



# AIA Nevada

A Chapter of The American Institute of Architects

## Position Statement

**Date:** October 11, 2007

**Subject:** Position on New Power Plants in Nevada

**AIA Nevada opposes the implementation of coal-fired power plants in Nevada** and throughout the world, and instead endorses all future power production to be developed using *only* clean, non-polluting, renewable sources.

Nevada currently receives approximately 50 percent of its electricity from coal-fired power plants and plans are in place to build more. While technological progress toward cleaner burning plants has come about, coal-fired power plants are still the largest producer of mercury releases into the atmosphere, and contribute billions of tons of carbon dioxide to the air annually. Mercury is a potent neurotoxin that has been shown to cause developmental delays, decreased IQ and memory, Attention Deficit Disorders in children, and fertility, heart and neurological problems in adults. The basic pollution problems with coal plants have not changed and will not change with these newer technologies.

Currently, three coal fired power plants are considered for eastern Nevada near Ely and the Toquop Indian Reservation. Plans for a fourth plant, Sempra Energy's Granite Fox Power Project, a 1,200 megawatt (MW) coal-fired power plant for northern Nevada, were recently withdrawn. A public hearing regarding the proposed plants that occurred on March 8, 2007, in Ely, drew a number of local residents who were worried about the negative impacts from this coal-fired power production.

In April 2007, the U.S. Bureau of Land Management issued a Draft Environmental Impact Statement (DEIS), assessing the environmental impacts from the White Pine Energy Station Project near Ely. The DEIS reported that the plant would emit, among other pollutants, 330 pounds of mercury, 4,812 tons of nitrogen oxides and 6,071 tons of sulfur dioxide per year. In addition to these dangerous pollutants, the plant and the nearby Ely Energy Center would consume over 2.6 billion gallons of water each year – an amount that could greatly affect an arid state already struggling with water issues. The Nevada Clean Energy Coalition (NCEC) is mobilizing the residents of the area against the proposed plant. The National Park Service has also raised serious concerns about the plant based on the large impact it could have on nearby Great Basin National Park.

Nevada has the second strongest renewable energy standards in the country, but Nevada Power and Sierra Pacific have yet to meet all the requirements of the law. The State's energy distributors are under a mandate to provide more electricity produced from renewable resources over a period of years. Sierra Pacific Resources are well behind in the schedule and have not produced any plans recently to indicate that they intend to work toward meeting this mandate.

Plans developed for the Ely Energy Center include a major transmission line to connect Idaho with Nevada Power in southern Nevada, which is referred to as the Southwest Interior Project (SWIP). At the time, many believed that extra energy from the system could be sold to California Edison, the major supplier in southern California. Since those plans were promoted, California has passed a law that would forbid the importation of energy developed in coal-fired plants. Massive new solar arrays, including the parabolic mirror type, are being built in the Mojave Desert to provide for energy needs in southern California.

Coal is a very capital intensive resource, so in order to make coal economically effective the plants must be running constantly, or as near to it as possible. The inflexibility of coal and the need to keep the plants running all the time make coal difficult to integrate into a system faced with variable demand. Also, coal for the White Pine County power plants would have to come mostly from the massive coal fields in Wyoming and Utah, as Nevada has no viable coal resources within the state. The coal would also have to come to Ely by way of railroads, and many believe consumption would be in the millions of tons annually. Even considering these important facts, the impact of pollution from locomotives is *not* included in the environmental assessment due to their "transient" nature.

While coal plants require years to construct, Demand Side Management (DSM a.k.a. energy efficiency), solar and wind can all be on-line and producing power in far less time...for far less money. We at the AIA feel there are less costly and less risky options for meeting the growing power production requirements for Nevada, and if implemented correctly, these new (and existing) coal-fired power plants proposed for Ely would be unnecessary. Utilizing the vast solar, geothermal and wind resources in Nevada would not only be far less expensive, but would help struggling agricultural and rural communities as well.

Promoting energy efficiency or DSM would also be a lot more cost-effective than building new coal-fired power plants and transmission lines. Utility sponsored energy efficiency programs could result in millions in net savings for consumers and businesses served rather than billions of dollars in net costs for new coal plants.

Nevada's senior U.S. Senator and Senate Majority Leader, Harry Reid, is taking an extremely proactive stance on renewable energy for the Silver State and is condemning proposed plans to build coal-fired power plants.

In Nevada there are several commercial geothermal energy plants operating in the northern and central parts of the state and commercial solar plants are being built. The Nevada Solar One plant in southern Nevada (64-megawatts) uses a technology called solar thermal. Solar thermal electric power plants generate heat by using lenses and reflectors to concentrate the sun's energy. Because the heat can be stored, these plants are unique in that they can generate power when it is needed, day or night, rain or shine. Using long parabolic mirrors to concentrate sunlight on tubes filled with mineral oil, the oil is super heated and when pumped through vats of water produces steam to drive standard turbines. This has been proven to be economically and environmentally sound technology. Plants similar to the Nevada Solar One have been operating efficiently and productively in the Mojave Desert of southern California for several years and more are coming on line yearly. Many areas of Nevada, especially in the south and central parts of the state, are well suited for this type of energy production.

We believe the goal for Nevada must be greater independence from fossil fuels, such as coal, natural gas and electricity imports. Senator Reid has said "Fortunately, Nevada is blessed with a magnificent abundance of clean renewable energy resources that could provide most, if not all, of the energy needs of our fast growing state, and perhaps beyond." Why aren't we looking to make Nevada an energy exporter?

Senator Reid pointed out that a Department of Energy study indicated that "the solar energy resource in a 100-square mile area of Nevada could supply the United States with all its electricity (about 800 gigawatts) using modestly efficient commercial photovoltaic modules." The big argument against the photovoltaic panel production of electricity is obviously the nighttime hours. According to Solar Genix and Acciones (the companies building the Nevada Solar One project), the mineral oil remains super heated well into the night time hours with the parabolic mirror and mineral oil systems. They have indicated that they will use natural gas less than two percent of the time to maintain steam for the turbines.

Senator Reid also said, "Meeting Nevada's demands for electricity, including the building of transmission lines to rural areas with significant renewable potential are no easy task. But," he continued, "the decisions that are being made right now will affect ratepayers, the state, the west, and perhaps the world for decades or longer." If these coal-fired power plants are allowed to be built, they will be producing energy, and pollutants, for many years to come and consume investment dollars that could be better spent on renewable power projects.

Nevada has the opportunity to lead the nation in renewable energy, but allowing the construction of additional coal plants would lead Nevada away from reaching its renewable resource potential and meeting its renewable energy portfolio requirements.

Therefore, **AIA Nevada opposes the implementation of coal-fired power plants in Nevada** and throughout the world, and instead endorses all future power production to be developed using *only* clean, non-polluting, renewable sources.

An interesting option for Nevada power producers to consider has been proposed by John Toth, LEED AP, advisor to the AIA Nevada on renewable power issues, along with other green building/renewable energy experts. If Nevada invested the \$6B-\$10B or more for building the 3 coal-fired plants and supporting infrastructure (at an average install rate of \$11 per watt) into solar photovoltaic roofs, we could be generating 543MWe-819MWe. With this investment, Nevada could put solar photovoltaic panels on 180,000-270,000 roofs in Nevada, without the ongoing costs of fuel! Remember, these projected costs *only* represent the building of the plants and related infrastructure to *prepare* for generating power with the coal plants. It does not include the added investment in mining, transporting and processing the coal or the disposal of ash and heavy metals and other pollutants, all with the associated and severe negative environmental consequences. How many buildings are there in Nevada on the grid? How many residences on the grid? We could also include a program for residences off-the-grid; perhaps spurring growth in rural areas, if that proves to be desirable.

The argument by the utilities that solar doesn't help because power is only being generated while the sun is out needs to be addressed. Solar power is produced during the day when demand is greatest. Most people are away from home for work, school or other activities so demand is least during the day in residences. This excess power produced by residential installations could feed the commercial and business requirements during the day. Battery installations in the residences could provide storage with additional benefit of emergency back-up in the event the grid goes down. The residences could draw down power from the batteries at night. Nevada Power and Sierra Pacific Power could continue to manage their business of distributing power *and* continue investing in geothermal and Solar One type generation plants like the one in Boulder City.

## Appendix – Coal Power Plants currently being planned in Nevada

### • Nevada - White Pine

White Pine Energy Associates, a subsidiary of LS Power Associates, is planning the construction of a 1,590 megawatt coal-fired power plant in western Nevada. For more information please see the Western Resource Advocate's website at:

<http://www.westernresourceadvocates.org/energy/coal/nevada.php>

#### Updates:

**April 2007:** On 4/20/07, the U.S. Bureau of Land Management's Ely Field Office issued a draft environmental impact statement evaluating the environmental impacts from LS Power's proposed White Pine coal-fired power plant. The BLM held two public meeting about the draft EIS: May 8, 2007, at 6:00 p.m. at the Bristlecone Convention Center in Ely and May 9, 2007, at 6:00 p.m. at the Airport Plaza Hotel in Reno. For information about the draft EIS or to obtain copies, please contact the BLM at 775-289-1852.

In early March 2007, Sierra Club submitted comments on LS Power's White Pine power plant, which are located in the "Related Documents" section below. A public hearing held on March 8, 2007, in Ely on the proposed plant drew a number of concerned local residents worried about the negative impacts from this coal-fired power plant. No word yet on when NV DEP expects to issue the final air permit.

**February 2007:** In December 2006, the NDEP Bureau of Air Quality released the draft air permit for the proposed White Pine power plant. NDEP hosted a public meeting about the proposed plant on March 8, 2007 in Ely.

### • Nevada - Toquop

Sithe Global, a subsidiary of LS Power, is planning a 750 megawatt coal-fired plant in Toquop, Nevada. Originally permitted as a 1,100 MW natural gas-fired power plant, the new plant would be fueled by coal shipped all the way from the Powder River Basin in Wyoming.

#### Updates:

**July 2007:** Nevada Department of Environmental Protection still plans to issue the draft air permit for public comment in mid-September. Please check their website at:

<http://ndep.nv.gov/admin/public.htm> to track when the comment period begins. Also, the draft environmental impact statement for the proposed plant was expected in late August/mid September.

**April 2007:** NDEP's Bureau of Air Quality received the air permit application for Sithe Global's Toquop power plant and predicts the draft permit was planned to be out for public comment in September 2007 at the earliest. Please check NDEP's website for notice of the draft permit and the start of the public comment period at:

<http://ndep.nv.gov/admin/public.htm>

Additionally, the U.S. Bureau of Land Management (BLM) had planned to issue a draft Environmental Impact Statement (E.I.S.) on the Toquop power plant in mid-April or May 2007. Please visit the BLM's website at:

[http://www.blm.gov/nv/st/en/fo/ely\\_field\\_office/blm\\_programs/energy/energy\\_projects\\_\\_transmission.html](http://www.blm.gov/nv/st/en/fo/ely_field_office/blm_programs/energy/energy_projects__transmission.html) for more information and an update.

**February 2007:** According to officials at the NDEP's Bureau of Air Quality, Sithe Global was expected to submit its air permit application for the Toquop plant in mid-February. NDEP was expected to issue a draft permit and open the public comment period approximately 3 months later. To monitor the NDEP's website for a notice of the draft permit and the start of the public comment period, for a periodic update please visit:  
<http://ndep.nv.gov/admin/public.htm>.

• **Nevada - Granite Fox**

The permit proposal for Sempra Energy's Granite Fox Power Project, a 1,200 megawatt (MW) coal-fired power plant for northern Nevada, was recently withdrawn. For more information please see the Western Resource Advocate's website at:  
<http://www.westernresourceadvocates.org/energy/coal/nevada.php>

• **Nevada - Ely Energy Center**

Nevada Power Company and Sierra Pacific Power Company have announced plan to build a 1,500-MW conventional coal-fired plant in White Pine County, Nevada. A coalition of environmental groups have banded together as Nevadans for Clean Affordable Reliable Energy have launched a campaign against the project. The plans are for one 750-MW unit in 2011 and two 500-MW IGCC plants when the "technology becomes commercially viable" which they estimate at 2016 or 2018. This project includes plans for a 250-mile transmission line from Ely, Nevada to Las Vegas.

**Updates:**

**July 2007:** The draft air permit is still expected sometime in September 2007. The draft environmental impact statement isn't due out until sometime in 2008.

**April 2007:** The NV DEP recently received a complete air permit application for the Ely Energy Center (EEC) *was expected* to issue a draft air permit for public comment in early September 2007. Please visit <http://ndep.nv.gov/admin/public.htm> to monitor when the draft air permit is issued. The plant is also expected to burn coal from the Powder River Basin. The total cost of the plant and 250 miles of transmission line needed to support the plant is currently estimated at \$3.8 billion.

**February 2007:** In November 2006, the Nevada Public Utilities Commission gave Nevada Power and Sierra Pacific Power regulatory approval to begin developing the Ely Energy Center, despite Nevadans for Clean Affordable Reliable Energy's opposition.



# The American Institute of Architects

## --The 2030 Challenge--

Rapidly accelerating climate change (global warming), which is caused by greenhouse gas (GHG) emissions, is now fueling dangerous regional and global environmental events. Data from the U.S. Energy Information Administration illustrates that buildings are responsible for almost half (48%) of all GHG emissions annually. Seventy-six percent of all electricity generated by US power plants goes to supply the building sector. Therefore, immediate action in the building sector is essential if we are to avoid hazardous climate change. The American Institute of Architects (AIA) leads in efforts nationally to reduce the amount of GHG emissions attributed to buildings with its commitment to Architecture 2030. Architecture 2030 has issued **The 2030 Challenge** asking the global architecture and building community to adopt the following targets:

- All new buildings, developments and major renovations shall be designed to meet a fossil fuel, GHG-emitting, energy consumption performance standard of 50% of the regional (or country) average for that building type.
- At a minimum, an equal amount of existing building area shall be renovated annually to meet a fossil fuel, GHG-emitting, energy consumption performance standard of 50% of the regional (or country) average for that building type.
- The fossil fuel reduction standard for all new buildings shall be increased to:
  - 60% in 2010
  - 70% in 2015
  - 80% in 2020
  - 90% in 2025

The goal is for buildings to be totally carbon-neutral by 2030 (using no fossil fuel GHG emitting energy to operate). These targets may be accomplished by implementing innovative sustainable design strategies, generating on-site renewable power and/or purchasing renewable energy and/or certified renewable energy credits.

People say there are no “magic bullets” for the global warming problem, but that just isn’t true. According to the leaders of Architecture 2030, the “magic bullet” is a world-wide moratorium on coal used to generate electricity. According to hard scientific data, if we were to use up all the known and projected oil and gas reserves left on the planet, we would likely not reach the point of irreversible catastrophic climate change. If we develop the coal-fired power plants that are in the planning stages right now (151 in the U.S. and over 1000 in China alone), we will hit the point of irreversible catastrophic climate change. **It is this simple. Keep using coal and we ruin our planet, stop using coal and we save it.** It doesn’t seem like a difficult decision. Let’s make the right decision. For more detailed information on these theories and the science behind them go to [www.architecture2030.com](http://www.architecture2030.com) and see for yourself. Prepare to be shocked.



# The American Institute of Architects Sustainable Architectural Practice

## Position Statement

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Washington, DC

### Sustainable Architectural Practice

The AIA recognizes a growing body of evidence that demonstrates current planning, design, construction, and real estate practices contribute to patterns of resource consumption that seriously jeopardize the future of the Earth's population. Architects need to accept responsibility for their role in creating the built environment and, consequently, believe we must alter our profession's actions and encourage our clients and the entire design and construction industry to join with us to change the course of the planet's future.

### Explanation

Altering current practices of design and construction to realize significant reductions in the use of natural resources, non-renewable energy sources, and waste production and promote regeneration of natural resources will require a multiple-year effort in conjunction with clients, industry partners, and concerned organizations. To achieve these changes, the AIA will act through all its Board Committees, Knowledge Communities, Task Forces, Working Groups, and related activities to:

1. Promote sustainable design including resource conservation to achieve a minimum 50 percent reduction from the current level of consumption of fossil fuels used to construct and operate new and renovated buildings by the year 2010, and promote further reductions of remaining fossil fuel consumption by 10 percent or more in each of the following five years;
2. Collaborate with other national and international organizations, the scientific research community, public health community, and industry leaders engaged in issues related to sustainable / restorative design to facilitate the dialogue, share knowledge, and accelerate the rate of change for all those seeking to improve the industry's current practices and utilize integrated approaches to achieve a sustainable future;
3. Develop and promote the integration of sustainability into the curricula for education of architects and architectural students to enhance their design skills;

4. Develop standards for the architectural profession that incorporate greater sustainability into design, education, management, and licensure standards and provide resources to assist integrating these standards into the daily practices of all architects;
5. Promote documentation of the measurable contributions resulting from implemented sustainable design and construction approaches to the health of humankind and the planet to promote the value and achievements of increased use of sustainable design;
6. Promote research by industry, scientific, and governmental entities to provide the design and construction industry with full life cycle assessment data for all products and assemblies used in the construction of the built environment at every scale in order to facilitate decision-making and communicate benefits to all;
7. Promote the AIA's building performance design targets to local, state, and national governments;
8. Communicate possible beneficial economics of environmentally responsible design to both public and private sector clients; and
9. Assume a global role as advocates for sustainable design freely sharing knowledge and actively promoting sustainable practice throughout the world.



# The American Institute of Architects High Performance Building Position Statements

## Sustainable Rating Systems

The AIA supports the development and use of rating systems and standards that promote the design and construction of communities and buildings that contribute to a sustainable future. The AIA encourages through the efforts of its Board Committees, Knowledge Communities, Task Forces, Working Groups, and related activities the inclusion of the following features in “green building” rating systems, standards, or regulations for the design and construction of the built environment. That it:

1. Is developed and renewed on a regular basis through a consensus-based process, in which all interested parties can participate;
2. Require clearly defined design documentation to demonstrate compliance;
3. Require compliance to be validated by an independent third party;
4. Require the development of sustainable sites avoiding the conversion of prime agricultural lands or wetlands, regenerating brownfield sites, or those that result in regenerative benefits to the natural environment;
5. Require specific goals in the efficient use of water resources that promote application of new wastewater technologies;
6. Require specific goals for significant reductions in energy use, especially non-renewable energy sources, with enhanced performance assured through commissioning of building systems;
7. Promote the use of renewable energy sources;
8. Require reduced use of non-renewable natural resources through the reuse of existing structures and materials, reductions in construction waste, promotion of recycled content materials, and use of materials independently certified as from sustainable sources;
9. Require specific goals for improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, daylighting, and pollutant source control and use low emission materials and building system controls;

10. Promote the development and application of innovative designs and collaborative processes intended to improve environmental performance;
11. Recognize the life cycle value of a community or project in addition to construction first costs, including assessment of impact on climate change, acid rain, water pollution, resource depletion, and toxicity factors;
12. Utilize life cycle assessment data as the basis for design and construction decision making;
13. Acknowledge national, regional, and bio-climatic differences;
14. Reduce (and eventually eliminate) on site and off-site toxic elements in the built environment;
15. Require specific measurable reductions in CO<sub>2</sub> production in the built environment; and
16. Require documentation of actual building energy and operational performance.