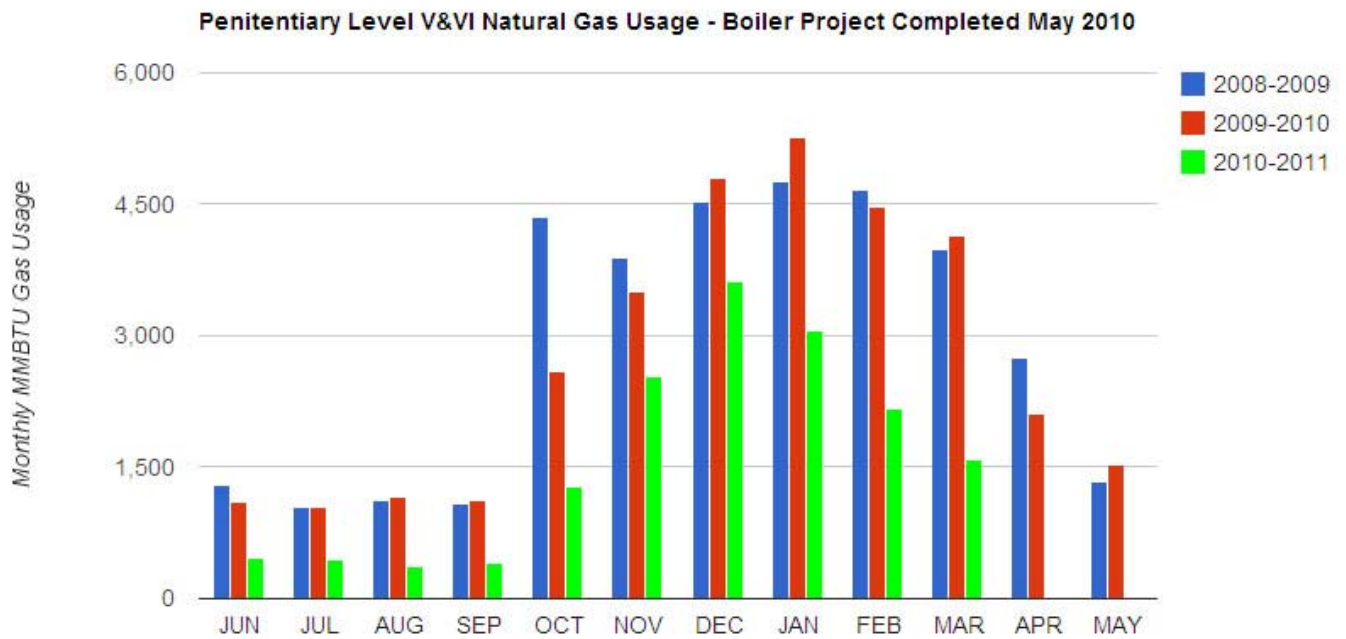


Images from some of the ARRA projects funded through ECMD for the
New Mexico General Services Department



Anaya Building solar photovoltaic system



Natural gas savings at Levels V and VI of the State Penitentiary (green bars indicate usage since completion of new boiler project)



Simms Building white roof



Bardacke Building pipes

Wendell Chino Bldg. 120kW Photovoltaic System Summary

1220 S. St. Francis Drive

Santa Fe, NM 87505

The Wendell Chino Bldg in Santa Fe, is the headquarters for the New Mexico Department of Energy, Minerals and Natural Resources Department. In addition, the offices of the New Mexico State Forestry Dept. and the New Mexico State Parks Dept. are located there, among others. In 2010, the NM General Services Department issued a request for Solar Power proposals for the Wendell Chino Building; a RFQ was



issued for bids to pre-qualified vendors to design and implement a Photovoltaic Energy System for the roof of this building. The system is expected to last for 30 years or more. The system components were to be manufactured in the U.S., as the project was fully funded by American Recovery and Reinvestment Act. After being awarded the project, but prior to our project start date, the NM General Services Division completed a re-surfacing on the entire Chino roof, removing a wash river gravel surface which was over 30 years old.

DPW work:

- Engineer, Furnish, Install and Permit a Utility Interactive, roof mounted, non-penetrating ballasted mounting structure: optimizing all design goals to provide a 120.0 kW PV system; in compliance with our local PNM Utility interconnection regulations & Incentive program, as well as the 2008 N.E.C.
- Competitive bids were submitted to the NM General Services Department from list of state pre-qualified vendors. All installed equipment qualified as A.R.R.A. compliant. New Mexico chose the best solution for their requirements: DPW Solar – a PV specialty company with 18 years of proven specialty technical experience in photovoltaic systems contracting.
- Utilized the Albuquerque made - premium global photovoltaic module maker; **Schott Solar** polycrystalline PV module(s), from Mesa del Sol plant; these U.L. listed modules come with a **25 year power output warranty**.

- **DPW Solar/Power-Fab** made our CRS self ballasted PV mount for 533 Schott 225w poly-crystalline framed modules – at our Albuquerque facility – which employs over 150 NM residents with full time jobs. The mounts secured 41 parallel strings of 13 modules in series. 24 x 13 (70.2kW) on the 82.0 kW inverter and 17 x 13 (49.725kW) on the 60.0 kW inverter. These PV arrays operate at high voltages for maximum efficiency around 400VDC.
- Employed 2 - **Solectria Inverters** (480VAC – 3 phase): proportionally sized for the two main roofs; with C.E.C. efficiency rated @ 95.5%. These are internet (monitoring) enabled data units; each with an integral Gateway and both are viewable as a system on distinct URL/IP address. Made in USA

During this PV systems useful life; participation in PNM's 20 year commercial Incentive PV R.E.C. program, the system will provide a return on investment from the buildings electrical operating cost and payments from PNM's Renewable Energy Certificate (R.E.C.) purchase program of more than a 1 million dollars; even more - if the electrical rates go up; from avoiding consumption with NM produced renewable solar watt-hours.

System Equipment and Inverter(s) Placement



120kW

Installed Photovoltaic Energy system on the Wendell Chino Bldg. roof gathering free, abundant, renewable clean, American power for decades to come. Made with US manufactured components.

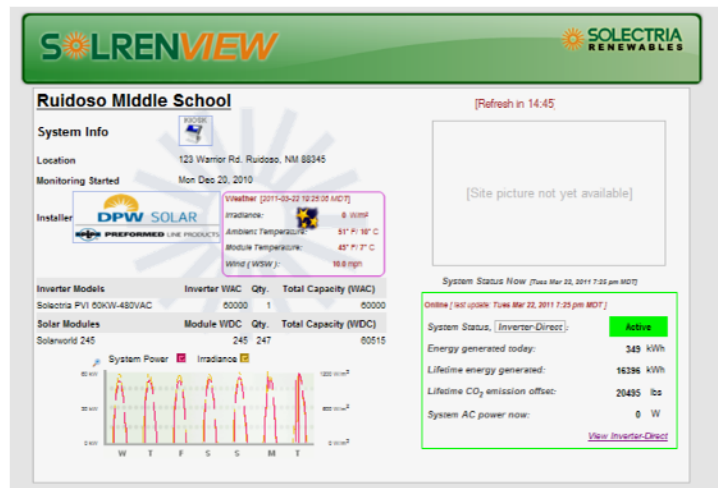


Placement of the PV modules on roof

reflected: the needed inter-row shade space clearance, optimization of available sunlight; using a Solmetric shade analysis device - minimizing major rooftop shade producers, minimal voltage drop, proper PV sub-array fused disconnects location(s), roof top perimeter (firefighter) access, required servicing corridors for crane access of existing HVAC cooling towers, placing modules @ optimal angle of 10', so as to collect 6.0 peak hours of sun per annualized day. This low angle configuration allowed marginally denser spacing and a better summer peak power shaving array output to reduce utility consumption when utility power demand peaks and energy it is most costly.

Site/system has real time data access; both historic and instantaneous on a dedicated URL or IP address - specifically dedicated for this site, via the Solectria SolrenView Kiosk, sample at right - from Ruidoso Middle School another PV project recently completed.

Furnished with a complete 6 year system warranty: labor, parts and travel.



Photovoltaics is a 22nd century technology that is needed in New Mexico **today** and offers a very bright, clean and most importantly wise use of our natural resources. We are looking forward to harnessing this super-abundant resource as we move forward.

