

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

AMERICAN TRADITION INSTITUTE, et al.,

Plaintiffs,

v.

THE STATE OF COLORADO, et al.,

Defendants.

Civil Action No. _____

**DECLARATION OF
WILLIAM YEATMAN**

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I, William Yeatman, declare under penalty of perjury, in accordance with 28 U.S.C. §1746 declare as follows:

1. I make this Declaration based upon my expertise in the area of Colorado energy, and my review of documents relevant to that policy.
2. I am an employee of the Competitive Enterprise Institute and have worked as an analyst of the energy industry for almost 4 years.
3. I serve as an energy policy analyst, have a broad-based knowledge regarding energy production, including generation and regulation of electricity and my current duties include examination of the policy and economic implications of renewable energy standards, a profession I have pursued for the past 4 years.
4. I have extensive experience with analyzing state and federal energy policy. These analyses have involved reviewing legislative enactments, administrative pronouncements, court rulings, and commentary by other experts in the field.

5. I have written commentary or been cited on Colorado energy policy for or in numerous publications, including the Denver Post, the Denver Business Journal, the Denver Daily News, the Pueblo Chieftain, and the Greeley Tribune. In addition, I maintain a weblog on these issues for the Independence Institute, a free market think tank in Colorado. I also advise Colorado lawmakers on energy issues.

6. For every annual compliance application to date, the Colorado Public Utilities Commission has allowed Xcel to calculate the cost of complying with the Renewable Electricity Standard by comparing the expense of eligible renewable energy resources against the cost of an equivalent amount of natural gas generation. According to the federal Energy Information Administration's (EIA) December 2009 projection of future electricity costs¹, in 2016 wind power will be and nearly 80 percent more expensive than natural gas. Thermal solar generation is projected to be 200 percent more expensive than gas. In December 2010, the EIA updated its projections. According to the new projections, in 2016, wind power will be almost 50 percent more expensive than gas. Thermal solar is projected to be more than 300ⁱ percent costlier than gas.

7. Importantly, these cost comparisons do not belie the true relationship between conventional energy and renewable energy. At all times, the power entering the grid must match the power leaving it. Renewable sources, however, are intermittent, which introduces engineering difficulties incorporating renewable power into the grid. This results in a lower "power quality" (a metric of technical performance) than conventional energy sources.

¹U.S. Energy Information Administration, "2016 Levelized Cost of New Generation Resources from the Annual Energy Outlook 2010," in *Annual Energy Outlook 2010*, Report DOE/EIA-0383(2010), May 11, 2010, http://www.eia.doe.gov/oiaf/aeo/electricity_generation.html ²William Dalton, Staff of the Public Utilities Commission Review of Public Service of Colorado 2008 RES Report, In the Matter of the 2008 Renewable Energy Standard Compliance Report of Public Service Company of Colorado, Docket 07A-462E, pp. 6-7

8. More significantly, renewable energy has much lower dependability, or “capacity,” than does conventional energy. Conventional energy, like coal or nuclear, is about 99 percent reliable. Wind and solar, on the other hand, are wholly unreliable. Because the wind doesn’t always blow, Xcel only counts on its wind turbines to generate 12.5 percent of their nameplate capacity. Because the sun only shines during the day, the EIA estimates that solar power is only 25 percent reliable. The problem is that grid operators don’t know when this intermittent power will be available. Obviously, electricity generation that can be planned in advance has a greater value than electricity generation that cannot be planned in advance with any reliability.

9. The Colorado Renewable Energy Standards (RES) is a renewable energy production quota. In 2004, voters passed Amendment 37, a ballot initiative requiring that investor owned utilities obtain at least 10 percent of its electricity from renewable energy resources by 2015. In 2007, the legislature passed, and Governor Ritter signed, HB 1281, which increased the RES to 20 percent by 2020. In 2010, the legislature passed, and Governor Ritter signed, HB 1001, which increased the RES to 30 percent by 2020.

10. In addition to setting a production quota, the Colorado RES also sets price controls. For Amendment 37, the maximum retail rate impact of acquiring increasing renewable energy resources was limited to 1 percent. HB 1281 raised the annual limit on retail rates to 2 percent, and this limit was maintained in HB 1001.

11. This declaration uses the RES compliance history of the Public Service Company (better known as Xcel Energy), Colorado’s largest utility, to demonstrate the true costs of the RES.

12. One might conclude that the legally mandated 2 percent rate cap price control applies to the entire RES program, but it does not. Rather, the cap pertains only to the incremental costs,

which are the difference in the projected operating costs between conventional energy and the new renewable energy used to meet the RES.

13. The incremental costs are listed on consumers' bills as the Renewable Energy Standard Adjustment (RESA). Since January 2009, the RESA charge has been set at 2 percent, the rate impact limit. For a consumer with a \$150 Xcel bill, a 2% RESA charge would be \$3 monthly, \$36 annually.

14. Xcel defines the RESA on the monthly statements as representing "2% of an electric bill and funds the renewable energy program as required by Colorado law that asks utilities to generate increasing portions of their electricity from sun, wind and biomass." Note with care that the Xcel statement does not say that the RESA covers the cost of renewable energy.

15. Incremental costs are only a small portion of the total costs of renewable energy that count towards RES compliance. The "non-incremental costs," which are the total renewable energy costs minus the incremental costs, are recovered through a different monthly fee, the Electric Commodity Adjustment (ECA).

16. The Public Utility Commission staff's William Dalton acknowledged confusion over the two fees as he explained the cost-shifting technique in testimony given to the Commission regarding the Public Service Company's RES compliance plan in September 2009:

This could be a point of confusion to ratepayers and other interested parties: The [Public Service] Company is not exceeding the Renewable Energy Standard at the 2 percent retail rate impact that is borne by ratepayers. The costs above the retail rate impact limit are recovered through other Commission approved cost recovery mechanisms, primarily the ECA. Once the renewable energy resource cost recovery is allocated to the ECA, cost recovery of these resources is no longer subject to retail rate impact criteria or cost cap².

17. According to the Public Service Company's 2010 RES Compliance Plan, the ECA is projected to be \$6.3 million this year, before it balloons to \$141 million in 2012. It then increases

exponentially to \$738 million in 2020, or almost 23 percent of total retail electricity sales—none of which would count against the 2 percent retail rate impact³.

18. Assuming 1.5 million ratepayers in Colorado (current figure is 1.3 million) in 2020, and the mandated 20 percent renewable standard, the ECA cost alone will average nearly \$500 per year per ratepayer.

19. The 2 percent rate cap does not apply to the preponderance of RES costs. And even where it does apply—to incremental costs—the price ceiling is evaded and exceeded.

20. As explained above, the incremental costs (to which the 2 percent retail rate impact applies) are the difference in the projected operating costs between conventional energy and the new renewable energy used to meet the RES. Here's how the calculation works. First, Xcel calculates the cost of meeting the RES requirement. Then, it substitutes conventional energy—in practice, either a natural gas fueled combustion turbine or a combined cycle unit—for the new renewable energy used to meet the RES and recalculates the costs. The difference between these two scenarios is the incremental cost and is reflected on statements as RESA.

21. Xcel employs two accounting mechanisms in order to circumvent the 2 percent retail rate impact limit. These budgeting techniques artificially increase conventional energy costs or artificially decrease renewable energy costs. Either way, it suppresses the incremental cost, which allows Xcel to avoid complying with the retail rate impact.

22. The first artificial adjustment is a \$20 per ton “carbon adder,” which was introduced in Public Service Company’s 2010 RES Compliance Plan application. This fee is meant to incorporate the cost of greenhouse gas regulations into the model used to calculate the

³ Table 7-3, Column Q, Exhibit 65, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2010 Renewable Energy Standard Compliance Plan Docket 09A-772E

incremental cost. Yet no such regulations exist. As a result, the only function of the carbon adder is to suppress the incremental costs by artificially increasing the price of conventional energy.

23. The Public Service Company concedes that it would violate the 2 percent retail rate impact limit without the adder. According to its Statement of Position on its proposed 2010 RES compliance plan, “Retroactively changing the modeling assumptions to assume no carbon regulation prior to 2014 would significantly increase the incremental costs of the resources...”⁴ Because the RESA, which collects the incremental costs, is already set at the 2 maximum retail rate impact limit, “significantly” increasing incremental costs would necessarily violate the retail rate impact.

24. By 2012, this accounting would shield almost \$50 million from the RESA retail rate impact. That is almost double the projected RESA fee for that year.

25. The other mechanism to circumvent the retail rate impact is a \$4 per kilowatt- hour monthly “surplus capacity credit” for renewable energy, starting in 2012. This credit gives renewable energy value where none exists.

26. Renewable energy is intermittent. For example, because the wind does not blow consistently, Xcel’s own forecasting methods rely on only 12.5 percent of wind power’s nameplate capacity⁵. Therefore, when the utility contracts for 150 megawatts of wind, it expects only 18.75 megawatts of electricity generation.

⁴ Statement of Position of Public Service Company of Colorado In the Matter of Public Service Company of Colorado for Approval of Its 2010 Renewable Energy Standard Compliance Plan, Docket 09A-772E, p3

⁵ Public Utilities Commission Decision C08-0929, Phase I Decision, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2007 Colorado Resource Plan, p 90 ¶292 (d)

27. The \$4 per kilowatt-hour monthly “surplus capacity credit” gives intermittent resources value for their nameplate capacity, when no such value exists⁶. The credit is subtracted from the cost of the renewable resource. According to the PUC Trial Staff, “This decreases the cost of the RES plan⁷,” which also decreases the incremental costs subject to the retail rate limit. Xcel concedes that incremental costs would exceed the 2 percent retail rate impact without this capacity credit⁸.

28. As the result of a 2009 PUC Decision⁹, Xcel is allowed to “lock down” the ongoing incremental costs of eligible renewable energy sources for 5 years. Because of this Decision, Xcel can entrench the aforementioned accounting mechanisms. It can “lock down” an artificial suppression of incremental costs. The PUC Staff opposed the “lock down” of ongoing incremental costs, arguing that it requires, “the Company only to plan or project to stay within the retail rate impact limit, and not actually stay within that limit¹⁰.”

29. Even with these accounting manipulations, the Public Service Company has been unable to stay under the RESA cap. In 2009, it exceeded the cap by almost \$20 million, and the year

⁶ “Staff is not aware of any current renewable energy contracts that include a demand or capacity payment” Answer Testimony and Exhibits of William J. Dalton Staff of the Public Utilities Commission, In the Matter of the Application of Public Service Company of Colorado Approving Its 2010 Renewable Energy Standard Compliance Plan, Docket 09A-772E, p 16, lines 9-11

⁷ Public Utilities Commission Trial Staff, Statement of Position, In the Matter of Public Service Company of Colorado for Approval of Its 2010 Renewable Energy Standard Compliance Plan, Docket 09A-772E, p 10

⁸ “Eliminating this capacity credit for renewable resources would calculate a larger incremental cost for renewable resources,” Statement of Position of Public Service Company of Colorado, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2010 Renewable Energy Standard Compliance Plan, Docket 09A-772E, p7

⁹ Public Utilities Commission, Decision 09-0990, In the Matter of Proposed Amendments to the Rules of the Colorado Public Utilities Commission Relating to the Renewable Energy Standard, Docket 08A-424E. p 11-12, ¶30-32

¹⁰ Trial Staff, Statement of Position, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2009 Renewable Energy Standards Compliance Plan, Docket 08A-532E, p 2

before by almost \$10 million¹¹. In 2010, Xcel added another \$11 million to the RESA deficit. This year, Xcel acknowledges that it will overshoot the 2 percent rate cap by at least \$47 million, which will bring the deficit to almost \$93 million¹². This burgeoning deficit is placed into a deferred account, on which Xcel now earns 4.225 percent interest. That rate will increase to 7.88 percent in August.

30. The Public Utilities Commission also has permitted Xcel to exclude significant renewable energy costs from retail rate impact calculations. In a 2007 decision¹³, the Public Utilities Commission granted Xcel a waiver allowing the utility to treat as “sunk” the costs of 775 megawatts of new wind energy resources. “Sunk” costs are not considered when determining the incremental costs (and therefore the retail rate impact). However, the electricity generated by the 775 megawatts counted towards RES compliance.

31. These “off the books” wind energy costs amounted to \$144 million in 2008¹⁴, \$147 million in 2009, and \$155 million in 2010¹⁵. They were collected through the ECA. Notably, these ECA costs were not acknowledged by Xcel in its 2010 RES Compliance Plan application, and the omission was revealed only after an information request by the Public Utility Commission staff.

¹¹ Table 7-3, Column U, Exhibit 65, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2010 Renewable Energy Standard Compliance Plan Docket 09A-772E

¹² Response of Public Service Company of Colorado to Motions Filed by Colorado Solar Energy Industries Association, Docket 11A-135E, p3, 7

¹³ Public Utilities Commission Decision C07-0767, Order Approving Public Service’s 2007 Compliance Plan with Modifications, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2007 Renewable Energy Standard Compliance Plan and for Waiver of Rule 3661(F)(1), Docket 06A-478E, p 11, ¶ 37

¹⁴ William J. Dalton, Staff of the Public Utilities Commission Review of Public Service of Colorado 2008 RES Report, In the Matter of the 2008 Renewable Energy Standard Compliance Report of Public Service Company of Colorado, Docket 07A-462E, p. 7

¹⁵ Answer Testimony and Exhibits of William J. Dalton Staff of the Public Utilities Commission, In the Matter of the Application of Public Service Company of Colorado Approving Its 2010 Renewable Energy Standard Compliance Plan, Docket 09A-772E, p 15, lines 1-2

32. These aren't the only significant renewable energy costs that are excluded in the calculation of the RES retail rate impact. In a 2008 decision, the Public Utilities Commission determined that "a new energy, or energy efficient technology, or a demonstration project" may be approved, even if its incremental costs exceed the 2 percent retail rate cap¹⁶. These resources are also known as "Section 123" resources.

33. In a 2009 decision, the Commission determined that Section 123 resources can count towards RES compliance, despite the fact that they do not factor into the retail rate impact calculation¹⁷.

34. As part of Xcel's 2009 All-Source Request for Proposals, the Public Utilities Commission approved the acquisition of a 250 megawatt solar power plant with storage as a Section 123 resource¹⁸. Although the terms of the contract are confidential, the U.S. Department of Energy recently backed a 250 megawatt solar power plant with storage project in Arizona that is estimated to cost \$2 billion¹⁹.

35. Over the next decade, Colorado working families and businesses will have to pay nearly \$3.8 billion in additional electricity costs that will not be subject to any rate cap in order to meet the RES and will be collected from ratepayers via the ECA. They will also assume the costs,

¹⁶ Public Utilities Commission Decision 07A-462E, Order Approving Public Service's 2008 Compliance Plan with Modifications, In the Matter of the Application of Public Service Company of Colorado for Approval of its 2008 Renewable Energy Standard Compliance Plan, Docket 07A-462E, p 30, ¶ 80

¹⁷ Public Utilities Commission Decision C09-0990, Decision on Exceptions and Adopting Rules Associated with the Notices of Proposed Rulemaking Issued Under Decision Nos. C08 and C09-0817, In the Matter of Proposed Amendments to the Rules of the Colorado Public Utilities Commission Relating to the Renewable Energy Standard, Docket 08R-424E, p 15, ¶ 40

¹⁸ Public Utilities Commission Decision C09-1257, Phase II Decision, In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2007 Colorado Resource Plan, Docket 07A-447E, p 21, ¶ 51

¹⁹ "Abengoa Solar secures financing for Solana project," 24 December 2010, World Construction Network, http://energy.worldconstructionindustrynetwork.com/news/abengoa_solar_secures_financing_for_solana_project_101224/

roughly \$2 billion, of a new solar power plant with storage project. Like the ECA charges, these costs will not be subject to any rate cap, while the energy produced will count towards meeting the RES.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. This declaration was executed on the ___ day of _____, 2011.

WILLIAM YEATMAN