

Section 1: Summary of Proposed Non-Project Action

1.1 Introduction

Klickitat County, Washington is evaluating its Comprehensive Plan and development regulations to facilitate energy development in optimal locations within the County. The County's goal is to encourage energy development where it will be less likely to have probable, significant, adverse environmental impacts that cannot be mitigated; where there is adequate infrastructure; where it is consistent with existing and planned land use; and where the development can take advantage of the County's energy resources. The County has proposed developing an Energy Overlay in which energy uses would be permitted outright following State Environmental Policy Act (SEPA) review and compliance with federal, state, and local regulations as one alternative for accomplishing this objective. In the alternatives analysis, the southern portion of the County was identified as the area most logical for inclusion in the Energy Overlay because of the presence of basic infrastructure, good energy resources, and reduced environmental constraints. This area has the most potential wind energy, as well as an existing gas pipeline and electrical transmission infrastructure. Alternatives to an Energy Overlay are summarized below.

This non-project Environmental Impact Statement (EIS) includes maps of a proposed Energy Overlay area based on the results of the analysis, which are located in the Figures Section of this EIS. Specifically, Figure 1-1 shows the proposed Energy Overlay area.

At this juncture, given the volatile energy markets, it is difficult to anticipate the timing, number, and size of energy facilities that may be developed as a result of this Energy Overlay, or through the other alternatives, including no action. The EIS anticipates construction of several wind farms and numerous small wind generation plants to take advantage of the County's predictable wind regime and extensive electric transmission grid. Several peaking or combined cycle thermal plants will likely be constructed within the County as well. Although an Energy Overlay would probably encourage development within it, the number of applications for energy development that the County receives will depend to a large degree on the energy markets. However, general assumptions about the County's development potential were used for the cumulative impacts analysis.

1.2 Projected Energy Development in Klickitat County

Because this is a non-project EIS, some assumptions about the types and capacities of energy development projects in Klickitat County were estimated for use in the impacts analysis. These assumptions about energy development projects are based on:

- Energy Demand projections
- Historical development projects in the area and regional energy resources
- The wind energy, gas pipeline, and transmission capacity in Klickitat County
- Energy Demand Forecasting.

According to the Bonneville Power Administration (BPA) 2000 White Book (Bonneville Power Administration 2000, Table 9), the regional energy deficit will climb to over 7,000 MW. Deficits may be even greater during peak demand periods.

The Northwest Power and Conservation Council has also projected electrical demand in the region. Their medium forecast predicts an additional demand of about 5,300 MW by 2025 with a range of about minus 2,500 to a high of about plus 7,000 MW. The medium forecast represents a growth of about 1 percent per year.

Given the regional energy needs and the unique convergence of gas pipelines, wind energy, and transmission lines in Klickitat County, it is reasonable to estimate that the County could produce a portion of the projected increased energy demand.

Energy Development Projections

According to BPA, the regional power resources come from the following energy technologies:

- Hydroelectric – 55 percent
- Coal fired thermal – 19 percent
- Nuclear power – 5 percent
- Imports – 8 percent
- Gas fired combustion turbines – 3 percent
- Non-Utility generation – 6 percent
- Miscellaneous, including wind power – 4 percent

Of these technologies, hydroelectric, gas fired combustion turbines, biomass fired turbines, and wind energy have been developed in Klickitat County. These energy technologies are reasonably expected to continue to be developed in the County. For the purposes of the impact analyses in this EIS, we have assumed the following energy development may occur in the County with the Overlay from the present to the year 2024:

- Seven 250 MW or five 350 MW natural gas thermal projects
- Two 50 MW biomass projects
- Four wind power projects with total generating capacity of 1,000 MW
- Solar projects are anticipated to be small in size and number.

The County recognizes the size of future projects may be larger or smaller than those indicated here. These projections were used for modeling cumulative impacts, and may not reflect the actual number, mix, or capacities of the energy projects that will be developed. While considered in the EIS, we have assumed that there will be fairly minimal solar project development in the County.

Revised Code of Washington (RCW) 19.29A was signed into law in 2001. This requires “Implementation of Retail Option to Purchase Qualified Alternative Power” by sixteen of Washington’s electric utilities by offering a voluntary “qualified alternative energy product” (essentially an electricity product powered by green resources) starting by

January 2002. The statute calls for the utilities to report annually on the progress of these voluntary green power programs to the Department of Community, Trade and Economic Development and the Washington Utilities and Transportation Commission (WUTC 2002).

An October 2002 survey reported the following (WUTC 2002):

- Each of the sixteen utilities had a green power electricity product to offer its customers. Fourteen of the sixteen utilities have implemented voluntary green power programs. The two remaining utilities had secured wind power from a new facility and were initiating their programs after agency staff completed this survey.
- Utilities regularly advertised the green power programs to their customers.
- On average, less than one percent (0.55%) of customers had registered to participate in the utility programs in the first year. Based on participation in older green power programs this participation rate will increase as marketing continues.
- A total of 12.4 million kilowatt-hours (kWhs) of green power was sold during the first nine months of 2002 to participants in these voluntary programs.
- Wind power represented the vast majority of the green power sales in the 2002 program (approximately 90%). The remaining resources were landfill gas, hydropower, and solar.
- The resources in the green power programs either had zero CO₂ emissions or, in the case of landfill gas fueled power, release only five percent of the CO₂ that would have been released if the landfill methane gases were emitted directly into the atmosphere.
- Nearly all of the public utilities participating in the survey, as well as seven smaller public utilities that did not offer green power programs to their customers, added renewable resources to their utility system mix – above and beyond that required by the green power option.
- A total of 1 billion kWhs of electricity fueled by wind, landfill gases, and biomass were included in the system fuel mix reports by electric utilities in Washington in 2001.
- Utility representatives reported the following types of challenges to implementing the program:
 - marketing to achieve higher penetration amidst significant rate increases,
 - addressing the statute’s Section 28 (5) clause, “All costs and benefits associated with any option offered by an electric utility under this section must be allocated to the customers who voluntarily choose that option,” and
 - the transmission pricing policies in the Northwest for intermittent resources.

1.3 Purpose and Need for Energy Amendments to Comprehensive Plan and Development Regulations

Klickitat County’s existing zoning ordinances do not specifically address energy development; however there has been increasing demand for siting energy project in the County. Currently, energy projects are sited through a conditional use process on a site-

by site basis. This approach has led to a lack of consistent policy for energy facility siting. The purpose of an Energy Overlay is to facilitate energy development in optimal locations within Klickitat County. The County's goal is to encourage energy development in locations that take advantage of the County's energy resources and existing infrastructure, and are sited to minimize environmental impacts. Pre-planning can also better address cumulative impacts and incorporate citizen and agency concerns on siting and mitigation into the regulatory process.

The benefits of developing an Energy Overlay include:

- Planned, controlled development of energy resources where they are the most environmentally suitable, taking advantage of existing resources and infrastructure
- Comprehensive studies of impacts including area-wide, rather than site-specific, avian studies and assessments of water resources, which can better address cumulative impacts
- Development of wind farms on ranch and farm lands, which will help sustain the agricultural economy in a manner that is compatible with current and future land use
- Compilation of land use data in a geographic information system (GIS) database that will assist the County Planning department and the public with land use decisions
- Availability of land use and resource information that will attract appropriate energy development to the County, increasing tax revenues and creating family-wage jobs.

Additionally, an Energy Overlay would result in better planning for and management of energy development in Klickitat County by providing:

- A beyond-the-fence line assessment of the impacts of energy development on air quality, avian biology, and water resources
- Useful information on existing infrastructure, zoning, and land use so that environmental concerns can be addressed in a holistic fashion. Pre-planning can help to better determine where to site energy uses and what types of mitigation would be appropriate
- Development siting that is consistent with existing land use.

Providing this information in a single place will encourage energy developers to locate in the areas where impacts can be more easily mitigated, and cumulative County-wide impacts of energy development will be better understood and managed.

The EIS considers several alternatives including:

- ***The Technology Alternative***, which assesses which energy technologies are appropriate for inclusion in the overlay (e.g., wind, solar, gas thermal, and

biomass technologies are acceptable, nuclear, hydroelectric, and diesel plants were rejected),

- **The Geographic Alternative**, which evaluates land use, sensitive habitats, and proximity to existing infrastructure to set the boundaries of the overlay (generally covering the southern half of the County),
- **The Limited Geographic Alternative**, which has been added to the Final EIS as a new alternative. Gas-fired power plants require a considerable amount of water for cooling, and current economic criteria for developing gas-fired plants require that facilities be located within two miles of an existing natural gas pipeline. The Limited Geographic Alternative limits development of gas-fired facilities to areas within two miles of an existing gas pipeline, and in or within one mile of a public land survey section that has at least 500 acre-feet of established water rights.

The Limited Geographic Alternative also limits development of biomass-fueled facilities. In addition to the need for adequate water for cooling, two key criteria for any potential future development of biomass are:

- Locating near a forest products manufacturer or other source of significant quantities of waste wood and biomass fuel.
- Locating near a plant that has a demand for high-pressure steam in a manufacturing process.

Recognizing these criteria, the Limited Geographic Alternative limits development of biomass facilities to areas in or within one mile of sections with at least 500 acre-feet of established water rights in the White Salmon-Bingen area.

- **Procedural Alternative 1**, which permits energy development outright within the Overlay (following requirements of the ordinance, SEPA review, and compliance with state and federal laws), and still allows development outside of the Overlay through the Conditional Use Process,
- **Procedural Alternative 2**, which is similar to Procedural Alternative 1, but would prohibit energy development outside of the Overlay, and
- **The No Action Alternative**, which would continue to allow unplanned energy development through the conditional use and SEPA review process.

Under Procedural Alternative 1, which would permit development outside of the overlay through the conditional use process, similar uncertainty is present about how an Overlay would affect the overall level of energy development within the County. It is still likely that energy development would be concentrated in the Overlay area; however, additional development opportunities may exist outside the Overlay. The conditional use process would likely extend the development time for projects outside the Overlay, and may result in diminished ability of the County to assess cumulative environmental impacts.

Under Procedural Alternative 2, energy development within the County would be concentrated within the Overlay area. This could result in fewer overall development projects compared to Procedural Alternative 1.

Under the No Action Alternative, using the existing conditional use permitting regime, projects would likely continue to be sited throughout the County, with the available

energy resources and infrastructure being the most influential factors in developer siting decisions.

With an Overlay, a modest increase in energy projects sited within the County could occur if the development community finds the permitting structure easier to navigate than other sites with comparable resources.

The EIS is a tool to evaluate the overall impact of the County's objective and goals for energy development in optimal locations within the County. This EIS suggests mitigation of environmental impacts through existing federal, state, and county regulations, and, where existing regulations may not be sufficiently protective, other reasonable mitigation alternatives to mitigate and manage identified impacts. The EIS also identifies areas where insufficient information exists to fully assess an impact and makes recommendations for site-specific information requirements for a proposed development project.

1.4 Significant Areas of Uncertainty

Because this is a non-project EIS, significant uncertainty exists regarding the type and number of energy development projects that could occur in Klickitat County with or without changes to the existing permitting structure. Because certain features of Klickitat County make it attractive to energy developers, energy development will likely occur whether or not the County amends its current permitting structure. Resources such as a predictable wind regime, extensive electric transmission grid, and high-capacity natural gas pipeline have resulted in energy development in the past and are likely to continue to do so.

An Energy Overlay may encourage greater development within Overlay boundaries. Energy projects likely will be discouraged from siting outside an Overlay because of the greater uncertainty in the permitting process and the higher concentration of environmental, infrastructure, and resource constraints outside an Overlay.

For the purposes of the assessment, the EIS assumed a variety of energy projects may occur and estimated the County's maximum development potential. However, such estimates are not exact because the extent of development depends on the future economic opportunities available to the energy market in the western United States.

The EIS also identified the lack of site-specific information about the presence of sensitive species, habitat, and cultural resources within the Overlay. Even if comprehensive information were available, it would not be possible to map and analyze information about all these criteria in great detail for all areas within the proposed Energy Overlay. To compensate for this lack of site-specific information, the EIS proposes site-specific surveys for these features, and recognizes that site-specific environmental review will likely be necessary for individual projects.

Additionally, the EIS analysis used information about the locations of endangered species and cultural resources which is restricted from public access in order to protect these resources. To ensure the security of these data, the specific information is not included in the publicly available EIS. This detailed information is available to the County for review when site-specific development proposals are made.

1.5 Summary of Potential Impacts

The EIS identifies several significant potential impacts from energy development projects; however, these impacts are likely to occur with or without development of an Energy Overlay Zone. The EIS acknowledges the potential that more development may occur within Klickitat County as a result of development of an Energy Overlay. Development is also likely to be more concentrated within the Overlay. This will help minimize impacts on areas outside the Overlay, but will result in more impacts within the Overlay. Of course, the potential for additional development will be influenced by the most significant factor affecting the rate of energy development: market demand. However, the benefits of comprehensive energy development planning, with its goal to optimally site and mitigate energy projects, will minimize the impacts of energy projects, and is expected to outweigh the disadvantages of having more energy development occur in the County and within the Overlay.

The major impacts of energy development in the County, whether or not an Energy Overlay is developed, include:

Air Quality Degradation. A portion of Klickitat County is located within the Columbia Gorge Scenic Area. Biomass and natural-gas-fired plants could affect visibility within the scenic area, depending on their location and the mitigation imposed. Although the Overlay excludes the Columbia River Gorge Scenic Area to minimize potential for impacts, these impacts will be further evaluated on a project-by-project basis under existing and planned air quality management regulations. The EIS recommends encouraging state-of-the-art air pollution control technologies to mitigate impacts from air pollutants.

Increased Water Demand. Thermally fired plants require significant water resources for cooling and will generate wastewater containing heat and concentrated minerals. Existing water rights are the most likely source of meeting the water needs of new development, which could reduce water available for agricultural irrigation. Some of this loss and wastewater impacts could be offset by water re-use projects (e.g., recycling cooling water for irrigated farming). Additionally, water demand from power plants is more constant than the seasonally peaking withdrawals associated with ranching and farming irrigation. Steady, low-volume withdrawals from groundwater and surface water resources are likely to have less impact to water resources than the seasonal high-volume withdrawals of the same quantity of water.

Bird Impacts. Although generally considered more environmentally friendly than other energy technologies, wind plants have been associated with the death of birds colliding with turbines and other wind plant structures, especially in California, and wind plants can have negative effects on birds and other wildlife if not sited properly. The EIS includes a separate analysis (Appendix B) of avian resources in the County so potential conflicts with birds can be avoided or minimized when selecting sites for future wind power development and to assist with future site-specific avian analyses for proposed projects.

Visual Impacts. The aesthetics of wind farms and power plants can be controversial. To address this issue, the EIS includes a visual impacts analysis. Portions of the Columbia River Gorge within Klickitat County are within a National Scenic Area. Potential scenic impacts of energy development would be alleviated to a large extent because the

Overlay excludes the Columbia Gorge Scenic Area. Further analysis on visual impacts is presented in Section 3.8.

Increased Development Density. Procedural Alternatives 1 and 2 will likely concentrate energy development within the Overlay area in the southern half of Klickitat County. The greater degree of available environmental information and permit certainty afforded by the EIS and Overlay may encourage more energy development in the County than would otherwise occur. However, with or without the Overlay, energy development is more likely to occur within the southern half of the County and in Klickitat County in general (compared to adjoining areas) because of the presence of existing gas pipelines, transmission lines, and wind energy resources. An Overlay would help to direct energy development to areas that would experience lower environmental, aesthetic, and societal impacts.

1.6 Summary of Proposed Mitigation Measures

Graphic 1-1 below summarizes the proposed mitigation measures described in Section 3. A more detailed listing of mitigation measures has been added to the FEIS as Appendix F. These are proposed requirements that are above and beyond existing regulatory and permit requirements, such as air and wastewater discharge that are implemented by agencies other than Klickitat County. The mitigation measures for areas with identified potential impacts are dependent upon the type of impact (e.g., a wetland delineation would be required if wetlands are believed to be present).

Graphic 1-1. Summary of Proposed Mitigation Measures

Environmental Aspect	Wind/Solar Energy	All Other Technologies
Air Quality	No mitigation required	Air permits as needed
Noise	Limit construction to daytime if near residents. Site-specific noise measurements if requested	Limit construction to daytime if near residents. Site-specific noise measurements if requested
Vegetation and Wildlife	Review most current priority habitat data, provide site-specific analysis, prepare mitigation plan when needed, comply with local and other applicable requirements	Review most current priority habitat data, provide site-specific analysis, prepare mitigation plan when needed, comply with local and other applicable requirements
Geologic and Flood Hazards	No mitigation likely to be required other than compliance with local code and other applicable requirements. Demonstrate that project design is compatible with specific hazard (e.g. flood or slide)	No mitigation likely to be required other than compliance with local code and other applicable requirements. Demonstrate that project design is compatible with specific hazard (e.g. flood or slide). If in flood plain, identify mitigation to offset loss of flood storage.
Water Resources	No mitigation required	Demonstrate water availability as needed for project; demonstrate that project will minimize water use through recycling and efficient closed loop cooling system. Offset water loss as appropriate.
Cultural Resources	Review existing data, assess mitigation based on whether resources are present, conduct site-specific study to identify presence of cultural resources, monitor during construction, compliance with all applicable legal requirements	Review existing data, assess probability of resources, conduct site-specific study to identify presence of cultural resources, mitigation based on whether resources are present, monitor during construction, compliance with all applicable legal requirements
Visual Resources	Site to minimize impacts, use appropriate lighting, propose mitigation as appropriate	Site to minimize impacts, use appropriate lighting, propose mitigation as appropriate