AGENDA

• Background on Union-Led Climate Jobs Approach
• Brief Overview of WA’s Climate and Energy Profile
• Key Takeaways: Assessment of WA’s Current Climate and Energy Programs
• Pro-Union Climate Jobs Agenda: Effective Ways to Reduce Emissions and Protect and Grow High-Quality Union Jobs
Cornell University New York State School of Industrial and Labor Relations (ILR School) - Est. 1946 to support collective bargaining and improve the lives of working people.

Labor Leading on Climate/Climate Jobs Program - Est. 2012 to study the Labor & Employment impacts of the transition to a net-zero economy and be an excellent resource to unions to engage in climate and energy debates.
WHY WE STARTED THE CLIMATE JOBS WORK IN NYS?

• Hurricane Sandy - Devastating effects on workers, economy, infrastructure
• Didn’t want to just respond to environmental movement’s agenda
• Majority of new clean energy jobs are low-quality, non-union jobs
• Serious risk that this transition will eliminate union jobs and weaken the labor movement without labor leading
ORIGINS OF CLIMATE JOBS

- Cornell worked with building trades councils, state fed, and NYCCLC to convene building trade, energy and other unions after Hurricane Sandy.

- Through research, interviews and convenings, Cornell led process to identify challenges and opportunities related to transition in NYS.

- At end of process, we developed a 10-point plan to tackle climate change, maximize union job creation, and build more equitable communities.

- Unions formed own organization, Climate Jobs NY, to run campaigns to win recommendations.
Climate Jobs Effort in NYS – What made it Different?

- Labor-only process.
- Centered building trade and energy unions with members facing job loss and significantly impacted by transition.
- Developed concrete, jobs-led strategies for tackling climate change and maximizing union jobs.
SUCCESS OF CLIMATE JOBS NY

- 9 GW of Offshore Wind by 2035 with PLA Requirement (2018)
- Doubled $ Available for Public School Retrofits and Solar Installations with PLA Requirement (2018)
- Build NY and Buy America Requirements for All Offshore Wind Projects (2021)
- Labor Peace Requirements for Offshore Wind O&M Work (2021)
- Prevailing Wage Requirement for All Renewable Energy Projects Over 1 MW (2022)
CJNRC Launched in 2020

Purpose – Resource to unions in U.S. states that want to develop proactive, pro-union climate jobs agendas and run campaigns.

Cornell is academic and educational partner to CJNRC

CJNRC/Cornell now working in multiple U.S. States – TX, ME, MA, WI, MI, RI, IL, and WA
CLIMATE JOBS ILLINOIS

• Prevailing wage requirement on anything larger than rooftop solar

• PLA requirement on all utility-scale renewable energy projects

• Agreement and funding to keep nuclear fleet open

• $10 M/Year to establish 3 green jobs pre-apprenticeship hubs around the state

• Just Transition package for all workers negatively impacted by transition
• PLA on first floating offshore wind project (2021)

• Cuddy Bill (2022) – Prevailing wage on all renewable energy projects over 2 MW, apprenticeship utilization requirements, and funding to establish state-wide pre-apprenticeship program to provide a pathway from underrepresented communities to union jobs, and incentivizes PLAs in state renewable energy solicitations.

• $750,000 in state budget to set up labor research and education center at University of Southern Maine (2022)

As a registered Apprentice, I’m receiving a fantastic education and earning a paycheck while I’m learning. I support LD 1969 because we need to address climate change in a way that builds a diverse, highly trained workforce with collective bargaining agreements that provide good wages, benefits, and a voice on the job.

— Kilton Webb, Electrical Apprentice IBEW 567
• TX Climate Jobs Project using geofencing to organize solar workers; running campaign to require Austin Energy to use PLA for new renewable energy projects.

• CT won prevailing wage requirement for all solar projects, regardless of size.
WA CLIMATE AND ENERGY PROFILE
Since 1990:

- Transportation emissions have increased by 18%
- RCI Heating (Buildings) emissions have increased by 25%
Buildings are approximately one-fifth of Washington's GHG emissions and are the state’s fastest growing source of emissions.

Building emissions are produced by a combination of heating and cooling needs and electricity.

The majority of emissions are from heating and cooling needs (natural gas, oil, wood, and coal)

Source: Washington Department of Commerce, 2021
ELECTRICITY PRODUCTION BY SOURCE

Source: EIA, 2019; EIA, 2021
WA has to nearly double its electricity production by 2050 to meet most of its building and transportation needs under an energy-efficiency scenario.
Total Solar Nameplate Capacity is 283.8MW

Oregon has installed 1,188.4 MW and the large majority is utility-scale solar

California has installed 33,208.6 MW and more than half is utility-scale
SOLAR GENERATION OVER 1MW

Source: S&P 500, September 2021
WIND ENERGY GENERATION OVER 1MW

Source: S&P 500, May 2021, WindExchange, 2023
**SITING PRACTICES**

**Overlay Zones**
- Preidentified areas for siting
- Kittitas County and Klickitat County
- Streamlined permitting that does not include public hearings

**Energy Ordinances**
- Kittitas County
- Describes the characteristics of renewable energy development that would be ideal for that location.
- Applicants must submit a site plan, description, drawings, etc. to demonstrate the project would comply with the ordinance.

**Local Plans**
- City of Olympia states that the city should promote renewable energy over non-renewable energy sources in their plan.

Source: S&P 500 Map Data, 2021, Kittitas County Website, Klickitat County Website, Wind Permit Toolkit
WA has installed 2,887 MW of onshore wind and it has no offshore wind projects planned.

California has installed 6,204 MW of onshore wind and is beginning to plan for 3 GW by 2030 and 15 GW by 2040.

Oregon has installed 2,905 MW of onshore wind and has been issued a BOEM lease for the first wave energy project on the west coast. Also, set initial target of 3 GW by 2030.

Source: BOEM, 2022, S&P 2021
<table>
<thead>
<tr>
<th>Energy Type</th>
<th>Planned or Operating (GW)</th>
<th>Potential (GW)</th>
<th>Tapped Energy</th>
<th>Untapped Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>.97</td>
<td>1028</td>
<td>.1%</td>
<td>99.9%</td>
</tr>
<tr>
<td>Onshore Wind</td>
<td>4.45</td>
<td>18</td>
<td>24.7%</td>
<td>75.3%</td>
</tr>
<tr>
<td>Offshore Wind</td>
<td>0</td>
<td>121</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Geothermal</td>
<td>0</td>
<td>71</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>5.4</td>
<td>1117</td>
<td>.5%</td>
<td>99.5%</td>
</tr>
</tbody>
</table>

If WA used all of its available in-state renewable energy potential it could produce more than 4X its current energy consumption needs.


*Wind includes: Operating and Planned Onshore and Offshore Wind Generation
*Solar includes: Residential, Commercial, and Utility Scale Operating and Planned Generation
2021 heat wave is now the deadliest weather-related event in Washington history

The official death toll from Washington state’s record-breaking heat wave jumped by 21 people Monday, as the Washington Department of Health revised its count to 112 people.

From record high temperatures to bitter cold days, Western Washington’s year of extreme weather

Heavy snow, record cold in US Northwest forces some into shelters

Source: Climate Central States At Risk, 2021
https://www.seattletimes.com/seattle-news/weather/the-seattle-areas-5-most-extreme-weather-events-of-2021/
KEY TAKEAWAYS

• State has focused on phasing out/shutting down existing fossil fuel and high-carbon activities, very little attention to building the new, maximizing job creation or maximizing union job creation.

• Compared to other U.S. states, WA has set hardly any targets or established programs that support large-scale investments in activities that can create many jobs and in areas where there is already traditional union strength or the work is easier to organize.

• Many of the existing programs are residential focused, small-scale and incentive based. Need large-scale investments in bundled work where we can attach labor standards.

• Lot of opportunity to develop and drive a different agenda that focuses on sectors with significant potential to reduce emissions and retain and grow jobs, especially union jobs - green hydrogen, sustainable aviation fuel refining, building retrofits, utility-scale renewables, large-scale storage, and offshore wind manufacturing and port work.
KEY TAKEAWAYS FROM INTERVIEWS

• Governor and Legislature very focused on “climate action” but many of their proposals are unrealistic, won’t actually help reduce emissions at scale, and don’t protect and support union jobs

• New investment in climate and clean energy work has not created a significant number of new union jobs - i.e. wind farms being built out of state.

• WA union members know there is a climate crisis, want to address it, and want to do it in a way that protects union members and grows union jobs.

• Labor has been on the defense on climate issues for too long; labor needs to go on the offense, and have its own proactive plan to address climate change and strengthen the labor movement.
LOOKING AHEAD: A PRO-UNION CLIMATE JOBS AGENDA FOR WA
ENERGY
POTENTIAL ENERGY RECOMMENDATIONS

- Green Hydrogen: Make WA a national leader in Green Hydrogen production utilizing agricultural waste and biomass gasification.

- Offshore Wind Manufacturing: utilize WA’s existing aviation manufacturing expertise and workforce to build OSW vessels, towers, nacelles and blades.

- Geothermal Energy: Develop WA’s significant geothermal potential for geothermal grids in building sector and electricity generation.

- Scale in-state solar and wind production with in-state generation requirement.

- Make WA a national leader in the development of small-scale, modular nuclear plants.
POTENTIAL BUILDING RECOMMENDATIONS

• Under PLA, transition all 2,507 WA public schools to net-zero by 2030.

• Launch thermal utility district pilots across the state and set goal for number of heat pumps installed with UA certified heat pump installers.

• Decarbonize public housing and build 300,000 new units of net-zero affordable housing, under PLA.

• Offer tax incentive for data centers to install onsite RE and battery storage to meet their energy needs; leverage existing PLA to ensure new work is also covered by PLA.
POTENTIAL TRANSPORTATION RECOMMENDATIONS

• Make WA a leader in the production of sustainable aviation fuels, focus on conversion of municipal solid waste to biofuels.

• Launch major decarbonization efforts at WA’s ports, including green hydrogen production and distribution and electrification infrastructure.

• Set bold targets for public buildout of EV charging infrastructure under PLAs.

• Leverage state and federal $ to launch massive expansion and improvement of public transit, including high-speed rail from PDX to Vancouver, and electrified rail from Spokane to Seattle.
POTENTIAL MANUFACTURING RECOMMENDATIONS

• Make WA an international leader in low-carbon manufacturing and industrial processes including aluminum, paper and pulp, wood products, and glass.

• Re-open the Alcoa Intalco aluminum smelter and expedite the build-out of 400 megawatts of renewable energy to support the plant.

• Support energy efficient equipment upgrades, electrification of plants, on-site green hydrogen and ammonia production, and carbon capture and storage.
ADAPTATION & RESILIENCE
POTENTIAL ADAPTATION & RESILIENCE RECOMMENDATIONS

• Replace 27,000 lead pipes across WA State by 2025.

• Hire 1,000 WA permanent state workers to conduct forest health treatments and to meet state goals of miles of drought-resistant green infrastructure along state highways.
POTENTIAL HIGH-QUALITY JOBS RECOMMENDATIONS

• Labor standards, including PLAs, prevailing wage, Build WA and Buy America provisions, expanded to cover more clean energy work. Project Labor Agreements (PLAs) required on all publicly-supported renewable energy construction projects.

• Labor Voice: Require labor representation on all relevant climate and energy decision-making bodies including climate councils, offshore wind task forces, public service commissions, and others.

• Establish a new state Office of Climate Jobs and Just Transition to protect workers negatively impacted by transition and ensure all new jobs are high-quality union jobs.
THANK YOU

Lara Skinner, Ph.D.
Director, Labor Leading on Climate Program
Cornell University, ILR School
t. 212 340 2884
lrs95@cornell.edu

Avalon Hoek Spaans, M.A.
Research and Policy Development Associate,
Labor Leading on Climate Program
ah679@cornell.edu

Anita Raman, M.A.
Research and Policy Development Associate,
Labor Leading on Climate Program
ar724@cornell.edu

Hunter Moskowitz
NorthEastern University

Research Assistants
Gabriel Davila-Bustamante, Alex Foley, Nathan Lamm, and Ilham Nugraha