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Colorado’s Great Green Deception

If HB 1001 Seems too Good to Be True, It’s Because It Is

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Last March, Colorado Governor Bill Ritter (D) signed HB 1001, a mandate requiring investor-owned utilities to generate 30 percent of their electricity sales from renewable energy sources by 2020. The policy, known as a Renewable Electricity Standard (RES), is the crown jewel of the Governor’s “New Energy Economy” agenda and the renewable energy model for the rest of America.

Governor Ritter boasted in a prepared statement, “Colorado is giving every state and the entire nation a template for tomorrow. This is a game-changer. We are transforming the future of Colorado and our country.”¹ HB 1001 author State Rep. Max Tyler (D-Golden) wrote, “[R]equiring a third of our power to come from renewable sources is a great example of doing well by doing good. We will cut our carbon footprint, stabilize or even lower our energy costs, and remove pollutants from our air.”²

If all this seems too good to be true, that is because it is. Critics charge that renewable energy is expensive, and the facts seem to be on their side. According to the federal Energy Information Administration’s projection of future electricity costs, in 2016 wind power will be nearly 50 percent more expensive than coal and nearly 80 percent more expensive than natural gas. Thermal solar generation is projected to be 150 percent more expensive than coal, and 200 percent more expensive than gas.³

Proponents of HB 1001, however, claim that the law ensures that costs stay low. But all that means is that Colorado’s RES sets price controls as well as production quotas. HB 1001 limits the retail impact to 2 percent annually, which led Governor Ritter to brag in *The Denver Post*, “The legislation (HB 1001) also provides a statutory framework that will not increase cost to consumers.”⁴

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Rep. Tyler dismissed accusations that his legislation would raise the cost utility bills. “That’s absolutely wrong,” he told *The Colorado Independent*, “there’s a 2 percent cap.”⁵ But Tyler went even further when he implied that wind and solar are “free” sources of energy, “The sun will always shine for free, the winds will always blow for free, and our energy production will be cleaner.”

It is not the source, but converting that source to energy that costs money. While it’s impossible to know exactly how much the RES will cost Coloradans, we do know that 2 percent will be only a fraction of Coloradans’ green energy bill.

The Rate Cap Is a Sham. HB 1001 did not establish a new RES for Colorado. Rather, it ratcheted up a standard that has been on the books for six years and increased in recent years. In 2004, voters passed Amendment 37, a ballot initiative requiring a 10 percent RES by 2015. The law capped the retail price impact at 1 percent. In 2007, the legislature passed, and Governor Ritter signed, HB 1281, which increased the RES to 20 percent by 2020 and also increased the retail rate impact to 2 percent annually.

All this change has left a lengthy record for examination. This paper uses the RES compliance history of the Public Service Company (better known as Xcel Energy), Colorado’s largest utility, to demonstrate the many tricks and loopholes used to hide the true costs of the RES.

The fuzzy math starts with the definition of the 2 percent rate cap. Listening to Rep. Tyler or Governor Ritter, one might conclude that this legally mandated price control applies to the entire RES program, but that would be wrong. In fact, 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.

The incremental costs are listed on consumers’ bills as the Renewable Energy Standard Adjustment (RESA). For a consumer with a \$150 Xcel bill, the RESA charge would be \$3 monthly, \$36 annually.

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” (as per one of the authors’ own electricity bill). Notice it does not say that the RESA covers the cost of renewable energy.

Incremental costs are only a small portion of the total bill. A different monthly fee, the Electric Commodity Adjustment (ECA), covers the rest of the costs, such as the cost of backup energy and capital construction. The 2 percent rate cap does not apply to this fee.

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 cap.⁶

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 2020,⁷ or almost 23 percent of total retail electricity sales. Assuming 1.5 million ratepayers in Colorado (current figure is 1.3 million) in 2020, the ECA cost alone will average nearly \$500 per year.

But it gets worse. These projections were calculated before the enactment of HB 1001, so they are meant to comply with a 20 percent RPS. When recalculated for a 30 percent RPS, they are even more expensive.

Troublingly, the Public Service Company's ECA accounting does not acknowledge wind energy costs amounting to \$144 million in 2008,⁸ \$147 million in 2009, and \$155 million in 2010.⁹ These charges were simply omitted, and the omission was revealed only after an information request by the Public Utility Commission staff. To get an idea of how these off-the-books costs impact your bill, consider that the 2008 wind energy cost of \$144 million is *360 percent* of the RESA value for that year (In 2008, the Public Service Company collected almost \$ 37 million in RESA revenues.)

Cooking the RESA Books. As described above, 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.

Remember how incremental costs are figured to understand how the Public Service Company maneuvers around the 2 percent rate cap. First, it calculates the cost of meeting the RES requirement. Then it substitutes conventional energy for the new renewable energy used to meet the RES, and it recalculates the costs. The difference between these two scenarios is the incremental cost and is reflected on statements as RESA.

But politicians in Denver deciding that costs should not increase more than 2 percent does not make it so. Indeed, the Public Service Company resorts to budget tricks to achieve compliance.

For example, in its 2010 RES Compliance Plan,¹⁰ the Public Service Company included a \$20 per ton "carbon adder." This fee is meant to incorporate the cost of greenhouse gas regulations into the model used to calculate the 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. Even the Public Service Company concedes that it would violate the 2 percent retail rate impact limit without the adder.¹¹ By 2012, this gimmick would shield almost \$50 million from the RESA retail rate impact.¹² That is almost double the projected RESA fee for that year.

That's not all. In its 2010 RES Compliance Plan, the Public Service Company included a \$4-per-kilowatt-hour monthly "surplus capacity credit" for renewable energy, starting in 2012. Its function is to suppress the incremental cost by making renewable energy appear less costly on paper.

Finally, the Public Utilities Commission staff repeatedly questioned the Public Service Company's choice of conventional energy sources to be substituted for renewable energy in the calculation of incremental costs. In particular, the staff suggests that the Public Service Company has chosen unrealistically expensive conventional energy resources,¹³ in order to lower the incremental cost, and thus avoid the rate cap.

Even with these budget shenanigans, the Public Service Company has been unable to stay under the RESA cap. Last year, it exceeded the cap by almost \$20 million, and the year before by almost \$10 million. All told, the Public Service Company's rolling deficit exceeds \$35 million.¹⁴ By law, it charges ratepayers 7 percent interest on this sum. To put that sum into context, consider that it is that is almost 70 percent of the 2010 RESA revenue (\$ 57 million).

The Environmental Benefits Are Overblown, Too. Clearly, the costs of the RES are not as advertised. But environmentalists can take heart in Colorado's aggressive green energy goals, right? Wrong.

To begin with, the target numbers are not what they seem. That's because the RES rules are structured so that Colorado's two investor-owned utilities can "bank" the renewable energy they generate in excess of the RES mandate in any given year, for up to five years. Indeed, this is a key component of the Public Service Company's RES strategy. According to testimony the company delivered on a 2009 RES rulemaking:

Public Service relied upon this rule (allowing for the "banking" of renewable energy credits) in acquiring eligible energy resources, oversubscribing for on-site solar and for wind, with the expectation that the RECs (i.e., the "banked" credits) generated by these resources could be used to meet the large step-ups in the renewable energy standard in 2011 (when the RES increases from 5 percent to 12 percent), 2015 (when it increases to 20 percent), and 2020 (when it increases to 30 percent).¹⁵

This year, renewable energy accounts for almost 10 percent of the Public Service Company's electricity portfolio, yet its RES target is 5 percent. Therefore, the utility can "bank" renewable energy credits worth almost 5 percent of its retail sales. If the Company were to apply these extra credits from 2010 to next year's 12 percent RES, it would only have to meet a 7 percent target. With this in mind, the Public Service Company has been ratcheting up renewable energy surpluses since the program began. Thanks to this carryover, the RES targets are not what they seem.

The point of a Renewable Electricity Standard is to increase green energy production. Yet ironically, there is evidence that suggests such a mandate would *increase* pollution. In order to accommodate intermittent renewable energy and still keep the lights on, it is necessary to have

ever-ready backup power that can quickly ramp either up or down to ensure that the total power going into the grid matches the power that is leaving it. This technique is known as “cycling.” In practice, this backup power comes from natural gas and coal. Unfortunately, such conventional generating technologies are at their least efficient—and therefore at their most polluting—during those periods when power is ramped up and down. In a recent study of RES effects in Texas and Colorado, Bentek Energy LLC found that this dynamic led to an increase in sulfur-dioxide, nitrous-oxide, and carbon-dioxide emissions.¹⁶

Conclusion. No matter how much supporters spin it, Colorado’s Renewable Energy Standard is an ill-advised law that forces consumers to use expensive, unreliable power with little “green” benefit. 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.

Neither the Public Utility Commission staff nor Xcel should shoulder all the blame. They simply implement policy. The blame falls squarely on the shoulders of politicians and renewable energy zealots that disregard cost and push a green power social agenda over abundant and affordable energy. Governor Bill Ritter and Rep. Max Tyler would have you believe that the laws of economics do not apply to renewable energy, but they are wrong. If it’s too good to be true, that’s because it is.

Notes

¹ “Governor Ritter Signs Historic Renewable Energy Bill,” March 22, 2010, <http://www.colorado.gov/cs/Satellite/GovRitter/GOVR/1251573387639>.

² State Rep. Max Tyler, “Increase Colorado’s renewable standards,” *Denver Post*, March 7, 2010, http://www.denverpost.com/opinion/ci_14515503.

³ U.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/oiarf/aeo/electricity_generation.html.

⁴ Governor Bill Ritter, “Advancing Colorado’s New Energy Economy,” *The Denver Post*, March 11, 2010

⁵ David Williams, “Xcel Officials: 30 % Renewable Energy Target by 2020 ‘Not Impossible,’” *The Colorado Independent*, January 14, 2010.

⁶ William Dalton, Staff of the Public Utilities Commission Review of Public Service of Colorado 2008 RES Report, Docket 07A-462E, pp. 6-7.

⁷ Table 7-3, Column Q, Exhibit 65, Docket 09A-772E.

⁸ Dalton, Staff of the Public Utilities Commission, p. 7.

⁹ Answer Testimony and Exhibits of William J Dalton, Staff of the Public Utilities Commission, Docket 09A-772E, p. 15.

¹⁰ Direct Testimony of Arthur Warren, exhibit 11, Docket 9A-772E, p. 7.

¹¹ Reply Statement of Position of Climax Molybdenum Company and CF&I Steel, L.P., Docket, Docket 09A-772E, p. 4.

¹² Trial Staff’s Statement of Position, Docket 9A-772E, p. 13.

¹³ Public Utility Commission, Decision Finding Compliance, Docket 06A-478E; Trial Staff’s Statement of Position, p. 17, Docket 9A-772E, p. 14.

¹⁴ Table 7-3, Column U, Exhibit 65, Docket 09A-772E.

¹⁵ Supplemental Comments of the Public Service Company of Colorado on the Renewable Energy Standard Rules, Docket No. 08R-424E, p. 13.

¹⁶ How Less Became More: Wind Power and Unintended Consequences in the Colorado Energy Market, April 16, 2010, <http://www.bentekenergy.com/WindCoalandGasStudy.aspx>.