

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

Docket No. 09A-772E

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF
COLORADO FOR APPROVAL OF ITS 2010 RENEWABLE ENERGY STANDARD
COMPLIANCE PLAN

ANSWER TESTIMONY OF LESLIE GLUSTROM

FEBRUARY 4, 2010

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2
3 **Q: PLEASE STATE YOUR NAME AND CONTACT INFORMATION.**

4
5 A: My name is Leslie Glustrom. I am a citizen intervenor in this Docket representing
6 myself. My address is 4492 Burr Place, Boulder, Colorado 80303. My phone number is
7 303-245-8637 and my e-mail is lglustrom@gmail.com.

8 **Q: PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE**

9 A: I have a Bachelor's and Master's degree in Biochemistry from the University of
10 Wisconsin-Madison plus thirty years of experience working at the interface of science
11 and society in a variety of roles including teaching, writing and policy analysis. Since
12 2004, I have intervened and participated actively in several dockets at the Colorado PUC
13 including:

14 05A-072E Comanche-Daniels Park Transmission
15 07A-107E/07A-196E 2013 Contingency Plan/Tri-State Gas Contracts
16 07A-421E Pawnee Smoky Hill Transmission
17 07A-521E Interruptible Service Option Credit
18 07A-447E Xcel 2007 Resource Plan
19 07A-469E Fort St. Vrain Turbines
20 08S-520E Xcel 2009 Rate Increase
21 09AL-299E Xcel 2010 Rate Increase

22
23 In addition, I was an active observer of the consolidated 04A-214E, 04A-215E and 04A-
24 216E "2003 Least Cost Plan" Dockets as well as the 06S-234EG Xcel 2007 Rate Case
25 docket and consulted with several other individuals and organizations that were
26 intervenors in these dockets. I have also intervened in and read much of the testimony in
27 several other Colorado PUC dockets related to renewable energy and demand side
28 management issues. I have also read widely on topics related to energy and give regular
29 talks on climate change, coal supply constraints and the development of renewable

1 energy resources to audiences at the local and state level. In addition, I am receiving an
2 increasing number of opportunities to discuss these subjects at the national level.

3 Over the last five years I have conducted a serious assessment of United States
4 coal supplies and have written the extensively documented report entitled, “*Coal: Cheap
5 and Abundant...Or Is It? Why Americans Should Stop Assuming That the U.S. Has a 200-
6 Year Supply of Coal.*” The report is available for free download at
7 www.cleanenergyaction.org .

8 **II. OVERVIEW AND PURPOSE OF THE TESTIMONY**

10 **Q: PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY**

11 A: The primary purpose of my testimony is to suggest the need to review what the
12 Company calls the “Windsorce” program. I will suggest the following:

- 13 1) The renaming of the program to “Clean Source.”
- 14 2) The recalculation of the premium for this program
- 15 3) The development of one or more new products that provide for the acquisition
16 of other forms of electrical energy, including roof top solar as well as emerging
17 technologies and the need to offset carbon dioxide emissions with natural carbon
18 sequestration technologies.

19 **Q: DO YOU HAVE CONCERNS ABOUT OTHER ASPECTS OF XCEL’S 2010 20 RENEWABLE ENERGY STANDARD COMPLIANCE PLAN FILINGS?**

21 A: Yes. I have other concerns, but first I would like to thank the Company for their work
22 on this filing and other issues related to the integration of increasing amounts of
23 renewable energy onto their electrical system. As a forerunner in this area, Xcel has had
24 to solve many problems and deal with an increasingly complex set of assumptions,

1 calculations and operational issues related to the integration of renewable energy and
2 energy efficiency measures. I would like to express my appreciation for the hard work
3 and creativity that this has taken. The example being set by Xcel will soon need to be
4 followed by many other utilities, and I believe the entire team that has worked so hard to
5 address these issues deserves to be very proud of their work and to receive a very sincere
6 thank you not only from the Company's customers, but indeed from future generations
7 (and the other species that we share the planet with...) throughout the country and the
8 world. **THANK YOU!!**

9 **Q: PLEASE BRIEFLY DESCRIBE YOUR OTHER CONCERNS**

10 A: One set of my concerns relates to a number of the assumptions and calculations used
11 in the 2010 Renewable Energy Standard ("RES") Compliance Plan filings. There have
12 been a number of changes in the calculations and tables supporting the filings and there
13 are still quite a few outstanding Discovery Requests related to these changes. I have
14 decided not to discuss the concerns regarding the assumptions and calculations until the
15 Discovery Responses have been received.

16 I am also interested in a number of other issues in this Docket but will wait to
17 read the Testimony of other parties before addressing these issues.

18 **III. CREATING A "CLEAN SOURCE" PROGRAM**

19 **A. Renaming the Windsource Program as "Clean Source"**

20 **Q: PLEASE EXPLAIN WHY YOU ARE SUGGESTING THAT THE**
21 **"WINDSOURCE" PROGRAM BE RENAMED TO "CLEAN SOURCE."**

22 A: As noted on pages 26 and 27 of Xcel witness Robin Kittel's Direct Testimony, the
23 Company is planning on using "Windsorce" revenues to acquire a "Large On-Site" solar

1 resource. (The “Windsource” program is further described in Section 6 of Volume 1 of
2 the Company’s original filing in this Docket.) Renaming the Windsource program and
3 using the title “Clean Source” would more accurately represent what customers are
4 buying with their investment in Xcel’s Colorado green-pricing program.

5 In addition, as discussed in Docket 08A-260E, from 2006 through 2008, the
6 Company sold many more Windsource premiums than it had Windsource production to
7 match with the sales. (See e.g. the Answer Testimony of William J. Dalton in Docket
8 08A-260E and Exhibit WJD-2 in particular.) This led to a number of poor press accounts
9 and the number of Windsource customers began to decline in 2008 and 2009 after rising
10 quickly in the period between 2005 and 2007. The Company provided the following data
11 in response to Discovery Request OCC 2-4:

12 **Windsource customer counts:**

13 2009: 45,000 (estimated)
14 2008: 45,929
15 2007: 46,834
16 2006: 41,332
17 2005: 38,720

18
19 **Windsource annual premiums:**

20 2009: \$5,541,707 million (estimated)
21 2008: \$11,844,406
22 2007: \$8,100,421
23 2006: \$6,060,917
24 2005: \$3,302,575

25
26 **Windsource kWh (retail):**

27 2009: 216,000,000 kWh (estimated)
28 2008: 225,538,230 kWh
29 2007: 212,321,326 kWh
30 2006: 160,089,152 kWh
31 2005: 103,649,947 kWh

32
33 While the present economic troubles are likely to be contributing to the decline in
34 “Windsource” sales, the precipitous drop in “Windsource” revenue is also likely to be

1 reflecting customers that remained “Windsource” customers, but reduced their level of
2 commitment when they lost faith in the integrity of the “Windsource” program. In the
3 case of our household, we dropped from 100% “Windsource” to 100 kwh/month after the
4 news about Xcel overselling “Windsource” premiums surfaced. Renaming the program to
5 “Clean Source” not only more accurately portrays what the premiums will be acquiring
6 (since Xcel is not intending to purchase more wind with them) and will also allow for a
7 fresh start to a program whose “brand” lost significant credibility as a result of the data
8 and testimony that came to light in the 08A-260E Docket regarding the overselling of
9 “Windsource” premiums.

10 **B. Recalculating the Premiums for “Clean Source”**

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12 **Q: PLEASE EXPLAIN WHY YOU ARE SUGGESTING THAT THE PREMIUM**
13 **FOR THE “CLEAN SOURCE” PROGRAM BE RECALCULATED**

14 A: There are a number of reasons why I am recommending recalculating the premium
15 for Xcel’s green pricing program which I am recommending be renamed as “Clean
16 Source.” The primary reason is that the assumptions used to calculate the 2009
17 “Windsource” premium are now dated.

18 According to page 27, lines 11-16, of the Direct Testimony of Xcel witness Robin
19 Kittel, the Company proposes to keep the 2010 “Windsource” premium the same as the
20 2009 premium—yet many assumptions have changed since this premium was calculated.
21 As noted in the 08A-260E testimony of Xcel witness Kurt Haeger (page 8, lines 4-7) the
22 assumptions used in the 2009 “Windsource” premium calculation that the Company is

1 planning to rely on used the same model used in the 2008 Compliance Plan filing. Many
2 things have changed since then.

3 Since Mr. Haeger’s calculation of the 2009 “Windsource” premium, some of the
4 things that have changed include both the fuel and operating costs associated with Xcel’s
5 fossil fuel system as well as the costs of new utility-scale renewable energy projects. As
6 just one example, in April 2009, Xcel received over 80 new bids for wind, solar and other
7 renewable energy projects totaling over 15,000 MW of potential projects as part of Phase
8 II of the 07A-447E 2007 Resource Plan Docket. As shown in Figure 16 on page 62 of the
9 Company’s “120-Day Assessment” of the Phase II bids in the 07A-447E Docket (using
10 the assumptions approved by the Colorado PUC in that Docket) the costs of new
11 renewable resources are now projected to drive system costs down—not up. This should
12 be reflected in the premium calculation for the new “Clean Source” program.

13 In addition, since the 2008 RES Compliance Plan was reviewed, Xcel has been
14 granted two rate increases in Dockets 08S-520E and 09AL-299E. These rate increases,
15 are likely to increase rates by over 10% and were largely driven by the non-renewable
16 aspects of Xcel’s Colorado system. These rate increases came after Mr. Haeger’s
17 calculations in the 08A-260E Docket and so were not reflected in the calculation of the
18 2009 “Windsource” premium which the Company is now proposing to continue.

19 Also, the “Basic Clean Source” premium should reflect the average mix of
20 renewable energy added to Xcel’s system—not the price of large on-site photovoltaic
21 installations as suggested on page 26 of Ms. Kittel’s testimony. As discussed further
22 below, I am suggesting that additional “Premium Clean Source” products should be
23 developed to support higher cost renewable resources such as roof-top solar installations.

1 Other Clean Source products could offer a blend of demand side programs and supply
2 side resources—and this should also drive down the costs of these “Clean Source”
3 programs.

4

5 **C. Developing Additional “Clean Source” Products**

6 **Q: PLEASE DESCRIBE WHAT YOU ARE SUGGESTING WITH RESPECT TO**
7 **NEW “CLEAN SOURCE” PRODUCTS**

8 A: The newly created “Clean Source” program should reflect the variety of ways that
9 electric demand will be managed and met in the 21st century.

10 Saving a kilowatt hour (“kwh”) is even better than generating a kwh because there
11 are no emissions and no losses in production or transmission. Xcel now has a number of
12 useful efficiency and demand response programs and these should be included in a newly
13 created “Clean Source” program that would allow individual rate payers to reduce their
14 reliance on fossil fuels using a combination demand-side and supply-side strategies.

15 Other “Clean Source” products might include a “Premium Clean Source” product
16 which could support additional roof-top small solar applications. Other “Clean Source”
17 products could cater to various other new ways of producing and managing electricity
18 ranging from geothermal applications to micro-scale concentrating solar power to fossil
19 fuel-solar hybrids (as discussed in Docket 09A-015E) and other emerging efficiency and
20 demand-side programs.

21 While the October 2009 Renewable Energy Advisory Group Report submitted in
22 the 08A-260E Docket indicates that some progress was made on the development of new
23 clean energy products during the summer of 2009, it is not clear if that progress

1 continued in the fall of 2009 and there do not appear to be new clean energy products
2 proposed as part of the 2010 Renewable Energy Standard Compliance Plan filed in this
3 09A-772E Docket.

4 After the development of a variety of “Clean Source” products to choose from,
5 Xcel rate payers could create a “portfolio” that matches their interests in the newly
6 evolving world of electricity management and production in this century. Indeed, Xcel
7 could even offer a product that allows rate payers to offset carbon dioxide emissions
8 associated with needed fossil-fuel back-up resources with a commitment to biochar and
9 Natural Terrestrial Sequestration projects allowing rate payers to come even closer to
10 meeting individual, business and community carbon-neutral and carbon-negative goals.

11 **IV. SUMMARY**

12 **Q: PLEASE SUMMARIZE YOUR RECOMMENDATIONS**

13 A: My recommendations are as follows:

- 14 • Rename the “Windsource” program and call it “Clean Source.”
- 15 • Recalculate the premium for the “Clean Source” program using updated
16 assumptions about both fossil fuel resources and renewable technologies.
- 17 • Develop new “Clean Source” products including those that include efficiency and
18 demand side solutions as well as more expensive generation options including
19 roof-top solar. In addition, products that allow rate payers to offset carbon dioxide
20 emissions with natural carbon sequestration or biochar options should be
21 considered.

22

1 In addition, I expect to have additional suggestions after a reviewing the
2 assumptions and calculations underlying the Revised Tables submitted in this Docket on
3 January 26, 2010 as well as the testimony of other parties

4 **Q: DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

5 A: Yes. Thank you.

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