

# Novice Company's Carbon Capture Pitch Offers False Hope, Fiscal Risk to Farmington, N.M.

*Enchant Energy Corp. Has Strong Parallels to Failed Navajo Generating Station Campaign; Scheme Extends to Four Corners Plant*

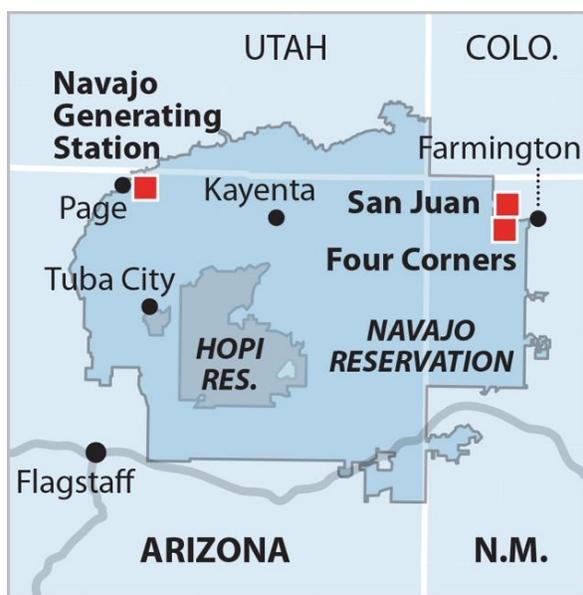
## Executive Summary

A proposal for a carbon capture retrofit at the soon-to-be-closed coal-fired San Juan Generating Station in northwestern New Mexico appears aimed mainly at creating a short-term taxpayer-funded windfall for a company associated with a “vulture capital” New York City hedge fund that has been in decline for some time.

The company, Enchant Energy Corp., was incorporated with the state of New Mexico in early April. It has been publicly tied in the weeks since its creation to a little-known parent company in New York called Acme Equities. What has been less publicized is that Enchant's physical address, according to its New Mexico incorporation filing, is in care of a New York hedge fund that specializes in flipping distressed properties—and whose assets have shrunk by 90 percent in four years.

Enchant Energy has no known electricity-business experience, the value of its assets—if it has any—is not known, and the company only has two employees. Yet its proposal calls for creating a partnership with the City of Farmington for the purpose of raising \$1.2 billion toward extending the life of the power plant, which its core owners, including Public Service Company of New Mexico, see no value under any circumstances in keeping online after 2022.

In short, Enchant Energy does not seem a credible partner for such a project.



The company nonetheless has applied to the U.S. Department of Energy for a \$5.8 million grant to study the feasibility of turning the generating station into the largest carbon-capture experiment in the country. If it wins the grant, Enchant would

manage the payout, according to its business plan, distributing it to various associates—none of which include any interests in Farmington. The city would be assessed \$10,000 for its participation.

IEEFA does not see much likelihood of the project going forward, and the resulting liabilities to the city, either way, are potentially significant.

Enchant Energy's effort to attract federal grant money could also spell trouble for Navajo Nation finances: The company is extending a similar proposal for the Four Corner Power Generating Station, another coal-fired power plant in New Mexico that is on its last legs, and one in which the Navajo government holds a 7 percent stake.

**Several major flaws are apparent in Enchant Energy's San Juan proposition:**

- It overlooks how the deployment of carbon-capture technology around coal-fired generation remains a mostly academic, unaffordable exercise;
- It presumes that the project could commence within two years, avoiding regulatory requirements that typically take longer to complete, and that it could be done in a cost-effective way;
- It banks on the unlikelihood of being able to find a market in the distant Permian Basin oilfield for the carbon dioxide it would capture;
- It does not say where long-term project liabilities would lie;
- It does not address the absence of customers, the probable limited transmission access for power from the plant beyond 2022, and the inevitable rise in electricity costs owing to the parasitic load created by the installation of carbon-capture equipment;
- It plays up the importance of using newly enhanced tax credits for carbon capture to finance the project, while leaving out the fact that the credits would be available only if and when the project is operational, a highly unlikely outcome.

**These hurdles are reminiscent of those faced by coal industry interests that sought to keep alive the Navajo Generating Station (NGS) in northern Arizona.**

In the NGS case, coal interests waged a long and drawn-out battle to push open-ended liabilities and mounting costs onto the Navajo government in hopes of keeping the aging plant and the Peabody Energy-owned feedstock Kayenta Mine in business. The Navajo Nation this year rejected the idea for the many risks it would have required the Navajo government to shoulder.

The City of Farmington, under Enchant Energy's plan, would face a risk burden not unlike that presented to the Navajo Nation in the campaign to keep NGS online.

Navajo Generating Station is being decommissioned now and will close in December 2019. The Kayenta Mine is ceasing production this summer. The closures are having

a severe fiscal impact on Hopi and Navajo governments in part as a result of public policies that did not heed industry trends that favor the modernization of power generation.

**Enchant Energy, while espousing concern for the community, in fact appears only to be exploiting the same economic concerns the coal industry did in its unsuccessful Arizona campaign to keep NGS and Kayenta open.**

## **Background/Overview**

The four main owners of the coal-fired San Juan Generating Station are closing the remaining units of the now-847-megawatt (MW) plant in June 2022—years ahead of schedule. The closure, hastened by market forces, was foreshadowed in 2017, when two of the plant's four original units were retired because they had become economically unviable. Power utility Public Services of New Mexico (PNM) owns 46 percent of the plant, which dates from the 1970s. Other owners include Tucson Electric Power, Los Alamos County, and Utah Associated Municipal Power Systems. The City of Farmington has a 5-percent stake.

Full-closure plans follow recent enactment of a state law that aims to remake New Mexico's electricity sector, as PNM noted in filings this month with the New Mexico Public Regulation Commission<sup>1</sup> in which it aims "to replace coal plants with proven resources such as wind, solar and cleaner natural gas, as well as cutting-edge energy storage technologies."

PNM is asking specifically for approval of a plan to replace most of San Juan Generating Station's capacity with 760MW of new generation that would consist of 480MW from utility-scale solar farms and battery-storage arrays outside San Juan County (70MW in adjacent Rio Arriba County, 340MW in adjacent McKinley County, 70MW in Bernalillo County where the city of Albuquerque is located) and 280MW of new gas-fired generation at the current plant site.<sup>2</sup> PNM had previously sought approval to build a 456MW gas plant at the site but has since scaled back that portion of its proposal.

PNM received state approval in December 2018 for a plan to eliminate coal-fired electricity from its generation portfolio by 2031 but has received considerable pressure from various groups over how it will meet that mandate.

The utility's portfolio policies—what ratio of its future generation will be composed of solar and wind versus gas, for instance—are being shaped and will continue to be shaped by fast-moving market changes that are driving the uptake of renewable energy and the adoption of quickly-evolving utility-scale battery storage technology.<sup>3</sup> PNM—like most utilities—has shown no interest in carbon-capture

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<sup>1</sup> PNM. [Executive Summary: Implementing the Energy Transition Act](#). July 2019.

<sup>2</sup> PNM. [Public Service Company of New Mexico's Consolidated Application for Approvals for the Abandonment, Financing and Replacement of the San Juan Generating Station Pursuant to the Energy Transition Act](#). July 2019.

<sup>3</sup> IEEFA. [Advances in Electricity Storage Suggest Rapid Disruption of U.S. Electricity Sector](#). June 2019.

experimentation, which is to say that nothing in the electricity-generation industry suggests a good outcome for long-shot schemes like the one Enchant Energy is selling to Farmington.

## Who Is Enchant Energy and What Does It Want?

In May, Farmington's mayor signed onto a proposal<sup>4</sup> by Acme Equities that called for a study that purports to lay the groundwork for retrofitting the power plant with carbon capture technology. The city joined the agreement apparently without consulting with the state or with PNM,<sup>5</sup> which has long-term liability reasons not to let the deal proceed, sees no way to make the plant profitable<sup>6</sup> and, in any case, has other plans for the site.

Enchant Energy had been incorporated a few weeks earlier in New Mexico as an Acme subsidiary in a filing<sup>7</sup> that originally put its physical address at "c/o Litespeed Capital," a fund featured in an article by Bloomberg News published in September 2018 and updated in February 2019 titled "The Incredible Shrinking Hedge Fund."<sup>8</sup> (Enchant Energy this week changed its physical address to an office space in Farmington after IEEFA asked the company's CEO about its ties to Litespeed). The Bloomberg article described a trend in how once-booming hedge funds have fallen on harder times, estimating Litespeed's assets under management in 2018 at \$320 million, a 90 percent falloff—from \$3.4 billion—over four years. Litespeed is known historically for its vulture fund business model, a strategy that turns on buying distressed assets and selling them at a gain. It has also been described as an "event-driven" operation.<sup>9</sup>

Whatever the strategy or the connection between Litespeed and Enchant Energy, the latter has applied for a \$5.8 million Department of Energy (DOE) grant that would allow it to "study" the feasibility of carbon capture at the San Juan plant—and then, if it wants to, walk away from the project after two years.

Enchant's project management plan,<sup>10</sup> drafted by CEO Jason Selch, in support of its application to DOE, names Enchant Energy as "the prime awardee" and says, "Enchant will manage the project coordination and project reporting to the DOE. All communication will be direct between Enchant and DOE. All of the project participants will report to Enchant directly."

The business plan names six vendors that will receive a share of grant proceeds: Acme Equities, which is the parent company of Enchant Energy and is owned and was founded by Selch, who is from Chicago; Sargent & Lundy, a well-known Chicago-

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<sup>4</sup> City of Farmington. [Letter to Jason Selch, Enchant Energy](#). May 7, 2019.

<sup>5</sup> *Utility Dive*. [Possible reprieve for New Mexico coal plant is a surprise for PNM](#). February 2019.

<sup>6</sup> *Bloomberg News*. [When Paying \\$1 for Coal Power Plant Is Still Paying Too Much](#). March 2019.

<sup>7</sup> Corporations and Business Services, New Mexico Secretary of State, [Enchant Energy Corporation](#). Accessed July 5, 2019.

<sup>8</sup> *Bloomberg News*. [The Incredible Shrinking Hedge Fund](#). February 2019.

<sup>9</sup> *Barron's*. [A Risk Arbitrage Pro Explains the Allure of 'Event' Investing](#). November 2018.

<sup>10</sup> Enchant Energy. [Project Management Plan: Large-Scale Commercial Carbon Capture Retrofit of the San Juan Generating Station](#). May 7, 2019.

based engineering firm; the Illinois Institute of Technology’s Wagner Institute for Sustainable Energy Research, where Selch sits on the Board of Advisors;<sup>11</sup> Navigant Consulting, a multinational Chicago-based business management advisor; a consultancy called EJM, which is run by a former DOE official;<sup>12</sup> and Tenaska, an Omaha-based energy company.

The table below, taken from the company’s plan, shows the funding distribution.

**Table 5-1. Spend Plan by Fiscal Year**

	FY 2019		FY 2020		FY 2021		Total Project	
	Federal	Cost Share	Federal	Cost Share	Federal	Cost Share	Federal	Cost Share
<b>Enchant</b>	--	<b>\$94,381</b>	--	<b>\$495,909</b>	--	<b>\$124,710</b>	--	<b>\$715,000</b>
<b>Farmington</b>	--	<b>\$2,500</b>	--	<b>\$5,000</b>	--	<b>\$2,500</b>	--	<b>\$10,000</b>
S&L	\$237,998	--	\$1,567,680	--	\$279,773	--	\$2,085,451	--
IIT	\$84,330	--	\$44,304	--	\$9,143	--	\$137,777	--
Acme	\$28,110	--	\$85,200	--	\$64,000	--	\$177,310	--
Navigant	\$18,740	--	\$127,800	--	\$109,715	--	\$256,255	--
EJM	\$14,055	--	\$157,620	--	\$22,857	--	\$194,532	--
Tenaska	\$4,685	--	\$21,300	--	\$18,286	--	\$44,271	--
<b>Total</b>	<b>\$387,918</b>	<b>\$96,881</b>	<b>\$2,003,904</b>	<b>\$500,909</b>	<b>\$503,775</b>	<b>\$127,210</b>	<b>\$2,895,597</b>	<b>\$725,000</b>
<b>Cost Share</b>	<b>80.0%</b>	<b>20.0%</b>	<b>80.0%</b>	<b>20.0%</b>	<b>79.8%</b>	<b>20.2%</b>	<b>79.98%</b>	<b>20.02%</b>

In material posted on an Enchant Energy website that went online in July 2019, the company says it wants to gain a 95 percent ownership stake in the plant but does not say how it will go about acquiring that stake from PNM and the other owners. The City of Farmington, according to the plan, would retain its 5 percent stake.

According to the Enchant Energy business plan filed with the DOE,<sup>13</sup> the City of Farmington would receive none of the federal money, and would be responsible for contributing \$10,000 to the study, an amount that the mayor’s letter says would be contributed through in-kind services to include providing “access to the site” and “extensive knowledge and information as to the San Juan Generating Station and the design of the generating station.”

The willingness of the City of Farmington to accept Enchant Energy’s pitch may simply be rooted in the politics of regional economic difficulty. San Juan Generating Station is an important local employer and contributes significantly to revenue streams that support local schools and public services.<sup>14</sup> Still, the City of Farmington

<sup>11</sup> Illinois Institute of Technology. [Wagner Institute for Sustainable Energy Research, Board of Advisors](#). Accessed July 2019.

<sup>12</sup> Enchant Energy filings with City of San Juan. [San Juan project resumés](#).

<sup>13</sup> Enchant Energy. [Project Management Plan: Large-Scale Commercial Carbon Capture Retrofit of the San Juan Generating Station](#). May 2019.

<sup>14</sup> NMVoices.org. [Tax and Jobs Analysis of San Juan Generating Station Closure](#). January 2019.

and its political leaders would do well to evaluate Enchant Energy's proposal realistically, taking care to understand its many weaknesses.

## The Problems with Enchant Energy's Pitch

Enchant Energy offers what at first glance seems a dazzling idea: Keep an aging coal-fired power plant in business by recasting it with new technology that will enable it to compete magically and suddenly as a modernized component of 21<sup>st</sup>-century electricity markets. The plan is fraught with flaws, however.

### *Carbon Capture Technology Is Unproven*

Enchant Energy's entire proposal rests on the supposition that carbon capture from coal-fired electricity generation is simultaneously technologically and economically feasible. Neither is the case.

An IEEFA study published in November 2018 detailed how none of the carbon capture and storage projects tried up until now in North America has delivered as planned and long-standing DOE hopes that such projects, like the one proposed by Enchant Energy, have little if any chance of ever delivering.<sup>15</sup>

"The technology remains unproven at full commercial scale, it is wildly expensive, there are serious questions regarding the after-capture transport, injection and storage of the captured CO<sub>2</sub> and—most important—more reliable and far cheaper power-generation options exist."

The study's authors noted that the while the economic hurdles to CCS are too high, the timetable required to build such projects puts them at an impossible disadvantage and proponents who persist in believing otherwise "are seemingly unaware of the huge and ongoing shift in the nation's electricity sector."

The report distilled four market barriers to projects like the one Enchant Energy is trafficking in New Mexico:

- Renewables are rapidly declining in price, becoming increasingly efficient and gaining market share; further, with storage, renewables offer the dispatchability and resilience needed for 24/7 operation;
- Technological developments in the natural gas industry have ensured steady supplies that will keep costs low;
- The utility industry itself is moving away from coal and is showing no interest in investing in costly, largely unproven technologies fraught with risks that offer little potential return.
- Societal expectations support the shift, with growing numbers of large corporate energy users seeking their own green energy supplies or pushing

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<sup>15</sup> IEEFA. [Holy Grail of Carbon Capture Continues to Elude Coal Industry](#). November 2018.

supplier utilities to do so. Renewable energy availability is also increasingly a factor in corporate relocation decisions.

“Any decision to add CCS to a significant portion of the U.S. coal generation fleet would result in significantly higher costs for end-users across the board,” the authors concluded. “The tens-to-hundreds of billions of dollars required to add and operate CCS equipment at scale, and to upgrade aging existing coal fleets, would certainly lead to huge ratepayer increases and substantial burdens for taxpayers too. An informed industry discussion about economically justifiable options makes more sense.”

### *Timetable for Project-Ready Plans Is Unrealistic, as Are Cost Projections*

Enchant Energy's plan calls for a project-ready retrofit design in place within 20 months, an ambition that defies the regulatory and public-input procedures inevitably associated with energy infrastructure planning.

Such plans require lengthy environmental impact assessments, for instance, that require community feedback, independent feasibility studies and audits—processes that can take time to complete<sup>16</sup> and that can be tied up sometimes for years in litigation.

Regulatory proceedings aside, construction and implementation efforts would add years to the timetable. Given the scale of the San Juan proposal—at roughly 850 MW it would be more than three times the size of the largest power plant CCS project in the U.S.—Enchant Energy's \$1.2 billion cost estimate should be taken for what it is, little more than a back-of-the-napkin calculation. By comparison, the existing 240 MW Petra Nova CCS project in Texas cost \$1 billion to bring online.

And there is no certainty that the project will be completed at all, even if billions of dollars are invested in it, as the history of “clean coal” projects has amply demonstrated. For example, Southern Company threw in the towel on its Kemper coal-gasification project in Mississippi—dubbed a “flagship demonstration for both CCS and gasification technologies”<sup>17</sup>—in 2017 after having tried for a decade and wasting billions to make the project viable. Shareholders lost \$3.1 billion on the Kemper experiment and Southern customers were left exposed to \$3.4 billion in cost charges through ratepayer increases. The project originally was supposed to have cost \$3 billion. By the time it had been cancelled its costs exceeded \$7.5 billion.<sup>18</sup>

Similarly, Duke Energy's coal-gasification experiment in Indiana at the Edwardsport power plant cost investors and customers dearly, running over budget, from \$1.9 billion to \$3.5 billion and producing hugely expensive energy. “The all-in cost of electricity from Edwardsport averaged \$140.84/MWh through September 2018,

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<sup>16</sup> EPA. [National Environmental Policy Act Review Process](#).

<sup>17</sup> *Utility Dive*. [Southern suspends work on Kemper coal gasification units](#). June 2017.

<sup>18</sup> IEEFA. [Holy Grail of Carbon Capture Continues to Elude Coal Industry](#). November 2018.

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more than four times the average price of power bought on the wholesale market in the region," noted the IEEFA report published in 2018.<sup>19</sup>

### *Practical Hurdles to CO2 Sales*

Another part of Enchant Energy's pitch involves sending CO2 captured at the San Juan Generating Station to be used in enhanced oil recovery (EOR) operations in the distant Permian Basin.

This component of the plan rests on the assumption that a long-term market exists and that it could be accessed at reasonable costs. The problem is that the closest edge of the Permian Basin is 400 miles away.

And while Enchant Energy touts the Cortez Pipeline, which runs the length of New Mexico, as a conduit to the Permian Basin, it plays down the distance between the San Juan Generating Station and that pipeline ("only 20 miles"<sup>20</sup>). The company appears not to have done any research on likely cost or regulatory hurdles associated with building a 20-mile-long tie-in to the Cortez Pipeline.

There also are serious questions about the long-term market for EOR given the significant increase in oil and gas production from cheaper fracking operations in the Permian.

### *Long-Term Liability Risk*

Nothing in Enchant Energy's plan speaks to the long-term liabilities that come with ownership of a coal-fired plant like the San Juan Generating Station.

Such issues were at the heart of the Navajo Nation decision in March 2019 not to proceed with a proposal to buy NGS from its utility-company owners. The deal under consideration at the time died because the plant owner would not indemnify the tribal government against "unknown, potentially limitless liabilities."<sup>21</sup>

NGS is being decommissioned now and will be formally retired in December 2019. Its fate was the center of contentious disagreement for years — disagreement driven mostly by the importance of the power plant to the local economy. Navajo tribal leaders voted ultimately not to acquire the plant and its feedstock Kayenta Mine and their many liabilities only after weighing the financial risk associated with such acquisitions.

An IEEFA brief published one month before the decision was made had concluded that tribal acquisition would be "economically disastrous for NTEC and the Navajo

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<sup>19</sup> Ibid.

<sup>20</sup> EnchantEnergy.com. [Carbon Capture Retrofit of San Juan Generating Station](#). Accessed July 10, 2019.

<sup>21</sup> IEEFA. [NTEC Plan Presents Unknown, Potentially Limitless Liabilities: Proposal Fails to Address Possible Employee Benefit Losses, Clean-up and Deferred-Repair Costs](#). March 2019.

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Nation, which could be left bearing hundreds of millions of dollars in operating losses and all plant and mine reclamation costs.”<sup>22</sup>

Similar risks are apparent in the Enchant Energy deal being presented to Farmington.

### *No Customer Base, Questionable Transmission-Line Access*

Enchant Energy has no known customers for any power produced from San Juan Generating Station after 2022. Without power purchase agreements in place, the company says it would sell electricity into the open market—a suspect notion, at best, considering the likely cost required to turn a profit. In addition, capital is likely to be difficult, if not impossible to raise, without power purchase agreements in place.

Further, CO<sub>2</sub> capture equipment creates enormous parasitic loads on power plants, raising the price of electricity sent to market by so much that it would be difficult, if not impossible, to compete with rival producers.

Equally worrisome is the question of how much access Enchant Energy would have to the existing transmission infrastructure at the San Juan plant. By including 280MW of gas-fired electricity generation at the San Juan site in its regulatory ask, PNM stands to be at an advantage in terms of claiming access to those transmission rights, further undercutting Enchant Energy's ability to sell power into the market.

### *Suspect Financing*

Enchant Energy's proposal turns on using the federal tax credits available for CO<sub>2</sub> capture, which are now \$10 per ton for EOR activities but will climb to \$35 per ton in 2024, to finance the project's construction—a proposal that would require the financing entity to put \$1 billion on the table upfront and then wait for repayment. The tax credit is production-based, meaning nothing would be earned until the retrofit is complete and the plant is successfully capturing carbon. The company says this structure could bring hundreds of millions of dollars in profits. IEEFA questions whether there is any investor interest in underwriting the construction of such an expensive project with no real guarantee of ever being made whole.

Interestingly enough, Enchant Energy itself hedges on this point in its proposal, noting, for instance, that the whole financing structure it purports to be advocating is unheard of.

Three telling bullet points from the company's website, excerpted verbatim here, highlight this hurdle:

- “Tax Equity financing over \$1 billion has never been done.”

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<sup>22</sup> IEEFA. [NTEC's Plant/Mine Acquisition Plan Puts Navajo Nation at Serious Financial Risk Little Clarity, No Certainty in Proposal to Take Ownership of Navajo Generating Station/Kayenta Mine](#). February 2019.

- “45Q tax credits are new and Treasury has not written the regulations.”
- “Project sponsor does not have an investment grade rating.”

In other words, the capital requirements of Enchant Energy's proposal are likely beyond the scope of its pitch, the mechanism by which it would finance the project is untried, and investors would likely be leery of the project on its face.

## **Summary/Conclusion**

While Enchant Energy has an alluring name and while it purports to have compassionate community intent—its business model is not workable and its San Juan Generating Station retrofit pitch appears to be largely self-serving.

The City of Farmington, to ensure its interests, should keep the following questions in mind as it considers Enchant Energy's proposal:

- How would the project actually be funded? Who are the investors?
- What happens—as is likely—if the project costs more than forecast? Would Farmington be made to cover the shortfalls?
- What retrofits to the existing units, now 43 and 37 years old, would be needed to ensure they continue operating going forward? Who would fund those upgrades?
- Who will buy power from the retrofitted plant?
- Is there a viable long-term market for the captured CO<sub>2</sub>?
- Who would be liable for the ultimate requisite cleanup operations at the plant and how would the cleanup be funded? What, specially, would Farmington's liability be?

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## About IEEFA

The Institute for Energy Economics and Financial Analysis conducts research and analyses on financial and economic issues related to energy and the environment. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy. [www.ieefa.org](http://www.ieefa.org)

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