

Rural Clean Energy Economics and Community Engagement Study and Report

Community Meeting Summary¹: Dayton

Meeting Information

Location: Dayton, Washington - Pavilion at the Columbia County Fairgrounds

Date: May 14, 2024

Time: 6:30pm – 8:30pm

Number of Attendees: 50

Consultant Team in Attendance

Susan Hayman: Ross Strategic

Heather Christopher: Ross Strategic

Hogan Sherrow: Ross Strategic

Leslie Genova: Industrial Economics Inc. (IEc)

Kieran Bunting: IEc

Joseph Chang: IEc

Jamie Ptacek: Clean Energy Transition Institute

Washington Department of Commerce in Attendance

Aaron Peterson

Norma Chavez

Consulting Team Presentation Slides are [available here](#).

Welcome and Introductions

Susan Hayman, Ross Strategic, welcomed participants and provided introductions of the consultant team and the Washington Department of Commerce representatives.

General Information about the Study and Community Engagement (Slides 1-14)

Presenter: Susan Hayman, Ross Strategic

- Welcome + introduction (Slides 1-5)
 - Meeting Purpose (Slide 2)
 - To learn about the Rural Clean Energy Economics and Community Engagement Study and Report - who asked for it, how the information is being collected, and how it will be used.

¹ This summary seeks to capture the questions and comments shared by participants as accurately as possible. Assertions made by attendees in their questions and comments represent their personal opinions and perspectives.

- To hear from communities about their concerns with and potential opportunities for clean energy development-both large-scale and community-scale.
- Agenda (Slide 3)
- Details for the night regarding food, facility, stipends etc. (Slide 4)
- Team introductions (Slide 5)
- Rural Clean Energy Economics and Community Engagement Study Background (Slides 6-14)
 - Origin of the study - [HB 1216](#) (Slide 7)
 - Clean Energy Project Siting Law in 2023: Directive for the WA Dept of Commerce to create and submit a study and legislative report addressing direct and related issues and concerns across rural Washington regarding renewable energy development.
 - The study is titled: Rural Clean Energy Economics and Community Engagement Study and Report (Rural Clean Energy Study).
 - Purpose of the study (Slide 8)
 - To increase mutual understanding between rural communities, representative interests, and government agencies and policymakers regarding potential opportunities and impacts of renewable energy development in rural communities throughout Washington.
 - What the study will include (Slide 9)
 - Direct and indirect economic and financial impacts of clean energy projects in rural Washington.
 - Descriptive summary of potential non-economic impacts to and opportunities for rural communities from clean energy development.
 - Clarifying what is meant by 'clean energy' for the study's purposes (Slide 10)
 - Utility scale solar and wind, community-scale clean energy, biodigesters, small nuclear reactors, closed-loop pumped storage hydropower.
 - How information is being collected (Slide 11)
 - Individual and small-group conversations.
 - Case studies and other financial and economic data collection and analysis.
 - Three rural community-based public meetings.
 - One state-wide virtual public meeting.
 - How information is being used (Slide 12)
 - May be used to inform policies and programs.
 - NOT affiliated with or in support of any particular clean energy development project.
 - What we have heard so far
 - Challenges (Slide 13)
 - Technical and staff capacity concerns.
 - Lack of direct benefits to communities.

- Concern around siting optimization (better potential elsewhere).
- Impact on viewsheds and recreation.
- Experiences with unsustainable government programs.
- Transmission and distribution system capacity.
- Skepticism around the need to decarbonize Washington's energy system.
- Local involvement in decision-making.
- Opportunities & Benefits (Slide 14)
 - Community and individual independence and resilience.
 - Energy reliability and affordability.
 - Improve public health outcomes.
 - Offshore wind opportunities.
 - Role of hydrogen and nuclear power.
 - Local energy generation / energy sovereignty.
 - EV charging as an economic/tourism opportunity.
 - Energy capture complementary to existing activities (e.g., agrivoltaics).
 - Need to act on an existential climate crisis.

Economic and Financial Aspects of the Study – Findings to Date (Slides 15-22)

Presenter: Kieran Bunting, IEC

- Overview of Economic and Financial Analysis Approach and Findings
 - A case study approach (Slide 15)
 - Map showing ten projects selected as case studies and other projects being considered in the analysis.
 - What the interviews/data are telling us so far (Slide 16-22)
 - Challenges and Concerns (Slide 16)
 - Tension between state and local land use decision-making
 - Jobs and tax benefits are front-loaded (i.e., depreciation)
 - Employment benefits not accruing locally
 - Sales tax rebates at times have been poorly communicated with county officials
 - Agricultural land use and land value concerns
 - Clean energy subsidies may incentivize lower value projects
 - Benefits and Opportunities (Slide 17)
 - Lease terms vary but landowners benefit financially from lease payments.
 - Increase in sales and property tax revenues for counties.
 - Projects create substantial construction jobs in the short term as well as local jobs during operations.


- Wind projects typically allow agriculture to continue, using 1-3% of leased acres.
- Interest in agrivoltaics.
- Community contributions from project owners.
- Potential for additional community benefit agreements with project developers.
- Financial Returns to Landowners (Slide 18)
 - Lease terms may vary but lease agreements can be a notable financial benefit to landowners.
 - Tiered system: pre-development, construction, operation.
- Tax Implications of Projects (Slide 19-20)
 - Tax payments provide a boost to local tax revenues.
 - Personal property tax, real property tax, sales tax considerations.
 - Project equipment and machinery depreciates over time reducing personal property tax collections.
- Land Use for Wind Turbines vs Solar (Slide 21)
 - Wind projects occupy 1-3% of leased area, usually compatible with continued agricultural activity.
 - Solar projects can occupy 100% of fence lined area, continued agricultural development difficult.
- Construction and Operation Employment (Slide 22)
 - Table with modeled estimations for construction costs and full-time job equivalents.

Question and Answer Session

Facilitator: Susan Hayman, Ross Strategic

Questions were directed to relevant members of the consulting team to answer.

- **Question:** Can you explain the difference between large-scale and community-scale clean energy development?
 - **Answer:** Large-scale, or utility-scale clean energy development, are typically defined as renewable energy projects that are 1 megawatt (MW) or larger. Energy from these systems is transmitted to many users often across a large geographic area through transmission and distribution systems on the U.S. electrical grid, similar to that of any other commercial-scale power plant. Community-scale clean energy development is smaller than utility-scale but larger than residential-scale (i.e., a solar panel on an individual's rooftop). They are typically defined as projects that produced less than 1 MW of power and are often 'behind the meter' - connected directly to local distribution grids. They are used to provide power for local commercial or community consumption.

- **Question:** How does this study align with the Department of Ecology’s work to develop ‘[programmatically environmental impact statements](#),’ as directed in HB 1216 (the same legislation that underpins this Rural Clean Energy Study).
 - **Answer:** This project’s timeline is ahead of Ecology’s, so this information will be available to them, but we do not know if/how they will use it to inform their work. More information on the Department of Ecology’s work on clean energy siting and transmission planning pursuant with HB1216 [can be found here](#).
- **Question:** How did you decide which projects to focus on for the case study?
 - **Answer:** The selection of projects was based on stipulations in the underlying legislation, parameters from the Washington Department of Commerce, availability of data, and the timing of existing projects. We were focused on projects that were 1MW or larger that were developed no earlier than 2019.
- **Question** When you are making operations calculations, are you considering actual generation or nameplate potential?
 - **Answer:** We are considering actual generation where possible.
- **Question:** What is the actual cost per wind turbine?
 - **Answer:** We don’t have that precise information, but will research it and include an estimate in our report. Costs vary depending on the size of the turbine and manufacturer.
- **Question:** What is the life expectancy of each turbine?
 - **Answer:** Wind projects last 25-30 years on average with varied development periods often multiple years with a year or two of active construction.
- **Comment:** What do we do about the turbines once they are decommissioned? I’m concerned about waste and ability to responsibly dispose of/re-use renewable energy infrastructure.
- **Question:** How much of the money that is funding these projects is private investment vs public/tax money?
 - **Answer:** We do not presently have this data.
- **Question:** Regarding sales tax refund – does that apply only for sales tax that comes during construction or is it also during operation?
 -  **Answer:** The sales tax rebate² applies to machinery, equipment or labor and services used during the installation of clean energy generating projects. This exemption can also apply to future upgrades or replacement that improve productivity, efficiency or extend the useful life (e.g., “repowering” wind turbines with larger blades). The rebate was recently extended through 2029 with different labor requirements for the different tiers of rebates (e.g., 50 vs. 75 vs 100 percent sales tax rebate), so projects could continue to be eligible depending on their labor agreements. Sales tax exemptions do not apply to day-to-day operations and repairs.

² <https://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/Session%20Laws/Senate/5116-S2.SL.pdf>

- **Question:** When determining ‘ripple effect’ jobs, how certain are we that those jobs are in Washington state versus workforce being brought in from elsewhere?
 - **Answer:** The economic analysis uses a model developed by the National Energy Renewable Laboratory (NREL) to estimate the jobs and economic output of each project, including indirect or induced effects (i.e., the “ripple” of direct spending). Projects were modelled as if the impacts occur solely within the state of Washington. These are estimates and there is a high level of uncertainty. Whether some of those jobs are taken by out-of-state temporary employees or employees commute from outside of the state is also uncertain. Many of the interviews to date have stated that construction crews are often from outside of the state, however the ripple effects of their spending would be more localized (e.g., their spending in local restaurants during construction).
- **Question:** Clarification on sales tax - my understanding is that since the energy created by one of these green energy projects goes wholesale back to Avista, there is no sales tax on that. Is this true?
 - **Answer:** There is a sales tax for equipment, machinery, and labor used to construct facilities, not on the energy projects produce. The majority of tax coming into a community is from the property taxes after construction has ended. That tax is paid by the developer/utility.
- **Question:** The life expectancy of turbines is about 30 years, some reports that they don’t even last 15 or 20 years. I see chopped up blades getting transported and stored on the east side of Walla Walla. How old are those when they are getting chopped up? There must be information here - real number that indicates how long these projects are actually lasting?
 - **Answer:** Aren’t doing analysis on this in particular, focused more on in-community economic benefits, but we will definitely note this as a concern in our report. We haven’t looked at data of lifetime carbon costs.
- **Question:** Have you analyzed the property prices and how those are impacted?
 - **Answer:** We currently investigating property values and values of adjacent properties.
- **Comment:** Our county has turbines that are 19-20 years old. There are some on our family’s property that are 20 years old that have been repowered (blades exchanged with larger blades). The farm is paid by megawatt of power produced, which increased with the bigger blades because they produce more power. I work for the county economic development office and know we have fifty ongoing local jobs that generated by wind farms.
- **Comment:** Wind turbine blades cannot be recycled or biodegrade; they just get stacked up. Where do they go and what happens? For all the environmental benefits, there is also an environmental downside. I hear that they do not produce enough energy to offset the carbon cost of producing, transporting, installing, and disposing of the turbines.

- **Comment:** Problem with recycling wind turbines is that green energy proponents want to put fiberglass into concrete. This doesn't work out - it has no structural value and takes up valuable space in concrete that we need to create stable buildings. So, when you hear 'we're going to put it in concrete,' that's not a viable solution.
- **Question:** Will all of the comments being made during this meeting be reported and how will they go into the review for legislators?
 - **Answer:** We are taking notes and will prepare a summary of each meeting. Input from the meetings, as well as comments from the website, will go into our report to Commerce, Commerce will then pass it along to the legislature.
- **Question:** Does modeling discern if money is private vs public investment?
 - **Answer:** Large international companies will often make a local subsidiary specific for the project. We have found so far that it is often tiered subsidiaries with a local address and that projects are regularly sold between companies as they are developed.
- **Question:** Transportation of turbine blades from manufacturing to site to recycling to disposal – how much diesel is used in that? Imagine several thousand gallons to ship one turbine blade. Do you consider the diesel used in the manufacturing of turbines?
 - **Answer:** The environmental impacts of construction and operation is not in our analysis--we are focused on the socioeconomics and financial impacts for local communities.
- **Question:** I don't see a single owner putting power generation on the consumer side of the meter. I want to implement a publicly accessible solar farm – community members can buy panels on local solar farms to power their house, offset expensive cost of installation, wiring of solar, etc. Are you looking at the economics of consumers being able to buy into solar farms?
 - **Answer:** With the economic and financial side of the study, we are looking at large projects being sold to utilities and end-use consumers. The community engagement side of the project is looking at smaller scale, community scale, and other representative interests beyond utility scale. This is something we will track as an identified opportunity.
- **Question:** Regarding the land use map of solar and wind farm areas, wind farms are traditionally built on agricultural land, so landowners still have agricultural exemption. In research of solar projects, are those going on ag land? If so, is the ag exemption removed and are those back taxes being paid?

Answer: What we have seen so far, when land changes use classification there is a tax bump from this change. Wind projects are on agricultural land with one to three percent of land being taken up by the turbines. Solar land use for our case study projects so far is on pasture, grassland, shrubland – lands not actively developed for crops – where the turbines occupy a fenced area where none of those activities could continue after development. We believe that this taxation question is referring to Current Use taxation and for some of these

projects we can confirm that there is a back taxes “penalty” once the projects are developed and their land use designation changes out of the current use program.

Breakout Groups³

After the Q&A session, attendees participated in two, 15-minute breakout groups. Conversations were facilitated by members of the Consulting Team on the following topic areas:

- Large/Utility Scale Clean Energy Development
 - Prompting Questions:
 - What are the primary community concerns and potential benefits?
 - How could these projects be done in a way that provides benefits to rural communities?
- Community Scale Clean Energy Development
 - Prompting Questions:
 - What are the primary community concerns and potential benefits?
 - How could these projects be done in a way that provides benefits to rural communities?
- Economic/Financial Impacts of Clean Energy Development
 - Prompting Questions:
 - What financial implications do you see of clean energy projects?
 - What concerns do you have about the impacts of clean energy development on land use?

Community-Scale Clean Energy Development Comments

Facilitated by Hogan Sherrow (Ross Strategic) and Jamie Ptacek (CETI)

- Community Concerns
 - Concern that because hydroelectric projects are not being considered in this study, that they are not considered ‘clean’ energy and that other clean energy development would threaten dams in the clean energy transition, which could have negative impacts on agriculture, transport, recreation, etc.
 - Belief that there is not a utility in the state or in their area that works for rooftop/smaller-scale solar in terms of net metering and generating energy that would actually stay in the community.
 - Impact on wildlife of wind turbine, especially avian populations
 - Depreciation over time, lifespan of installations, uncertainties of long-term community benefits, make sure community doesn’t take on risk of future changes to tax levies, incentives, funding, etc.
 - Backup batteries for community scale solar is key.



³ Unless otherwise noted, the comments below reflect public input and are not responses from the consulting team. Assertions made by attendees in their questions and comments represent their personal opinions and perspectives.

- Need to make sure community scale is accessible with education and opportunities for folks who live in more isolated locations.
- Concerns about land use change, enviro and wildlife impacts of renewables, especially solar installations.
- Need to be strategic about where resources are sited and where the energy goes.
- Questions about tax incentives and land assessments on private vs government owned lands.
- Opportunities
 - There is a lot of bioenergy and solar potential in rural communities. Every roof, farm operations could be producing energy. A lot of energy potential on farms. Methane produced and captured as an energy source.
 - Takes pressure of large-scale utilities and grid load.
 - Greater resiliency, less vulnerable to impacts of large-scale grid failures.
 - Agrivoltaics could bring greater resilience and lower costs for farming operations.
- How clean energy could be developed to benefit rural communities.
 - Community microgrids – generating energy that would stay in the community
 - Excitement about small scale alternators on treadmills and other mechanical equipment that would produce electricity locally for public buildings, etc.
 - Community-scale that is locally owned and WA produced (WA materials and labor).
 - Community scale solar that individuals could buy into to power their homes without take on the cost of installation.
 - EV infrastructure needs to be ‘fueled’ by clean energy sources.
 - Potential to install solar over asphalt, parking lots, which aren’t farm/grass lands.

Large-Scale Clean Energy Development Comments

Facilitated by Susan Hayman (Ross Strategic) and Heather Christopher (Ross Strategic)

- Community Concerns
 - Solar farms taking up/converting farmland, which is an important and finite resource in eastern Washington.
 - Impacts to farmers on adjacent land to solar panels (economic and environmental impacts to adjacent owners).
 - Fire concerns – could be started by equipment, also inability to put fires out due to access constraints around solar and wind farms. Rural communities often have volunteer fire departments and aren’t trained for specialized firefighting around electrical developments.
 - EFSEC overrides local ordinances that communities have agreed to. And impacts neighbor relationships.
 - EFSEC process takes away local control and overrules local government decision-making processes.

- County concerns are unique and shouldn't be disregarded by Olympia. There should be two-way dialogue with communities to find better locations for clean energy development when issue arise.
 - The EFSEC process takes away county decision-making authority granted by the state constitution.
 - Physical security of solar farms due to potential vandalism and other threats (need fencing, razor wire, etc.).
 - Waste associated with renewable energy infrastructure is unsustainable.
 - Clean energy development drives income inequality. When the price of wheat is low, outside money comes in and we lose family farms. It's the 'get big or get out' effect.
 - Development should occur closer to end users/where the energy is needed (west side) to reduce transmission demand.
 - Rural opinions of impacts to viewshed don't seem to matter—feels like fewer voices don't have the same impact as the larger number of voices on the west side of the state.
 - More wind/solar may appear to reduce need for lower Snake River dams, which is a concern for constituents.
 - Setbacks need to adequately compensate for health and safety impacts and scenic impacts.
- Opportunities
 - Solar on top of walkways/bike paths is an opportunity for panels that wouldn't require covering ag land.
 - Communities may be more accepting of solar if it isn't replacing ag land, though there are still concerns with labor, permitting, etc.
 - Change from personal property to real property may have positive tax implications.
- How clean energy could be developed to benefit rural communities.
 - Need to put control over renewable development back into local government + county commissioner control. If local control is returned, there could be better negotiations between developers and communities. We could potentially get to "yes."
 - Tax revenue and community benefit agreements would help fund fire department.
 - Developers and utilities should help fund county capacity to review permits, etc. through cost reimbursement agreements.
 - Developers of high energy operations (i.e., data centers) should have to provide a % of the energy they require (e.g., rooftop solar).

Economic/Financial Impacts of Clean Energy Development Questions and Comments
Facilitated by Leslie Genova (IEc), Kieran Bunting (IEc), and Joseph Chang (IEc)

- Financial implications of clean energy projects

- Energy economy being globalized – encouraged by Washington’s Clean Energy Transformation Act and Climate Commitment Act, which leads to rapid development without fully addressing community impacts.
- Hydropower is an adequate solution; we are solving for a problem that doesn’t exist.
- Appearance (or reality) that public funds are being used to create wind farms-- the investment through tax incentives compared to dollars invested by private enterprise.
- Utility owned projects vs privately owned, differences in taxes over time and net tax effects on communities.
- Oregon has a ‘bill payment’ system that requires the utility to provide a stable tax benefit to the community.
- Federal production tax credit—opportunities for production tax credit available for PUDs
- Difference in cost per kilowatt hour to produce wind vs solar. Different levels of efficiency and cost-benefits.
- Disposal/recycle of turbines at the end of their life cycle—owner of turbines needs to be responsible for this.
- Positive socioeconomic benefits associated with post-construction jobs. Benefits include fifty local jobs in Dayton, positive effects on local services and investments.
- Rules changing constantly – feels like learning to fly the plane as they go.
- Local control for siting, leasing, and permitting instead of EFSEC. EFSEC supersedes/overrides local opinions/opposition.
- Concerns about the impacts of clean energy development on land use
 - Land speculators force up land values--implications of rising land values on family farms
 - Lincoln City has tenant farmers who get displaced by wind. Farm operators are not always the farm owners.

Breakout Group Report-Outs, Next Steps, and Closing Remarks

Presenter: Susan Hayman, Ross Strategic

- Consultant team representatives from each breakout group gave a ‘report-out’ summary of points captured during the two breakout sessions.
- Next Steps and Closing Remarks (Slides 28-30)
 - Project Timeline
 - May-June: Continue meeting with focus groups, representative interests and 1:1.
 - July: Prepare draft report.
 - August-September: Review and revise draft report.
 - October 1: Deliver final report to Commerce.
 - Public comment will continue to be accepted through September.

Additional Resources

For more information on the questions asked and answered across all of our public community meetings, check out these resources:

Rural Clean Energy Study Website: For more information on the study, visit the study website: <https://ruralcleanenergywashington.org/>. The Frequently Asked Questions (FAQ) section currently under development will include common questions asked across our three in-person, one virtual meeting, and questions submitted via the website with responses from our consulting team.

Submit a Comment Online: If you have additional questions, concerns, or thoughts to share with the consultant team about rural clean energy development, you can [submit a comment here](#).