

**COLORADO’S CLEAN AIR—CLEAN JOBS ACT:  
ENCOURAGING CONVERSION OF COAL PLANTS TO NATURAL GAS**

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October 16, 2010

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## INTRODUCTION

Colorado's Clean Air-Clean Jobs Act (CACJA) requires utilities to create plans that reduce NOx emissions by 70% at a specified portion of their coal-fired electricity generation facilities by the end of 2017. It allows utilities to use many different methods to achieve those reductions, but encourages and incentivizes the replacement of coal-based generation with natural gas. Utilities seek approval for their plans from state agencies and must work closely with those agencies in designing the plans.

The primary impact of the act will be on The Public Service Company of Colorado (PSCo), the monopoly utility in the state. PSCo's current revised plan, pending before the Colorado Public Utilities Commission (PUC), calls for installing emissions reduction equipment, retiring a number of coal facilities, increasing utilization of natural gas facilities, and constructing new natural gas plants. It is projected to reduce NOx emissions at the covered facilities by 77% by the end of 2017 and to reduce CO<sub>2</sub> emissions at the covered facilities by over 20% by 2016.

It is not clear whether the approach that succeeded in CACJA is politically feasible elsewhere, since Colorado was uniquely amenable to this approach in a few ways. First, natural gas is a major industry in Colorado. Second, Colorado has relatively low energy costs and relatively high median family income relative. Third, Colorado is currently non-compliant with the National Ambient Air Quality Standard for Ozone and was motivated, in part, to preempt Federal regulation.

CACJA has a few advantages. Most importantly, it includes a concrete emissions reduction requirement. It also allows real flexibility to the utility and requires the utility to work closely with, and earn approval from, government agencies. Finally, CACJA was able to garner political support from diverse interest groups.

CACJA also has some clear disadvantages. Most obviously, it requires reductions in NOx, rather than CO<sub>2</sub> or greenhouse gases in general. Equally important, it only requires reductions at a portion of the utility's coal-fired plants and allows utilities to open brand new coal facilities that are not

regulated under the act. Furthermore, the bill may be excessively accommodating toward the public utilities and does not create enforcement authority.

## I. THE CLEAN AIR-CLEAN JOBS ACT

### A. *The Language of the Clean Air-Clean Jobs Act*

#### 1. Utilities Must Submit Emissions Reduction Plans to the Public Utilities Commission

The CACJA requires Colorado utilities to submit plans to the Colorado Public Utilities Commission (PUC) outlining steps that will reduce emissions at a portion of their Colorado-based coal-fired electric generation facilities<sup>1</sup>. The required plans must cover either 900 MW or 50% of the utility's total coal-fired electric generating units, whichever is smaller<sup>2</sup>. For PSCo, the monopoly utility in Colorado, 900 MW is less than 50% of total coal-fired electric generation units<sup>3</sup>. Therefore, a PSCo plan covering as little as 900 MW of electricity generation units would be permissible under CACJA.

#### 2. Utilities Must Reduce NOx Emissions by at least 70% at Facilities Covered in the Plans

CACJA includes only one mandatory, numerical benchmark for emissions reductions: the generating facilities covered in the utility's plan must make a 70% reduction in “annual emissions of oxides of nitrogen” by 2017, compared to 2008 levels<sup>4</sup>. The statutory mechanism that creates this requirement is unique because it is somewhat hidden: there is no single section of the bill that states the 70% reduction requirement. Rather, two different sections of the bill work together to create the requirement.

Section 204 (2)(b)(IV) states that PUC may not approve any plan unless the Department of Public Health and Environment (DPHE) determines that it “is consistent with the current and

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1 COLO. REV. STAT. §40-3.2-204(1) (2010)

2 COLO. REV. STAT. §40-3.2-204(2)(a) (2010)

3 Public Service Company of Colorado, Clean Air-Clean Jobs Act Emissions Reduction Plan, submitted to Public Utilities Commission, Docket No. 10M-245E. (Aug. 25, 2010)

4 COLO. REV. STAT. §40-3.2-205(1)(a) (2010)

reasonably foreseeable requirements” of the Clean Air Act (CAA). Because it is impossible to know exactly what EPA will find that CAA requires in the future, this section appears to give DPHE an open-ended 'veto' power over utility plans. Section 205(1), however, limits DPHE in its use of this 'veto' power, by stating indirectly that a 70% NO<sub>x</sub> reduction is *necessary* to be consistent with “current and reasonably foreseeable requirements” of CAA<sup>5</sup>.

This complicated statutory mechanism unmistakably requires plans to include a 70% reduction in NO<sub>x</sub>, but it achieves that result while giving the impression that the 70% benchmark is merely one factor to be considered among others.

### 3. Utilities Have Discretion in Designing Their Plans

The CACJA leaves significant flexibility for utilities to choose the elements they will use to achieve the necessary reductions. The bill lists elements that may be included, but does not require that any specific element be included. Thus, although the bill has often been described as requiring the retirement of coal plants, that requirement is not made explicit in the bill. Rather, retirement is one of many elements that may be included in a plan. Other suggested elements include: conversion to natural gas, increased utilization of existing gas-fired generating capacity, new emission control equipment, long-term fuel supply agreements, and new natural gas pipelines<sup>6</sup>.

### 4. Utilities are Incentivized Toward Coal Retirement and the Use of Natural Gas

CACJA most clearly encourages retirement of coal and use of natural gas in Section 206(1)(a), which provides: “The General Assembly finds that...it is in the public interest for utilities to give primary consideration to replacing or repowering their coal generation with natural gas generation...”.

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<sup>5</sup> Specifically, Section 205(1) requires PUC to consider 9 different factors in approving or rejecting utility plans, including: “Whether [DPHE] reports that the plan is likely to achieve at least a seventy to eighty percent reduction, or greater, in annual emissions of oxides of nitrogen as necessary to comply with current and reasonably foreseeable requirements of the [Clean Air Act] and the [Colorado Air Pollution Prevention and Control Act].” Thus, the phrase “as necessary” limits DPHE’s discretion and withholds the necessary determination from any plan that fails to cut NO<sub>x</sub> emissions by a minimum of 70%.

<sup>6</sup> COLO. REV. STAT. §40-3.2-205(1)(a) (2010)

In addition to that general language, CACJA also encourages coal retirement and natural gas usage by specifically requiring the plans to analyze a scenario that retires coal plants and then by providing financial incentives for adoption of a plan that retires coal plants earlier than the overall 2017 deadline. Specifically, utilities must analyze the implications of retiring 900 MW in coal-based electricity by 2015 and replacing that electricity with natural gas or other low-emission sources. If a utility retires 900 MW of coal-fired generation before 2015 and can show that investments in that plan are causing a rate of economic recovery lower than what it is authorized to receive, then that utility is permitted to increase its rates more frequently than it otherwise could, avoiding the onerous 'general rate case' process<sup>7</sup>.

Additionally, CACJA requires DPHE to comment specifically on whether any new plants proposed in a plan would emit more or less than a combined-cycle natural gas generating unit would emit<sup>8</sup>. This has the effect of setting natural gas as a kind of 'default' replacement resource for the coal-fired generation units that are the subject of these plans.

#### *B. The Effect of the Clean Air-Clean Jobs Act*

##### 1. The Public Service Company of Colorado (PSCo)

CACJA elicits plans from all the utilities that operate coal-fired plants. However, the primary impact of the bill will depend on the plan that is ultimately adopted by Public Service Company of Colorado (PSCo, which is a subsidiary of Xcel Energy), which has a regulated monopoly position in the Colorado electricity market.

PSCo supported passage of the bill<sup>9</sup> and on August 13, 2010, it submitted a first version of an

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7 COLO. REV. STAT. §40-3.2-207(4) (2010)

8 COLO. REV. STAT. §40-3.2-204(2)(b)(III) (2010)

9 David. O. Williams, *Taking one for the natural gas team: Penry backs Ritter clean air plan*, The Colorado Independent, Mar. 16, 2010, <http://coloradoindependent.com/49118/taking-one-for-the-natural-gas-team-penry-backs-ritter-clean-air-plan>

emissions reduction plan to the PUC<sup>10</sup>. The plan has not yet been accepted by PUC and may receive major changes (see section 3., below), but the final plan is likely to be similar to this first submission.

## 2. The Content of the Public Service Company of Colorado's Plan

PSCo's plan pertains to 1654 MW of existing coal-fired generation and calls for the eventual retirement of 903 MW of that total amount. The retirements are staggered, occurring from as early as 2011 up until the end of 2022. Many coal plants are to be fitted with equipment that controls NOx emissions, either as a long-term solution or as an interim solution, until the plants can be retired. In order to replace some of the electricity that will be lost to closures, PSCo plans to increase utilization of existing natural gas-powered facilities. The plan also calls for the eventual creation of two new Natural Gas Combined Cycle generation plants, generating a combined 994 MW<sup>11</sup>.

According to PSCo, this plan will reduce NOx emissions by 77% by the end of 2017 and reduce CO2 emissions by over 20% by 2016. However, one of the two new natural gas facilities is not scheduled to be completed until 2022<sup>12</sup>. This aspect of the plan has become the subject of an important controversy.

## 3. Recent Developments: Litigation

On August 31, 2010, three organizations (herein, “the intervenors”: Colorado Independent Energy Association, Thermo Power and Electric, and Southwest Generation Operating Company, LLC) filed a motion for summary judgment in the matter of PUC's consideration of PSCo's emissions reduction plan<sup>13</sup>. They sought a commission order declaring that PSCo's plan is inconsistent with

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10 Public Service Company of Colorado, Clean Air-Clean Jobs Act Emissions Reduction Plan, submitted to Public Utilities Commission, Docket No. 10M-245E. (Aug. 13, 2010)

11 Public Service Company of Colorado, Clean Air-Clean Jobs Act Emissions Reduction Plan, submitted to Public Utilities Commission, Docket No. 10M-245E, pages 99-100. (Aug. 25, 2010)

12 Public Service Company of Colorado, Clean Air-Clean Jobs Act Emissions Reduction Plan, submitted to Public Utilities Commission, Docket No. 10M-245E, page 100. (Aug. 25, 2010)

13 Motion for Partial Summary Judgment, submitted to Public Utilities Commission, Docket No. 10M-245E (Aug. 31, 2010).

CACJA and therefore fundamentally flawed. The intervenors' argument is based on CACJA timing provision<sup>14</sup>. PSCo's original plan included completing construction of a new Natural Gas plant in 2022 and closing an old coal plant around the same time. The intervenors argued that this portion rendered the plan “inconsistent with the plain requirement of H.B. 1365 that any emissions reduction plan must be fully implemented by the end of 2017.”<sup>15</sup>

On September 29, 2010, the PUC denied the motion for summary judgment, accepting PSCo's argument that its “plan”, for purposes of CACJA, included only those portions that were to be implemented by the end of 2017. Therefore, PUC decided that in evaluating the plan, it would consider a “truncated” version, excluding elements that were set to occur after 2017<sup>16</sup>.

On October 4, 2010, DPHE responded to PUC's denial by offering a determination (as required by Section 204(2)(b)(IV) of CACJA) as to whether the new truncated plan would satisfy current and reasonably foreseeable requirements of the Clean Air Act. It found that without the 2022 coal plant closure, PSCo's plan would not meet reasonably foreseeable requirements under the Clean Air Act. DPHE further noted that “the approach that affords the most significant air quality benefits and is most likely to be consistent with reasonably foreseeable requirements includes the retirement of [the coal plant in question].”<sup>17</sup>

PUC is not permitted to approve PSCo's plan until DPHE makes a determination that it does meet the necessary requirements. PUC is required to “review the plan and enter an order approving, denying, or modifying the plan by December 15, 2010”.<sup>18</sup> It appears likely that the result of this dispute will be a much earlier retirement for one coal plant than what was originally proposed.

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14 COLO. REV. STAT. §40-3.2-204(2)(c) (2010)

15 Motion for Partial Summary Judgment, submitted to Public Utilities Commission, Docket No. 10M-245E, page 2. (Aug. 31, 2010)

16 Decision No. C.10-1067 Order Denying Motion for Summary Judgment, submitted to Public Utilities Commission, Docket No. 10M-245E. (Sep. 29, 2010)

17 Response of CDPHE to the PUC's September 29, 2010 Order Denying Motion for Partial Summary Judgment, submitted to Public Utilities Commission, Docket No. 10M-245E, page 3. (Oct. 4, 2010)

18 COLO. REV. STAT. §40-3.2-205(2) (2010)

### *C. Colorado's Unique Context*

It is not clear whether the approach that succeeded in CACJA is politically feasible elsewhere, since Colorado was uniquely amenable to this approach in a few ways.

#### 1. Incentives Favoring Natural Gas

Colorado is relatively rich in natural gas. It has 10 of the nation's 100 largest natural gas fields and produces around 5% of the nation's natural gas output<sup>19</sup>. For this reason, Colorado's political system includes important constituents who are interested in increasing the state's overall use of natural gas. It also means that a shift toward natural gas is politically palatable, since it is easy for advocates of the bill to note that building new natural gas-related infrastructure would be an economic boon for Colorado. Not surprisingly, the plan PSCo has proposed for compliance with CACJA calls for gas sourced from Colorado<sup>20</sup>. Moreover, the coal plant retirements are set to occur gradually, and much of Colorado's coal industry is oriented toward exporting coal to other states. Thus, the act could easily be sold as adding jobs in the natural gas industry without removing jobs in the coal industry.

Just as importantly, PSCo itself may have strong economic reasons to favor increased use of natural gas. PSCo is heavily involved in the purchase, transportation, distribution, and sale of natural gas, as well as in developing and leasing natural gas pipeline, storage, and compression facilities<sup>21</sup>. Clearly, a shift toward natural gas production and use will not be detrimental to PSCo's business in the state.

These obvious economic realities must have exerted an influence during the legislative process that resulted in CACJA and they would not be present in other states whose energy profiles are less oriented toward an obvious coal alternative.

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19 U.S. Energy Information Administration State Energy Profiles: Colorado, [http://www.eia.doe.gov/state/state\\_energy\\_profiles.cfm?sid=CO](http://www.eia.doe.gov/state/state_energy_profiles.cfm?sid=CO) (last visited Oct. 16, 2010)

20 Public Service Company of Colorado, Clean Air-Clean Jobs Act Emissions Reduction Plan, submitted to Public Utilities Commission, Docket No. 10M-245E, page 100. (Aug. 25, 2010)

21 Xcel Energy Overview: Corporate Profile, <http://phx.corporate-ir.net/phoenix.zhtml?c=89458&p=irol-IRHome>, page 8 of 2009 Form 10-K (last visited Oct. 16, 2010).

## 2. Colorado's Moderate Cost of Energy and High Family Income

Colorado residents pay less than the average American for their electricity. According to the U.S. Energy Information Administration, the average retail price of electricity in Colorado was 9.98 cents per kilowatt hour in June 2010 and 8.25 cents per kilowatt hour in June 2009. Those numbers compare with a U.S. Average of 10.19 and 10.21, respectively<sup>22</sup>. Median family income in Colorado is higher than it is in 41 of the 50 states<sup>23</sup>. These relatively modest prices and relatively high incomes may leave Coloradans more receptive to the prospect of increased energy costs than residents of the typical American state.

## 3. Colorado's Non-Compliance with National Environmental Standards

The Clean Air Act requires that states comply with specified national ambient air quality standards (NAAQS) for a variety of air contaminants, including ozone. The Denver metropolitan area is currently in non-compliance with the NAAQS for ozone<sup>24</sup>. Furthermore, the EPA has recently proposed lowering the NAAQS for ozone<sup>25</sup>. Therefore, irrespective of CACJA, Colorado would have been required by federal law to take significant steps to reduce its emissions in the near future, including NO<sub>x</sub>, which contributes to ozone.

This political focus is manifest in the bill's language because throughout CACJA, compliance with CAA and state regulations is consistently required and encouraged. Indeed, the only strict requirement of the bill (NO<sub>x</sub> reduction of 70%) is framed as an effort to meet “current and reasonably foreseeable regulations” under CAA. Other states that have attained national standards for air pollution or feel that their populations and environments are not at significant risk from polluted air may have a lesser incentive to enact legislation to reduce emissions from coal plants.

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22 U.S. Energy Information Administration: Average Retail Price of Electricity to Ultimate Consumers by End-Use Sector, by State, [http://www.eia.doe.gov/electricity/epm/table5\\_6\\_a.html](http://www.eia.doe.gov/electricity/epm/table5_6_a.html) (last visited Oct. 16, 2010)

23 U.S. Census Bureau: State Median Income, <http://www.census.gov/hhes/www/income/statemedfaminc.html> (last visited Oct. 16, 2010)

24 EPA: Denver's Ozone Designation, <http://www.epa.gov/region8/air/denverozone.html> (last visited Oct. 16, 2010)

25 National Ambient Air Quality Standards for Ozone: Proposed Rule, 75 Fed. Reg. 2938

## II. POLICY ADVANTAGES OF THE CLEAN AIR-CLEAN JOBS ACT APPROACH

### *A. Includes a Strict Emissions Reduction Requirement*

Perhaps the greatest advantage of the approach taken by CACJA is that it flatly requires the utility to make specified emissions reductions. If the plans are adopted and the utilities comply, this virtually guarantees that some number of coal plants will be closed or fitted with emissions reduction equipment by 2017.

### *B. Encourages Flexibility and Cooperation Between Utility and Government Agencies*

CACJA encourages and incentivizes the use of natural gas and the closure of coal plants, but it does not require that those mechanisms be used. Instead, utilities are given many options for how to reduce their emissions. This flexibility may make the measure politically palatable and could result in lower costs for consumers, since the utilities themselves will know best how to most efficiently reduce emissions.

Rather than dictating to utilities how they must adjust their electricity generation portfolios, CACJA sets up a collaborative process with utilities proposing plans and then making revisions and responding to input from the PUC and DPHE. Ideally, this collaboration should strike a balance between the utilities' interests and the public's interests.

### *C. Capacity to Garner Support of Diverse Interest Groups*

CACJA was ultimately supported by Republicans and Democrats, as well as environmentalists, the natural gas lobby, public health advocates, and some business groups<sup>26</sup>. This diverse coalition

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<sup>26</sup> Michael De Yoanna, *Clean Air and Jobs Unite Colorado Pols*, 5280 Magazine Blog, March 17, 2010, <http://www.5280.com/blogs/2010/03/17/clean-air-and-jobs-unite-colorado-pols>

probably resulted from skillful framing as much as from the bill's content. Nonetheless, the support of a broad coalition is indispensable to legislative success and environmental legislation rarely achieves such a degree of consensus.

Public health and the need for 'clean air' was at the center of the arguments in favor of the bill<sup>27</sup>. Climate change, in contrast, was rarely mentioned. The language of 'clean air' had the capacity to appeal to both environmentalists and public health advocates, without evoking the divisions that may exist between those two interest groups.

### III. POLICY DISADVANTAGES OF THE CLEAN AIR-CLEAN JOBS ACT APPROACH

#### *A. Only Requires Reduction of NO<sub>x</sub>, Not CO<sub>2</sub> or Other Greenhouse Gases*

Perhaps because of the way the bill was framed, greenhouse gas emissions were not included as a major focus in the legislation. A bill that focused more clearly on CO<sub>2</sub> and other greenhouse gases would be likely to have a much more powerful impact on that problem.

#### *B. Focuses Narrowly on a Portion of the Utilities's Power Plants*

CACJA only requires utilities to write plans covering 900 MW or 50% of their coal-fired electricity plants, whichever is smaller. The act has no impact at all on the utility's remaining coal plants. Nor does the act place any limits on the new coal plants that can be created. Indeed, during the time that PSCo has been working to plan its compliance with CACJA it has simultaneously built a new 750 MW coal-fired power plant called Comanche 3<sup>28</sup>.

#### *C. Strength of the Reduction Plan Depends on Utility's Good Faith Cooperation*

CACJA's collaborative approach has the disadvantage of relying on cooperation from the for-

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<sup>27</sup> *Colorado Rallies for Clean Air*, Sierra Club Scrapbook, Sep. 29, 2010, <http://sierraclub.typepad.com/scrapbook/2010/09/colorado-rallies-for-clean-air.html>

<sup>28</sup> Mark Jaffe, *Boulder Willing to Let Excel Franchise Lapse While it Studies Future Energy Options*, Denver Post, Oct. 10, 2010, [http://www.denverpost.com/news/ci\\_16294228](http://www.denverpost.com/news/ci_16294228)

profit utility companies. Whether through litigation or public campaigning or delay tactics or lobbying, it should be expected that these companies will seek to profit from the new legislation. CACJA does require PUC and DPHE to approve utility plans, but the great flexibility in the act may leave opportunities for utilities to avoid their responsibilities and render the act less effective than it was intended to be.

#### *D. Language May Be Excessively Favorable Toward the Utilities*

A few specific sections of CACJA exemplify this excessive accommodation toward utilities. First, Section 205(3) states that “All actions taken by the utility in furtherance of, and in compliance with, an approved plan are presumed to be prudent actions, the costs of which are recoverable in rates.” This language could be a major problem, since a utility could take actions 'in furtherance' of an approved plan that are nonetheless clearly against the public interest. In those cases, a Plaintiff would face a heavy burden if she sought to show that the action was imprudent or to challenge the utility's right to recover all costs associated with the actions. Second, Section 205(4) states that “If the utility disagrees with the [PUC's] modifications to its proposed plan with respect to resource selection, the utility may withdraw its application.” This section could severely limit PUC's ability to influence final emissions reduction plans, since it gives the utility authority to simply withdraw its plan over 'resource selection' disagreements. For instance, based on DPHE's recent decision, PUC may modify PSCo's plan to include earlier construction of a new natural gas plant. If this modification is considered a 'resource selection', then PSCo may have authority to withdraw its entire emissions reduction plan.

#### *E. Lack of Enforcement Authority*

Other similar legislative efforts demonstrate a much stronger approach to enforcement than the

approach in CACJA<sup>29</sup>. CACJA has no enforcement section and may not provide Colorado's agencies with the powers they need to ensure that the purposes of the act are achieved.

#### IV. RESOURCES

##### *A. Western Resource Center*

Western Resource Center was heavily involved in creating this legislation and will be a key resource for understanding the process that led to its adoption. Its website, <http://www.westernresources.org>, provides a great deal of information.

##### *B. Database on State Incentives for Renewables and Efficiency*

A comprehensive compilation of databases in state and local climate change initiatives, including incentives for renewable and efficiency, is available at <http://www.law.columbia.edu/centers/climatechange/resources/state>.

##### *C. Resource Website*

CCCL has set up a temporary website from which interested readers can download some of the key documents mentioned in this paper. The web address is: <http://sites.google.com/site/cacjaresourcepage/documents>.

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<sup>29</sup> For instance, the proposed Chicago Clean Power Ordinance would categorize excessive emissions as a nuisance and also give the city specific authority to compel abatement of nuisances, as defined in the statute. Chicago Clean Power Coalition Briefing Materials Page, <http://cleanpowerchicago.org/wp-content/uploads/2010/02/Clean-Power-Ordinance-3-22.pdf> (last visited Oct. 16, 2010)