



# ON-SITE WIND MARKET POTENTIAL

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NOVEMBER 12, 2018 - IECA





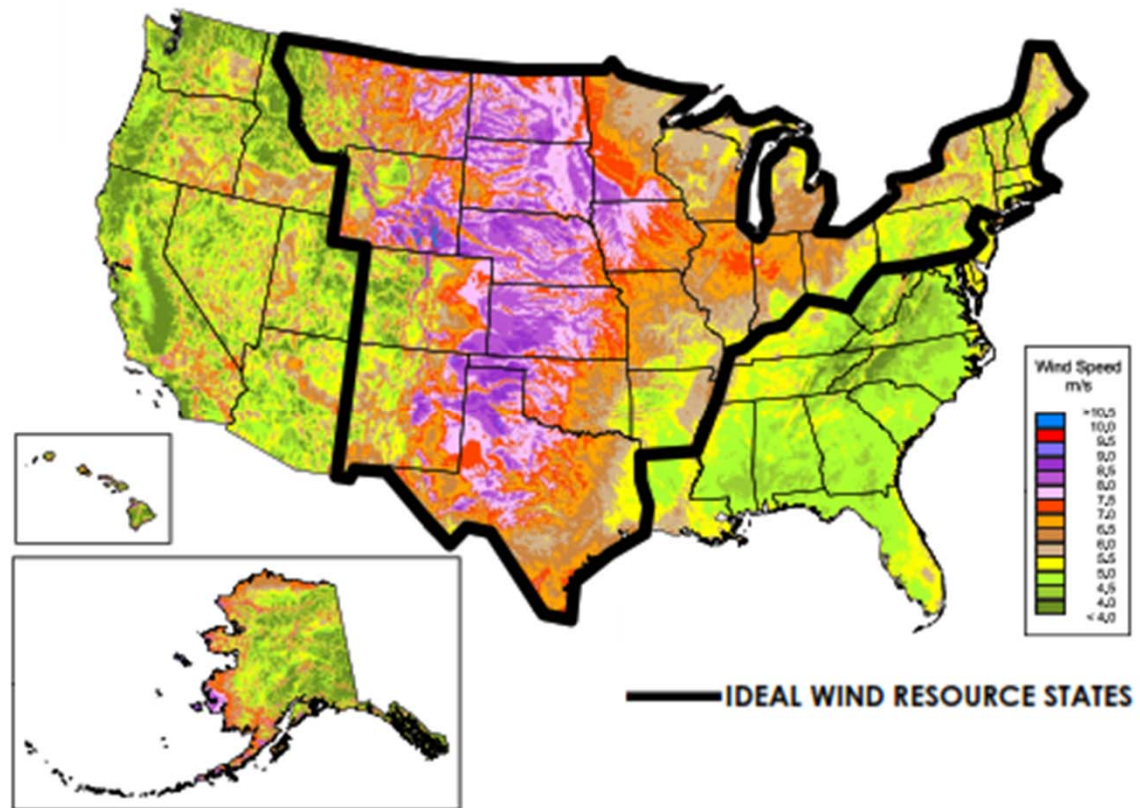
## EXCERPTS FROM 2018 MARKET POTENTIAL STUDY

- **Assumptions:**

- Focused on a hypothetical 1.5-4.5MW project
- Trying to determine location and scale of market – not specific projects
- Power prices, by class, assumed to be constant for a state (EIA)
- Wind at the county level
- Manufacturing at the county level

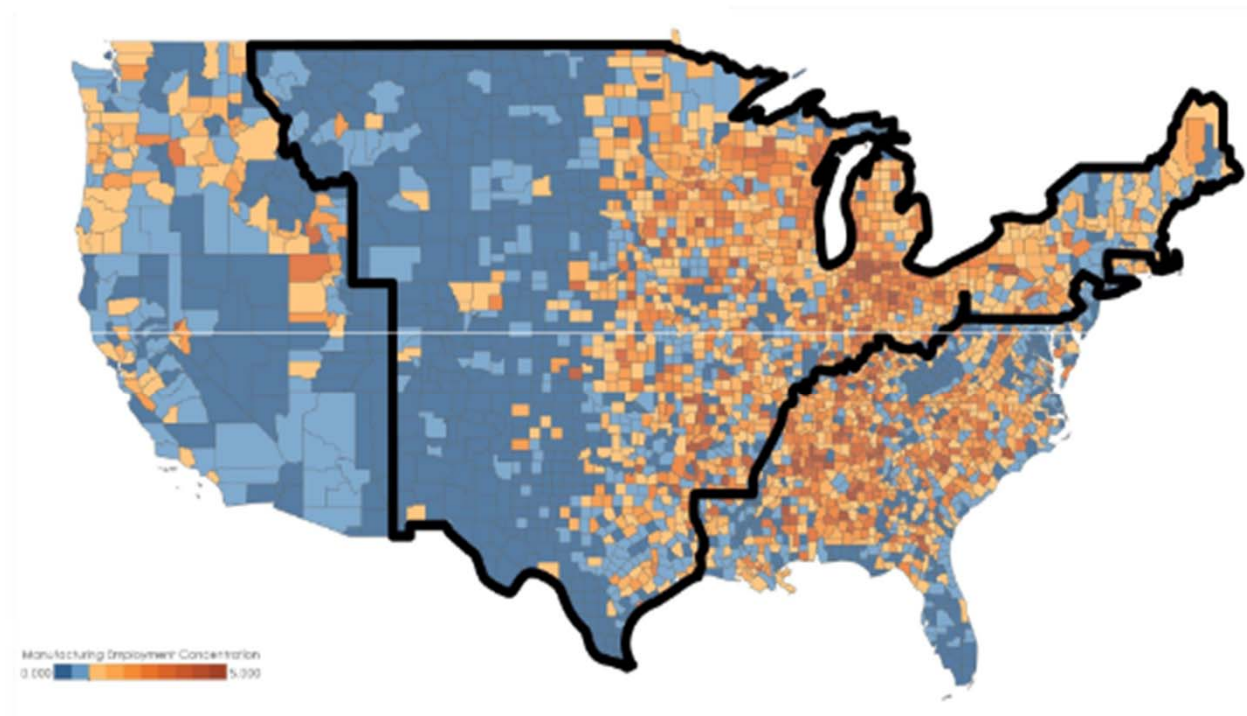


# U.S. AVERAGE WIND SPEEDS AT 80 METERS



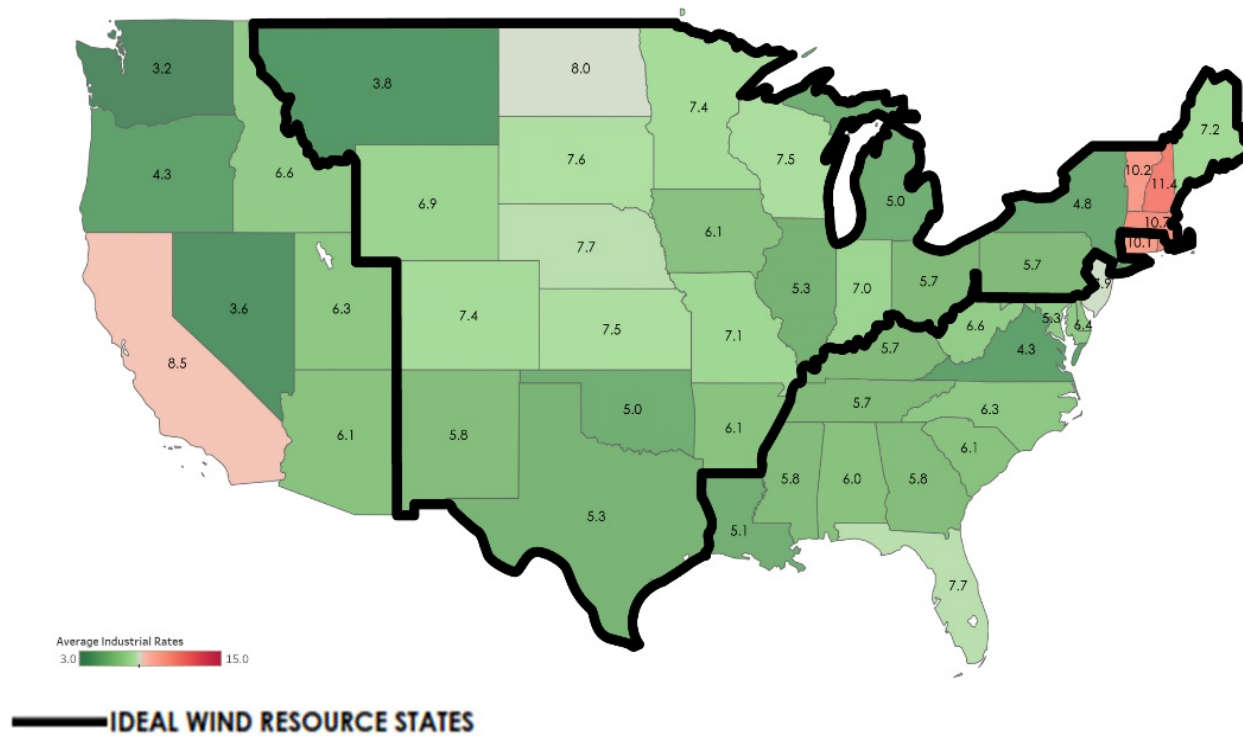


## MANUFACTURING CONCENTRATION BY COUNTY, 2017



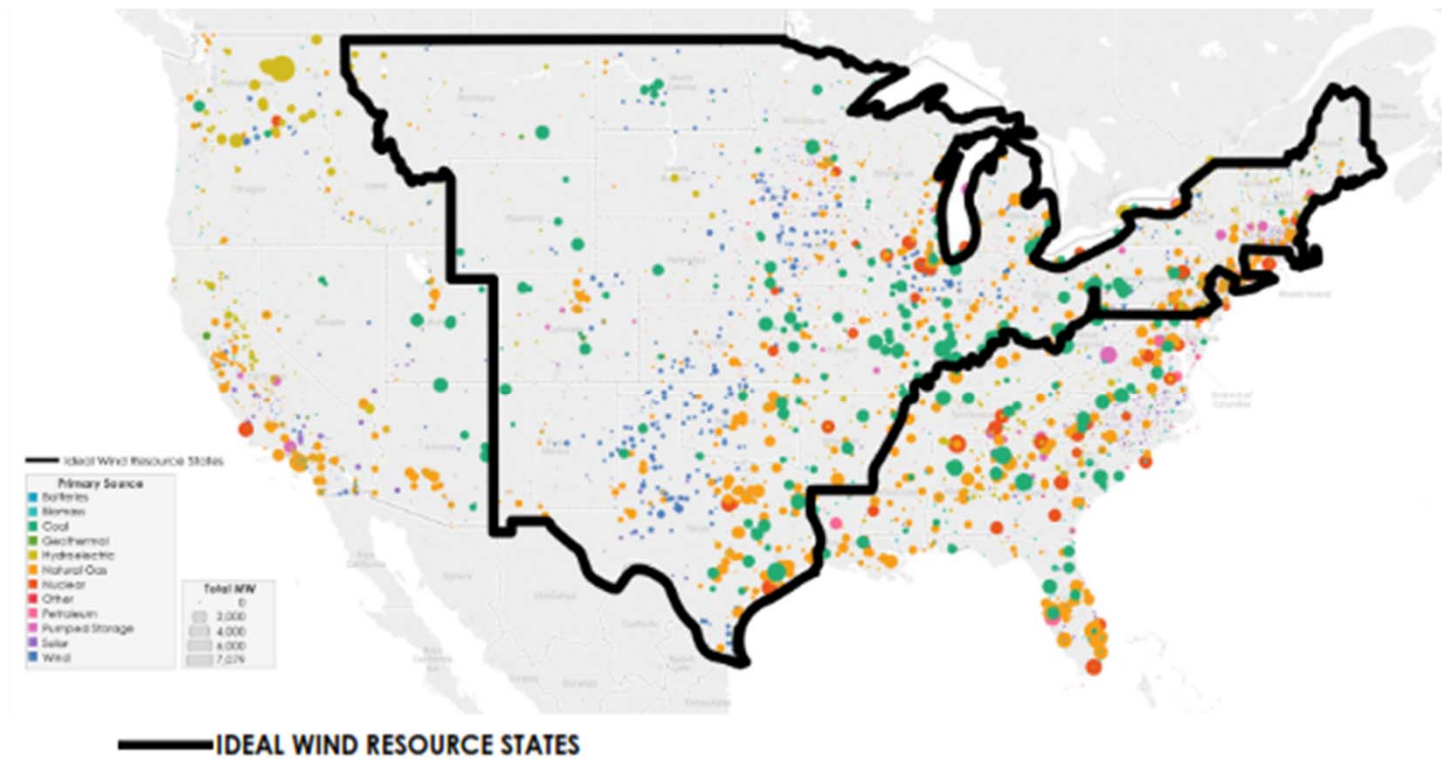


# AVERAGE INDUSTRIAL ELECTRIC RATES (CENTS/KWH), 2016



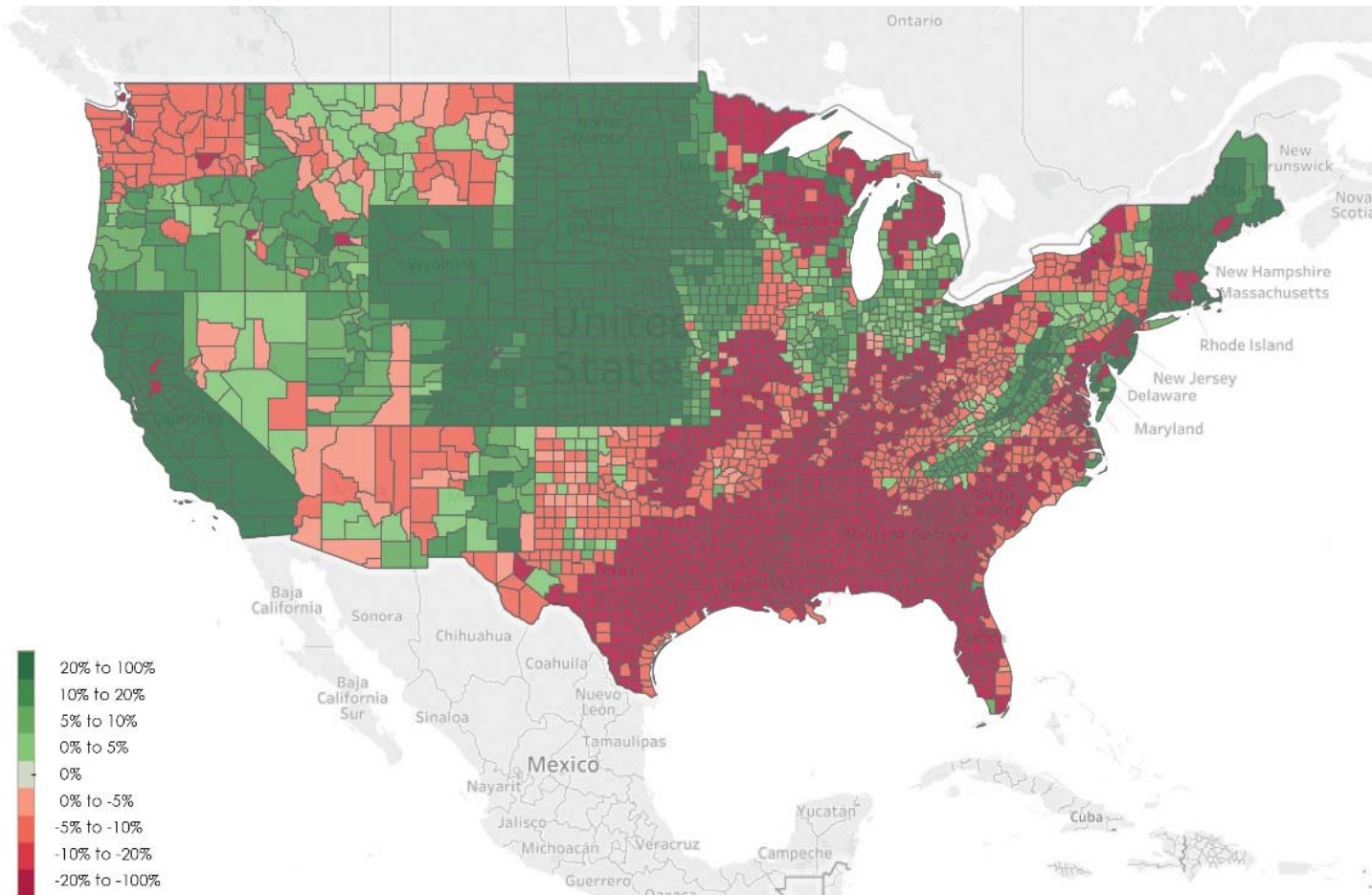


# U.S. POWER GENERATION FACILITIES, 2018



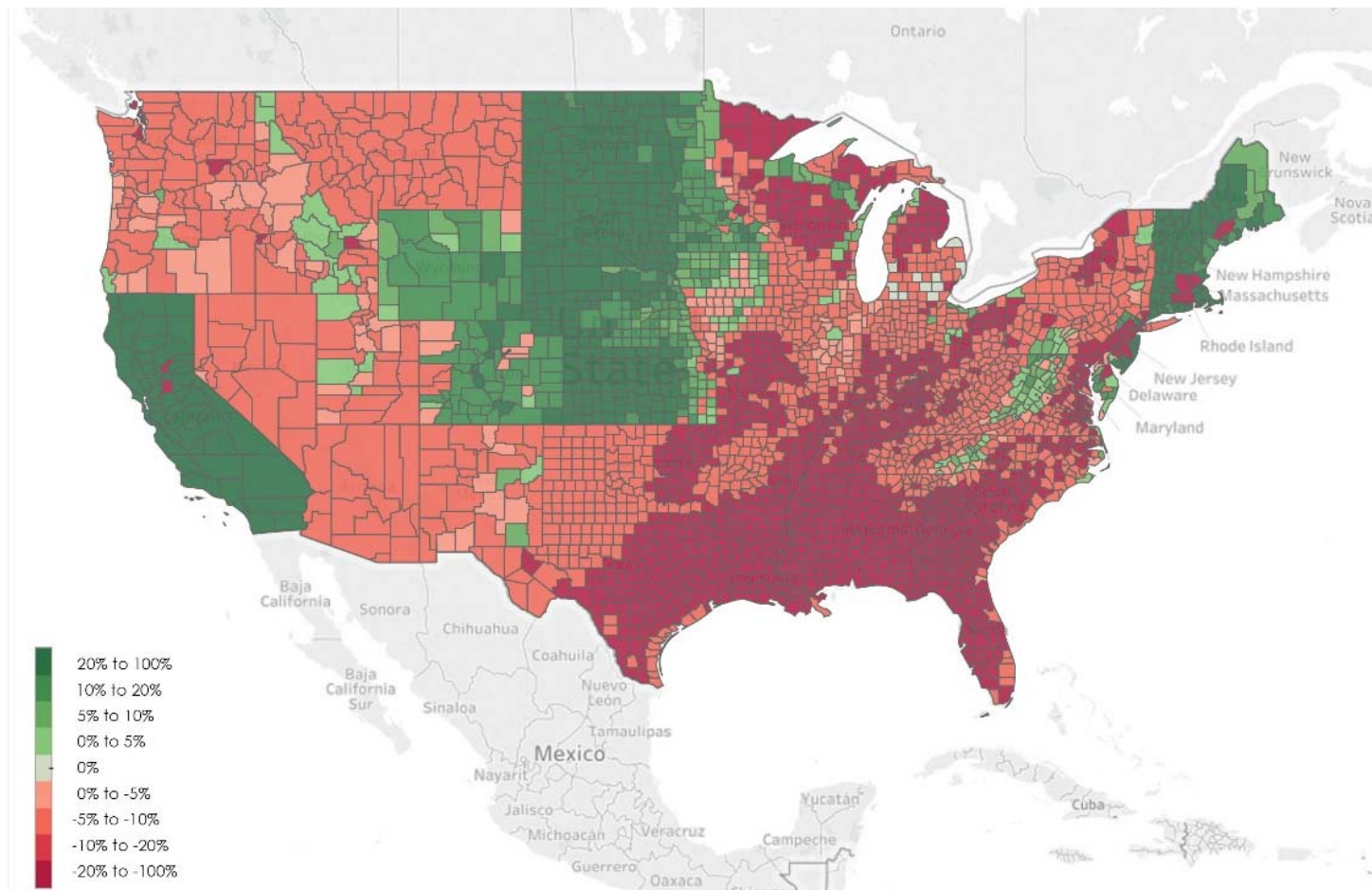


# TOTAL ADDRESSABLE MARKET AT 18% ITC - TODAY





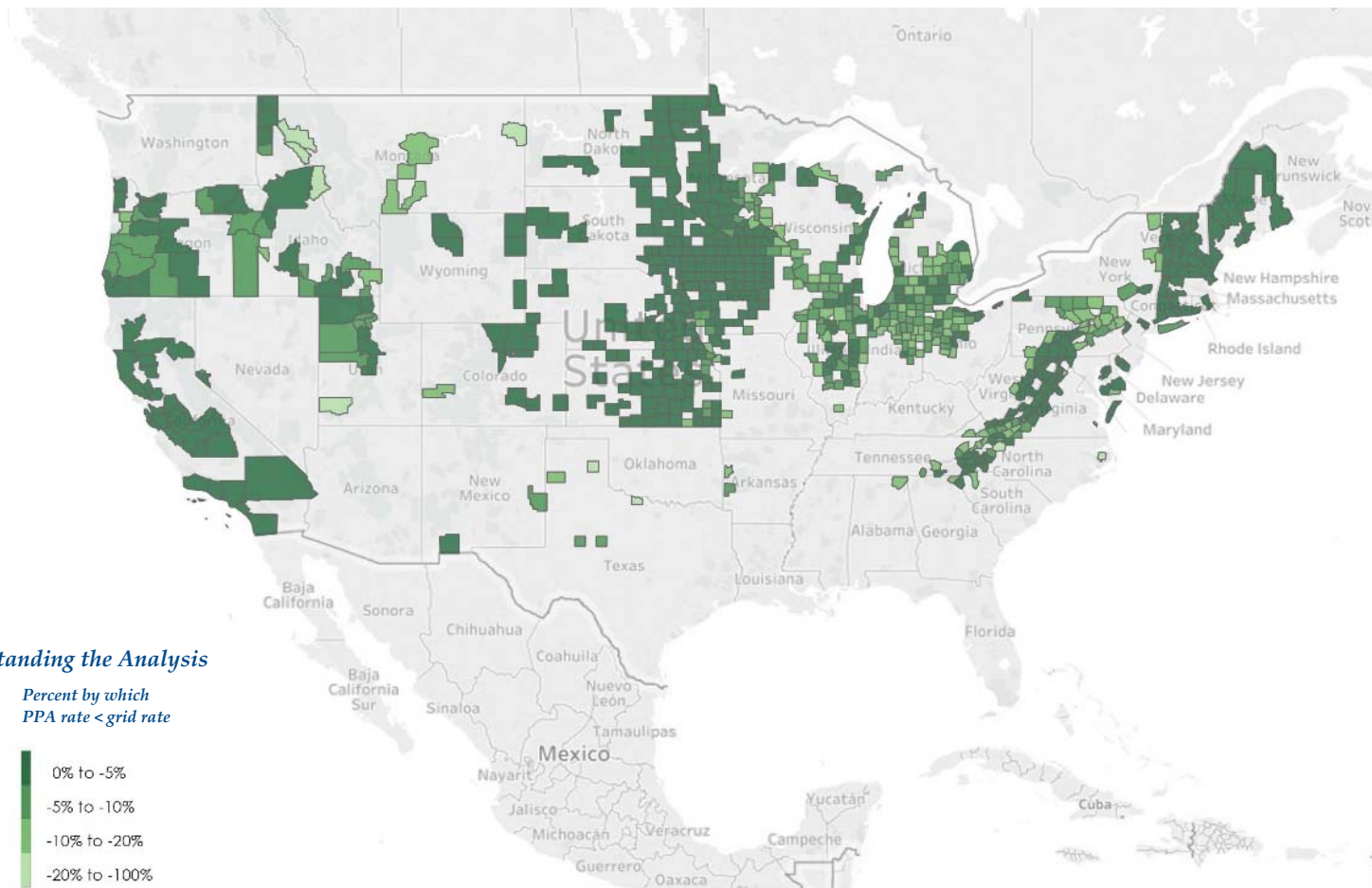
# TOTAL ADDRESSABLE MARKET AT 0% ITC - 2020





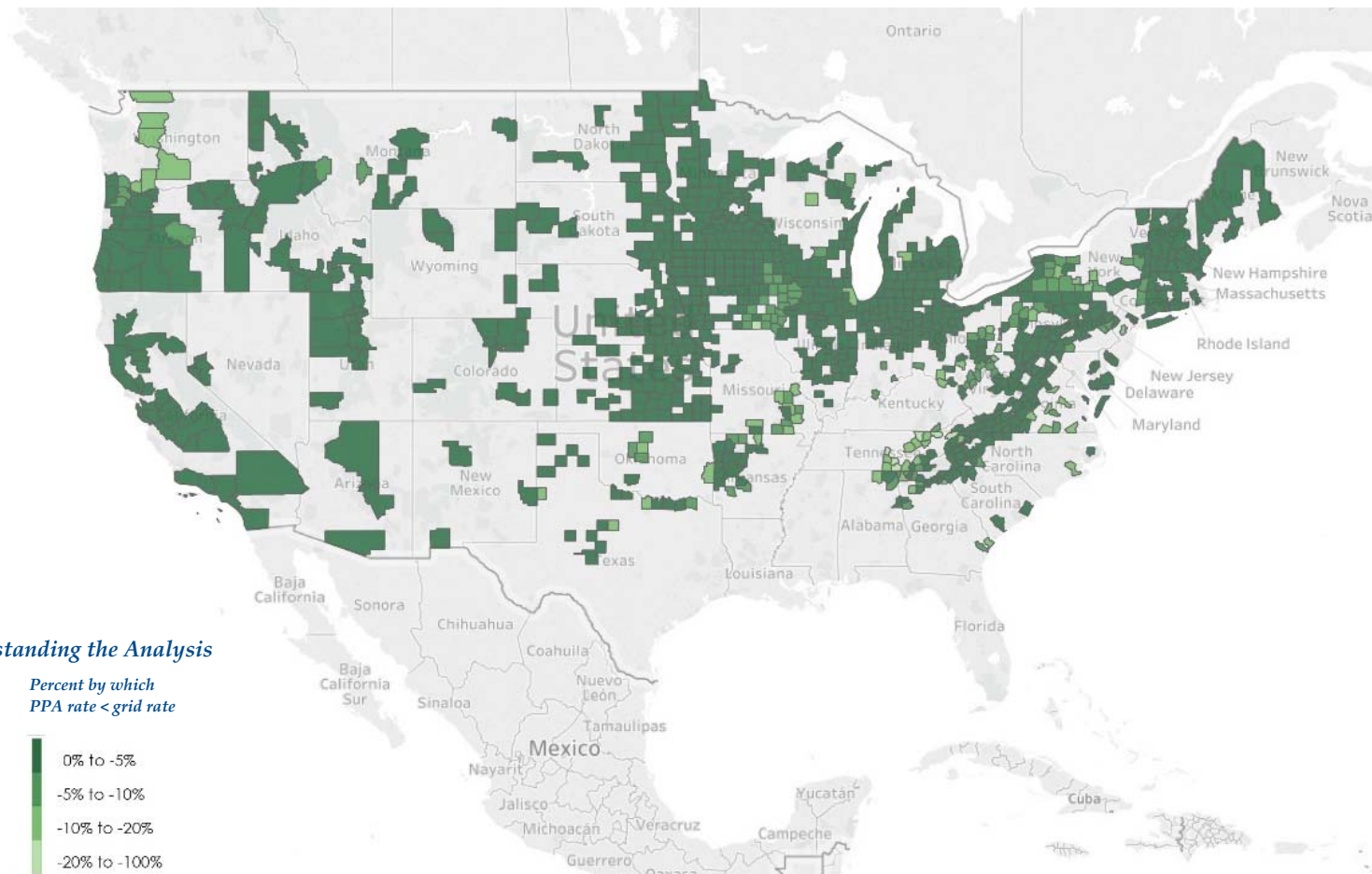


# NOW: TOTAL ADDRESSABLE MARKET AT 18% ITC FILTERED FOR HIGH CONCENTRATION OF MANUFACTURING





## FUTURE: TOTAL ADDRESSABLE MARKET AT 0% ITC FILTERED FOR HIGH CONCENTRATION OF MANUFACTURING WITH 10% DELIVERY IMPROVEMENTS (COST AND ENERGY)





## CUSTOMER FACILITIES FILTERED FOR TECHNICAL VIABILITY

| Customer Facilities Filtered for Technical Viability | Current MW  | Viable MW    | Total U.S. Facilities | Technically Viable Facilities | Percentage of Viable Facilities |
|--|-------------|--------------|-----------------------|-------------------------------|---------------------------------|
| Customer 1   | 1.5         | 15.0         | 13                    | 4                             | 30.8%                           |
| Customer 2   | 9.0         | 40.5         | 37                    | 8                             | 21.6%                           |
| Customer 3   | 4.5         | 94.5         | 49                    | 21                            | 42.9%                           |
| Customer 4   | 9.0         | 54.0         | 20                    | 12                            | 60.0%                           |
| Customer 5   | 22.5        | 180.0        | 153                   | 36                            | 23.5%                           |
| Customer 6   | 4.5         | 135.0        | 60                    | 30                            | 50.0%                           |
| Customer 7   | 13.5        | 22.5         | 10                    | 6                             | 60.0%                           |
| <b>Total</b>   | <b>64.5</b> | <b>541.5</b> | <b>342</b>            | <b>117</b>                    | <b>34.2%</b>                    |

*34.2% of the facilities screened are viable for a Wind for Industry project.*