Reducing California Higher Education’s Support of and Dependence on Coal

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Executive Summary

The California Student Sustainability Coalition has launched a campaign to end California higher education’s use and support of coal and the coal industry as it is fundamentally incompatible with our colleges and universities’ strong commitments to sustainability. Our effort has two main goals:

- To change the way California colleges and universities invest their funds and endowments so that holdings in coal companies are reduced or eliminated, and to encourage them to use any remaining holdings as a way to leverage companies into improving their practices
- To remove hurdles to increasing renewable energy development on California campuses, including the limitations of existing incentives, contract negotiations with utilities, contract negotiations with renewable energy project developers, et cetera.

The Case Against Coal

Coal is the dirtiest major fuel source in the nation. While coal is used for roughly half of the electricity generated in the US, it accounts for 81% of the sector’s carbon dioxide emissions. Coal is therefore a major contributor to climate change, often considered the biggest environmental crisis today. In addition to its effect on global climate, coal threatens human health and local ecosystems. Coal mining is a very dangerous profession, and common practices destroy both mining areas and surrounding valleys and streams. SO₂ from coal processing causes acid rain. Heavy metals can cause developmental problems in children, birds and fish. Smokeystack particulate matter can damage lung tissue, leading to asthma, bronchitis and an increased likelihood of heart attacks and early death. One estimate places the number of deaths from coal-related illnesses at 13,200 per year; if thousands more emergency room visits, treatments and lost days of work are included, the cost estimate for coal’s impact on human health alone is over $100 billion. When both health and environmental impacts are combined, the cost is more than double the retail price of coal electricity.

Coal is a poor investment not only for ethical reasons, but also financial. The EPA is tightening restrictions on SO₂ and NOₓ emissions, which may result in the retirement of up to 50,000 MW of coal plant capacity and $180 billion in compliance costs for those that remain operations. Recently, the EPA has also revoked permits for major mining operations due to their environmental damage. California has set efficiency mandates on power purchases, driving coal from 21% of the total power mix in 2003 to 7.7% in 2010. Disasters like the mine explosion that killed 29 miners in West Virginia and the massive fly ash spill in Tennessee create huge amounts of negative publicity. In addition to the tremendous human toll, these types of events can cost coal companies millions in fines, court costs, cleanup, and lost operation time, possibly enough to bankrupt small or otherwise vulnerable companies.

Campus Investment Practices

The three California public higher education systems, the University of California, the California State University, and the California Community Colleges, collectively control substantial amounts of money and capital. Much of this is held in system-wide and individual campus endowments, which seek to
earn interest by investing in public equity or corporate stocks. Often, these endowments are directly controlled by external fund managers rather than campus financial officers.

The University of California

As of June 30, 2010, the UC Regents controlled $60.4 billion. $45.0 billion of this comes partially from student fees, and goes towards various employee retirement funds, the largest of which is the University of California Retirement Pool (UCRP). The UCRP is funded through University core funds, 12% of which are made up of student fees. In the 2010-2011 school year alone, an estimated $45 million in student fees went into the UCRP. The General Endowment Pool (GEP) makes up another $6.6 billion and is made up of donor gifts to the UC Regents. The remaining funds are held in short-term pools with the expectation that they will either be transferred to other pools or kept easily accessible in case funds are needed. Each UC campus also maintains its own endowment, funded by donor gifts. Older campuses like UCLA and Berkeley have the largest endowments, younger campuses are much smaller.

The UCs focus on securing a high rate of return on their investments. They accept a greater degree of risk than the other campuses, though they help reduce the chance for failure by employing a full staff in the Treasurer’s Office to watch market activity closely and make adjustments as needed.

UC student fees contribute to what is called the core funds, which pay for on-campus activities such as staff salaries and benefits. In the 2010-2011 school year, $45 million of student fees went into the UCRP. Some of this $45 million was then invested in the coal industry.

The California State University

CSU is a much more cautious investor than UC. It does not maintain its own retirement pool, but instead contributes to CalPERS, a fund for California state employees. In the 2010-2011 year, CSU employer and employee contributions to CalPERS totaled $618,765,900, paid out of a support budget of nearly $4.4 billion. Student fees made up $1.6 billion, or 36% of total funds. Students therefore can be said to have paid 36% of CSU’s contribution to CalPERS in 2010-2011, a total of almost $223 million.

The central CSU office holds approximately $2.3 billion, all of which is required by law to be invested either in government-backed fixed income securities like treasury bonds or in public funds with extremely high credit ratings (Standard and Poor’s A or better). Another $1.1 billion is controlled by the State of California on behalf of CSU, and is invested in a similarly conservative way. Each CSU campus also maintains its own endowment and sets its own investment policies.

California Community Colleges

Like CSU, CCC does not maintain its own retirement fund. Both CCC and its employees contribute to CalSTRS, a fund for California teachers. The CCC share of the contribution is paid out of a general budget; the employee contribution comes out of staff and faculty salaries which are paid from the same funds. In 2010-2011, student fees made up $365 million, or 6.2% of the general budget; this figure is rising to 8.2% in 2011-2012.
Foundation CCC is currently fundraising for a system-wide Scholarship Endowment. Its goal is to invest the $100 million fund in such a way that it can earn a 5% rate of return to support 5,000 scholarships per year. Many CCCs also maintain their own endowments. There is much less coordination across the system, so policies vary sharply between campuses.

**Investments in Coal**

Often in equity investing the contributions of one investor are pooled with countless others so that each owns a percentage of a total fund. That fund is then used to purchase holdings in hundreds or thousands of companies from all sectors of the economy, far more than a single investor could hold. The UCs, for example, invest heavily in the Russell 3000 Index, which is a pooled fund that contains holdings in the top 3000 companies in the US by size. Through the Russell fund, the UCs own shares of every major coal company in the US. The CSU and CCC retirement funds both invest in the Russell 3000 Index as well, so all systems own at least some share of the coal industry. Other funds also have holdings in select coal companies, but not in the majority in the sector.

To reduce campus support of the coal industry, students can advocate for several changes in institutional policies: (1) increased disclosure of investment holdings and investment practices, (2) increased student representation on investment committees, and (3) additional development of socially responsible investing (SRI) policies and practices. Other creative solutions are always possible and can be tailored to individual colleges and universities’ specific needs and abilities.

**Increasing Renewable Energy Use**

Changing investment practices can help reduce campus support of the coal industry, but coal companies can still profit as long as there is a market for coal power. California colleges and universities have shown great interest in reducing their direct fossil fuel use, both by improving energy efficiency and by installing on-site renewable energy generators. While the state has developed several incentive programs, various limitations and incentive caps have prevented colleges and universities from using as much on-site renewable power as they might like. The major issues are:

- Existing California policies do not facilitate the sale of renewable energy produced on college and university campuses.
- The California Solar Initiative (CSI), the state’s major solar rebate program, only accepts projects that are 1 MW in size or smaller. Without the rebate, installing solar for on-campus use can be prohibitively expensive or difficult to finance. Further, college and university campuses use huge amounts of power, and 1 MW will often meet less than 1% of demand at a large university.
- The state’s net metering program allows renewable generators to reduce their annual electric bills, but this only applies to installations smaller than 1 MW.
- California’s higher education systems have not implemented CLEAN Retail Contracts Programs, which streamline renewable energy procurement by predefining project sites, contract rates, and contract terms.

While many campuses have at least some solar panels, very few install more than 1 MW. The California Student Sustainability Coalition has partnered with the Clean Coalition, a nonprofit organization that is coordinating the CLEAN California Campaign to meet Governor Brown’s call for 12,000 megawatts of clean local energy by 2020 by implementing and expanding Clean Local Energy
Accessible Now (CLEAN) Programs, which remove the main barriers to increasing production of clean local energy in California. CLEAN Programs and CLEAN Retail Contracts Programs may be able to help with some of the limitations that campuses face when trying to increase their renewable energy usage. Only 7.7% of California electricity comes from coal, so with just a little extra effort and a slightly streamlined renewable energy policy, we can erase the need for coal energy in our state.

By coupling a campaign for renewable energy with a campaign for investment reform, students can attack the coal industry from two sides, with each effort supporting and reinforcing the other. By reducing both investment capital and demand for coal power, we can reduce the industry’s hold on our nation.
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Introduction

California higher education systems as a whole are extremely committed to following sustainable practices in their campus operations, and have been nationally recognized as some of the greenest colleges and universities in the country. Their commitments to reducing waste and improving energy use should be highly commended, but there are still areas of weakness or oversight, and potential for improvement. To maintain their reputations as environmentally conscious institutions, it is vital that these issues be addressed immediately.

This report is the result of collaboration between the California Student Sustainability Coalition and the Clean Coalition and has been generously supported by the Wallace Global Fund. We have identified significant incompatibilities between the stated environmental goals of the UCs, CSUs, and CCCs and their practices. Specifically, all three institutions invest millions of dollars in the coal industry, generally regarded to be one of the most environmentally destructive industries today. Much less visible to the public than campus recycling bins or rooftop solar panels, these investments are using institution funds—including millions in student fees—to support and continue climate pollution, public illnesses, and ecosystem destruction. Part I of this report explains the effects the coal industry has had on the world, and explores how public and regulatory reactions to those effects are threatening coal’s long-term investment value. Part II describes how colleges and universities have invested their money and why, and lists some of the major coal companies in which they have holdings.

At the same time that colleges and universities are supporting coal through their investment practices, their overall relatively low rate of renewable energy use also helps contribute to coal profits. While coal makes up a small portion of California’s total electricity, certain utilities such as Los Angeles Department of Water and Power still rely a great deal on coal to serve their customers; these campuses can therefore be considered heavy coal users. Many schools have expressed interest in expanding their renewable energy use as a way to lower their dependence on fossil fuels, but state policies have limited installations. Part III of this report explores renewable energy use on California campuses, the difficulties campuses have encountered, and potential ways to overcome these difficulties. The Clean Coalition has partnered with CSSC to help develop strategies that will improve individual campus’ abilities to install and maintain larger renewable projects.

CSSC has begun a campaign to reduce California higher education’s support of and dependence on coal in order to help our schools better meet their environmental mission statements. We have already worked with the UC system to improve proxy voting policies and student representation on investment committees. Changing investment practices will bring college and university finances more in line with overall sustainability goals, and increasing renewable energy use will reduce the need for fossil fuels. These actions are necessary if California colleges and universities hope to maintain their reputations as environmental leaders, and will help them be better positioned for future advancements in the fight for clean energy.
Part I: The Case Against Coal

Globally, coal is the most widely used energy source for newly industrializing nations. In the US, coal was first used primarily to heat colonist homes during cold New England winters; it later came to power the railroad system in the 1830s, then fueled the earliest power plants in 1882.\(^1\) In the beginning, increased access to electricity and transportation led to great advancements in discovery, communication, and medicine, but pollution and waste also accumulated at alarming rates. After over three hundred years of coal use and more than a century of experience with large-scale electricity generation, we are now more fully aware of the hidden costs of living in a fossil-fuel based society. The carbon dioxide that results from burning coal is a major contributor to climate change, while other pollutants like sulfur dioxide, nitrogen oxide, particulate matter and heavy metals can also be a serious detriment to human and ecological health.

As the negative impacts of coal increase, so does political and social pressure on the industry. Progressively more affordable alternatives such as solar, wind, and other types of clean and renewable energy further threaten coal’s reputation as the most viable power source. The case against coal is strong and getting stronger, and all social decision makers—from investors to city planners to politicians—must take these risks and costs into consideration when determining the best possible outcomes both for their own interests and for society as a whole.

Impacts of the Coal Industry

Even under routine operation, both coal mining and electricity generation cause large amounts of damage to the environment and to public health. Risks increase greatly in the event of a spill or accident. Exploring these impacts helps reveal how coal, often considered an extremely inexpensive power source, is actually much more costly to society than it appears.

The Climate Crisis

The world has changed dramatically since a small number of countries first sparked the Industrial Revolution. Global population has grown from 1.65 billion in 1900 to 6.79 billion in 2010,\(^2\) now collectively consuming 495.2 quadrillion Btu of energy, which results in approximately 30 billion metric tons of new carbon dioxide (CO2) entering the atmosphere annually.\(^3\)

Because of massive increases in anthropogenic CO2 emissions, the concentration of carbon dioxide in the atmosphere has increased from a pre-industrial level of around 280 ppm\(^4\) to 392.4 ppm in July 2011.\(^5\) Scientists have conclusively determined that the high level of CO2 has caused the planet to warm, and that the effect and related consequences will worsen significantly in the coming decades if atmospheric CO2 continues to rise.\(^6,7,8,9\) Climate change is expected to lead to major shifts in conditions across the globe, including increased drought in dry

The US alone accounts for 18% of global fossil fuel emissions. Of these emissions, 35% are from coal electricity generation or industrial processes, meaning that 6% of global emissions come from US coal fired power plants alone. This is not a simple consequence of scale: while coal accounts for approximately half of US electricity generation, it causes 81% of electricity sector emissions.
seasons, increased storm intensity and flooding in rainy seasons, sea level rise and coastal flooding, ocean acidification, and loss of polar ice caps. These changes may in turn lead to mass famines when crops fail in their historic ranges, population displacement due to loss of coastal areas, spread of disease vectors and invasive species, and stress on sensitive ecosystems. The international community has acknowledged the threat of climate change and recognizes that reducing GHG emissions, especially CO2, must be a high priority.

The US alone accounts for 18% of global fossil fuel emissions. Of these emissions, 35% are from coal electricity generation or industrial processes, meaning that 6% of global emissions come from US coal fired power plants alone. This is not a simple consequence of scale: while coal accounts for approximately half of US electricity generation, it causes 81% of electricity sector emissions. Coal is a major contributor to climate change both because of its widespread use and because of its extreme inefficiency. The coal industry has therefore come under a great deal of pressure in recent years due to its high GHG emissions, and this pressure will only intensify in the future (see Changing Industry Regulations, below).

Public Health Concerns

Though climate change is a very serious concern, it is far from the only impact that coal use has had on the environment and on human welfare. Pollutants such as sulfur dioxide (SO2), nitrogen oxide (NOx), particulate matter and heavy metals like lead, mercury, and chromium are present in mined coal and are released into the air when coal is burned. While regulations on the coal industry have greatly decreased annual emissions over the last 30 years (see Changing Industry Regulations, below), coal is still positively correlated with poor health and early death.

Table 1. Emissions from coal electricity generation and effects (2008)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Sulfur dioxide</td>
<td>7.6 million tons</td>
<td>can cause respiratory illnesses and aggravate heart disease, increases number of emergency room visits, leads to acid rain</td>
</tr>
<tr>
<td>Nitrogen oxide</td>
<td>2.8 million tons</td>
<td>aggravates respiratory illnesses, increases number of emergency room visits, leads to ozone formation (smog)</td>
</tr>
<tr>
<td>Particulates (PM_{2.5} &amp; PM_{10})</td>
<td>680,474 tons</td>
<td>can cause or aggravate respiratory illnesses and heart disease, increase chance for heart attacks and premature death</td>
</tr>
<tr>
<td>Heavy metals</td>
<td>1,464 tons</td>
<td>can impact development in children, damage nervous system and kidney function, contributes to cancer</td>
</tr>
</tbody>
</table>

All areas of the US are currently in compliance with SO2 and NOx standards, though it is possible that these standards will be strengthened in the near future as evidence suggests that serious health complications may still be possible. Current research, however, has focused heavily on particulate emissions as small particle pollution is still a very serious health concern. The EPA estimates that 28% of PM_{2.5} emissions come from electricity generation, fossil fuel combustion, and other industrial processes; meanwhile several areas of the US, including major coal areas in Pennsylvania, West Virginia, and Tennessee, do not meet the national standard for small particulates.

The effect of small particulates on human health is well documented. Compared to larger particles, they are especially dangerous because they are small enough to evade the mechanisms that would normally filter out such pollutants and can therefore become lodged in lung tissue. Short-term exposure
may lead to cardiac effects, including heart attacks, while long term impacts include increased chance of death from heart and lung diseases and cancer. An analysis of coal emissions and known effects estimated that thousands of deaths, illnesses, and hospital visits can be attributed to coal-related particulate pollution each year, and that the total cost of these impacts exceeds $100 billion:

Table 2. National power plant impacts (2010)

<table>
<thead>
<tr>
<th>Health Impact</th>
<th>Number of Cases</th>
<th>Cost ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>13,200</td>
<td>$96,300</td>
</tr>
<tr>
<td>Hospital Admissions</td>
<td>9,700</td>
<td>230</td>
</tr>
<tr>
<td>ER Visits for Asthma</td>
<td>12,300</td>
<td>5</td>
</tr>
<tr>
<td>Heart Attacks</td>
<td>20,400</td>
<td>2,230</td>
</tr>
<tr>
<td>Chronic Bronchitis</td>
<td>8,000</td>
<td>3,560</td>
</tr>
<tr>
<td>Asthma Attacks</td>
<td>217,600</td>
<td>11</td>
</tr>
<tr>
<td>Lost Work Days</td>
<td>1,627,800</td>
<td>150</td>
</tr>
</tbody>
</table>

These impacts are heavily concentrated in the east and Midwest, where coal production is greatest.

Heavy metals come from a variety of sources, including coal processing. Many act as carcinogens, reduce kidney function and cause developmental damage. Furthermore, because they can accumulate in tissues and up the food chain, metals may reach dangerous levels within the body even when the concentration in the local environment is fairly low. Half of anthropogenic mercury emissions in the US come from burning coal. Enough of this mercury has accumulated in certain types of fish that they are considered unsafe for pregnant women; certain predator bird populations have also been negatively affected.

While coal-burning power plants have a well documented negative effect on public health, coal mining also poses a threat to workers and those living near mining areas. In addition to the risk of tragic mine disasters, proximity to coal mining has been significantly correlated with increased levels of cardiopulmonary disease, lung disease, cardiovascular disease, diabetes, and kidney disease, even after controlling for age, sex, and various lifestyle factors. Together, coal mining and coal electricity generation contribute to the deaths of thousands of people every year, and leave many more with chronic, debilitating conditions.

Coal is dangerous enough during routine activities, but there is also the potential for accidents and spills that can release large amounts of toxic material. In December 2008, an earthen dike failed and dumped 5.4 million cubic yards of fly ash from the TVA Kingston Fossil Fuel Plant into the Emory River, eventually spreading 300 acres beyond the dike site. The spill covered land and residential areas with heavy-metal enriched sludge, damaging property and possibly exposing local residents to dangerous carcinogens. Cleanup is expected to cost $268 million, including $686,000 in annual maintenance for 30 years following the spill.

**Ecosystem Impacts**

Coal consumption can lead to global climate impacts and regional health impacts; it can also damage local ecosystems. Both coal mining and coal electricity generation have major ecological effects. Surface mining exposes iron sulfide to air and water, which transform it into sulfuric acid. Acid mine drainage refers to the sulfuric acid produced by mining activity draining into surface and groundwater.
sources where it can leach heavy metals and cause high mortality to fish and other aquatic species, degrade vegetation, and make water unfit for human consumption.\(^{28}\)

Mountaintop removal is a particularly destructive technique for mining coal. Hillsides are clear-cut of vegetation and the top layer of rock is loosened with explosives so that the underground coal can be accessed. Excess rock and other material is pushed into the neighboring valley, where it frequently buries streams. On hillsides, complete removal of surface vegetation destroys habitats; destruction of topsoil ensures that recovery is extremely slow if not impossible. In valleys, fill destroys headwaters and therefore impacts entire downstream watersheds. Sulfuric acid weathers rocks and increases the presence of heavy metals in waterways, exposing birds and fish to concentrations high enough to cause reproductive failure. According to *Science*, permitting requirements and mitigations measures have not been sufficient to prevent significant impacts, and new permits should not be granted unless new methods can be scientifically shown to avoid serious environmental damage.\(^{29}\)

Coal generation plants, well known for their contribution to global climate change, also have local ecosystem impacts. The SO\(_2\) released in processing causes acid rain, which slows forest growth and damages or kills vegetation,\(^{30}\) and increases the acidity of sensitive aquatic habitats beyond what resident species may be able to tolerate.\(^{31}\) Plants also use billions of gallons of water to generate steam for their turbines. A typical 500 MW coal plant is capable of powering a city of 140,000 people,\(^{32}\) but uses enough water to support a city of 250,000 people.\(^{33}\) In many cases, water is pulled out of nearby lakes and streams along with millions of fish, and is returned warmer than when it left.

*The Total Costs of Coal*

Epstein et al. (2011) conducted a lifecycle analysis of the Appalachian coal industry, taking into the costs from climate forcing, ecological damage, and public health. The study found that externalities cost the public and the environment between $175.2 and $523.3 billion (best guess $345.3 billion) every year, or 9.36 to 26.89 cents/kWh (best guess 17.84 cents/kWh).\(^{34}\) In 2008 (the year study costs were adjusted to match), the average US electricity price was 8.98 cents/kWh,\(^{35}\) meaning that if these externalities were incorporated, the price of electricity could easily triple. Epstein further notes that certain indirect and difficult to measure costs could not be included, so the true damages may be still higher. This helps show that coal costs society significantly more than it benefits, and that coal industry profits come with a high degree of climate damage, human illness and death, and ecological destruction.

*Changing Industry Regulations*

When coal was first used by colonists, railroads, or early industrialists, resources were abundant and populations were low. Many years later, however, the industry has grown large enough to have a noticeable impact on the environment and on public health, and countless scientific studies have formally documented its effects. Climate change has emerged as a serious crisis with coal as a chief culprit. Major national legislation such as the Clean Air Act and Clean Water Act has put heavy pressure on the industry, and more recent renewable energy standards and GHG emission rules are further restricting coal use. This section will outline several new rules and regulations and explain how they are collectively reducing the coal industry’s profitability and relevance as an American energy source.

*Public Pressure and National Legislation*
The first phase of coal production, mining, is facing pressure both because of its impact on the local environment and because of concern over worker safety. Coal River Mountain, leased by mining company Massey Energy, became a highly visible symbol in the fight against mountaintop removal and was featured on national news organizations like CNN and the New York Times. In response to pressure, the EPA vowed to review new permits for mountaintop removal in 2009, and urged the Army Corp of Engineers to reject two projects under the Clean Water Act unless impacts to water supplies were substantially lessened. In 2011, the EPA finalized its guidance for mountaintop coal mining. The new regulations reemphasized the need to ensure that mining operations did not exceed scientifically determined effluent limits and that waterways were not degraded or destroyed. The importance of seeking out less environmentally destructive alternatives and of ensuring that minority communities were not disproportionally impacted was also highlighted. With the new rules in place the EPA vetoed the permit for the largest mountaintop removal permit at the Spruce Mine in West Virginia, stating that the mine would have unacceptable impacts on water, wildlife, and recreation areas.

Mining safety is also coming under increased pressure. After hundreds of documented violations, Massey Energy (the same company criticized for running mountaintop removal operations at Coal River Mountain) agreed to shut down its Freedom Mine in Kentucky to avoid facing the strictest enforcement tools available to the US Labor Department. Massey Energy also owned and supervised the Upper Big Branch coal mine, where an explosion in 2010 killed 29 miners in the worst mining disaster in 40 years. Each of the 29 families was offered a $3 million settlement by the company, but former employees are still facing prison sentences for lying to government officials about the safety of the mine and a coalition has submitted a petition to the state of Delaware asking that the company have its corporate charter revoked. The coal mining industry’s regular safety violations are already major legal liabilities; these liabilities will undoubtedly increase with every new accident.

Though there is a great deal of variations between source locations, coal is inherently a dirty, impure fuel. Coal power plants have already been subject to extensive EPA programs to reduce SO₂, NOₓ, and particulate matter, and it is very possible that standards will be further tightened. Meeting new regulations means that plants must install updated technologies to capture pollutants before they are released, or must seek out cleaner sources of fuel. Either strategy has the potential to increase costs for the coal industry. Even when emissions are captured, however, they do not go away. Exhaust like fly ash may be restricted by the Clean Air Act, but once sequestered can still pose a hazard and a liability. As discussed earlier, the 2008 TVA fly ash spill resulted in billions of dollars in damage and drew national attention to coal risks. Every additional spill brings with it the threat of negative publicity, fines, federal and state investigations, and increasingly stringent legislation.

Coal companies looking to expand are facing opposition from more than just environmentalists and employees. In Texas, a state generally considered to be quite favorable to fossil fuel energy, planned coal plants may be scrapped not because of their risks to safety or to the environment, but for their water use. Citizens and local governments are fighting to prevent scarce water rights from going to the thirsty power plants. As population growth and climate change puts additional pressure on water resources, similar concerns may be felt all over the western US.

International climate agreements such as the Copenhagen Accord acknowledge that deep cuts in emissions are necessary to avoid catastrophic climate change. US officials originally attempted to meet its pledged goal of 17% below 2005 levels by 2020 through national legislation and a cap-and-trade program, but the effort was politically impossible. To circumvent the need for Congressional approval, federal climate regulations are now being developed largely through the EPA and the Clean Air Act. In
2009, the EPA began requiring all large emission sources, including coal-fired power plants, to track and report their emissions. The agency has also begun developing emission standards for all new and remodeled power plants; these standards are set to be finalized in 2012 and will force expanding coal companies to install approved clean technologies, face enormous fines, or be shut down.

**President Obama and Clean Coal**

Though President Obama has expressed strong support for the environment, he is also very aware of pressure from industry and a still fragile economy. Recently, he asked the EPA to delay new rules on ozone on the grounds that the new standards would be too much of a burden. The EPA’s new, tightened standard on SO\textsubscript{2} and NO\textsubscript{x}, the precursor to ozone, is still on track for implementation.

Obama’s support for both the environment and industry is especially apparent in his advocacy for “clean coal”. Once applied to any technology or practice that reduced any type of emissions, the term “clean coal” has come to refer to *carbon capture and storage* (CCS). CCS involves trapping carbon dioxide emissions from power plants and storing them underground in a form that will not leak back into the atmosphere. The Obama administration has attempted to jump-start CCS with billions of dollars in funding for research and demonstration projects, but the technology is still very expensive and a commercial-scale, self-supporting facility has yet to be developed. American Electric Power (AEP) recently shelved what was largely considered to be the most promising test of CCS, claiming that the project was not economically feasible even with millions in government support. FutureGen in Illinois is one of the most significant remaining CCS projects in development, but over 75% of its funding is coming from the federal government and the facility will not be operational until 2015.

Somewhat ironically, the main reason CCS is not economical without heavy government support is because the lack of a national GHG cap-and-trade program. If carbon dioxide has no monetary value, coal generation plants have no financial incentive to reduce emissions and no way to recoup investments in clean technologies. Unless such a program is implemented (virtually a political impossibility at this point), it is extremely doubtful that CCS will be viable on a commercial scale without subsidies. “Clean coal” can therefore not be considered a solution to the coal problem, despite the President’s best efforts.

**California Regulations Against Coal**

Efforts to reduce coal emissions are also being developed at the state level. California’s landmark climate legislation, AB 32, outlines the state’s plan to reduce emissions to 2000 levels by 2014, 1990 levels by 2020, and 80% below 1990 levels by 2050. A complementary piece of legislation, SBx1 2, was signed in 2011 and sets a renewable energy target goal of 20% by the end of 2013, 25% by 2016, and 33% by 2020. Several programs are either in development or have been implemented to help meet the state’s goals:

- A cap-and-trade program, currently set to be implemented in 2012 and fully enforceable in 2013, will limit emissions and will force heavy polluters to either clean up or pay high costs.
- SB 1368, signed in 2006, forbids utility companies operating within the state from entering new contracts with power plants that do not meet an emission standard similar to a typical natural gas plant. This law applies even when the power plant is out of state.
- Title 24 sets energy efficiency standards for new residential and non-residential construction; the 2008 standards were strengthened to match the state’s emission reduction goals.
• The California Solar Initiative provides rebates to encourage the development of an additional 3,000 MW of solar power statewide by 2016. To date, 979 MW have been installed through 98,624 commercial and residential projects.

California’s efforts to encourage clean energy have decreased coal’s share of the state’s total power mix from 21.3% in 2003 to 7.7% in 2010. This will continue to drop, possibly all the way to zero, as contracts expire, emission permits make coal generation more expensive, and alternatives such as solar are more readily available. Even if the relative percentage stays where it is, demand reductions brought on by efficiency measures like Title 24 may still drive down the actual quantity of coal consumed.

The Future of Coal

The coal industry is facing an increasingly bleak future. Regulations designed to encourage energy efficiency and a clean environment disproportionately impact coal over other sources, thus making it far less competitive. The public outcry against health impacts, mountaintop removal and high water demand is causing elected officials to reconsider their support of the industry. Liabilities brought on by safety violations and toxic spills threaten financial stability. Even in the absence of any new laws or policies, the IEA predicts that coal’s share of US electricity generation decline from 48% in 2008 to 43% in 2035 and the absolute quantity of coal produced will only increase by an average rate of 0.4% per year. This is an extremely conservative estimate: even the US’s relatively weak goal to reduce emissions to 17% below 2005 levels by 2020 requires that the nation produce 893 million metric tons of CO2 less than what is predicted in the IEA scenario. This suggests that even the smallest effort to meet climate goals would result in zero or negative growth for the coal industry.

Negative growth may in fact be a reality in the near future. An industry report predicts that proposed EPA regulations requiring scrubbers (to reduce SO2 emissions) and selective catalytic reduction equipment (to reduce NOx emissions) on all plants could result in the closure of up to 55,000 MW of capacity and would force the remaining plants to pay up to $180 billion in compliance costs. If cooling towers are also required (to reduce coal plant water demand), an additional 11,000-12,000 MW of capacity could be retired, collectively totaling to 20% of installed US capacity. Energy Secretary Steven Chu has said there will be “massive retirements within the next five to eight years” due to new energy policies. Given the situation, coal appears to be an extremely risky investment at best.

California colleges and universities have overwhelmingly supported a movement towards a clean energy economy and have embraced environmental principles. This admirable and progressive stance is fundamentally incompatible with the coal industry and is especially mismatched with coal investments. Coal energy is dependent on destructive practices, light regulation, and low awareness. The only way it can continue to be profitable is if our schools, our state, and our nation all fail in the effort to protect and improve our environment and our health.
movement. Coal plants will close, and those that remain open will face higher operating costs. Colleges and universities must fulfill their pledges for environmental stewardship in all areas of operation if they are to protect both their reputations and their financial security. It is time to reconsider the value of coal in our investment portfolios.
Part II: Coal Investments in California Higher Education

California has three distinct public education systems. The University of California’s ten campuses are home to over 220,000 students, with thousands entering and graduating every year. The California State University has 23 campuses and 412,000 students, and the community college system is made up of 122 campuses supporting over 2.9 million students. Each system is supported by student fees, state funds, grants, gifts and various endowments. As we will see, college and university endowments are complicated and exact holdings are often difficult to determine. In general, each system holds some portion of the total funds in a central pool while the rest is allocated to individual campuses. These shares are controlled separately, possibly using vastly different strategies, and are in turn split into many different mutual funds, bonds, and other investments, each managed by a different outside investor.

To determine the best strategy for reducing the negative impacts of coal company investments, it is important to first examine how these endowments are allocated and controlled. Investments come in several forms, each with different levels of risk and potential for payout.

- **Public equity** refers to stocks. Stocks represent purchasable shares of ownership in publicly traded companies, and shareholders may be entitled to some of the company’s profits after all other debts (payroll, taxes, operating costs, etc) have been paid. Stock value increases for profitable companies, and decreases for companies that perform poorly.
- **Private equity** refers to ownership in companies that are not publicly traded. Private equity is often grouped with *venture capital*: fledgling companies attempt to woo initial investors by promising a cut of the (future) profits. Private firms are not required to hold annual shareholder meetings and avoid some of the regulations that affect publicly held firms.
- **Fixed income securities** refer to bonds and annuities, in which the investor loans money for a defined period of time and at a specified interest rate. Depending on the conditions of the loan, the investor may be paid interest at regular intervals or when the bond matures and the initial investment is returned. Fixed income securities are typically low-risk, but also have a lower rate of return compared to other investments.
- **Alternative investments** include non-traditional investment strategies such as hedge funds, short sales, and other fairly complicated techniques that can be risky, but have the potential to bring higher returns than standard trading. Day-to-day alternative investment performance is less tied to market performance as a whole than traditional equity, so it can be a good way to cushion against widespread market decline. * Marketable alternatives* are alternative investments dealing with securities that are available publicly (public equity), while *non-marketable alternatives* deal with private equity and venture capital investments.

The University of California System

The University of California is the most well funded of the three public education systems, and has the most extensive endowment investments. A significant portion of funding is centrally controlled by the Treasurer, though each campus also maintains its own pool of resources.
Allocation of Assets

As of June 2010, the Treasurer of the Regents managed $60.4 billion in funds, split between several different pools:

**Table 3. Total market value of all assets controlled by UC Treasurer ($ billion)**

<table>
<thead>
<tr>
<th>Endowment Pool</th>
<th>Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of California Retirement Plan (UCRP)</td>
<td>$34.6</td>
</tr>
<tr>
<td>Defined Contribution (DC) Plan Funds</td>
<td>10.4</td>
</tr>
<tr>
<td>General Endowment Pool (GEP) and Charitable Asset Management Pool (CAM)</td>
<td>6.6</td>
</tr>
<tr>
<td>Short Term Investment Pool (STIP)</td>
<td>7.0</td>
</tr>
<tr>
<td>Total Returns Investment Pool (TRIP)</td>
<td>1.8</td>
</tr>
<tr>
<td>Total Funds</td>
<td>$60.4</td>
</tr>
</tbody>
</table>

*The values in this table were taken from the most recent Treasurer’s Annual Report and are accurate as of June 30, 2010. Estimates elsewhere may be taken from smaller, more recent reports and will therefore differ slightly.

In addition to the Regent-controlled funds, each campus operates its own Foundation. As of June 30, 2010, these foundations were collectively worth $3.36 billion. A campaign for investment reform should focus heavily on the UCRP and GEP, as they are the most widely invested, however it is important to understand the purpose of the smaller funds as well:

The **Defined Contribution Plan** is made up of optional employee contributions to individual retirement accounts, and the contributing staff member is able to select from several investment options according to his or her own goals and risk tolerance. Because the employee already has some control of how contributions will be invested or if they will be invested at all, this fund is not an ideal target for reform. Additionally, it is likely that the DC Plan will become less relevant in the future as employee contributions to the UCRP increase (see below). The DC Plan is part of the UC Retirement Savings Program (UCRSP), along with other funds such as the UC Equity Fund, UC Domestic Equity Index Fund, and 415(m).

The **Short Term Investment Pool** is a cash fund, designed to allow the UC to meet operating costs and to temporarily hold other assets before they are allocated to another fund (such as the GEP, DC, etc). As a cash fund, the STIP invests largely in US Treasury bonds, CDs, and other low-risk assets, though it does have some small investments in publicly held companies.

**Retirement as a UC Employee**

UC employees have several options when planning for their retirement. The **UCRP is a pension program, in which employees and the University contribute funds into a centralized pool and retirees are paid a specified amount according to factors such as length of service (know as a “defined benefit” plan). The Defined Contribution plan, along with the 403(b) and 457(b) plans, allow University employees to decide how much they would like to set aside for retirement; they are then paid out based on market conditions. The defined contribution plans are often grouped together and referred to as the University of California Retirement Savings Program, or (UCRSP). When discussing the plans, keep in mind that the UCRP and UCRSP can be easy to mix up, but are different programs with different options and strategies.
The Total Returns Investment Pool is a small pool designed to generate reasonably steady returns, and therefore is largely focused on fixed-income investments rather than equity. While the pool contains some domestic and international equity investments, the total market value is small compared to the UCRP and GEP.

The Charitable Asset Management Pool, like the GEP, is made up of donor gifts. It is designed for split-interest gifts, meaning that the UCs receive part of the gift interest and another beneficiary receives the rest. The CAM is a very small fund ($108 million), and is often grouped with the GEP as an “other endowment” in Treasurer reports.

The UCRP, GEP, and campus foundations are all large funds that are heavily diversified into a variety of companies. Because each is made up of contributions from different sources and serves different purposes, it is important to describe each briefly before exploring holdings in detail and the best strategies for change.

The University of California Retirement Plan was created in 1961 and is currently valued at $34.6 billion, making it 57% of the total endowment assets controlled by the University. Due to a funding surplus, all new contributions to the UCRP ceased in 1990; many required employee contributions were redirected to the DC Fund. After substantial losses to the fund during the recent economic collapse, the Regents voted to resume employer and employee contributions. As of July 2011, employees contribute 3.5% of their pay towards UCRP, rising to 5% in July 2012; the University’s contributions are currently 7% of employee pay and will increase to 10%.

The UCRP is funded through employee pay and employee benefits, which in turn come from what the University calls its core funds. In the 2010-2011 fiscal year, the core funds totaled $6.3 billion, or 29% of total UC revenue. They are made up of student fees ($2.57 billion, 12% of total revenue), state general funds ($2.91 billion, 13%), UC general funds ($717.2 million, 3%), and one-time federal stimulus funding ($106 million, 1%).6 By financing employee pay and benefits through the core funds, student tuition and fees contributed $45 million to the UCRP in the 2010-2011 fiscal year alone. This figure will increase every year that state support to the UCs is cut and fees are raised to make up the difference. Students are entitled to full transparency of how their funds are being allocated, including which companies are profiting from the school’s investment practices. Because it is the largest fund in the University’s endowment, reforms here may be able to have far-reaching effects.

UCRP investments are split between public equity (57.0%), fixed income (26.3%), and alternative assets (16.8%), and are externally managed. Return for the fiscal year ending on June 30, 2010 was 12.72%.

The General Endowment Pool is the UC Regents’ primary vehicle for investing gift funds. Some donors may give to Treasurer’s Office to use as it sees fit, while others prefer to dedicate their gift to a specific campus or purpose. Because older campuses have a more established donor base, they have a larger share of the Regents’ GEP. Additionally, each campus has established its own foundation. The campus foundations seek out their own donors and gifts, and have the option to use the UC Treasurer’s Office to manage funds or select their own external managers, or a combination of the two. Regent and foundation assets are allocated as shown below:
### Table 4. UC campus endowment assets as of June 30, 2010 ($ thousands)\(^{57}\)

<table>
<thead>
<tr>
<th>Campus</th>
<th>Regents</th>
<th>Foundation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley</td>
<td>$1,704,527</td>
<td>$895,456</td>
<td>$2,599,983</td>
</tr>
<tr>
<td>Davis</td>
<td>435,081</td>
<td>162,569</td>
<td>597,650</td>
</tr>
<tr>
<td>Irvine</td>
<td>50,213</td>
<td>191,147</td>
<td>241,360</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>1,102,732</td>
<td>1,058,679</td>
<td>2,161,411</td>
</tr>
<tr>
<td>Merced</td>
<td>17,791</td>
<td>5,080</td>
<td>22,871</td>
</tr>
<tr>
<td>Riverside</td>
<td>37,261</td>
<td>72,771</td>
<td>110,032</td>
</tr>
<tr>
<td>San Diego</td>
<td>161,026</td>
<td>316,728</td>
<td>477,754</td>
</tr>
<tr>
<td>San Francisco</td>
<td>743,411</td>
<td>510,030</td>
<td>1,253,441</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>79,166</td>
<td>98,929</td>
<td>178,095</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>54,987</td>
<td>46,968</td>
<td>101,955</td>
</tr>
<tr>
<td><strong>Total Campus</strong></td>
<td><strong>$4,386,195</strong></td>
<td><strong>$3,358,357</strong></td>
<td><strong>$7,744,552</strong></td>
</tr>
<tr>
<td>Systemwide/Admin</td>
<td>1,055,030</td>
<td>---</td>
<td>1,055,030</td>
</tr>
<tr>
<td><strong>Total Endowed</strong></td>
<td><strong>$5,441,225</strong></td>
<td><strong>$3,358,357</strong></td>
<td><strong>$8,799,582</strong></td>
</tr>
</tbody>
</table>

Together, the GEP and the foundation holdings are significant and the primary endowments supporting on-campus activities; they may therefore be the most high-profile avenues for students to enact investment reform. This report will focus primarily on the UC Berkeley and Los Angeles Foundations, though similar investments and related reforms are possible on other campuses.

GEP investments are split between public equities (43.3%), fixed income securities (18.8%) and alternative assets (36.6%), with the remaining 1.3% retained in a liquidity portfolio. For the fiscal year ending on June 30, 2010, return was 10.87%. All funds are externally managed.

The **UC Berkeley Foundation’s** $895 million is controlled partially by external managers (85.8%) and partially through the Regents’ STIP fund (12.0%), with a small portion (2.2%) described as cash and cash equivalents, separately invested funds, mortgages, and other receivables. Any coal investments held by the foundation will likely be included in the externally managed 85.8%, since this is the portion that contains holdings in independent companies. Of the externally managed $768 million, 34.0% is in public equity, 14.9% is in private equity and venture capital, 21.0% is in fixed income, 19.2% in absolute returns (hedge funds), 6.6% in emerging markets and 4.3% in real estate. Attempts to contact the Berkeley Foundation to request information on investment holdings were initially unsuccessful.

The **UCLA Foundation’s** $1.059 billion endowment is the largest of the campus endowments as well as the most complicated. 99.3% is externally managed, with the only UC-managed funds being 0.4% held in the STIP and 0.3% listed simply as “other”. Of the externally managed funds, 31.0% is in public equity, 12.1% is in fixed income, 32.1% is in marketable alternatives, 16.2% is in non-marketable alternatives, 6.0% in hedge funds, and 0.6% in real estate. When a CSSC representative requested that the UCLA Foundation disclose its investment holdings, the request was rejected on the grounds that over 90% of funds are held either as Exchange Traded funds or comingled funds, and “there is no breakdown of the underlying portfolio positions of the commingled accounts or Exchange Traded Funds and “there is no breakdown of the underlying portfolio positions of the commingled accounts or Exchange Traded Funds”. \(^{58}\)
Analysis of Investment Strategies

The UC Regents maintain an extremely diverse portfolio, investing to at least some degree in thousands of companies. Assets are balanced between equity, fixed income, and alternatives, with each segment having a different purpose: equity for its relatively high returns, fixed income for its security and consistency, and alternatives to reduce the impact of market-wide downturns. The Treasurer’s Office reduces risk primarily through diversification and careful, regularly rebalanced asset allocation. By being an extremely proactive, involved investor, the Treasurer can take on more risky investments and secure a higher return. Recently, these strategies have helped the University limit losses in the still sluggish real estate market. It has also allowed the endowments to maintain a sufficient degree of liquidity, so that funds are available when they are needed.

The UC Berkeley Foundation holds a significant percentage of its funds in the STIP pool, which shows it prioritizes having easy access to its funds rather than focusing predominantly on maximizing returns. At the same time, it has a fairly low percentage of its endowment invested in fixed income. This suggests that it is willing to risk its invested funds to secure a higher return rather than ensuring a steady, predictable income.

The UCLA Foundation is very heavily invested in alternatives, and very little is in fixed income. Because they are “non-traditional”, alternatives can be considered risky, and there have been many high-profile cases of hedge funds and similar investments losing huge amounts of money. The advantage of alternatives, however, is that they are less closely tied to market activity in general and do not necessarily lose value during downturns. This is a major attraction given current economic instabilities, and may be the main reason for UCLA’s focus.

In general, UC endowments and foundations are active and are willing to take a moderate amount of risk to increase returns. Due to the large amount of funds and high degree of diversification, they are invested in the majority of publicly traded companies in the nation. This also makes them extremely complex, and it may be very difficult to separate out target companies or even industries for reform.

The California State University System

Like the UC system, the California State University splits its funds into system-wide funds and individual campus endowments. The details and purpose of the pools vary, however, as do the investment strategies.

Allocation of Assets

Unlike the UC system, CSU does not have its own retirement fund. CSU faculty and staff pay into the California Public Employees’ Retirement System (CalPERS), which is managed by state law and serves not only CSU staff, but 1.6 million public employees, including government employees, firefighters, and police officers. Like the UCRP, it is a defined benefit plan, where a retiree’s benefits are determined by formula rather than by market conditions. As of June 30, 2010, CalPERS was valued at $224.5 billion. In the 2010-2011 year, CSU employer and employee contributions to CalPERS totaled $618,765,900, paid out of a support budget of nearly $4.4 billion. Student fees made up $1.6 billion, or 36% of total funds. Students paid 36% of CSU’s contribution to faculty and staff retirement fund CalPERS in 2010-2011, a total of almost $223 million.
therefore can be said to have paid 36% of CSU’s contribution to CalPERS in 2010-2011, a total of almost $223 million.

CSU’s central pool holds its non-endowment investments. These funds come from student fees and from state contributions, and are used for operating costs such as employee salaries, some types of financial aid, and other costs of instruction. In contrast to an endowment where only earned interest is spent and the principal is held in perpetuity, non-endowment investments are funds that can be fully spent if needed and refilled as new support becomes available. As of June 30, 2011, centralized funds are organized as follows:

Table 5. Total market value of CSU system-wide investment assets ($ million)

<table>
<thead>
<tr>
<th>Investment Pool</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>System-wide Investment Fund-Trust (SWIFT)</td>
<td>$2,314</td>
</tr>
<tr>
<td>Surplus Money Investment Fund (SMIF)</td>
<td>381</td>
</tr>
<tr>
<td>Local Agency Investment Fund (LAIF)</td>
<td>0</td>
</tr>
<tr>
<td>State Agency Investment Fund (SAIF)</td>
<td>700*</td>
</tr>
<tr>
<td>Total Funds</td>
<td>$3,395</td>
</tr>
</tbody>
</table>

* SAIF is a new fund; the $700 million investment is planned for late September 2011

Each fund serves a different purpose. The System-wide Investment Fund-Trust was developed in 2007 to centralize non-endowment investments and therefore improve management. It is the largest single fund under CSU’s control. Because of the importance of keeping funds secure and available for use, particularly during uncertain economic periods, CSU policy and state law restrict SWIFT investments to high-quality fixed income securities. Assets are allocated as follows: US Treasuries (13.39%), US government agencies (31.68%), FDIC guaranteed (9.03%), long term corporate securities (24.04%), short term corporate securities (21.66%), and cash (0.21%). The low amount of risk comes with a price: the return rate for the fiscal year ending on June 30, 2011 was only 0.56%, and was even less than the Merrill Lynch 0-3 Year U.S. Treasury Index benchmark (an external fund with similar risk/return tolerance and asset allocation, used for performance evaluation) return rate of 1.06%.

The Surplus Money Investment Fund, Local Agency Investment Fund, and State Agency Investment Fund are all managed by the California State Treasurer. The SMIF is designed to allow state agencies to invest funds in a short term pool where they can be withdrawn on a daily basis, while the LAIF allows local agency investments. Both are very conservative and focused mainly on protecting the principal, and allocate assets in a similar way to SWIFT. SAIF allows state agencies to invest a minimum of $500 million and receive a higher annual interest rate than it available from other pools (currently 2.0%).

In addition to the system-wide funds, each CSU campus has a dedicated foundation that controls its endowment. The market value of each endowment is shown below:

Table 6. CSU campus endowment assets as of June 30, 2010 ($ million)

<table>
<thead>
<tr>
<th>Campus</th>
<th>Endowment Value</th>
<th>Campus</th>
<th>Endowment Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakersfield</td>
<td>$14,542,510</td>
<td>Pomona</td>
<td>$32,698,955</td>
</tr>
<tr>
<td>Channel Islands</td>
<td>7,770,469</td>
<td>Sacramento</td>
<td>25,539,959</td>
</tr>
<tr>
<td>Chico</td>
<td>38,957,678</td>
<td>San Bernardino</td>
<td>16,426,507</td>
</tr>
<tr>
<td>Dominguez Hills</td>
<td>7,871,105</td>
<td>San Diego</td>
<td>109,401,000</td>
</tr>
<tr>
<td>East Bay</td>
<td>8,518,478</td>
<td>San Francisco</td>
<td>49,018,563</td>
</tr>
</tbody>
</table>
Due to staffing ability, location, and interest, this report will focus on the CSU Los Angeles Foundation. The foundation seeks out gift donations with the goal of providing annual scholarship support to CSULA students. Each year, 3.0-4.5% of the endowment’s value as of December 31 is distributed to scholarship funds; an additional 1% of the endowment and 5% of all gifts received is used to cover foundation operating costs. As of June 2010, 66.7% of the CSULA endowment is held in equity, with the other 33.3% in fixed income securities. More information on CSULA investments may be available soon.

### Analysis of Investment Strategies

The SWIFT fund holds a large portion of the CSU budget, and losses would mean layoffs and other cutbacks. Given current uncertain and unstable economic conditions, CSU has chosen to be an extremely cautious investor and give up potential high returns in order to keep the principal very secure. The vast majority of its funds are restricted to government-backed securities and companies with very high credit ratings—none of which are in the coal industry. The use of the Merrill Lynch 0-3 year US Treasury Index as a benchmark further emphasizes its intent to purchase only in safe investments with guaranteed returns. CSU’s investment policy may prevent it from investing in coal, but it also prevents it from investing in clean companies as well, many of which are earning much higher returns than SWIFT. Loosening restrictions on CSU investment policies will require a change in state law.

The CSU Los Angeles Foundation is designed with the goal that 4-5.5% of the total endowment value can be spent and replenished by the next year’s earned income. To accomplish this, the endowment must achieve regular, steady growth. While it is not necessary to earn the 10-13% rate of return that the more risk-tolerant UC endowment funds have achieved, the foundation cannot be as conservative as the CSU SWIFT fund and still meet its goals. Low to moderate risk is appropriate if it means the foundation can achieve acceptable returns; the fact that a majority of investments are in equities shows that the foundation is comfortable with such risk.

### The California Community College System

Compared to the UC and CSU systems, the California Community Colleges are operated fairly independently and often quite differently. The financial division of the Chancellor’s Office is concerned with allocating state funds and does not oversee campus endowments. Rather than attempting to describe the investment practices of 122 institutions, this report will focus on the CCC Retirement Program, the system-wide Scholarship Endowment, and the endowment of Santa Barbara City College.

### Allocation of Assets
Similar to CSU and CalPERS, CCC instructors use the California State Teachers Retirement System (CalSTRS) as their defined-benefit pension plan. As of August 31, 2011, CalSTRS is worth $146.6 billion and serves 852,316 people all over the state. Assets are allocated into equity (50.8% of total market value), fixed income (19.1%), real estate (12.8%), private equity (15.0%), cash (0.1%), and inflation sensitive investments (2.3%, includes inflation-sensitive bonds, etc).64 Employer and employee contributions to CalSTRS come out salaries and benefits, which are paid for through the CCC general apportionment section of the budget. In 2010-2011, student fees made up $365 million, or 6.2% of general apportionments; this figure is rising to 8.2% in 2011-2012.65

The Foundation for California Community Colleges began a decade ago to support CCC students and programs. In 2008, a $25 million donation from the Bernard Osher Foundation allowed the foundation to set up the Scholarship Endowment, which when fully funded will provide 5,000 $1,000 scholarships every year.66 To date, the foundation has raised $67.7 of the goal $100 million. In its Strategic Plan, the foundation states the importance of developing adequate administration to manage endowment funds.67 Because the fund is very new, investment policies and portfolios have not been fully developed. This may be an excellent opportunity for CSSC to partner with the CCCs and shape a socially responsible investment program.

The Santa Barbara City College Foundation oversees its campus investments. As of June 30, 2011, the foundation’s total assets were valued at $41.0 million, with $18.7 million in publicly held securities. All funds are controlled by external manager Commonfund.

Analysis of Investment Strategies

Like the CSUs, the community colleges have turned direct control of employee retirement benefits to an outside organization and are still developing management strategies for the Scholarship Endowment. The CCC foundation’s goals for the endowment suggest what kind of investor it plans to be, however. If a $100 million endowment is to provide 5,000 $1,000 awards, it must pay out $5,000,000 every year. To do so without pulling from the principal, it must achieve a 5% rate of return. The fund will probably be managed conservatively, but not so much that it will restrict itself exclusively to bonds and other fixed income securities. Socially responsible investments have certainly shown the ability to earn a 5% or greater return; there no reason CCC would need to invest its Scholarship Endowment in any other way.

As this section has shown, the investment strategies of higher education systems and campuses are shaped by their specific needs, particularly during uncertain economic conditions. When funding is short and additional losses would mean layoffs and program cuts, university investors may be extremely cautious and avoid taking risks. If an endowment is large enough with at least some room for error, investors may take advantage of fluctuating markets by using appropriate alternative strategies in the hopes of gaining additional returns. In general, the UCs are concerned with generating an acceptable rate of return, while the CSUs and CCCs are focused on protecting the principal.

Advocates for investment reform must remember that the investing officer’s first priority is to fulfill his or her obligations as defined by the investment policy: achieving the proper balance of protecting the principal while securing adequate and growing returns. Knowing the general priorities an investment fund operates under allows advocates to develop a plan that will accomplish the necessary reform while still meeting the investor’s obligations, and therefore have a much greater chance of success.
This section explained how and why funds are allocated as they are. The next section will review the 15 coal companies that are considered especially objectionable and the extent to which California higher education is invested in them. We will then explore possible avenues of reform, including divestment, proxy voting, and stakeholder involvement, and what combination of strategies may be able to most effectively reduce investment risk while meeting the needs of California campuses.

**Identified High-Risk Coal Companies**

While CSSC does not support any investments in the coal industry, several companies in particular have been identified as major environmental, financial, and reputational threats. These companies should be the top priority for focused action.

**Coal Mining Companies**

1. Peabody Energy Corp.
2. Arch Coal, Inc.
3. Patriot Coal Corp.
4. Alpha Natural Resources
5. CONSOL Energy Inc.

**Coal-Fired Utilities**

1. American Electric Power
2. Duke Energy
3. Southern Company
4. FirstEnergy Corp.
5. Mid-American Energy Holdings Company
6. Ameren Corporation
7. PPL Corporation
8. NRG Energy
9. Dominion Resources
10. Edison International

These 15 companies were selected as top priorities by this campaign based on several criteria: overall amount of coal extracted and method of extraction (for mining companies), net generation from coal and age, size, and capacity of plants (for utility companies), compliance with environmental and safety regulations, environmental justice and union-related issues, and political spending.

**Coal Company Profile: Peabody Energy Corp.**

Peabody Energy Corp. is the world’s largest coal mining company, supplying 10% and 2% of US and world electricity, respectively. Though it operates 28 total mines in the US and Australia, 86% of its 2010 sales by volume were to US electricity generators or the industrial sector, and 25% of sales were to its five largest customers alone. 55% of its coal is non-compliance (high sulfur), meaning it will not meet air quality standards without extra treatment, scrubbers, or being mixed with cleaner coal sources.

The company has already suffered losses due to tightening restrictions on coal. From 1970 to 2005, Peabody-owned Black Mesa Mine supplied 100% its coal to the Mohave Generating Station in Nevada. Mohave, which was owned in part by utility companies Southern California Edison (56% share) and Los Angeles Department of Water and Power (10%), was shut down in 2005 when it could not meet Clean Air Act requirements. The Black Mesa Mine closed with it. Peabody still operates the Kayenta mine in the same region, but it is also at risk. Like the Black Mesa mine, Kayenta supplies coal to a single plant: the Navajo Generating Station. LADWP owns a 21.2% share of the Navajo plant, but has pledged to end all coal use by 2020. If trends continue, Peabody may fail to find replacement buyers for Kayenta coal.

Peabody’s ongoing success as a company requires continued and expanding US coal use. With end-use customers like LADWP already preparing to cease coal purchases and the EPA preparing to further regulate sulfur emissions, however, its long-term investment value is in question.
Please see the Appendix for a list of holdings in these companies owned by California higher education institutions and associated organizations (such as CalPERS and CalSTRS). When applicable, the external fund manager and fund name is also listed.
Strategies to Reduce or Regulate Coal Investments

As shown above, California higher education has millions of dollars invested in the coal industry. Some of this money comes from donor funds, but a great deal is from the student fees that are directed into staff retirement and benefits. If students do not want their money going to industries that damage the environment and risk human health, they must fight for change in current practices and decision making processes. This section reviews several possible strategies for reducing or regulating coal investments, beginning with general, common strategies like divestment and shareholder advocacy and ends with some ideas that focus specifically on meeting the needs and conditions of our unique campuses.

Divestment

To divest from a company means to remove all holdings for that company from an investment profile. When not done for financial reasons (for example, because the asset in question is underperforming), it is generally associated with an ethical decision. In the 1980s, there was a substantial effort to convince investor groups to sell stocks in companies that operated in South Africa during apartheid. More recently, divestment campaigns have been led against companies that do business with the genocide-sponsoring Sudanese government.

Some advocates for socially responsible investing actually prefer not to pursue full divestment, at least initially, arguing that outside of major divestment campaigns the divested shares will only be bought by another party and the company will feel no negative effect. In these cases, it may be better to retain the investment and have the chance to shape company actions through shareholder resolutions. Divestment can be reserved as an option when other channels fail and management is unresponsive to stakeholder wishes. It can be argued that some industries, such as tobacco, will never have any positive impact on society and therefore have no potential for reform; these companies are often the target of divestment campaigns.

Divestment can be very difficult since most endowments do not select companies individually, but instead choose pooled funds or hire independent fund managers who will allocate their assets for them. The Russell 3000 Index Fund, for example, purchases holdings in as many as 3000 companies using the pooled funds of countless investors. To divest from only a few of those companies would require both untangling an individual investor’s contributions to the pool and untangling an individual company’s presence in the overall portfolio. It is much easier to divest when holdings are directly managed, but this is not the case for most California higher education institutions.

Though CSSC does not support coal investments in any context, we have chosen not to pursue divestment at this time. Based on previous experience we do not believe the majority of California higher education investment teams will be receptive to a request for divestment, particularly given current economic conditions. We may revisit this issue in the future if other efforts fail or if the potential for success improves.

Proxy Voting, Shareholder Involvement and Transparency

Each year, a publicly held company must hold an annual meeting for its shareholders. At this meeting, both shareholders and company management can introduce resolutions relating to company policies; management will recommend a position and shareholders can vote either for or against it. If a
shareholder abstains from voting, their vote is cast on the side of management. Rather than attend the annual meetings of the hundreds or thousands of companies in which they have holdings, institutions like universities and colleges typically select a proxy voter to represent them and their views.

The University of California Treasurer has developed its own general proxy voting policy, stating very briefly that social issues are reviewed on a case-by-case basis. In practice, however, the Regents rely on UC fund manager State Street Global Advisors (SSGA) to oversee all proxy voting for equity investments. Up until 2009, SSGA generally voted against resolutions dealing with environment, social, or governance (ESG) issues on the grounds that they had an irrelevant or negative impact on company profits. In 2010, SSGA switched to a neutral stance. In 2011, largely due to pressure from student groups such as CSSC, the Regents asked SSGA to use Institutional Shareholder Services’ (ISS) proxy voting screen for ESG issues. In general, ISS votes in favor of resolutions requesting disclosure of the company’s impacts on the environment, but against resolutions asking that specific actions be taken or company policies on environmental issues be changed. ISS argues that these issues are best left to company discretion. When coming from SSGA’s original position of neutrality, this is a strong shift in favor of resolutions supporting ESG issues and should be considered a major accomplishment for CSSC student activists.

While the establishment of a socially responsible proxy voting policy is a very important step, it is important that students be able to continuously review the college or university’s performance. Recent changes to the UC proxy voting policies are not readily available on the Treasurer’s website, and proxy voting records are not published. Students should demand that this information be posted for any interested party to access, and that all records be updated as soon as changes are made. Transparency can also be improved by appointing student representatives to investment committees; please see the next section for more information.

If a college or university is willing to introduce a shareholder resolution on students’ behalf, shareholder advocacy can be an excellent way to shape company policies and increase awareness of potential liabilities amongst investors. Even if a resolution does not pass, it can show a company that opinions are shifting and they should reevaluate their activities.

**Student Presence on Investment Committees**

Students deserve a say in how their fees and tuition are spent, but student representation on investment committees is not universal. The University of California allows student participation on the Board of Regents chiefly through the Student Regent position. The Student Regent is a voting member and may serve on committees, including those that shape and approve investment policies. He or she cannot serve on every committee, however, and may therefore not be able to adequately impact how student funds are spent and invested. Due to student demands for increased transparency, two student representatives will be allowed to observe UC Investment Advisory Group meetings beginning in the 2011-2012 school year.

Outside of the UC, representation is much lower: there is no student representation in either CalPERS or CalSTRS despite both receiving millions of dollars in student fees every year. Both organizations are controlled by boards made up of members who are either appointed by the governor, serve in an ex-officio capacity, or are voted in by the organization’s constituents. Appointed and elected positions are reserved for specific groups—for example, CalSTRS requires that the three elected members be current educators and that the five appointed members be a retired teacher, a school board representative, and three public representatives.
State support for higher education is decreasing and the cost of benefits is increasing. CalPERS has raised its required employer contribution from 4.2% in 2001 to 19.9% in 2010 while the employee contribution has remained constant at 5% since 1976. Students are paying millions to an organization they have no voice in at the same time that the quality of their education is threatened with budget shortfalls. Students can pressure CalPERS, CalSTRS and campus foundation boards to allow student representation by pointing out that UC has updated its policies to improve transparency and by encouraging others to follow suit. Appointing student representatives to investment boards will require restructuring the boards’ composition by revising board policies and any relevant state regulations, but is critical if students are to have control of their funds.

**Socially Responsible Investing and Investment Manager Pressure**

Socially responsible investing (SRI) is a growing part of investment management. The Social Investment Forum identified 493 socially responsible funds containing $569 billion in assets in 2010, up from only 55 funds and $12 billion in 1995. SRI has proven itself to be highly successful from a financial perspective as well: during the recent financial crisis, major indices such as S&P 500 declined and the market as a whole remained fairly flat, but SRI funds earned a 13% rate of return.

82% of investment managers cited client demand as their primary reason for developing socially responsible options. Major investors like campuses can exert a great deal of pressure on their money managers, and are therefore in an excellent position to demand a shift towards responsible investing. When advocating for socially responsible investing, holdings in pooled mutual funds are actually an advantage—instutions can form coalitions with other similarly-minded investing groups to increase pressure on financial managers, and any change has the potential to impact the investments not only of the advocating institution, but all of the manager’s other clients as well.

All ten UCs, 16 CSUs, and 26 CCCs have registered with the Association for Advancement of Sustainability in Higher Education (AASHE). AASHE encourages colleges and universities to improve their sustainability practices by providing a supportive community focused on sharing ideas and resources. The organization manages the Sustainability Tracking, Assessment & Rating System (STARS), which allows colleges and universities to self-report on their sustainability practices and be scored on their progress. The “Investment” section of STARS allocates points as follows:

<table>
<thead>
<tr>
<th>Action or Practice</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee on Socially Responsible Investment</td>
<td>2.00</td>
</tr>
<tr>
<td>Shareholder Advocacy</td>
<td>5.00</td>
</tr>
<tr>
<td>Positive Sustainability Investments</td>
<td>9.00</td>
</tr>
<tr>
<td>Student-Managed SRI Fund</td>
<td>0.25</td>
</tr>
<tr>
<td>Socially Responsible Investment Policy</td>
<td>0.25</td>
</tr>
<tr>
<td>Investment Disclosure</td>
<td>0.25</td>
</tr>
<tr>
<td>Total</td>
<td>16.75</td>
</tr>
</tbody>
</table>

To date, 17 California public institutions have registered with the STARS program, and 6 have submitted documentation for scoring. Their investment scores are listed in Table 8:
Table 8. STARS investment scores for participating California public colleges and universities\textsuperscript{76}

<table>
<thead>
<tr>
<th></th>
<th>Committee on SRI</th>
<th>Shareholder Advocacy</th>
<th>Positive SRI</th>
<th>Student Managed SRI</th>
<th>SRI Policy</th>
<th>Investment Disclosure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Possible Score</td>
<td>2.00</td>
<td>5.00</td>
<td>9.00</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>16.75</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>--</td>
<td>--</td>
<td>0.75\textsuperscript{78}</td>
<td>0.25\textsuperscript{79}</td>
<td>--</td>
<td>0.25</td>
<td>1.25</td>
</tr>
<tr>
<td>University of California, San Diego</td>
<td>2.00\textsuperscript{80}</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.25</td>
<td>2.50</td>
</tr>
<tr>
<td>California State Polytechnic University, Pomona</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>California State University, Channel Islands</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>California State University, Monterey Bay</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.00</td>
</tr>
<tr>
<td>San Jose State University</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.25\textsuperscript{82}</td>
<td>--</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Obviously, there is a great deal of room for improvement in SRI activity even among the few campuses that have submitted information on their practices. Student advocates can encourage colleges and universities to pursue many of these options, and can encourage the many AASHE and STARS-registered campuses that have not submitted documentation to do so.

Increasing attention on SRI issues will help 1) reduce investments in undesirable industries, 2) encourage growth in socially beneficial sectors, and 3) pressure non-SRI managers to improve their practices and include more options for socially-minded investors. It provides a solution to the question of what to invest in once harmful holdings are sold off, and can therefore be an excellent partner or precursor to divestment.

**Other Potential Areas for Involvement**

In the past, the UC Treasurer’s Office has expressed reluctance towards certain socially responsible investment campaigns on the grounds that they will reduce the value of the endowment. We believe that investments focused on sustainable options will not necessarily be low performers, but we understand the Treasurer’s concerns. We suggest the creation of a distinct pool for endowed gifts, separate from the GEP, which will specifically focus on socially responsible investments. Such a pool may be especially attractive to potential donors, and development staff can use the sustainability aspect to help distinguish the fund from the many other causes the donor may be considering. The fund can also act as a test of sustainable investment practices without forcing the University to risk lowered returns for its main endowment funds.

The UC system may have additional potential within its youngest campus, UC Merced. With the stated goal of becoming “the greenest campus in the country”\textsuperscript{83} and the only UC campus that has fully mapped out how it can be carbon neutral\textsuperscript{84}, UC Merced may be receptive to including sustainability in its investment policy as well. Currently, the campus allows the Regents to manage its endowment funds, but this may change as the university ages and expands. Student activists should get involved in the process early and ensure that the campus lives up to its sustainability goals in all aspects of operation.

For the CCCs, there may be potential to get in on the ground floor of the Scholarship Endowment. Similar to UC Merced, the endowment is new and is not necessarily locked into an investment policy yet. To convince the fund managers that they should pursue responsible investment, two things must
happen: 1) CSSC should gather letters of support from the students at large, since they are the ones who will be receiving the scholarships, and 2) CSSC must gain support of the fund’s first and largest donor, the Bernard Osher Foundation. The Bernard Osher foundation’s main focus is on providing funding assistance to college students, particularly older or reentering students; it is uncertain how its managers will feel about environmentally-focused campaigns.

**CSSC’s Priority Goals and Objectives**

By carefully examining how funds are allocated at the three California higher education systems, we have identified several potential strategies for improving campus investment practices. From these possibilities, CSSC has defined three goals that we believe are the highest priority for our campaign, and that will set up a framework for additional positive change down the road. These goals are:

1. *Increase information availability and transparency:* Investment information, including holdings and proxy votes, should be readily available on college and university websites.
2. *Increase student representation on investment committees:* Because investment committees allocate student funds, students should have a say in decision making and policy development.
3. *Encourage socially responsible investment policies:* SRI policies will help colleges and universities fulfill their social and environmental missions while still securing good financial returns.

CSSC members are already working with college and university representatives to accomplish these goals, and have already had several successes (in particular, the UC proxy voting policy change and the addition of student observers to the UC Investment Advisory Group). In compiling the information contained in this report, CSSC has helped increase student awareness and has built relationships with several key investment personnel that will be invaluable going forward. We will continue to strive for additional progress towards our ultimate goal: transitioning our schools away from dangerous fossil fuels and towards clean energy and a sustainable future.
Part III: Reducing Coal Use in California Higher Education

Improving coal investment practices is an important step colleges and universities can take to reduce their own financial and reputational risk, but it will most likely not be enough to sufficiently transform the coal industry on its own. Ultimately, the only way to avoid the environmental and public health risks of coal is to reduce its use as a power source. While very little of the energy produced in California comes from coal, high-demand regions like Los Angeles purchase electricity from plants in nearby states, some of which use coal for generation. As discussed in previous sections, recent policy changes are already sharply decreasing the amount of coal power used by California utilities, but some companies (and therefore their customer campuses) still rely heavily on coal resources. Eliminating coal as an energy source in California will require additional effort both to reduce demand and to increase the supply of alternatives.

The California government has shown a great deal of interest in increasing renewable energy use: state law SBX1-2 requires that 33% of electricity sold by any utility in the state come from renewable sources by 2020. Additionally, the California Public Utilities Commission has developed the California Solar Initiative, which provides a rebate for solar installations under 1 MW in capacity. California higher education institutions, with their strong commitment to educating and serving the public, have set their own renewable energy goals, though these goals are limited by lack of upfront capital, incentive caps, and other hurdles. CSSC is working closely with the Clean Coalition to examine how the process can be streamlined to reduce costs and increase the number and capacity of planned projects. Even if campuses are not heavy coal users, the experience gained can be used to improve renewable energy programs across the US and may help reduce our national coal dependency.

California's Changing Coal Policies

Overall, coal is the source for approximately half of the electricity in the US. The situation in California is quite different: only about 1% of the electricity generated within the state comes from coal. However, extremely high demand means that utilities frequently purchase power from generators in nearby states, which historically has included coal plants that would not pass California's own air quality regulations. Up until very recently, power providers such as the Los Angeles Department of Water and Power, Southern California Edison, the California Department of Water Resources, and the cities of Anaheim, Riverside, Pasadena, Burbank, and Glendale all owned shares of coal-fired plants in Arizona, Nevada, New Mexico and Utah:

Table 7. Coal plants partially owned by California Utilities (in 2003)

<table>
<thead>
<tr>
<th>Plant</th>
<th>Location</th>
<th>Capacity (MW)</th>
<th>CA Share (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navajo</td>
<td>Page, AZ</td>
<td>2410</td>
<td>510 (21%)</td>
</tr>
<tr>
<td>Reid Gardner</td>
<td>Moapa, NV</td>
<td>270</td>
<td>183 (67%)</td>
</tr>
<tr>
<td>Mohave</td>
<td>Laughlin, NV</td>
<td>1640</td>
<td>1082 (66%)</td>
</tr>
<tr>
<td>Four Corners</td>
<td>Farmington, NM</td>
<td>1640</td>
<td>786 (48%)</td>
</tr>
<tr>
<td>San Juan</td>
<td>Waterflow, NM</td>
<td>1110</td>
<td>447 (40%)</td>
</tr>
<tr>
<td>Intermountain</td>
<td>Delta, UT</td>
<td>1640</td>
<td>1574 (96%)</td>
</tr>
<tr>
<td>Total</td>
<td>--</td>
<td>8700</td>
<td>4582 (52%)</td>
</tr>
</tbody>
</table>
The 4500 MW of capacity directly owned by California utilities provided about 27 TWh of electricity in 2003, and an estimated 32 additional TWh generated by other western states made it onto the California grid. The end result was that even with virtually no coal power generation occurring inside the state, approximately 21% of California's electricity came from coal sources. Recent policy changes have restricted new investments in and purchases from coal plants whether in or out of state (see Changing Industry Regulations in Part I of this report for details), and the share of electricity from coal consumed in California has dramatically decreased:

Table 8. Percent of electricity consumed in California that originates from coal sources, 2002-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Total GWh Consumed</th>
<th>GWh from Coal Sources</th>
<th>Coal % of Total Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>272,544</td>
<td>54,483</td>
<td>20.0</td>
</tr>
<tr>
<td>2003</td>
<td>276,612</td>
<td>59,016</td>
<td>21.3</td>
</tr>
<tr>
<td>2004</td>
<td>289,359</td>
<td>61,651</td>
<td>21.3</td>
</tr>
<tr>
<td>2005</td>
<td>288,245</td>
<td>57,851</td>
<td>20.1</td>
</tr>
<tr>
<td>2006</td>
<td>294,865</td>
<td>46,235</td>
<td>15.7</td>
</tr>
<tr>
<td>2007</td>
<td>302,072</td>
<td>50,011</td>
<td>16.6</td>
</tr>
<tr>
<td>2008</td>
<td>306,577</td>
<td>55,829</td>
<td>18.2</td>
</tr>
<tr>
<td>2009</td>
<td>298,310</td>
<td>24,046</td>
<td>8.1</td>
</tr>
<tr>
<td>2010</td>
<td>290,187</td>
<td>22,424</td>
<td>7.7</td>
</tr>
</tbody>
</table>

The above table shows not only that the share of electricity that comes from coal has decreased, but also that the absolute quantity of coal used has decreased even with an increased demand for electricity. The difference is being made up by increased use of zero-emission renewable energy as well as increased use of natural gas, which is significantly less polluting than coal but still emits a great deal of CO2. In the coming years, it is very likely that California coal use will continue to decline as additional policies are implemented or strengthened. Despite pressure from the state, however, some utility companies have become deeply invested in contracts with coal companies and are slow to change. Because specific utility providers still purchase coal power, their customers can be considered coal users, however unwilling. Coal use by company and campus is shown in Table 9.

Table 9: Percent of total electricity from coal on California campuses, 2009-2010

<table>
<thead>
<tr>
<th>Utility Provider</th>
<th>Provider’s Coal Use (%)</th>
<th>UC and CSU Customer Campuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Dept of Water &amp; Power (LADWP)</td>
<td>40&lt;sup&gt;91&lt;/sup&gt;</td>
<td>UC Los Angeles, CSU Los Angeles, CSU Northridge</td>
</tr>
<tr>
<td>Pacific Gas &amp; Electric (PG&amp;E)</td>
<td>1.3&lt;sup&gt;92&lt;/sup&gt;</td>
<td>UC Berkeley, UC Davis, UC Merced, UC San Francisco, UC Santa Cruz, CSU Bakersfield, CSU Chico, CSU Fresno, California Maritime Academy, CSU Monterey Bay, CSU San Francisco, San Jose State University, Cal Poly San Luis Obispo, Sonoma State University</td>
</tr>
<tr>
<td>Riverside Public Utilities</td>
<td>50&lt;sup&gt;93&lt;/sup&gt;</td>
<td>UC Riverside</td>
</tr>
<tr>
<td>Sacramento Municipal Utility District (SMUD)</td>
<td>0&lt;sup&gt;94&lt;/sup&gt;</td>
<td>Cal State Sacramento</td>
</tr>
<tr>
<td>San Diego Gas &amp; Electric (SDG&amp;E)</td>
<td>7&lt;sup&gt;95&lt;/sup&gt;</td>
<td>UC San Diego, San Diego State University, CSU San Marcos</td>
</tr>
<tr>
<td>Utility Provider</td>
<td>Provider’s Coal Use (%)</td>
<td>UC and CSU Customer Campuses</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Southern California Edison (SCE)</td>
<td>10.06%</td>
<td>UC Irvine, UC Santa Barbara, CSU Channel Islands, CSU Dominguez Hills, CSU East Bay,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSU Fullerton, Humboldt State University, CSU Long Beach, Cal Poly Pomona, CSU San</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bernardino</td>
</tr>
<tr>
<td>Turlock Irrigation District</td>
<td>4.97%</td>
<td>CSU Stainslaus</td>
</tr>
</tbody>
</table>

Of the large providers, PG&E and SMUD use very little coal, LADWP uses a great deal, and SCE and SDG&E are near the state average. Smaller companies like the Merced Irrigation District, Riverside Public Utilities, and Turlock Irrigation District serve specific counties or cities; Merced and Riverside are both far above the state average for coal use. These conditions may still change, however, as providers have time to adapt to new policies: LADWP has pledged to eliminate coal-fired electricity from its portfolio by 2020.\(^98\)

In the last 8 years coal usage in California has declined by two thirds. Before the decline, it was already less than half the national average. Though it may be deeply entrenched in the economies and policies of other parts of the nation, coal is a solvable problem in California. There is, however, more work to be done. Coal may only make up 7.7 percent of California’s electricity supply, but that is still too high to be erased outright without a balancing 1) decrease in demand and 2) continued increase from other resources. The pressure is on: new, stricter policies, including a cap-and-trade emissions program, will be implemented within the next few years. Solutions must be quick, affordable, and effective to avoid burdening the state and the public with high energy costs during an already precarious period of economic recovery.

### Current Strategies to Reduce Fossil Fuel Energy Use on California Campuses

All ten UC campuses, seven of 23 CSU campuses, and 28 of 122 CCC campuses have signed the American College and University Presidents’ Climate Commitment. They have pledged to develop and implement climate action plans, with carbon neutrality as the ultimate goal.\(^99\) Particularly relevant to investments, the ACUPCC includes the establishment of “a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution’s endowment is invested.”\(^100\)

Regarding direct emissions, the UC and CSU have also developed system-wide targets:

- The UC system, in accordance with AB 32, plans to reduce emissions to 2000 levels by 2014, 1990 levels by 2020, and 80% below 1990 levels by 2050, and to achieve carbon neutrality as soon as possible; it also plans to install 10 MW of clean renewable power on campuses by 2014.
- In 2003, the CSU system set a goal of 15% reduction in energy demand by the 2008/09 year; it also hoped to install 10 MW of clean renewable power on campuses by 2014. Though the efficiency goal was not met for various reasons, the renewable energy goal has been exceeded.

There are two major ways colleges and universities can reduce their direct fossil fuel energy use: energy efficiency and renewable energy development and use. Energy efficiency means doing the same
actions, but needing less power to do so: using compact fluorescent light bulbs or high-MPG vehicles are examples of energy efficient options. Generating clean, renewable energy involves using technologies like solar panels or wind turbines to produce electricity without depleting the source or emitting GHGs. Energy efficiency involves using less energy, while renewable energy allows for the same amount of energy to be used, but at a lower environmental cost. These strategies must be used together if we are to eliminate the need for coal in California.

To begin to meet their climate commitments, individual campuses first prepared detailed analyses of their energy use. With this information, they have begun determining the most cost-effective ways to reduce fossil fuel demand and implementing the appropriate projects. It is important to note that all campuses have also analyzed the environmental impact of and potential ways to reduce emissions from transportation, waste, and other on-campus activities, and should be commended for doing so. Because this report is primarily concerned with coal and its use in electricity generation, however, we will focus on actions and policies that are predominantly concerned with reducing the on-site demand for electricity or increasing renewable supply.

Current and Planned Improvements to Energy Efficiency

In 2004, the UC and CSU systems partnered with each other and with California’s four largest investor-owned utilities (PG&E, SDG&E, SCE, and SoCalGas). The partnership committed funds towards energy efficiency retrofits, monitoring, and facility manager training with the goal of reducing on-campus energy demand. Due to its initial success, the partnership was renewed for 2006-2008, then 2009, and again for 2010-2012; CCC formed a similar partnership with the four companies in 2006 and has also continued to renew its participation.

Advocates for renewable energy should be aware that the UC system expects to meet the majority of its energy-reduction goals through improvements to energy efficiency rather than on-site renewable energy generation. It has allocated a significant amount of funding towards reducing the energy use of its facilities, and has set strict standards for new construction and major renovations:

- In the first four years of the UC/CSU/IOU program, the UCs received $20 million in funding from utilities, which allowed efficiency retrofit investments that now save $12 million annually.
- Due to the success of the first phase of the program and a need to meet additional climate goals, the UC system allocated an additional $247 million from various sources to the partnership for the 2009-2011 phase. Retrofit projects in this phase are expected to contribute $17 million in annual savings for 15 years while loans are being repaid and $35 million each year afterwards. This is in addition to the $12 million in annual savings from 2004-2008 projects.
- The University requires that all new construction meet or exceed LEED Silver standards and that all renovations costing more than $5 million meet LEED Certified standards. Currently the University has 49 certified projects, with many more in design or under construction.

Advocates for renewable energy should be aware of these energy efficiency programs as both renewable energy and energy efficiency accomplish similar goals. The rational for UCs focusing primarily on efficiency is twofold: first, many efficiency improvements are much more cost-effective than generating additional power, and second, as we will see, current renewable policies have severely limited its use on campuses.

Current and Planned Clean and Renewable Power Use
The University of California is continuously evaluating the feasibility of solar power on campus building rooftops. In 2002, the UC Feasibility Study for a Clean Energy Standard found that 11 MW of PV capacity could be installed at an unsubsidized cost of $72 million.\textsuperscript{104} The 2009 Strategic Energy Plan expanded the potential capacity to 36.2 MW, but at a cost of $329 million.\textsuperscript{105} More capacity may be available on undeveloped land on certain campuses, specifically UC Davis and UC Merced. With these estimates in mind the UC system has set a goal of 10 MW of on-site renewable generation capacity by 2014, though it is continuously reevaluating feasibility as costs decrease. To date, 3.6 MW of solar PV cells have been installed system-wide, with another 8.4 either proposed or under construction. UCLA has developed 3.5 MW of biogas capacity, and an additional 3.1 MW is planned for UC Davis and UC San Diego. If all proposed projects are completed at the planned capacity, the University will dramatically surpass its goal. Table 10 shows how projects are split between campuses:

Table 10. UC on-campus renewable energy generation

<table>
<thead>
<tr>
<th>Campus</th>
<th>Capacity (kW)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Berkeley</td>
<td>100</td>
<td>Installed</td>
</tr>
<tr>
<td>UC Davis</td>
<td>100</td>
<td>Installed</td>
</tr>
<tr>
<td>UC Irvine</td>
<td>895</td>
<td>Installed</td>
</tr>
<tr>
<td>UC Merced</td>
<td>1000</td>
<td>Installed</td>
</tr>
<tr>
<td>UC San Diego</td>
<td>1030</td>
<td>Installed</td>
</tr>
<tr>
<td>UC San Francisco</td>
<td>250</td>
<td>Installed</td>
</tr>
<tr>
<td>UC Santa Barbara</td>
<td>236.5</td>
<td>Installed</td>
</tr>
<tr>
<td>UC Davis</td>
<td>800</td>
<td>Under Construction</td>
</tr>
<tr>
<td>UC Davis</td>
<td>4000</td>
<td>Proposed</td>
</tr>
<tr>
<td>UC Irvine</td>
<td>477</td>
<td>Proposed</td>
</tr>
<tr>
<td>UC Merced</td>
<td>2000</td>
<td>Proposed</td>
</tr>
<tr>
<td>UC San Diego</td>
<td>860</td>
<td>Proposed</td>
</tr>
<tr>
<td>UC San Francisco</td>
<td>250</td>
<td>Proposed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biogas</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Los Angeles</td>
<td>3500</td>
<td>Installed</td>
</tr>
<tr>
<td>UC San Diego</td>
<td>2800</td>
<td>Construction</td>
</tr>
<tr>
<td>UC Davis</td>
<td>300</td>
<td>Proposed</td>
</tr>
<tr>
<td>Total</td>
<td>18,600</td>
<td></td>
</tr>
</tbody>
</table>

UC renewable energy installations are handled in a variety of ways with exact terms varying between projects, though a standard contract form is used. One of the major forces driving solar power negotiations is the “avoided costs” meaning the costs of purchasing energy from the utility through business-as-usual practices. Because the UC campuses are under the jurisdiction of several different electricity providers (PG&E, SCE, etc.), contract terms are often adjusted as necessary.

Relatively small solar energy systems (such as the 155 kW capacity system on the UCSB Rec Center) are often paid for through campus funds.\textsuperscript{106} Larger solar arrays, however, can be cost-prohibitive under current policies and typically come from an agreement between a campus and an independent solar developer. The developer generally pays the upfront costs of the system and continues to own and maintain the system, then sells the generated electricity to the campus at a rate competitive with what would be available from the local utility. This type of arrangement is referred to as a retail power
purchase agreement (PPA). Either the university or the installer may retain ownership of the clean energy credits (only the credit owner can be legally considered to have reduced its fossil fuel use), or the installer may hold the credits for a period of time and then transfer them to the school.

The UC Office of Sustainability recognizes several issues that limit additional on-campus renewable energy deployment, and finds incentive caps and net metering limitations to be by far the most significant. These issues will be discussed in more detail below, under Limitations to Further Renewable Energy Use.

California State University has set a system-wide goal of achieving 10 MW of installed on-site solar generating capacity by 2014; this goal will be exceeded before the end of 2012. The University has also recently partnered with the California Department of General Services to develop an additional 11 MW on CSU campuses. Table 11 shows how projects are split between campuses:

Table 11. CSU on-campus renewable energy generation

<table>
<thead>
<tr>
<th>Photovoltaic</th>
<th>Campus</th>
<th>Capacity (kW)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSU Bakersfield</td>
<td>1000</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Chico</td>
<td>300</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Dominguez Hills</td>
<td>600</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU East Bay</td>
<td>1000</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Fresno</td>
<td>1200</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Long Beach</td>
<td>400</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Monterey</td>
<td>900</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Northridge</td>
<td>700</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU Pomona</td>
<td>1100</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>CSU San Bernardino</td>
<td>1300</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>San Diego State Univ.</td>
<td>300</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>Cal Poly SLO</td>
<td>700</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>Sonoma State Univ.</td>
<td>200</td>
<td>Installed</td>
</tr>
<tr>
<td></td>
<td>Undetermined</td>
<td>11500</td>
<td>Proposed</td>
</tr>
<tr>
<td>Other</td>
<td>CSU Northridge (biogas)</td>
<td>1200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CSU San Bernard. (wind)</td>
<td>10</td>
<td>Installed</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>23,310</td>
<td></td>
</tr>
</tbody>
</table>

Several of CSU’s solar installations were developed through an agreement between the school and solar provider SunEdison. Under the agreement, SunEdison installs and maintains panels at no upfront cost to the campus, and then sells the generated power to the school at a slightly lower rate than would be available from the local utility. The campus retains ownership of all renewable energy credits. These PPA agreements allow the university to purchase affordable, clean power without the high upfront cost.

Agreements between solar installers and colleges and universities are aided by state rebate programs such as the California Solar Initiative (CSI), a utility-sponsored program designed to encourage homeowners and businesses to install solar panels on their properties. For solar installations as large as would be used on a campus, rebates are paid out monthly for the first five years of operation based on actual power produced (up-front rebates are limited to projects 30 kW or less). At the time of this
writing the performance rebate for new government and non-profit installations larger than 30 kW is $0.15/kWh, but this figure is not particularly applicable since rebates have changed through time as program funds are depleted. These rebates are taken into account in campus agreements and are a major factor in keeping projects financially feasible both for installers and for universities.

**Current Limitations to Further Renewable Energy Use**

In many cases, renewable energy installations on colleges and university campuses are limited by well-intentioned policies that are designed to help small power users like residential homes. Incentives included in these policies do not scale up well enough to allow high demand users such as universities to meet a substantial portion of their power needs with renewable energy without significant financial hardship.

The California Student Sustainability Coalition has partnered with the Clean Coalition, a nonprofit organization that is coordinating the CLEAN California Campaign to meet Governor Brown’s call for 12,000 megawatts of clean local energy by 2020 by implementing and expanding Clean Local Energy Accessible Now (CLEAN) Programs, which remove the three main barriers to increasing production of clean local energy in California:

- **CLEAN Contracts**: Existing California policies and programs, such as net metering and rebate programs, only incentivize the installation of small renewable facilities installed to reduce a property’s electric bill. These incentives are not appropriate for campuses, landfills, commercial buildings with tenants, and many other types of properties. CLEAN Programs resolve this issue by requiring the utilities to enter into standard contracts to purchase clean local energy at a fixed rate for a long duration.

- **Grid Access**: The process of connecting a renewable energy facility to the distribution grid to sell electricity is currently extremely unpredictable, expensive, and time-consuming. CLEAN Programs resolve this issue by making grid access processes transparent, predictable, and reasonable.

- **Financing Renewable Projects**: It is much more difficult to finance renewable facilities installed to reduce electric bills than facilities installed to sell renewable electricity to a utility. By reducing the risks, costs, and timeframes of selling renewable energy and connecting these facilities to the grid, CLEAN Programs facilitate financing of these projects.

CLEAN Programs and CLEAN Retail Contracts Programs may be able to help with some of the limitations that campuses face when trying to increase their renewable energy usage.

The first major limitation is the California Solar Initiative’s cap on eligible project size. Rebates are only available for installations that are less than or equal to 1 MW in capacity. This is an understandable restriction, since funds are limited and one of the main goals of the program is to serve as many customers as possible. In most cases, it is hardly a restriction at all: a typical home requires only a few kilowatts of solar capacity to meet all of its energy needs. For high-demand campuses, however, 1 MW will barely make a dent in electricity needs. UC Berkeley’s Strategic Energy Plan estimated that a 1.2 MW rooftop system would cost $11 million before rebates, and would only generate approximately 0.75% of the electricity demanded by the campus. Smaller schools, or schools that get more direct sunlight, do much better: a similar-sized system recently installed at CSU Bakersfield is expected to
generate 25-30% of the campus’ power needs.\textsuperscript{110} Even in the best cases, however, universities are often unlikely to be able to justify the expense of installing panels beyond the incentive cap.

Another limitation of campus renewable energy is the lack of net metering for large energy producers. Net metering is a California state law that allows solar panel owners to reduce their annual electric bills. Like the CSI rebate, it is well suited for small-scale producers like households, but does not fit campus needs: utilities are only required to reduce electric bills of customers with units with a capacity of 1 MW or less.\textsuperscript{111} Again, this makes sense from a larger perspective. The state’s goal with net metering is to increase the incentive for small users to build solar units, but allowing unrestricted sale of excess electricity would encourage solar developers to build extensively and force utilities to buy the generated energy whether or not it was needed.

The newest UC campus, Merced, initially explored the possibility of using a PPA to build several MW of solar capacity so that it could generate all of its electricity on-site without any GHG emissions. The campus found that the quantity of power that would be produced from a system designed to meet peak campus needs would, at other times during the year, generate far more electricity than necessary (for example, during the summer when campus use is low but solar generation potential is very high). During these times, the campus would still have to fulfill the terms of its PPA, meaning it would have to purchase generated electricity from the third party installer but could not use it, bank it, or sell it.\textsuperscript{112} This negative incentive was far too much of a financial burden for the campus, and the planned project was scrapped. The problem would be lessened if the campus owned panels outright instead of relying on a PPA, but upfront cost were prohibitive.

The biggest hurdles to increased campus renewable energy are due to the design of state laws and programs. These laws are focused primarily on serving small users; large customers who cannot afford to fully finance projects are at a disadvantage. Some universities have attempted to appeal to the state government to change legislation to be more favorable to large campuses and similar groups. Other solutions may be possible, and even small improvements can have a dramatic effect on increasing the feasibility of renewable energy.

**Potential Solutions to Renewable Energy Hurdles**

To avoid the restrictions and hassles associated with renewable energy generation, some colleges and universities are choosing to purchase power from established off-site renewable generators. These are generally large, commercial facilities that can overcome startup and regulatory barriers due to their sheer scale. Higher education campuses are attractive customers to renewable companies because of their high power demand and interest in clean electricity, and can therefore help drive the market to favor such operations. While this is a viable option, on-site generation is still highly desirable for its visibility and degree of direct control.\textsuperscript{113}

The Clean Coalition is an organization focused on encouraging local renewable generation by developing positive incentives and reducing permitting and contract bureaucracy and other barriers. CLEAN techniques can be incorporated into city or state policies depending on local utility arrangements, and have already been successfully used in a variety of communities to increase local renewable energy generation.\textsuperscript{114} Two of these communities are listed below:

_Gainesville, Florida_

A CLEAN Program was implemented that increased installed solar power capacity from 328 kW in October 2008 to 7.4 MW in May 2011. Prior to the program, the city had implemented a retail net
metering system and installation cost rebates, but interest was still low. Under the new CLEAN Program, the Gainesville Regional Utilities would pay local generators between $0.24 and $0.32 per kWh of electricity generated. Up to 4 MW of new installations could enter the program each year, and within 5 months a 7 year waiting list had developed.

Sacramento, California

In the most simplistic terms, CLEAN Programs allow local energy generators to sell their power directly to a utility by using simplified, streamlined contracts. Rather than restricting individual project size, CLEAN Programs tend to cap the system total. This actually protects utilities more than net metering caps, since larger local projects tend to be more cost-effective.115

Some campuses may be able to benefit from a CLEAN Program. UC Riverside purchases its power from municipal provider Riverside Public Utilities. Currently, the campus has no installed or planned renewable energy projects; it is possible this is largely due to a lack of upfront capital. Even if the campus cannot afford its own solar power generators, advocating for a community CLEAN Program could still help the university significantly reduce its power-related emissions. As one of a few California utilities that still uses a high percentage of coal (50% of total power supply in 2010), Riverside Public Utilities releases a great deal of emissions for every kWh it generates. If the University can advocate for a CLEAN Program and encourage local residents and businesses to increase solar capacity, it can increase the amount of renewable energy on the local grid and therefore decrease the percentage of power coming from highly polluting coal. This will allow the University to access a cleaner energy supply, and therefore lower emissions per kWh. Because Riverside’s utility company is small and local, it may be more receptive to community demand for CLEAN contracts than statewide IOUs, particularly if a major user like UC Riverside is leading the campaign.

The limitations UC Merced faced when trying to expand its solar use under a PPA illustrate the potential benefit of a state-wide CLEAN Program. Under a CLEAN Program, net metering would be transformed into direct power sales to the utility company, and would be capped system-wide rather than by individual project. This could mean that UC Merced could install the panels it needed to match its demand during the school year without being stuck with unusable excess power during the summer. Power sale prices would be based on either the value of the electricity or the cost of generation, and would therefore be higher than the $0.15/kWh CSI rebate. Payments would also last for as long as the unit generated power rather than ending after the first 5 years, as the CSI rebate does. CLEAN Programs can help California increase its renewable energy use, and will make it easier for the state to meet its goal of 33% renewable energy by 2020 and to eliminate the remaining 7.7% of its power that comes from coal. While some of the limitations campuses have faced will require a change in state legislation, other campuses may be able to advocate for local change in municipal utility companies and the communities they serve. In the short term, UC Riverside can advocate for a community CLEAN Program in the city of Riverside. This can both improve the university’s emission profile and increase awareness of CLEAN Programs, which may help in the development of a statewide program. In the longer term, campuses as a whole should advocate for statewide changes in policy that will not dis-incentivize renewable energy for large and seasonal power users.

Coal is already on the decline in California, largely thanks to policies designed to ultimately eliminate its use. The state already has developed many of the energy sources that will take coal’s place, so the goal of a coal-free California is certainly within reach. With just a little extra attention to energy efficiency and renewable energy, especially from high-energy users like universities and colleges, it is possible to
meet and exceed California’s emission and renewable energy goals. Current policies may make it difficult for campuses to install enough renewable energy to offset more than a fraction of their electricity use, but organizations like the CLEAN Coalition are ready to develop solutions that will benefit all users. With the combined efforts of campuses, policymakers, CSSC and the CLEAN Coalition, clean renewable energy can become the new standard for California.
Concluding Remarks

Coal has been polluting the environment and damaging human health for many years. The climate crisis, new regulations, and the development of alternative energy sources have all created a much less supportive environment for the coal industry, and its long term financial viability is suspect.

While this report has outlined many reasons why the coal industry is a poor investment choice for both moral and economic reasons, the issue can be simplified down to conflicting priorities. California colleges and universities are pursuing the most environmentally friendly strategies available for most on-campus operations, many of which are more expensive than traditional options. As we have discussed here, they have partnered with utilities and state governments to improve energy efficiency and to increase renewable energy production, and are exploring ways to overcome cost barriers to continue advancing towards full carbon neutrality.

Behind the scenes, however, these same schools are investing millions in some of the most environmentally destructive companies in the nation, and are doing so in the name of maximizing returns. Furthermore, they are using student funds to do it. These split priorities are making our campuses work against themselves: by rallying support behind green practices, they aid the movement that threatens their investments, and by investing in coal companies they help increase the strength of an industry they claim to be against. If our schools are going to continue to consider themselves leaders in sustainability and in the fight against global warming, they must consistently make environmentally focused choices in all areas of campus management.

Many of the most important changes in campus policies have come from student action, and CSSC students have already driven many important changes in both environmental and investment decision making processes. What starts as a small idea can eventually become a core component of a system-wide mission statement. Coal’s time in California’s energy supply is nearly over; it is up to the students to make sure it stays out of our colleges and universities’ bank accounts as well.
Notes and References


Estimates from Clean Air Task Force (2010). Epstein et al. (2011), cited in this report, consider the mortality estimate to be particularly conservative and claim it may be as high as 34,000.


Phone conversation with UC Treasurer staff, October 14, 2011.


Ibid.

For more information including a list of participating institutions, please see AASHE website at <http://www.aashe.org/>.

For more information including a list of participating institutions, see STARS website, Institutions tab: <https://stars.aashe.org/institutions/>

See note 75.

Disclosed information generally consists of the funds and endowments in which the college or university is invested, but not what companies any specific fund is invested in.

According to self-reported data, UCLA’s $1,051,401 endowment, $24,686 (2.3%) is invested in sustainable industries, and $1723 (0.16%) is invested in sustainable investment funds. See <https://stars.aashe.org/institutions/university-of-california-los-angeles-ca/report/2011-08-02/8/38/265/> for more information.

The Anderson Valley Social Venture Fund is funded by the resources of UCLA’s Anderson Valley School of Management community and makes strategic investments in socially conscious organizations. For more information, see <https://stars.aashe.org/institutions/university-of-california-los-angeles-ca/report/2011-08-02/8/38/266/>.

Appears to refer primarily to UC Regents Investment Committee, which controls a large portion of UC San Diego’s endowment. Claims that the UC San Diego Foundation also has a responsible investment committee, but specific information was not readily available. See <https://stars.aashe.org/institutions/university-of-california-san-diego-ca/report/2011-05-18/3/20/118/> for more information.

Refers to UC Regent Investment Policy rather than a foundation-specific policy.

Details on policy state that the foundation will not invest in “countries whose governing regimes are deemed by the Board to deny, through proclamations or constitutional prohibitions, participation by its nationals in the
elective processes of the national government or holding of public office because of race”, or apartheid. See <https://stars.aashe.org/institutions/san-jose-state-university-ca/report/2011-09-15/3/20/135/>


88 The California Energy Commission (2011) Energy Almanac: Total Electricity System Power. Accessed from <http://energyalmanac.ca.gov/electricity/total_system_power.html> on September 17, 2011. Data on previous years is available by following links from this page. Note: Coal use percentages here disagree with those used on Power Content Labels cited below, Lorraine Gonzalez from the California Energy Commission explained in a phone conversation that the CA mix for Power Content Labels used an old methodology, where data from the CEC website has been recalculated and is more accurate. Power Content Label data for individual companies is still accurate and can be compared to the CEC website data.


99 Text of the American College & University Presidents’ Climate Commitment


107 Rebates were as high as $0.50 per kWh when the program began, and are declining steadily as funds are depleted. In the final phase, government/non-profit installers will receive $0.10 per kWh. Go Solar California (2011) California Solar Trigger Tracker. Accessed from <http://www.csi-trigger.com/> on September 24, 2011.

108 Phone conversation with Dirk VanUlden, Associate Director, Energy & Utilities for the University of California Office of the President, on Sept 21, 2011.


113 Phone conversation with Dirk VanUlden, Associate Director, Energy & Utilities for the University of California Office of the President, on Sept 21, 2011.

114 For more information on the CLEAN Coalition and on CLEAN Programs, please see the program website at http://http://www.clean-coalition.org/

115 Email correspondence with Stephanie Wang, Director of Programs and Campaigns, CLEAN Coalition. September 25, 2011.