



UNDER CONSTRUCTION

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Contractors and Designers - Are You Ready For a Possible Clean Energy Revolution?

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This article simply expresses what we have observed in the construction industry relative to the energy sector and is not meant to be a politically “charged” piece, but rather a discussion of current trends and their potential impacts on the construction industry. This article assumes that the Environmental Protection Agency (EPA) continues its emphasis on the regulation of coal power plants and greenhouse gases (among many other topics). It should not be understated that this is a large assumption that may or may not occur because there is significant opposition and debate about the issue. Specifically, this year’s presidential campaign, legislative or EPA rule changes, or many pending and anticipated lawsuits to stay EPA’s actions may affect the above assumption. Many parties must plan on how to deal with the regulations and laws currently in place and those that are being proposed at all levels of government. Today, it appears there may be a construction boom in the energy sector.

If the current trends continue, we anticipate the following impacts:

1. **Existing Power Plants Will Be Impacted.** The vast majority of coal power plants (which create about half the power in the United States) will either be shut down or undergo very expensive modifications in the next one to five years. For instance, the latest Mercury and Air Toxins Standards (MATS) requirement for Utility MACT (maximum available control technology), which were finalized in December 2011, will result in between approximately five to 75 gigawatts of coal power being

retired.

The EPA has estimated the projected *annual* incremental private costs of the final MATS Rule to the electric power industry to be \$9.6 billion in 2015 and then reducing over the next 15 years. Specifically the EPA concludes:

Annualized Compliance Cost for MATS Requirements on Coal-fired Generation

	2015	2020	2030
Annualized Compliance Cost (in 2007 dollars)	\$9.4 billion	\$8.6 billion	\$7.4 billion

Source: Integrated Planning Model run by EPA, 2011.

Furthermore, the EPA estimates that the MATS rule alone will result in approximately 46,000 short-term construction jobs nationwide to decommission or retrofit coal-fired power plants.

2. **New, Cleaner Power Plants Will Be Required to Pick Up the Power Losses From Coal Power and the Continuing Increased Need For Energy.** We anticipate those will come in three forms:

- a. **Natural Gas.** Natural gas plants are popping up consistently and are often now co-located with renewable energy. The primary driving forces for natural gas are that it is cleaner than coal and, historically, has a lower cost. A recent technological development in obtaining more natural gas out of the ground with hydraulic fracturing (another potential EPA issue) is a large factor in creating the increased supply of affordable natural gas. Now, there is much more supply of natural gas than demand.
- b. **Renewable Energy.** Renewable energy is still a hot topic being fueled via subsidies at the state and federal levels. Both federal and state governments are pushing for the development of renewable energy on public lands (which we will discuss in a future article). Some industry insiders deem it as expensive and inconsistent power (at least for solar and wind, unless and until power storage is found and smart grid technology improves). Yet, it's green and green is *en vogue* such that

many states are requiring renewable energy portfolios that require something like 15-20 percent of all power to come from renewable sources by 2020 (it varies state to state, but we call that the current average). Hydropower is a possibility as well, but it has been very difficult to get new hydropower facilities approved in the U.S. and environmental battles would likely ensue. Bio-Fuels also have a place at the table.

- c. **Nuclear Plants.** In February 2012, the Nuclear Regulatory Commission (NRC) issued permits for the first nuclear power plant since 1978: a \$14 billion project in Georgia. In the next few months, it is widely anticipated that the NRC will approve two similar nuclear reactors in South Carolina. Others are on the books as well and have been pending for years if not decades. Within days of the permit approval of the nuclear power plant in Georgia, environmental and anti-nuclear groups filed a lawsuit to stop the construction. We anticipate numerous legal battles on these permits that will likely delay construction. The most significant unresolved issue is where the nuclear waste (spent fuel rods) will be stored permanently. The ramifications of last year's nuclear fallout in Japan after a devastating earthquake and tsunami should not be underestimated. Desert lands in Utah or Nevada (primarily Nevada at Yucca Mountain) have been the most widely proposed location for permanent nuclear waste storage in the United States. Therefore, even if no new nuclear plants are built in the Southwestern United States, we still anticipate that the Southwest could be involved in the construction of very large permanent waste storage facilities. See e.g., *Nuclear Energy and Radioactive Waste, A Hot Choice for Utah*.

3. **Modifications in Other Sources of Greenhouse Gases or "Air Toxins."** Additionally, the EPA has proposed rules that will require major modifications to more than just power plants. Specifically, experts anticipate that the EPA will initially focus on

boiler/incinerator/manufacturing plants that create significant amounts (typically considered 100 tons per year) of greenhouse gases, mercury or other “air toxins.” Legislation and enforcement in these areas may have a significant impact in the manufacturing and mining industries throughout the country. For instance, the EPA estimated that 10,000 businesses nationwide now have to report greenhouse gas emissions. See *e.g.*, our previous [legal alert](#) on greenhouse gas reporting.

4. **Energy Efficiency.** Increased and varied energy production is one part of the equation, but the other part is to use less energy. In some circles, this reduction in energy usage is called a “negawatt” hour. There will be continued movement in energy efficiency, green building, energy storage, net metering and smart grid development (to name a few). In recent years, there has been a consistent push for energy efficiency in fields dominated by subcontractors (examples include the Energy Star program that focuses on energy efficient windows, doors, HVAC, appliances and insulation) and energy audits sponsored by utility companies. There is also a strong push and series of legislative efforts focusing on more fuel-efficient cars and transportation. Yet, it is very possible that energy efficiency is not the solution, because of the increased use of technology and electricity generally. In other words, the increased demand for more megawatts will exceed the negawatt gains. A good example is plug-in cars. If that becomes as popular as anticipated, then more energy from power plants will be required to power plug-in cars rather than fuel at the gas pump. In addition, depending on the success of the plug-in technology, it could put a strain on an already over-stressed power grid and may alter prime-time usage of power. Renewable energy sources such as solar power plants may not be such a great solution for high power demands to charge vehicles overnight. Energy efficiency is part of the focus, but not enough on its own.

In addition, the funding for these large types of infrastructure and renewable energy projects is uncertain. The federal government’s deficit is at an all-time high. There have been some public failures and increased public scrutiny in the funding of renewable energy projects such as Solyndra. State and local economies are still struggling with decreased budgets and large deficits. It seems unlikely the construction of all the projects detailed above will be funded with solely public funds and it is probably economically infeasible for solely private funding as well. Thus, we anticipate that there will be an increasing likelihood for funding through public private partnerships (P3). A detailed discussion of P3 and financing of these projects is beyond the scope of this article, but we have discussed it in numerous other forums. See *e.g.*, [Infrastructure Development and Related Project Finance Players](#).

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