



Idaho's Dangerous Dalliance with King Coal

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**SNAKE RIVER
ALLIANCE**

IDAHO'S NUCLEAR WATCHDOG & CLEAN ENERGY ADVOCATE

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INTRODUCTION

Idaho is at a crossroads in its electricity choices. Most of its electricity consumers are served today by utilities that are heavily invested in coal plants, and those utilities are poised to spend hundreds of millions of dollars on anti-pollution measures just to keep their coal plants legal. Dollars that would be recovered primarily through increases in Idahoans' power bills. And every dollar that is spent on Band-Aid measures to keep dirty power plants in compliance with the law – when they could be retired ahead of schedule just like scores of others are elsewhere – is a dollar diverted from far cheaper energy efficiency measures that can go a long way in replacing the coal. The reasons for sharply reducing and eventually eliminating Idaho's coal consumption are manifest, but for starters include the known threats these power plants inflict on human health, air and water quality, and the natural environment. Or the immense risk coal plants pose to utility customers when the federal government imposes the inevitable economic price on greenhouse gas emissions.

This is the first of two reports by the Snake River Alliance detailing Idaho's heavy reliance on coal-fired power generation for its electricity – and more important how the state and its utilities can begin planning to phase out their use of coal and replace that power with sustainable resources such as energy efficiency and renewable energy resources. This report states the problem: Idaho has a serious if little known reliance on heavily polluting out-of-state coal plants for much of its electric power. The Alliance's second report, to be released prior to the convening of the 2012 Idaho Legislature, will set a path away from that coal and toward a cleaner energy future.

Idaho's Coal Conundrum

Ask an Idahoan where our electricity comes from, and odds are the answer will be that most of the electricity that lights our homes flows from hydropower and the string of dams large and small on the Columbia, Snake, Boise, and Clearwater rivers. While that is certainly true for the electricity that is actually generated in Idaho, the truth is Idaho imports about half its electricity and most of those power imports are from dirty coal-fired power plants in our neighboring states. Contrary to popular belief, nearly half of the electricity consumed in Idaho comes from coal. And unlike in many states, the big utilities that serve Idaho's electricity customers aren't planning major changes in their fossil fuel use any time soon. That's one reason why Idaho's reliance on coal for about 45 percent of its electricity needs is almost identical to the nation's

overall reliance on coal – despite the fact that Idaho and the Pacific Northwest have huge amounts of zero-carbon or low- carbon power generation.

In fact, Idaho is bucking a regional and even a national trend in which polluting coal plants are being decommissioned – in some cases before their useful lives are over. Why are utilities outside Idaho divesting from coal, and why should customers care?

- As the nation’s largest source of carbon emissions, coal plants and the utilities that own them face inevitable increased anti-pollution costs in order to remain in compliance with state and federal environmental laws. That means unnecessary risk for the utilities, their shareholders, and ultimately the consumers who bear the costs on their utility bills.
- The costs of operating the plants continue to rise. Coal prices are rising, driven in part by growing international competition for finite resources. Salaries for those operating the plants are also increasing, as are the costs of materials to maintain and operate the plants. Those higher costs are already showing up in Idaho utility bills.
- Technologies to “capture” and then “store” the carbon emissions from coal plants have proven evasive and extremely expensive. The massive environmental retrofits required of most of our coal plants do nothing to reduce CO2 emissions.
- Competition from other energy resources is making coal a less-attractive generation resource. Renewables such as wind, solar, and geothermal are commanding greater shares of utility power portfolios thanks to improved technology and dropping prices. Meanwhile, natural gas prices have fallen significantly and are expected to remain low for years to come, making gas more desirable for utility power dispatchers.
- As energy efficiency fills a greater share of utility needs, dispatching coal-fired energy from distant power plants makes less economic sense. The costs of energy efficiency measures are far less than the costs of power from coal plants.
- As Idaho Power’s parent company IDACORP learned two years ago, utility shareholders demand cleaner energy from their companies. Investors are speaking with their stock shares, and utilities that ignore customer dissatisfaction with their utilities’ energy choices do so at their peril.

Oregon’s relatively young lone coal plant at Boardman is now scheduled for early shut-down around 2020 instead of 2040, sparing the region massive amounts of coal-fired emissions that foul the air, create massive public health problems, and muddy the views of our region’s

majestic natural beauty. Likewise, Washington State's lone coal plant, the Canada-based TransAlta merchant power plant at Centralia, will be phased out in two stages beginning in 2020, also ahead of schedule. In both cases, coal plant owners agreed to shutter their plants early rather than dump hundreds of millions of dollars in anti-pollution devices into those plants, although some investments are required to keep the plants within environmental requirements until their retirement.

Not so in Idaho, where the state and its electricity consumers have had a long, if little known, affair with King Coal for decades. It's a phenomenon that belies the commonly held misconception that, because there are no coal-fired generation plants actually located in the state, Idaho is borderline pristine when it comes to its electricity choices.

The Northwest Power and Conservation Council, a creation of Congress that includes two gubernatorial-appointed members from each of the four Northwest states, is tasked with assessing the region's ability to meet its future power supply needs, as well as how to help salmon and other fish stocks that have been devastated by the Columbia and Snake River dams. Every five years, the Council produces its regional power plan, and last year it released its 6th Northwest Power Plan. As part of its work, the Council's staff analyzes most forms of electric generation available in the Northwest, including coal.

"Continuing to use coal for power generation will hinge on efforts to reduce carbon dioxide production," the Council's 6th Plan said. "While abundant in the United States, coal has the highest carbon content of all the major types of fossil fuel. Moreover, conventional coal-fired plants operate at a lower efficiency than gas-fired plants. Despite the relatively small penetration of coal capacity in the Northwest, coal combustion is responsible for 85 percent to 90 percent of the carbon dioxide from the Northwest electricity sector." In a 2007 report on the "Carbon Dioxide Footprint of the Northwest Power System," the Council also points out that, in order for the region to meet the Western Climate Initiative's (Idaho is an observer; not a member) goal of reducing greenhouse gas emissions to 15 percent below 2005 levels by 2020, we would have to reduce the amount of carbon emissions from three coal-fired power plants. To meet the higher reduction goals for 2050, most of the region's coal plants would have to be shut down. That's part of the region's coal dilemma, and Idaho's disproportionate contribution to it: Reducing CO₂ emissions from *new* sources of electric power to meet the region's goals (Idaho has no carbon reduction policy) is one thing. But as the Council said in its 2007 report "To stabilize CO₂ production at 2005 levels or to reduce CO₂ production to 1990 levels would require substituting low CO₂-producing resources or additional conservation for some of these existing coal-fired power plants." Elsewhere in the report: "Achieving these (reduction) goals

will require deep cuts in the CO2 production from existing fossil plants or equivalent offsets from other sectors or geographic areas.”

We’ve reached a fork in the energy road. In Idaho and across the United States, huge sums of money will be spent in the future either on either a clean energy future or a business-as-usual electricity future. “Decarbonizing” the nation’s electricity portfolio will require massive investments in energy efficiency and other clean energy resources. The alternative is to spend the same amount of money to prop up an aging, dangerous, and deadly armada of coal-fired power plants. The choice between a clean energy future and burning coal to boil water to generate electricity couldn’t be more clear.

Idaho’s Mythical, Tiny Carbon Footprint

Some pointed with pride to the fact that Idaho’s per capita “carbon footprint” – or the amount of climate-altering carbon dioxide (CO2) emissions per Idahoan – is at or near the bottom of all the states. Consider this excerpt from a June 2007 news story that was picked up by media outlets around the state:

BOISE, Idaho - When it comes to contributing to America's overall impact on global warming, Idaho has good reason to feel a little greener than the rest of the nation's states.

In a state-by-state analysis, Idaho ranks 47th in total carbon dioxide emissions, based on the 14 metric tons the state spilled into the atmosphere in 2003.

When the calculation shifts to greenhouse gas produced per person, U.S. Energy Department figures show the Gem State leaves the smallest carbon footprint in the nation, responsible for 10 metric tons, or half the national state average.

Why Idaho fares so well is hardly a mystery.

The state is vast and sparsely populated, with 1.4 million people spread across 83,500 square miles, much of it rural and wilderness. It also has a light industrial and commercial base.

But the biggest factor by far, lawmakers and government regulators say, is the state's long-term reliance on cleaner, hydroelectric power.

"Coal-fired power facilities are the biggest emitters ... and we haven't got a single one," said Martin Bauer, administrator of the Idaho Department of Environmental Quality's Air Quality Division.

The rankings emerged from an analysis by The Associated Press of state-by-state emissions from 2003, the latest Energy Department figures available.

The results show power generation from coal is the biggest factor on a state's CO2 output, with states like Wyoming, West Virginia, Indiana, North Dakota and Alaska among the top per-capita culprits for greenhouse gasses.

While Idaho's ranking may be worth cheering, Bauer, environmentalists and lawmakers agree the results have more to do with circumstance than visionary, cutting edge reforms designed to curb CO2 emissions.

"We're kind of, you could say, sort of accidentally green because we have so much hydropower," said John Freemuth, a professor of public policy at the Andrus Center at Boise State University. "We've just sort of stumbled upon our green ranking more than anything."

The big problem with the above perspective is that, while it is technically accurate because it is based on "state-by-state emissions" of climate-changing greenhouse gasses, claims of Idaho's remarkable low carbon footprint collapse completely when it becomes evident that a huge chunk of Idaho's electricity comes from *out-of-state* coal-fired power plants. So the emissions associated with Idaho's electricity consumption are not credited to Idaho, where they belong. Instead, the coal plant emissions from power imported to Idaho get credited to the unfortunate states where the plants are located.

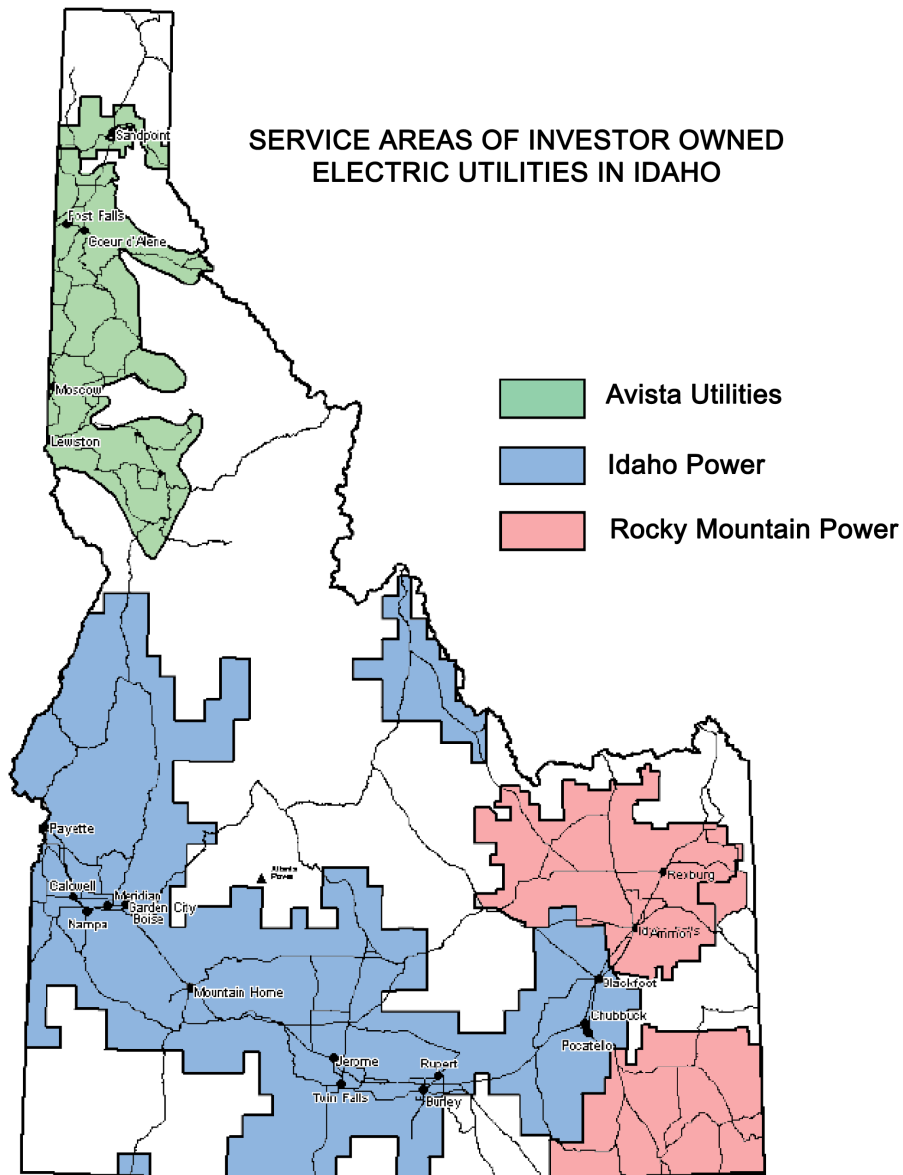
That is borne out in a spring 2008 report by the Idaho Department of Environmental Quality, which hired the Center for Climate Strategies (www.climatestrategies.us) to analyze the sources of Idaho's greenhouse gas inventory and also to project future emissions. The report also notes that Idaho's 15,700 kilowatt-hours per capita annual electricity consumption is far above the national average of 12,000 kWh per year, a statistic that may be partly attributable to Idaho's comparatively cheap electric rates.

According to the analysis (SEE Appendix B), of the 5.2 million metric tons of carbon dioxide or equivalent emissions for electricity production in Idaho in 2010, 4.6 million metric tons were attributed to net imported electricity. Looked at another way, only .6 million metric tons out of 5.2 million metric tons of CO2 emissions attributable to electricity production came from Idaho. The remainder amounts to Idaho's toxic gifts to its neighboring states where the coal plants that help keep our lights on are located. In essence, Idaho is "exporting" its electricity-related pollution to other western states. Unfortunately, this analysis doesn't point to a brighter future barring changes in the way Idaho utilities generate their power. The projection for 2020 indicates Idaho's electricity demand will be responsible for 6.4 million tons of CO2 emissions, or about 13 percent of the state's total emissions. Of those 6.4 million tons, 5.5 million tons would be attributed to imported electricity; a mere .9 million tons to in-state electricity production.

Again, the bulk of those emissions are inflicted on other states. So rather than reduce its greenhouse gas emissions or even holding them steady, Idaho emissions will continue to rise.

Coal Plants in Seven States

Look under the hood of Idaho’s electricity portfolio (SEE Appendix A) and its affection for one of the dirtiest forms of electricity production becomes evident. There are three major electric utilities serving customers in Idaho: Spokane-based Avista Utilities, which serves much of northern Idaho down to Grangeville; Boise-based Idaho Power, the state’s largest utility, which serves much of the southern half of the state; and PacifiCorp, which does business in Idaho as



Rocky Mountain Power and serves the far eastern part of the state, excluding Idaho Falls, which has its own city-run utility, and Pocatello, which is in Idaho Power's territory. Idaho also has more than two dozen municipal and cooperative utilities, but they receive the bulk of their electricity from the hydro-heavy Bonneville Power Administration.

As discussed in more detail below, these three "investor-owned" regulated electric utilities rely on coal-fired generation to various degrees. Avista obtains about 10 percent of its power from two of the four plants at the huge Colstrip coal complex in eastern Montana. Idaho Power relies on coal for 40-45 percent of its generation, coming from seven coal plants at three complexes in Nevada, Wyoming, and Oregon. PacifiCorp, which provides electricity in multiple states including Idaho, is extremely long in coal, drawing about 65 percent of its power from 26 coal plants at 11 complexes in Utah, Arizona, Wyoming, Montana, and Colorado. In most of these cases, the utilities are part owners of various units at various coal complexes. Idaho Power, for instance, takes 10 percent of the power from the Boardman plant in Oregon and is a 50 percent partner in the North Valmy plants in Nevada, and a one-third partner with PacifiCorp in the Jim Bridger plants in Wyoming. In some cases, such as with many of PacifiCorp's coal-fired assets, the utility is a 100 percent owner of the plant. All told, the plants in which Idaho utilities have an interest are located in Arizona (1), Colorado (4), Montana (2), Utah (7), Nevada (2), Oregon (1), and Wyoming (12).

That's 29 coal plants of various vintage that feed various amounts of dirty energy into our utilities' transmission systems, which in turn provide the 40-45 percent of Idaho's energy that is coal-fired. And that debunks the claim that Idaho is somehow a carbon-reduction leader. It's not as if all of these plants provide all of their power to Idaho, but rather to the utilities that serve Idaho customers. Quantifying Idaho's share of the emissions from these plants is nearly impossible due to the fact that utilities continuously alter where their generation comes from.

Why Coal, and Why in Other States?

There are a number of reasons why our utilities include coal plants in their portfolios of generation or "supply-side" resources. First is proximity: The abundant coal fields of Wyoming, Montana and Utah provide ample supplies of dirty fuel. Over the years, utilities have developed a business model that made it relatively painless – for them, at least – to add coal rather than other generation resources. When demand for electricity grows, utilities build their own coal plants or partner with another utility or utilities in a coal plant complex and, because those plants are assets, they can be amortized and their costs included in the rates paid by you, the customers. Utilities don't receive the same accounting and tax benefits when they buy power

from renewable energy resources or other generation resources they don't own, so the utility-owned generation model has suited utilities and their shareholders well for decades. Utility customers have had little to no influence in where their power comes from, and in today's regulated power market it's not as though customers can go shopping for a "green" utility.

In addition, utilities have two options when deciding where to build their coal plants. The first would be closer to the "load centers" where most of the demand for power comes from, and then ship the coal from the mines to those distant plants by rail. The second option is to build the power plants at the "mine mouth" or at the coal mine and then deliver the electricity to those distant load centers through big transmission lines. Idaho has no marketable coal reserves, so the utilities serving Idaho customers have chosen the second option, which turns out to be one of the cheapest ways to provide electricity after energy efficiency and hydropower. Cheapest in the cost of digging up, transporting and burning the coal, that is. The true cost of Idaho's coal addiction is actually far greater in dollars and other impacts.

They're Not Getting Any Younger

As mentioned, Idaho Power, Rocky Mountain Power, and Avista have shown little inclination to join the nationwide trend toward re-evaluating the true cost of aging coal plants and whether those plants should be taken out of service and replaced with energy efficiency and clean energy resources. Like Portland General Electric (Boardman) and TransAlta (Centralia), many utilities and coal plant operators nationwide see the hand writing on the wall. Just this year, Virginia-based Dominion Resources announced plans to decommission two of its dirtiest coal plants in Virginia in 2015 and 2016, as well as two more plants in Indiana and Massachusetts. American Electric Power plans to gradually phase out plants in Virginia, West Virginia and Ohio. Georgia Power is shutting down two plants in advance of expected new anti-pollution rules. The Tennessee Valley Authority (TVA) reached an agreement with stakeholder groups and the Environmental Protection Agency to shut down 18 coal units. Dallas-based Luminant, Texas' largest power generator, said in September 2011 that it will idle two coal-fired power units in order to comply with an Environmental Protection Agency rule cracking down on cross-state air pollution from power plants. Luminant is fighting EPA's clean air rules in court.

Bloomberg news quoted Energy Secretary Steven Chu at a February 2011 renewable energy conference as saying many U.S. coal plants will likely be closed before the end of this decade. "We're going to see massive retirements within the next five, eight years," Chu said. "Much of our fleet of coal plants is 40 to 50 years old."

One of the primary drivers for the increase in coal plant retirements is their age. The average age of a U.S. coal-fired power plant is 44, a decade beyond the presumed lifespan of a coal plant, but age itself is far from the only determinant in whether a plant is retired or even retired before its capital costs are fully amortized. A younger plant may be dirtier than some older plants that have undergone major (and massively expensive) environmental retrofits. But the older a plant gets, the more work will be needed to keep it in compliance with existing, proposed, and even potential state and federal clean air, water, and other environmental laws.

One of the ironies in the case of the Idaho-interest coal plants is that Boardman, the Oregon plant that majority owner Portland General Electric plans to decommission 20 years ahead of schedule in 2020, is a relative spring chicken, having been built in 1980. Boardman and its operators (remember, Idaho Power is a 10 percent partner and its customers are on the hook for its share of environmental compliance costs), were facing potential upgrade costs of \$500 million to \$600 million to comply with air quality regulations – and that investment would not have reduced any of the 585MW power plant’s carbon dioxide emissions. For that matter, most of the billions of dollars in coal plant upgrades under way and planned across the West don’t touch CO2 emissions, but rather reduce pollutants such as SOx, NOx, mercury, and other toxins.

So how do the other coal-fired power plants that help meet Idaho’s energy demands stack up against the 31-year-old Boardman coal plant that will be decommissioned early because of its impacts on air quality and health? Of the 29 plants owned or partly owned by utilities serving Idaho customers, 19 of them are older. Some, like PacifiCorp’s 57-year-old and 54-year-old Carbon 1 and Carbon 2 plants in Utah, are much older. The North Valmy coal plants in Nevada in which Idaho Power has a 50 percent share, are younger at 26 and 30 years old. PacifiCorp’s Dave Johnston coal units 1, 2, 3, and 4 in Wyoming range between 38 and 53 years old. But again, the age of the plant is only one factor in deciding when it should be shut down. Its environmental performance and public health threat is most important. Keep in mind also that many of the older coal plants tend to be smaller, meaning that replacing them isn’t as daunting as replacing the power from some of the newer, larger plants.

PacifiCorp’s Oregon Problem

With such a huge fleet of coal plants and such a vast service territory covering states from Wyoming and Utah to California and Oregon, PacifiCorp is emblematic of how an electric utility can run headlong into serious trouble with state regulators. Utilities must comply with the regulators and regulations in each state in which they operate. As a result, PacifiCorp must answer to regulators in Utah, Wyoming, Idaho, Oregon, Washington, and California. Idaho

Power must do the same in Idaho and Oregon, where it has a small service territory in the Ontario area. The same is true for Avista, which serves Washington, Idaho, and extreme western Montana. The advantage from a clean-energy viewpoint is that, while a utility may face a less demanding regulatory regime in one state such as Idaho, it very well might face stringent regulations in a state like Oregon or Washington or California. The bar is as high as the toughest state where a utility does business.

Most utilities in the Pacific Northwest are required to submit what are known as “integrated resource plans” (IRPs) to regulators every other year. These IRPs are designed to show how the utility plans to meet its future needs for electricity demand and also for the “peak” demand when electricity consumption is highest. They are generally not binding on the utility, but are “accepted” or “acknowledged” by regulators, and they are intended to show the utility’s plans for whether it expects to acquire more energy from generation resources like coal plants or wind, as well as from energy efficiency and conservation.

So when PacifiCorp (Rocky Mountain Power) filed its every-other-year IRP in the summer of 2011, it had to do so in the various jurisdictions where it operates. When the Idaho Public Utilities Commission staff reviewed PacifiCorp’s IRP in July 2011, it said it examined the utility’s discussion of climate change and the potential for federal CO2 taxes or a cap-and-trade mechanism or other carbon regulatory mechanisms and it concluded: “Staff concurs that it is appropriate to consider the possibility of federal climate change legislation in its portfolio evaluation process, and is satisfied that the Company has adequately addressed the issue. PacifiCorp does recognize that there are potential consequences stemming from various EPA regulations on the operations of its generation fleet, especially its coal-fired facilities, which have prompted expenditures in pollution control equipment.” For PacifiCorp, all was well in Idaho.

Then PacifiCorp ran into a buzz saw in Oregon, where the state’s Public Utilities Commission staff, environmental organizations, and low-income advocates pounced on the utility’s failure to address the risks and other implications of its massive coal fleet and its failure to justify why the coal plants should be allowed to operate or whether they should be retired and replaced with cleaner energy resources. As a result of an Aug. 19, 2011, Oregon PUC public hearing, the utility must now provide an economic analysis of each of its coal plants as a requirement for Oregon’s review of its IRP. Until the utility complies with Oregon’s demand for more accountability in its coal fleet, its IRP will not be acknowledged in that state.

PacifiCorp estimates the value of its fossil steam-generation fleet at \$3.38 billion after depreciation. Yet it is facing environmental retrofits to that fleet that will end up costing \$4.2 billion, or a cost to customers of \$360 million a year. Add to that the hundreds of millions of

dollars that EPA estimates will be spent on health-related costs connected with the plants in PacifiCorp's multistate service area, and the costs of sticking with coal dwarf the value of the plants themselves. A January 2011 study conducted by Synapse Energy Economics for the Western Grid Group ("WECC Coal Plant Retirement Based on Forward-Going Economic Merit") indicated half of PacifiCorp's coal plants are in the bottom 25 percent of western coal plants in terms of economic merit.

To be sure, retiring the coal plants and replacing that power with energy efficiency and renewable energy resources is far from cost-free. The issue is that there will be huge costs regardless of whether utilities choose the "business as usual" dirty energy path they have been on, or whether they embark on a clean energy future. Unlike the risky and dangerous coal future, however, the clean energy path reduces risks to utilities and customers by bringing a diverse energy portfolio that mitigates financial and security risks. As various stakeholder groups are pointing out in PacifiCorp's Oregon IRP case, each of its coal plants must be analyzed to see whether it qualifies under the "least-cost, least-risk" standard for expenditures. Stakeholders in this case also say time is crucial, as the utility and its coal plant partners are already embarking on expensive plant upgrades, and as time passes customers become more saddled with a dirty generation portfolio and all of its attendant financial, environmental, and health risks. In a Wyoming case, a PacifiCorp exhibit shows the company is in the process now of spending about \$1 billion in coal plant upgrades for 2010 and 2011. That is money that would be better spent on long-term energy-saving measures and added renewable energy.

The Oregon Citizens Utility Board (CUB), which represents residential utility customers in regulatory matters, put it this way in its Aug. 25, 2011, comments to the Oregon Public Utilities Commission:

"The Company proposes to deal with carbon emissions not by shutting down coal plants but by continuing to invest billions in its coal plants and then let carbon regulation reduce the output of these plants. Rather than consider whether lower emissions can come from reducing investment in coal facilities and phasing out some of the units, PacifiCorp is forging ahead as if carbon is not, and will not become, a regulated issue. It would appear that when faced with a resource option choice that the Company is simply choosing the option that corresponds to the greatest capital investment."

In addition, in some states in PacifiCorp's service area, some decisions are being made that are beyond the utility's control. Washington, Oregon, California and Colorado all have "renewable portfolio standards" that set utility targets for how much of their power must come from renewable or carbon-free resources. As those requirements tighten over time, coal becomes

even less attractive regardless of its price. Idaho has no such standard and probably never will, although it is possible that a federal renewables standard could come out of Washington, D.C.

Also on the federal front, the utility trade group Edison Electric Institute has attacked a suite of expected EPA rules clamping down on toxic and climate-changing coal plant emissions as potentially costing the utility industry up to \$129 billion in environmental upgrades while at the same time shutting down one-fifth of the nation's coal fleet. Given that, clinging to aging and increasingly expensive coal plants makes less sense by the year. In any case, the nonpartisan Congressional Research Service took issue with EEI's prediction of a coal plant "train wreck," saying the impact of the EPA clean air and water rules, while not insignificant, may be overstated.

Is Idaho Power Whistling Past the Coal Graveyard?

Idaho Power's coal situation is much less dire than that at PacifiCorp, but it is potentially very serious for a utility its size and also carries unnecessary risks for the company and the customers and shareholders who would bear much of the costs of the company's coal plans. What separates Idaho Power from PacifiCorp, however, is that Idaho Power doesn't actually operate the coal plants it uses. It is a partner, but the management decisions are made by other utilities. That lack of control over the future of the plants, however, does not absolve Idaho Power of the growing risks that come with such a huge reliance on coal-fired generation.

Idaho's largest electric utility's average electricity demand is somewhere less than 2,000 average megawatts, ranging from a peak of 3,200 megawatts during the highest demand times in the summer to as low as 1,100MW in the shoulder seasons when heating and air-conditioning demands are at a minimum. Coincidentally, its coal assets can also generate 1,100MW when operating fully. Coal is Idaho Power's second largest supply-side energy choice. Whether it produces 40 percent or closer to 50 percent of the company's energy during the course of a year depends in part on whether Idaho is enjoying an abundant water year, which means Idaho Power can draw more on its hydropower dams than in drier years, when the dams produce less and coal becomes more important.

In May 2009, shareholders in IDACORP, Idaho Power's parent company, stunned the utility and Wall Street when they approved a shareholder resolution directing Idaho Power to draft a plan for how it can reduce its carbon emissions. The company did so, although the plan relies heavily on squeezing more water out of the hydro system, leasing more water, and even boosting cloud-seeding operations to boost the amount of water available for power production. In past

Integrated Resource Plans, Idaho Power has acknowledged the possibility of legislation or regulatory rules coming out of Washington to either attach a tax on power plant carbon emissions or create a carbon trading mechanism. Knowing that any carbon constraints or penalties can carry significant risk for a utility like Idaho Power with such a large coal footprint, the utility began to test various portfolios to determine the risk they pose in a carbon-constrained world.

To its credit, Idaho Power decided in 2007 against partnering with Avista and PacifiCorp in ventures to build new coal plants and it has no plans to build another coal plant, and it has not wavered from that position. But in its new 2011 IRP, Idaho Power seems more sanguine about the near-term possibility of carbon constraints now that the Republican Party rules the House and has a majority of members opposed to cracking down on carbon.

“Though coal-fired power plants require significant capital commitments to develop, coal resources take advantage of a low-cost fuel and provide reliable and dispatchable energy. Coal supplies are abundant in the Intermountain Region and are sufficient to fuel Idaho Power’s existing plants for many years to come.” (Idaho Power 2011 IRP, P. 49)

Rather than launch what would admittedly be a complex and arduous process in which it would begin to plan for life after coal plants, the utility’s posture seems to be to assure readers of its resource plan that there’s plenty of coal around to last indefinitely. It’s also possible those reserves will last even longer given that other utilities in the Northwest are shedding coal from their portfolios and are on the road to a coal-free future. Idaho Power’s 2011 IRP (P. 68) indicates coal plant modifications required to meet minimum air-quality standards are planned for Boardman in 2011, 2014, and 2018 and for the Jim Bridger complex in Wyoming in 2015, 2016, 2021, and 2022. As for Jim Bridger, the February 2011 report by the Environmental Integrity Project, “Getting Warmer: US CO₂ Emissions from Power Plants, Emissions Rise 5.6 Percent in 2010,” ranked it as the nation’s 14th largest CO₂ emitter in 2010. That’s one place behind the notorious Arizona Navajo Generating Station, renowned as one of the West’s dirtiest power plants and one of the leading causes of degraded visibility in Grand Canyon National Park.

The risks to a utility that clings to a coal-based power portfolio range from the hundreds of millions of dollars in unknown anti-pollution improvements to rising costs of the power itself once the federal government attaches actual environmental costs to the practice of burning coal. IDACORP acknowledged as much in its July 2011 Form 10-Q filing with the U.S. Securities and Exchange Commission:

“Idaho Power’s environmental compliance costs will continue to be significant for the foreseeable future. Idaho Power anticipates that a number of impending EPA rulemakings and proceedings addressing, among other things, ozone and fine particulate matter pollution, emissions, and disposal of coal combustion residuals could result in substantially increased operating and compliance costs.”

The bulk of those costs, of course, will show up on customer bills. So will the estimated \$1.5 million Idaho Power expects to spend on the Boardman coal plant in Oregon in the second half of 2011. Idaho Power’s share of the environmental controls to keep Boardman operating until its 2020 retirement is about \$6 million.

After the Oregon Legislature passed the state’s greenhouse gas reduction targets, the Oregon PUC reports to the Legislature on progress toward those goals. Idaho Power’s September 2010 e-mail to the PUC said that, in its 2009 IRP, Idaho Power modeled a “With Coal Curtailment” scenario and also a “No Coal Curtailment Scenario.” Idaho Power’s 2009 “coal curtailment” models were based on possible carbon reductions contained in the now-dead Waxman-Markey cap-and-trade legislation. Idaho Power explains:

*“The ‘With Coal Curtailment’ scenario includes an operational strategy that would curtail the usage of the company’s coal-fired resources to remain below the carbon emissions allowed under the proposed Waxman-Markey ‘cap and trade’ legislation. That is, Idaho Power would operate its coal-fired resources in a manner that would allow the company to remain below the Waxman-Markey emissions ‘cap’ and therefore not incur any incremental costs associated with carbon emissions. **Under the ‘No Coal Curtailment’ scenario, the company would continue to operate its coal-fired resources to their full production capabilities.**” (Emphasis added)*

That’s important because Idaho Power’s CO₂ emissions in 1990 were 7,598,952 tons, according to the September 2010 e-mail from Idaho Power to the Oregon PUC. The 2005 emissions were 8,067,721 tons. And the projected 2020 emissions (under the dead Waxman-Markey CO₂ reduction regime) were 6,272,042 tons. The company’s plans were to reduce CO₂ emissions in 2020 by 17 percent below 1990’s emissions, and 22 percent below 2005 levels. In a follow-up e-mail in October 2010, Idaho Power said: “Idaho Power’s 2020 greenhouse gas emissions, assuming no emissions limits, are projected to be 8,165,871 tons.” That’s actually higher than its 2005 emissions.

Avista and Colstrip

As mentioned, Avista Utilities draws least on coal of the electric utilities serving Idaho load.

Avista, which serves parts of northern Idaho, relies mostly on natural gas plants for its fossil fuel power generation. Its Rathdrum gas plant was built in 1995 and can produce 178MW during the winter. Because Idaho has no coal plants, Rathdrum is one of the state's leading sources of electric-generation CO2 emissions. But when it comes to coal, Avista owns 15 percent of Units 3 and 4 of the four-unit Colstrip plant in eastern Montana. Those units went into service in 1984 and 1986 and each of them can produce about 123MW of generation. While the Colstrip units aren't old by industry standards, they are dirty. The 2011 report by the Environmental Integrity Project lists Colstrip as the nation's eighth largest CO2 emitter in 2010 with 18.7 million tons of CO2 emissions. The Synapse Energy Economics report lists it in the nation's lowest 25 percent of economically performing plants.

Because Avista has a relatively small percentage of its overall generation coming from coal, compared to Idaho Power and PacifiCorp, it comes as no surprise that the utility is the only one of the three that advocates for some form of federal greenhouse gas reduction policy. It also takes that possibility into account in its resource planning, as in its recently released 2011 Electric Integrated Resource Plan.

"Resource planning in the context of greenhouse gas emissions regulation raises concerns about the balance between the Company's obligations for environmental stewardship and the cost implications for our customers. Consideration must be given to the cost effectiveness of resource decisions as well as the need to mitigate the financial impact of potential future emissions risks."

To reduce its carbon emissions, Avista said its options range from increasing the efficiency of those fossil-fueled resources; reducing emissions from those resources by substituting lower emitting resources; decommissioning or divesting fossil-fueled generation; and increasing investments in energy efficiency. Until it better understands what a federal carbon reduction regime will look like, however, Avista is holding off on getting into carbon reduction details in its planning documents. Still, despite Idaho's inaction on carbon reduction measures associated with its electricity generation, Avista must deal with Washington State's renewable portfolio standard requiring a certain amount of renewable energy provided by utilities, but also the state's emissions standards that curtail the amount of CO2 in electricity portfolios.

That's yet another case of Idaho inadvertently benefitting because utilities are also doing business in states with more progressive climate policies. For instance, Oregon's 2009 law mandating greenhouse gas emissions reductions sets a target to reduce those emissions to 10 percent below 1990 levels by 2020, and by 15 percent below 2005 levels by 2020. According to a progress report on that law from the Oregon PUC to the Oregon Legislature, in order to meet the 10 percent by 1990 levels goal, Idaho Power would have to reduce its greenhouse gas

emissions in 2020 by 16 percent from the level projected in its current Integrated Resource Plan (IRP). “Idaho Power assumes that it would meet that emissions goal by curtailing coal fired generation,” the report said. PacifiCorp’s challenge is more daunting: “PacifiCorp would have to reduce its greenhouse gas emissions in 2020 by 31 percent from the level projected in its most recent IRP. PacifiCorp assumes that it would have to reduce generation from its coal fired plants and add significant amounts of renewable resources, natural gas fired resources, energy conservation, and demand response resources.”

Other Idaho Flirtations with Coal

It’s not to say Idaho hasn’t been considered for a coal plant to call its own. In 2005, San Diego-based Sempra Generation announced plans for its “Idaho Valley Energy Project,” a proposed 600MW coal plant targeted for Jerome County, in the heart of Idaho Power’s service territory, but which would provide most if not all of its power to out-of-state markets

The project met immediate and powerful opposition from individuals and groups that organized against the plant. Jerome County commissioners began to squirm at the prospect of having to vote on a project that some claimed would make the county rich and that others said would imperil public health and the environment while consuming massive amounts of water and fouling the air.

Government meetings and public information meetings and open houses throughout the Magic Valley were packed with opponents. In early 2006, the controversy spilled into the Idaho Statehouse, where the opposition filled hearing rooms supporting legislation by Rep. Sharon Block, R-Twin Falls, that would impose a two-year moratorium on coal plants in Idaho. Cities across the Magic Valley went on record opposing the plant as well. The Idaho House passed Block’s moratorium bill, and Sempra announced that if the moratorium passed, it would pack up and leave Idaho.

On March 29, 2006, hours before the Senate was to vote 30-5 to pass the bill, Sempra Generation President Michael Niggli sent a letter to then-Gov. Dirk Kempthorne announcing Sempra was withdrawing from Idaho, auspiciously to pursue natural gas and other projects elsewhere. “Idaho Valley Energy remains a viable project for Idaho and continues to be an important option for meeting the energy demands of the state’s growth,” Niggli wrote. “The Jerome County site selected for the Project’s development offers prospective owners excellent access to rail, existing transmission, land, and water rights. Sempra Generation will pursue the

sale of the Project to entities interested in providing affordable and reliable power to meet Idaho's energy needs."

Fortunately for Idaho and the rest of the nation, nobody picked up on the offer. Shortly after Semptra left Idaho, Kempthorne accepted an offer to run the Department of the Interior under then-President George Bush. Lt. Gov. Jim Risch then replaced Kempthorne as governor.

In August 2006, then-Gov. Jim Risch was praised by Idaho's environmental community when he directed the Department of Environmental Quality to draft rules that Idaho would "opt out" of a proposed federal rule that would cap mercury emissions and create a trading mechanism on the toxin. Since Idaho had no mercury-emitting coal plants, it could obtain no emission credits. And without those credits, it became impossible to build a mercury-emitting coal plant in Idaho.

"Idaho is in a unique position because we don't have any coal-fired power plants," Risch said. "With my decision to opt out of the Environmental Protection Agency's interstate trading program on mercury emissions, it means that we will have decided to prohibit mercury discharge by coal-fired electrical generating plants into Idaho's air. This is a very important step in protecting Idaho's environment and the people who call Idaho home. There are companies that have tried to build coal-fired power facilities in Idaho and will continue to try if we were to opt in. While I promote economic development throughout the state, the health implications of mercury emissions from coal-fired power plants far outweigh any economic benefits."

The irony is that, although coal-fired power plants pose too great a risk to the health of Idahoans, they are apparently tolerable if they and their threats are located elsewhere to endanger residents of other states.

Before Risch's mercury directive, in April 2005, Utah-based Southeast Idaho Energy unveiled plans to build a coal plant on the idled FMC industrial phosphorus plant site in Power County that SIE boasted would deploy CO₂ "capture and sequestration" and "gasification" technologies to remove the climate-changing greenhouse gas before it could be emitted. Joining SIE in the announcement was Kempthorne, FMC and Power County officials. Billed as a "green coal" power plant, it would process 700,000 tons of coal a day. It wasn't SIE President Ramesh Raman's first foray into Idaho: He pitched a coal-fired power plant to the Shoshone-Bannock tribes in 2003, but that deal didn't work out. As expected, the revived Power County coal project met furious resistance just across the Power County-Bannock County line in Pocatello, which for years has struggled with industry-inflicted air quality problems that eventually subsided when FMC shut down. But plans for the coal project quickly unraveled when Risch dropped the hammer on any coal-fired power plants in Idaho.

With the coal plant moratorium and anti-mercury policy in place, SIE announced in June 2007 it was switching gears, planning to build the “Power County Advanced Energy Center” that would convert massive amounts of – yes, coal – into fertilizer and sulfur diesel. Company officials estimated the plant would receive about 4,000 tons of coal by rail *every day*. Unlike its power plant, SEI planned to build the fertilizer plant on a site northwest of American Falls. In December 2009, Idaho DEQ issued an air permit to SIE for its Power County coal factory, but to date no earth has been moved and it appears that SEI’s second coal project for Idaho has become a victim of the company’s inability to finance it.

As an indicator that coal hadn’t yet fallen out of favor in the 2005-2007 time frame when SIE and other coal “wildcatters” were floating projects in Idaho, a number of small Idaho utilities were busily enlisting in a proposed Utah coal plant to augment their power needs. The Intermountain Power Agency, a consortium of utilities that collectively build power plants to meet their respective needs, came to Idaho to solicit ownership shares of its proposed Intermountain Power Plant 3. IPA tried to sign up utilities as far away as Truckee, Calif., which after much controversy eventually voted against participating.

Some small-town utilities took the bait, agreeing to spend millions of dollars to ship dirty energy up from Utah to meet needs beyond those met by their main power provider, Bonneville Power Administration. The city of Idaho Falls, which runs its own utility and is a BPA customer but also has its own hydropower resources, held an election to spend \$58 million for 25 megawatts from the IPP3 coal plant, and voters very narrowly met the two-thirds approval requirement. Then the price rose to \$77 million, so the city was forced to lower the amount of power it would buy, making the coal-fired energy even more expensive. Not all of Idaho’s small utilities signed on: The city of Heyburn voted against enlisting in the power plant when the price continued to rise.

But IPA saved Idaho Falls the trouble. In July 2009, IPA announced it was abandoning the IPP3 coal plant, largely because its biggest subscribers, the City of Los Angeles and other Southern California utilities that made up a majority of the ownership, announced plans to phase out the use of coal. With those utilities out of the picture, the proposed plant couldn’t be built. PacifiCorp, the utility with a big heart for coal, said it would sue Los Angeles for killing the coal plant project.

Meantime, Idaho Falls Power and other smaller municipal and cooperative utilities began to examine other options to meet their respective power needs. Those options include enhanced energy efficiency and buying into renewable energy projects.

In the end, as utility after utility has demonstrated, any advantages of burning coal have long disappeared. More importantly, the task of replacing the power that once came from coal plants have proven less daunting than some thought. A stepped up commitment to enhanced energy efficiency and conservation measures has and will continue to fill much of the gap. And where gaps occur, they are filled with clean renewable energy. That is the future that Idahoans want their utilities to pursue, and one way or another, that is the future utilities will have to pursue. The only question is when, and what will further delays continue to cost Idaho electricity consumers.

APPENDIX A

Inventory of coal plants owned or partly owned by investor-owned utilities serving Idaho load

Coal Plant Locations/Percent Ownership/Share of Output/Commissioning Dates By Utility

Idaho Power

- Boardman, OR: 10 percent, 74MW (1980)
- North Valmy, NV: 50 percent XMW (1981; 1985)
- Bridger, WY: 33 percent of 4 Bridger units (1974; 1975; 1976; 1979)
- TOTAL IDAHO POWER: About 1,100MW

Avista

- Colstrip ,MT: 15 percent, 222MW of units 3 & 4 (there are four total) (1984; 1986)
- TOTAL AVISTA: 222MW

PacifiCorp (Rocky Mountain Power)

- Carbon 1, UT: 100 percent, 67MW (1954)
- Carbon 2, UT: 100 percent, 105MW (1956)
- Cholla 4, AZ: 100 percent, 387MW (1981)
- Colstrip 3, MT: 10 percent, 74MW (1984)
- Colstrip 4, MT: 10 percent, 74MW (1986)
- Craig 1, CO: 19 percent, 84MW (1980)
- Craig 2, CO: 19 percent, 83MW (1979)
- Dave Johnston 1, WY: 100 percent, 105MW (1958)
- Dave Johnston 2, WY: 100 percent, 105MW (1961)
- Dave Johnston 3, WY: 100 percent, 220MW (1964)
- Dave Johnston 4, WY: 100 percent, 330MW (1972)
- Hayden 1, CO: 24 percent, 45MW (1965)
- Hayden 2, CO: 13 percent, 33MW (1976)
- Hunter 1, UT: 94 percent, 419MW (1978)
- Hunter 2, UT: 60 percent, 269MW (1983)
- Hunter 3, UT: 100 percent, 460MW (1983)
- Huntington 1 ,UT: 100 percent, 463MW (1974)
- Huntington 2 ,UT: 100 percent, 450MW (1977)
- Jim Bridger 1, WY: 67 percent, 357MW (1974)
- Jim Bridger 2, WY: 67 percent, 351MW (1975)
- Jim Bridger 3, WY: 67 percent, 353MW (1976)
- Jim Bridger 4, WY: 67 percent, 353MW (1979)
- Naughton 1, WY: 100 percent, 160MW (1963)
- Naughton 2, WY: 100 percent, 210MW (1971)
- Naughton 3, WY: 100 percent, 330MW (1971)
- Wyodak, WY: 80 percent, 271MW (1978)
- TOTAL PACIFICORP: 6,173MW

APPENDIX B

Idaho CO2 Emissions by Sector*

Idaho's greenhouse gas emissions by sector were estimated and projected by the Center for Climate Strategies for the Idaho Department of Environmental Quality in Spring 2008 and were updated in Summer 2010. The following information, prepared by the Snake River Alliance from CCS data, describes the estimated CO2 equivalent emissions as measured in million metric tons for Idaho's various sectors.

Sectors by Rank

- Transportation, 11.0 MMT (27.77 percent)
- Agriculture, 9.9 MMT (25 percent)
- Residential/Commercial/Industrial Fuel Use, 6.7 MMT (16.91 percent)
- Electricity (consumption-based), 5.2 MMT (13.13 percent)
- Forestry and Land Use, 3.6 MMT (9.09 percent)
- Waste Management , 1.5 MMT (3.78 percent)
- Industrial Processes, 1.3 MMT (3.28 percent)
- Fossil Fuel Industry, .5 MMT (1.26 percent)

Electricity Production includes in-state emissions from coal, natural gas and oil, but 4.6 million metric tons of the 5.2 million metric tons emitted by Idaho electricity production is attributable to imported electricity (i.e., from coal-fired generation plants partly owned by investor-owned electric utilities serving Idaho customers). It is the Snake River Alliance's position that Idaho and Idaho electric utilities should be "credited" for emissions from thermal generating plants regardless of their location in order to have an accurate accounting of the true emissions and other environmental impacts associated with power production serving the state. Omitting out-of-state coal-fired power plants that are serving Idaho electric load would present an inaccurate picture of Idaho's true carbon footprint inasmuch as those emissions would not exist at such levels if not for the Idaho demand. It's also noteworthy that Idaho's per capita electricity consumption of 15,700 kWh (2004 data) is noticeably higher than the national average of 12,000 kWh.

Residential/Commercial/Industrial Fuel Use includes emissions associated with coal, natural gas, oil, and wood combustion to serve energy needs by the residential, commercial and industrial classes. This includes combustion of fuels to provide space heating, process heating and other energy applications. While the DEQ treats these emissions as a separate category from electricity production, we believe they should be included in Idaho's overall non-transportation energy use. As a result, while the RCI fuel use is 16.91 percent of the state's total, when coupled with consumption-based electricity use, the actual total is 30.04 percent, or nearly one-third, of Idaho's overall CO2 emissions and would represent the largest source of CO2 emissions.

Idaho's leading emissions sector is agriculture at 25 percent of the state's total. The primary sources for these emissions are from agricultural soils and residue burning, manure management, and

fermentation. Much of these emissions are associated with dairy and other livestock operations. Idaho's agriculture emissions are far greater than the 7 percent U.S. average – by a factor of more than three.

Transportation represents 27.77 percent of Idaho's CO2 emissions, and almost all of these emissions come from motor gasoline and diesel consumption. Idaho's transportation emissions are generally the same as the U.S. average.

Idaho's total gross emissions of 39.6 million metric tons of CO2 in 2010 represents a 40 percent increase relative to 1990. If current trends were to hold, emissions would rise to 56 percent above 1990 levels by 2020.

*Figures are 2010 Estimates from Idaho Department of Environmental Quality via Center for Climate Strategies (www.climatestrategies.us)

