

Jobs Impact of a National Renewable Electricity Standard

Final Report

February 2, 2010



Content of Report

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Purpose and Scope

- The RES Alliance For Jobs retained Navigant Consulting, Inc. (NCI) to analyze the gross employment impacts, through 2025, of a national Renewable Electricity Standard (RES) on U.S. renewable electricity (RE) supported jobs.
- During the time frame of this study, early 2010, climate change legislation had not passed the Senate. As a result, the potential form of final climate change legislation was not known. Given a national RES has passed both houses several times on different occasions, and currently has passed the House of Representatives and passed the Senate Energy & Natural Resources Committee, this study focused on the national RES legislation as a complementary policy to comprehensive climate legislation and its impact on job creation. This study does not include the impacts of climate change legislation on the U.S. RE industry.
- This study projected direct, indirect, and induced jobs supported by RE related project development, manufacturing, construction and operation with a 25% by 2025 RES.

Summary of Findings

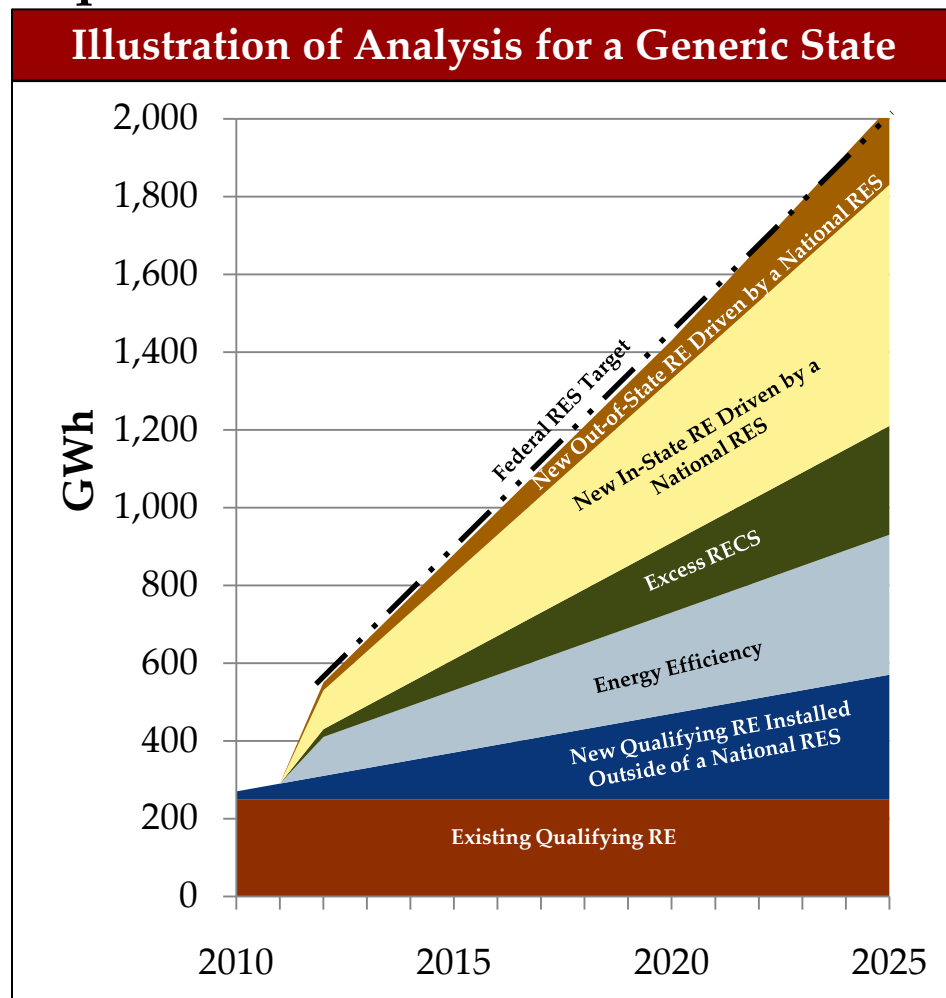
- A 25% by 2025 national RES would result in **274,000 more jobs** supported by the renewable electricity industry than without a national RES. This is equivalent to **2.36 million additional job-years**¹.
- A national RES will lead to job growth in all states, especially those currently without state-level renewable electricity standards.
- The biomass, hydropower, and waste-to-energy industries would see **significant job gains in the Southeast United States** under a strong national policy. Biomass jobs would double, with most of the increase concentrated in **Louisiana, Florida, Georgia, Alabama and Kentucky**.
- Meaningful near-term RES targets (**12% by 2014 and 20% by 2020**) are **critical to ensure global competitiveness** for the US renewable electricity industry, and stronger long-term targets (**25% by 2025**) are **needed to attract long-term manufacturing investment** and project development.
- Meaningful near-term targets are also **necessary to mitigate a flattening or decline in industry-supported jobs** that will otherwise occur across industries with the expiration of tax incentives and stimulus-related policies.

Notes:

1. One Job-Year = 1 person working full-time for 12 months

Methodology

NCI translated RES targets into new MW requirements and then job requirements.

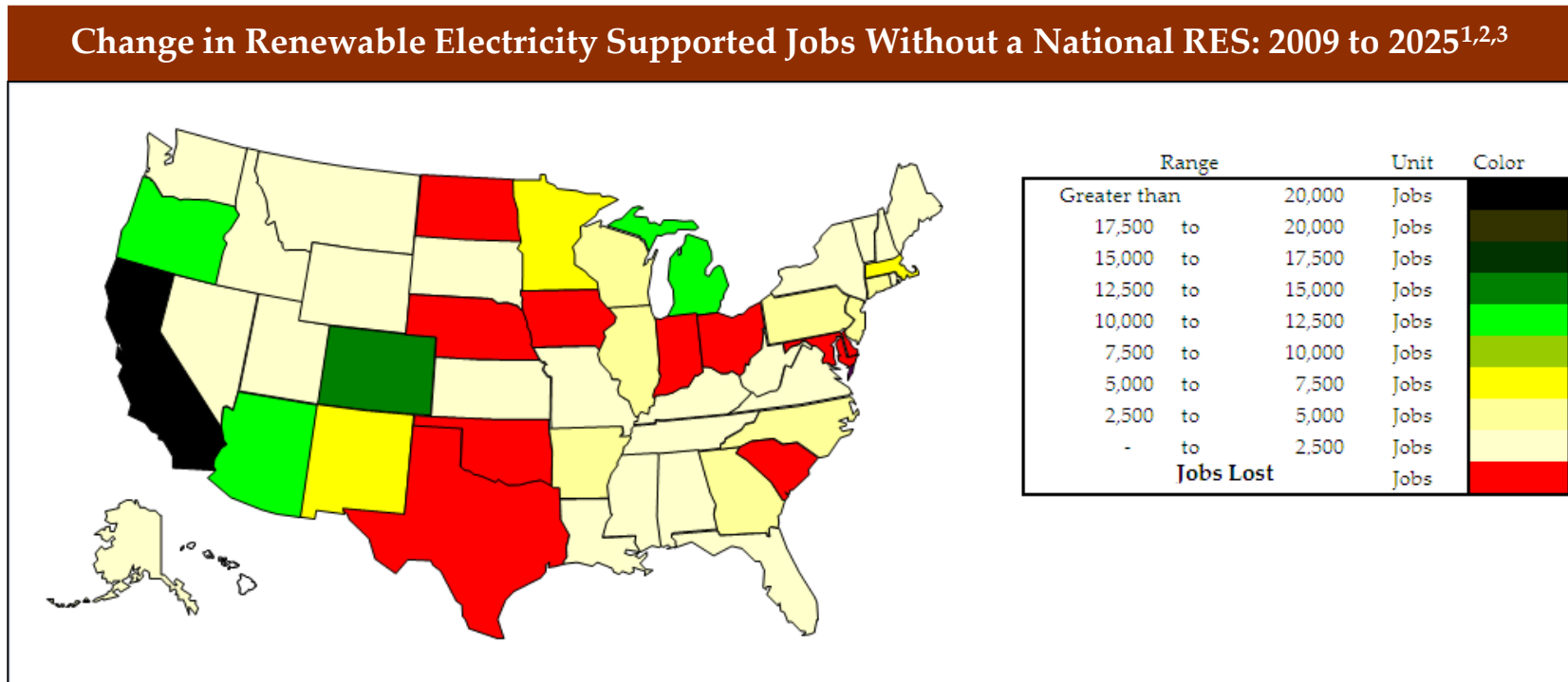


Methodology

- In conjunction with the RES Alliance, NCI developed RES policy scenarios based upon legislation under consideration and RES Alliance recommendations.
 - **All scenarios assume current federal incentives expire as legislated.**
- Next, NCI translated each policy scenario into a state-by-state analysis (a generic version is shown at the left) of how each scenario's targets and rules would drive the need for new renewable electricity.
- Finally, NCI analyzed the direct, indirect, and induced jobs supported by the renewable electricity industry in both jobs (FTE's) and cumulative jobs over time (job-years).

RE Job Growth Without a National RES

Without a national RES, many states will lose renewable electricity supported jobs between now and 2025.....

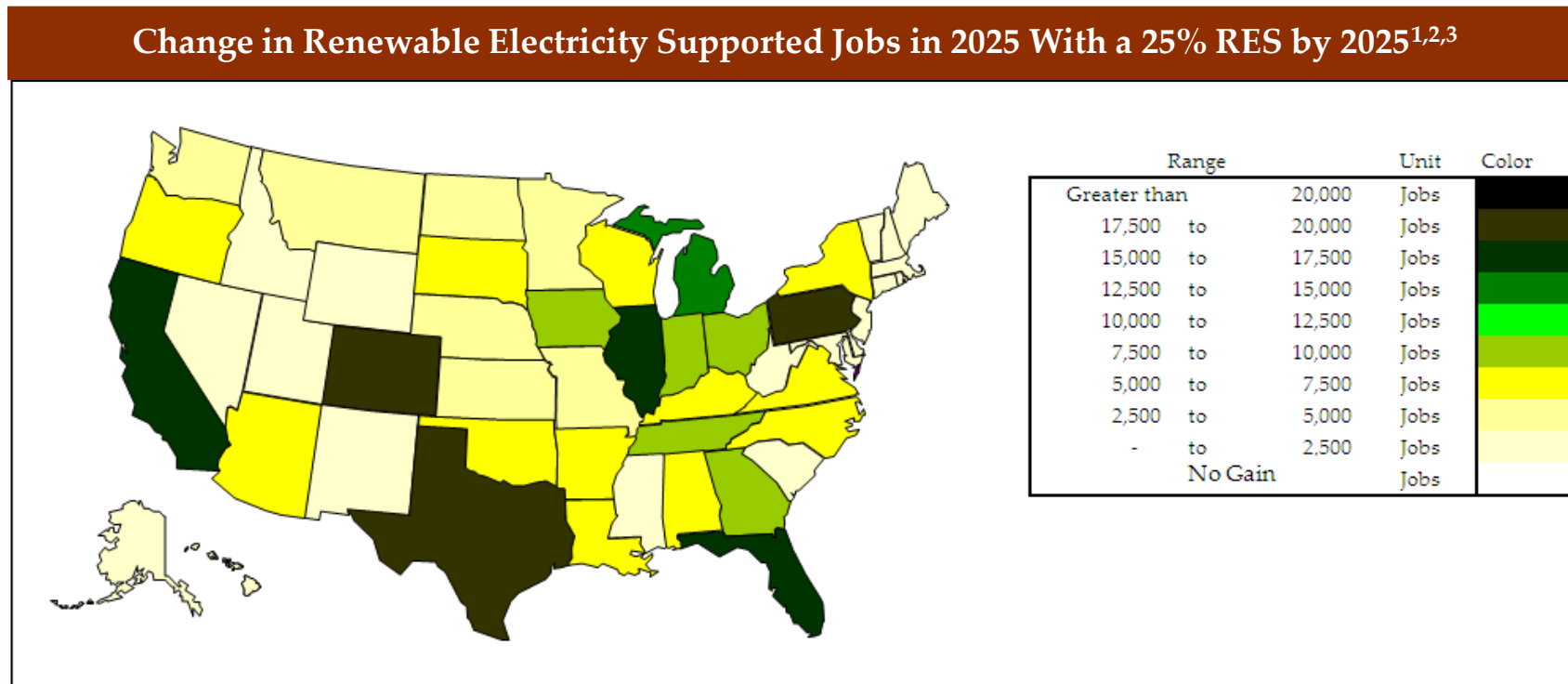


Source: NCI December, 2009

1. Data included direct, indirect, and induced labor
2. Results are for employment supported by the biomass power, qualified hydropower, waste-to-energy power, solar power and wind power industries.
3. Plot shows the incremental increase in employment comparing today to 2025, with no national RES

RE Job Growth With a 25% by 2025 RES

... But with a 25% RES by 2025, every state will see renewable electricity supported job growth.

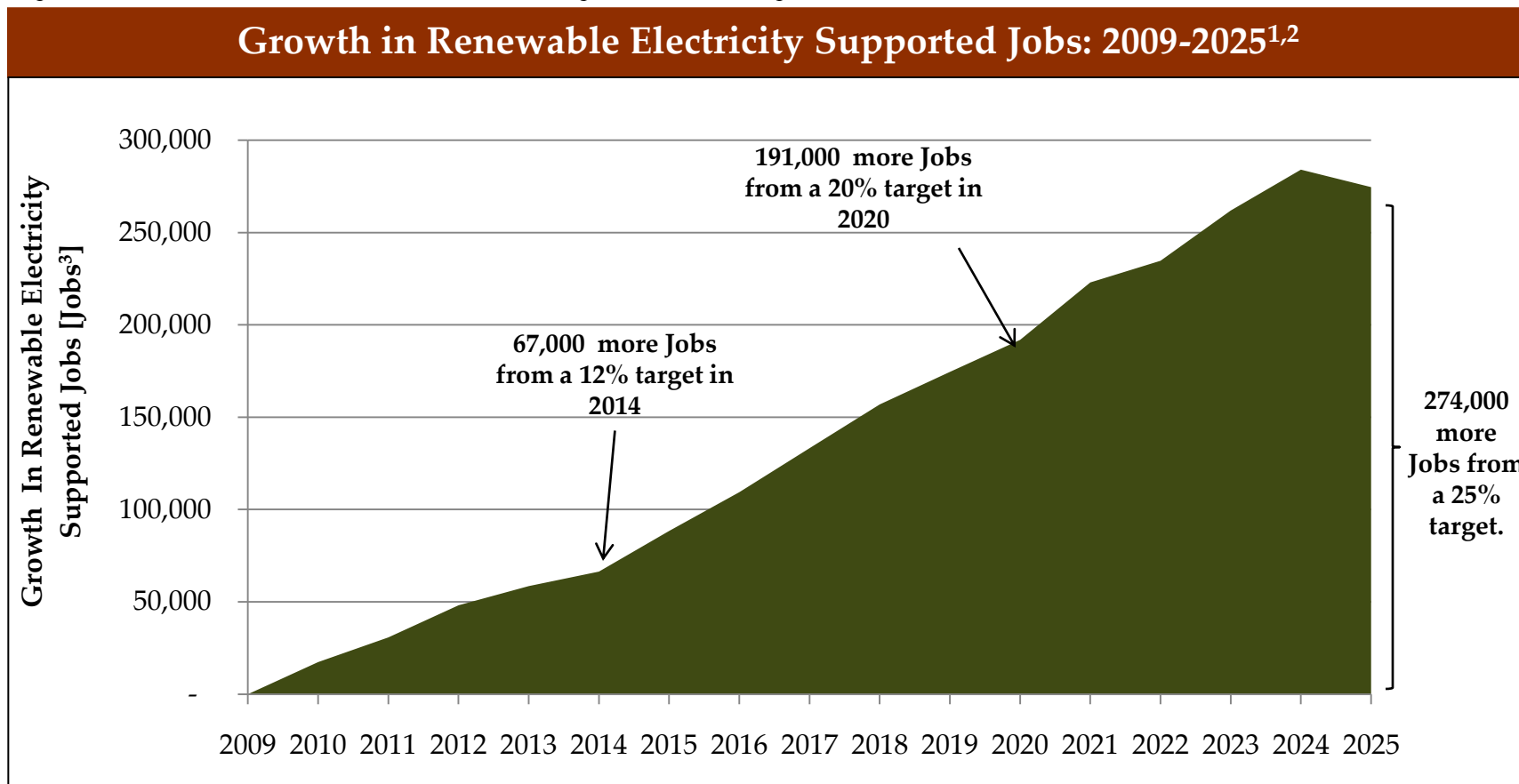


Source: NCI December, 2009

1. Data included direct, indirect, and induced labor
2. Results are for employment supported by the biomass power, qualified hydropower, waste-to-energy power, solar power and wind power industries.
3. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.

Jobs Impacts

A 25% RES by 2025 can result in significantly more U.S. jobs supported by the renewable electricity industry.



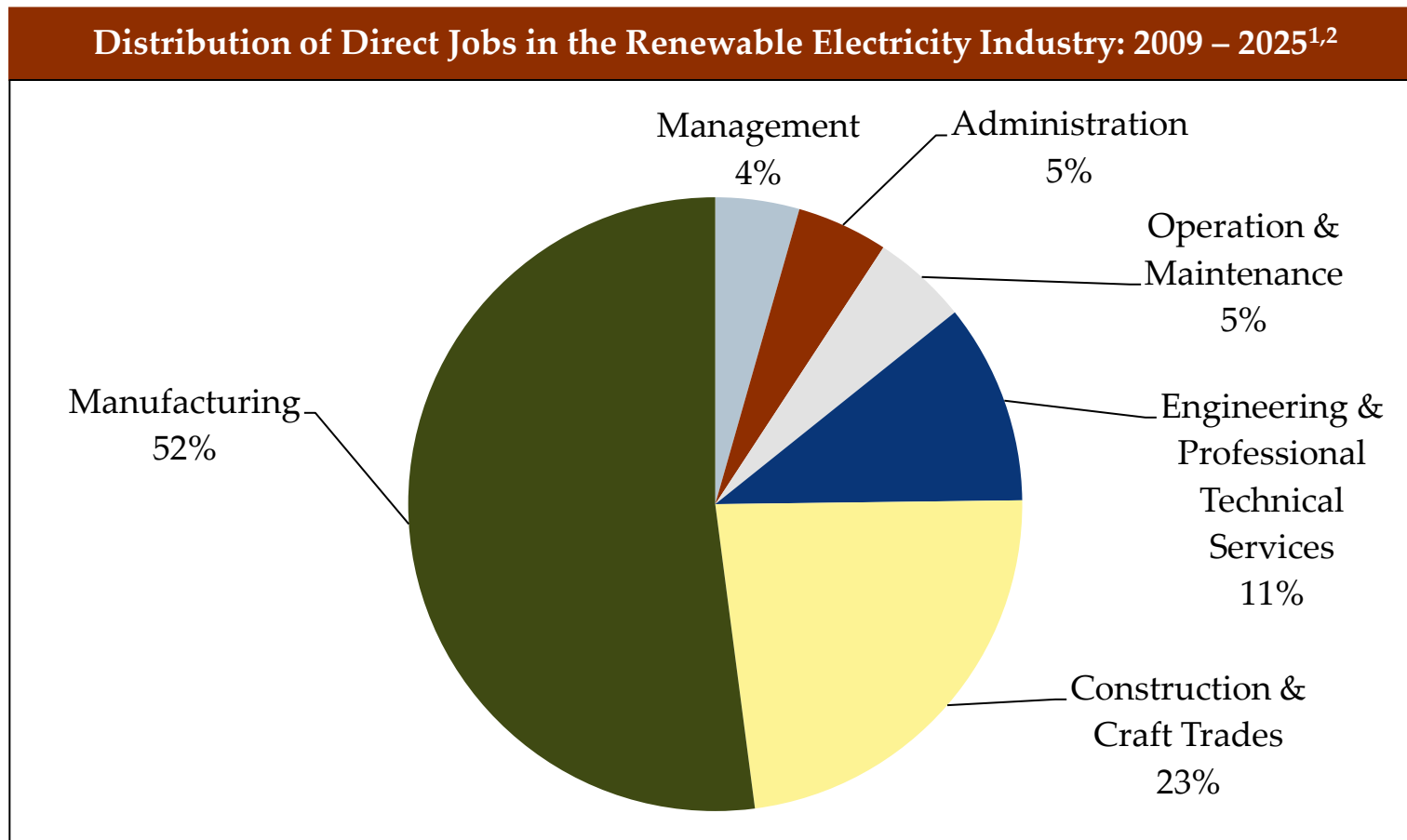
Source: NCI December, 2009

Notes:

1. Data included direct, indirect, and induced labor
2. Results are for a 25% by 2025 RES compared to no National RES.
3. 1 Job is defined as 1 Full Time Equivalent (FTE).

Job Types

Direct jobs in the renewable electricity industry are focused in construction and manufacturing, but span many sectors.



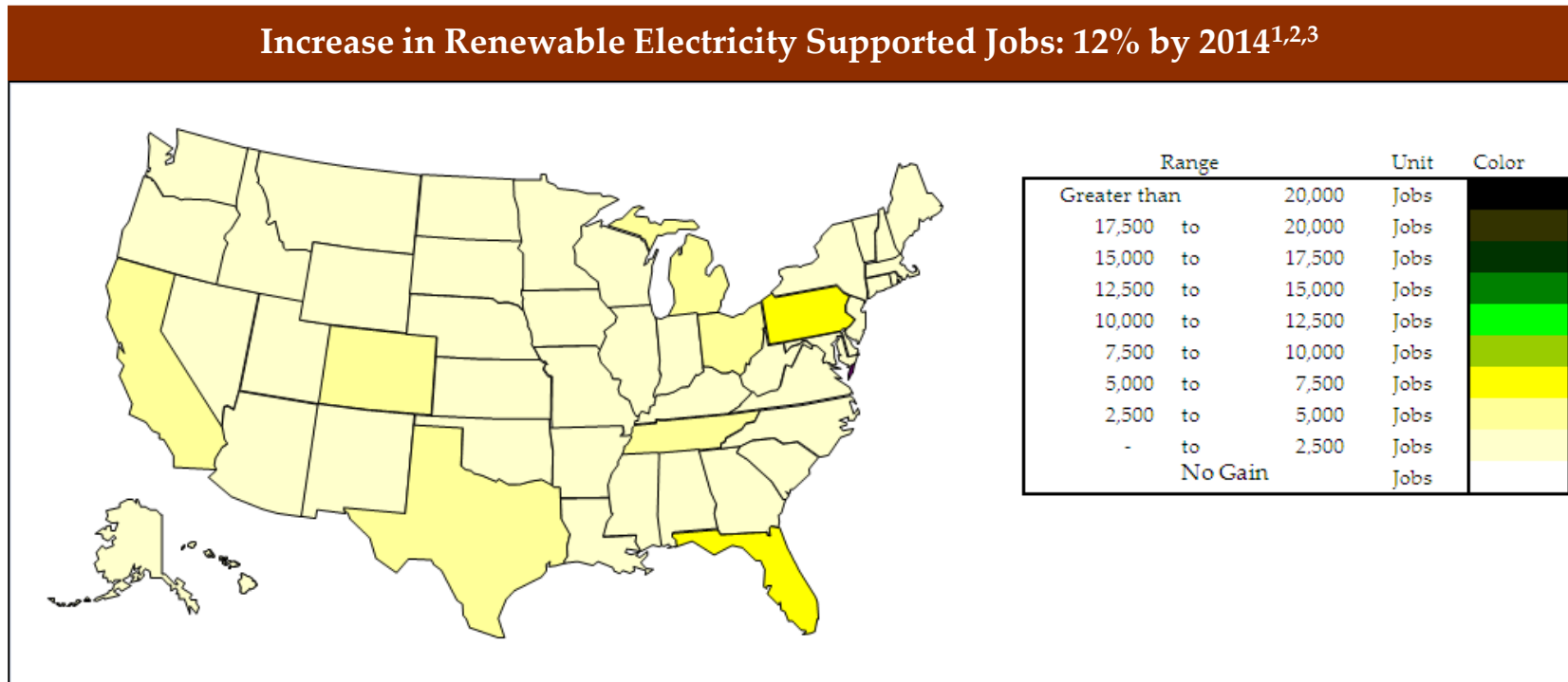
Source: NCI December, 2009

1. Data is for direct jobs.

2. Results shown are for a 25% by 2025 RES.

2014 Job Impacts Across the U.S.

With a strong near-term target, 67,000 additional jobs will be supported by 2014, with the largest gains in MI, OH, PA, FL, CA, TN, TX and CO.

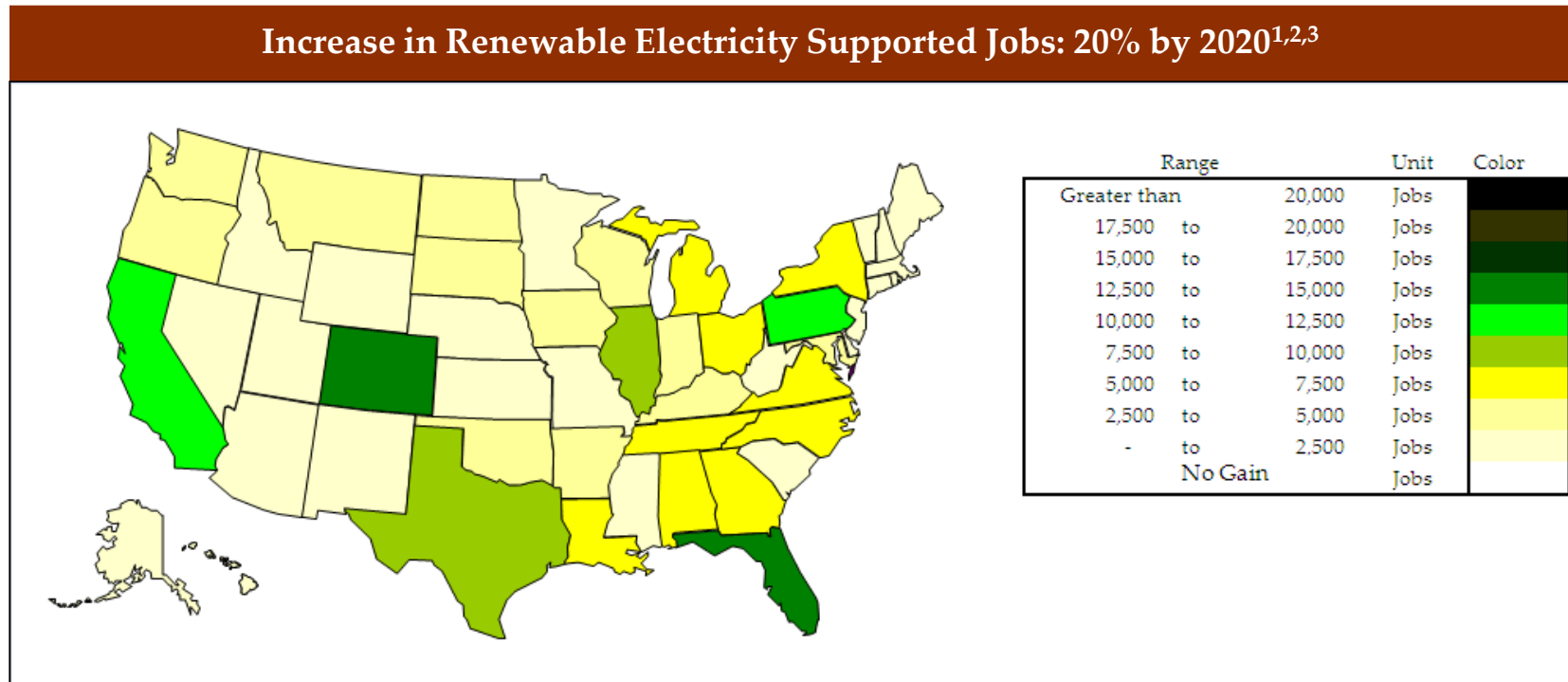


Source: NCI December, 2009

1. Data included direct, indirect, and induced labor
2. Results are for jobs supported by the biomass power, qualified hydropower, waste-to-energy power, solar power and wind power industries.
3. Plot shows the incremental cumulative increase in employment comparing a 12% RES in 2014 to employment in 2014 with no national RES.

2020 Job Impacts Across the U.S.

A 20% RES in 2020 will support 191,000 more renewable electricity jobs across the US than without a national policy.

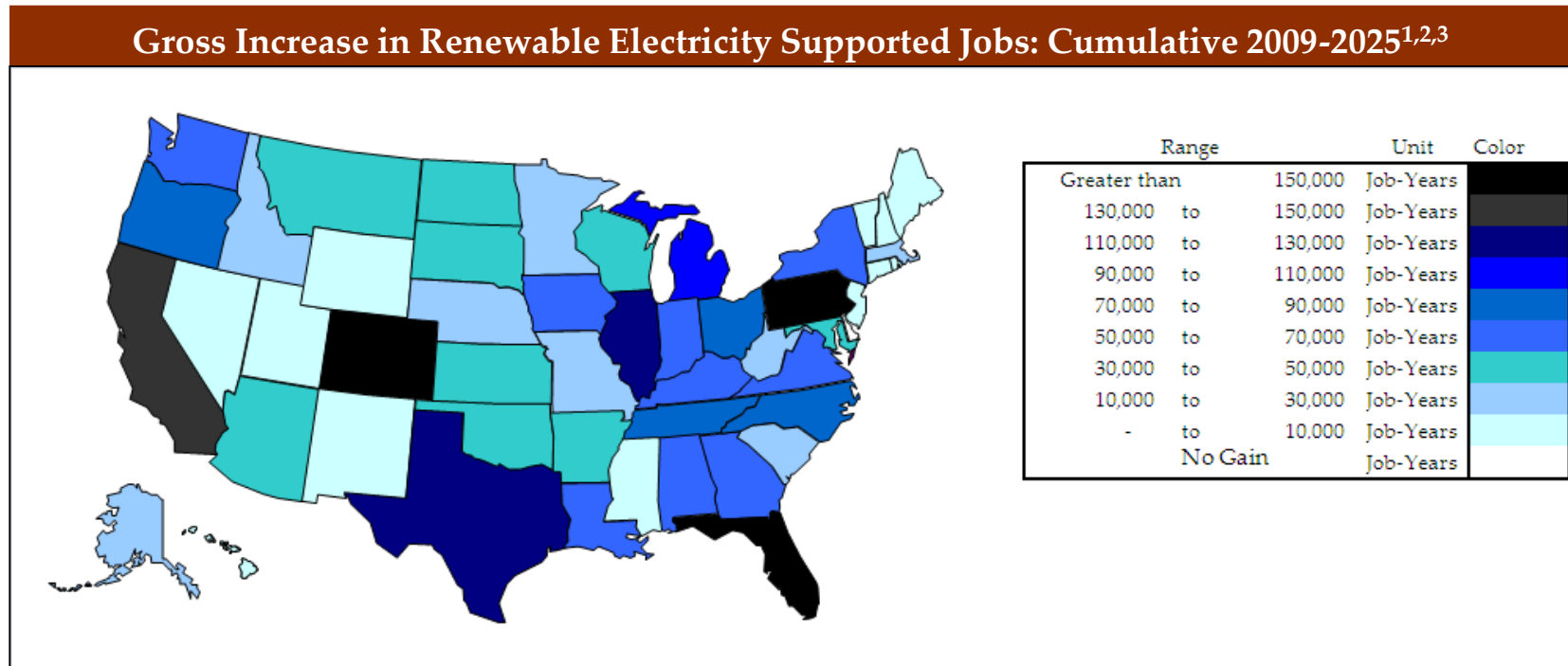


Source: NCI December, 2009

1. Data included direct, indirect, and induced labor
2. Results are for jobs supported by the biomass power, qualified hydropower, waste-to-energy power, solar power and wind power industries.
3. Plot shows the incremental cumulative increase in employment comparing a 20% RES by 2020 to employment in 2020 with no national RES.

Cumulative Jobs Impacts 2009 - 2025

Stronger RES targets will mean 2.36 million more job-years of work by 2025, particularly in the Southeast, Midwest and manufacturing states.



Nationwide cumulative gains from 2009 to 2025: 2,360,000 Job-Years⁴

Source: NCI December, 2009

1. Data included direct, indirect, and induced labor
2. Results are for employment supported by the biomass power, qualified hydropower, waste-to-energy power, solar power and wind power industries.
3. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.
4. One Job-Year = 1person working full-time for 12 months

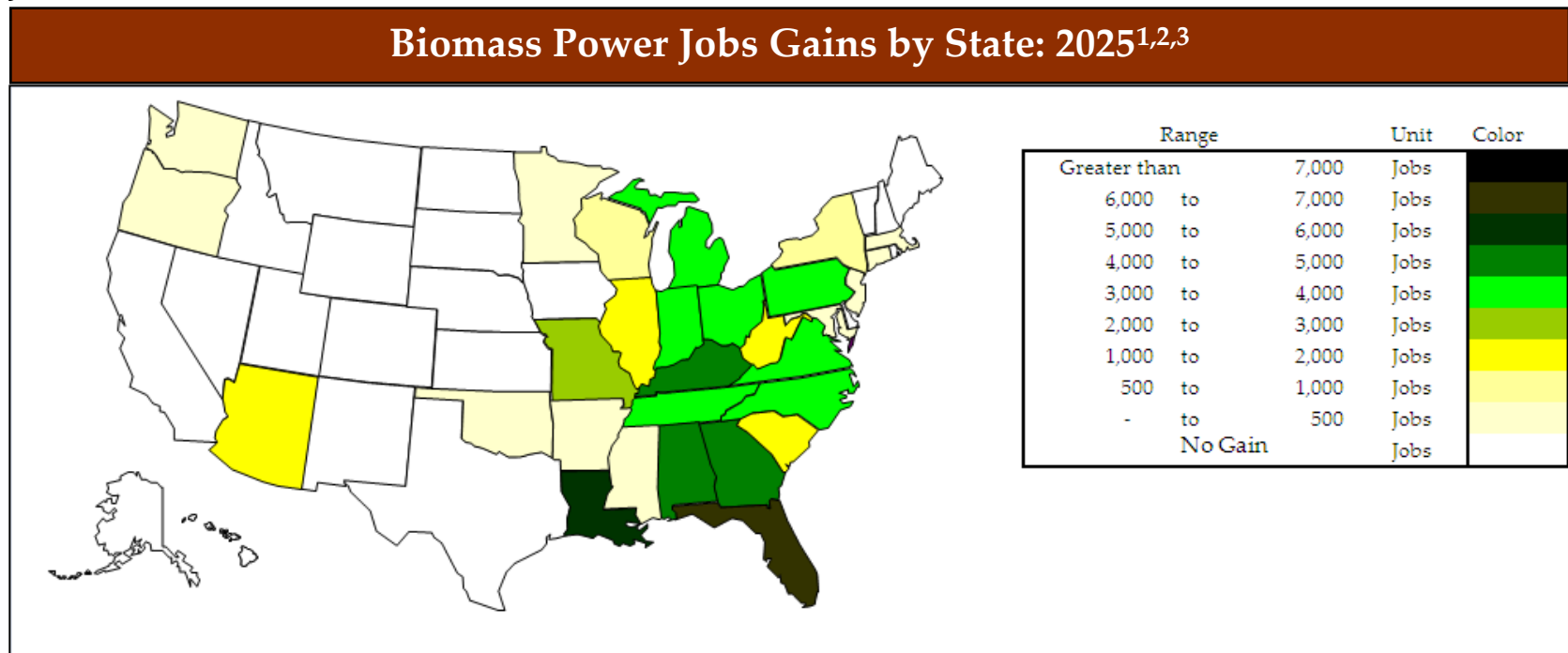
A RES drives job growth beyond several short-term tax credit extensions.

RES and Short-Term Tax Credits

- During NCI's research and interviews for this study, a common theme was heard from both domestic and foreign manufacturing firms:
 - Companies are most likely to locate manufacturing facilities where the market for their products is and will be over the long-term.
 - On-again, off-again short-term tax credits do not guarantee a long-term market for renewable electricity.
 - A strong national RES guarantees a long-term market for RE.
 - Thus, a strong national RES is more likely to support more American manufacturing jobs than several short-term tax credit extensions would because companies will locate manufacturing facilities in regions with long-term demand.

25% by 2025 Biomass Power Job Gains

A 25% national RES by 2025 will result in 60,000 more biomass related jobs than without a national RES, focused in the Southeast US.

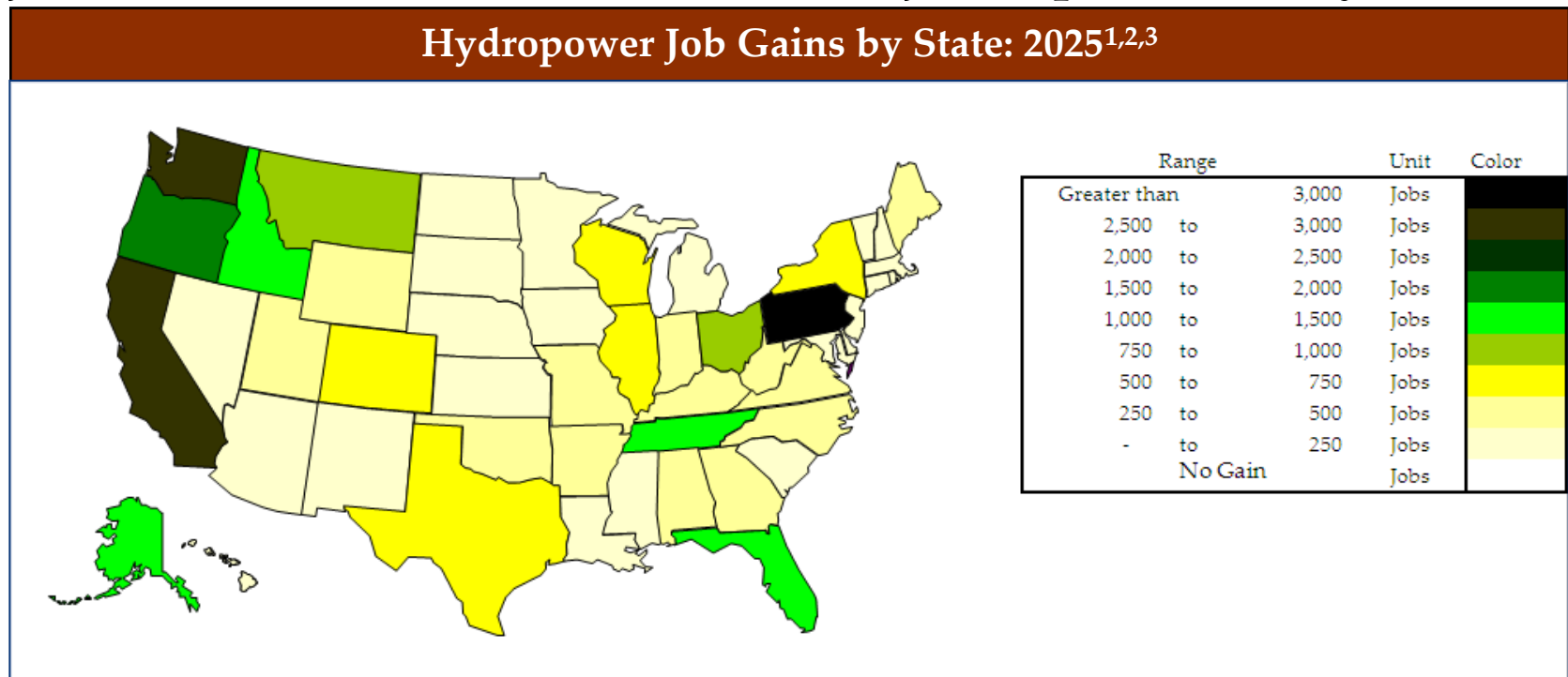


Notes:

1. Employment impacts include direct, indirect, and induced jobs.
2. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.
3. 1 Job is defined as 1 Full Time Equivalent (FTE).

25% by 2025 Hydropower Job Gains

A 25% national RES by 2025 will result in 34,000 more hydro related jobs than without a national RES, with job impacts in every state.

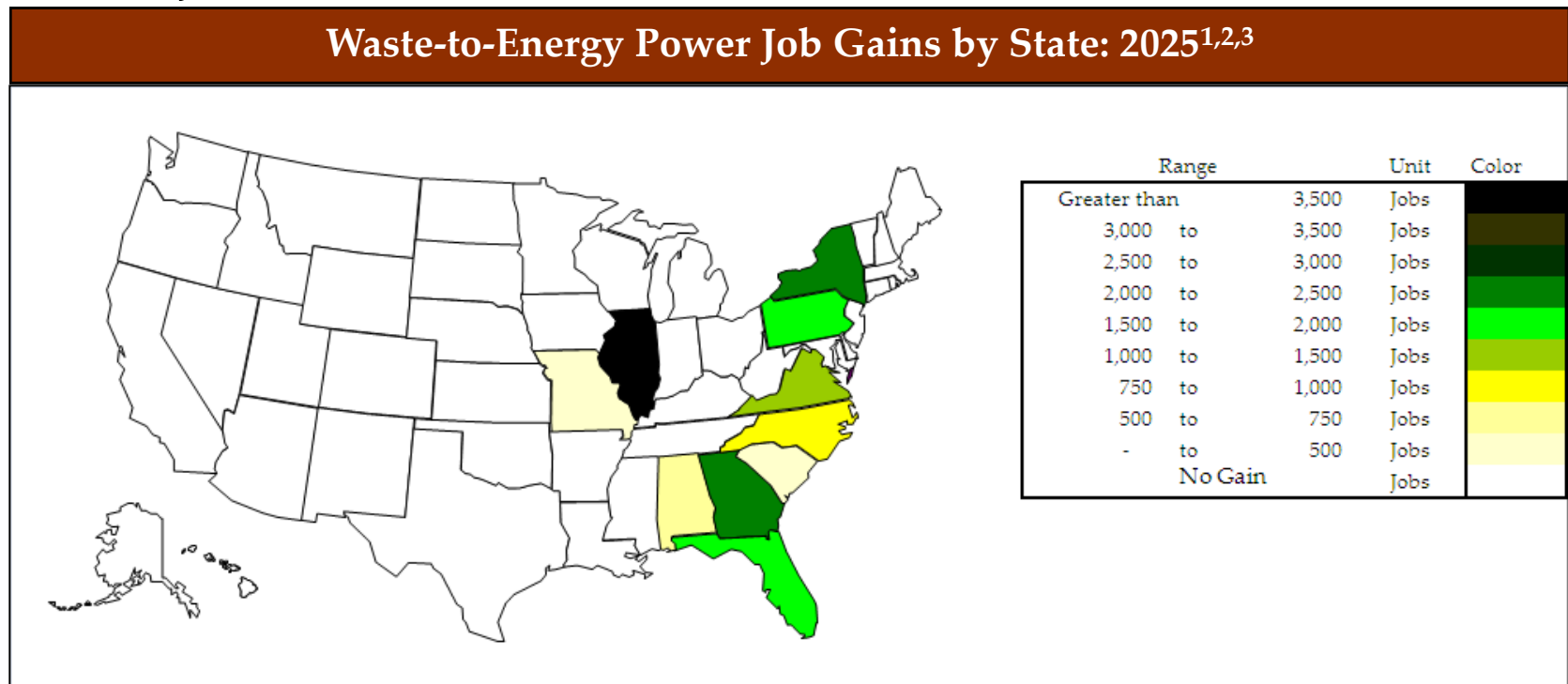


Notes:

1. Employment impacts include direct, indirect, and induced jobs.
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25% by 2025 WTE Power Job Gains

A 25% national RES by 2025 will result in 15,000 more waste-to-energy related jobs than without a national RES, focused in the Southeast US.

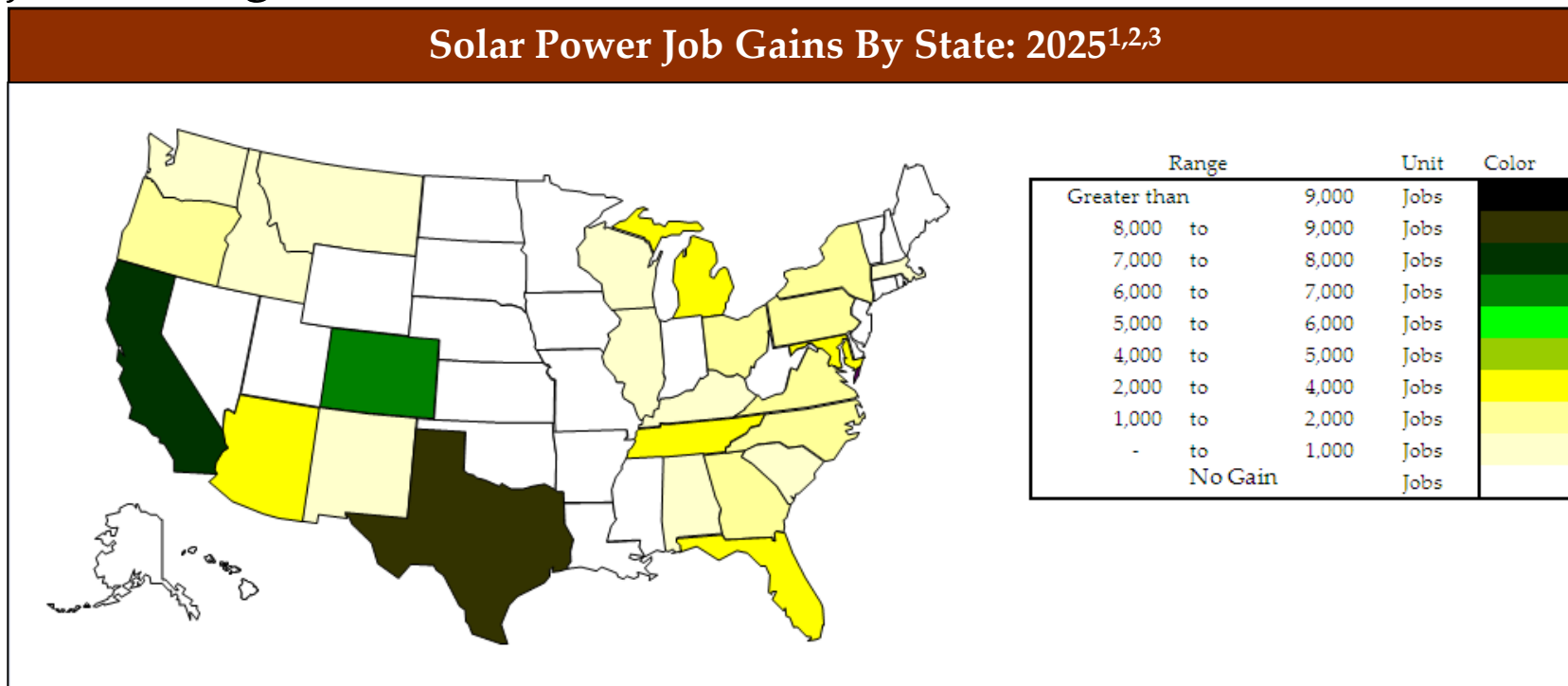


Notes:

1. Employment impacts include direct, indirect, and induced jobs.
2. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.
3. 1 Job is defined as 1 Full Time Equivalent (FTE).

25% by 2025 Solar Power Job Gains

A 25% national RES by 2025 will result in 50,000 more solar-related jobs throughout the United States than without a national RES.

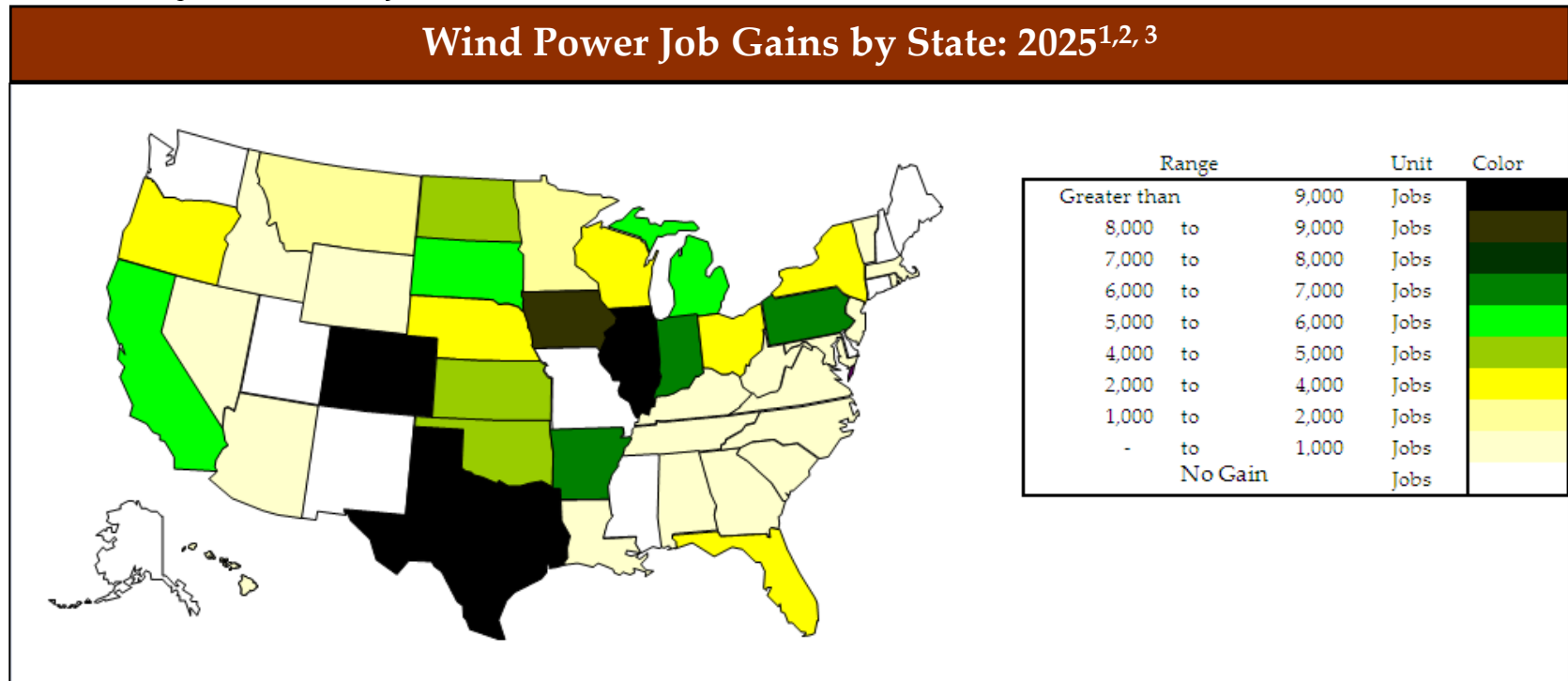


Notes:

1. Employment impacts include direct, indirect, and induced jobs.
2. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.
3. 1 Job is defined as 1 Full Time Equivalent (FTE).

25% by 2025 Wind Power Job Gains

A 25% national RES by 2025 will result in 116,000 more wind power industry related jobs than without a national RES.



Notes:

1. Employment impacts include direct, indirect, and induced jobs.
2. Plot shows the incremental cumulative increase in employment comparing a 25% RES by 2025 to no National RES in 2025.
3. 1 Job is defined as 1 Full Time Equivalent (FTE).

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