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2025 Renewable Market Recap

An overview of Deloitte’s 2025 Renewable Energy Industry Outlook

REPORT OVERVIEW

Artificial Intelligence offers potential to a **changing market** leading to **strong demand growth** and a more **competitive talent landscape**.
Meanwhile a **new Administration's policy** may be tempered by shared goals

Artificial Intelligence driving

- Efficiency gains
- Driving growth

Strong demand growth from

- AI (Data Center) growth
- Cleantech Manufacturing
- DAC

Changing Market seeing

- Growing interest in 24/7 Capabilities
- Offset funds moving to CDR vs renewable credits

The renewables sector has seen strong growth in capacity with solar and wind accounting for ~90% of all new generation sources in first 3Q of 2024

US Capacity Growth in 2024 (Δ% 2023)

18.6 GW **(+88% from '23)**

7.4 GW **(+64% from '23)**

2.6 GW **(-14% from '23)**

Caused by supply chain, financing and permitting challenges

2024 US Capacity Estimates

Energy Source	Projected Capacity (GW)
Natural Gas	508
Coal	175
Wind	154
Solar	127
Nuclear	98
Hydroelectric	80
Battery	26

Renewable source

GW = Gigawatts

[1] First three quarters of 2024 compared to first three quarters of 2023; EIA.GOV

Momentum for clean energy has strong fundamentals that may continue independent of new admin policy change

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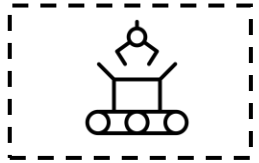
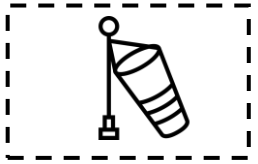
*Growing **demand** trends*



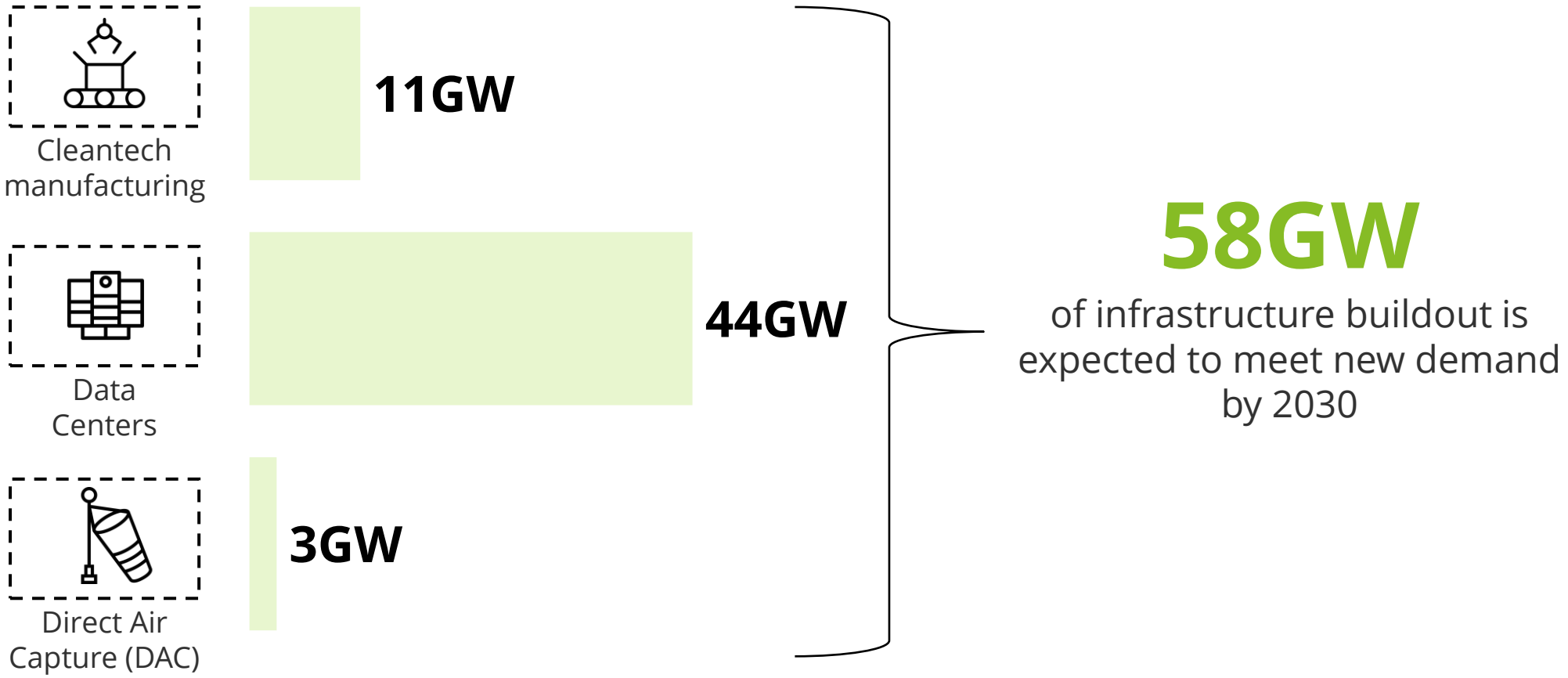
Cleantech manufacturing

Data Centers



Direct Air Capture (DAC)

Deloitte projects these three demand drivers can see 58GW of new infrastructure buildout by 2030



Five key trends may influence the 2025 renewable energy landscape in the US

1. Renewables scale and reconfigure to better meet AI needs and leverage AI to overcome hurdles.
2. Industrial policy goals can help support cleantech manufacturing, AI and carbon industries advancing renewables.
3. Long-duration energy storage advanced solar and enhanced geothermal systems enable 24/7 capabilities.
4. Accelerating renewable job growth should include focus on workforce development.
5. Renewables power carbon dioxide removal (CDR) technologies providing high-integrity credits.

AI offers potential to improve the renewable market through various means of improving operational efficiency

Increased Grid Stability
Through integrating customer solar and storage systems

New & Improved Products
Such as renewable pricing models, weather forecasting or high voltage direct current converters

Robotic Installations
Ex: Building solar deployments, such as those in large desert centers

Permitting Assistance
Help navigating regulation and expedite environmental and permitting reviews

Expected Developments

1. Repurposed Brownfield
Leveraging infrastructure for clean energy initiatives

2. Tech Co's drive deployment
Encouraging utilities to adopt renewable solutions

3. Move to Bundled Credits
Movement from unbundled credit purchases to those tied to energy usage ('bundled')

The new admin's goal of prioritizing AI leadership may translate to easier growth in data centers with positive implications to renewable market

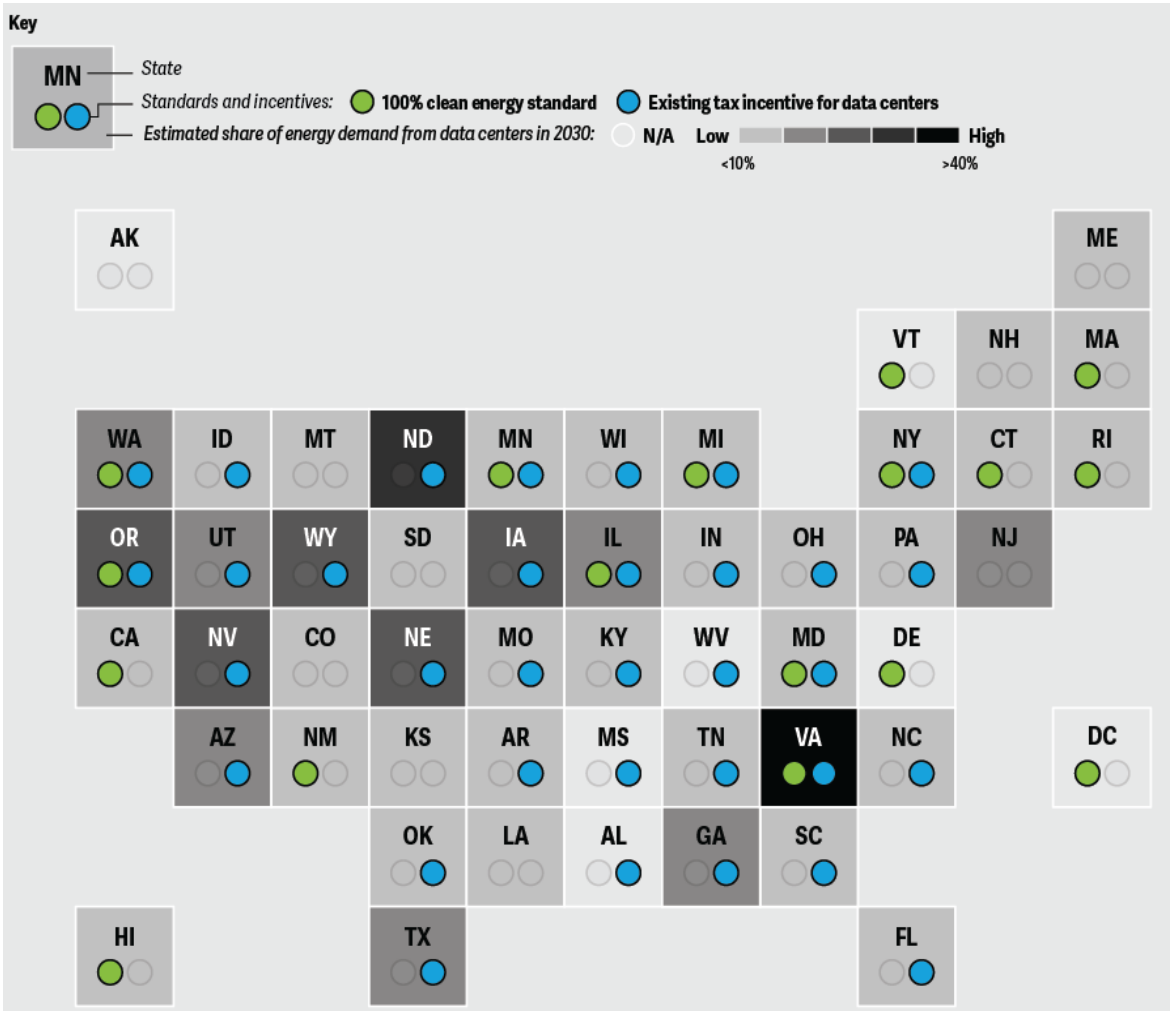
Tech company interest alignment
Already 9GW have committed to clean energy sourcing

Data centers often use renewables
Data centers contract 34GW of solar/wind representing close to half of all corp. contracted renewables

Data Center As a Service steppingstone
Data centers as a service, even those utilizing natural gas may help serve as a steppingstone to renewable solutions

Local and State-Level Grid Mix
Local grid mixes may drive renewable growth due to state level incentives for clean energy and even 17 requiring 100% clean energy

State policies impact ability to meet data center load growth with renewables



Impact of Sub-Federal and Federal Funding on Growth

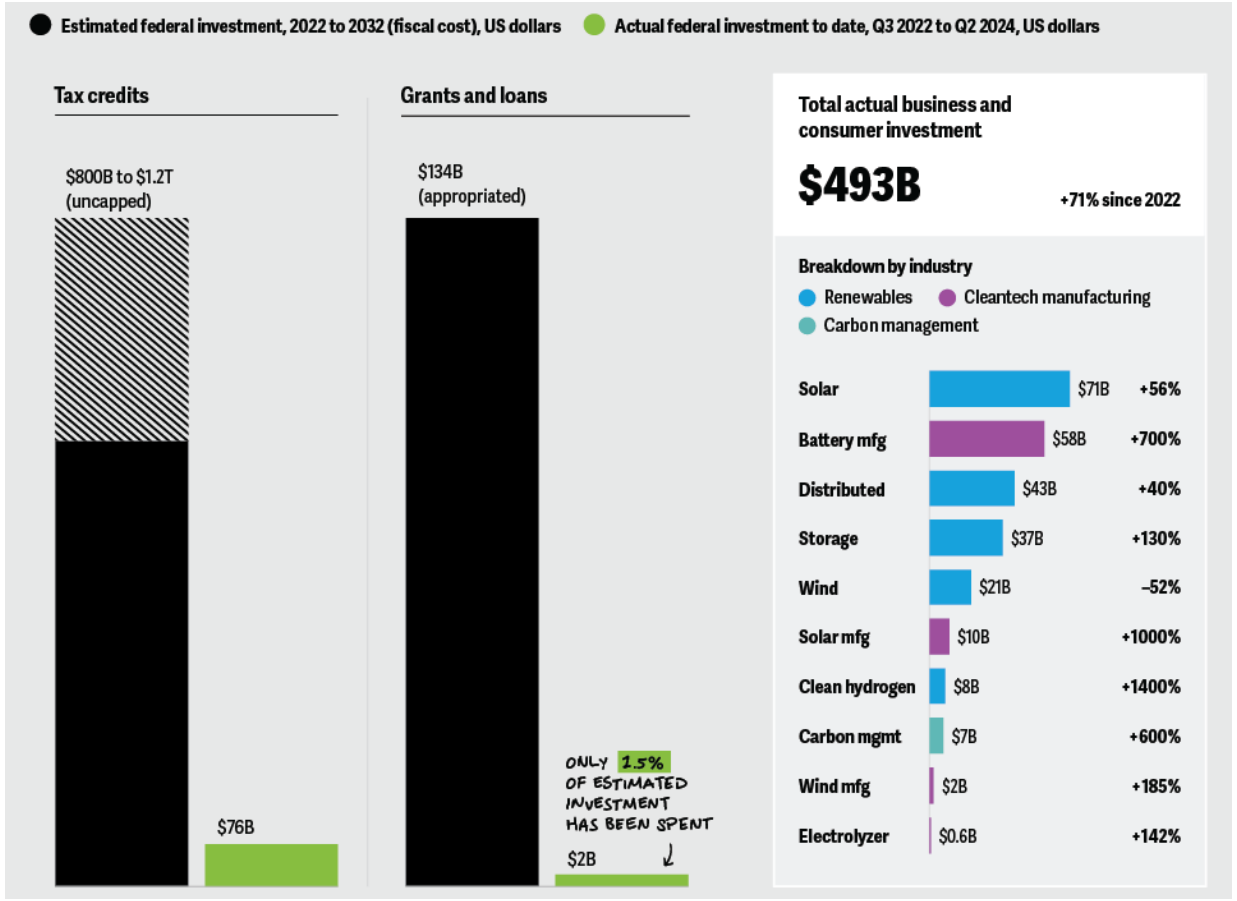
Sub-federal initiatives may not be impacted by federal policy changes

Greenhouse Gas Reduction Fund **$27B**

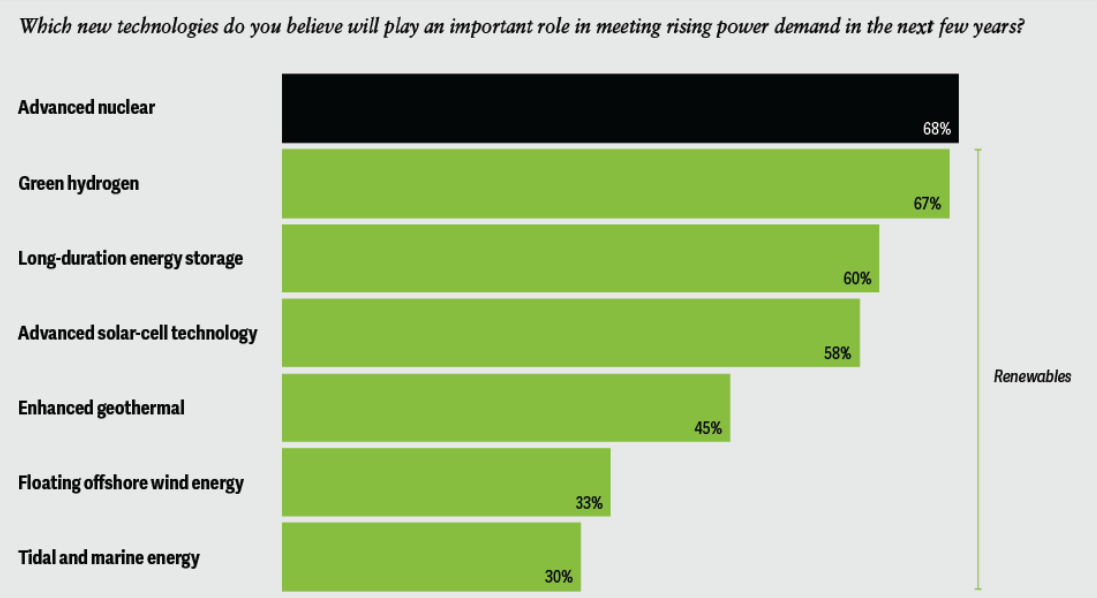
Empowering Rural America **$8.3B**

Climate Pollution Reduction Grants **$4.3B**

Federal policies have spurred massive investment in renewables, cleantech manufacturing & carbon management



Industry expects nuclear, green hydrogen and long-duration storage to play key roles in meeting rising power demand



Despite continued complexity around tax credits, **Green Hydrogen** is growing

$7B

Allocated develop hydrogen hubs

5/7

Projects received phase 1 funds

Long-duration Energy Storage (LDES)

100

hours Iron-air can discharge at 85MW

16

hours storage for solar power from Superfund's wastewater

Accounting for over half of energy jobs created in 2023 and 79% of new electric generation jobs, renewable job growth is incredibly strong

2X

Hiring in renewables is **twice** the level of fossil fuels

Energy construction grew **twice** the rate of all construction jobs

Renewable jobs grew at **twice** the rate of the rest of the economy

Renewables job growth spreads across technologies and states

Top five states by growth rate

Montana and **Wyoming** show strong growth across many technologies

Arkansas	29%	Nevada	35%	Wyoming	13%	Wyoming	14%	Washington	9%
Montana	24%	Wyoming	34%	New York	11%	Louisiana	9%	Hawaii	5%
Idaho	21%	Montana	33%	Texas	10%	West Virginia	8%	California	4%
Wyoming	18%	Mississippi	31%	New Mexico	10%	Montana	6%	Utah	4%
Florida	14%	Alaska	21%	Oklahoma	9%	Washington	6%	South Carolina	4%

In order to keep up with job growth, organizations need to be prepared to create workplace developments

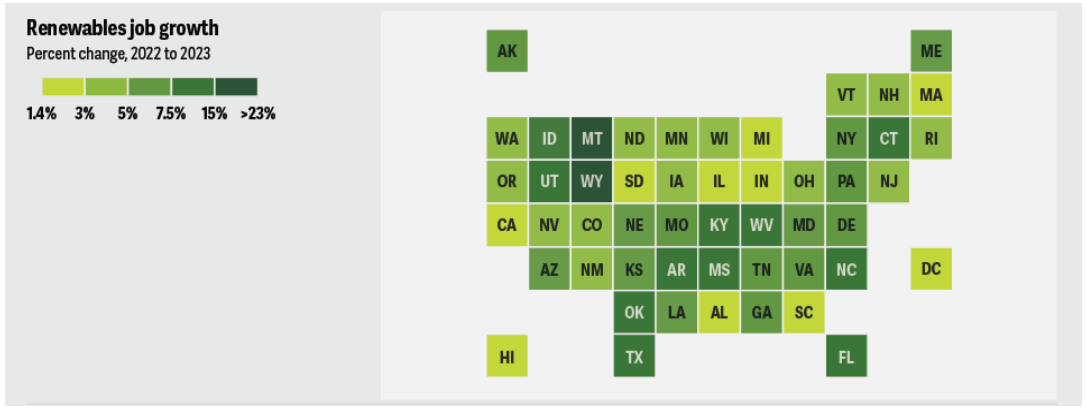
Design integrated development **strategy**, **structure** and **governance**

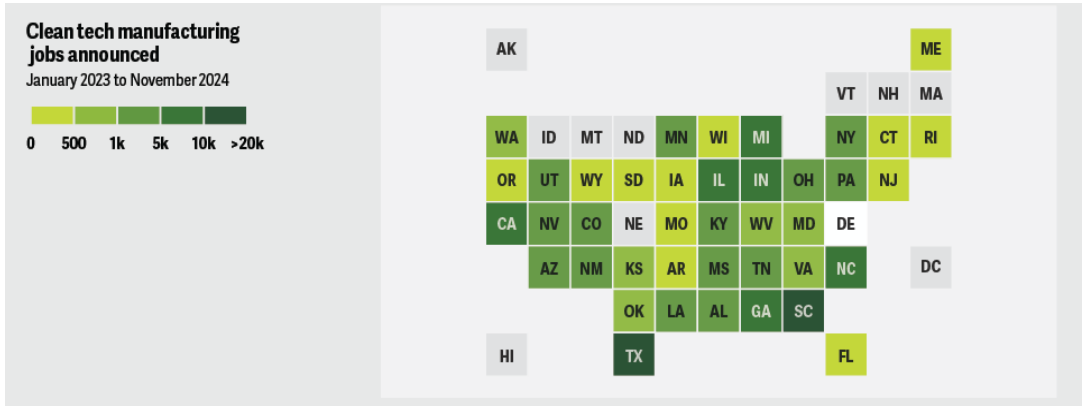
Cultivate external workforce via **recruitment partnerships** and **developing inroads**

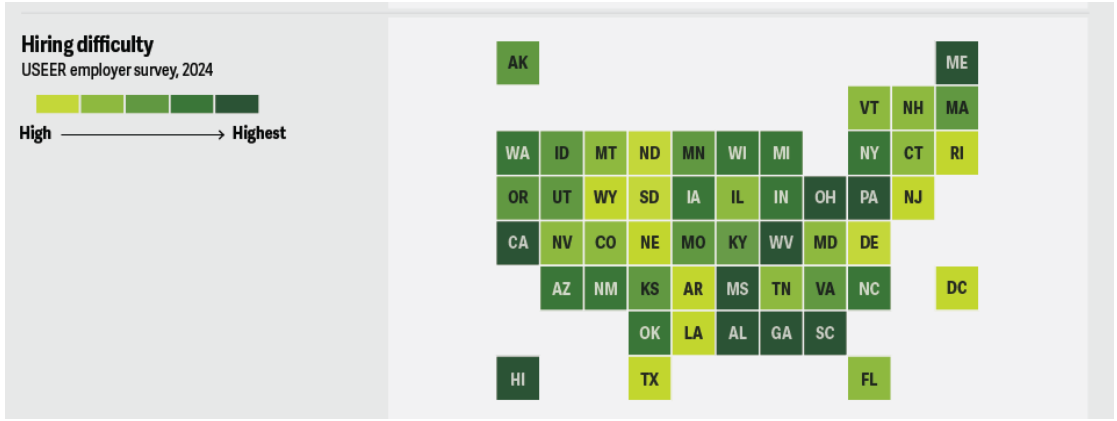
Monitor **legislation** and **engage** with agencies and **industry** partners

Prepare for changing nature of skill by **measuring skill gaps** and building **reskilling** and training programs

Hiring difficulty amid renewables job growth and cleantech manufacturing job announcements







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