



January 24, 2020

Dear Members of the Oregon State Legislature:

On behalf of E2 (Environmental Entrepreneurs) and our network of 450 business leaders in Oregon, I write to express the business community's strong support for an effective Cap-and-Invest carbon pricing program. E2 believes that the proposal outlined in LC 19 establishes an adequate foundation to curb carbon pollution and drive investment and job growth in Oregon's clean energy economy. However, we believe that LC 19 must be improved to ensure all major emitting sectors are sufficiently covered - specifically transportation fuels and industrial natural gas – to improve program efficacy and allow for linkage to a regional market (Western Climate Initiative). Linkage to the regional market will decrease administrative and compliance costs for regulated industries compared to an Oregon only market.

E2 is a national, non-partisan community of business leaders from every sector of the economy who advocate for policies that are good for the economy and good for the environment. Nationally, E2 members have founded or funded more than 2,500 companies, created more than 600,000 jobs, and currently manage more than \$100 billion in venture and private equity capital. Our E2 Pacific Northwest Chapter was founded in 2009 and now includes businesspeople working throughout Oregon's economy, including clean energy entrepreneurs, farmers, investors, small business owners, and many others.

Thanks to smart state clean energy policies like the Clean Fuels Program and Coal to Clean, Oregon already has a strong foundation on which to build its clean energy economy. As E2's recent Clean Jobs Oregon 2019¹ report shows, more than **55,400 Oregonians now work in clean energy** industries across the state—including nearly 11,000 rural Oregonians. Yet this economic growth and job creation represents only a fraction of Oregon's clean energy potential. **An effective Cap-and-Invest program would send a clear, long-term signal to investors that Oregon's clean energy market is poised for further expansion.** Businesses are making 10- and 20-year investment decisions now and look for the right policy environments when making those decisions. Passing a carbon pricing program this year will give Oregon a competitive advantage to capture the rising tide of investments and businesses ready to put Oregonians to work in clean energy and other low-carbon professions.

As demonstrated in jurisdictions who have already taken action, the benefits of a Cap-and-Invest program **extend beyond the cleantech sector and can create revenue streams and provide resources to Oregon's farmers, foresters, and ranchers.** Allowance proceeds can be invested in sustainable agriculture and carbon sequestration projects in Oregon's working and natural lands. Offsets provide financial support to working lands managers developing sustainable practices. And communities across the state will see benefits from expanded investments in energy efficiency and low-income home weatherization, enhanced public transit, and affordable housing and sustainable communities.

The current Cap-and-Invest proposal, known as LC 19, retains key elements of last session's HB 2020, establishing an economy-wide carbon price and directing investments to communities

¹ <https://www.e2.org/wp-content/uploads/2019/11/E2-Clean-Jobs-Oregon-2019.pdf>

throughout the state. Yet there is substantial room for improvement to maximize the program's efficacy, minimize compliance costs, and guarantee benefits to all Oregonians.

- **Transportation Fuels:**
 - A strong Cap and Invest proposal must provide an onramp to ensure fuel suppliers are accountable for tailpipe emissions statewide, either through the form of a trigger date (e.g., by 2028) or other trigger (e.g. EV adoption rates in a rural region reaches a certain %). Providing a date certain or other mechanism that provides certainty on eventual transportation fuel regulation under Cap and Invest would support linkage to a regional market and provide transportation investment funds to rural Oregon that will further support emissions reduction and job growth benefits of the larger policy.
- **Industrial Natural Gas:**
 - An effective Cap and Invest proposal will protect the competitiveness of Trade Exposed Natural Gas Users (TENGU's) and support absolute emissions reductions from this sector. However, transition assistance shouldn't encourage business as usual or work at cross purposes with incentives to cut emissions. Under current language, financial rebates are calculated directly proportional to emissions; rebates should instead account for early action and reward ongoing efficiency improvements, the best way to both cut carbon and utility expenses.

Adjusting bill language to achieve these changes will ensure all major emitting sectors are sufficiently covered and enable linkage with California and participation in the Western Climate Initiative. Joining a regional market will result in lower administrative and compliance costs compared to an Oregon only market.

The economic costs of unabated climate change for Oregon businesses are vast. Every year that Oregon's leaders fail to act is another year of increased emissions, driving up the cost of reducing our emissions to safe levels and missing out on the investment and economic development opportunities of leading the transition to a low-carbon future. The Oregon legislature must take decisive action in the 2020 session, to ensure the state seizes America's clean energy leadership and becomes a national destination for millions of dollars in clean technology investments and thousands of new jobs.

On behalf of our network of business leaders, E2 calls on you to support and strengthen LC to accelerate the momentum of increased investment and innovation in Oregon's clean energy economy and working and natural lands.

Sincerely,



Andy Wunder
E2 Western States Advocate

CLEAN JOBS OREGON

55,406 CLEAN ENERGY JOBS ACROSS OREGON¹

2019

CLEAN ENERGY LEADS OREGON ENERGY ECONOMY

Clean energy industries lead Oregon's energy economy, accounting for nearly six out of every ten energy jobs. Smart policies like the Renewable Portfolio Standard, Clean Fuels Program and Coal to Clean have driven local development of clean energy projects like solar arrays and wind farms. These projects have spurred investments and fueled private sector job growth throughout the state.

With a population of four million, Oregon's clean economy—led by more than 40,000 energy efficiency jobs and 7,000 renewable energy jobs—has created job opportunities in nearly every metro area, county, and legislative district across the state. The state ranks among the top 20 in renewable energy (20th), solar (14th), wind (20th), energy efficiency (20th), and clean fuels (17th).

Unfortunately, job growth in Oregon's clean energy economy is slowing down—only 1.4% in 2018—and Oregon joins a small club of states experiencing slower growth in clean jobs than overall employment (1.6%). In fact, 25 states saw growth in clean energy jobs exceed 4% in 2018 and states that recently passed sweeping climate and clean energy policies—such as Nevada (32% growth) and Colorado (5% growth)—are pulling ahead of Oregon.

One factor contributing to this slowdown has been the market uncertainty created by the State Legislature's multi-year impasse on the Clean Energy Jobs bill (cap-and-invest). To stay competitive in a rapidly shifting energy market—and to take full advantage of the clean energy job creation happening at the state, regional and national levels—the Oregon legislature must pass the Clean Energy Jobs bill. By taking decisive action in the 2020 session, lawmakers can seize America's clean energy leadership and become a national destination for millions of dollars in clean technology investments and thousands of new jobs. These jobs will be a boon to all of Oregon, from Newport to Ontario, and everywhere in between.

CLEAN ENERGY JOBS IN PERSPECTIVE

5x more renewable energy jobs in Oregon than fossil fuel jobs

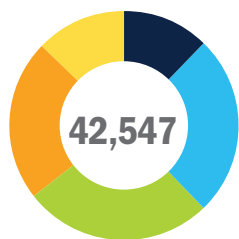
10.6% Veterans of Oregon clean energy workers are veterans, nearly double the national average (6%)

Nearly **11K** Rural Oregonians work in clean energy

8 OUT OF 10 Clean energy employees in Oregon work at companies with fewer than 20 employees

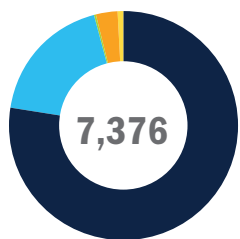
58% of Oregon energy sector jobs are in clean energy industries

INDUSTRY BREAKDOWN: JOBS



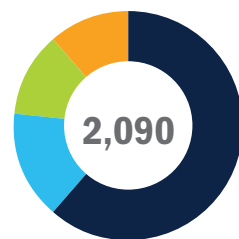
ENERGY EFFICIENCY:

- ENERGY STAR & Lighting: **5,213**
- Trad. HVAC: **10,870**
- High-Efficiency HVAC & Renewable H&C: **11,406**
- Adv Materials: **9,689**
- Other: **5,370**



RENEWABLE ENERGY:

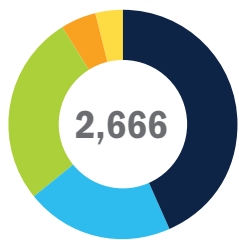
- Solar: **5,723**
- Wind: **1,350**
- Geothermal: **27**
- Bioenergy/CHP: **230**
- Low-Impact Hydro: **46**



GRID & STORAGE:

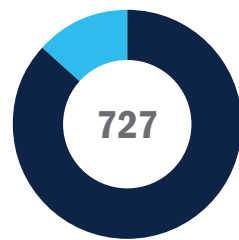
- Storage: **1,284***
- Smart Grid: **323**
- Micro-Grid: **249**
- Other Grid Modernization: **234**

* Storage includes pumped hydro storage, battery storage, thermal storage, and mechanical storage detailed technologies.



CLEAN VEHICLES:

- Hybrid Electric Vehicles: **1,160**
- Plug-In Hybrid Vehicles: **556**
- Electric Vehicles: **714**
- Natural Gas Vehicles: **132**
- Hydrogen & Fuel Cell: **103**



FUELS:

- Other Biofuels: **631**
- Other Ethanol/Non-Woody Biomass: **96**

PRESENTED BY:



WWW.E2.ORG/CLEANJOBSOR
WWW.CLEANJOBSCOUNT.ORG
#CLEANJOBSOR
#CLEANJOBSAMERICA

For more information, contact E2 Western States Advocate **Andy Wunder** at awunder@e2.org.

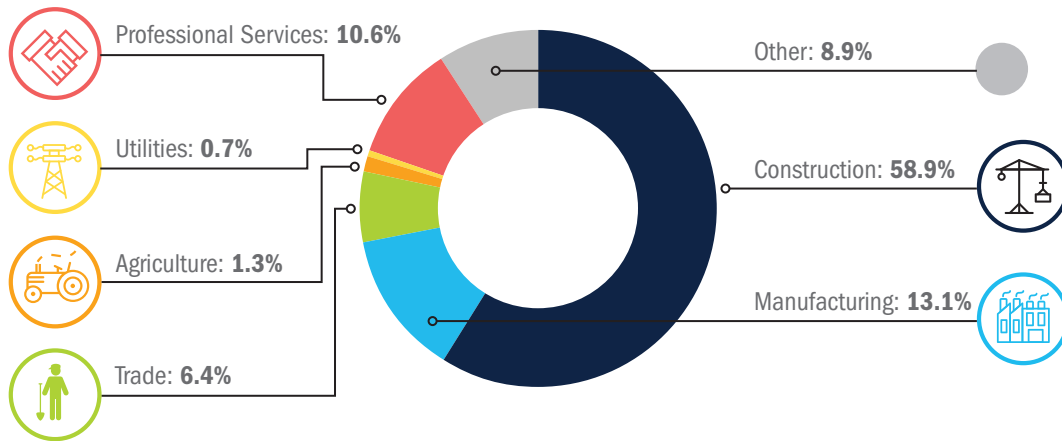
For questions regarding this report, visit E2's report FAQ at <https://www.e2.org/reports/clean-jobs-america-faq>.



IN PARTNERSHIP WITH:

**OREGON
BUSINESS
FOR CLIMATE**

CLEAN JOBS BREAKDOWN BY VALUE CHAIN



ENERGY EFFICIENCY SPOTLIGHT

MORE CLEAN ENERGY = MORE CONSTRUCTION JOBS

While energy efficiency companies employ blue- and white-collar workers alike, construction work is dominant.



4 out of 10 Oregon workers in the energy sector are employed in energy efficiency



3 out of every 5 energy efficiency employees in Oregon work in construction and repairs



1 out of every 4 construction workers in Oregon are employed in energy efficiency

WHAT DO ENERGY EFFICIENCY WORKERS DO?

- // Manufacture and install high efficiency systems, controls, windows, and insulation in existing and new homes, commercial and industrial buildings
- // Design and construct high performance buildings such as those earning LEED certification
- // Upgrade and repair heating, air conditioning and ventilation (HVAC) and water heating equipment
- // Manufacture and install ENERGY STAR-certified appliances, lighting, ceiling fans, commercial cooking equipment, refrigerators and boilers
- // Save money for businesses, homeowners, schools, states, counties, municipalities, U.S. armed forces, and more

RURAL & SMALL-TOWN IMPACT

50%

of Oregon's clean energy workforce is located outside the Portland metro area

13,000

jobs are located in counties with populations less than 300,000

1/5

clean energy jobs in Oregon are in rural areas

LEADING IN JOBS PER CAPITA

Of the top 10 counties by clean energy jobs per capita, 5 have populations under 100,000—including No. 1 Morrow County which is home to more than 38 clean energy jobs for every 1,000 employable residents

SMALL BUSINESSES FUEL SUCCESS



4 OUT OF EVERY 5

CLEAN ENERGY WORKERS

are employed by businesses with fewer than 20 employees

1-4 EMPLOYEES: **52.7%**

5-19 EMPLOYEES: **31.1%**

20-99 EMPLOYEES: **9.5%**

100-499 EMPLOYEES: **5.4%**

500+ EMPLOYEES: **1.4%**

JOB GROWTH ENGINE

While Oregon's clean energy economy grew slower than other states, the sector did experience some growth in Oregon in 2018

2019 Forecast

Employers are projecting a 3.1% increase in clean energy jobs for 2019²

Clean Vehicles: 17%

Oregon's clean vehicles sector saw a 17% jump, outpacing the sector's national average (15.4%)

CLEAN ENERGY DRIVES OREGON'S ENERGY ECONOMY

55,406 JOBS



CLEAN ENERGY

CLEAN ENERGY DRIVES OREGON'S ENERGY ECONOMY

95,806 TOTAL ENERGY EMPLOYMENT

1,422 JOBS

FOSSIL FUELS

23,769 JOBS

TRAD. MOTOR VEHICLES

194 JOBS

NUCLEAR

15,015 JOBS

OTHER

POLICIES MATTER



Oregon's state legislature came up short yet again in the effort to pass the Clean Energy Jobs bill (HB 2020) during the 2019 session. For the third year in a row the state missed a key opportunity to make **Oregon a national and global destination in the shift toward the clean energy economy of the future.** To keep Oregon's clean energy sector competitive—and continue creating good jobs from Portland to Baker City to Klamath Falls—the legislature must provide the appropriate market signals and investments by passing a cap-and-invest program in the 2020 session.

An effective, jobs-first, cap-and-invest policy would be based on science and place an enforceable, declining cap on the state's greenhouse gas emissions. Specifically, the cap-and-invest policy should ensure greenhouse gas emissions decline 45% by 2035, and at least 80% by 2050, compared to 1990 levels. Emissions must decline between now and 2050 with real and enforceable mid-term GHG targets in advance of 2050. Such a program would reduce emissions in line with Oregon's updated climate change goals.

Cap-and-invest will send a strong market signal to Oregon's private sector, helping scale up renewable energy development as the cost of producing and storing power from the wind and sun continue to plummet. At the same time, cap-and-invest will generate new investments in energy efficiency, helping businesses save money on energy bills—money that can be reinvested in capital expenditures, technological innovation and human resources. Furthermore, program revenue—estimated to exceed \$4 billion by 2030, based on the program design in HB 2020³—will be invested into communities throughout Oregon. The revenue will fund projects in clean energy, energy efficiency and low-income home weatherization, as well as providing revenue streams for working and natural land managers through sustainable agriculture and carbon sequestration projects in Oregon's forests.

CAP-AND-TRADE'S TRACK RECORD OF ECONOMIC GROWTH AND EMISSION REDUCTIONS

Putting a price on carbon emissions to drive growth in clean energy is not an untested idea unique to Oregon. In fact, across North America, it has proven to be an elegant and cost-effective means of reducing the

GHG emissions fueling climate change. As California, nine Northeastern states and the Canadian province of Quebec have experienced, cap-and-trade programs have driven emission reductions while GDP growth has frequently outpaced national averages.

In Quebec under cap-and-trade, unemployment has fallen to its lowest level on record going back to 1976. California, meanwhile, has leveraged its climate plan—anchored by cap-and-trade—to make significant reductions in carbon emissions while growing the economy. With cap-and-trade providing a backstop, California met its 2020 greenhouse gas emission reduction goals four years ahead of schedule while enjoying a record job expansion spanning 115 straight months.⁴

Since 2014, California has implemented \$3.4 billion⁵ in revenue from cap-and-trade to fund projects throughout the state. Revenues invested through 2016 support over 75,000 jobs⁶ and have driven an additional \$6.4 billion from other funding sources, including private investment and federal matching funds. 57%⁷ of revenue implemented to-date benefit California's disadvantaged communities, including investments in low-income weatherization, clean energy, and water efficiency programs; projects that reduce toxic air pollution from cars and industry; and over \$400 million⁸ in funding for low-income housing. These investments have also funded projects that drive energy costs savings for the state's agricultural and food processing sectors including funding to upgrade agricultural equipment and trucks and grants for food processors to implement projects that reduce carbon emissions and onsite energy use.

Another metric showing these programs work for business: California is posting 100% industry compliance for its cap-and-trade program.

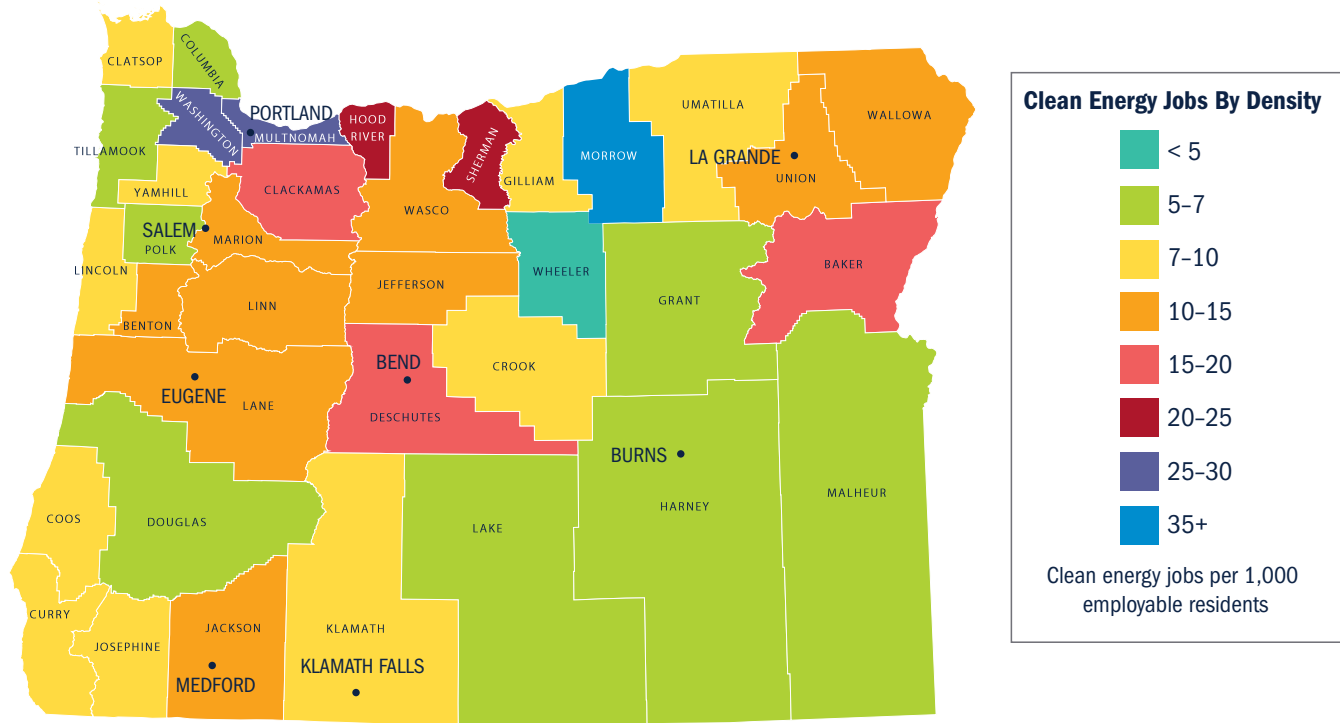
OREGON'S OPPORTUNITY

By enacting cap-and-invest legislation, Oregon has an opportunity to join California and Quebec in an established, successful regional carbon market called the Western Climate Initiative (WCI). By leveraging the experience and market competencies of California and Quebec, and linking with their existing market, Oregon will be able to design its own cap-and-invest model, all while ensuring it complements existing successful policies like the Renewable Portfolio Standard, the Clean Fuels Program and Coal to Clean.

Moving forward with the cap-and-invest policy now is critical to generating the private-sector market signals needed to attract innovative clean energy companies to Oregon. It will save businesses money through energy efficiency, offer companies a clearer, longer-term understanding of the state policies that may impact their operations, reduce the carbon emissions fueling climate change and build on the 55,000 jobs already employing Oregonians in clean energy across the state.

Decisive action on cap-and-invest in 2020 is critical to drive the investments that will create and sustain new jobs over years to come. A 2018 economic analysis commissioned by the Oregon Carbon Policy Office shows a cap-and-invest program (modeled on HB 2020) could create 50,000 jobs and drive a 2.5% increase in real GDP by 2050.⁹

OREGON CLEAN ENERGY JOBS BY DENSITY¹⁰



Clean Energy Jobs By Density

- < 5
- 5-7
- 7-10
- 10-15
- 15-20
- 20-25
- 25-30
- 35+

Clean energy jobs per 1,000 employable residents

OREGON METRO AREAS BY CLEAN ENERGY JOBS

Metro Area	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Portland-Vancouver-Beaverton	28,568	4,351	21,459
Eugene-Springfield	5,139	575	4,041
Salem	3,999	411	3,177

Metro Area	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Medford	3,437	371	2,715
Bend	2,664	360	2,040
Corvallis	974	134	744

Note: Over 10,600 additional jobs are located in Oregon's rural areas.

* Total includes all clean energy jobs categories, including solar, wind, energy efficiency, clean vehicles, battery storage, advanced biofuels, low-impact hydro and other areas.

OREGON CLEAN ENERGY JOBS BY DISTRICT

Data shows that distribution of clean energy jobs in Oregon crosses all political boundaries, with clean energy jobs in every congressional and state legislative district.

U.S. CONGRESSIONAL DISTRICTS

District	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
1 (Rep. Bonamici)	16,811	3,017	12,212
2 (Rep. Walden)	11,037	1,301	8,621
3 (Rep. Blumenauer)	11,668	1,306	9,194
4 (Rep. DeFazio)	10,390	1,165	8,170
5 (Rep. Schrader)	5,500	587	4,350

CLEAN JOBS OREGON

STATE SENATE DISTRICTS

District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs
1 (Sen. Heard)	3,447	11 (Sen. Courtney)	345	21 (Sen. Taylor)	2,622
2 (Sen. Baertschiger Jr.)	1,662	12 (Sen. Boquist)	1,686	22 (Sen. Frederick)	2,635
3 (Sen. Golden)	1,532	13 (Sen. Thatcher)	2,856	23 (Sen. Dembrow)	837
4 (Sen. Prozanski)	4,175	14 (Sen. Hass)	1,564	24 (Sen. Fagan)	402
5 (Sen. Roblan)	1,376	15 (Sen. Riley)	4,468	25 (Sen. Monnes Anderson)	813
6 (Sen. Beyer)	1,478	16 (Sen. Johnson)	1,597	26 (Sen. Thomsen)	375
7 (Sen. Manning Jr.)	201	17 (Sen. Steiner Hayward)	844	27 (Sen. Knopp)	2,268
8 (Sen. Gelser)	1,786	18 (Sen. Burdick)	4,100	28 (Sen. Linthicum)	1,432
9 (Sen. Girod)	2,762	19 (Sen. Wagner)	1,697	29 (Sen. Hansell)	1,714
10 (Sen. Boles)	2,104	20 (Sen. Olsen)	1,855	30 (Sen. Bentz)	774

A full breakdown of clean energy jobs in every state senate district is available at <http://www.e2.org/reports/2019-district-by-district-clean-energy-jobs-in-oregon>.CLEAN.

ENDNOTES

- Unless otherwise stated, the data and analyses presented in Clean Jobs America E2 (Environmental Entrepreneurs) are based on data collected for the 2019 U.S. Energy Employment Report (2019 USEER), produced by the Energy Futures Initiative (EFI) in partnership with the National Association of State Energy Officials (NASEO) and collected and analyzed by BW Research Partnership (BWRP). See Pages 9-13 for methodology questions. For more questions regarding methodology, visit <https://www.e2.org/clean-jobs-america-faq>.
- Projected growth rates and employee size numbers are based on a 15-minute, supplemental survey of approximately 30,000 employers that enriches the employment data published by the U.S. Bureau of Labor Statistics (BLS) in its Quarterly Census on Employment and Wages (QCEW). More information on this survey can be found in Appendix B in the USEER 2019 report at www.usenergyjobs.org.
- <https://www.oregon.gov/gov/Documents/Updated%20Estimated%20Potential%20Proceeds%20of%20Allowance%20Sales%20Based%20on%20HB%202020.pdf>.
- <https://www.edd.ca.gov/newsroom/unemployment-october-2019.htm>.
- https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/2019_cci_annual_report.pdf.
- <https://luskin.ucla.edu/climate-funds-create-jobs>.
- https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/2019_cci_annual_report.pdf.
- <http://www.caclimateinvestments.ca.gov/ahsc>.
- https://www.oregon.gov/gov/Documents/CPO_BEAR_HB2020_Economic_Assessment.pdf.
- County employable population data based on 2017 American Community Survey (ACS) 5-year estimate of residents 16 years and older from the U.S. Census Bureau accessible at <https://factfinder.census.gov>.

PRESENTED BY:



E2 is a national, nonpartisan group of business leaders, investors and others who advocate for smart policies that are good for the environment and good for the economy.



Clean Jobs Count is a campaign to raise awareness of the economic importance of the clean economy. Visit www.cleanjobscount.org to join thousands of business leaders, workers and others to tell lawmakers and policymakers that clean jobs count.

IN PARTNERSHIP WITH:



Oregon Business for Climate provides a forum for Oregon industry leaders to collaborate in policy and business engagements aimed at promoting investment, job creation, competitiveness and economic growth towards Oregon's low-carbon economy.

THANKS TO SUPPORT FROM:

E2 wishes to express its appreciation to the **National Association of State Energy Officials** (NASEO), the **Energy Futures Initiative** (EFI) and **BW Research Partnership** ("BWRP") who made this report possible by producing the USEER and its underlying data.

