

***Wind and Solar Energy Development  
Tax Credits related to Renewable Energy***

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Strategies for Accessing Capital:  
Tax Credits & Other Cutting-Edge Programs**

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Apex Wind Energy, Inc. and Axio Power, Inc.



## Disclaimer.... WARNING!!



- 1.) I am not an expert on Tax Credits of any kind.
- 2.) I am not a tax lawyer.
- 3.) I develop renewable energy projects for a living, and tax credits are something I use, not something I design.
- 4.) There are lots of aspects of tax credits that I clearly do not understand (more obvious in the coming 20 minutes).
- 5.) The rules on these tax credits change constantly.



# Company Overview

*The parent company of Apex Wind Energy and Axio Power is Greenlight Energy Resources, Inc., a private investment company focused on renewable energy*

*Greenlight has four operating companies in the wind, solar, biofuels and wave energy industries*



*Apex and Axio have offices in Virginia, California, New York, Pennsylvania, and Ontario, and projects under development throughout the US and Canada*

# Our Brownfield Goals

- 1.) Develop wind and solar projects in months not years
- 2.) Seek out active industrial sites and appropriate brownfield sites such as active or closed mines, refineries, steel mills, oil fields, or similar industry
- 3.) Reduce project costs as compared with conventional sites.
- 4.) Enhance our reputation for environmental stewardship



# Our Experience



## Steel Winds

20 MW Wind facility located on an abandoned steel mill in Lackawanna, NY. Numerous energy and environmental awards



## Nerefco

23 MW wind facility located inside an operating oil refinery in the Netherlands



## Dumas Wind

50 MW wind facility adjacent to an operating oil refinery in the Panhandle region of Texas

## Fort Carson Solar

2 MW photovoltaic facility on a landfill property in Colorado

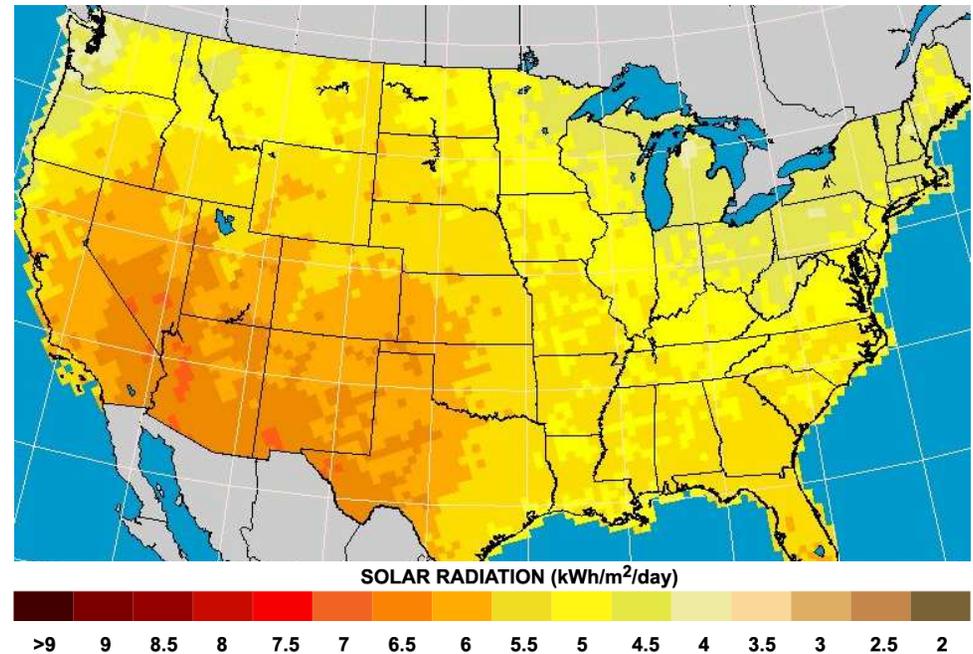


*And several other similar projects under development...*



# What we look for in a Solar Energy Site

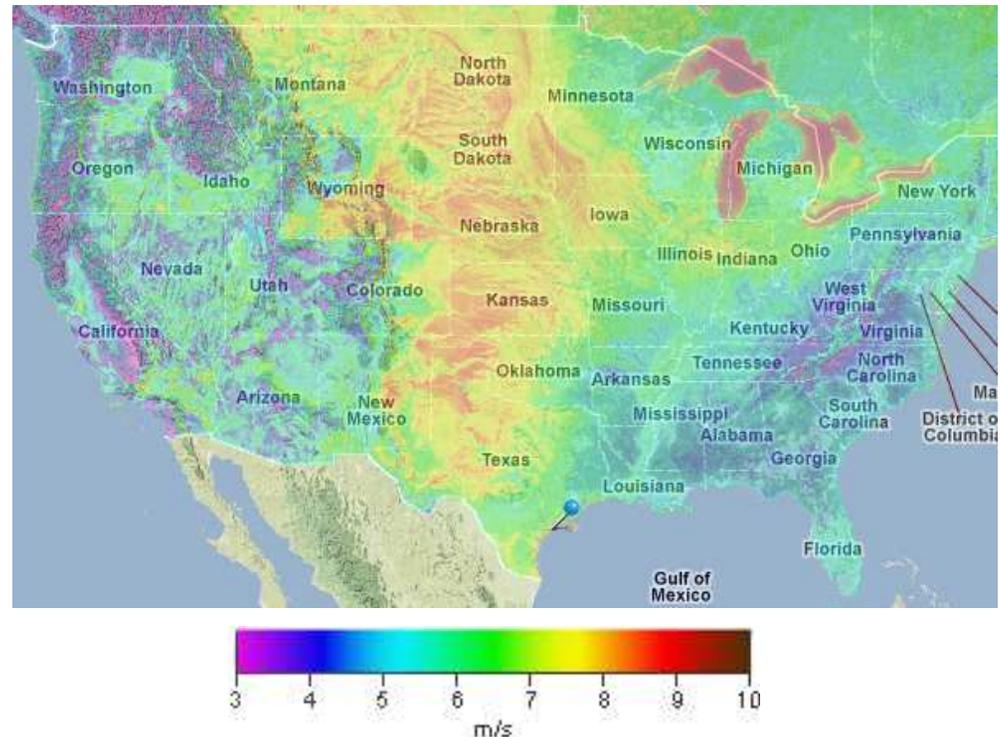
- State mandate for solar energy
- Active market for solar energy
- Clear and cooperative permitting process
- Competitive solar resource
- Robust electricity market
- On-site transmission line/substation
- Location near load
- Access to road, rail, or port
- Local support for renewable energy
- 25+ acres available land



# What we look for in a Wind Energy Site

- State mandate for renewable energy
- Clear and cooperative permitting process
- Commercially-viable wind resource
- Robust electricity market
- On-site transmission line/substation
- Location near load
- Access to road, rail, or port
- Local support for renewable energy
- 400+ acres available land

WINDSPEED MAP OF THE UNITED STATES



# What are the main Federal Tax Attributes for Renewables

- DEPRECIATION ( 5 Year MACRS)  
[Wind or Solar]
- BONUS DEPRECIATION  
[Wind or Solar-pre 2010]
- PRODUCTION TAX CREDITS  
[Wind pre 2009 and maybe post 2010]
- INVESTMENT TAX CREDITS  
[Solar Always & Wind Now]
- INVESTMENT TAX CREDITS- Cash Alternative
  - [Solar and Wind Now]



## What are NOT Tax Credits- But people think they are...

- Renewable Energy Credits (RECs)
- Solar Renewable Energy Credits (SRECs)

Both of which are essential to project economics as they are part of the operating revenue and vary widely by State BUT they are **NOT** tax credits.



# Production Tax Credits

- Non refundable tax credit; Not sellable.
- Amount payed depends on production. Not based on capital cost. Requires Operational Risk for owners
- Payed at a rate of 2.1 cents per kilowatt-hour of production
- Payed for 10 years and then stopped; requires 10 year tax investor
- Example – a \$40 Million Wind Farm in the East might have a PTC earned of \$1.2 Million/year (NPV8 of \$8.3 Million); higher in windier locations
- Tax Equity Investor must be the actual owner of the facility for the time that the credit is earned



# Investment Tax Credits

- Non refundable tax credit; Not sellable.
- Amount paid depends on capital cost.  
Not based on production or operation.
- Reduces depreciable base by 15% (50% of ITC amount)
- Paid at a rate of 30% of eligible costs,  
Which may include most of the  
plant (no buildings, offsites, etc)
- Paid once; allows for shorter term tax investors.
- Example – a \$40 Million Solar Farm in the East might  
have an ITC earned of \$10.8 Million  
(NPV8 of \$9.3 Million)
- Tax Equity Investor must be the actual owner of the  
facility for the time that the credit is earned



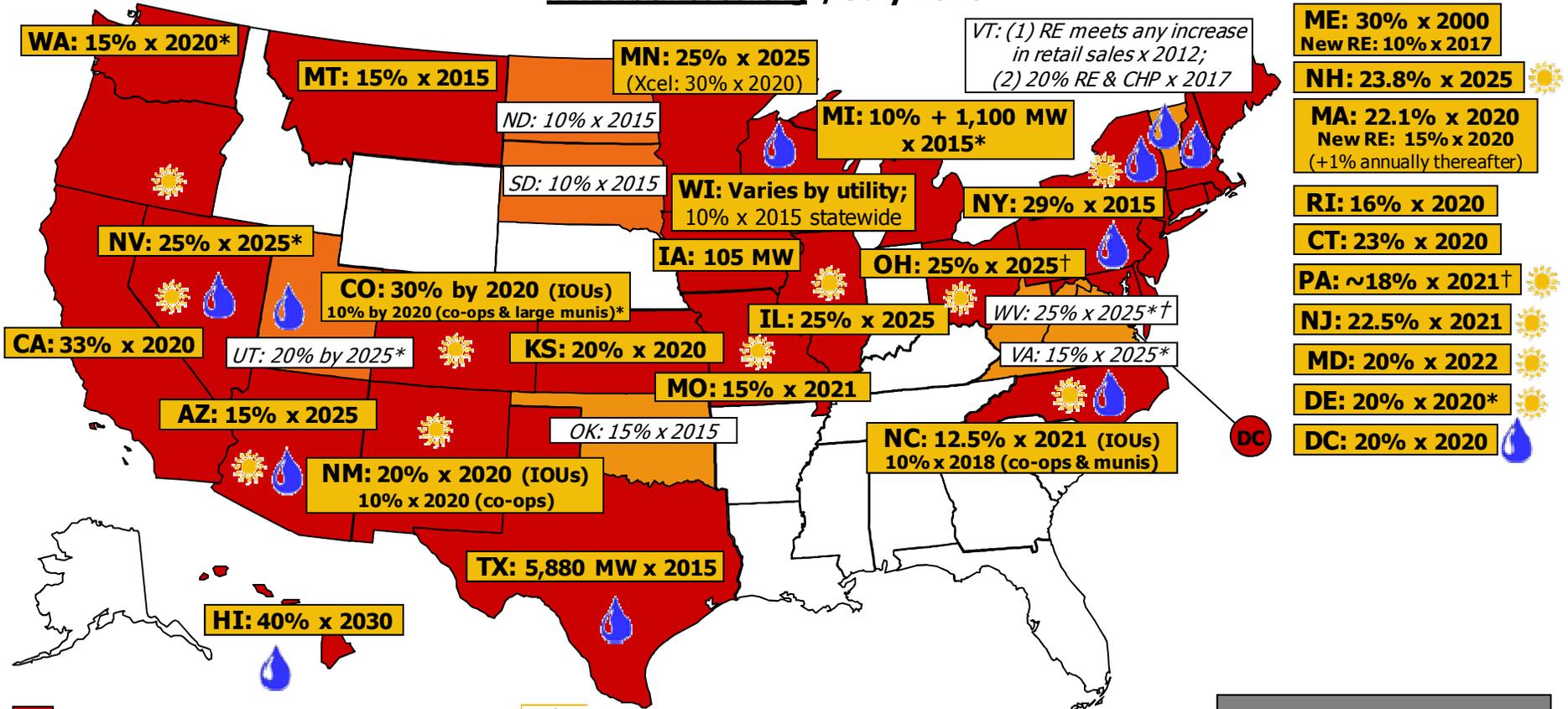
# Investment Tax Credits- Cash Alternative

- Not a tax credit; Cash from the Treasury
- Amount paid depends on capital cost.  
Not based on production or operation.
- Reduces depreciable base by 15% (50% of ITC amount)
- Paid at a rate of 30% of eligible costs,  
Which may include most of the plant (no buildings, offsites, etc)
- Paid 60 Days after the start of operation
- Paid once; allows for much shorter term investors with no tax capacity.
- Example – a \$40 Million Solar Farm in the East might have an ITC- Cash earned of \$10.8 Million (NPV8 of \$10.8 Million)
- Gets rid of the need for Tax Equity (except for depreciation).



# States have mandates and tax incentives for Renewable Energy....

[www.dsireusa.org](http://www.dsireusa.org) / July 2010



**29 states + DC have an RPS**  
(7 states have goals)

- State renewable portfolio standard
- State renewable portfolio goal
- Minimum solar or customer-sited requirement
- Extra credit for solar or customer-sited renewables
- Includes non-renewable alternative resources
- Solar water heating eligible



# Questions and Discussion

