industry in Harney County with an average earning of \$85,141 per industry employee (earnings include wage and salary disbursements, supplements to wages and salaries, and proprietors' income) (U.S. Bureau of Economic Analysis website). This figure trails state and national per employee earnings for the industry by \$8,423 and \$13,703, respectively. With the average state/local government employee earning \$43,552 in the county, the industry accounts for the second highest earning industry per employee. The county employee earnings in state and local government also trail the state and national earnings. Detailed information on employee earnings by industry is presented in Table 3.11-7. Employees residing in Harney County earn less than similar employees in every industry elsewhere in the state or nation. The differences can be substantial ranging up to \$55,771 for finance workers. State and local government is the greatest employer in the county and accounts for the greatest total employee earnings of any industrial category in the county. Due to undisclosed data at the county level, it is impossible to compare employee earnings by industry across the county, state, and national levels in all industries in 2007. At the state and national level, the highest employee earnings are in the utilities industry with an average earning of \$141,268 per employee and \$157,166 per employee, respectively. Employment and earnings in the utilities industry is not disclosed at the county level. (U.S. Bureau of Economic Analysis website)

As noted above under the discussion on employment, tourist and other traveler spending also contributes to county employment and income. Tourist and other traveler spending could be part of the accommodation and food services sector; and the arts, entertainment and recreation sector

Table 3.11-7 Employee Earnings by Industry, 2007

Industry	Harney County			Oregon			USA		
	Earnings (\$1,000s)	Employees	Per Employee Earnings	Earnings (\$1,000s)	Employees	Per Employee Earnings	Earnings (\$1,000s)	Employees	Per Employee Earnings
Farm earnings	\$9,738	877	\$11,104	\$1,192,358	67,660	\$17,623	\$54,734,000	2,841,000	\$19,266
All nonfarm earnings	\$113,161	3,574	\$31,662	\$97,541,631	2,252,383	\$43,306	\$8,793,506,000	178,102,800	\$49,373
Forestry, fishing, related activities, and other	\$2,814	177	\$15,898	\$1,448,996	35,770	\$40,509	\$28,494,000	1,014,400	\$28,090
Mining		<10		\$226,283	3,681	\$61,473	\$120,486,000	984,900	\$122,333
Utilities	(D)	(D)		\$701,752	4,964	\$141,368	\$90,606,000	576,500	\$157,166
Construction	(D)	(D)		\$6,745,644	150,561	\$44,803	\$545,277,000	11,641,100	\$46,841
Manufacturing	(D)	(D)		\$14,437,333	217,114	\$66,497	\$1,066,119,000	14,512,000	\$73,465
Wholesale trade	\$1,343	54	\$24,870	\$6,378,920	89,537	\$71,243	\$470,450,000	6,657,800	\$70,661
Retail trade	\$9,050	493	\$18,357	\$6,885,871	255,349	\$26,967	\$549,242,000	19,282,000	\$28,485
Transportation and warehousing	(D)	(D)		\$3,392,809	68,813	\$49,305	\$291,957,000	5,887,700	\$49,588
Information	\$1,333	39	\$34,179	\$2,816,534	42,724	\$65,924	\$316,135,000	3,537,000	\$89,379
Finance and insurance	\$1,774	67	\$26,478	\$4,930,999	85,602	\$57,604	\$693,328,000	8,429,700	\$82,248
Real estate and rental and leasing	\$1,707	87	\$19,621	\$1,915,803	89,921	\$21,305	\$193,943,000	8,142,400	\$23,819
Professional, scientific, and technical services	\$2,571	103	\$24,961	\$6,942,550	128,427	\$54,058	\$873,240,000	11,866,300	\$73,590
Management of companies and enterprises	\$0	0		\$2,755,874	31,849	\$86,529	\$209,474,000	1,965,200	\$106,592
Administrative and waste services	\$873	98	\$8,908	\$3,388,650	125,923	\$26,910	\$334,385,000	11,180,300	\$29,908
Educational services	(D)	(D)		\$1,011,154	50,770	\$19,916	\$120,419,000	3,833,000	\$31,416
Health care and social assistance	(D)	(D)		\$10,645,180	242,233	\$43,946	\$839,910,000	18,204,900	\$46,136
Arts, entertainment, and recreation	(D)	(D)		\$773,380	51,204	\$15,104	\$92,215,000	3,736,900	\$24,677
Accommodation and food services	(D)	(D)		\$3,021,903	161,529	\$18,708	\$250,138,000	12,253,000	\$20,414
Other services excluding public administration	\$3,194	205	\$15,580	\$3,080,219	125,347	\$24,574	\$253,669,000	10,140,700	\$25,015
Federal, non-military government	\$20,519	241	\$85,141	\$2,725,141	29,126	\$93,564	\$274,984,000	2,782,000	\$98,844

Table 3.11-7 Employee Earnings by Industry, 2007

Industry	Harney County			Oregon			USA		
	Earnings (\$1,000s)	Employees	Per Employee Earnings	Earnings (\$1,000s)	Employees	Per Employee Earnings	Earnings (\$1,000s)	Employees	Per Employee Earnings
Military government	\$732	19	\$38,526	\$548,005	12,378	\$44,272	\$146,168,000	2,041,000	\$71,616
State and local government	\$34,537	793	\$43,552	\$12,768,631	249,561	\$51,164	\$1,032,867,000	19,434,000	\$53,147

Note: Due to rounding and missing data to avoid disclosure of confidential information, the private nonfarm employee earnings by industry type do not add up to the total nonfarm private earnings.
 Note: Earnings include wage and salary disbursements, supplements to wages and salaries, and proprietors' income.
 (D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.
 Source: U.S. Bureau of Economic Analysis, Regional Economic Accounts, accessed at www.bea.gov/regional/ on June 4, 2009.

UNEMPLOYMENT

The unemployment rate is a key economic indicator providing important insight into the economic health of a region. High unemployment is a sign of an unhealthy economy, which can lead to reduced spending, a decreased tax base, and more unemployment. In the current recession, Oregon, and particularly Harney county, has faced rising and high unemployment. Oregon recorded the sixth highest unemployment rate nationwide in September 2009 (U.S. Bureau of Labor Statistics website): with an annual increase of 4.7 percent over September 2008, giving Oregon the fourth fastest growing unemployment rate nationwide. Though only one of four states to report an over-the-month decrease in the unemployment rate (0.5 percent decrease between August and September 2009), Oregon shed 10,300 jobs in September (seasonally adjusted). Thus, the slight decrease in the unemployment rate is due to a contraction in the labor force, which may be attributed to unemployed workers giving up the job search or going back to school and thus dropping out of the labor force.

As of November 2009, Oregon’s seasonally adjusted unemployment rate was 11.1 percent. This figure was 42 percent higher than the unemployment rate in November 2008 (see Table 3.11-8). The national unemployment rate has grown faster than Oregon’s with a 49 percent increase in the unemployment rate from 2008 to 2009. (Oregon Employment Department website) The current unemployment rate in Oregon has decreased from the historical high of 12.2 percent in May of 2009. (BLS website) With a 16.8 percent seasonally adjusted unemployment rate, Harney County is higher than the national average of 10 percent. Harney County currently has the second highest unemployment rate in Oregon behind Crook County (17.4 percent). Harney County’s high unemployment rate qualifies the county as ‘economically distressed’ (over 8 percent) under Oregon law. (Oregon4Biz website) The designation places the county on the Business Oregon list giving ‘economically distressed’ Counties priority when funding technical assistance, programs, and projects. All Oregon Counties, with the exception of Gilliam County,¹ are currently designated as economically distressed.

Table 3.11-8 Recent Trends in Unemployment Rates in Harney County, Oregon, and the USA

	November 2008	October 2009	November 2009	November 2008 to November 2009 Change (%)
Harney County	10.3%	18.9%	16.8%	63%
Oregon	7.8%	11.2%	11.1%	42%
United States	6.7%	10.2%	10.0%	49%

Sources: Oregon Employment Department, Employment Rates, Seasonally Adjusted. Website (<http://www.qualityinfo.org/olmisj/OlmisZine>) accessed November 3, 2009.

Historically, Harney County has had one of the highest unemployment rates in Oregon and has been consistently higher than the statewide average. Figure 3.11-2 presents the unemployment rate in Harney County, Oregon, and the United States.

¹ Benton County is currently designated as economically distressed with an unemployment rate of 7.5 percent being 2 months into the 6 month recovery period before a County is no longer designated as economically distressed.

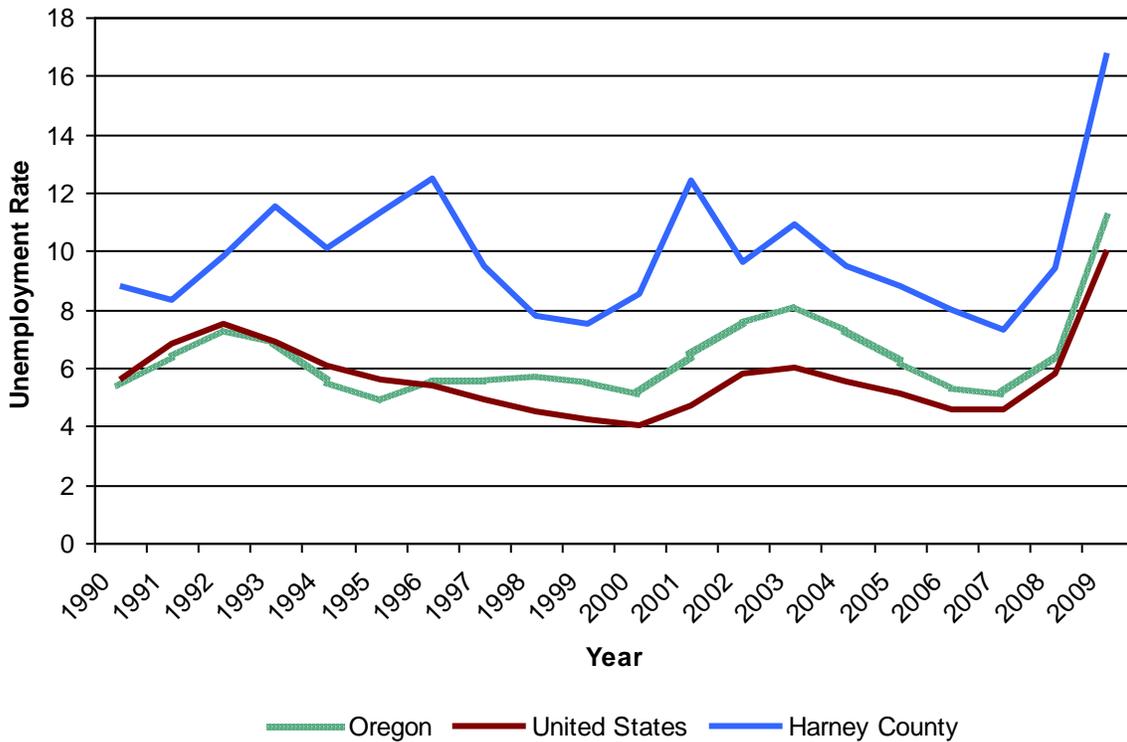


Figure 3.11-2 Historic Unemployment Rates in Harney County, Oregon, and the United States.

Unemployment in Harney County, Oregon, and the nation over the last year is presented in Table 3.11-8. The unemployment rate for the county has increased by 63 percent over the last year with a marked decrease in unemployment over the past month. This general trend is echoed by the state and nation. The current unemployment situation in Harney County is articulated in an analysis by the Oregon Employment Department as follows (QualityInfo website):

Recent trends in Southeast Oregon have been very negative. . . In Harney County, unemployment cracked 20 percent in February 2009 and climbed all the way up to 21.2 percent in March 2009, figures not seen since 1983. The county's monthly jobless rates have been among Oregon's highest throughout this year. Deep job losses in Harney County's manufacturing industry pushed year-to-date nonfarm employment 6 percent lower than last year's position, with March 2009's estimate of 2,170 being the lowest job count in about 14 years.

Tax Revenue

The principle sources of tax revenue in Harney County are from income taxes and property taxes. Oregon does not collect sales taxes. The total employment income for Harney County in 2006 was \$91,948,000, generating \$4,741,000 in state income taxes. Over \$90 billion in total income in Oregon in 2006 generated over \$5 billion in tax revenues for the state. (State of Oregon website, 2009) Income and income tax statistics for Harney County and Oregon are presented in Table 3.11-9.

Property assessed value and tax revenues are presented in Table 3.11-9. The property tax rate in Harney County is over one percent lower than the Oregon average rate. Harney County generated over \$5.5 million

in property tax revenue from a total assessed property value of \$382 million in the county. The State of Oregon generated a total of over \$4 billion in property tax revenues from over \$271 trillion. (State of Oregon website, 2009)

Table 3.11-9 Taxable Income and Revenues, 2006

	Harney County	Oregon
Total Income	\$91,948,000	\$90,213,382,000
Total Income Taxes	\$4,741,000	\$5,150,942,000
Overall Income Tax Rate	5.2%	5.7%
Net Assessed Value of Properties	\$382,191,276	\$271,355,283,098
Total Property Taxes	\$5,547,000	\$4,279,042,000
Property Tax Rate	14.51%	15.77%

Source: Oregon Department of Revenue, 2006 Personal Income Tax Statistics, accessed at <http://www.oregon.gov/DOR/STATS/statistics.shtml> on 06/09/2009.

Lifestyle and Social Values

Harney County was formed in 1889 and is very rural, having only about 7,600 people in its 10,180 square mile area in 2000, or about 0.75 people per square mile. The county was first explored by fur trappers and traders, but then was settled by cattle ranchers who were attracted to the area because of the abundance of bunchgrass for grazing and the availability of railroad access to Winnemucca, Nevada, located about 220 miles southeast of Burns. (Harney County, 2010) Today, many of the area ranches are still owned by members or descendants of the original homestead families and cattle ranching, raising sheep, and hay production remain important parts of the economy in the County. (HCCC, 2010)

Another important part of the rural lifestyle and community identity is derived from the undeveloped and open landscape of much of the County. The Bureau of Land Management manages about 60 percent of the lands within the County and the U.S. Fish and Wildlife Service manages an additional 20 percent, so that much of this land is likely to remain relatively undeveloped. Forests in the northern part of the county, Malheur National Wildlife Refuge (MNWR) in the middle of the county, Steens Mountain and the associated Steens Mountain Wilderness Area (SMWA) to the south, Diamond Craters Outstanding Natural Area, several wild and scenic river (WSR) segments (e.g., the Donner und Blitzen WSR), and several scenic byway tour routes provide a wide variety of recreational opportunities for the County's residents and visiting recreationists.

Finally, the diverse array of recreational opportunities represents another important part of County life. Recreational opportunities and activities include hunting, fishing, camping, picnicking, wildlife/landscape viewing, geological sightseeing, horseback riding, biking, cross country skiing, snowmobiling, high altitude running, historic buildings, and hot springs (also see Section 3.7 Recreation for additional information). Over 300 species of birds migrate through the County each spring and its importance is acknowledged with the annual John Scharff Migratory Bird Festival, held the first weekend in April. In addition, Harney County is known for having some of the lowest levels of ambient light in the nation, providing excellent star gazing opportunities. (HCCC, 2010)

- The importance of preservation of the existing rural character and quality of life within the County is evidenced by some of the comments received during the scoping period for the EIS:
- seven comments were concerned about the effects any light emitted from the turbines could have on the nighttime sky, including potential effects to tourism

- 31 comments discussed the general effects of the project on the area viewed, including on Steens Mountain, within the CMPA, Kiger Wild Horse viewing area, Diamond Loop Back Country Byway, Kiger Gorge, and recreational areas
- 17 comments were concerned with the appropriateness of BLM granting a right-of-way for the transmission line through the CMPA. The majority of these comments argued that the project would violate the Steens Mountain CMPA's direction "to conserve, protect, and manage the long-term ecological integrity of Steens Mountain for future and present generations."
- six comments stated that if the project crossed the Malheur NWR, it would be incompatible with the purposes of the NWRSA
- six comments expressed concern that the project would affect the ecological integrity of Steens Mountain, that turbines will encroach into natural areas, that the loss of pristine natural areas will damage the human psyche, and that there will be significant long-term effects to the environment from the project
- nine comments were made regarding noise effects from turbines and transmission lines on human health, recreational enjoyment, and wildlife, especially sensitive species and especially at night. Adequacy of setbacks from roads, private property, Loop Road, and Mann Lake of particular concern

3.11.2.2 Environmental Justice

The U.S. Environmental Protection Agency's (EPA) Office of Environmental Justice offers the following definition of environmental justice:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies.

The concept of environmental justice is rooted in the Civil Rights Act of 1964, which prohibited discrimination in Federally-assisted programs, and in Executive Order 12898, "*Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*," issued February 11, 1994. Executive order 12898 was intended to ensure Federal actions and policies do not result in disproportionately high and adverse effects on minority or low-income populations. It requires each Federal agency to incorporate environmental justice into its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social or economic effects, of its programs, policies, and activities implemented both directly and indirectly (for which it provides permitting or funding), on minority populations and low-income populations of the United States (President's Council on Environmental Quality, 1997). Additional guidance from the President's Council on Environmental Quality (CEQ) clarifies that environmental justice concerns may arise from effects on the natural and physical environment that produce human health or ecological outcomes, or from adverse social or economic changes.

The evaluation of environmental justice issues is mandated and regulated at the Federal level, and compliance with NEPA requires analysis of environmental justice effects. As such, environmental justice is considered part of the NEPA process.

This sub-section first provides the background data for the analysis of environmental justice. The key social and economic parameters addressed here are race/ethnicity and measures of social and economic well-being, including per capita income, poverty rates, and unemployment rates. The geographic scope of the

information presented primarily includes Harney County, with data on the State of Oregon and the United States provided for comparison purposes. Where available, data are presented at the level of the eight Census Block Groups (within two Census Tracts) in the county and also for the two larger cities of Burns and Hines. These data are used to identify geographic concentrations of minority and low-income populations that may potentially suffer disproportionately high and adverse human health or environmental effects from the Project.

Low-Income Populations

According to the CEQ Guidance, (CEQ website, 2009) communities should be identified as “low-income” based on the “annual statistical poverty thresholds from the Bureau of the Census’ Current Population Reports, Series P-60 on Income and Poverty.” In other words, a community can be considered low-income if the median household income for a census tract is below the poverty level or if other indications are present that indicate a low-income community is present within the census tract. For the purpose of this analysis, the per capita income, median household income, poverty rates, and child poverty rates in the Census Block Groups in the Project Area are compared to those in Harney County to identify low-income communities that may potentially suffer disproportionately high and adverse effects of the Project.

As derivatives of total personal income, per capita and median household income and poverty rates represent widely used economic indicators of social well-being. Table 3.11-10 presents these social and economic data for the BGs and major cities in the Project Area, Harney County, and Oregon. In 2007, per capita personal income in Harney County was \$28,238, which is approximately 80 percent of the statewide level of \$35,143. This low per capita income indicates low paying employment opportunities in the county. As stated earlier and presented in Table 3.11-6, per capita income in Harney County is about \$7,000 less than that in Oregon and \$10,000 less than the United States, though the growth rate of this income since 2001 is higher in the county (30 percent) than that of either the state (23 percent) or the nation (26 percent).

There is some disparity between local, county, and statewide conditions in the context of per capita as well as median household incomes. Based on 2000 Census data (2009 dollars), median household incomes in Harney County and Oregon were \$39,605 and \$52,346, respectively. Median household income levels were even lower than the county in the two BGs in CT 9802 where the Project would be located; BG1 at \$38,951 and BG2 at \$39,080. Overall, all but two of the eight BGs in the county had median household incomes higher than the county, BG1 and BG2 in CT9801.

Finally, poverty rates represent the percentage of an area’s total population living at or below the poverty threshold established by the U.S. Census Bureau. Based on 2000 Census data, the poverty rate was 11.8 percent in Harney County and 11.6 percent in the State of Oregon (13.4 percent based on 2008 estimates). However, both of the BGs in CT9802 had higher poverty rates than the county and state, with BG1 and BG2 having poverty rates of 13.2 percent (11.8 percent higher than county) and 14.8 percent (25.8 percent higher than county), respectively (see Figure 3.11-1). The highest poverty rate is in CT9801, BG2 at 19.9 percent (69.1 percent higher than the county). The entire Project is located in CT9802, BG2, which is the largest BG in the county in terms of area. A BG is the smallest geographic unit for which poverty rate data are available. Although not enough information is available at the block group level to identify if low-income populations are located directly adjacent to the Project, the poverty rate for CT9802, BG2 is within three percentage points of the same measures for Harney County and is less than 50 percent. Therefore, an environmental justice population was not identified close to the project based on poverty rates.

Table 3.11-10 Income and Poverty Rates based on 2000 Census Data (Incomes in 2009 dollars)

Area	Per Capita Income	Median Household Income	Poverty Rate	Child Poverty Rate	% Difference in Poverty Rate Compared to Harney County	% Difference in Child Poverty Rate Compared to Harney County
Census Tract 9801, BG 1	\$24,528	\$61,480	8.8%	20.3%	-24.9%	57.2%
Census Tract 9801, BG 2	\$21,996	\$30,704	19.9%	25.6%	69.1%	98.2%
Census Tract 9801, BG 3	\$22,130	\$33,890	10.4%	11.1%	-11.6%	-14.2%
Census Tract 9801, BG 4	\$20,615	\$52,240	7.4%	8.0%	-37.1%	-38.0%
Census Tract 9801, BG 5	\$19,071	\$37,769	7.6%	2.6%	-35.3%	-79.7%
Census Tract 9801, BG 6	\$14,274	\$33,866	15.4%	12.3%	31.0%	-4.4%
Census Tract 9802, BG 1	\$24,343	\$38,951	13.2%	17.2%	11.8%	33.2%
Census Tract 9802, BG 2	\$19,866	\$39,080	14.8%	22.7%	25.8%	76.4%
Burns City	\$20,756	\$34,105	12.3%	8.7%	4.2%	-32.5%
Hines City	\$20,192	\$52,347	9.9%	10.7%	-16.0%	-16.9%
Harney County	\$20,673 (\$21,706 in 2001) (\$28,238 in 2007)	\$39,605	11.8%	12.9%	0.0%	0.0%
State of Oregon	\$26,789 (\$28,530 in 2001) (\$35,143 in 2007)	\$52,346 (\$49,863 in 2008)	11.6% (13.4% in 2008)	14.7%	-1.4%	14.0%
U.S.A.	\$27,617 (\$30,582 in 2001) (\$38,615 in 2007)	\$53,725 (\$52,175 in 2008)	12.4% (13.2% in 2008)	16.6%	5.1%	28.4%

Sources:

Unless otherwise stated, the source of data presented in this table is the 2000 Population and Housing Census. For the sake of consistency, all dollar values in this table are converted to 2009 dollars, such as the values for Per Capita Income and Median Household Income.

U.S. Census Bureau, Table P53. Median Household Income in 1999 (Dollars) [1], Census 2000 Summary File 3 (SF 3) Sample Data, 2000. Website (<http://factfinder.census.gov/>) accessed November 3, 2009.

U.S. Census Bureau, Table P82. Per Capita Income in 1999 (Dollars) [1], Census 2000 Summary File 3 (SF 3) Sample Data, 2000. Website (<http://factfinder.census.gov/>) accessed November 3, 2009.

U.S. Census Bureau, Table P87. Poverty Status in 1999 by Age [17], Census 2000 Summary File 3 (SF 3) - Sample Data, 2000. Website (<http://factfinder.census.gov/>) accessed November 3, 2009.

U.S. Census Bureau, Selected Economic Characteristics: 2006-2008, 2006-2008 American Community Survey 3-Year Estimates. Website (<http://factfinder.census.gov/>) accessed November 4, 2009.

U.S. Bureau of Economic Analysis, Regional Economic Accounts. Website (www.bea.gov/regional/) accessed June 4, 2009.

According to the 2000 Census, the poverty rate for children aged 17 years or less in Harney County was 12.9 percent (see Table 3.11-10). As presented in Figure 3.11-3, at 17.2 percent and 22.7 percent, respectively, both BG1 and BG2 in CT9802 had poverty rates in children exceeding that for the county by 33.2 percent and 76.4 percent. Child poverty is especially high in CT9801, BG2, where it is 25.6 percent, 98.2 percent higher than the county. Similar to poverty rate data, the smallest geographic unit for which child poverty data is available is a BG. Therefore, not enough information is available to identify if low-income populations of children are located directly adjacent to the Project.

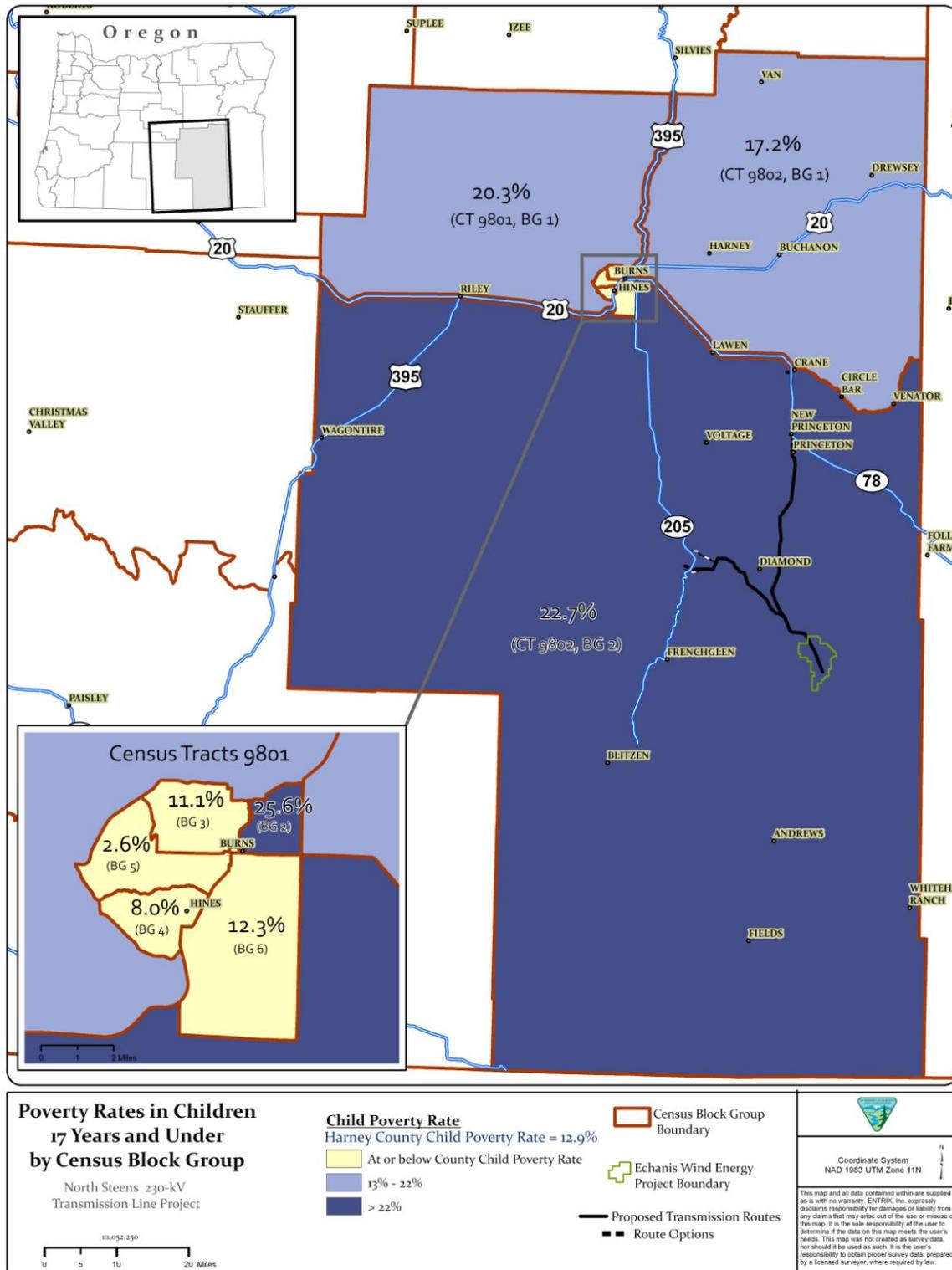


Figure 3.11-3 Poverty Rates in Children 17 Years and Under by Block Group.

As shown in Table 3.11-8 and discussed in more detail in earlier sections, the current unemployment rate in Harney County (16.8 percent in November 2009) is higher than that for Oregon (11.1 percent) and the United States (10.0 percent). This rate increased approximately 63 percent from one year ago (10.3 percent in November 2008) as presented in Figure 3.11-1. However, the unemployment rates in the county, state, and nation have decreased over the past month.

Minority Populations

In accordance with CEQ Guidance (CEQ website, 2009), minority populations should be identified if the minority population in the Project Area “exceeds 50 percent” or if the percentage of minority population in the Project Area is meaningfully greater than the “minority population percentage in the general population or other appropriate unit of geographic analysis.” For this analysis, the minority population percentage of the Census Block Group in which the project is located is compared to the same measure for Harney County to determine if an environmental justice population is present.

Table 3.11-11 presents the minority composition of the Census Block Groups in Harney County, the cities of Burns and Hines, Harney County, Oregon, and the United States based on 2000 Census data. Table 3.11-12 presents that information for the county, state, and nation based on 2008 Population Estimates by the U.S. Census Bureau. The entire Project would be located in CT 9802, BG 2. In 2000, populations living in individual BGs within Harney County ranged from 6 to 22 percent minority. The Harney County population as a whole was 10 percent minority. In comparison, minority percentages for Oregon and the U.S. were 16 percent and 31 percent, respectively. Residents living in CT9802, BG2 (where the project is located) were 9 percent minority, which was less than the percentage minority in Harney County as a whole (10 percent) (Table 3.11-11; U.S. Census, 2010a).

Table 3.11-11 Minority Population (Based on 2000 Census Population)

Geographic Area	Total Population	Minority ^a Population	Minority ^a Percentage
CT 9801, BG 1	390	72	18%
CT 9801, BG 2	827	71	9%
CT 9801, BG 3	1,022	226	22%
CT 9801, BG 4	1,500	92	6%
CT 9801, BG 5	1,129	100	9%
CT 9801, BG 6	753	81	11%
CT 9802, BG 1	1,021	59	6%
CT 9802, BG 2	967	85	9%
City of Burns	3,064	307	10%
City of Hines	1,623	110	7%
Harney County	7,609	786	10%
Oregon State	3,421,399	563,783	16%
United States	281,421,906	86,869,132	31%

^a Minority is defined as Black and African American, American Indian and Alaskan Native, Asian, Native Hawaiian and Other Pacific Islander, Hispanic/Latino, or any person of two or more races.

Source:

U.S. Census Bureau, Table P8. Hispanic or Latino by Race (Total population), Census 2000 Summary File 1 (SF 1) 100-Percent Data, 2000. Website (<http://factfinder.census.gov/>) accessed May 17, 2010.

By 2008, Harney County’s minority population was 842 residents and represented 12 percent of the total population. The Harney County minority population grew in relation to its total population and continued to

reflect relatively fewer minority residents compared to Oregon, which was 20 percent minority in 2008, and the United States, which was 34 percent minority in 2008 (Table 3.11-12). Census Block Group data is not available past 2000.

Table 3.11-12 Minority Population (Based on 2008 Population Estimates)

Area	2008 Population	Minority ^a Population	Minority ^a Percentage
Harney County	6,747	842	12%
State of Oregon	3,790,060	757,022	20%
United States	304,059,724	104,568,266	34%

^a Minority is defined as Black and African American, American Indian and Alaskan Native, Asian, Native Hawaiian and Other Pacific Islander, Hispanic/Latino, or any person of two or more races

Source:

U.S. Census Bureau, Population Estimates Program, 2008 Population Estimates. Table T4-2008. Hispanic or Latino By Race [15]. Website (<http://factfinder.census.gov/>) accessed May 18, 2010.

Assuming that demographics in CT9802, BG2 have not changed substantially since 2000, an environmental justice population does not exist near the project based on minority and poverty rates for the general population. The project is located within CT9802, BG2, which is approximately 9 percent minority in 2000, reflecting relatively fewer minority residents compared to Harney County as a whole. The percentage of residents living below the poverty level in 1999 in CT9802, BG2 was within three percentage points of the same measure for Harney County. Neither the minority or the poverty percentage is higher than 50 percent. Therefore, more localized effects due to the project, such as temporary construction effects and other location-dependent potential effects, would not be experienced by a minority or low-income population disproportionately compared to non-minority and non-low-income populations. Environmental Justice is therefore not further analyzed in this EIS.

The project would result in beneficial impacts to all Harney County residents, including those living near the proposed turbines and transmission line alternatives. These benefits include jobs and spending related to project construction and operation, discussed in Section 3.11.3. For the Echanis Project, the Applicant has agreed to use best efforts to hire qualified Harney County residents during project construction. During the operation phase, the applicant or its operator shall use best efforts to hire Harney County residents who meet minimum requirements established by the applicant or operator, and said operator shall provide training as appropriate.

3.11.3 Environmental Consequences and Mitigation

The Project is expected to affect social and economic conditions in Harney County, which is the study area for social and economic analysis. Specifically, the Project is expected to effect county employment, income, property values, and property taxes. This section describes the specific effect analysis methodology, data sources, and estimated effects. Effects by Alternatives are discussed in four subsections organized by the following topic areas: employment and labor income, property values, property taxes, and social values.

3.11.3.1 Alternative A – No Action

Social and Economic Effects

There are no anticipated effects on employment, output, and labor income of Alternative A. No Action would lead to Harney County not receiving the potential employment, income, and output benefits created by the proposed Project. Additionally, the tax benefits of the Project would not be collected by the county under the

No Action Alternative. The existing social and economic conditions are expected to continue along current trend lines, and the local relatively undeveloped rural lifestyle would remain unchanged.

3.11.3.2 Echanis Project Effects Common to All Action Alternatives

Social and Economic Effects

Effects of the Echanis Project on the social and economic condition of the Project Area relate to anticipated changes in employment, income, revenue and fiscal health, and property values. These factors are examined in turn. Anticipated changes relating to the construction of the Echanis Project are estimated where appropriate.

EMPLOYMENT

The estimates of employment effects represent the total number of jobs, including full and part-time, expected to be created due to the Echanis Project. Total employment is estimated first for the construction phase and then for the operations phase of the Echanis Project.

SHORT-TERM EMPLOYMENT (CONSTRUCTION PHASE) EFFECTS

The construction phase employment effects on the county would be primarily from labor hired to construct the Echanis Project. The Applicant expects to hire approximately 100 employees for nine months to construct the Echanis Project. (Norling, 2008) The Applicant estimates approximately 30 wind project construction workers would be local residents (Norling/Kane, 2009), as indicated by the Echanis Project permit condition No. 53:

LOCAL HIRING – The applicant shall use best efforts to hire qualified Harney County residents during project construction. During the operation phase, the applicant or its operator shall use best efforts to hire Harney County residents who meet minimum requirements established by the applicant or operator, and said operator shall provide training as appropriate. In the event that after the best efforts suitable resident employees cannot be found, employees other than Harney County residents may be utilized.

The remaining construction workers are anticipated to be temporary residents that would relocate for the construction phase of the Project.

In addition to the jobs directly generated by the Project, employment would be generated or supported in other sectors as construction employees spend their wages at businesses in the county (induced effects). The induced effect is expected to be higher for workers who are county residents than for workers who have temporarily located to the county for the construction period. Non-resident construction workers are estimated to limit their spending in the county to approximately \$1,400 per month on lodging, food, and gas.² Spending by resident workers is estimated using average household consumption patterns.³ Additionally, local employment would increase as a result of increased household income and associated spending from one-time transmission line right of way payments paid to local landowners whose property would be crossed. The total increase in income associated with the increase in household spending/income would total

² It was assumed that over the construction period half of the non-local employees would reside at hotels in Burns and the other half would stay at RV parks in The Narrows. Expenditures on gasoline were estimated assuming that construction employees would travel round trip, three to a car from Burns as well as from The Narrows to the wind farm project site. Gasoline expenditure estimates also accounted for weekend travel from The Narrows to Burns for entertainment purposes over the course of the projects construction.

³ Local payroll is analyzed in IMPLAN sector 5001, employee compensation.

approximately \$1.0 million.⁴ Increased household spending is expected to generate approximately 30 jobs (15 jobs related to spending from the Echanis Project and 15 from Alternative B transmission line-related spending).

Local jobs would also be supported by Echanis-related expenditures on goods and materials used as inputs for the Echanis Project (indirect effect). The Applicant estimates that the Echanis Project construction would require \$3.5 million of local goods and services, including truck transport, road construction, fuel, transmission line work, and general maintenance and construction. This increased demand for local goods and services is expected to generate approximately 30 jobs (from Echanis-related spending).

LONG-TERM EMPLOYMENT (OPERATION PHASE) EFFECTS

During the operations phase of the Echanis Project, maintenance and operations jobs would be generated. The Applicant estimates that the Echanis Project would directly employ approximately 10 workers. (Norling/Kane, 2009) Employment opportunities resulting from the purchase of Project-related materials for the Echanis Project, such as the total spending on local goods and services, would be fairly low (\$20,000 for the Echanis Project). Some employment, however, is expected to result from increased household spending due to Project-related income. In particular, household spending of income from the Echanis Project site lease payment during the operations phase are expected to generate approximately five jobs in the county.

SUMMARY EMPLOYMENT EFFECTS

Table 3.11-13 summarizes the total employment effect for the Echanis Project. Total employment effect during the nine month Echanis Project construction is estimated at 145 jobs. Long term operations for the Echanis Project are expected to generate 15 jobs (10 direct jobs and 5 induced jobs) over the next 20 years.

Table 3.11-13 Employment Effects of the Echanis Project

	Construction Phase (Up to 1 Year)	Operations Phase (Annually for 20 Years)
Direct	100	10
Indirect	30	0
Induced	15	5
Total	145	15

INCOME

Income effects represent total labor income, which includes both profits to business owners and wages to employees. This income includes the wages expected to accrue to the employees filling the additional jobs generated by the Project, as well as the additional profits accruing to business owners from Project related expenditures.

SHORT-TERM (CONSTRUCTION PHASE) INCOME EFFECTS

Similar to employment, labor income generated during construction is a temporary benefit for the local economy. Project payroll for the nine-month Echanis Project construction is estimated to be \$3.5 million. (Norling/Kane, 2009) Income is increased during the construction phase not only by the direct spending by the Applicant on wages and the site lease and transmission line right of way payments, but also by the income

⁴ Note that employment effects of this increased income will likely be spread out over several years, rather than being experienced solely during the construction period.

to the local owners and workers employed at businesses supplying the Project with goods and services. This indirect income effect, estimated at \$1.0 million for the Echanis Project construction, is felt in businesses that supply goods and services to the Project, notably businesses providing maintenance and transportation-related services or goods.

Income is also expected to be generated in sectors that supply goods and services to the workers employed by the Applicant, which includes such businesses as grocery stores, restaurants, hotels, and gas stations. It is estimated that spending by Echanis Project construction workers would increase local income by approximately \$470,000.

LONG-TERM (OPERATION PHASE) INCOME EFFECTS

County income during the operations period increases due primarily to payroll to operations workers on the Echanis Project, as well as lease payments from the Echanis Project to private landowners. The Applicant estimates total employee compensation to operations workers on the Echanis Project at \$450,000. Lease payments from the Echanis Project to the private landowner for the windfarm site only are estimated to be \$750,000 annually. These direct income effects result in increased household spending at local businesses, and raises income by employees and owners of these businesses by approximately \$100,000 due to the Echanis Project.

As noted above, the value of goods and materials purchased by the Applicant during the operations phase is relatively small (\$20,000 for the Echanis Project). Income at local businesses that supply these inputs is not expected to increase due to expenditures for the Echanis Project.

SUMMARY INCOME EFFECTS

Table 3.11-14 presents the estimated income effect of the Project during the construction and operations phases for the Echanis Project. County income due to the Echanis Project is expected to rise during the construction period by approximately \$4.9 million. Long-term annual income during the 20-year operations phase is expected to increase by an estimated \$1.3 million. Table 3.11-14 also presents the total income effect in terms of present value, which represents the value in today’s dollars of all Project-related income that would accrue during construction and 20 years of operations.⁵ In present value terms, county income over the life of the project would increase by approximately \$23.6 million.

Table 3.11-14 Echanis Project Income Effects

	One-Time Construction	Annual Operations	Present Value Over 20 Years
Direct	\$3,500,000	\$1,200,000	\$20,730,000
Indirect	\$1,030,000	\$0	\$1,030,000
Induced	\$470,000	\$100,000	\$1,870,000
Total	\$4,990,000	\$1,300,000	\$23,630,000

Note: Figures may not sum to total due to rounding

PROPERTY VALUE EFFECTS

Property value effects potentially resulting from the Echanis Project are related to (1) proximity to Echanis (i.e., *proximity effects*) or (2) a view of the Echanis Project (i.e., *viewshed effects*). Previous studies have examined effects relating to proximity to and viewshed impairment from wind farms with varying results. No

⁵ Present value is calculated using a three percent discount rate.

residential homes are located within 500 feet of the Echanis Project (see Figure 3.11-4, later in this section) indicating no potential effects even if the proximity/viewshed effects were greater than zero. A review of these studies is undertaken here to determine potential effects in the Project Area. Property values may also be affected by land use changes (i.e. *land use change effects*) in the Project Area. Each of these potential effects is examined in turn below.

A scenic view is one of many attributes determining the value of a home. Assuming any scenic view attributes are integrated into the existing value of homes in the Project Area, those property values may face downward pressure if wind farms are perceived to adversely affect the quality of a viewshed. Similarly, if wind farms are perceived to benefit viewsheds, property values may increase. This increase or decrease in property values resulting solely from a change in viewshed quality are known as *viewshed effects*. A different set of attributes, which may not integrate viewshed quality, determine property value of undeveloped land (e.g., grazing property), so undeveloped land is not the focus of viewshed effects.

Property on which the Echanis Project would be located would experience viewshed effects but also would be compensated with an annual lease payment. However, property potentially experiencing *proximity effects* from the Echanis Project (i.e., are adjacent to the wind project) would not be compensated with lease payments. In addition, properties within the viewshed of but not in direct proximity to the Echanis Project may potentially be affected by viewshed changes.

Recent studies have evaluated potential property value effects of wind energy projects. To estimate potential indirect property value effects of the project (i.e., from the Echanis Project), these studies are reviewed briefly. A 2002 study (EcoNorthwest, 2002) interviewed tax assessors in counties where wind farms are currently located. The tax assessors had not determined any negative effect of wind projects on property values within these counties. A 2003 study (Sterziner/Kostiuk, 2003) conducted a statistical analysis comparing property sales in ten wind farm viewsheds nationwide (within a five-mile radius of wind turbines) with comparable property sales in communities outside the wind farm viewsheds. The study found no support for the claim that wind development will harm property values (Sterziner/Kostiuk, 2003). The study found property values actually rose more quickly within the wind farm viewsheds than in communities outside of wind farm viewsheds, indicating an unexplained positive property value effect from wind farms.

A survey of Nantucket (Haughton/Giuffre, 2004) residents and realtors finds they expect property values to decrease due to a wind farm project by 4 percent for homeowners and 4.6 percent for realtors. This study is based on opinion and not rigorous analysis. A following study (Hoen, 2006) reviews the Nantucket findings suggesting that the survey does not predict actual effects on property values since it is not a statistical analysis. Additionally, the study conducts a statistical analysis of the effects of the Nantucket wind farm on property values and finds no statistically significant relationship between wind farm proximity/visibility effect and home sale price, indicating that wind farm visibility does not affect property values. A 2009 study measured the impact of wind farms on residential property values (Hoen/Wiser/Cappers/Thayer/Sethi, 2009) near 24 wind projects nationwide including three such locations in the Pacific Northwest. Using advanced statistical analysis, the authors created ten models to test the impact of wind farms on residential property values. In particular, the authors examined whether the sale price of homes located adjacent to (nuisance stigma), nearby but not adjacent to (area stigma), and in the viewshed (scenic vista stigma) of wind farms were affected. The authors found no significant and consistent measure of (distance to or viewshed of) wind farms affecting the home prices surrounding the facility.

A survey (Royal Institution of Chartered Surveyors, 2005) of real estate professionals in the United Kingdom found that the majority of the sample (60 percent) perceived a decrease in residential property values within a wind farm viewshed. The effect of wind farm visibility on agricultural land was predicted to produce no effect on agricultural land values by 63 percent of the sample. This study does not include statistical analysis, but instead presents professional opinion. A 2006 technical memorandum (DeLacy, 2006) looked at the potential of a proposed wind farm to affect property values. The memorandum concluded that there was

either no to a small negative potential effect on property values, but also noted that the positive effect of the project on the local economy (e.g., increased jobs, decreased local property taxes, generated tax revenues for local infrastructure/schools) could outweigh any negative effects.

The studies presented here do not find a significant or consistent relationship between wind energy developments and property values. Thus, no property value effects are estimated for wind farm proximity/viewshed impairment.

REVENUE AND FISCAL EFFECTS

The fiscal effects of the Project can include changes to both government costs and revenues. The cost effects are attributable to any Project-related requirements for public services including road maintenance and water. County revenue may be affected by property taxes paid by the Project. Taxes are a redistribution of benefits from wind power production to the Federal, state, and local government jurisdictions in which the wind power production and sales occur. Thus, determining the effect of taxes on a specific community depends entirely on the tax structure of that jurisdiction.

There are both direct and indirect local tax effects from wind power projects. Direct taxes are collected locally from local taxpayers and remain in the local area to support budgets for local entities. Indirect taxes are collected by entities outside of the local area, usually state and Federal government. Some of the state funding returns to the local area as support for state agency activities and some may return as state/Federal support for local entities. Local direct effects include real estate and personal property taxes while indirect effects include sales and income taxes. No indirect effects are quantified in this study. Oregon does not have a sales tax, so no sales tax revenue would be collected from the Project. Income and business taxes generated by the Project would be collected at the state/Federal level and are expected to have limited indirect effect on the county. The county receives only a portion of state/federally collected tax revenue and the income/businesses taxes resulting from the Project would not have a measurable effect on the total state/federal collected tax revenue and thus the portion allocated to the county.

Corporations doing business in Oregon pay a corporate excise tax. The minimum corporate excise tax is \$10 for each affiliate in Oregon. In 2006, the utility industry in Oregon accounted for just 3.1 percent of statewide corporate taxes. (Oregon Department of Revenue, 2008) In total, 86 utility tax returns were filed in 2006, 64 of which paid the minimum tax. This equates to 74.4 percent of utility companies paying the minimum tax, the highest of any industry. On average, the corporate tax for utilities in Oregon was just \$161,605. Business taxes are collected at the state level and thus, any changes in business taxes trickle down to the local area.

Measures 66 and 67 were passed in January 2010. Measure 66 will increase personal tax rates and decrease the federal tax liability subtraction for individuals with a taxable income over \$125,000 and for joint filers with a taxable income over \$250,000. Additionally the measure will exempt the first \$2,400 of unemployment compensation from tax. Measure 67 will increase the corporate minimum excise tax and marginal tax rates in Oregon. The new minimum tax ranges from \$150 for corporations with sales less than \$500,000 to \$100,000 for corporations earning over \$100 million in Oregon (Oregon Department of Revenue, 2008).

The Measures are expected to generate over \$700 million for state services, including public schools, budgeted for the 2010-2011 budget year (Cole, 2010). The passing of the Measures will ease the budget shortfall, providing funding for public services in all areas of Oregon including Harney County. In Harney County, particular groups are expected to be directly affected by Measure 66 and Measure 67 (Oregon Education Association, n.d.). Funding provided for public services will benefit the 1,187 children in public schools, 846 people served by the Oregon Health Plan, and 56 people receiving long-term care in Harney County. The public will also benefit by the continued supervision of 96 criminal offenders in the County. The 471 residents initially filing for unemployment in 2009 will receive tax breaks while less than 20 residents will face increased taxes from the Measures.

PROPERTY TAX EFFECTS OF THE ECHANIS PROJECT

Studies have shown positive local fiscal effects for energy projects (Nevada Commission on Economic Development, 2005). Counties generally charge real estate and/or personal property taxes. In most cases, taxes collected by the counties are distributed to various levels of local governments and district services, such as town governments, water and sanitation districts, emergency response districts, and school districts, to pay for these services as well as other infrastructure.

Real estate taxes are paid by landowners, and since the land on which the Echanis Project is located will be leased, the landowner will continue to pay these taxes. Real estate taxes are based on the assessed value of a property. A change in land use may impact the assessed value of a property. Tax effects depend on any changes in the assessed value of the land and the real estate tax rate. In the case of the Echanis Project, the real estate tax rate will change due to the land use change. Increased tax revenues are anticipated to be \$60,000 annually in 2009, escalating at three percent annually thereafter, reaching \$105,210 in year 20. (Norling, 2008) Over 20 years, this would amount to \$1.61 million, with a net present value of \$1.17 million.

Personal property tax payments for wind power projects are based on the installed capital cost of the wind plants. Personal property tax payments for wind power projects tend to be a greater source of tax revenues than other types of energy generation, per installed megawatt, because they require greater capital investment. Generally speaking, the tax payments on wind power plants may range from one to three percent, depending on the state and jurisdiction. However, in Oregon the Strategic Investment Program exempts from property taxes a portion of large capital investment and reduces the property tax paid to a maximum of \$500,000 annually in rural areas like Harney County.

Personal property tax effects vary by Project year. Once construction is complete, the taxable value of the Echanis Project would be \$222.1 million. Each subsequent year the Echanis Project's taxable value would decrease, ultimately reaching a value of \$95.5 million after 20 years. However, due to the Oregon Strategic Investment Program, a capital project over \$25 million in rural areas is exempt from property taxes for the first 15 years of its existence. The project would still pay a community service fee, equal to 25 percent of the exemption, up to \$500,000. Because of the Strategic Investment Program, property tax payments made by the Project would be smaller.

The total property tax payments over the 20-year life of the Project are estimated to be \$17.0 million. However, the increase in local property tax receipts would not result in a dollar for dollar increase in local fiscal benefits. This is due to the fact that Oregon school districts are partially funded by the state, and increased local tax revenues generated for schools would decrease state funds for local schools. In fact, on average the State of Oregon provides about 53 percent of school funding, mainly from the general fund, but also from the lottery funds, with local jurisdictions being responsible for around 36 percent. The final 11 percent come from the Federal Government. This system was created by Measure 5 in 1990, amended by Measure 50 in 1997, and by Measure 1 in 2000. These Measures shifted Oregon school funding to the State General Fund. Specifically, Measure 1 requires the state legislature to "appropriate in each biennium a sum of money sufficient to ensure that the state's system of public education meets quality goals established by law." Therefore, regardless of a school district's property tax receipts, its schools would get the necessary funding, determined by the state. (Oregon Blue Book website, 2008)

The result of this school funding system is that whenever property values increase in a particular school district, resulting in increased property tax revenue for that district, the state funding that the district receives is decreased by the same amount. In the Project Area, 34.15 percent of the total property tax levy goes toward the local school district. (Tiller/Zabala, 2008) Therefore, over one-third of the increased property tax would be matched by a decrease in state funding (in effect, this is a benefit to the state). Locally, the net fiscal benefit to the county is estimated to be tax receipts totaling \$11.2 million over 20 years (66 percent of the total property taxes generated by the Echanis Project). In present value terms, this increase in tax revenues to the county is \$8.1 million.

The net present value of the \$1.6 million in increased real estate taxes and \$17.0 million in increased property taxes is estimated to be \$13.5 million, assuming a three percent discount rate. This is equivalent to an annualized payment of \$0.91 million per year. Subtracting the reduction in school-related funds from the state, the total net present value of the increased taxes is \$9.3 million and the annualized payment is \$0.63 million (Table 3.11-15). If the Echanis Project exists for longer than 20 years, the total present value of value of tax payments over the life of the Echanis Project would be higher.

Table 3.11-15 Echanis Project Property Tax Effects

	Real Estate Tax	Property Tax	Present Value over Life of Echanis	Annualized Payments
Increased Taxes Paid	1,612,222	\$16,996,838	\$13,520,224	\$908,771
Reduction in School Payments from State	\$0	-\$5,805,266	-\$4,219,908	-\$283,644
Net Increase in Taxes	1,612,222	\$11,191,571	\$9,300,317	\$625,127

Overall, the effect of the Echanis Project on community services is expected to be negligible. It is expected the increase in public service demands has either been funded directly by the Applicant or is being met locally by public service providers paid by the Applicant. Therefore, the net fiscal effects are expected to equal the additional tax revenues generated by the Echanis Project. As presented here, the average annual property and real estate taxes from the Echanis Project would be \$0.6 million and the total present value of the taxes would be \$9 million. As noted above, if the Echanis Project exists for longer than 20 years, the total present value of tax payments over the life of the Echanis Project would be higher.

Lifestyle and Social Values

Construction and operation of the Echanis Project would result in the addition of a new element to the visual landscape of the area, and thus a change in the perception of the area as being open and rural. While some people have perceived other wind farm developments to be positive because they represent generating energy in a more harmonious manner with nature, others have viewed them negatively as large industrial facilities located in former pastoral or undeveloped areas. The extent of the impacts would be dependent upon the number of people affected, their use of the area (i.e., landowner, worker, and recreationist), and one's perception of these types of facilities. An assessment of the potential visual effects is provided in Section 3.9 and an assessment of the recreational impacts is provided in Section 3.7.

3.11.3.3 Alternative B – West Route (Proposed Action)

The economic effects of a transmission line (Project) are akin to other developments that have a construction phase as well as on-going operations. These types of projects typically provide an initial, short-term boost to the local economy during Project construction as goods and services are purchased locally and local labor is used. Once construction is completed, Project operations provide extended local economic benefits through spending on goods, services, lease payments, and labor that support long-term operations.

Social and Economic Effects

For both the construction and operations phases, there are three primary sources of employment and income effect in the county: direct increased employment and income due to Project hires (direct effect), increased employment and income at county businesses supplying goods and services for Project use (indirect effect), and increased employment and income at businesses receiving household spending resulting from Project-related wages (induced effect).

EMPLOYMENT

The estimates of employment effect represent the total number of jobs, including full and part-time, that are expected to be created due to the Project. Total employment is estimated first for the construction phase and then for the operations phase of the Project.

SHORT-TERM EMPLOYMENT (INITIAL CONSTRUCTION PHASE) EFFECTS

The initial construction phase employment effects on the county would be primarily from labor hired to construct the initial single-circuit transmission line for the Project. Based on payroll figures, it is estimated that approximately 100 employees would be hired for the expected three month construction period of the West Route transmission line. The Applicant estimates approximately 50 transmission line workers would be local residents.⁶ The remaining construction workers are anticipated to be temporary residents that would relocate for the initial construction phase of the Project.

In addition to the jobs directly generated by the Project, employment would be generated or supported in other sectors as construction employees spend their wages at businesses in the county (induced effects). The induced effect is expected to be higher for workers who are county residents than for workers who have temporarily located to the county for the construction period. Non-resident construction workers are estimated to limit their spending in the county to approximately \$1,400 per month on lodging, food, and gas. (Norling/Kane, 2009) Spending by resident workers is estimated using average household consumption patterns.⁷ Additionally, local employment would increase as a result of increased household income and associated spending from one-time transmission line right of way payments paid to local landowners whose property would be crossed. The total increase in income associated with the increase in household spending/income totals approximately \$1.0 million.⁸ Increased household spending is expected to generate approximately 15 jobs from Alternative B transmission line-related spending.

Local jobs would also be supported by Project-related expenditure on goods and materials used as inputs for the Project (indirect effect). The Applicant estimates that the Alternative B transmission line construction would require \$2.0 million of local goods and services, including truck transport, road construction, fuel, transmission line work, and general maintenance and construction. This increased demand for local goods and services is expected to generate approximately 15 jobs from Alternative B transmission line-related spending.

SHORT-TERM EMPLOYMENT (FUTURE CONSTRUCTION PHASE- UPGRADE TO 230-KV) EFFECTS

The upgrade of the initial single-circuit transmission line to a full double-circuit 230-kV transmission line would require a second construction phase at a future date when additional capacity is required on the transmission line. During the second construction phase, the local area would experience the same temporary construction related effects as described above, including the same type of increase in employment as for the first construction phase.

LONG-TERM EMPLOYMENT (OPERATION PHASE) EFFECTS

During the operations phase of the Project, maintenance and operations jobs would be generated. The Applicant estimates that the Alternative B transmission line would directly employ approximately 15

⁶ Jon Norling and Marl Kane, 2009, Columbia Energy Partners, Personal communication with Lee Elder, ENTRIX Inc., October 20, 2009.

⁷ Local payroll is analyzed in IMPLAN sector 5001, employee compensation.

⁸ Note that employment effects of this increased income will likely be spread out over several years, rather than being experienced solely during the construction period.

workers.⁹ Employment opportunities resulting from purchase of Project-related materials for the transmission line such as the total spending on local goods and services would be \$150,000. However, some employment is expected to result from increased household spending due to Project-related income.

SUMMARY ALTERNATIVE B EMPLOYMENT EFFECTS

Table 3.11-16 summarizes the total employment effect for Alternative B-West Route. Total employment effect during the five month Alternative B transmission line construction is estimated at 130 jobs. Long term operations for Alternative B is 15 jobs over the next 20 years.

Table 3.11-16 Employment Effects of Alternative B- West Route

Alternative B – West Route	Construction Phase (Up to 1 Year)	Operations Phase (Annually for 20 Years)
Direct	100	15
Indirect	15	0
Induced	15	0
Total	130	15

Note: Figures may not sum to total due to rounding

INCOME

Income effects represent total labor income, which includes both profits to business owners and wages to employees. This income includes the wages expected to accrue to the employees filling the additional jobs generated by the Project, as well as the additional profits accruing to business owners from Project related expenditures.

SHORT-TERM (INITIAL CONSTRUCTION PHASE) INCOME EFFECTS

Similar to employment, labor income generated during construction is a temporary benefit for the local economy. Project payroll for the five month Alternative B transmission line construction is estimated by the Applicant to be \$2.0 million. (Norling/Kane, 2009) Additionally, local income would increase during the construction period as one-time transmission line right of way payments are made to local landowners whose property would be crossed, totaling approximately \$580,000. (Norling/Kane, 2009)

Income is increased during the construction phase not only by the direct spending by the Projects on wages and right of way payments, but also by the income to the local owners and workers employed at businesses supplying the Project with goods and services. This indirect income effect, estimated at \$630,000 for transmission line construction, is felt in the businesses noted above that supply goods and services to the Project, notably businesses providing maintenance and transportation-related services or goods.

Income is also expected to be generated in sectors that supply goods and services to the workers employed by the Project, which includes such businesses as grocery stores, restaurants, hotels, and

⁹ Jon Norling and Marl Kane, 2009, Columbia Energy Partners, Personal communication with Lee Elder, ENTRIX Inc., October 20., 2009

gas stations. It is estimated that spending by Alternative B transmission line construction workers would increase local income by \$330,000.

SHORT-TERM INCOME (FUTURE CONSTRUCTION PHASE- UPGRADE TO 230-kV) EFFECTS

The upgrade of the initial single-circuit transmission line to a full double-circuit 230-kV transmission line would require a second construction phase at a future date when additional capacity is required on the transmission line. During the second construction phase, the local area would experience the same temporary construction related effects as described above, including the same type of increase in income as for the first construction phase.

LONG-TERM (OPERATION PHASE) INCOME EFFECTS

County income during the operations period would increase primarily from wages paid to operations workers on the Alternative B transmission line. The Applicant estimates that total employee compensation to operations workers on the Alternative B transmission line would be \$590,000. These direct income effects result in increased household spending at local businesses, and raises income by employees and owners of these businesses by approximately \$60,000 due to the transmission line.

As noted above, the value of goods and materials purchased by the Project during the operations phase would be \$150,000 for the transmission line and would result in an income increase at local businesses that supply those goods and materials. Additionally, there would be an estimated \$70,000 increase in income due to maintenance expenditures for the transmission line.

SUMMARY ALTERNATIVE B INCOME EFFECTS

Table 3.11-17 presents the estimated income effect of the Project during the construction and operations phases for the Alternative B transmission line. County income due to the transmission line is expected to rise during the construction period by approximately \$3.5 million. Long-term annual income during the 20-year operations phase is expected to increase by an estimated \$0.7 million. Table 3.11-17 also presents the total income effect in terms of present value, which represents the value in today’s dollars of all Project-related income that would accrue during construction and twenty years of operations. In present value terms, county income over the life of the Project would increase by approximately \$13.7 million.

Table 3.11-17 Alternative B Income Effects

	One-Time Construction	Annual Operations	Present Value Over 20 Years
Alternative B – West Route			
Direct	\$2,580,000	\$590,000	\$10,960,000
Indirect	\$630,000	\$70,000	\$1,610,000
Induced	\$330,000	\$60,000	\$1,120,000
Total	\$3,540,000	\$710,000	\$13,690,000

Note: Figures may not sum to total due to rounding

PROPERTY VALUE EFFECTS

Property value effects potentially resulting from the Project are related to Project proximity or a view of the Project. Previous studies have examined effects relating to proximity to and viewshed impairment from transmission lines with varying results. A review of these studies was undertaken to determine potential effects in the Project Area. Property values may also be affected by land use changes (e.g., agriculture to commercial) in the Project Area.

The literature estimating effects of transmission lines on property values presents conflicting results. A 2009 study¹⁰ that previews previous studies looking at transmission line effects on property values concluded that about half of the literature found no effects from transmission lines on property values and about half found a negative effect on property values. Those finding negative effects on property values generally found an effect between 3 to 6 percent and always less than 12 percent. Moreover, the literature concluded that the effects disappeared with 200 to 300 feet. Similarly, a 1995 study (Chalmers/Voorvaart, 2009) in Vancouver, B.C., found that transmission lines had no significant viewshed effects on residential property values within 656 feet of but not adjacent to the line. Larger effects were estimated in a Vancouver, B.C., study (Hamilton/Schwann, 1995) of between 0.04 and 2.05 percent of home values. Still larger effects were estimated to be 5 to 12 percent of home prices for homes between 165 and 325 feet from a transmission line ROW. (Bottemiller/Cahill/Cowger, 2000) No property value effects were reported past 325 feet.

The literature estimated a range of transmission line effects on property values, between zero and 12 percent of home values. Many studies found no notable effect of transmission lines on home values, while those that did estimate an effect, generally expected them to be minor. Additionally, any effect of transmission lines on home values would be realized only when the home was sold. No effects of transmission lines on home values are estimated here due to the inconclusive nature of the literature. Additionally, no homes are nearby (within 500 feet) the Alternative B – West Route transmission line, further suggesting that there would be no effects on residential home values (see Figure 3.11-4).

REVENUE AND FISCAL EFFECTS

The fiscal effects of the Project can include changes to both government costs and revenues. The cost effects are attributable to any Project-related requirements for public services including road maintenance and water. County revenue could be affected by property taxes paid by the Project. Taxes are a redistribution of benefits from wind power production to the Federal, state, and local government jurisdictions in which the wind power production and sales occur. Thus, determining the effect of taxes on a specific community would depend entirely on the tax structure of that jurisdiction.

There are both direct and indirect local tax effects from wind power projects. Direct taxes are collected locally from local taxpayers and remain in the local area to support budgets for local entities. Indirect taxes are collected by entities outside of the local area, usually the state and Federal government. Some of the state funding returns to the local area as support for state agency activities and some may return as state/Federal support for local entities. Local direct effects include real estate and personal property taxes while indirect effects include sales and income taxes. No indirect effects are quantified in this study. Oregon does not have a sales tax, so no sales tax revenue would be collected from the Project. Income and business taxes generated by the Project would be collected at the state/Federal level and are expected to have limited indirect effect on the county. The county receives only a portion of state/federally collected tax revenue and the income/businesses taxes resulting from the Project would not have a measurable effect on the total state/federal collected tax revenue and thus the portion allocated to the county.

¹⁰ Chalmers J., and F Voorvaart, 2009, 'High-Voltage Transmission Lines: Proximity, Visibility, and Encumbrance Effects,' The Appraisal Journal.

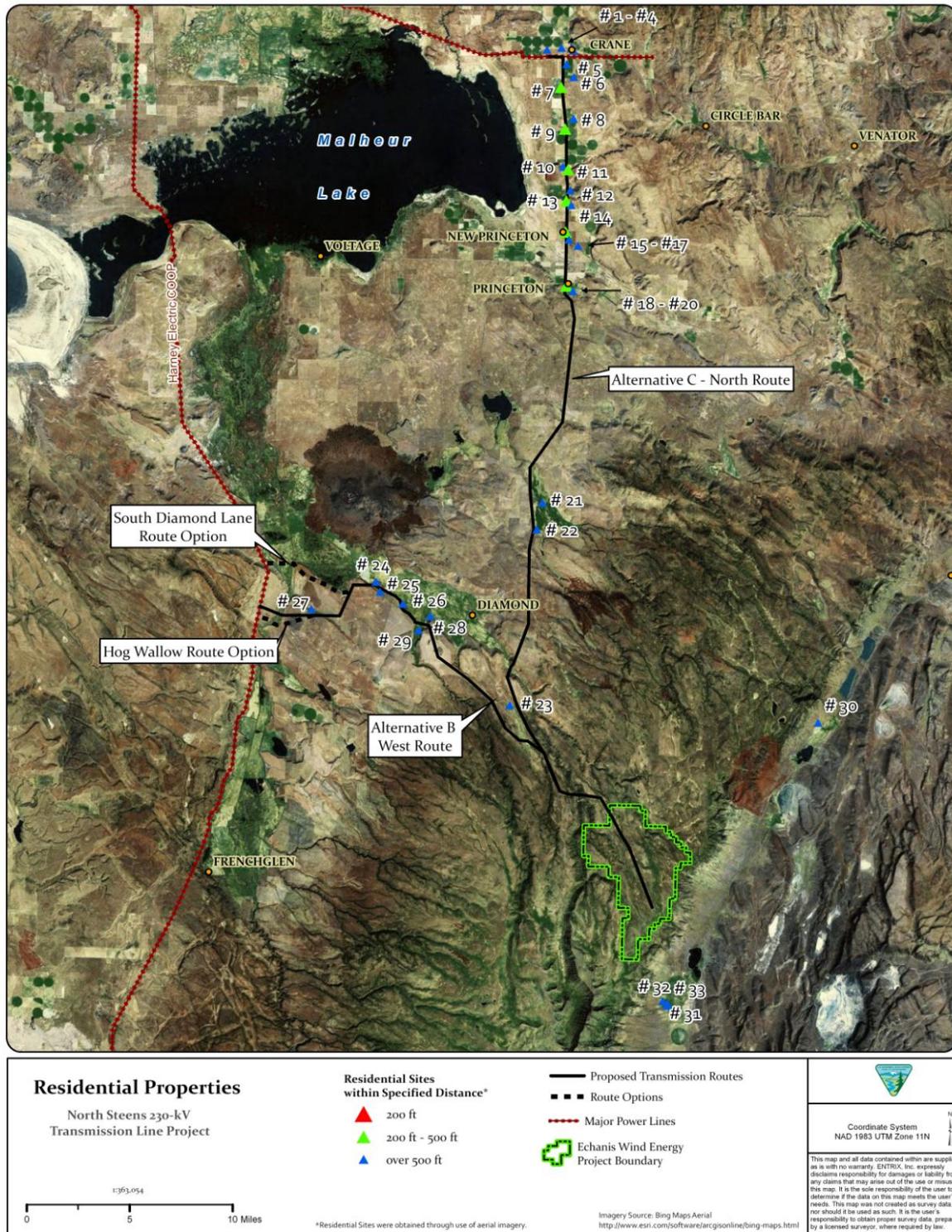


Figure 3.11-4 Properties Near the Transmission Line.

Corporations doing business in Oregon pay a corporate excise tax. The minimum corporate excise tax is \$10 for each affiliate in Oregon. In 2006, the utility industry in Oregon accounted for just 3.1 percent of statewide corporation taxes. (Des Rosiers, 2002) In total, 86 utility tax returns were filed in 2006, 64 of which paid the minimum tax. This equates to 74.4 percent of utility companies paying the minimum tax, the highest of any industry. On average, the corporate tax for utilities in Oregon was just \$161,605. Business taxes are collected at the state level and contribute to the General Fund (Oregon Department of Revenue 2008), which is used to support a wide range of state services including schools and education, police, prisons, social services, and medical services for the needy (State of Oregon, 2010).

REAL ESTATE TAX EFFECTS

Property owners within the transmission line easement would be compensated with a one-time payment for an easement on their land. The owner of the transmission line is liable for property taxes on the transmission line asset and not the land owners. (Oregon Department of Revenue, 2008) The transmission line may impact the use of the leased property thereby affecting its assessed value or real estate tax rate. Due to the small footprint of the transmission line, changes to the leased land would have little to no effect on local real estate taxes. The owner of the transmission line asset would pay property taxes to the local government to account for ownership of the asset.

LIFESTYLE AND SOCIAL VALUES

Construction and operation of Alternative B would result in the addition of a new element to the visual landscape of the ROW, but one that is not uncommon to see in rural areas and which fades into the vista once it is beyond the foreground views. The extent of the impacts would be dependent upon the number of people affected and their use of the area (i.e., landowner, worker, and recreationist).

South Diamond Lane Route Option

SOCIAL AND ECONOMIC EFFECTS

Effects for the Alternative B - South Diamond Lane Route Option are expected to be equivalent to the effects estimated for Alternative B – West Route. Although the two routes have a different alignment on the west end, their total length is very similar (the South Diamond Lane Route is less than five percent shorter). This indicates that total construction and operation expenditures, and thus economic effects, should be approximately equal for the two routes.

Hog Wallow Route Option

SOCIAL AND ECONOMIC EFFECTS

Effects for the Alternative B - Hog Wallow Route Option are expected to be equivalent to the effects estimated for Alternative B – West Route. Although the two routes have a different alignment on the west end, their total length is very similar (the Hog Wallow Route is less than one percent longer). This indicates that total construction and operation expenditures, and thus economic effects, should be approximately equal for the two routes.

115-kV Transmission Line Option

SOCIAL AND ECONOMIC EFFECTS

Effects for the Alternative B – 115-kV Transmission Line are expected to be equivalent to the effects estimated for Alternative B – West Route. The line location, pole heights, pole spacing, ROW widths,

construction methods, interconnection points, and access requirements would be the same as for Alternative B route options described above, creating no additional social and economic effects.

3.11.3.4 Alternative C – North Route

Social and Economic Effects

Due to the greater length of Alternative C – North Route, the expected economic effects are greater under this Alternative than for Alternative B. The Applicant estimates that the payroll cost of constructing the Alternative C transmission line would be \$4.0 million compared to \$2.0 million for Alternative B. Similarly, the transmission line expenditures on local goods and services during construction are estimated to be \$4.0 million compared to \$2.0 million for Alternative B (Seaton, 2010). Also, due to the longer length, the Applicant estimates that expenditure on local goods and services during the operations phase would also be twice as high, at \$300,000 annually (compared to \$150,000 annually for Alternative B). Finally, the one-time payments for the transmission line right-of-way also increase from \$580,000 for Alternative B to an estimated \$1.0 million for Alternative C.

Apart from adjusting these estimates of payroll, right of way payments, and local goods and services expenditures, the methodology to estimate Alternative C effects is the same as the methodology used to estimate Alternative B effects. Effects from the Echanis Project are expected to be identical under the two Action Alternatives.

EMPLOYMENT

Employment for both construction and operations phases is higher under Alternative C than under Alternative B, due to the greater length of the transmission line.

INITIAL CONSTRUCTION EMPLOYMENT

Despite the greater transmission line length, the Applicant expects the construction time period to be shorter for Alternative C (approximately 4 months rather than 5 months for Alternative B). Thus, although the payroll for transmission line construction doubles, due to the shorter construction timeframe the employment increases by more than double, to approximately 260 jobs (compared to 100 jobs in Alternative B). The Applicant estimates that approximately 50 percent of these jobs (130 jobs) would be filled by county residents.

Employment generated by Project-related construction spending on local goods and services is estimated to be 35 jobs, while the employment generated by increased spending by Project construction workers is estimated to be 25 jobs. The total employment associated with the Alternative C transmission line construction is thus 320 jobs, compared to 130 jobs for Alternative B.

FUTURE CONSTRUCTION EMPLOYMENT

The upgrade of the initial single-circuit transmission line to a full double-circuit 230-kV transmission line would require a second construction phase at a future date when additional capacity is required on the transmission line. During the second construction phase, the local area would experience the same temporary construction related effects as described above, including the same type of increase in employment as for the first construction phase.

OPERATIONS EMPLOYMENT

The Applicant expects to hire approximately 15 workers to maintain the Alternative C transmission line (equivalent to Alternative B). However, total operations employment under Alternative C is slightly higher due to increased operations spending for local goods and services (\$300,000 annually as opposed to \$150,000 annually for Alternative B). This spending is expected to result in approximately five indirect jobs being generated at county businesses that supply goods and services to the Project. Total operations employment is thus estimated at 20 jobs.

SUMMARY ALTERNATIVE C EMPLOYMENT EFFECT

Table 3.11-18 summarizes the total employment effect for Alternative C-North Route and the Echanis Project. Total employment effect during the four month Alternative C transmission line construction is estimated to be 320 jobs, and during the nine month Echanis Project construction is estimated to be 145 jobs. The timelines of the two construction projects are not known, so the total employment effects at any one time during construction is uncertain. Employment effects over the assumed 20-year operating period are estimated to be 35 long-term jobs.

Table 3.11-18 Employment Effects

	Construction (Up to 1 Year)	Operations (Annually for 20 Years)
Alternative C		
Direct	260	15
Indirect	35	5
Induced	25	0
Alternative C Employment Effect	320	20
Echanis Project		
Direct	100	10
Indirect	30	0
Induced	15	5
Echanis Project Employment Effect	145	15

Note: Figures may not sum to total due to rounding

INCOME

Income for both construction and operations phases is higher under Alternative C than under Alternative B due to the greater length of the transmission line. Income effects from the Echanis Project are expected to be equivalent to those estimated under Alternative B.

INITIAL CONSTRUCTION INCOME

Similar to employment, labor income generated during construction would be a temporary benefit for the local economy. Project payroll for the four month Alternative C transmission line construction is estimated by the Applicant to be \$4.0 million (compared to \$2.0 million for Alternative B). Additionally, local income would increase during the construction period as one-time transmission line right of way payments are made to local landowners, totaling approximately \$1.0 million (compared to \$580,000 in Alternative B).

Income generated by Project-related construction spending on local goods and services is estimated to be \$1.3 million, while the construction employment generated by increased spending by Project workers is estimated to be \$600,000. The total income associated with the Alternative C transmission line construction is thus estimated to be \$7.0 million, compared to \$3.5 million for the Alternative B transmission line.

FUTURE CONSTRUCTION EMPLOYMENT

The upgrade of the initial single-circuit transmission line to a full double-circuit 230-kV transmission line would require a second construction phase at a future date when additional capacity is required on the transmission line. During the second construction phase, the local area would experience same temporary construction related effects as described above, including the same type of increase in income as for the first construction phase.

OPERATIONS INCOME

The Applicant expects payroll costs for Alternative C transmission line workers to total approximately \$590,000. However, total operations income under Alternative C is slightly higher due to increased operations spending for local goods and services (\$300,000 annually as opposed to \$150,000 annually in Alternative B). This spending is expected to result in approximately \$140,000 of indirect income being generated at county businesses that supply goods and services to the Project. Induced income generated by increased household spending at local businesses also would increase slightly to \$60,000. Total operations employment is thus estimated to be \$790,000.

SUMMARY ALTERNATIVE C INCOME EFFECT

Table 3.11-19 presents the estimated income effect of the Project during the construction and operations phases for both the Alternative C transmission line and the Echanis Project. County income due to the transmission line and the Echanis Project is expected to rise during the construction period by approximately \$11.9 million. Long-term annual income during the 20-year operations phase is expected to increase by an estimated \$2.1 million. Table 3.11-19 also presents the total income effect in terms of present value, which represents the value in today’s dollars of all Project-related income that would accrue during construction and 20 years of operations. (Norling/Kane, 2009) In present value terms, county income over the life of the Project would increase by approximately \$41.7 million.

Table 3.11-19 Income Effects

	Construction	Operations	Present Value
Alternative C			
Direct	\$5,040,000	\$590,000	\$13,340,000
Indirect	\$1,280,000	\$140,000	\$3,240,000
Induced	\$630,000	\$60,000	\$1,500,000
Alternative C Employment Effect	\$6,950,000	\$790,000	\$18,090,000
Echanis Project			
Direct	\$3,500,000	\$1,200,000	\$20,730,000
Indirect	\$1,030,000	\$0	\$1,030,000
Induced	\$470,000	\$100,000	\$1,870,000
Echanis Project Employment Effect	\$4,990,000	\$1,300,000	\$23,630,000
Total Employment Effects of Alternative C and Echanis	11,900,040	2,090,000	41,720,000

Note: Figures may not sum to total due to rounding

PROPERTY VALUE EFFECTS

The property value effects of the Alternative C route are expected to be consistent with the Alternative B – West Route effects. Seven homes are located within 500 feet of the Alternative C route (see Figure 3.11-5), though no change is expected to occur to the value of these homes due to the lack of a consistent relationship between transmission lines and home values in the literature.

FISCAL EFFECTS

Fiscal effects for the Alternative C are expected to be equivalent to the effects estimated for Alternative B – West Route. Although the two routes have different alignments, the taxes imposed on the utility asset owner and leased landowner would be the same.

LIFESTYLE AND SOCIAL VALUES

Construction and operation of Alternative C would result in the addition of a new element to the visual landscape of the ROW, but one that is not uncommon to see in rural areas and which fades into the vista once it is beyond the foreground views. The extent of the impacts would be dependent upon the number of people affected and their use of the area (i.e., landowner, worker, and recreationist).

3.11.3.5 Residual Effects after Mitigation

There would be no anticipated residual effects to social and economic values after mitigation measure have been implemented.

3.11.3.6 Summary Comparison of Alternatives

The effect to social and economic values and environmental justice from development of the Echanis Project, primary access road, and each alternative is summarized in Table 3.11-20.

Table 3.11-20 Summary of Effects - Social and Economic Values, Environmental Justice

Alternative A – No Action	Echanis Wind Energy Project	Alternative B – West Route	South Diamond Lane Route Option	Hog Wallow Route Option	Alternative C – North Route
<p>No Action would lead to Harney County not receiving the potential employment, income, and output benefits created by the proposed Project.</p> <p>Additionally, the tax benefits of the Project would not be collected by the county under the No Action Alternative.</p>	<p>Short-term employment would consist of 100 employees for 9 months, of which 30 would be local residents.</p> <p>Employment would be generated or supported in other sectors as construction employees spend their wages at businesses in the county (induced effects). Non-resident construction workers are estimated to spend approximately \$1,400 per month on lodging, food, and gas.</p> <p>Increased household spending would generate approximately 15 jobs. Local jobs would also be supported by expenditure on goods and materials for the Project (indirect effect).</p> <p>Approximately \$3.5 million of local goods and services would be required for Project construction which is expected to generate approximately 30 jobs.</p>	<p>Short-term employment hired to construct the initial single-circuit transmission line for the Project would consist of 100 employees for 3 months, of which 50 would be local residents.</p> <p>Employment would be generated or supported in other sectors as employees spend wages at businesses in the county (induced effects). Non-resident workers are estimated spend approximately \$1,400 per month on lodging, food, and gas.</p> <p>Increased household spending is expected to generate approximately 15 jobs.</p> <p>Long-term employment</p>	<p>Effects for the South Diamond Lane Route Option are expected to be equivalent to the effects estimated for Alternative B – West Route.</p> <p>Although the two routes have a different alignment on the west end, their total length is very similar (the South Diamond Lane Route is less than 5% shorter). This indicates that total construction and operation expenditures, and thus economic effects, should be approximately equal for the two routes.</p>	<p>Effects for the Hog Wallow Route Option are expected to be equivalent to the effects estimated for Alternative B – West Route.</p> <p>Although the two routes have a different alignment on the west end, their total length is very similar (the Hog Wallow Route is less than 1% longer). This indicates that total construction and operation expenditures, and thus economic effects, should be approximately equal for the two routes.</p>	<p>Short-term employment hired to construct the transmission line for the Project would consist of 260 employees for 3 months, of which 130 would be local residents.</p> <p>Employment generated by Project-related construction spending on local goods and services is estimated at 35 jobs, while the employment generated by increased spending by Project construction workers is estimated at 25 jobs.</p> <p>Long-term employment hired for</p>

Table 3.11-20 Summary of Effects - Social and Economic Values, Environmental Justice

Alternative A – No Action	Echanis Wind Energy Project	Alternative B – West Route	South Diamond Lane Route Option	Hog Wallow Route Option	Alternative C – North Route
	<p>Long-term employment for operations would consist of 10 workers. Employment opportunities resulting from purchase of Project-related materials is estimated at \$20,000 annually.</p> <p>Household spending of income from ROW lease payments during the operations phase are expected to generate approximately 5 jobs in the county.</p> <p>Short-term income from Project construction is estimated at \$3.5 million. Businesses that supply goods and services to the Project would receive indirect income effects estimated at \$1.0 million. Businesses such as grocery stores, restaurants, hotels, and gas stations are expected to receive an increase in local income by approximately \$470,000.</p> <p>Long-term income from Project operations would arise from employee compensation to operations workers (estimated at \$450,000 annually) and lease payments to private landowners (estimated at \$750,000) annually. These effects would result in increased household spending at local businesses, and raises income by employees and owners of these businesses by approximately \$100,000.</p> <p>The value of goods and materials purchased during the operations phase would be approximately \$20,000, and income at local businesses that supply these inputs is not expected to increase.</p> <p>No property value effects are estimated for wind farm proximity/viewshed impairment.</p> <p>An estimated \$1.6 million is expected in increased real estate taxes and \$17.0 million in increased property taxes. The net present value of these is estimated at \$13.5 million. Subtracting the reduction in school-related funds from the state, the total net present value of the increased taxes is \$9.3 million and the annualized payment is \$0.63 million. If the Project exists for longer than 20 years, the total present value of value of tax payments over the life of the Project would be higher.</p> <p>This analysis did not identify disproportionately high or adverse</p>	<p>hired for maintenance and operations jobs would consist of 15 workers. Employment opportunities resulting from purchase of Project-related materials is estimated at \$150,000 annually. Some employment is expected to result from increased household spending due to Project-related income.</p> <p>Short-term income from Project payroll for construction is estimated to be \$2.0 million. Local income would increase during the construction period as one-time ROW payments are made to local households, totaling approximately \$580,000.</p> <p>Businesses that supply goods and services to the Project would receive indirect income effects estimated at \$630,000. Spending by construction workers is expected to increase local income by \$330,000.</p> <p>Long-term income from Project operations would arise from payroll to operations workers amounting to \$590,000, which would result in increased household spending at local businesses, and raises income by employees and owners of these businesses by approximately \$60,000.</p> <p>The value of goods and materials purchased by the Project during the operations phase is approximately \$150,000 and would result in a slight income increase at local businesses suppliers. There would be an estimated \$70,000 increase in income due to maintenance expenditures.</p>			<p>maintenance and operations would be 15 workers. Employment opportunities resulting from purchase of Project-related materials is estimated at \$300,000 annually, which is expected to generate approximately 5 jobs.</p> <p>Short-term income from Project payroll for construction is estimated to be \$4.0 million. Local income would increase during the construction period as one-time ROW payments are made to local households, totaling approximately \$1.0 million.</p> <p>Income generated by Project-related construction spending on local goods and services is estimated at \$1.3 million, while the construction employment generated by increased spending by Project workers is estimated at \$600,000.</p> <p>Long-term income from Project operations as payroll to operations workers amounts to \$590,000, which would result in increased household spending at local businesses, and raises income by employees and owners of these businesses by approximately \$140,000.</p> <p>Fiscal effects for this option are expected to be equivalent to the effects estimated for Alternative B – West Route. Although the two routes have a different alignment, the taxes imposed on the utility asset owner and leased landowner would be the same.</p>

Table 3.11-20 Summary of Effects - Social and Economic Values, Environmental Justice

Alternative A – No Action	Echanis Wind Energy Project	Alternative B – West Route	South Diamond Lane Route Option	Hog Wallow Route Option	Alternative C – North Route
	<p>effects to minority or low-income groups.</p> <p>A new element would be added to the visual landscape of the area, and thus a change in the perception of the area as being open and rural. Some people would perceive Echanis positively because it would represent generating energy in a more harmonious manner with nature, others would view it negatively as a large industrial facility located in former pastoral or undeveloped area.</p>	<p>This would result in the addition of a new element to the visual landscape of the ROW, but one that is not uncommon to see in rural areas and which fades into the vista once it is beyond the foreground views.</p>			<p>This would result in the addition of a new element to the visual landscape of the ROW, but one that is not uncommon to see in rural areas and which fades into the vista once it is beyond the foreground views</p>

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