ARIZONA WIND AND SOLAR STATUS REPORT 2013

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Introduction

The 2013 report Arizona Wind and Solar Status details utility-scale (1 MW or larger) renewable energy projects on Arizona's public, private, Native American, and military land. This report is an update to the 2009 and 2011 reports, conducted by Northern Arizona University's Landsward Institute and Institute for Sustainable Energy Solutions. For each county, Native American tribe, and military jurisdiction, details are presented on the size, technology, and status of the renewable energy projects. For areas where there have not been any utility scale developments, we outline the priorities for renewable energy development and in some cases highlight smaller-scale installations. In 2013, Arizona was among the top producers of electricity from renewable sources in the United States, most notably from solar. The goal of this report is to provide a snapshot of the renewable energy developments that are occurring to help policymakers and stakeholders understand the status and trends of renewable energy development in Arizona.

Purpose

This report is a tool that has that potential to be used by various stakeholders in different ways. We send this report to policymakers, business leaders, and academic partners, and have an online version available on our website.

Policy

- Helps policymakers gauge where renewable energy are located and how much renewable energy Arizona has capacity for.
- Gives realistic picture of what renewable energy is.

Business

- Shows business leaders trends in renewable energy developments in Arizona.
- Provides additional resources for developers looking at investing in the region.

Public

- Allows the public to get an adequate snapshot of renewable energy in Arizona.
- Serves as a data source for people to identify specific projects, know where they are located, and learn details about the project status. .
- Builds awareness of Arizona's major renewable energy developments in comparison to the country as a whole.

Methods

Data was collected through direct contact with national, state, county, and tribal government employees who serve a role in the planning and approval of renewable energy projects.

Process:

- **Developed Baseline**
  - Reviewed past reports
  - Contacted partners
    - Bureau of Land Management
    - Arizona Game and Fish
    - Arizona State Land Department
- **Reached out to staff members and representatives to update our baseline and find out about new projects.**
  - County: Planning and Zoning Department, Community Development Department, and other relevant personnel
  - Tribe: Planning Office, Energy Office, Natural Resources Department, or other relevant personnel
  - Military: Public Affairs Department or other personnel
- **Project Categorization:**
  - Proposed: these projects have been proposed to the public by developers through press releases or presentations to government institutions.
  - Under development: the project is going through the permitting process and/or seeking additional funding or developers.
  - Under construction: the project has broken ground and is in the process of being built.
  - Operating: projects have been completed and are currently generating and selling electricity.

Results

Wind and Solar Capacity

In 2013, Arizona was among the top producers of electricity from renewable sources in the United States, most notably from solar. Here are some of the major findings:

- At the end of 2013, there were around 1,460 MW of utility scale renewable energy operating and under construction in Arizona: 1,137 MW of utility scale solar; 288 MW of utility scale wind; and 35 MW of biomass/biogas energy.
- There have not been any utility scale renewable energy projects on tribal lands and only a few projects have been realized on military land.

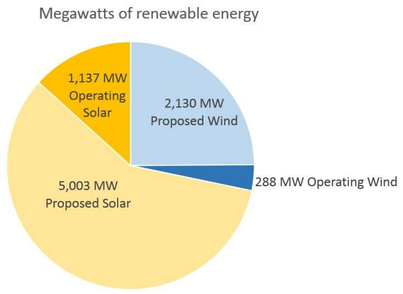


Chart 1: Pie chart showing the total MW capacity proposed and operating for wind and solar.

Economic Impact Modeling

NREL'S Jobs and Economic Development Impact (JEDI) Modeling were used to estimate the total economic impact from the renewable energy capacity we have built and are building so far in the state estimated at 288 MW of wind capacity, 868 MW of solar PV capacity, and 286 MW of CSP.
Our findings are shown in tables 1 and 2.

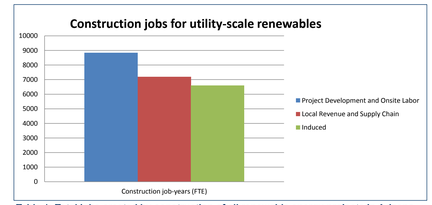


Table 1: Total jobs created by construction of all renewable energy projects in Arizona.

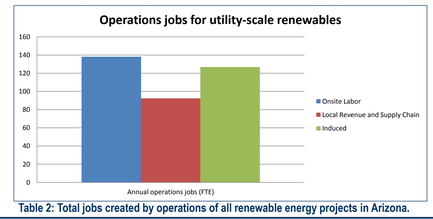
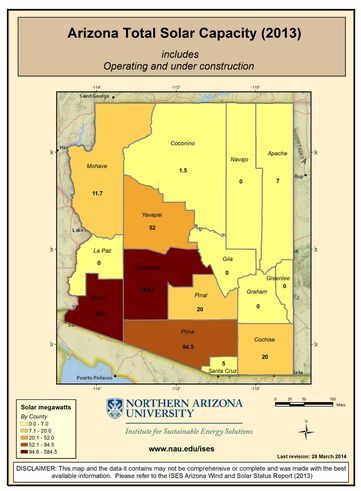
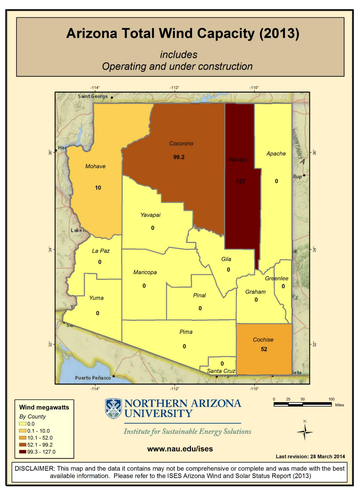


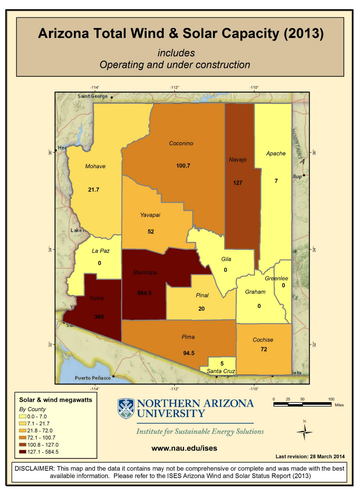
Table 2: Total jobs created by operations of all renewable energy projects in Arizona.

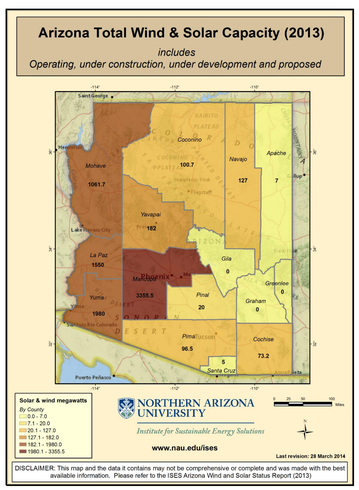
Mapping our Findings

From our data color-scaled maps were developed that show total Megawatt capacity according the technology, county, and stage of development.









Discussion

Expected Growth

- Continued growth, but at a slower pace.
- Solar will continue to play the largest role in meeting renewable energy needs.
- Past reports show that many projects under development or that are proposed will never see fruition – expect that trend to continue.

Expected Policy Changes

- Renewable Energy Standard and Tariff will remain in place and continue to drive growth for renewables.
- More policy guidance and project streamlining by the different land management agencies.

Future Reports

- Use better graphing data, to actually show the plots of each project
- Possibilities to include other renewable energy, i.e., biogas, alternative fuels, etc.