



REVISITING INCENTIVES FOR RENEWABLE ENERGY EXTENDING THE BENEFITS

An update to the Winter 2013 *Barnyards & Backyards* article

Milton Geiger

The acts of Congress affect the financial feasibility of renewable energy, such as small wind or solar, and energy efficiency projects in Wyoming.

Significant incentives appeared likely to disappear at the end of 2016, but Congress recently acted to extend valuable tax credits through the end of the decade. Although these incentives are scheduled to eventually decline and then disappear, the extension removes the rush to complete projects by the end of 2016.

Photovoltaic (PV) systems are the leading choice when Wyomingites consider a renewable energy system. The relative cost structure for PV has improved significantly versus other alternatives, such as small wind or solar thermal. PV system prices continue to fall, making the Residential

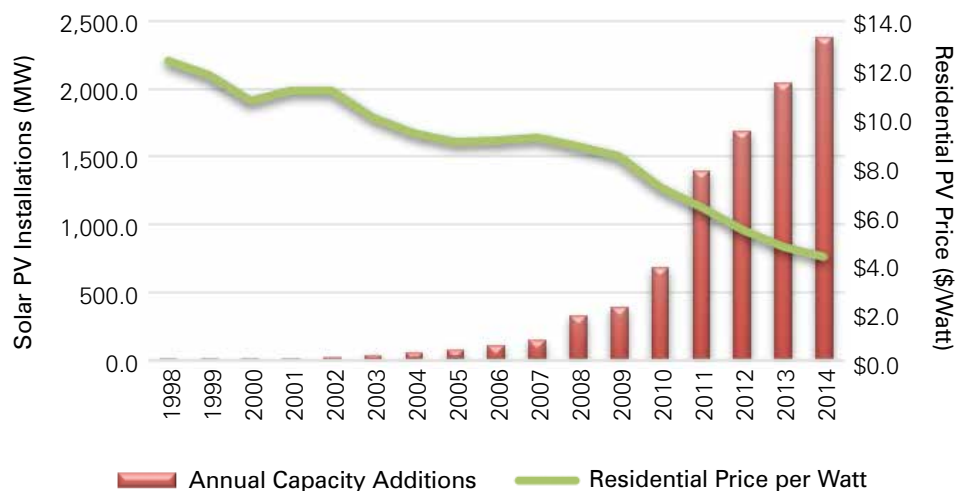
Renewable Energy Tax Credit and Business Energy Investment Tax Credit less necessary.

The chart below shows the national unsubsidized prices for PV in addition to the annual capacity (residential and commercial) additions. Price

declines are driving increased installations. Alternately, increased installations are also driving down prices.

A five-kilowatt (kW) installation, which offsets about 75 percent of the electricity used in an average Wyoming home, cost about \$50,000

Declining prices, more solar installations



Source: *Tracking the Sun VIII: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States* from Lawrence Berkeley National Lab

Table 1 – Residential Incentives for Small-scale Renewable Energy Projects

Name	Description	Eligible Technologies	Expiration Date
Residential Renewable Energy Tax Credit	30% tax credit (no limit)	Solar (electric and thermal), small wind, geothermal heat pumps	01/01/2022
Wyoming Net Metering	Allows many RE systems to receive the full retail rate for production up to total consumption and pays avoided cost for excess production	All renewable energy technologies that generate electricity	N/A
Utility Programs	Rebates	Varies, but often a strong focus on ground source heat pumps	Varies

Table 2 – Business and Agriculture Incentives for Small-scale Renewable Energy Projects

Name	Description	Eligible Technologies	Expiration Date
Business Investment Tax Credit	30% or 10% tax credit (no limit)	Solar (electric and thermal), small wind – 30% Combined heat/power and geothermal heat pumps – 10%	12/31/2021 (reduces to 10% in subsequent years)
Modified Accelerated Cost-Recovery System (MACRS)	5-year depreciation schedule	Solar (thermal and electric), geothermal heat pumps and wind	N/A
Wyoming Net Metering	Allows many RE systems to receive the full retail rate for production up to total consumption and pays avoided cost for excess production	All renewable energy technologies that generate electricity	N/A
USDA - Rural Energy for America Program (REAP) Grants	25% grant available only to rural small businesses (currently all areas except Cheyenne and Casper); loan guarantees also available	All renewable energy sources	N/A – Variable program funding
USDA – Environmental Quality Incentive Program	Grant program for agricultural producers; amounts vary	Renewable energy and energy efficiency	N/A – Variable program funding

Note: Modified Accelerated Cost-Recovery System also includes special renewable energy system bonus depreciation. Equipment put in service before January 1, 2018, can qualify for 50 percent bonus depreciation. Equipment placed in service during 2018 can qualify for 40 percent bonus depreciation. And equipment put in service during 2019 can qualify for 30 percent bonus depreciation.



without incentives in 2002. The same installation is likely to cost around \$20,000 this year. In short, the declining cost of solar is making incentives less important, but they still are necessary to make solar cost competitive in Wyoming’s low-cost electricity market. Many energy efficient technologies also are declining in price. For example, the cost of light emitting diode (LED) lamps has fallen 28-44 percent from 2011 to 2015.

So What are These Incentives?

Incentives still matter to project cost-effectiveness, but the declining cost structure makes them less vital to project viability. Incentives in Wyoming primarily come from three sources – federal government, state government, and utility companies. Each has different reasons for providing incentives, from fostering the growth of energy independence and

environmental responsibility (federal), to reducing individual energy costs and demand (state and utility), but all believe renewable energy and energy efficiency merit financial support.

Incentives are typically targeted at specific sectors, so different incentives exist for residences, businesses, and agricultural producers. The tables detail the most significant renewable energy incentives for Wyoming homes and businesses.

The residential tax credit, which is generally the most significant incentive for residential renewable energy, will begin phasing out at the end of 2019. A project installed before December 31, 2019, will receive the full 30 percent credit. From January 1, 2020, through December 31, 2020, the credit is 26 percent. From January 1, 2021, through December 31, 2021, the credit is 22 percent.

Whew! The tables may seem daunting, but the benefit of harnessing available incentives makes understanding worthwhile. The expiration dates are especially important.

What did the “Consolidated Appropriations Act” of December 2015 Change?

Two high-value tax credits, the Residential Renewable Energy Tax Credit and Business Energy Investment Tax Credit, were planned to be eliminated or drastically reduced after December 31, 2016. The passage of an omnibus budget bill (Consolidated Appropriations Act) extended these credits as shown in the tables. This is exciting news for residences and businesses planning to install a renewable energy system. Other important incentive programs,



Renewable energy technologies like this solar-powered livestock watering system have moved into the mainstream of Wyoming.

such as the USDA Rural Development Rural Energy for America Program (REAP), were not affected by the legislation, and future awards are subject to annual appropriation levels.

A brief example emphasizes the importance of the extension of these incentives. A rural small business owner intends to install a \$20,000 solar electric system on her barn. She receives a USDA REAP grant, utilizes the Business Energy Investment Tax Credit, and takes the Modified Accelerated Cost Recovery System with bonus depreciation. Also, the system qualifies for net metering.

With incentives, the total net cost of the project placed in service on or before December 31, 2016, is \$5,000 to \$8,000 depending upon tax structure. If the tax credit were not extended, the same system costs \$10,000 to \$14,000.

To learn more about the befuddling world of renewable energy and energy efficiency incentives, please visit <http://renewables.uwyo.edu> or call your local UW Extension office.

Note: As with any financial matter, you are encouraged to consult your tax accountant to ensure your eligibility for tax incentives and grants.

Milton Geiger is the former University of Wyoming Extension energy coordinator.