

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE  
COMPANY OF NEW MEXICO'S  
ABANDONMENT OF SAN JUAN  
GENERATING STATION UNITS 1 AND 4

Case No. 19-00018-UT

PUBLIC SERVICE COMPANY OF NEW  
MEXICO

Applicant

**Prepared Rebuttal Testimony of David B. Posner**

**On Behalf of Sierra Club**

**NOVEMBER 15, 2019**

**Case No. 19-00018-UT**  
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1 **I. Introduction**

2 **Q. Please state your name and business address.**

3 A. My name is David B. Posner. I am an independent consultant. My business  
4 address is 1801 Wedemeyer Street Unit 322, San Francisco, CA 94129.

5 **Q. On whose behalf are you testifying?**

6 A. I am testifying on behalf of Sierra Club.

7 **Q. Please summarize your educational background and recent work experience.**

8 A. I was graduated from Cornell University in 1989 with a Bachelor of Arts degree  
9 in history. In 1997, I received a Doctor of Philosophy degree in history from Yale  
10 University. In 2003, I received a Master of Business Administration degree in  
11 finance from the Wharton School of the University of Pennsylvania.

12 Since 2006 I have worked on energy finance matters for the federal government  
13 as well as for various non-profit organizations and for-profit companies.

14 A copy of my current resume is included as Exhibit DBP-1.

15 **Q. Have you previously testified before this Commission?**

16 A. No.

17 **Q. What is the purpose of your testimony in this proceeding?**

18 A. I have been asked to evaluate whether continued operation of San Juan  
19 Generating Station (SJGS) is a feasible scenario, as Public Regulation  
20 Commission Staff witness Mr. Dhiraj “Raj” Solomon has testified, given that 26  
21 U.S.C. § 45Q (hereafter 45Q) provides tax credits for up to 12 years for each  
22 metric ton (or tonne) of carbon dioxide captured and sequestered by certain  
23 projects, including retrofits of coal generating facilities with SJGS’s  
24 characteristics.

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1 **Q. Please summarize your findings.**

2 A. My main findings are as follows:

3 1. Continuing to operate SJGS after retrofitting for Carbon Capture and  
4 Sequestration (CCS or CCUS) is not a feasible financial or economic  
5 scenario for either PNM or Enchant Energy (Enchant), the firm that is  
6 proposing to operate SJGS “in conjunction with” the City of Farmington,  
7 and upon whose materials Mr. Solomon relies for his opinion that CCS is  
8 a feasible option that PNM should have evaluated.

9 2. Reports and statements issued by Enchant rely on a number of  
10 unrealistically optimistic or incorrect assumptions about how 45Q tax  
11 credits could contribute to the financing of the SJGS CCS retrofit,  
12 including these key contentions in the publicly available “Carbon Capture  
13 Retrofit of San Juan Generating Station” presentation made by Enchant  
14 Energy to the United States Energy Association on June 27, 2019:

- 15 a. That “tax equity financing **normally** requires an 8-10% after tax IRR  
16 [internal rate of return]” (emphasis added); and  
17 b. That, as a consequence, “the project will generate more than enough  
18 tax credits to support a tax equity financing that covers 100% of the  
19 capital costs” of the retrofit.

20 As I will show in this testimony, these Enchant claims are highly suspect,  
21 as they lack evidentiary support and reflect critical misunderstandings of  
22 tax equity financing.

23 3. In addition, Enchant fails to address as serious challenges to the project’s  
24 viability the concerns of tax equity investors about the riskiness of  
25 new/unproven technologies or the requirement that the project begin  
26 construction before January 1, 2024 in order to be eligible for 45Q tax  
27 credits.

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- 1           4.     In sum, the suggestion that 45Q tax credits could be monetized to provide  
2           the upfront capital for the City of Farmington/Enchant project is highly  
3           suspect. Potential tax equity investors would have strong grounds to  
4           demand a higher discount above the 8-10% range that Enchant deems  
5           normal. Nor would it be reasonable to expect tax equity investors to  
6           provide all the capital for the project. For the remainder of the capital,  
7           Enchant would need to find additional investors, who, given the nature of  
8           tax equity financing, would be junior to tax equity and require even higher  
9           returns. This would further raise capital costs.
- 10          5.     Assuming that PNM will have no, or only limited ability, to monetize 45Q  
11          tax credits itself when the retrofit is proposed to enter into service, PNM  
12          would require tax equity investments at a similar scale as Enchant. PNM  
13          would face most of the same obstacles that Enchant would face in  
14          financing a carbon capture project at SJGS (though PNM would benefit  
15          from its investment-grade credit rating).
- 16          6.     Finally, it is worth noting that tax equity supply is limited and tends to  
17          seek the safest investment available. Since tax equity partners are exposed  
18          to risk of mismanagement by their operating partner (and expect to be  
19          indemnified in the event of contract breaches), they prefer to work with  
20          creditworthy partners.<sup>1</sup> Enchant concedes it does not have an investment-  
21          grade credit rating.<sup>2</sup> PNM currently holds the lowest investment grade  
22          credit rating, BBB-/Baa3.<sup>3</sup> With wind and solar deals still offering tax  
23          credits for projects that will enter service until the statutory deadline for  
24          45Q projects to begin construction, solar deals offering tax credits after

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<sup>1</sup> Stoel Rives LLP, “Project Finance for Wind Power Projects,” available at <https://www.stoel.com/legal-insights/special-reports/the-law-of-wind/project-finance-for-wind-power-projects>.

<sup>2</sup> Enchant Energy, “Carbon Capture Retrofit of San Juan Generating Station” at 11, presentation to the United States Energy Association on June 27, 2019, Exhibit DBP-2.

<sup>3</sup> “Moody’s announces completion of a periodic review of ratings of PNM Resources, Inc.,” November 6, 2019, available at [https://www.moodys.com/research/Moodys-announces-completion-of-a-periodic-review-of-ratings-of--PR\\_410884?WT.mc\\_id=AM%7eWWFob29fRmluYW5jZV9TQl9SYXRpbmcgTmV3c19BbGxfRW5n%7e20191106\\_PR\\_410884&yptr=yahoo](https://www.moodys.com/research/Moodys-announces-completion-of-a-periodic-review-of-ratings-of--PR_410884?WT.mc_id=AM%7eWWFob29fRmluYW5jZV9TQl9SYXRpbmcgTmV3c19BbGxfRW5n%7e20191106_PR_410884&yptr=yahoo).

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1           that deadline, and both wind and solar projects offering significant  
2           accelerated depreciation benefits before and after that deadline, it is likely  
3           that tax equity investors will completely shun highly risky CCS projects  
4           and choose to limit investments to mature and reliable renewable projects.

5   **Q.    What materials did you review and what analyses did you prepare as part of**  
6   **the preparation of your testimony?**

7   A.    I have reviewed the Prepared Direct Testimony of Staff Witness Solomon and the  
8         documents he has included as his exhibits. I also have reviewed the “Carbon  
9         Capture Retrofit of San Juan Generating Station” presentation made by Enchant  
10        Energy to the United States Energy Association on June 27, 2019. In addition, my  
11        employment over the past three years has been focused on investigating the use of  
12        federal tax credits to incentivize energy projects.

13   **II.   Background**

14   **Q.    What is tax equity financing?**

15   A.    The 45Q federal tax credits, like the well-known solar Investment Tax Credit  
16         (ITC) and wind Production Tax Credit (PTC), is not “refundable.” That means  
17         that it must be used to offset the taxpayer’s other income tax liabilities and cannot  
18         be paid out as a cash credit to the taxpayer. Thus, a taxpayer can only obtain the  
19         economic benefits of the credit if that taxpayer has federal income tax liabilities to  
20         offset the credit against.

21         Briefly put, tax equity financing is a transaction in which one party assigns future  
22         tax benefits expected to be generated by an eligible physical investment to another  
23         party that is in a better position to efficiently monetize the tax benefits, because  
24         the latter entity has greater tax capacity (i.e., taxable income) or will have that tax  
25         capacity sooner than the assigning party; the assigning party receives funds in  
26         exchange for the future tax benefits, in effect selling them in exchange for capital  
27         that can be used to build the asset. In addition to monetizing tax credits, tax equity

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1 investment can monetize the benefits of accelerated depreciation when the  
2 primary project developer is unable to use those benefits.

3 Tax equity arrangements are typically highly complex and are defined by detailed  
4 partnerships or other contractual agreements.

5 **Q. Why would Enchant need to partner with tax equity investors?**

6 **A.** Enchant appears to be a small company that does not have material profits that  
7 would generate income tax liabilities. There is no scenario, not even the wildly  
8 optimistic scenarios offered by Enchant, in which the operation of SJGS as a CCS  
9 facility would generate enough taxable profits to use up the 45Q tax credits. The  
10 City of Farmington is tax-exempt.

11 **Q. What about PNM?**

12 **A.** PNM is in a net operating loss situation for its income taxes due to large amounts  
13 of depreciation and other tax deductions and credits it has taken in the past. As of  
14 December 31, 2018, PNM Resources, Inc. – the holding company that comprises  
15 the Public Service Company of New Mexico as well as the much smaller Texas-  
16 New Mexico Power Company – had \$474.6 million of federal net operating loss  
17 carryforwards and \$76.5 million of federal tax credit carryforwards.<sup>4</sup> These  
18 carryforwards, to the extent they remained if and when a retrofitted SJGS was in a  
19 position to claim 45Q tax credits, would prevent the company from efficiently  
20 monetizing those credits, which would then need to be carried forward  
21 themselves. In other words, under PNM’s current tax situation, it could not itself  
22 receive any benefits from claiming the 45Q credits in the foreseeable future.

23 **Q. What is the 45Q tax credit?**

24 **A.** As revised in 2018, the 45Q tax credit increases previously available tax credits  
25 for CO<sub>2</sub> sequestration from \$10 to \$35/tonne for CO<sub>2</sub> captured for use as a tertiary  
26 injectant (a term used for enhanced oil recovery (EOR)) with secure geological

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<sup>4</sup> PNM Resources, Inc., “10-K for the fiscal year ended December 31, 2018,” B-124.

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1 storage. It also raises tax credits from \$20 to \$50/tonne of CO<sub>2</sub> captured for secure  
2 storage without use as a tertiary injectant. The credits ramp up from current levels  
3 to their full amounts in 2026. Beginning in 2027, they are subject to inflation  
4 adjustment. The revised tax credits also remove a 75-million tonne cap on credit  
5 availability. Credits can now be claimed for 12 years from the start of operations,  
6 provided an otherwise eligible CCS project is placed in service on or after  
7 February 9, 2018, and begins construction before January 1, 2024. Projects placed  
8 in service before February 9, 2018 will continue to receive the older credit levels  
9 and remain subject to the cap. Power plants that emit more than 500,000 tonnes of  
10 CO<sub>2</sub> annually must capture a minimum of 500,000 tonnes annually to qualify for  
11 the tax credit. For context, 500,000 annual tonnes of CO<sub>2</sub> is roughly equivalent to  
12 the emissions of a 75 MW coal-fired power plant operating at a 75 percent  
13 capacity factor. This minimum capture restriction for large power plants is  
14 unchanged from the previous legislation. Smaller power plants with lower  
15 emissions can now get credits for capturing and storing as few as 25,000 tonnes  
16 per year through means such as chemical conversion but not if the CO<sub>2</sub> is destined  
17 for use as a tertiary injectant. Direct capture at facilities other than power plants is  
18 also eligible for credits at capture levels of at least as 100,000 tonnes per year.  
19 Significantly, the revised credits are now available to the owner of a capture  
20 facility even if that entity is not the one that performs the capture; previously, the  
21 credits could only be used by the entity that captured the carbon.

22 **Q. Have any carbon capture and sequestration projects taken advantage of the**  
23 **45Q tax credits?**

24 A. In a bulletin issued in May 2018, the Internal Revenue Service (IRS) indicated the  
25 most recent annual reports then available showed that 45Q credits had been  
26 claimed for 59,767,924 tonnes of CO<sub>2</sub> since the inception of the credits as enacted  
27 by § 115 of the Energy Improvement and Extension Act of 2008.<sup>5</sup>

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<sup>5</sup> Internal Revenue Bulletin No. 2018–20 (May 14, 2018), 584.



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1 **Q. How are Enchant and the City of Farmington proposing to use the 45Q tax**  
2 **credits and tax equity financing for the proposed retrofit of the San Juan**  
3 **Generating Station?**

4 A. Enchant, which claims it was approached by the City of Farmington in January  
5 2019 to develop a plan to preserve SJGS, is proposing to sell 45Q tax credits to  
6 tax equity investors to raise in excess of 100% of the \$1.273 billion capital costs  
7 estimated by its technical consultants for its proposed CCS retrofit of SJGS.<sup>6</sup>

8 **III. It is false to claim that tax equity investors “normally” require an**  
9 **8-10% after-tax IRR. Tax equity investors assess the risk of a**  
10 **project and then determine a discount rate that is commensurate**  
11 **with this risk.**

12 **Q. How is an IRR, or internal rate of return, related to a discount rate?**

13 A. An IRR is an annualized return on investment that is equal to a discount rate of all  
14 cash flows that yields a Net Present Value (NPV) of zero. It is effectively a break-  
15 even discount rate. Tax equity investors typically speak of their required discount  
16 rate as an after-tax yield.

17 **Q. Do tax investors “normally” require an 8-10% after-tax IRR?**

18 A. When a tax equity investor invests in a project, it offers up-front cash for the  
19 project in exchange for access to the future tax credits. Because there is risk that  
20 the credits may not materialize and because investors require a return on their  
21 investment that will be recovered over time, tax equity providers “discount” the  
22 nominal value of projected tax credits. If a project’s future tax credit cash flows  
23 are seen to be riskier – say, because of an unproven technology, an unclear

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<sup>6</sup> Enchant Energy, “Carbon Capture Retrofit of San Juan Generating Station” at 9. The “Enchant Energy San Juan Generating Station – Units 1 & 4 CO<sub>2</sub> Capture Pre-Feasibility Study” prepared by Sargent & Lundy for Enchant Energy puts the capital cost for the project at \$1.295 billion (see page 38). The \$1.273 billion capital cost from the Enchant presentation to the United States Energy Association is on a slide titled “Implication of Sargent & Lundy Study on feasibility.”

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1 regulatory regime, or operational assumptions that are aggressive – investors will  
2 apply a higher discount rate. A longer recovery period may also invite a higher  
3 rate. When a tax equity investor increases the discount rate on the projected  
4 stream of tax credits, this lowers the value of the tax credits to the project  
5 developer. There is no “normal” range.

6 For a simple example, consider a project developer that expects \$1 million in tax  
7 credits one year from now and reaches an agreement with a tax equity investor  
8 employing a 10% discount rate to sell those credits for cash today. The tax equity  
9 investor would make an investment of \$909,091 today. If the project developer  
10 also expects \$1 million in credits two years from now and the tax equity investor  
11 is willing to purchase those as well at a 10% discount, another \$826,446 would  
12 flow from the tax equity investor to the project developer today. And so on, with  
13 credits in the more distant future worth correspondingly less today.

14 **Q. Where do you think Enchant came up with its 8-10% figure?**

15 A. In 2018, contractually agreed tax equity yields for wind PTC deals are estimated  
16 to have ranged between 6.75 and 8.5%.<sup>7</sup> But there are many good reasons to  
17 conclude that investors in 45Q tax credit deals would require much higher  
18 discount rates.

19 **Q. Could you please explore reasons why 45Q tax equity investors would**  
20 **require higher discount rates than wind PTC tax equity investors?**

21 A. Yes, there are several reasons, including:

22 1. The tax equity market for wind is mature, with around 96 gigawatts (GW) of  
23 wind cumulatively deployed in the United States, the vast majority of the total

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<sup>7</sup> Mayer Brown, “Tax equity structuring: new trends, challenges, and advice,” (October 23, 2018), 10, available at <https://www.taxequitytimes.com/wp-content/uploads/sites/15/2018/10/2018-10-23-Tax-Equity-Structuring-Webinar-at-Wells-Fargo-revised-10-24-18.-Final.pdf>.

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1 entering service since 2005.<sup>8</sup> This is in marked contrast to the nascent state of  
2 the 45Q tax credit market. (Note, that before revision in 2018, the 45Q credits  
3 did not lend themselves to tax equity financing, because the entity claiming  
4 the credits had to be the same one that actually captured the carbon.)

- 5 2. Wind turbine technology is proven, unlike the carbon capture technology  
6 proposed for SJGS. The immaturity of CCS technology is well documented in  
7 the testimony of David Schlissel.
- 8 3. Wind projects are diversified. The U.S. wind tax equity market raised between  
9 \$6 and \$7 billion in new funding in 2018 – and similar amounts annually from  
10 2013-2017<sup>9</sup> – with the risk diversified across numerous projects in \$50-\$100  
11 million chunks,<sup>10</sup> each of these encompassing dozens of turbines. There is also  
12 a diversity of turbine manufacturers. The tax equity contribution proposed by  
13 Enchant Energy for the SJGS project – \$1.558 billion using an 8% discount  
14 rate – is well over an order of magnitude greater than what is typical in a wind  
15 deal. Enchant Energy itself concedes that a tax equity deal in excess of \$1  
16 billion has “never been done.”<sup>11</sup>
- 17 4. Wind deals include significant accelerated depreciation benefits, unlike CCS  
18 retrofits.<sup>12</sup> Accelerated depreciation tax benefits are less risky than output-  
19 dependent tax credits like the PTC or 45Q, because they can be claimed even  
20 if the project faced operational hurdles. Unlike the highly accelerated 5-year

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<sup>8</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, “2018 Wind Technologies Market Report,” (August 2019), 3; see [https://emp.lbl.gov/sites/default/files/wtmr\\_final\\_for\\_posting\\_8-9-19.pdf](https://emp.lbl.gov/sites/default/files/wtmr_final_for_posting_8-9-19.pdf).

<sup>9</sup> *Ibid.*, viii.

<sup>10</sup> Range developed based on estimated tax equity share of wind projects and 2018 average project size of \$165 million; see Paul Schwabe, David Feldman, Jason Fields, and Edward Settle, “Wind Energy Finance in the United States: Current Practice and Opportunities,” *National Renewable Energy Laboratory Technical Report NREL/TP-6A20-68227* (August 2017), 1; available at <https://www.nrel.gov/docs/fy17osti/68227.pdf>.

<sup>11</sup> Enchant Energy, “Carbon Capture Retrofit of San Juan Generating Station” at 11.

<sup>12</sup> Accelerated depreciation offers another form of tax benefit which can be harnessed through tax equity financing. Under accelerated depreciation, a developer can deduct “losses” from net income in early years, effectively pushing back (in time) the tax burden. That tax deferral offers the opportunity to invest (and earn a return on) monies that would have otherwise been paid in taxes.

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1 depreciation schedule allowed by the IRS for wind – equal to around 16  
2 percent of project capital costs at a 21 percent federal corporate tax rate – CCS  
3 retrofits for coal will qualify only for a 20-year depreciation period, providing  
4 little benefit for investors. As such, nearly all the tax benefits in a CCS deal  
5 would come from the risky, output-dependent 45Q credits.

6 5. The regulatory regime for wind tax credits is well defined, unlike the  
7 regulations for tax credits for carbon capture. As of this writing, the IRS has  
8 accepted comments but not yet published guidance for the Section 45Q  
9 credits. Under 26 U.S.C. § 45Q, credits are subject to recapture (i.e.,  
10 disallowance, with a consequent restoration of the tax liability initially offset  
11 with the credit) if credited carbon is no longer securely stored, but details of  
12 how this provision will be enforced are still unclear.

13 6. The PTC is a ten-year credit, while the economics of 45Q must be assessed  
14 over 12 years.<sup>13</sup>

15 **Q. What discount rate are investors likely to apply for opportunities like the**  
16 **retrofit of SJGS?**

17 A. There is no reliable way of predicting how much investors will want to discount  
18 these credits if and until a market begins to function. For its part, the Clean Air  
19 Task Force, a supporter of CCS, applied a 15% discount rate to the sale of 45Q  
20 credits in a recent study.<sup>14</sup> Enchant calculates the projected value of SJGS's 45Q  
21 credits with a discount rate as high as 12%,<sup>15</sup> a value that, perhaps not  
22 coincidentally, would just about cover initial capital costs when annual capture of  
23 6 million tonnes of CO<sub>2</sub> is assumed. But there is no reason to assume that  
24 investors would choose to accept the 6 million tonne figure for any single year, let  
25 alone twelve consecutive years. Last but not least, the contention that a 12%

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<sup>13</sup> For wind PTC duration, see 26 U.S.C. §45(a)(2)(A)(ii). For 45Q duration, see 26 U.S.C. §45Q (a)(4)(A).

<sup>14</sup> Clean Air Task Force, "Carbon Capture & Storage in The United States Power Sector: The Impact of 45Q Federal Tax Credits," (February 2019), 28.

<sup>15</sup> Enchant, "Carbon Capture Retrofit of San Juan Generating Station" at 9.

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1 discount rate would suffice to provide the SJGS CCS project with all its upfront  
2 capital actually suggests that a 12% discount rate is too low, precisely because tax  
3 equity investors do not typically provide all required capital even when  
4 purchasing up to 99% of a project's tax benefits.<sup>16</sup>

5 **IV. A tax equity financing that covers 100% of the capital costs of the**  
6 **retrofit is implausible.**

7 **Q. Does Enchant propose to finance 100% of the capital costs of the carbon**  
8 **capture system at San Juan through tax equity financing?**

9 A. Yes, in the June 27, 2019 presentation to the United States Energy Association,  
10 Enchant wrote “As tax equity financing normally requires an 8-10% after tax  
11 IRR, the project will generate more than enough tax credits to support a tax equity  
12 financing that covers 100% of the capital costs” of the retrofit.<sup>17</sup>

13 **Q. Why is it unlikely that tax equity financing could provide all the capital for**  
14 **the retrofit?**

15 **A.** Tax equity does not provide all the capital for wind or solar projects, with the  
16 share for wind recently ranging from 55 to 70 percent and even less for solar.<sup>18</sup>  
17 Tax equity investors do not seek high risk. On the contrary, they are senior  
18 investors, usually even refusing to sit behind (junior to) debt. They expect their  
19 investments to be buffered against losses by subordinate equity, usually provided  
20 by the same project sponsor whose lack of taxable income prevents it from  
21 monetizing tax credits without the participation of tax equity partners. A large  
22 part of their tax benefit is in the form of accelerated depreciation, which is less  
23 risky than production tax credits. Many wind tax equity deals even provide the tax  
24 equity investor with the right to cash “sweeps” – money siphoned away from the  
25 non-tax equity investor it was originally allocated to – if the agreed-upon tax

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<sup>16</sup> By IRS regulation, the tax equity investor in a partnership cannot take all 100% of the tax benefits.

<sup>17</sup> Enchant, “Carbon Capture Retrofit of San Juan Generating Station” at 9.

<sup>18</sup> Norton Rose Fulbright, “Cost of capital: 2019 Outlook,” (June 19, 2019).

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1 benefits do not materialize at the forecasted speed.<sup>19</sup> There is a high likelihood  
2 that a wind project that produces below expectations will still produce some  
3 output. In contrast, a CCS retrofit like the one envisioned for the SJGS – a system  
4 comprising two 460 megawatt-equivalent (MWe) capture facilities (known as  
5 “trains”) using still immature technology rather than a portfolio of many 2  
6 megawatt (MW) turbines of proven design – is far more susceptible to a complete  
7 loss of credit-producing output. This would leave the cash sweeps backed only by  
8 the output of a carbon emitting plant whose electricity might not be eligible for  
9 sale (because of future carbon policy or because of the terms of a Power Purchase  
10 Agreement for coal with CCS). Such a situation would leave no cash for sweeps.  
11 Even a partial reduction in capture percentage, as opposed to total CCS failure,  
12 could still raise the emissions profile of the plant’s electric output in ways that  
13 could have major, non-linear impacts on cash available for sweeps, for instance  
14 by triggering exclusion from California markets.

15 At a 15% discount rate and again accepting for the sake of argument that 6  
16 million tonnes of CO<sub>2</sub> per year is achievable, the value of the San Juan Section  
17 45Q credit stream is estimated to be \$1.076 billion, covering only 85 percent of  
18 the (very aggressively estimated) capital costs.<sup>20</sup> This would mean that the project  
19 would need to raise around \$197 million in additional financing for the project.

20 **Q. If a carbon capture system could not capture 6 million tonnes of CO<sub>2</sub> each**  
21 **year, what affect would that have on tax equity financing?**

22 A. In separate testimony, David Schlissel states that it is unrealistic to expect that 6  
23 million tonnes of CO<sub>2</sub> could be captured every year for 12 years at San Juan. If

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<sup>19</sup> Jim Berger and Amanda Rosenberg, “Buying a Wind Farm,” *Norton Rose Fulbright Project Finance Newswire* (August 2019), 38. These sweeps are sometimes limited to 50 or 75 percent of the cash due to the non-tax equity investor; see Jim Berger and Amanda Rosenberg, “Tax equity primer for back-levered lenders,” (February 20, 2018), available at <https://www.projectfinance.law/publications/2018/february/tax-equity-primer-for-back-levered-lenders>.

<sup>20</sup> Sierra Club calculation based on a stream that closely matches the Enchant Energy value for a 12% discount rate.

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1 less than 6 million tonnes of CO<sub>2</sub> were captured each year, fewer 45Q tax credits  
2 would be available and Enchant might be contractually required to sweep cash  
3 from, say, power sales to its tax equity investors to deliver them their expected  
4 yield within a prescribed time frame. To the extent that tax equity investors were  
5 doubtful of the facility's ability to reliably capture 6 million tonnes per year, they  
6 would apply a high discount rate to value the credits *before making their*  
7 *investment decision* and might not invest at all.

8 **Q. If a carbon capture system were to cost more than the \$1.273 billion estimate**  
9 **from Sargent and Lundy, what would that mean for financing of the project?**

10 **A.** Tax equity investors do not typically assume construction risk.<sup>21</sup> Enchant would  
11 be expected to use construction debt and its own equity to finance during the  
12 project the construction period. The tax equity investment would, thus, be  
13 contingent on successful completion of construction. In the event of construction  
14 cost overruns in excess of any liquated damages from the construction contractor,  
15 Enchant would have to secure additional financing or risk defaulting on the  
16 project to its construction finance lender, all before tax equity capital had been  
17 committed. PNM would face similar obstacles to relying on tax equity to  
18 monetize the 45Q tax credits, as Mr. Solomon apparently assumes it could, even if  
19 PNM did not have the same need for tax equity partners to contribute equity to  
20 finance a CCS retrofit.

21 **V. Tax equity investor concerns about the riskiness of new/unproven**  
22 **technologies or the requirement that the project begin**  
23 **construction before January 1, 2024 in order to be eligible for 45Q**  
24 **tax credits could completely prevent Enchant (or PNM) from**  
25 **finding tax equity investors for the SJGS project.**

---

<sup>21</sup> Stoel Rives, "Project finance."

**Case No. 19-00018-UT**  
**Prepared Rebuttal Testimony of**  
**David B. Posner**

1 **Q. By what date must a carbon capture project begin construction in order to**  
2 **qualify for the 45Q tax credit?**

3 A. According to the statute, to be eligible to claim the credit project must begin  
4 construction by January 1, 2024.<sup>22</sup> Just what steps would need to be taken to  
5 demonstrate the commencement of construction to the IRS is unclear, as the IRS  
6 has not issued relevant guidance.

7 **Q. If the carbon capture system at San Juan did not begin construction by**  
8 **January 1, 2024, would the project be eligible for 45Q tax credits?**

9 A. No.

10 **Q. Does Enchant assume that 100% of the capital costs of the carbon capture**  
11 **project can be financed through 45Q tax credits?**

12 A. Yes.

13 **Q. So, if the carbon capture project at San Juan were not eligible for the 45Q**  
14 **tax credits, would any company attempting to retrofit SJGS with CCS have**  
15 **to raise \$1.27 billion in financing from other sources?**

16 A. Yes.

17 **Q. How do tax equity investors deal with the risk that projects will not meet**  
18 **eligibility deadlines or other regulatory requirements?**

19 A. Wind tax equity investors expect to be indemnified if projects is found to have  
20 failed to satisfy IRS eligibility requirements (e.g., deadlines for commencing  
21 operations) or if credits are retroactively disallowed (which is arguably more  
22 likely for CCS than for wind, as carbon dioxide must be stored over years).<sup>23</sup>

23 **Q. What are the IRS “safe harbor” provisions for the wind PTC?**

---

<sup>22</sup> 28 U.S.C. § 45Q(d)(1).

<sup>23</sup> Berger and Rosenberg, “Tax equity primer.”



**Case No. 19-00018-UT**  
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**David B. Posner**

1 A. The IRS has published guidance for investors which allows a project to claim the  
2 PTC at the statutorily provided level even if a project commences operation after  
3 the passing of the in-service eligibility date for the PTC at the statutorily provided  
4 level, if the taxpayer can demonstrate that the project began construction within  
5 the required timeframe.<sup>24</sup> The beginning of construction can be demonstrated  
6 though a “physical work test” or, as is more common, through paying or incurring  
7 more than 5% of the project cost. The taxpayer must then demonstrate continuous  
8 efforts, a required which is deemed satisfied by the IRS if the project enters  
9 service within 4 calendar years of the calendar year in which construction began.

10 **Q. Do similar provisions apply to 45Q credits?**

11 A. The IRS has not published guidance for the 45Q credits.

12 **Q. How do tax equity investors address technology risk?**

13 A. Tax equity is a “supplier’s market,” and tax equity investors can be highly  
14 selective in choosing investment targets. Commenting on the viability of the  
15 Section 45Q opportunity in late 2018, leading tax equity counsel Keith Martin of  
16 law firm Norton Rose Fulbright wrote that “new technologies are nearly  
17 impossible to finance. The market is only interested in proven technologies.”<sup>25</sup>  
18 This is my opinion as well. If Mr. Martin’s experienced opinion is correct, tax  
19 equity investors will continue to focus their tax capacity on wind and solar deals.  
20 Wind deals will continue to offer the 10 year of PTC for projects that begin  
21 construction by the end of 2019 and enter service by the of 2023. Wind deals will  
22 continue to offer significant accelerated depreciation benefits even for projects  
23 that do not commence construction/enter service in time to qualify for the PTC.<sup>26</sup>

---

<sup>24</sup> IRS Notice 2019-43, available at <https://www.irs.gov/pub/irs-drop/n-19-43.pdf>.

<sup>25</sup> Keith Martin, “Tax equity and sequestration credits,” (updated December 17, 2018), available at <https://www.projectfinance.law/publications/2018/april/tax-equity-and-carbon-sequestration-credits>.

<sup>26</sup> Projects commencing construction by the end of 2019 and entering service within four years will receive 40 percent of the full PTC credit. Projects entering service after the end of the 2023 will not receive any credits.

**Case No. 19-00018-UT**  
**Prepared Rebuttal Testimony of**  
**David B. Posner**

1           Solar deals will also continue to offer significant accelerated depreciation benefits  
2           as well as an ongoing ITC after 2023.<sup>27</sup>

3   **Q.    Does this complete your testimony?**

4   **A.    Yes.**

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<sup>27</sup> Commercial projects entering service on or after January 1, 2022 will continue to receive a 10 percent ITC.

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

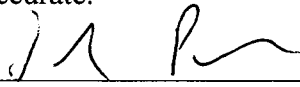
IN THE MATTER OF PUBLIC SERVICE )  
COMPANY OF NEW MEXICO'S )  
ABANDONMENT OF SAN JUAN ) Case No. 19-00018-UT  
GENERATING STATION UNITS 1 AND 4 )

VERIFICATION

STATE OF CALIFORNIA }  
COUNTY OF San Francisco }

David Posner, first being sworn on his oath, states:

I am the witness identified in the preceding rebuttal testimony. I have read the rebuttal testimony and am familiar with the contents. Based upon my personal knowledge, the facts stated in the rebuttal testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the rebuttal testimony are true, valid, and accurate.

  
\_\_\_\_\_

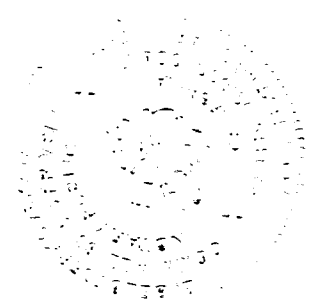
David Posner

SUBSCRIBED AND SWORN TO before me on this 13 day of November, 2019 by David Posner.

  
\_\_\_\_\_

Notary Public

My commission expires: 03/15/2023



# JURAT FORM

**A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.**

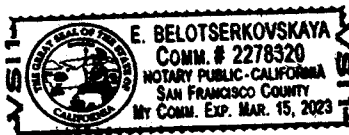
STATE OF CALIFORNIA )  
COUNTY OF San Francisco )

Subscribed and sworn to (or affirmed) before me on this 13 day of  
November, 2019 by David Braden Posner,

proved to me on the basis of satisfactory evidence to be the person(s) who appeared  
before me.



NOTARY PUBLIC SIGNATURE



(NOTARY SEAL)

## OPTIONAL INFORMATION

THIS OPTIONAL INFORMATION SECTION IS NOT REQUIRED BY LAW BUT MAY BE BENEFICIAL TO PERSONS RELYING ON THIS NOTARIZED DOCUMENT.

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BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF PUBLIC SERVICE  
COMPANY OF NEW MEXICO'S  
ABANDONMENT OF SAN JUAN  
GENERATING STATION UNITS 1 AND 4**

)  
)  
)  
)

**Case No. 19-00018-UT**

**CERTIFICATE OF SERVICE**

I CERTIFY that on this date I caused to be sent to the parties and individuals listed below, via email only, a true and correct copy of the Prepared Rebuttal Testimony of David B. Posner on Behalf of Sierra Club.

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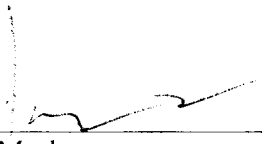
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# David B. Posner, PhD, MBA

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Finance professional specializing in the deployment of clean energy technologies  
Former senior policy advisor at the U.S. Department of Energy  
Wharton MBA | Yale PhD | Fulbright Scholar

## EMPLOYMENT

### Energy Finance Consulting

*Consultant*

San Francisco, CA  
October 2018 – present

- Advising on financial mechanisms to facilitate clean energy deployments, including securitization, market-indexed solar assets for regulated utilities, and tax equity partnership structures.
- Clients: Rocky Mountain Institute; Sierra Club; IHS Markit.

### Climate Policy Initiative

*Consultant, Energy Finance Program*

San Francisco, CA  
April 2016 – June 2018

- **U.S. Utility Capital Recycling Program:** developed capital recycling strategies that employ ratepayer-backed securitizations to retire uneconomic fossil generation and encourage utility reinvestment in wind and solar as well as demand-side assets, all at a net savings for ratepayers; co-author of [Harnessing Financial Tools to Transform the Electric Sector](#).
- **Clean Energy Investment Trust (CEIT):** contributed to the design of a structured financing approach for renewable energy projects that increases the share of investment-grade debt (or debt equivalents) in the capital stack through the use of a portfolio of risk mitigation tools; co-author of [Structuring the Clean Energy Investment Trust](#).
- **Flexibility:** evaluated policy, technology, and market options that can satisfy the need for flexibility in high-penetration renewable energy power systems; co-author of [Flexibility: the path to low-carbon, low-cost electricity grids](#).
- **Energy Markets:** co-author of comments by CPI and Energy Innovation on the Department of Energy's [Grid Resilience Notice of Proposed Rulemaking](#).

### Alliance to Save Energy

*Program Manager, Financial & Economic Policy*

Washington, DC  
February 2015 – April 2016

- Project leader for *CarbonCount™*, a quantitative CO<sub>2</sub> impact scoring system for “green” bonds; winner of a *Finance for Resilience (FiRe)* prize at the 2015 BNEF Future of Energy Summit.
- Collaborated with utilities, green banks, underwriters, and investors to validate sustainability claims.

### Energy Finance Consulting

*Consultant*

Arlington, VA  
July 2013 – January 2015

- Advised on the role of efficiency in the Clean Power Plan, time-variant electricity pricing, and “green” bonds.
- Clients included Rocky Mountain Institute, the University of Pennsylvania, and the Alliance to Save Energy.

### U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy

*Lead Energy Technology Program Specialist, GS-14*

Washington, DC  
January 2010 – June 2013

- Team Leader for Business Operations of the State Energy Program; oversaw data collection and impact assessment for \$3.1 billion in Recovery Act (ARRA) investments in energy efficiency and renewable energy projects across the U.S.
- Recipient of the Department's *Special Service Award* in recognition of superior performance of duties.

*Senior Analyst, contractor employed through Sentech Inc.*

February 2009 – January 2010

- Member of the start-up team that launched the Energy Efficiency and Conservation Block Grant Program (EECBG), which directed \$3.2 billion in funding to over 2,300 awardees, including states, counties, and municipalities.

# David B. Posner, PhD, MBA

## Securing America's Future Energy (SAFE)

Consultant

Washington, DC

January 2008 – January 2009

- Principal researcher and author of *A National Strategy for Energy Security* (2008), a report issued by the Energy Security Leadership Council, an advocacy project co-chaired by Frederick W. Smith, Chairman, President, and CEO, FedEx Corp., and General P.X. Kelley, USMC (Ret.), 28<sup>th</sup> Commandant of the U.S. Marine Corps.

Vice President, Policy & Business Outreach

June 2006 – January 2008

- Principal researcher and author of *Recommendations to the Nation on Reducing U.S. Oil Dependence* (2006).
- Designed and vetted scenarios for *Oil ShockWave*, a multimedia crisis simulation in which participants acting as cabinet officials confronted threats to the global oil supply and proposed policy responses.

## Policy Studies Inc.

Senior Strategy Analyst

Denver, CO

October 2004 – April 2006

- Prepared financial proposals and operating budgets for competitively awarded government outsourcing opportunities in the healthcare and welfare sectors.

## JPMorgan Chase/Chase Manhattan Automotive Finance Corporation

Assistant Vice President

Garden City, NY

October 2003 – September 2004

- Planned and executed market segmentation studies to improve the profitability and risk profile of an indirect loan business with 13,000 dealers and over \$27 billion in annual originations.

## General Motors Corporation

Consultant, GM/Adam Opel World War II Project

New Haven, CT

December 1998 – August 2001

- Investigated GM's managerial control of its German subsidiary, Opel, during the Nazi period; advised GM General Counsel and other executives as they developed a reparations program for wartime slave workers.

## EDUCATION

### The Wharton School, University of Pennsylvania

Master of Business Administration, Finance, with honors

Philadelphia, PA

September 2001 – May 2003

- Director's List; course concentration in fixed income, speculative markets, and financial engineering.

### Yale University

Postdoctoral Research Assistant, International Security Studies Program

Doctor of Philosophy, History

New Haven, CT

September 2000 – May 2001

September 1990 – May 1997

### Fulbright-Hays Scholar

Germany-U.S. Exchange Program

Saarbrücken, Germany

August 1989 – July 1990

### Cornell University

Bachelor of Arts, History, magna cum laude, and German Area Studies

Ithaca, NY

August 1985 – May 1989

- Phi Beta Kappa*, recipient of the Duniway Prize as the most outstanding undergraduate in the Department of History.

## REFERENCES

- Uday Varadarajan**, Principal, Rocky Mountain Institute, San Francisco, CA (Tel.: 512-466-3149; Email: [uvaradarajan@rmi.org](mailto:uvaradarajan@rmi.org)).
- Peter Augustini**, Vice President, IHS Markit, Cambridge, MA (Tel.: 617-866-5124 Email: [Peter.Augustini@ihsmarkit.com](mailto:Peter.Augustini@ihsmarkit.com)).



# **Carbon Capture Retrofit of San Juan Generating Station**

*Presentation to*

**United States Energy Association**

by

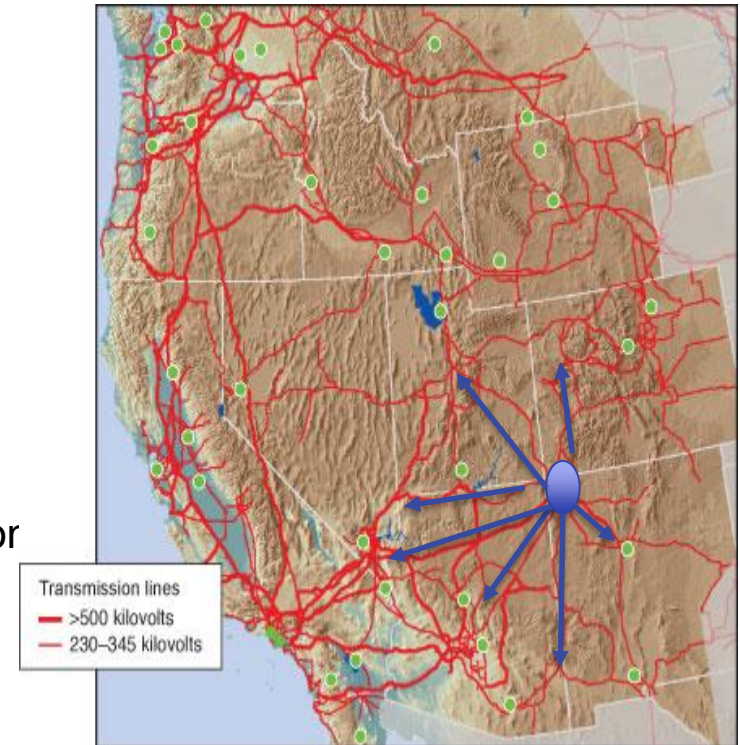


**ENCHANT ENERGY**

June 27, 2019

# What is San Juan Generating Station (“SJGS”) ?

- 847 MW Coal-fired Electricity Generation Station in Northwest New Mexico originally built in the 1970s, expanded in the 1980s
- High BTU Coal is supplied by the adjacent San Juan Westmorland-owned mine
- Operated by PNM on behalf of PNM (66%), TEP(20%), Farmington (5%), Los Alamos (4%), & UAMPS (4%)
- Plant size decreased from 1,895 MW in 2017 from shut down of Units 2 & 3 in conjunction with installation of Selective Non-Catalytic Reduction (SNCR) equipment and settlement with EPA
- Low cost generator with low Nox/Sox/Mercury emissions
  - But very significant Co2 emissions
- Located at the center of the Southwestern transmission grid, with connections to New Mexico, Arizona, Nevada, California, Utah, and Colorado

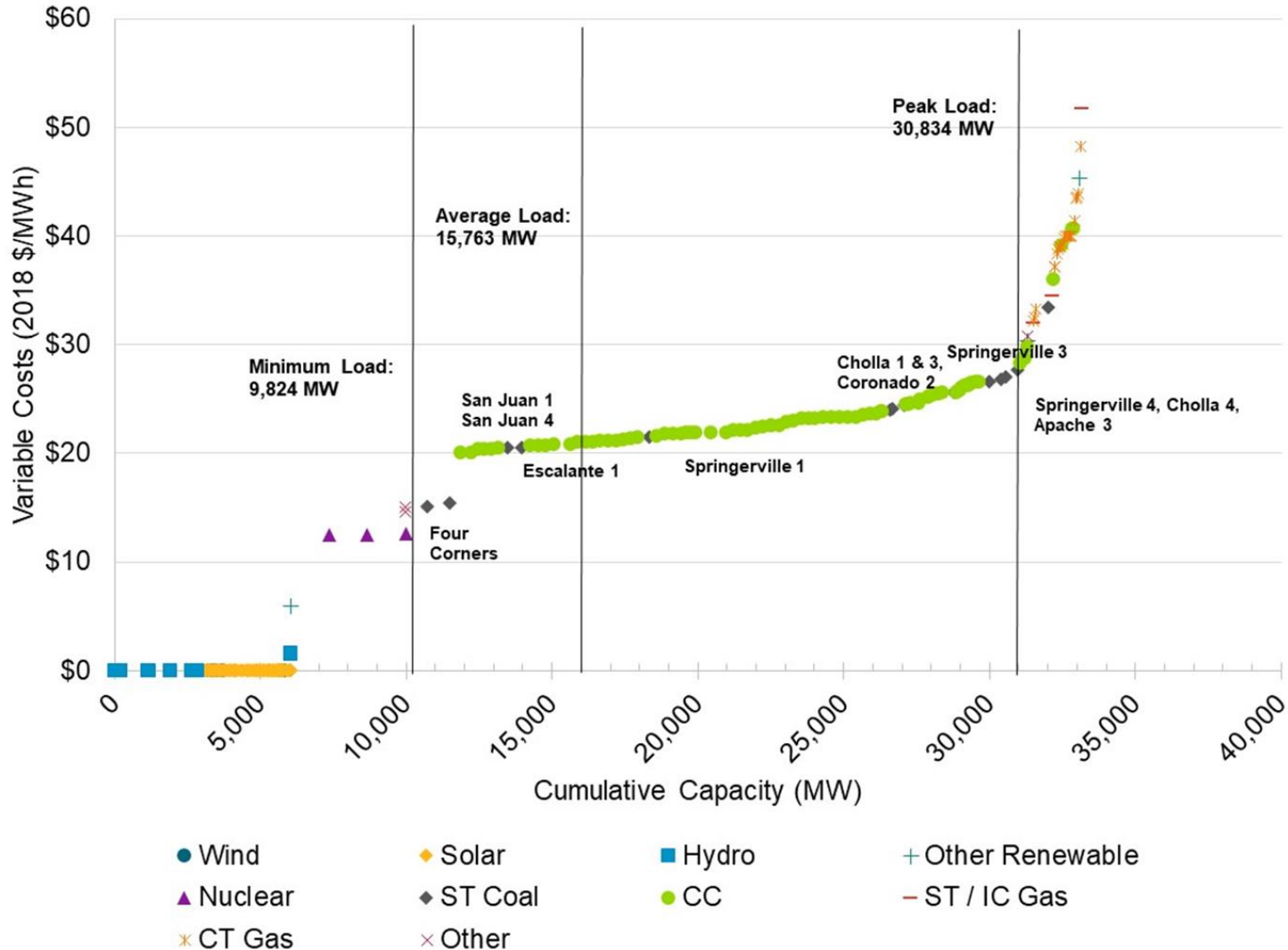


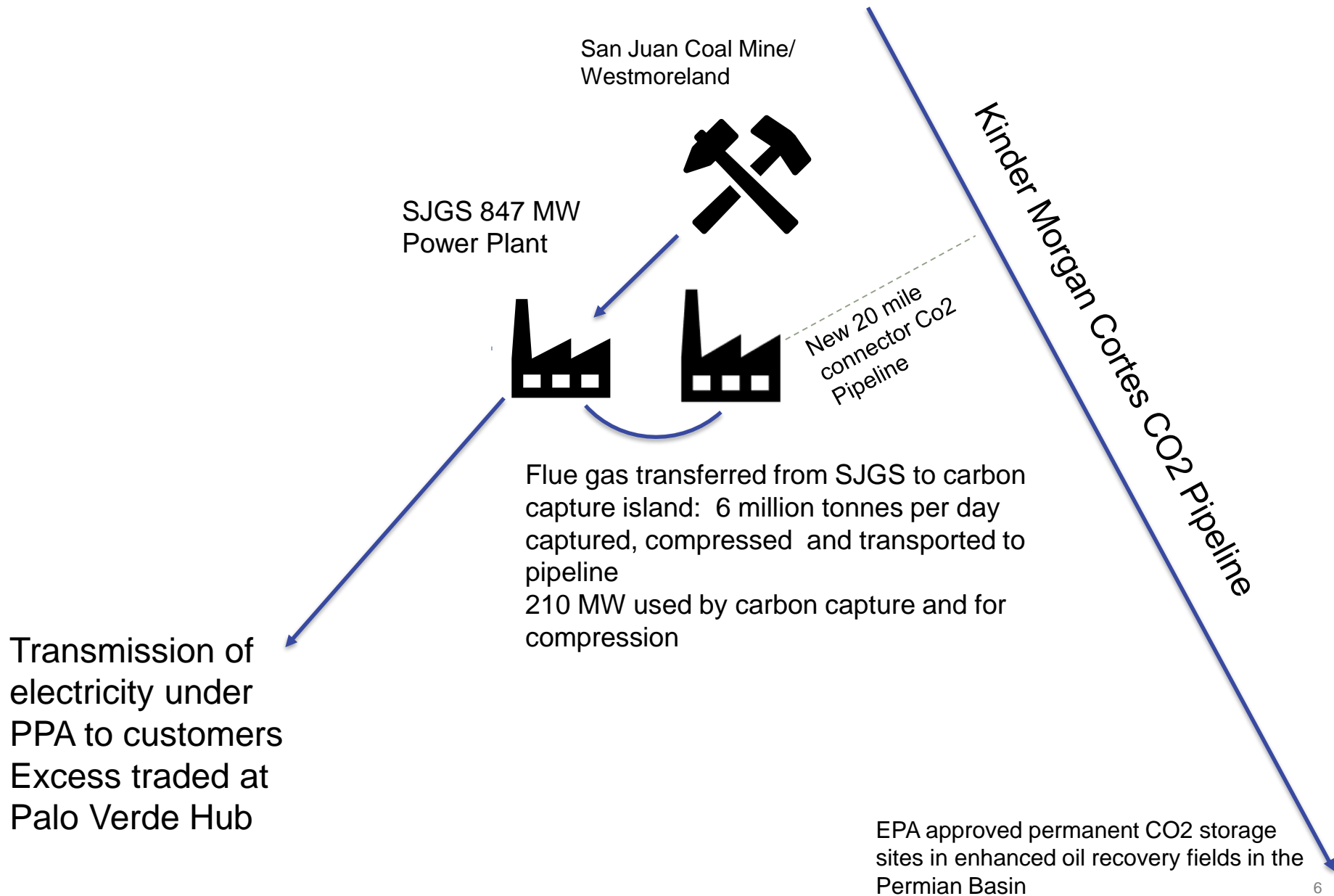


# Who is Enchant Energy ?

- Enchant Energy was founded in 2019 by two veteran energy investors, Larry Heller and Jason Selch, for the purpose of enabling continued operation of SJGS and retrofitting it with CCUS
- Approached by the City of Farmington in January 2019 to formulate a strategy to save SJGS and associated San Juan mine from closure.
  - Proposed conversion to low-cost, clean coal plant through retrofit with proven carbon capture technology
  - Will acquire 95% interest in SJGS at 6/2022 from exiting owners
  - City of Farmington to retain 5% interest in SJGS and benefit from the cost savings from an improved coal contract
- Enchant Energy is working with leading engineering, consulting firms, and law firms such as:
  - Sargent & Lundy
  - Navigant Consulting
  - Thompson Hine LLP
  - Sidley Austin LLP
  - EJM Consulting
  - Tenaska Power Services Co.
  - WISER Institute at Illinois Institute of Technology
- Enchant Energy has applied for DOE grant to fund a FEED study and associated studies

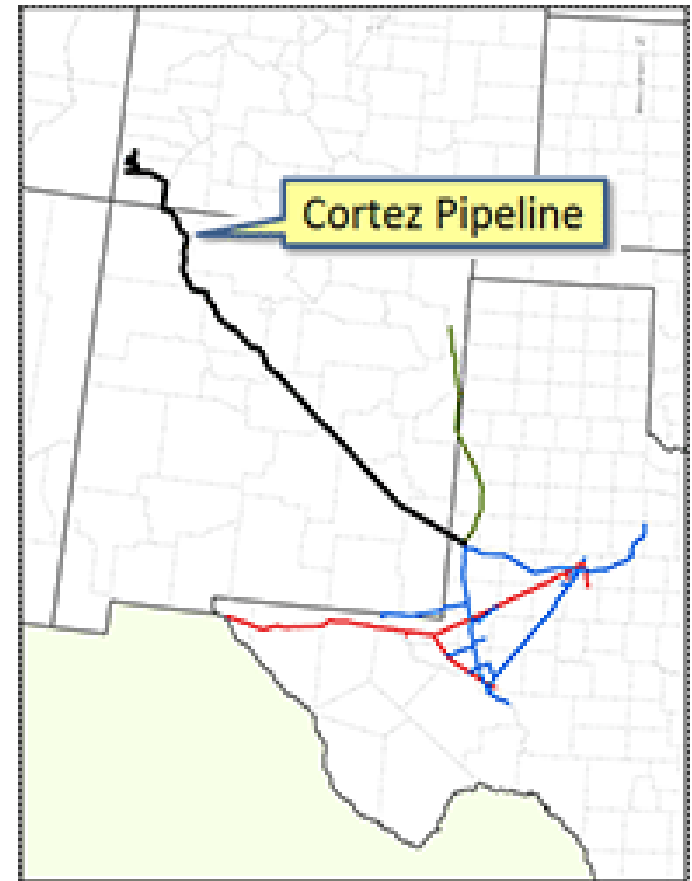
# SJGS will become a low cost electricity supplier in the Southwest Market with new coal contract





## Cortez Pipeline and McElmo Creek Pipeline

The Cortez Pipeline and the McElmo Creek Pipeline serve the McElmo Dome and Doe Canyon CO<sub>2</sub> source fields in southwestern Colorado. Kinder Morgan operates the approximately 500 mile Cortez Pipeline which carries CO<sub>2</sub> from the McElmo Dome and Doe Canyon to the Denver City, Texas, hub. The Cortez pipeline system is capable of transporting 1.5 billion cubic feet of CO<sub>2</sub> per day. The McElmo Creek Pipeline is an approximately 40-mile pipeline that supplies the McElmo Creek unit in Utah and is operated by Resolute.



# Results of Sargent & Lundy Scoping Study

- S&L scoping study estimates that cost of capture at SJGS will range from \$39.40 to \$43.66 per tonne
- Carbon capture will decrease Co2 emission intensity from 2,201 lbs/MWh to 249 lbs/MWh
- Co2 captured will be 6 million tonnes per year which will provide 312 mmscfd of pipeline quality Co2
- Annual O&M costs including the allocated cost of 29% plant derating are estimated at \$16.99 - \$17.30 per tonne

Table ES-1: Cost of CO<sub>2</sub> Capture

| Description                     | Units                 | 85% Capacity Factor | 100% Capacity Factor |
|---------------------------------|-----------------------|---------------------|----------------------|
| Total Project Cost              | \$                    | 1,272,780,000       | 1,272,780,000        |
| CCF                             |                       | 0.1243              | 0.1243               |
| Annualized Capital Cost         | \$/yr                 | 158,210,000         | 158,210,000          |
| Annual O&M Cost                 | \$/yr                 | 103,770,000         | 119,930,000          |
| Total Annual Cost               | \$/yr                 | 261,980,000         | 278,140,000          |
| Annual CO <sub>2</sub> Captured | tonnes                | 6,000,000           | 7,060,000            |
| Cost of Capture                 | \$/tonne <sup>1</sup> | 43.66               | 39.40                |

Note 1. Cost of capture reported as dollars per metric ton (equivalent to 2,240 lbs).

Table 3-4: CO<sub>2</sub> Rates for San Juan Generating Station

| SJGS CO <sub>2</sub> Rates                                 |                            | Unit 1  | Unit 4    | Total Plant |
|--|----------------------------|---------|-----------|-------------|
| Baseline Plant CO <sub>2</sub> Emissions Rate <sup>1</sup> | (lb/MWh <sub>gross</sub> ) | 2,165   | 2,236     | 2,201       |
| Post-Project CO <sub>2</sub> Emission Rate                 | (lb/MWh <sub>gross</sub> ) | 243     | 254       | 249         |
| Max Full Load Post-Project CO <sub>2</sub> Production Rate | (lb/hr)                    | 703,724 | 1,071,852 | 1,775,576   |
| Post-Project CO <sub>2</sub> Production Rate <sup>2</sup>  | (mmscfd)                   | 124     | 189       | 312         |
|  | (mmscfy)                   | 45,200  | 68,845    | 114,045     |

Note 1. Data from EPA's Air Market Program Database (AMPD) - Annual average for 2014-2018 - Total plant is estimated based on the average of Units 1 and 4.

Note 2. Values calculated assuming an annual average facility capacity factor of 85%.



# Implication of Sargent & Lundy Study on feasibility

- The total amount of 45Q credits generated from capturing 6 million tonnes a year of Co2 over 12 years, \$2.554 billion, will cover the estimated capital cost of \$1.273 billion by 2 times.
- As tax equity financing normally requires an 8-10% after tax IRR, the project will generate more than enough tax credits to support a tax equity financing that covers 100% of the capital costs
- The sale of Co2 to the EOR market covers the annual operating costs, including the costs of the derating

| Projected Stream of 45Q Tax Credits<br>at 6 million tones a year |            |
|--|------------|
| Discount Rate  | Value      |
| 0.0%   | \$2,554.05 |
| 8.0%   | \$1,558.25 |
| 9.0%   | \$1,475.43 |
| 10.0%  | \$1,399.03 |
| 11.0%  | \$1,328.45 |
| 12.0%  | \$1,263.15 |

S & L study demonstrates that when Carbon Capture is installed at a site with advantages, like SJGS, this technology provides a way to reduce Co2 emissions by a substantial amount without burdening the consumer with higher costs of electricity

# Advantages of SJGS site

- Advantages incorporated into study:
  - Site benefits from the environmental upgrade and closure of Units 2 & 3 completed in 2017
    - No need for additional emissions controls for Nox, Sox, Mercury, and particulate
    - Capital cost is reduced by the utilization of the excess infrastructure that remains from the prior downsizing
  - Site benefits from proximity to Cortez Co2 pipeline
    - Construction cost for connector pipeline will be low as distance is only 20 miles
    - Sale of Co2 to EOR industry facilitates financing using 45Q tax credits
    - Proceeds from sale of Co2 covers the operating costs of the CCUS, including lost revenues from power sales
  - Annual operating costs benefit from the low cost of electricity which is used for auxiliary power and to value lost generation revenue from derating
  
- Factors not included in S & L scoping study but which will be investigated in FEED study starting in Q3 2019
  - S & L scoping study does not benefit from competitive bidding among the several EPC companies that have developed proven Amine-based Carbon Capture Technology
  - S&L uses conservative 29% derating while other investigators have assumed 22% derating
  - S&L study includes 20% contingency and \$100 million owner's costs

# Challenges for SJGS site with CCUS

- New Mexico Bill 489 passed in March 2019 requires compliance with 1100 lb.Co2/MWh emissions limit by 1/2023
  - If retrofit is financed in mid-2020, expected on-line date is 6/2023
  - Plant could experience 6-12 month shut-down before restart with CCUS
- Successful CCUS requires successful transition to Merchant model
  - Southwest Power Pool has no ISO
  - Incumbent Utilities (APS, PNM, TEP, SRP) control transmission
  - California, Nevada, Colorado are good target markets that will need low-emission fossil fueled electricity in 2022+
    - SJGS emissions at 200-300 are well below 1100 current California Emissions Performance Standards and 850 proposed new limit
  - Dispatch cost of plant is lowest cost non-renewable with low-emissions
- Environmental community is highly invested in shutting down SJGS
- Project Financing will be a challenge
  - Tax Equity financing over \$1 billion has never been done
  - 45Q tax credits are new and Treasury has not written the regulations
  - Project sponsor does not have an investment grade rating
  - While long-term contracts from investment grade oil and gas producers are likely, the power market has not provided PPA's for non-renewable power.
    - Will power buyers make an exception for low-emissions fossil power ?

## How does Carbon Capture retrofit benefit the local community?

- Enables plant to avoid shut-down due to Bill 489
  - Saves 478 direct jobs and 1,000 indirect jobs in rural area, significant in maintaining a stable regional economy
  - Maintains tax revenues that supports local schools
  - Avoids disruption of Navajo community which could be harmed by lay-offs of hundreds of Navajo employed in high-paying private sector jobs
- Allows power to be marketed as “Eco-friendly, low-emissions” power that may enable the power to be sold into markets such as California, Nevada, and Colorado
- One billion dollar plus construction project will provide short term stimulus to local economy
- Successful development of Carbon Capture can spur local industries based on exploitation of captured Co2
  - Co2 can be utilized in existing greenhouse agriculture
  - Availability of Co2 raw material can attract other industries
  - SJGS can become model facility for CCUS attracting research and jobs

## How does Carbon Capture retrofit at SJGS benefit the Environment?

- Post-retrofit, SJGS will become the lowest Co2 emissions fossil-fueled power plant in Western US
  - The growth of renewables is increasing demand for this type of power
  - Continued operation of this low-cost power facility will temper the cost impact to the consumer of the transition to high-renewables electricity supply market
- Retrofit will make substantial climate impact by reducing Co2 emissions by 6 million tonnes per year
- Region will continue to benefit from the existing environmental upgrades for Sox, Nox, and Mercury installed in 2017
- Demonstration of Carbon Capture at this scale will spur adoption of the technology at other US sites and the export of carbon capture technology to developing markets where coal-fired generation is still growing

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