

Section 3.11

POPULATION, HOUSING, AND ECONOMICS

This section characterizes population, housing, and economic conditions, including employment, income, local government revenues, and property values in Kittitas County (County), Washington. In addition to the government and other sources cited, this analysis draws upon a study titled “Economic Impacts of Wind Power in Kittitas County,” prepared for the Phoenix Economic Development Group by ECONorthwest in November 2002 (Appendix A). That report addressed two other prospective wind energy projects in Kittitas County similar in size to the proposed Wild Horse Wind Power Project (WHWPP); thus, the results from that study were adjusted to apply to this project only. Throughout this section, that study is referred to as the “Phoenix Study.”

3.11.1 Affected Environment

The following sections are intended to present relevant information regarding the existing population, housing, employment, income, and fiscal and tax conditions and trends in the County, where the project will be located. This is the area that is anticipated to be impacted by the project.

3.11.1.1 Population

Population estimates for the County and Washington State are presented in Table 3.11-1. In 2002, the population of the County was 34,800. Since 1990, the County population has increased at an annual rate of 2.2%. During the same period, the state’s population increased at an annual rate of 1.8%.

The State of Washington’s Office of Financial Management (OFM) projects that the County population will continue to grow through 2020; however, the rate of growth is projected to slow to approximately 1% annually. During the same period, the state’s population is forecast to grow at an annual rate of about 1.2%.

Table 3.11-1. Kittitas County and Washington State Population

Area	1990	2002	Average Annual Growth, 1990–2002	2020 Forecast	Forecast Average Annual Growth, 2002–2020
Kittitas County	26,725	34,800	2.22%	41,776	1.02%
Washington State	4,866,663	6,041,700	1.82%	7,545,269	1.24%

Source: Washington State Office of Financial Management 2003

As shown in Table 3.11-2, nearly 92% of the County's population is Caucasian. The state's population is 82% Caucasian. The study area's population has a lower percentage of persons of Hispanic origin than that of the state. Approximately 5% of the County's residents are of Hispanic origin, compared to approximately 7.5% for the state.

Table 3.11-2. Kittitas County Demographic Breakdown of Population by Race

Area	Caucasian	African-American	American Indian, Eskimo, or Aleutian	Asian or Pacific Islander	Other Race	Two or More Races
Kittitas County	91.8%	0.7%	0.9%	2.3%	2.3%	2.0%
Washington State	81.8%	3.2%	1.6%	5.9%	3.9%	3.6%

Source: U.S. Census Bureau 2002

3.11.1.2 Housing

Table 3.11-3 displays the estimated number of housing units for the County and for the State of Washington. From 1990 to 2000, housing in the County grew at an average annual rate that was slightly greater than that of the state. The County's average annual growth rate was 2.2%, and the number of housing units increased from 13,215 in 1990 to an estimated 16,475 in 2000.

Table 3.11-3. Housing Units in Kittitas County and Washington State

Location	Housing Units		% Average Annual Growth	Number of Vacant Units, 2000	
	1990	2000	1990-2000	Total Vacant Units	Seasonal, Recreational, or Occasional Use
Kittitas County	13,215	16,475	2.2%	3,093	1,791
State of Washington	2,032,378	2,451,075	1.9%	179,677	55,832

Source: U.S. Census Bureau 2002

According to the 2000 U.S. Census, the County has 3,093 vacant housing units. Of the total vacant units, 1,791 were classified as seasonal, recreational, or occasional use. The occasional use units represent approximately 10.9% of the total units in the County. These units are generally lake or hunting cabins, quarters for seasonal workers, or time-share units. Nearly 56,000 of the state's total housing units, or 2.7%, were designated as seasonal, recreational, or occasional use units. The higher percentage of occasional use units in the County is attributed to the recreational areas located in the Cascades and other areas of the County. The median home value for a three-bedroom home in Ellensburg is \$135,000, and for the surrounding area is \$175,000 (Ellensburg Chamber of Commerce 2003).

Of the total units available for rent in the County, the 2000 Census reported a vacancy rate of 6.8%. This vacancy rate is consistent with the vacancy rate reported by the Washington Center for Real Estate Research, which reported an apartment vacancy rate range of as high as 7% in September 2001 to a low of 3.9% in March 2002. The higher vacancy rate experienced in September could possibly be explained by the fact that Central Washington University's academic year generally begins at the end of September. By comparison, the U.S. Census

Bureau reported that the state had a rental vacancy rate of 5.8%. The median gross monthly rent for a three-bedroom home in Ellensburg is \$950 (Ellensburg Chamber of Commerce 2003).

The estimated number of persons per household in the County was 2.3 in 2000, which is less than the state's average of approximately 2.5 persons per household.

3.11.1.3 Employment

The top five major or key employers in the County include Central Washington University, with a labor force of 1,330 employees; Ellensburg School District, with 364 employees; Kittitas Valley Community Hospital, with 276 employees; the County, with 250 employees; and Fred Meyer, with 200 employees (Phoenix Economic Development Group 2003).

Table 3.11-4 displays average employment by industry for the County and the state. In 2001, an estimated 11,903 people were employed in the County. Employment in the County is concentrated in the government, trade, and service sectors. The government sector (including local, state, and federal employees) accounts for approximately 31% of total employment in the study area, while trade (including wholesale and retail) and services account for 29% and 18%, respectively.

Approximately 2% of employees in the County are not placed in a particular industry. The "not elsewhere classified" designation is used for confidentiality reasons if fewer than three firms are displayed in a particular sector, or any one firm has 80% or more of the employment at any level of detail in a sector.

Table 3.11-4. Kittitas County and Washington State Employment by Industry, 2001

Industry	Kittitas County		State of Washington	
	Employment	Percentage of Total	Employment	Percent of Total
Agricultural, Forestry, and Fishing	722	6.1%	90,373	3.4%
Construction and Mining	444	3.7%	147,008	5.5%
Manufacturing	676	5.7%	333,317	12.4%
TCU	425	3.6%	140,291	5.2%
Trade	3,472	29.2%	616,986	22.9%
FIRES	2,126	17.9%	881,092	32.8%
Government	3,717	31.2%	480,276	17.9%
Not Elsewhere Classified	321	2.7%	23	0.0%
Total	11,903	100.0%	2,689,366	100.0%

Notes:

TCU = Transportation, communication, and utilities; Trade = wholesale and retail; FIRES = Finance, insurance, real estate, and services.

Source: State of Washington Employment Security Department 2003

Recent unemployment rate trends for the County and Washington State are shown in Table 3.11-5. In 1997, the average unemployment rate for the County exceeded the state's rate

by more than 1%, 6% versus 4.8%. By 1999, strong economic growth had resulted in decreases in the unemployment rates for both the county and state to 5.6% and 4.7%, respectively. With the recent recession, unemployment has risen in both the county and state. The 2002, unemployment rate was 6.1% in the County, lower than the state's rate of 7.1%.

Table 3.11-5 Unemployment Rate Trends in Kittitas County and Washington State, 1996–2001

Area	1997	1998	1999	2000	2001	2002
Kittitas County	6.0%	6.0%	5.6%	5.8%	6.5%	6.1%
Washington State	4.8%	4.8%	4.7%	5.2%	6.4%	7.1%

Note: 2002 data are averages for year-to-date as of November 2002.

Source: State of Washington Employment Security Department 2003

3.11.1.4 Income and Local Government Revenues

Income

In 2001, the per capita income of the County residents of \$21,728 was about 68% of the state average of \$31,976 (Table 3.11-6). From 1998–2001, the County's per capita income grew at an annual rate of 2.4%, and the state's per capita income grew at an annual rate of 3.1%.

According to the 2000 U.S. Census, the poverty rate for the County in 1999 was approximately 19.6%, which exceeded the state average of 10.6%.

Table 3.11-6 Kittitas County Per Capita Income (1998–2001)

Area	1998	1999	2000	2001	% Average Annual increase (1998– 2001)	% of State Total (2001)
Kittitas County	19,738	20,164	21,196	21,728	2.4%	68.0%
State of Washington	28,285	29,819	31,230	31,976	3.1%	

Source: Bureau of Economic Analysis 2003

According to OFM, the median household income in 2002 was \$35,278, and is projected to be \$35,924 in 2003.

Sales and Other Tax Revenue

According to the Washington State Department of Revenue, the County had an assessed value of property of approximately \$2.4 billion in 2002. The 2002 average consolidated tax per thousand dollars of assessed value for the County was about \$10.75. Revenues from property taxes are used to fund the County government, local school districts, local fire departments, libraries, and emergency medical services. These property tax revenues are also a major source of revenue for the local governments. Incorporated into the consolidated tax levy are local levies collected by the County Assessor and returned to the local jurisdictions as general fund revenues.

Recent trends in taxable retail sales in the County and Washington State are compared in Table 3.11-7. In 2002, retail sales in the County totaled approximately \$412 million. From 1999

to 2002, retail sales in the County increased at an average annual rate of 2.9%. Over the same period, sales statewide increased at an annual rate of 1.6%. Both the County and the state experienced a decline in taxable retail sales from 2001, then an increase in 2002. The brief decline in retail sales probably resulted from the overall slowdown in the regional and national economies.

Table 3.11-7 Kittitas County and Washington State Taxable Retail Sales (\$000s)

Area	1999	2000	2001	2002	Avg. Annual % Change 1999-2002
Kittitas County	367,900	392,536	387,724	411,775	2.9%
Washington State	79,683,553	84,747,510	84,356,940	84,894,588	1.6%

Source: Washington State Department of Revenue 2003

General Fund Revenues

In 2003, the County general fund had revenues of about \$15.5 million. As shown in Table 3.11-8, approximately 38% of the revenue is expected to come from taxes. Other sources of revenue include licenses and permits, fines and forfeits, and intergovernmental transfers. Real and personal property taxes are forecast to be the largest contributors to revenues. Property taxes, which account for about 22% of total revenues, generated about \$3.4 million in revenues. Sales and use taxes are expected to total approximately \$2 million in 2003, providing approximately 13% of total revenues for the general fund (Kittitas County Auditor, 2003 General Fund Budget).

Table 3.11-8 Kittitas County General Fund, Total Resources (2003 Budget)

Resources	2003	Percent of Total Resources
Real and Personal Property Taxes	\$3,359,482	21.6%
Sales and Use Tax	\$2,046,000	13.2%
Timber Harvest Tax	\$150,000	1.0%
Excise Tax	\$38,000	0.2%
Penalties on Taxes	\$351,600	2.3%
Reserves and Carryover	\$2,788,249	17.9%
Interfund Revenues	\$233,909	1.5%
Misc. Revenue	\$819,807	5.3%
Fines and Forfeitures	\$1,483,350	9.5%
Charges for Services	\$1,459,335	9.4%
Intergovernmental Revenues	\$2,120,479	13.6%
Licenses and Permits	\$699,200	4.5%
Total Resources	\$15,549,411	100.0%

Source: Kittitas County Auditor, 2003 General Fund Budget

3.11.1.5 Kittitas Valley Alternative

The affected environment described for the Proposed Action above is also representative of the affected environment for the Kittitas Valley alternative.

3.11.1.6 Desert Claim Alternative

The affected environment described for the Proposed Action above is also representative of the affected environment for the Desert Claim alternative.

3.11.1.7 Springwood Ranch Alternative

The affected environment described for the Proposed Action above is also representative of the affected environment for the Springwood Ranch alternative.

3.11.1.8 Swauk Valley Ranch Alternative

The affected environment described for the Proposed Action above is also representative of the affected environment for the Swauk Valley Ranch alternative.

3.11.2 Impacts of Proposed Action

It is estimated that the number of construction and operations employment opportunities associated with all the scenarios being considered will be approximately the same. The only substantial difference in terms of fiscal and economic impacts among the proposed scenarios is the difference in total project cost and the resulting impact on local property tax revenues. The difference in total project costs among the proposed scenarios is largely a function of the difference in the total cost of the wind turbine generators, which is essentially linear with respect to total nameplate capacity (expressed in MW).

The analysis presented in the following sections is based on a total project nameplate capacity of the 136-turbine/1.5-MW scenario (project cost of \$200 million). For the 104-turbine/3-MW scenario, the total project cost would be roughly 65% higher (approximately \$330 million). For the 158-turbine/1.0-MW scenario, it would be roughly 22% lower (approximately \$156 million). It is assumed that these differences in total project costs would translate into roughly linear increases or decreases in property tax revenues compared to the base case of a project size of the 136-turbine/1.5-MW scenario.

Table 3.11.-9. Summary of Potential Construction, Operation, and Maintenance Impacts: Population, Housing, and Economics

	104 Turbines/3 MW	136 Turbines/1.5 MW (Most Likely Scenario)	158 Turbines/1.0 MW
Population			
Increased influx of temporary and permanent workers in the area.	Same as 136-turbine/1.5-MW scenario.	Construction total of 250 employees; maximum 160 employees during peak construction month. Operational workforce of	Same as 136-turbine/1.5 MW scenario.

	104 Turbines/3 MW	136 Turbines/1.5 MW (Most Likely Scenario)	158 Turbines/1.0 MW
		14 to 18 personnel	
Housing			
Increased demand for temporary and permanent housing.	Same as 136-turbine/1.5-MW scenario.	Total 240 rooms or units available during peak time; 760 rooms or units non-peak; 1,000 vacant, non-seasonal housing units in the County.	Same as 136-turbine/1.5 MW scenario.
Economics			
Increased employment and spending/income	Same as 136-turbine/1.5-MW scenario.	Total 250 employees; maximum 160 employees during peak construction month. Operational workforce of 14 to 18 personnel; \$4.8 million in total income and 71 jobs for construction; \$1.4 million and up to 30 jobs for operations; \$376,000 income to landowners.	Same as 136-turbine/1.5-MW scenario.

3.11.2.1 Construction Impacts

Population and Housing

During major construction projects, there is always a chance that an influx of temporary workers requiring overnight accommodations will outstrip the supply of temporary housing. During construction, the proposed project would require up to 160 workers during a 4-month period when construction activity is at its peak, and up to 90 workers for a couple of months on each end of the peak. Based upon the proposed project applicant's experience with building wind power projects in other regions and recent examples from other wind power projects in the region (e.g., Stateline Wind Energy Center in Walla Walla County), up to half the construction workforce is expected to be from the local area. Due to the relatively short length of the construction period for any individual trade, most construction workers from outside the area are expected to commute daily to the site from the Yakima or Seattle areas, and those that do not are expected to reside locally only on a temporary basis and not to relocate their families. Therefore, many of these workers would not require overnight lodging.

For those workers that would require overnight lodging, the results of a telephone survey conducted by the applicant of hotel, motel, recreational vehicle park, and campgrounds in the County indicates that there are 1,150 rooms or sites available in the County. The results indicate further that during the peak summer season, there are typically about 240 rooms or sites vacant at any one time. During the non-summer months, vacancy rates are much higher, and it is estimated that there are usually about 760 rooms or sites vacant at any one time. As discussed above, there are also more than 1,000 vacant, non-seasonal housing units in the County. There

are also many overnight lodging opportunities in the greater Yakima area, which had a population of 224,500 in 2000, and are within a 1-hour drive of the project. Thus, there appears to be an adequate supply of temporary housing available to accommodate non-local workers.

Employment and Income

Construction of the project would result in increased employment and spending in the County. As mentioned above, the estimate of the extent of those impacts are based on the analysis included in the Phoenix Study, adjusted to apply to this project. The extent of the impacts was estimated in the Phoenix Study using an input-output (I-O) model of the County. I-O analysis is a commonly used technique that examines the relationships within a local economy between businesses and between businesses and their customers. I-O analysis includes a model of transactions in the local economy that allows an analyst to track how a change in final demand ripples through the economy in the form of direct, indirect, and induced spending.

In the I-O framework, a project or action that results in new spending for final demand, or a reduction in existing spending, is called a direct effect. The businesses that make the final sales must in turn purchase goods and services from other businesses. These indirect purchases are called indirect effects, which continue until leakages from the region in the form of imports, wages, or profits to persons outside the region end the cycle. Finally, workers at the producing businesses spend their wages in the local economy and purchase additional goods and services. These purchases are referred to as induced effects. The total economic impact of an action is the sum of the direct, indirect, and induced effects. I-O models generate multipliers that can be applied to direct purchases to represent the total direct, indirect, and induced effect of an action to different sectors of the economy.

During the construction phase, the economic impacts are estimated based on the following assumptions about project construction for all scenarios:

- A total of 250 full- and part-time construction jobs during the entire construction period, with a peak of 160 workers for a 4-month period;
- A total of 37 full- and part-time local construction jobs (for workers from the County), including construction management;
- A total project cost of approximately \$200 million (for the 136-turbine/1.5-MW scenario). The largest single cost for construction is the purchase of the wind turbine generators and towers, which would be purchased either from GE Wind Energy (Tehachapi, California) or from a European wind turbine manufacturer;
- A total of \$2,462,000 in local spending on construction materials, such as gravel and concrete; and
- A total of \$341,000 in spending on food and lodging by non-local labor in the County.

The construction impacts are expected to occur over an approximately 1-year period. The direct, indirect, and induced economic impacts during construction are shown in Table 3.11-10 for total income and jobs. Total income consists of personal income in the form of wages, profits, and other income received by workers and business owners, plus income from other sources, such as payments to landowners who lease land for project facilities. Jobs are the number of full- and part-time jobs expected to result from the project and from the increase in spending in other

sectors of the economy. As shown, the construction phase of the project is projected to result in \$4.8 million in total income and 71 jobs in the County.

Table 3.11-10 Economic Impacts in Kittitas County During Project Construction (2002\$)

Impact Type	Total Income	Jobs
Direct	\$3,783,000	37
Indirect	\$428,000	12
Induced	\$580,000	23
Total	\$4,791,000	71

Source: ECONorthwest 2003

The precise levels of construction wages in the area are not known, as these will be determined by the construction contractor and their subcontractors, based on prevailing labor market conditions at the time of construction. It is therefore reasonable to assume that project construction wage levels will be consistent with existing wage levels in the area. Finally, due to the short term of the construction period (12 months or less), even if wages paid by the construction contractor for the project were higher than existing wage levels in the area, it is very unlikely that this would have any impact on other local employers beyond the short duration of the peak project construction period (i.e., 4 months).

Fiscal Impacts

Sales Tax

By statute, an exemption from state sales tax for renewable energy generating facilities exists under Revised Code of Washington 82.08.2567. The applicant has received confirmation from the Washington Department of Revenue that purchases of wind turbine generators, foundations, substations, control buildings, and power lines will be exempt from state sales tax. However, all other construction-related purchases would be subject to sales tax, as would indirect purchases such as construction workers' food, lodging, and fuel expenditures. There would also be other fiscal benefits that the County would receive from the project, such as increased license and permit fees, use taxes, and charges for services.

Property Tax

The project would result in a substantial increase in the property tax base of the County and local taxing districts where the project is located. These taxing districts include Kittitas School District #403, Hospital District #1, and County Road District #1. The effects of this increase in tax base are discussed under operations, below, as property tax payments would not be due until after project construction is completed.

3.11.2.2 Operation and Maintenance Impacts

Population and Housing

There would not be a significant increase in population or housing demands due to the small number of workers required for operations. The project is expected to require 14 to 18 total workers during operations, and up to half are expected to be hired among persons already residing in the County. It is anticipated that roughly half of the operations workforce would be experienced wind power technicians and professionals who would relocate to the County to operate the project.

Employment and Income

During operations, it is estimated that 14 to 18 workers would be employed to operate and manage the project. It is assumed that all of these operations workers would reside in the County, with roughly half of them relocating to the County from other areas. There would also be spending on materials and services that would be necessary to operate and maintain the project (e.g., fuel, maintenance supplies, road maintenance services, and weed control services). The estimated annual direct, indirect, and induced income and jobs created by the project during operations are shown in Table 3.11-11. As shown, the project is expected to result in an estimated \$1.4 million per year in added income and 26 to 30 additional jobs in the County.

Table 3.11-11 Annual Economic Impacts in Kittitas County During Operations (2002\$)

Impact Type	Total Income	Jobs ¹
Direct	\$1,000,000	14 to 18
Indirect	\$45,000	1
Induced	\$360,000	11
Total	\$1,405,000	26 to 30

¹ Numbers have been rounded; total may not add up.

Source: ECONorthwest 2003

Fiscal Impacts

As described in Section 3.12, “Public Services and Utilities/Recreation,” the project is not expected to result in any significant increases in demand for public services or public expenditures. The project would, however, result in a substantial increase in the local property tax base and will be the largest taxpayer in the County.

Based on an estimated total project cost of \$200 million, the applicant estimates that the project would increase the total valuation of real property in the County by approximately 8%, from \$2.4 billion to \$2.7 billion. It is anticipated that the project would be the largest single taxpayer in the County by a factor of six and would have an assessed value greater than that of all 10 of the current largest taxpayers in the County combined. It is expected that the project would result in both increased revenues for state schools and local public services in the area, as well as reduced property tax levy rates for local taxpayers.

It is anticipated that project valuation for tax assessment purposes would be conducted by the County Assessor's office. There is little established precedent regarding valuation of wind farms for tax purposes in Washington. Because the Stateline Wind Energy Center, which is located in Walla Walla County, Washington, and Umatilla County, Oregon, is an interstate project, it was assessed centrally by the state Department of Revenue. Therefore, the entire value of the project was treated as new construction and was exempt from the limits of Initiative 747 (described below), and resulted in substantial increases in tax revenues to local districts.

The applicant cannot project with certainty the precise amounts of increased revenues versus decreased levy rates resulting from the project because it depends on what portion of the project is considered real versus personal property by the County Assessor and how much, if any, of the project the assessor defines as "new construction." The County Assessor has not yet provided a firm indication of the expected allocation between real property and personal property for the project.

Voters in Washington approved Initiative 747 in 2001. The initiative limits a taxing authority's total property tax revenue increases to 1% per year. There are exemptions for new construction and excess levies approved by the voters. If the assessed value in a district increases dramatically, levy rates would likely have to be decreased in order to meet the requirements of Initiative 747. It is anticipated that this would be the case with the addition of the project to the local property tax base because the project would represent an increase of much more than 1% in total assessed value for the local districts. Assuming the property tax levies were reduced, it would result in lower property taxes for other taxpayers in the County.

Benefits to taxpayers in the County are derived from the additional services provided by tax dollars generated by the project, as well as by the reduction in levy rates that would likely be required by Initiative 747. The largest beneficiaries of the added revenue from the project would be local and state schools, county government, county roads, and other local services.

In addition, development of this project would result in the increase of the value of other properties because of the increase in wages and overall economic activity in the County. The Phoenix Study estimated that this secondary effect would result in an additional \$78,000 in property taxes annually in the County.

Income to Landowners

The applicant plans to purchase the privately owned land needed for the project itself. The applicant has entered into long-term (i.e., 30-year) leases with the Washington Department of Natural Resources (WDNR) for approximately 34 wind turbine sites. The applicant intends to enter into a similar long-term lease with the Washington Department of Fish and Wildlife (WDFW) for approximately nine wind turbine sites. The amount of rental income paid to WDNR and WDFW would depend on the total number and nameplate capacity of wind turbines installed, the actual energy production, and the actual energy sales price. The estimates provided here are based on the best available information and assumptions regarding energy production and energy sales price.

Rental payments for the 34 WDNR turbine sites are expected to generate an annual average of approximately \$200,000. Based on current WDNR policy, approximately 75% of the rental income would be allocated to the Common School fund, while the remaining 25% would go to

the WDNR management fund. Rental payments are subject to an additional 12.48% leasehold tax, which contributes money to local taxing districts and the general fund. Rental payments for the nine WDFW turbine sites are expected to generate an annual average of approximately \$56,000.

The Puget Sound Energy (PSE) and/or Bonneville Power Administration transmission feeder line(s) and the PSE interconnect substation would be installed on private land under easements from the property owners. Payments to property owners that lease the land for the PSE transmission feeder would generate approximately \$120,000 during the life of the project.

Property Values

Some individuals have expressed concerns that wind energy projects could have a negative effect on property values by detracting from the views experienced by other property owners. The proposed project is located in a very sparsely populated area that is zoned Forest and Range and Commercial Agriculture, and the primary land uses in the immediate area are grazing and publicly owned lands. There are less than 20 residential structures within 3 miles of the project boundaries, and many of these are seasonally occupied cabins. Thus, the potential for property value impacts related to viewshed impacts appears to be quite limited. The potential impacts of the project on views in the area are discussed in detail in Section 3.10, “Visual Resources/Light and Glare.”

The Phoenix Study includes the results of interviews with tax assessors in counties throughout the United States that have wind energy projects in place, and includes the results of a literature review of academic journals on this matter. For comparison purposes, the study also reported on other studies that have been done on the impacts of electric transmission lines on property values.

The assessor’s survey covered 22 projects in 13 counties. Of those 13 counties, six had residential properties with views of a wind farm, six had no residential properties with views of a wind farm, and one reported that the wind project was too new to assess any property value impact. All six of the counties with residential views of wind projects reported that the turbines have not altered the value of those properties. Of the six counties with no residential views, five reported that there was no impact on property values, while a sixth (Kern County, California) reported that land parcels with turbines on them have increased in value in response to changing the land from a grazing zone to a wind-energy zone.

Because of the lack of available literature on potential property value impacts of wind energy projects, the Phoenix Study also reported on published literature about the impact of transmission lines on property values. Unlike wind farms, which some people find attractive, transmission lines are almost universally perceived as unattractive. Thus, the impacts of transmission lines may give an indication of the maximum possible impact that could be experienced by a wind-energy project if such a negative impact exists. The results of the literature about the impact of transmission lines on property values can be summarized that a transmission line’s effect on property values is at most about a 10% reduction in value, and those impacts are short-lived (i.e., the effects diminish over time)

Recently another study, funded by the U.S. Department of Energy and conducted by the Renewable Energy Policy Project (REPP), titled “The Effect of Wind Development on Local

Property Values” investigated the impacts wind turbines have on property values. The REPP study represents the most comprehensive analysis of the issue of wind farms and property values conducted to date. This study focused on wind development projects that were completed after 1998 with installed capacity of more than 10 MW. Of the 27 projects identified, 10 had sufficient data to be reviewed. A comparative analysis was conducted of sales data of properties within a 5-mile radius (the viewshed) of a wind turbine versus a larger comparable region prior to and after the development of the wind farm. The statistical analysis in the REPP study does not support the claim that wind development projects have an adverse impact on property values for properties within the viewshed of a wind farm.

These findings and the nature of surrounding land uses indicate that the project is unlikely to result in a negative impact on property values.

3.11.2.3 Decommissioning Impacts

Upon decommissioning, the project site would be restored according to plans developed by the applicant and reviewed and approved by the Washington Energy Facility Site Evaluation Council, in compliance with Washington Administrative Code 463-42, 655-665. If subsequent economic uses of the project site were not developed, facility closure would represent a long-term loss of employment and associated economic activity for the local and regional economy, and a loss of tax base. For example, up to 18 full-time jobs created as part of the project would be eliminated. It is assumed that individuals employed in these jobs would seek employment from other sources and that this loss of employment would have adverse impacts on the individuals involved. However, the number of jobs eliminated would be small compared to the number of jobs in the County as a whole (11,822 in 2000). Therefore, a very minor adverse impact on county employment would be anticipated as a result of project decommissioning.

If the project were decommissioned and facilities were removed from the study area, property tax revenues would decrease accordingly. This loss of revenue would likely have a slight adverse impact on the local economy. Decommissioning the facility would require removing most project facilities and reclaiming disturbed areas. These activities would result in beneficial but temporary construction employment similar to that projected for facility construction.

3.11.3 Impacts of Alternatives

3.11.3.1 Impacts of Off-Site Alternatives

Kittitas Valley Alternative

Project construction for the Kittitas Valley Alternative would result in short-term benefits to overall County and regional employment in the County similar to those described for the Proposed Action above. The direct construction employment impact of the project would be approximately 253 new temporary jobs, with a short-term peak estimated at 160 construction workers. An estimated 30% to 50% of the construction workforce would originate from the Ellensburg (approximately 12 miles away) and Yakima (within a 1-hour drive) areas. Construction personnel would also likely be hired from the Seattle/Tacoma area, about 1.5 to 2 hours away, and would probably stay in local recreational vehicle parks and motels. Minimal

temporary population impacts from the project would result from worker relocation and in-migration needed to meet project labor demands.

Total income (direct, indirect, and induced) generated during the construction phase of the project is estimated to be more than \$5.7 million (in 2002 dollars) in the County, a temporary but beneficial effect to the County economy. The project would generate an increase of \$1,249,600 in annual property tax revenue to the County, in addition to other fiscal benefits, such as increased sales and use taxes, license and permit fees, and charges for services.

Operation of the proposed project is expected to require up to 20 full-time employees. One half of the permanent employees are expected to be resident workers from the County, resulting in long-term benefits to overall County employment.

The local affects of wind power project development on property values at the Kittitas Valley Alternative would be as described for the proposed Wild Horse project.

Decommissioning impacts would be similar to those described above for the Proposed Action.

Desert Claim Alternative

In general, most of the potential population, housing, and economic impacts for the Desert Claim Alternative would be similar to, but less than, those described for the Proposed Action above. Because the workforce required for construction (150 workers) and operation (10 workers) of the project would be relatively small (in the context of total county-wide economic activity), the project is not expected to significantly impact population, housing, or employment throughout the County. Any impacts would be localized and temporary. Total labor income during construction is estimated to be over \$3.8 million. Together, potential corporate profits, property rents, and net interest are estimated at over \$1.5 million. This alternative is expected to indirectly generate minor amounts of sales tax revenue.

Impacts on economics within the County during operation of the Desert Claim Alternative are estimated at \$0.9 in labor income and \$2 million in other value added annually. Potential property tax revenues from the Desert Claim Alternative are estimated at a maximum of nearly \$1.1 million for the first year of operation.

Decommissioning impacts would be similar to, but less than, those described above for the Proposed Action.

Springwood Ranch Alternative

Impacts from construction of the Springwood Ranch Alternative on population, housing, and economics would be similar to, but less than, the Proposed Action described above. The project would employ an estimated 150 workers during the construction phase. Non-local workers would most likely seek temporary housing during construction, and impacts are not expected to be significant. Spending on labor and materials would indirectly result in additional jobs, and total labor income would increase during the construction phase.

Operation of the proposed project is expected to require 10 full-time employees. Economic impacts during operations would include an estimated \$315,000 in labor income and \$700,000 in other value added per year.

Decommissioning impacts would be similar to, but less than, those described for the Proposed Action above because this alternative would be a smaller project overall.

Swauk Valley Ranch Alternative

The temporary population impacts from worker relocation and in-migration needed to meet project labor demands of the Swauk Valley Ranch Alternative would be similar to the Springwood Ranch Alternative and relatively minor. Construction jobs created by the project would result in short-term benefits to overall County and regional employment. Operation of the proposed project is expected to require between 12 and 20 full-time employees, resulting in long-term benefits to overall County employment.

Decommissioning impacts would be similar to, but less than, those described for the Proposed Action above because this alternative would be a smaller project overall.

3.11.3.2 Impacts of No Action Alternative

Under the No Action Alternative, the project would not be constructed or operated, and socioeconomic impacts described in this section would not occur. The No Action Alternative assumes that future development would comply with existing zoning requirements for the project area, which is zoned Commercial Agriculture and Forest and Range.

Pending the proposal of other significant or influential development within the area, population growth and business development and the associated revenues to the County would likely continue on the same trend that currently exists.

If the project were not constructed, the region's power needs could be delivered through development of other generation facilities. The socioeconomic impacts of other facilities would largely depend on the revenue generated, and the temporary and permanent direct and indirect employment generated.

3.11.4 Mitigation Measures

There is an adequate supply of temporary housing available to accommodate non-local workers; therefore, no mitigation measures are proposed. The overall socioeconomic impact of the project for the County would be increased property tax base and employment opportunities; therefore, no mitigation measures are planned for population, housing, and economics.

3.11.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.