



NATIONAL
GOVERNORS
ASSOCIATION

Governors' Advisors Energy Policy Institute

June 24 & July 13-15, 2021

NGA Center for Best Practices

Day 4: Energy Workforce, Economic Development, and Recovery

Thursday, July 15

Introduction to the Day

Speaker:

Jessica Rackley, Program Director, Environment & Energy, NGA
Center

1:00-1:05 PM ET

Energy Workforce Trends

OCCUPATION	GROWTH RATE, 2019-29	2020 MEDIAN PAY
Wind turbine service technicians	61%	\$56,230 per year
Nurse practitioners	52%	\$111,680 per year
Solar photovoltaic installers	51%	\$46,470 per year
Occupational therapy assistants	35%	\$62,940 per year
Statisticians	35%	\$92,270 per year
Home health and personal care aides	34%	\$27,080 per year
Physical therapist assistants	33%	\$59,770 per year
Medical and health services managers	32%	\$104,280 per year
Physician assistants	31%	\$115,390 per year
Information security analysts	31%	\$103,590 per year
Data scientists and mathematical science occupations, all other	31%	\$98,230 per year
Derrick operators, oil and gas	31%	\$47,920 per year
Rotary drill operators, oil and gas	27%	\$53,820 per year
Roustabouts, oil and gas	25%	\$39,420 per year
Speech-language pathologists	25%	\$80,480 per year

Source: U.S. Bureau of Labor Statistics, Fastest Growing Occupations, April 2021

Topics for Today's Session

- Which energy sectors are growing and currently hiring workers, and in which parts of the country
- Identifying training and education needs
- How the pandemic and economic downturn impacted energy jobs
- What jobs/sectors offer pay that is comparable to fossil fuel sector jobs
- What can state policymakers and governor's offices do to create new energy sector employment opportunities
- What are the key regional and local considerations that are important for new workforce/economic development programs and policies
- As the energy sector transitions, how states can ensure that equity and diversity concerns are addressed

Opening Keynote: The Energy Workforce of the Future

Speaker:

Dr. Brian Anderson, Ph.D., Director, DOE National Energy Technology Lab and Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization

Moderator:

Timothy Schoonhoven, Policy Analyst, NGA Center

1:05-1:25 PM ET



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The Energy Workforce of the Future

Empowering Workers Through Revitalizing Energy Communities



Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization

Brian J. Anderson, Ph.D.

Executive Director, Interagency Working Group on
Coal and Power Plant Communities and Economic Revitalization
Director, National Energy Technology Laboratory



U.S. DEPARTMENT OF
ENERGY



NATIONAL
ENERGY
TECHNOLOGY
LABORATORY

July 15, 2021

Coal and Power Plant Communities and Economic Revitalization



- The Interagency Working Group (IWG) was established by [Executive Order 14008](#), Sec. 218, on Jan. 27
- The IWG released an [Initial Report](#) with recommendations to catalyze robust economic activity and support workers in America's energy sector

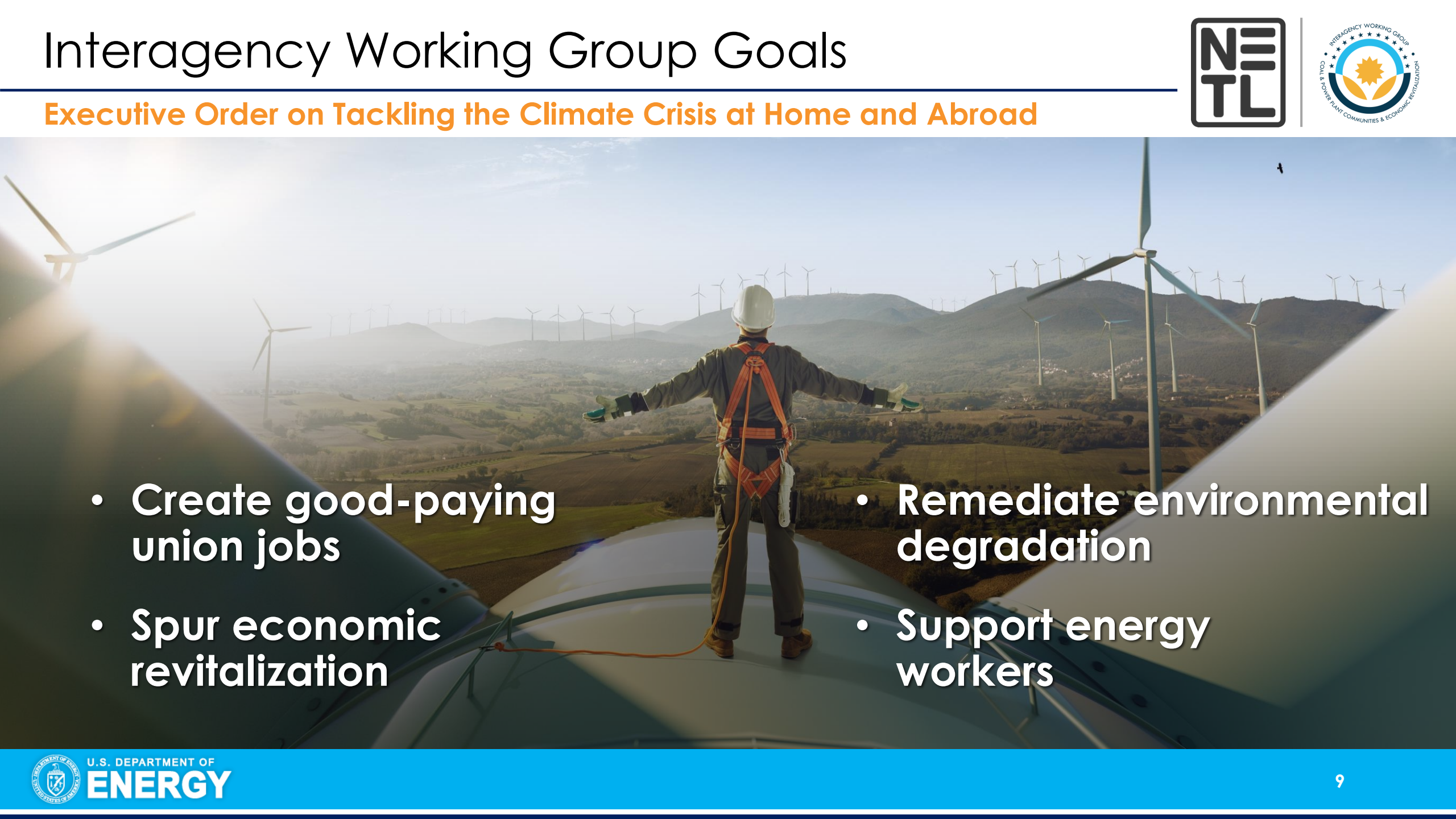


Initial Report to the President on Empowering Workers Through Revitalizing Energy Communities, Released April 23, 2021

Interagency Working Group Goals

Executive Order on Tackling the Climate Crisis at Home and Abroad



- 
- A worker in a white hard hat, orange safety harness, and dark clothing stands on the nacelle of a wind turbine, looking out over a vast landscape filled with many other wind turbines on rolling hills under a clear sky.
- Create good-paying union jobs
 - Spur economic revitalization
 - Remediate environmental degradation
 - Support energy workers

Stakeholder Engagement

Ensuring Impacted Communities are Empowered to Direct Their Own Futures



During stakeholder engagement with impacted communities for the Initial Report, key learnings included:

1. There are no silver bullets.
2. Local community engagement matters.
3. Immediate jobs and a long-term strategy.
4. Job creation and job retention.
5. Invest in workers.
6. Invest in local entrepreneurs and place-based organizations.
7. Infrastructure matters.

Lasting Community Engagement

Town Hall Meetings

Regional Planning

Federal Advisory Committee

Guiding Principles

Initial Report to the President



- Create good-paying jobs
- Support energy workers by securing benefits and providing opportunity
- Provide federal investment to catalyze economic revitalization
- Prioritize pollution mitigation and remediation
- Adopt a government-wide approach
- Formalize stakeholder engagement efforts



Initial Report to the President on Empowering Workers Through Revitalizing Energy Communities



- Identified **25** priority Energy Communities
- Coal communities identified as immediately challenged
- Additional analyses forthcoming

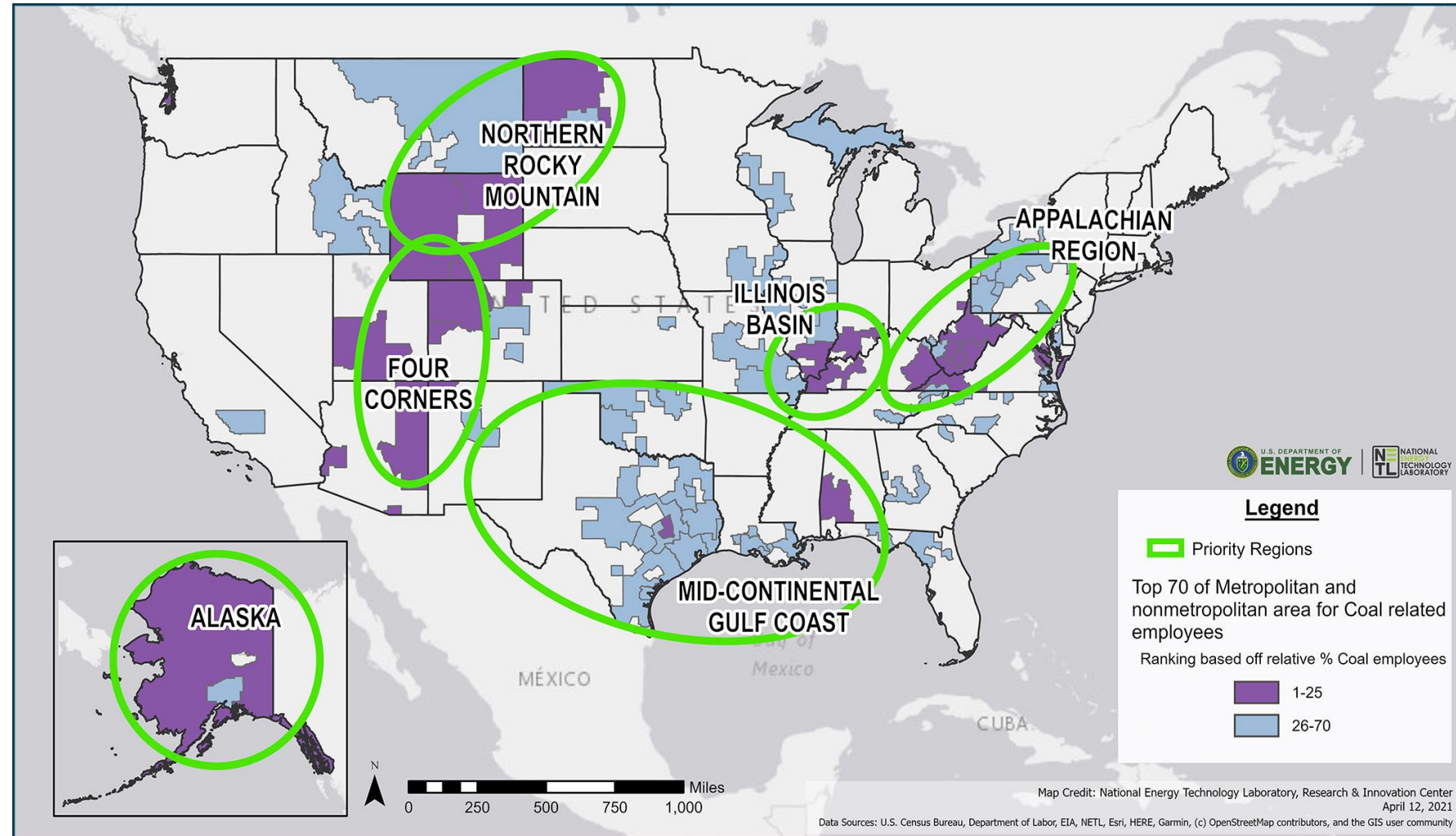


Figure 2 in the report. The IWG recommends focusing initial federal investments in areas with high concentrations of coal-dependent jobs.

Working Across the Federal Government



\$38B
in potential funding

COORDINATE

CATALYZE

TARGET

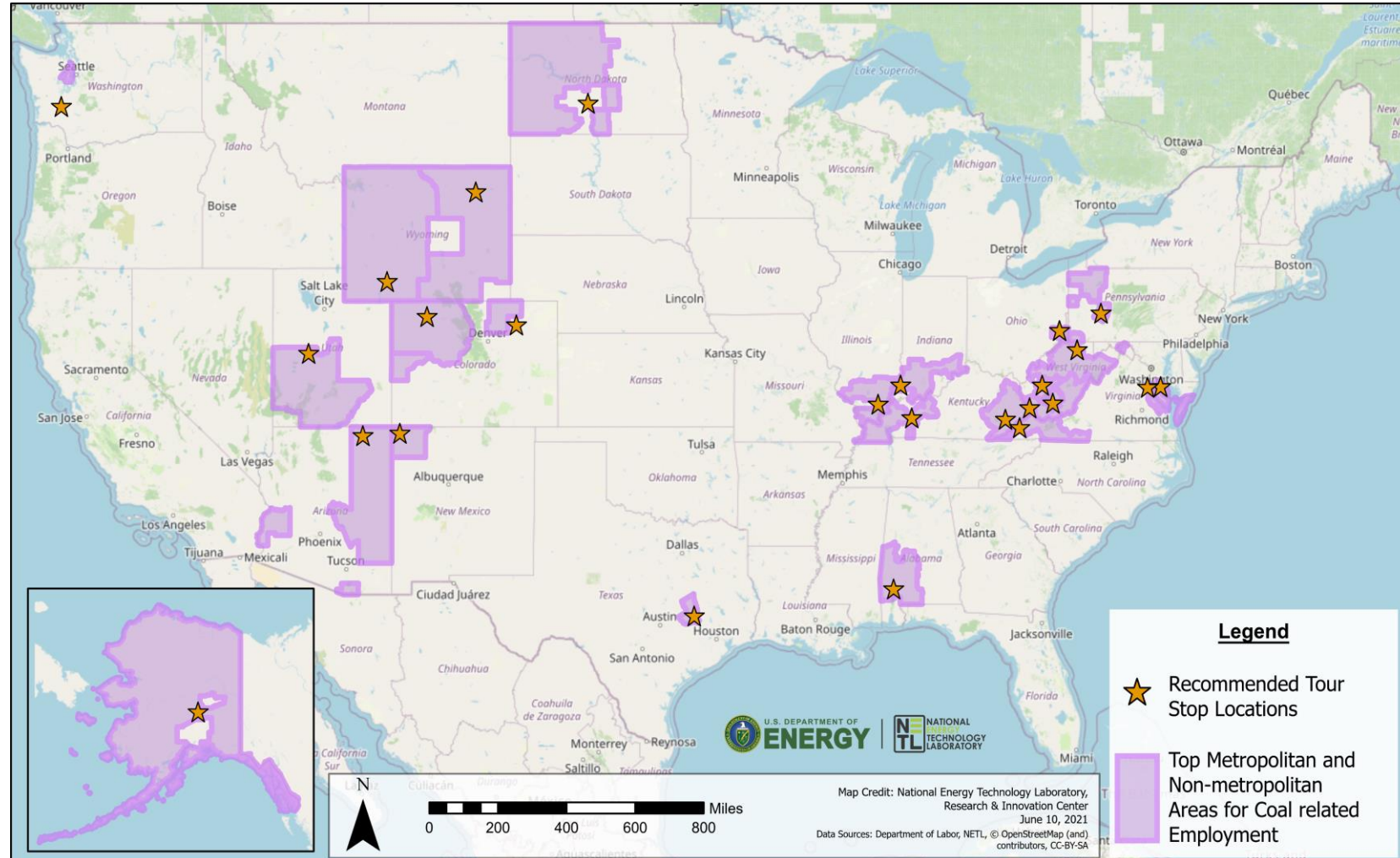
The Looney Ridge mine in Wise County, VA

Stakeholder Engagement



Authentic, Unfiltered Engagement

- Visit all 25 priority areas.
- Senior officials, roundtable discussions, community tours, public hearings, workshops, and return visits.
- Shape government policies, target investments, and assist communities to access federal resources.



Next Steps



Near-Term Priorities

1. Continue **engaging stakeholders** and **listening tour**
2. Continue **job-creating investments** in priority Energy Communities, particularly ARP roll out.
3. Enable **easier access to federal support** for Energy Communities
4. Plan for **long-term engagement** and **ongoing support**. Establish a FACA.
5. Develop **policy recommendations** for President by end of 2021.

Calls To Action



- Share your budget and policy perspectives
- Encourage stakeholders to provide their needs & solutions:
 - Community Engagement
 - Investments
 - Integration
 - across federal govt.
 - vertically fed-state-local
 - Policy

Questions?

Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization



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Energy Job Opportunities – Growth Sectors & Emerging Areas

Speakers:

Sandra Purohit, Director of Federal Advocacy, E2

Alyssa Latuchie, Clean Energy Economist, Energy Conservation and Management Division, New Mexico Energy, Minerals and Natural Resources Department

Felicia DePaula, Program Specialist, New Mexico Economic Development Department

Moderator:

Jessica Rackley, Program Director, Environment & Energy, NGA Center

1:25-2:00 PM ET

Good for the Economy.
Good for the Environment.

Clean Energy Workforce

**The National Governors' Association's (NGA)
Governors' Advisors Energy Policy Institute**

July 15, 2021

Presented by-

**Sandra Purohit
Director of Federal Advocacy
Sandra@e2.org**



E- WHO?

E2 - national nonpartisan group of over 11,000 business leaders, investors and professionals from all sectors of the economy and across the US.

We advocate for policies that are good for the economy and good for the environment.

6th annual Clean Jobs America Report (and others).

<https://e2.org/reports>

- clean energy jobs broken down by
- Sector
- State
- Metro Statistical Area in America
- Non-metro rural jobs as well.

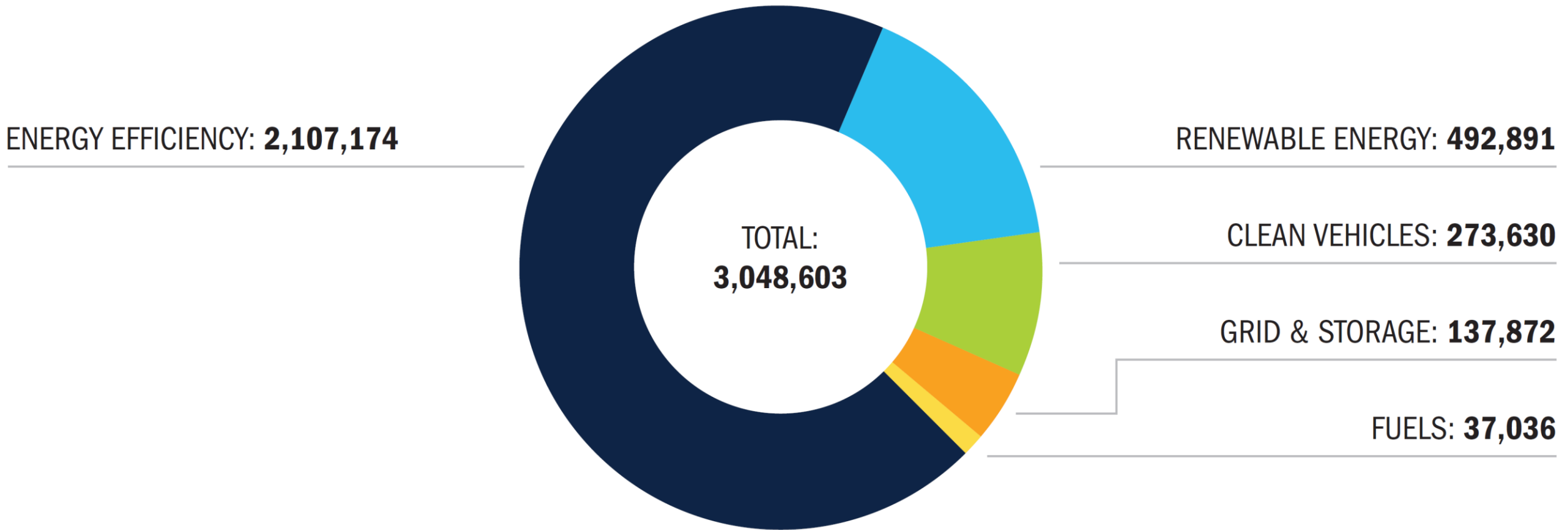
Good for the Economy.
Good for the Environment.

CLEAN JOBS AMERICA 2021

AFTER HARD YEAR, PROMISE OF UNPARALLELED JOBS GROWTH



FIG. 1 // U.S. CLEAN ENERGY EMPLOYMENT by sector 2020



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Good for the Environment.



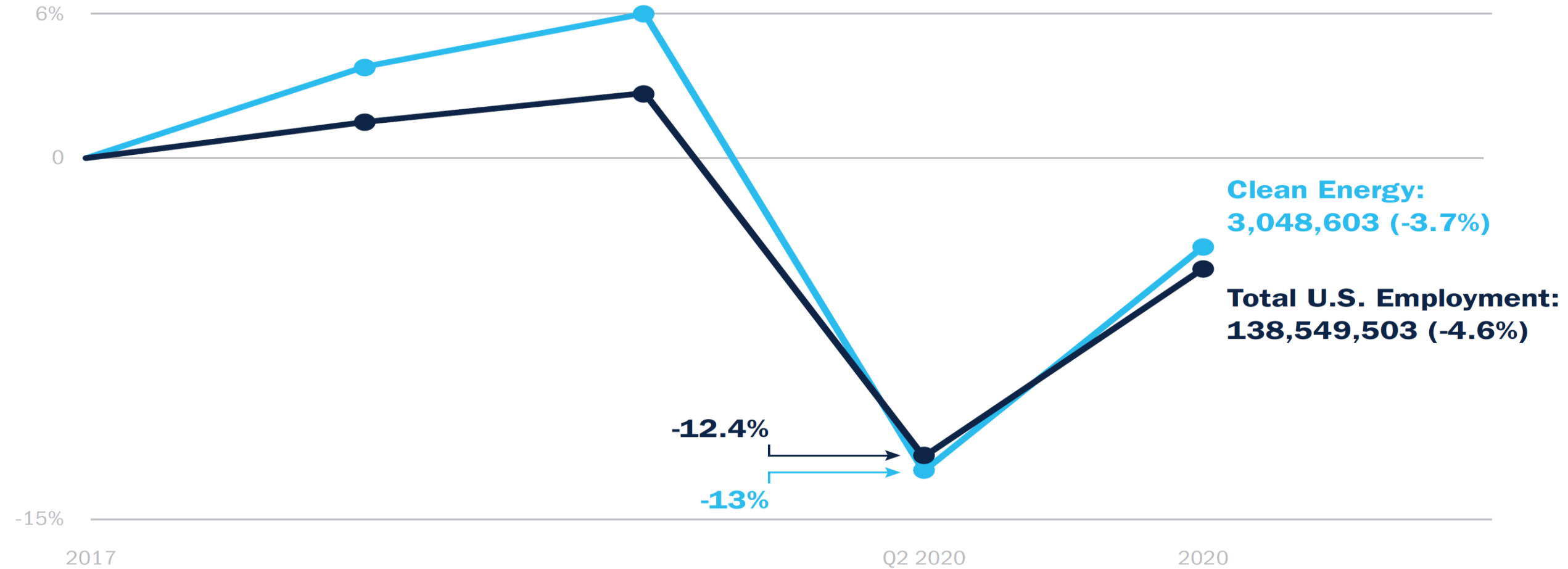
TABLE 3 // U.S. EMPLOYMENT by comparable occupations 2020⁸

OCCUPATION	2020 Employment	2019 Employment	2018 Employment	2017 Employment	2017-2019 Growth
Retail Salespersons	3,659,670	4,317,950	4,448,120	4,442,090	-2.79%
Clean Energy Sectors*	3,048,603	3,355,419	3,284,600	3,165,050	6.01%
Registered Nurses	2,986,500	2,982,280	2,951,960	2,906,840	2.60%
Customer Service Representatives	2,833,250	2,919,230	2,871,400	2,767,790	5.47%
Commercial Banking	2,065,527	2,063,270	2,067,089	2,076,128	-2.79%
Elementary and Middle School Teachers	1,976,050	2,064,680	2,032,880	2,043,520	1.04%
Waiters and Waitresses	1,944,240	2,579,020	2,582,410	2,584,220	-0.20%
Heavy and Tractor-Trailer Truck Drivers	1,797,710	1,856,130	1,800,330	1,748,140	6.18%
Engineers	1,673,440	1,730,720	1,700,880	1,665,220	3.93%
Lawyers	658,120	657,170	642,750	628,370	4.58%

Good for the Economy.
Good for the Environment.



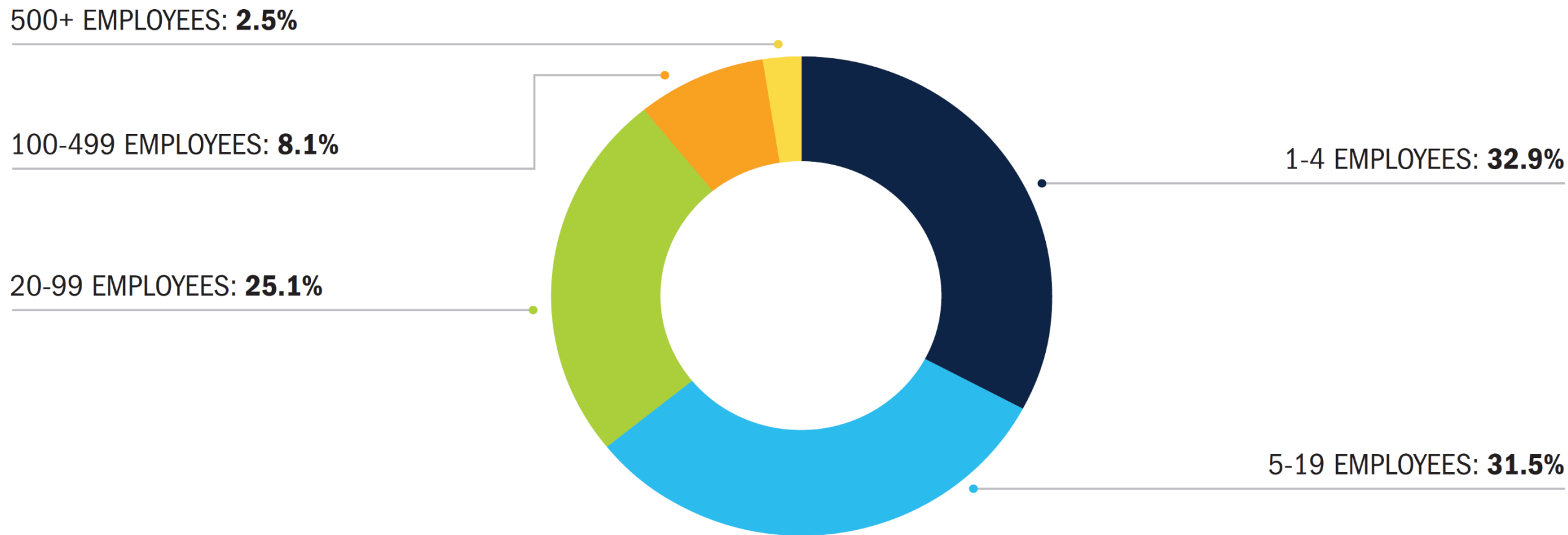
FIG. 9 // U.S. EMPLOYMENT GROWTH 2017–2020⁷



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FIG. 4 // U.S. CLEAN ENERGY EMPLOYMENT by establishment size 2020

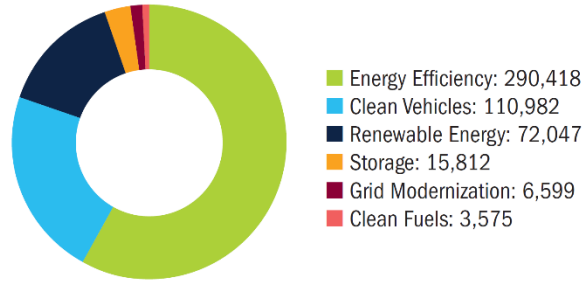


Good for the Economy.
Good for the Environment.

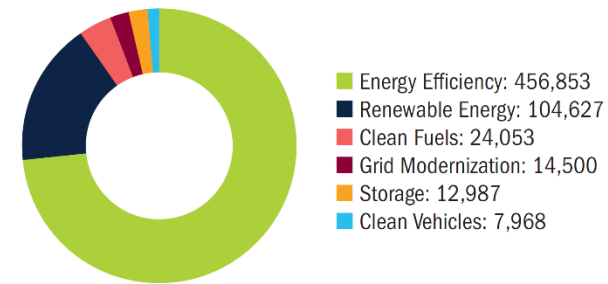


FIG. 11 // U.S. CLEAN ENERGY EMPLOYMENT by industry 2020

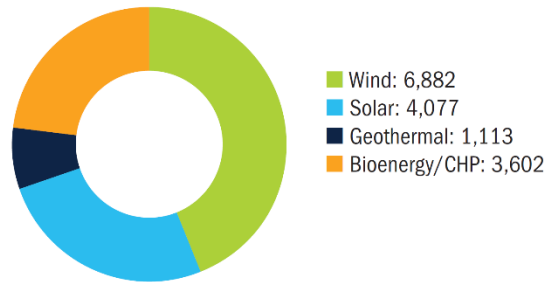
Manufacturing:
499,432 Total Jobs



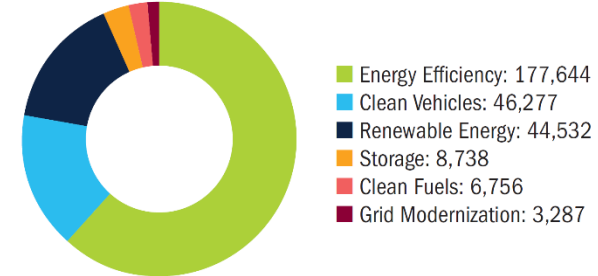
Professional & Business Services:
620,988 Total Jobs



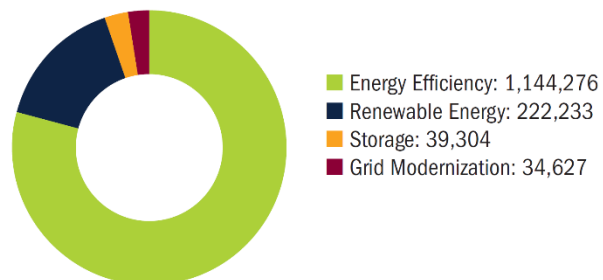
Utilities:
15,674 Total Jobs



Wholesale Trade & Distribution:
287,235 Total Jobs



Construction:
1,440,441 Total Jobs



Other Services
(Repair and Maintenance/Other):
182,257 Total Jobs

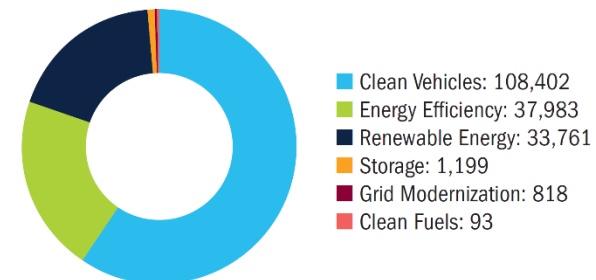
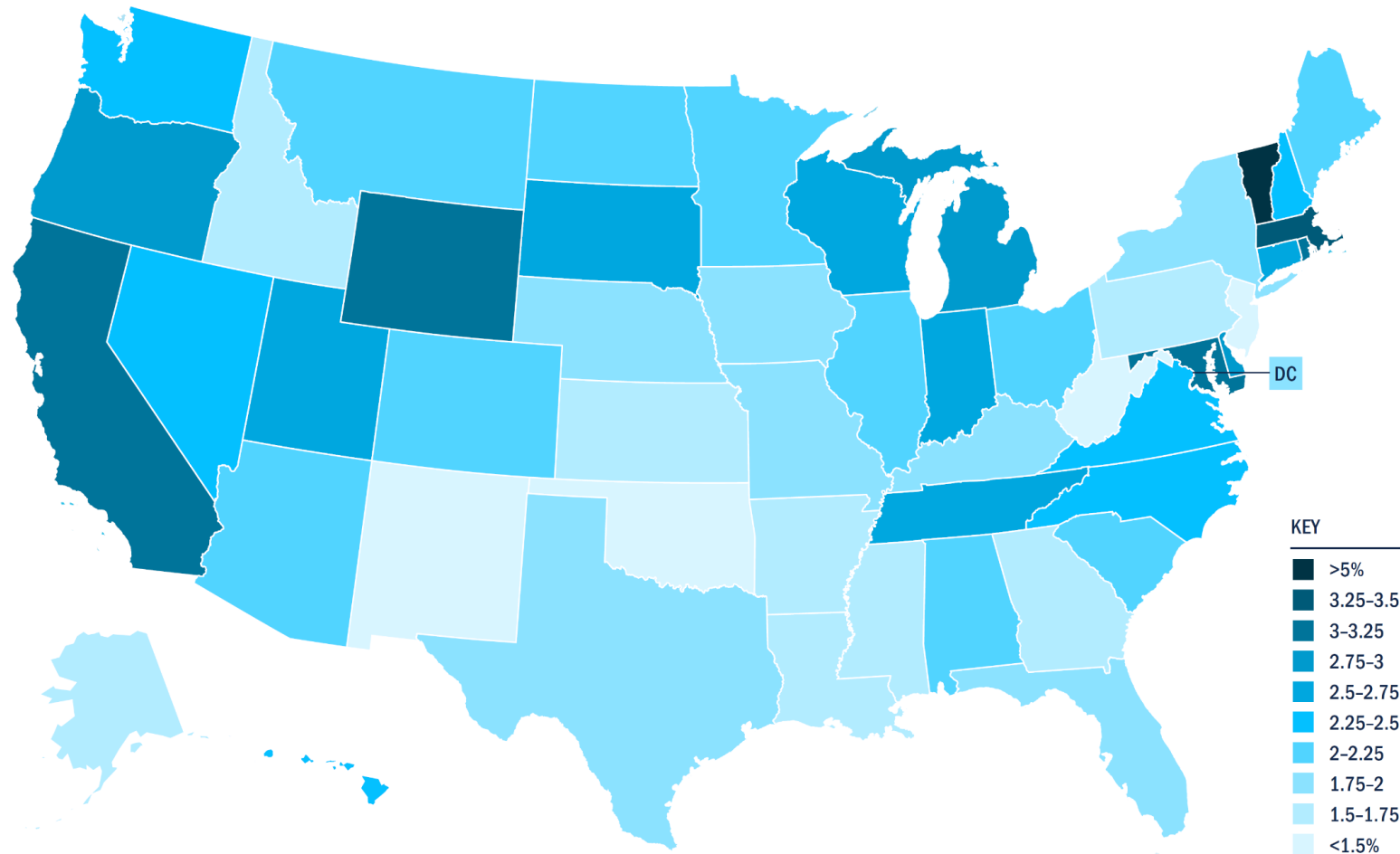


FIG. 12 // U.S. CLEAN ENERGY EMPLOYMENT
by share of total statewide employment 2017–2020¹⁰



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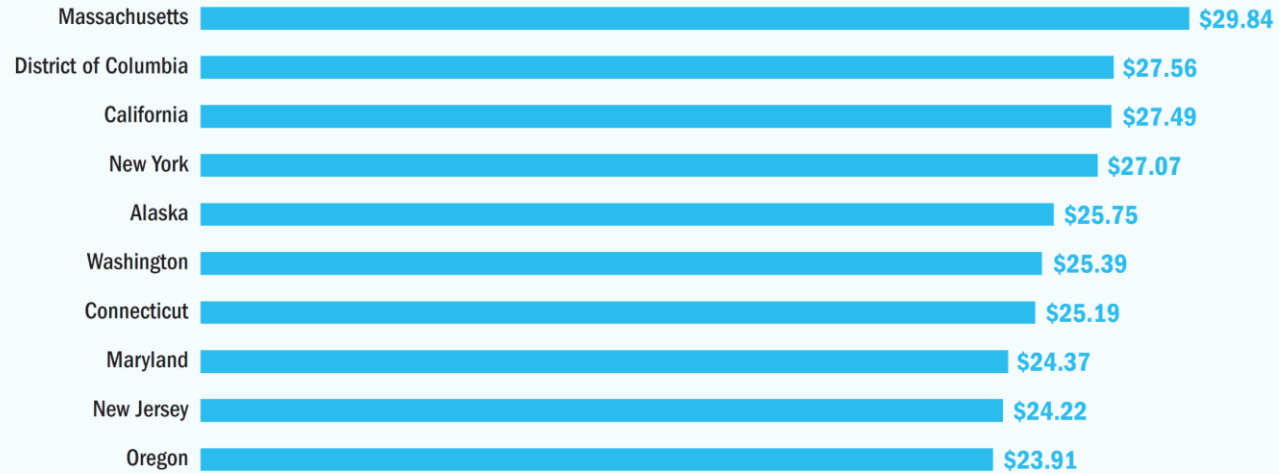


CLEAN ENERGY JOBS PAY 25% MORE THAN NATIONAL MEDIAN WAGE

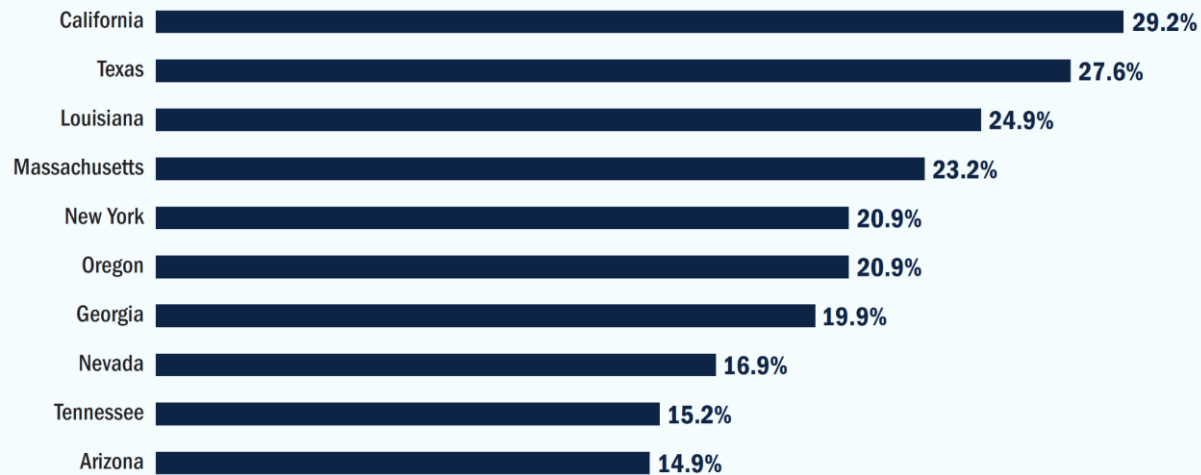
Clean Energy median wage = \$23.87

National median wage = \$19.14

TOP STATES BY MEDIAN CLEAN ENERGY WAGE



TOP STATES BY CLEAN ENERGY WAGE PERCENTAGE ABOVE STATEWIDE MEDIAN WAGE

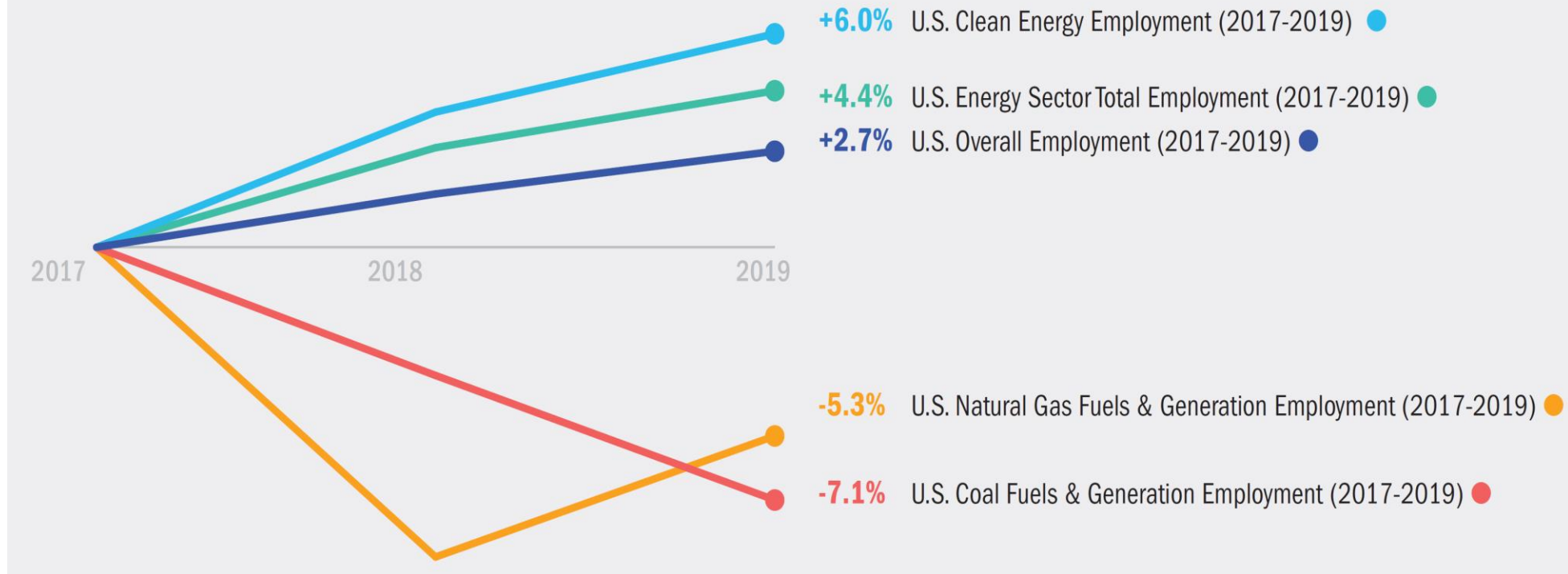


Good for the Economy
Good for the Environment



Fossil Fuels Jobs and Clean Energy Jobs

FIGURE 3: JOB GROWTH RATES BY ENERGY SECTOR, 2017-2019



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Good for the Environment.



Clean Energy Challenges

- **Diversity** -- E2 will be coming out with **Diversity report soon** and that is something clean energy need to tackle.
- **Workforce Training:** And For years pre-COVID and even now with 300,000 jobs lost, when we survey clean energy businesses, they consistently say that finding skilled labor is a major challenge
- **Incentive Stability:** Instability in incentives impacts financing, manufacturing, and demand generally
- **Global Competitiveness** --
Clean Energy Investment is flowing to Countries with high targets and incentives. Europe and China are eating our lunch. We want more domestic manufacturing and ultimately export of US clean energy technologies into what is estimated to be 27trillion dollar global market (based on existing global commitment)Just a few critical federal policies we are seeing in play include

Good for the Economy.
Good for the Environment.



Key Federal Policies for Clean Energy



- **Clean Energy Tax Credits** -- Longer incentives and for Purchasing and Manufacturing Incentives for Efficiency, Renewables, Grid and Storage, Vehicles etc
- **Workforce training** -- Including stipends for trainees
- **National Clean Energy Accelerator** (National Green Bank) -- to support state green banks and local financing solutions in every state and to address equity
- **A Clean Electricity Std** – for path to 100% clean electricity by 2035.
- **Funding for R&D and deployment programs at DOE.**

Good for the Economy.
Good for the Environment.



THANK YOU

Sandra Purohit
Director of Federal Advocacy
Sandra@e2.org

ADDITIONAL RESOURCES/DETAILS: www.E2.org/Reports

- Clean Jobs America 2021 (Jobs Numbers)– (regional reports and federal district data coming)
- Clean Jobs Better Jobs (Wage Data)
- Build Back Better Faster (Sample Jobs Projection with \$100B Federal investment)
- Healthy Soils and the Climate Connection: A Path to Economic Recovery on America's (Rural Opportunities)
- COMING SOON: Diversity in Clean Energy Report (Aug 2021)

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N E W M E X I C O



Energy, Minerals and Natural Resources Department



ENERGY AND ECONOMIC DIVERSIFICATION EFFORTS IN NEW MEXICO

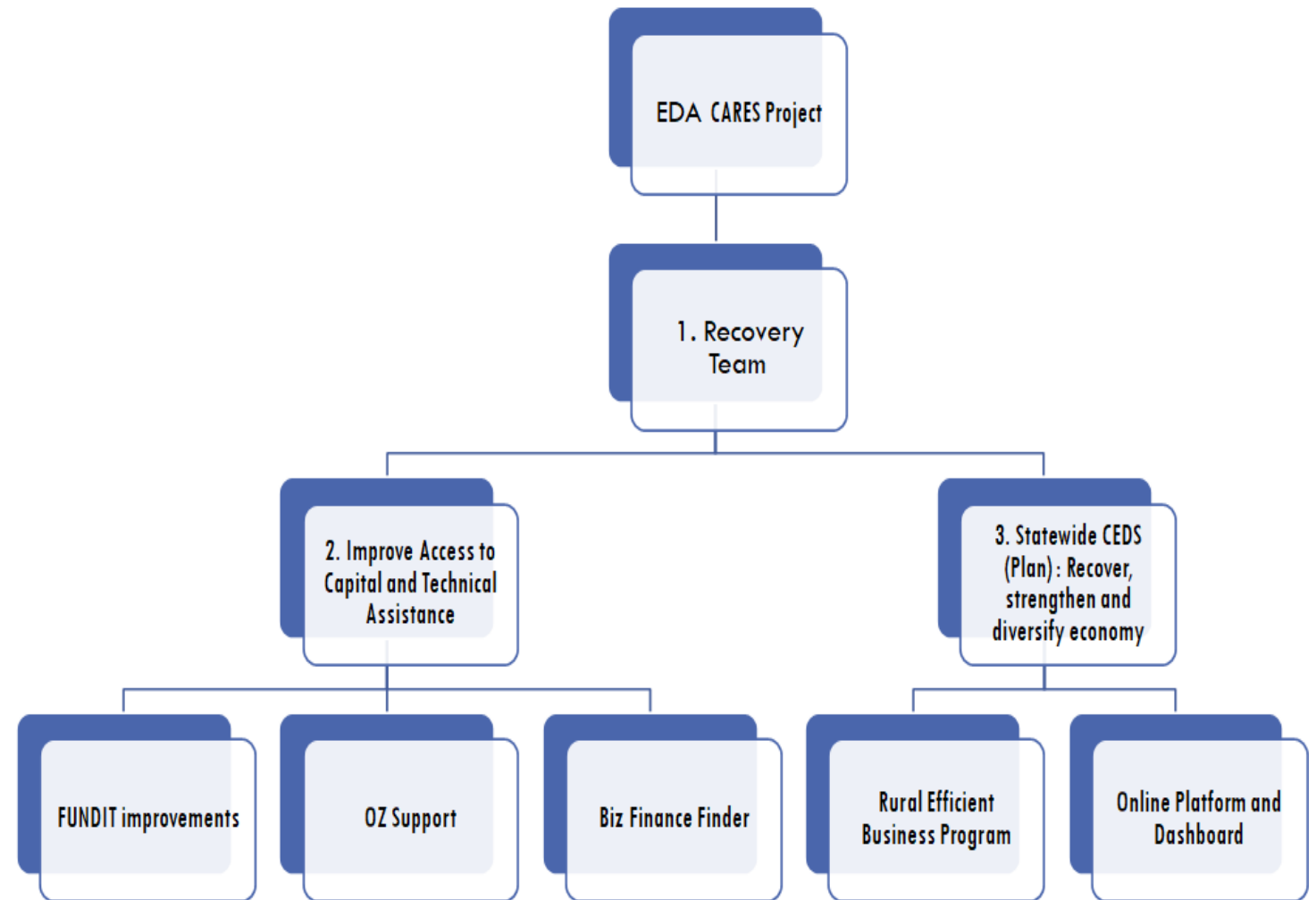
Alyssa Latuchie

Clean Energy Economist, Energy Minerals and Natural Resource
Department, Energy Conservation & Management Division

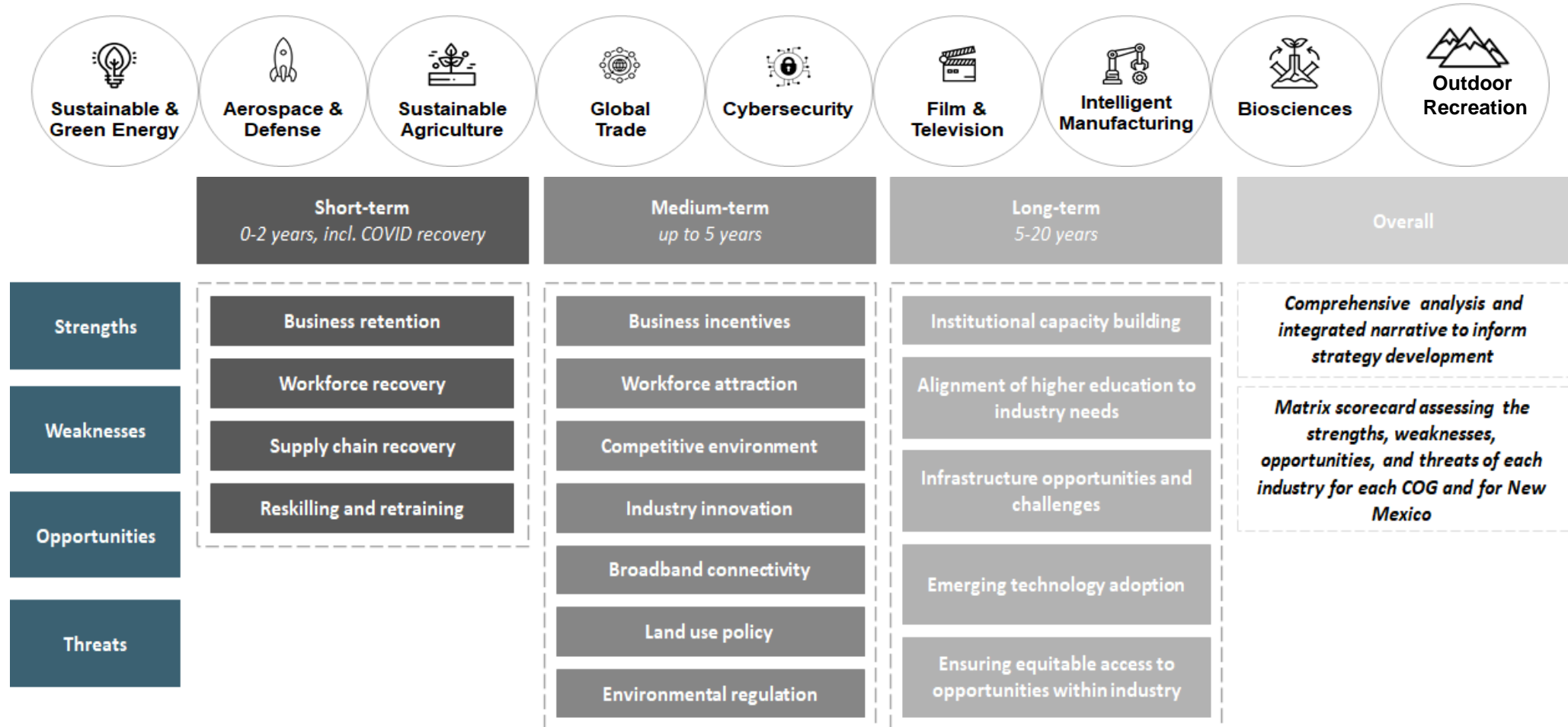
Felicia DePaula

Program Specialist, Economic Development Department

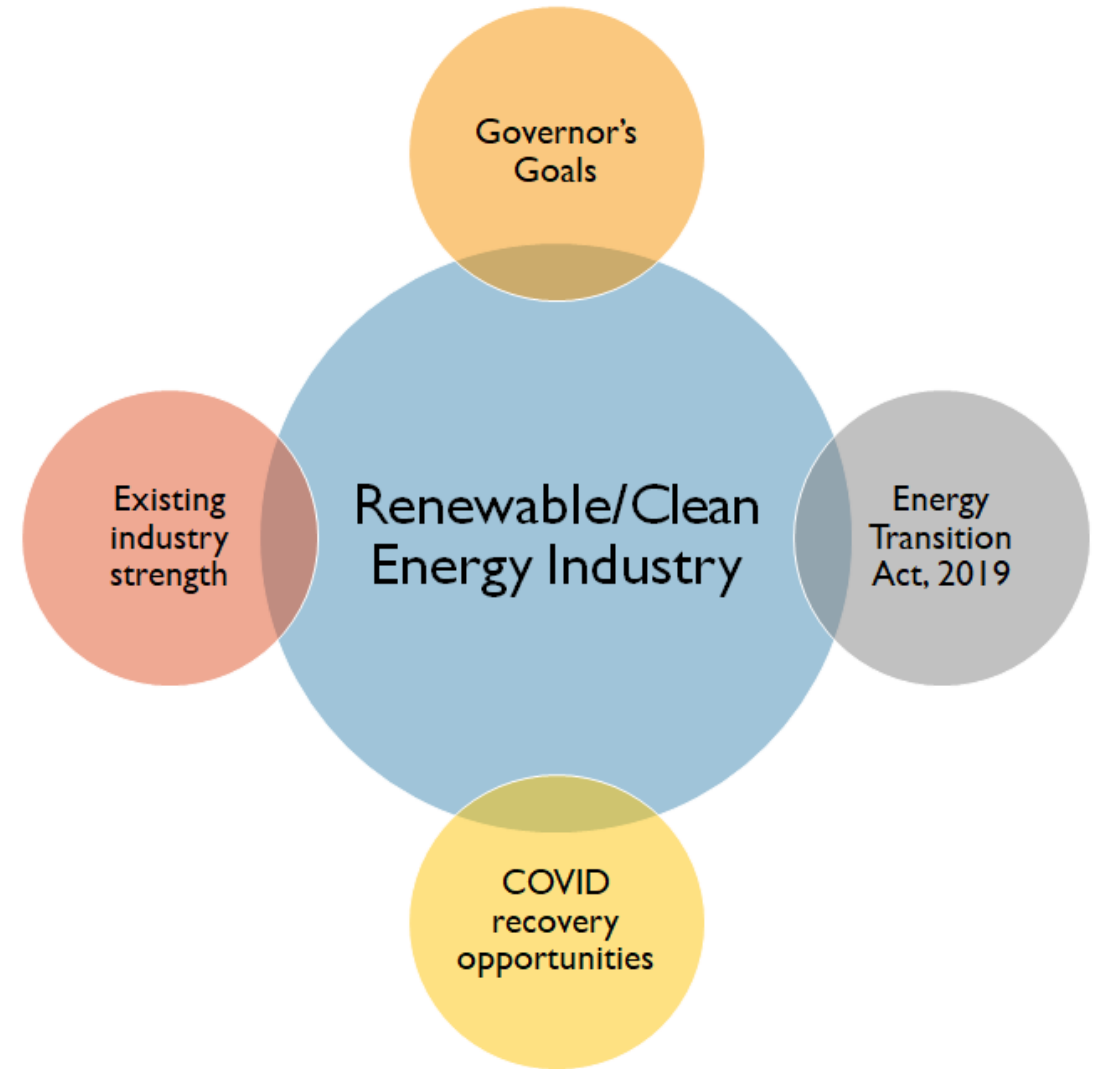
EDA CARES PROJECT



TARGET INDUSTRY SWOT ANALYSIS



PARTNERSHIP WITH EMNRD



TRENDS FROM STAKEHOLDER FEEDBACK



Competitive Advantage:

- New Mexico remains among the most competitively positioned states in the U.S. for growing the renewables industry



Education:

- New Mexico's community colleges have engaged with industry to develop very strong, highly-regarded clean energy technician programs that enable the state to deploy more clean tech.



Infrastructure:

- Infrastructure continues to be a challenge for the state, and if New Mexico does not invest significantly in transmission infrastructure it is likely it will lose its current advantage over other states

MOVING FROM REPORT INTO ACTION

Hiring at
EMNRD

- 2 positions centered around Economic and Energy Diversification

Goals:

- Recruiting and supporting renewable energy companies in NM
- Technical support and educational training for renewable energy companies
- Facilitating degree and apprenticeship programs in the energy sector

Link between
departments

- Economic Development Department
- Department of Workforce Solutions



N E W M E X I C O



Energy, Minerals and Natural Resources Department



QUESTIONS?

Alyssa Latuchie

Clean Energy Economist, Energy Minerals and Natural Resource
Department, Energy Conservation & Management Division

Alyssa.Latuchie@state.nm.us

Felicia DePaula

Program Specialist, Economic Development Department

feliciaf.depaula@state.nm.us

Ensuring a Just Energy Transition

Speakers:

Cindy Winland, Principal, Community Transition Planning

Wade Buchanan, Director, Colorado Office of Just Transition, Colorado
Department of Labor and Employment

Moderator:

Timothy Schoonhoven, Policy Analyst, NGA Center

2:00-2:30 PM ET

Workforce Development: Education & Retraining

Speakers:

Lisa Waters, Vice President of Human Resources, Schneider Electric

Dan Conant, Founder and CEO, Solar Holler

Moderator:

Amanda Winters, Program Director, Postsecondary, NGA Center

2:30-3:00 PM ET



Life Is On

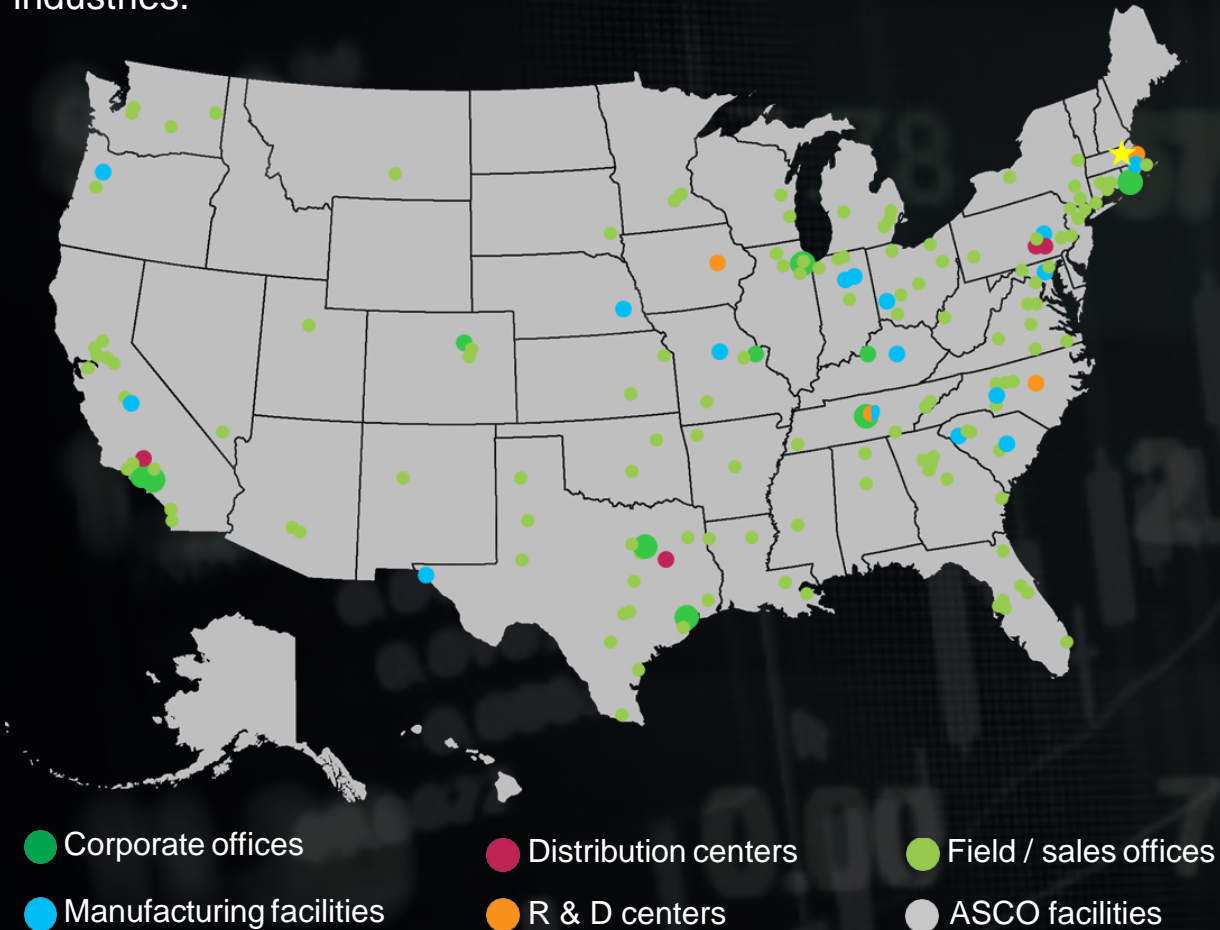
Schneider
Electric

Energy Policy Institute

Lisa Waters

Schneider Electric in the US

Leading the digital transformation of energy management and automation in homes, buildings, data centers, infrastructure, and industries.



Schneider Electric USA Headquarters

800 Federal St, Boston ONE Campus
Andover, MA 01810 se.com/us

\$7.7B in revenues, 2020 ~19,000 employees

Major U.S. sites

Dallas, TX, El Paso, TX Boston, MA;
Nashville, TN; West Kingston, RI; Lake
Forest, CA;

300+ microgrids in the U.S.

Net Zero Carbon by 2025

#1 of Global 500 Most Sustainable
Corporations-Global Knights 2020

Acknowledged in CDP's "Global Climate 500
Performance Leadership Index" and "Dow
Jones Sustainability Index"

Solar Energy

Decentralized Microgrid

Net zero Building

Electric Vehicles

**Electric
builds a
green
future**



Labor shortages are causing strains on supply chains.

Extended Unemployment

Extended unemployment benefits rival normal pay, perpetuating a slow return to market.

Aging Workforce

The manufacturing workforce is rapidly aging creating a dire need for rapid job skilling.

Limited Trade School Pipeline

Fewer people are attending trade schools leading to a lack of qualified candidates.

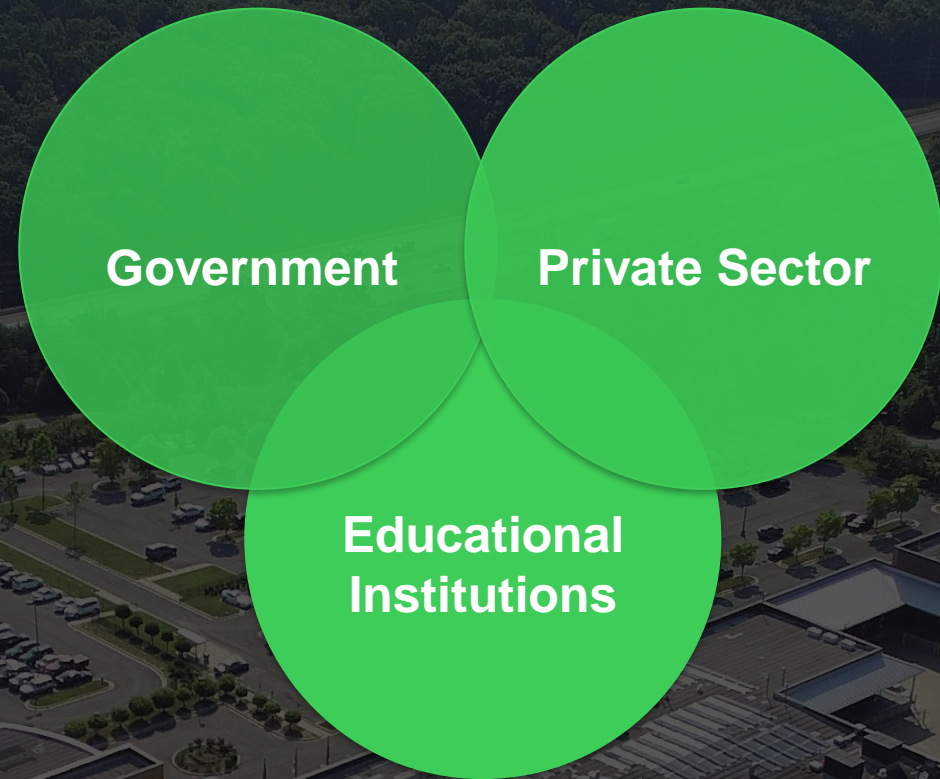
Lack of Childcare

Pandemic-related daycare and school closings have impacted employee decisions to apply for open positions.

The **labor** solution: Partnerships

A local approach to labor through partnerships between the **government**, **private sector**, and **educational institutions** ...

... enabling rapid job skilling as well as a steady stream of qualified, talented labor in communities nationwide.



However, until now, labor programs have been:

- Siloed
- Underfunded



Workforce of the Future - Develop Now

- Through a partnership with the United States government, industry, and colleges/trade schools, a rapid job skilling program could be created near an existing or future manufacturing site.

Work Study Programs in Technical Schools

- A partnership between Schneider Electric, local technical schools and local governments could be formed to finance and incentivize students to complete technical education leading to a steady stream of labor supply in a local area for revitalization.

Expanded Educational Programs for Electricians

- Electricians are a critical, but aging, workforce in the United States. Inspiring and educating electricians is imperative to ensuring that the electrification of the United States can occur to enable the future EV and clean energy landscape.

Updated Curriculum for Trade Schools

- There is a need for increased focus on digital skills in manufacturing jobs. In partnership with trade schools, industry partners can assist with updating the curriculum in the trade schools to best prepare students for the modern manufacturing workforce.

**At Schneider Electric,
We Take Cyber Security
Very Seriously.**



Cybersecurity is everyone's responsibility

Training

- ✓ Yearly mandatory training for all employees
- ✓ Dedicated trainings for populations at risk



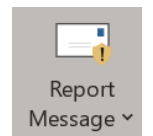
Awareness

- ✓ Cybersecurity culture
- ✓ Tips & Tricks, dedicated intranet, videos, etc...



Global Phishing Campaigns

- ✓ Monthly basis
- ✓ Training reinforcement for clickers





**TRAINING THE APPALACHIAN
SOLAR WORKFORCE**

July 2021

SOLAR  **HOLLER**
MINE THE SUN



A WEST VIRGINIA BENEFIT CORPORATION



From the beginning, we set out to do things differently. We're a benefit corporation, with carbon reductions and labor protections built into our corporate charter—in West Virginia.

In 2013, we built a virtual power plant, when it was still just an idea on a whiteboard.



In 2016 we launched the first solar financing programs in Appalachia, when no one else thought twice about the region.

In 2020, we unionized our installation crews—when just 4% of the clean energy is unionized.



IT TAKES ALL KINDS

Electricians

Salespeople

Project Managers

Designers

Utility Billing Analysts

Warehouse & Logistics

Finance & Legal



Projected Workforce Growth

242,000
2020

600,000
2030



WHAT PRIVATE SECTOR NEEDS

SolarAPP

Standardized, streamlined permitting

Digitized State & Utility Processes

3243 Counties, each requiring paper licenses = wasteful paperwork

Support for all kinds of education

Classroom + on-the-job training



OUR TRAINING PARTNERS

West Virginia Division of Labor

Governor's Guaranteed Workforce Program

IBEW Local 317

Union Training Hall

Solar Energy International

Online & In-Person Training

What Governors Can Do – Policy Solutions

Speaker:

Tom Kropatsch, Deputy Supervisor, Wyoming Oil and Gas Conservation Commission

Moderator:

Jessica Rackley, Program Director, Environment & Energy, NGA Center

3:00-3:30 PM ET

Final Wrap-Up and End of Day Four

3:30-3:35 PM ET

Select Upcoming Opportunities

- **Energy Resilience** Planning and Funding Workshop (July 28-29; Aug 3-4)
- Learning collaborative on new **nuclear generation** (summer & fall 2021)
- **Electricity markets** training and resource guide – educational series (August/September 2021)
- **Legislative Energy Horizons Institute** (Oct. 20-23)
- State support for participation in **GridEx VI** (Nov. 16-17)

Thank You!