

**PUERTO RICO ELECTRIC POWER AUTHORITY’S PARTIAL
DISPLACEMENT AS AN ENERGY PRODUCER IN FAVOR OF
PRIVATELY OWNED RENEWABLE ENERGY GENERATING
FACILITIES: EFFECTS AND REPERCUSSIONS ON THE
AUTHORITY’S ABILITY TO COMPLY WITH ITS PRESENT AND
FUTURE DEBT OBLIGATIONS**

ARTICLE

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INTRODUCTION

THIS PAPER EXPLORES THE EFFECTS OF THE PUERTO RICO ELECTRIC POWER Authority’s (PREPA or the Authority) partial displacement as an energy producer by privately owned independent renewable energy power producers and its potential repercussions on PREPA’s present and future debt

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obligations by analyzing whether the displacement takes into account the Authority's present and future debt structure.

As known, Puerto Rico has enacted legislation mandating compliance with a Renewable Portfolio Standard (R.P.S.).¹ This R.P.S. mandates PREPA to provide twelve percent of renewable energy by 2015, fifteen percent by 2020, and twenty percent by 2035, all by privately owned entities. Setting aside the issue of whether or not these goals are aggressive enough, an additional issue has been brought forth regarding Puerto Rico's limitations in promoting renewable energy. Said issue revolves around the constitutional and legal obligations of PREPA to pay its present and future debts in order to fulfill its bondholder obligations. As the contention goes, the worry is that displacing PREPA as an electricity producer will have adverse effects on the ability to meet its present and future debt obligations since its revenue sources will be affected, which in turn would affect its ability to service its debts. This issue is particularly emphasized in PREPA's case since public utilities engage in contracts that may last for decades and changes in its short-term revenue structure can have implications for its long-term debt obligations.

Furthermore, there is an additional issue as to whether PREPA's present debt-load serves as an impediment for the pursuance of a more aggressive R.P.S. as benchmarked by Act No. 82 of 2010. Not only does PREPA's inability to finance large scale renewable energy projects serve as an impediment to developing renewable energy on the island, but also the public policy at both the federal and state level is *designed* to favor the use of privately owned facilities to meet renewable energy goals. Thus, PREPA — as a state designated natural monopoly — does not have the incentives to promote an expansion of the R.P.S. goals, especially when its capabilities to finance its own debts could be adversely affected.

In order to address these and other issues, I will analyze several statements provided by PREPA to its bondholders in its March 26, 2010, power bond issuance.² In addition, I will utilize the Financial Statements audited by the accounting firm Ernst & Young, which were required as a prerequisite to make the bond issuance.³ Lastly, I will use other materials and opinions related to PREPA's current position as an energy producer and its role as a public utility. Once I have

¹ Puerto Rico Energy Diversification through Sustainable and Alternative Renewable Energy Policy Act, Act No. 82 of July 19, 2010, 12 LPRA §§ 8121-8136 (2007 & Supp. 2011).

² Puerto Rico Electric Power Authority, *Official Statement of Power Revenue Bonds, Series XX* (March 26, 2010), <http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Official%20Statement/PREPA%20Revenue%20Bonds%20Series%20XX.pdf> [hereinafter *PREPA's Official Statement*].

³ Ernst & Young, *Puerto Rico Electric Power Authority's Financial Statements, Required Supplementary Information and Supplemental Schedules: For the years ended June 30, 2009 and 2008, With Report of Independent Auditors*, http://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Annual%20Reports/Fin_Statements%20PREPA%20%20June%2030,%202009.pdf [hereinafter *PREPA's Financial Statements*].

established the appropriate background, I will proceed to formulate my opinions and recommendations on the inevitable partial displacement of PREPA as a power producer.

I. PREPA'S BACKGROUND

A. PREPA as a Publicly Owned Utility

PREPA is a public corporation and autonomous governmental instrumentality of the Commonwealth of Puerto Rico.⁴ As such, PREPA is considered a publicly owned utility which has a double mandate to provide reasonable rates to consumers and, at the same time, has to generate a reasonable amount of revenue in order to meet its debt obligations and other operational and capital expenditures.⁵ Therefore, charged rates cannot be deemed to be so excessive that they constitute an onerous burden to the ratepayer since the primary function of a public utility is vested with a public interest towards the consumer and not just a profit motive as with most private companies.⁶ In addition, the rate charged by the utility — and therefore revenue recouped — cannot be so low as to affect PREPA's ability to meet its debt obligations as well as its capital and operation expenditures. The United States Supreme Court has expressed itself over this arduous task of maximizing revenue while at the same time limiting costs to consumers and has recognized that a balance of interest must be made in order to determine the appropriate rate that a public utility may charge.

In *Federal Power Commission v. Hope Natural Gas Co.*, the Supreme Court stated that a public utility's appropriate rate-of-return must be determined by a balance of interest between the consumer's cost as well as the investor's return.⁷ The public utility must have a reasonable rate of return for the capital costs of the business (servicing debt, dividends on the stock, etc.), in addition to the operating expenses. As a result, the Supreme Court specified three conditions of a fair return on invested capital that are determinative to establish the rate, which are: (1) it should be sufficient to maintain the financial integrity of the utility; (2) it should be sufficient to compensate the utility's investors for the risks assumed; and (3) it should be sufficient to enable the utility to attract needed new capital.⁸

⁴ Puerto Rico Electric Power Authority Act, Act No. 83 of May 2, 1941, P.R. LAWS ANN. tit. 22, § 193 (2009).

⁵ *Id.* § 196.

⁶ See *Proprietors of Charles River Bridge v. Proprietors of Warren Bridge*, 36 U.S. 420, 548 (1837) (“While the rights of private property are sacredly guarded, we must not forget that the community also have rights, and that the happiness and well being of every citizen depends on their faithful preservation.”).

⁷ *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 653 (1944).

⁸ *Id.* at 605; see also *Market Street Railway Co. v. Railroad Commission of California*, 324 U.S. 548 (1945).

Therefore, the utility sets its revenue rates in accordance with its capital and operative costs. Nonetheless, the subsequently charged rate must be deemed “just and reasonable,” especially to the consumer.⁹

First, it should be emphasized that the rate that PREPA may charge is based on the aforementioned factors in *Hope Natural Gas*, meaning that the rate that is provided to the consumer must take into consideration — not only the operative costs — but also the costs associated with taking on the debt by the Authority. Secondly, the reader should note that public utilities take on debt positions that last for prolonged periods of time, as can be noted from the most recent Power Bond Official Statement.¹⁰ It is important to emphasize the longevity of these bonds since policy considerations by the Government, which on this island change every so often, should not deviate from these debt commitments, especially the longer term ones. This is particularly important when we consider that the bonds that are issued are based on the public utility’s present and future revenue stream, which in turn is a measure of its financial solidness. The shifting of a considerable amount of energy production away from the public utility into the private sector will — in turn — reverberate in the financial soundness of the utility since it will reduce its overall revenue capacity (especially in the case of PREPA because of its rate-setting model). This would also be significantly problematic if one considers that revenue and cost projections take into account the eventual rise in the price of oil. Therefore, we must look at PREPA’s financial position in order to understand the complexities that might arise from its rate-setting capacity.

B. PREPA’s Financial Position

Presently, PREPA has the most clients and generates the most amount of revenue out of any other municipal utility in the United States.¹¹ Nevertheless, a recent study by the Center for the New Economy (C.N.E.) highlights that PREPA operates considerably worse than its similar situated peers in the United States.¹² The following is a brief overview of what I believe are the most relevant facts relating to PREPA’s financial position pertinent to the expansion of renewable energy sources in Puerto Rico.

⁹ *Id.* at 603 (“Under the statutory standard of just and reasonable it is the result reached not the method employed which is controlling.”).

¹⁰ *PREPA’s Official Statement*, *supra* note 2, at page 45.

¹¹ Center for the New Economy, *Darkness Visible: A Financial Analysis of the Puerto Rico Electric Power Authority* 7 (June 2010), http://www.grupocne.org/publications/darkness_visible_june_2010.pdf [hereinafter C.N.E.’s *Financial Analysis of PREPA*] (noting that for the last reported fiscal year in 2009, PREPA had a total of 1,458,636 clients).

¹² *Id.* at 17-22 (noting, among others, that PREPA’s debt to total assets ratio operates at .86, versus the U.S. Median of .32; total power supply expense per kWh sold is at over two times the U.S. median (\$0.117 v. \$0.0540); energy loss is over a whopping fourteen percent (14.09%) versus the U.S. median of almost four percent (3.99%)).

1. Assets and Liabilities

In 2009, PREPA had total assets of almost 8.8 billion dollars (\$8,781,605,000), a decrease from over 9.2 billion dollars in 2008 (\$9,231,596,000) and total liabilities slightly under its total assets (\$8,742,386,000), which was a decrease from the previous year that was just over nine billion dollars (\$9,044,914,000).¹³

As highlighted by the C.N.E.'s study, PREPA is technically insolvent since it had unconsolidated net assets of *negative* 9.8 million dollars in June 30th, 2009, and almost *negative* \$100 millions in net assets in December 31st, 2009.¹⁴ This worrisome snapshot is also reflected in PREPA's financial losses before contributed capital, which were 163 million dollars in 2009; 323.7 million dollars in 2008; and 96.9 million dollars in 2007.¹⁵

2. Total Debt-Load

In terms of the debt-load, PREPA's financial statements audited by Ernst & Young reported that the outstanding debt was over 6.8 billion dollars (\$6,843,137,000) in both Power Revenue Bonds as well as other borrowings,¹⁶ though the Bond Issuance Report places said number at almost 7.4 billion dollars (\$7,392,142,000).¹⁷ It is particularly noteworthy to see the debt service requirement graph per year until 2040.¹⁸

3. Operating Revenues and Expenses

According to the audited Financial Statements, in 2009 PREPA had total revenues of over four billion dollars (\$4,028,039,000), a decrease of over 350 million dollars reported in 2008 (which was \$4,388,083,000) and total expenses of almost four billion dollars (\$3,966,274,000), a marked decrease from those reported in 2008 which were almost 4.5 billion dollars (\$4,493,412,000).¹⁹ Out of those total expenses in 2009, around 326 million dollars (\$326,165,000) were interest expenses.²⁰ The reader should be aware that the Financial Statements audited by Ernst & Young state different numbers than those reported in the Bond

¹³ PREPA's *Financial Statements*, *supra* note 3, at 14-15.

¹⁴ C.N.E.'s *Financial Analysis of PREPA*, *supra* note 11, at 2.

¹⁵ *Id.*

¹⁶ PREPA's *Financial Statements*, *supra* note 3, at 12.

¹⁷ PREPA's *Official Statement*, *supra* note 2, at 42.

¹⁸ *See id.* at 45; *see also* discussion *infra* Part II.

¹⁹ PREPA's *Financial Statements*, *supra* note 3, at 8.

²⁰ *Id.*

Issuance Statement.²¹ For this Article, I will use the numbers audited according to the Ernst & Young Auditor Report. However, I believe that the Bond Issuance Statement is supposed to reflect said report.

Nevertheless, it is the projected revenue and expenses data points that make this analysis interesting. As per the Bond Issuance Report, PREPA presented several projected revenues and expenses for the years 2010 through 2014. The types of numbers that are being projected by the Authority appear striking. As the report signals, PREPA expects total revenues in 2010 to equal just over 3.6 billion dollars (\$3,604,632,000).²² This decrease is significantly lower than the total revenue reported for the year 2009 as mentioned above (\$4,028,039,000). However, once we analyze the projected expenses for 2010, it is interesting to point out that PREPA is estimating expenses to be reduced to around 2.9 billion dollars (\$2,941,741,00) in 2010, a marked decrease from the almost four billion dollar expenses (\$3,966,274,000) reported in 2009 in the audited Financial Statements.²³ How the Authority will achieve such significant expense reductions is questionable, especially if we consider that PREPA expected fuel costs from oil to decrease from those in 2009.²⁴ This is even contradicted by the Bond Issuance Statement, which projected oil prices to increase.²⁵

Furthermore, and most relevant to the purpose of this paper, PREPA expects purchased power to remain almost constant until the year 2014, averaging almost 740 million dollars (\$738,000,000) in the five years period.²⁶ Such projections do not appear to take into consideration that Puerto Rico's R.P.S. mandates the Authority to provide twelve percent of its generating needs from privately owned renewable power producers by the year 2015. This would imply that total purchased power should increase notably through said period. Thus, it appears that PREPA's projected expenses *do not* take into account the purchasing agreements that should be made before the year 2015 and would constitute an increase in the purchased power expense variable. This might signify that PREPA is not considering the decrease in fuel costs that would be attributed from the displacement

²¹ Compare total revenues and total expenses presented on PREPA's *Financial Statements*, *supra* note 3, at 8 with those contained in PREPA's *Official Statement*, *supra* note 2, at 46. The Financial Statements audited by Ernst & Young state that PREPA had *total revenues* of \$4,028,039,000 in 2009 while the Bond Issuance Report notes that *total revenues* were \$4,007,268,000 in the same period – very similar. However, Financial Statements state that PREPA's *total expenses* were \$3,966,274,000 while the Bond Issuance Report puts total *current* expenses at \$3,377,772,000 – a significant difference.

²² PREPA's *Official Statement*, *supra* note 2, at 50.

²³ *Id.* at 50.

²⁴ *Id.* at 46, 50 (PREPA reported fuel costs in 2009 to be at almost two billion dollars (\$1,919,789,000), yet expected to report a decrease in fuel expense of \$1,529,493,000 for the year 2010).

²⁵ See *id.* at 49; see also U.S. Energy Information Administration, Short-Term Energy Outlook, <http://www.eia.gov/emeu/steo/realprices/index.cfm> (data available shows an expected upward trend in the price of oil since the deflationary period suffered in 2008).

²⁶ PREPA's *Official Statement*, *supra* note 2, at 50.

by these renewable sources. As the C.N.E. Report indicates, PREPA has greater incentives to utilize more costly operations (such as those utilizing oil as a fuel source) than other more efficient methods.²⁷

As the analysis indicates, PREPA sets its targeted rate based on several factors.²⁸ The first element is the Base Rate, which has not changed since 1989 and provides over a billion dollar in revenues each year.²⁹ The second element is the purchase power charge, which comes from the purchased electricity of both AES Corporation (AES) and EcoEléctrica, two privately owned entities that – respectively – produce electricity based on coal and natural gas. According to the Bond Issuance Report (also cited by the C.N.E. study) said charge was around 750 million dollars in 2009 (\$752,610,000).³⁰ Yet, as the Bond Issuance Report and the Audited Financial Statements detailed, PREPA reported purchased fuel costs just over 670 million dollars (\$671,849,000), which would mean that they charged the consumer almost 100 million dollars more than the cost they incurred.³¹ The third element is the fuel adjustment charge, which provides PREPA the power to recoup *all* of the expenses related to the increase in the cost of oil to the consumer. It is particularly striking that in 2009 the fuel adjustment charge totaled over two point one billion dollars (\$2,161,604,000) even though the audited financial statements reported Fuel Costs at less than two billion (\$1,919,789,000), an almost 250 million dollars gain (\$241,815,000).

As the C.N.E. rightly points out, this arrangement does not provide PREPA with an incentive towards a different business model, it also adds that “PREPA’s debt service obligations increase every year [and] the only way it can satisfy the debt service coverage requirement for an ever increasing debt burden is through the fuel adjustment and purchased energy charges.”³² According to the C.N.E., the debt service requirement is “one key to understanding PREPA’s operations.”³³ Said debt requirement has been contractually established and states that total sinking fund payments for principal and interest due must, alongside net revenue, equal a ratio of 1.20.³⁴ Nevertheless, it appears that the rating agencies pressure PREPA to maintain coverage of at least 1.5.³⁵ This pressured debt ratio is

²⁷ C.N.E.’s *Financial Analysis of PREPA*, *supra* note 11, at 25.

²⁸ *Id.*

²⁹ *Id.* at 22 (\$1,071,967,000 in 2009).

³⁰ *PREPA’s Official Statement*, *supra* note 2, at 37; C.N.E.’s *Financial Analysis of PREPA*, *supra* note 11, at 22.

³¹ *PREPA’s Official Statement*, *supra* note 2, at 46; *PREPA’s Financial Statements*, *supra* note 3, at 70.

³² C.N.E.’s *Financial Analysis of PREPA*, *supra* note 11, at 25.

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

actually projected by PREPA in its 2010-2014 projections, which estimate a debt service coverage ratio of 1.61 in 2011, 1.59 in 2012, 1.53 in 2013, and 1.52 in 2014.³⁶

If what the C.N.E. adduces is true (which appears to be correct based on PREPA's own projections), then the Authority has the incentive to maintain the actual business model *as is* since the power to transfer the entire cost of the fuel adjustment charge to the customer does not result in an adverse effect on its own finances. Moreover, bondholders are also getting the added security of maintaining an increase debt-coverage ratio above 1.50, which they are technically not contractually entitled to.³⁷ One can only guess that the present arrangement between the Authority and bondholders, undoubtedly, favors the latter since they are investing in what is considered a relatively low-risk asset.³⁸

Furthermore, the C.N.E. Director, Sergio Marxuach, has indicated a very important *flaw* in the calculation of the charged rate.³⁹ As he indicates, the fuel adjustment charge and the purchased power charge are calculated over the totality of the client's kWh electric consumption instead of being divided proportionally.⁴⁰ He provides an example of a ratepayer that consumes a total of 1,000 kWh in a month. This ratepayer's electric bill is calculated by multiplying the 1,000 kWh consumption by both the fuel charge and the purchased power charge.⁴¹ According to Marxuach, this calculation is incorrect since it applies the fuel charge over the totality of the consumption (the 1,000 kWh) and completely ignores the fact that thirty percent of the electricity consumed by that ratepayer came from AES and Ecoeléctrica, which do not use oil as a fuel source.⁴²

³⁶ PREPA's Official Statement, *supra* note 2, at 50.

³⁷ C.N.E.'s Financial Analysis of PREPA, *supra* note 11, at 25.

³⁸ Electric public utilities involve significantly diminished risk because of the relatively inelastic demand for the service. See Kema, Incorporated, *Feed-in Tariff Designs for California: Implications for Project Finance, Competitive Renewable Energy Zones, and Data Requirements*, CALIFORNIA ENERGY COMMISSION (August 2010), <http://www.energy.ca.gov/2010publications/CEC-300-2010-006/CEC-300-2010-006.PDF>.

³⁹ Administrador, *La Factura de electricidad cobro excesivo*, EL MEJOR FORO DE HISTORIA PUERTORRIQUEÑA (Sep. 28, 2010, 1:00 PM), <http://puertoricohistorico.mejorforo.net/t575-la-factura-de-electricidad-cobro-excesivo#644>. See also Eddy M. Sánchez Hernández, *Pagan los justos por pecadores el hurto de energía eléctrica*, ECONOMÍA 101 (Sep. 29, 2010, 9:30 AM), http://eddy Sanchez Hernandez.blogspot.com/2010_09_01_archive.html (citing Gerardo E. Alvarado León, *El misterio de su factura eléctrica*, EL NUEVO DÍA, Sep. 29, 2010, <https://www.adendi.com/archivo.asp?Xnum=787829&year=2010&mon=9>, where Sergio Marxuach was being interviewed).

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² I would even add my doubts that PREPA would utilize its own facilities during non-peak hours versus those of Ecoeléctrica and AES. In other words, the electricity consumption in any jurisdiction is not the same throughout the day (in some jurisdictions, seasonal variations differ as well, though that is not really the case for Puerto Rico because of our climate). If PREPA *knows* the type of output it can receive from AES and Ecoeléctrica, then it begs the question whether they limit the production of electricity from their *own* sources during these non-peak hours. The eventual result would be

Marxuach points out that the fuel charge should be applied proportionately to the power that is produced by PREPA's oil generating facilities. This means that the fuel charge should apply only to seventy percent of the total kWh consumed.⁴³ Nevertheless, the fuel charge is provided over the totality of the consumption, meaning that PREPA is receiving increased revenue that it otherwise would not, since it did not incur one hundred percent of the total fuel costs.⁴⁴

This rate charging mechanism is what explains the Authority's reluctance to diversify away from oil: *because the Authority receives a premium above its real costs, the transition to renewable sources would eliminate this additional benefit.* As pointed out above, this added premium appears to amount to over 300 million dollars if we consider the difference between what the Authority reports as charged rates to consumers (the added fuel and purchased power charges) and the costs it reported under the Audit Report and the Bond Issuance Statement.

From this arrangement – on which the issued bonds completely depend upon – it becomes apparent that the Authority has influenced the viability of Puerto Rico to expand and diversify to renewable sources of energy, since its debts are based on these aforementioned calculations and revenue streams. If the bonds are being issued according to PREPA's current revenue stream – which benefits from this added premium – then it appears it will be difficult to alter PREPA's business model (and therefore its energy portfolio) to diversify into renewable sources. Nevertheless, PREPA's publicized diversification plan does not concord with the contents exposed in the Bond Issuance Report, which adds even further doubt to the actions of the Authority.

C. PREPA's Energy Profile and Fuel Diversification Plan

1. PREPA's Current Energy Profile

As of 2011, PREPA's energy profile was based primarily on oil generation, with sixty eight percent of electricity being generated from this source.⁴⁵ Only one percent was produced by renewable sources, which are the hydroelectric power plants that have existed for decades.⁴⁶ The rest of the electricity provided by PREPA is from the purchasing power agreements made with Ecoeléctrica

significant savings at certain points in time, since you are not actually using your plants that operate with oil to a higher capacity. This in turn has the effect of decreasing overall costs (you use less oil), but helps maintain revenue up since you're distributing the fuel charge to all kWh that are being produced, regardless of whether or not that kWh was generated by an oil-based facility.

⁴³ C.N.E.'s *Financial Analysis of PREPA*, *supra* note 11, at 25.

⁴⁴ *Id.*

⁴⁵ Puerto Rico Electric Power Authority, *Operational Diversification: Fuel Diversification Plan* (June 2011), <http://www.aeepr.com/INVESTORS/DOCS/Oerational%2oProfile/Fuel%2oDiversificatio n%2oPlan2.pdf>.

⁴⁶ *Id.*

(which supplies twenty three percent from natural gas sources) and AES (which supplies eight percent from coal sources).⁴⁷

2. PREPA's Fuel Diversification Plan as Publicized on its Website

According to PREPA's fuel diversification plan as presented on its website, the total generating capacity from all sources is expected to be around 6,573 MW in 2013,⁴⁸ though it should be noted that the Bond Report states that dependable capacity will be 5,786 MW.⁴⁹ Fossil-fuel based facilities would encompass eighty-nine percent of the total, divided in the following way: 4,609 MW from natural gas sources (70%); 776 MW from crude oil sources (12%); and 454 MW from coal sources (7%). Renewable energy would total 734 MW (11%) and would be divided in the following way: 202 MW from solar energy (28%); 224 MW from wind energy (31%); 198 MW from waste-to-energy (27%); 100 MW from hydroelectric sources (14%); and 10 MW from biomass (1%).

Nevertheless, this publication by PREPA contradicts what is presented in the Bond Issuance Report since the Authority specifically stated that it expected oil to account for forty eight percent of total electricity sources by 2013 and twenty six percent "on a long-term basis."⁵⁰ Thus, it becomes apparent that PREPA's advertised fuel diversification plan does not follow what is publicized in the Bond Issuance Report. This fact is of great significance for a multitude of reasons; including the obvious damage that a slow transition away from oil will cause to consumers. The other problem is that it begs the question of whether or not the Authority will be able to comply with the R.P.S. mandate. Nevertheless, and as explained in the sections above, the incentive for PREPA to move away from its current business model is minimal.

II. OPINIONS AND THOUGHTS

Before I begin my personal analysis, I would like to point the reader to Table I.⁵¹ Said table illustrates the amount of debt service that the Authority will have to pay per year until 2040. As previously mentioned, this data-set is important to consider because of investor pressure to maintain the debt service requirement above 1.5, even though PREPA is not legally obliged to follow through with this ratio. If we look at the *Total Outstanding Bonds Debt Service* column, we can see that the debt service will remain relatively constant between 2010 and 2017, at

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ PREPA's *Official Statement*, *supra* note 2, at 33.

⁵⁰ *Id.* at 7.

⁵¹ *Id.*, at 45 (for the reader's convenience, a copy of the table contained in the report is available on the last page of this article).

almost half a billion dollars (\$492,000,000) during this period. After 2017, the debt service decreases to an average amount of just over 460 million dollars (\$461,402,655) between 2018 and 2025. After 2025, the amount of debt to be serviced drops down significantly.

Due to the precarious state of the Authority's finances, assuming more debt would seem very unlikely in the short-term. This is problematic to highlight because — as exposed above — the legislative mandated R.P.S. goals have been slated for the period when the Authority has the most amount of debt to pay off to its creditors. Will PREPA be able to manage its relatively high debt payments in the short-term, while at the same time being pressured to expand Renewable Energy capacity? Will it need to incur in additional debt in order to meet the R.P.S. goals? If the idea is to move PREPA away from oil-based production facilities, then the political risk of having the fuel adjustment charge altered so that it considers proportionately the source of the electricity production could mean a serious blow to PREPA's finances. As we have seen, even with this fuel adjustment premium, PREPA is still operating under sub-optimal conditions.

If we take the year 2013 as an example, which is when PREPA is estimating that eleven percent of its energy will come from renewable sources, the Authority will have almost half of its energy production provided by independently owned power producers (assuming that the production from AES and EcoEléctrica remain at a constant thirty percent). These sources will not use oil to generate their electricity, which means there will be undoubtedly pressure to recalculate. Therefore, the question that I am posing is whether the reduced fuel costs would compensate for the eventual reformulation of the tariff formula. If the answer is in the negative, then we have a significant issue because the debt servicing obligations will be affected in the short-term, which is when most of the debt has to be paid off. While a legitimate State interest could be recognized in such case, the United States Supreme Court and Puerto Rico Supreme Court have expressed themselves over the modification of contractual clauses between the State and private entities.

In the seminal case *United States Trust Co. of New York v. New Jersey*,⁵² the Supreme Court was presented with a controversy where New York and New Jersey repealed a 1962 covenant in order to allow the Port Authority of New York and New Jersey to incur in additional debt, which would consequently diminish pledged revenues and reserves to bond holders. In its opinion, the Supreme Court concluded that the New Jersey Law violated the Contract Clause of the United States Constitution⁵³ since the complete repeal of the law eliminated an important security provision which was a purely financial obligation and that impairment — allegedly justified as necessary for implementing the states' plan for encouraging private automobile users to shift to public transportation — was

⁵² *United States Trust Co. of New York v. New Jersey*, 431 U.S. 1 (1977).

⁵³ U.S. CONST. art. I, § 10, cl. 1.

neither necessary to achieve the states' plan nor reasonable in light of the circumstances.⁵⁴ The Supreme Court adopted a test where the State would have to prove that the law was reasonable and necessary to serve an important public purpose in order to survive judicial scrutiny.⁵⁵ Nevertheless, the State failed to show such an interest.

With regards to Puerto Rico's Constitution, the Bill of Rights explicitly states that "[n]o laws impairing the obligation of contracts shall be enacted."⁵⁶ This constitutional guarantee limits the Government's power to interfere with contractual obligations between private parties, as well as contractual obligations taken up by the State.⁵⁷ When considering the validity of statutes under the contracts clause, judicial scrutiny will depend on whether the contract is between private or public entities.⁵⁸ When the modification occurs with a public contract, judicial scrutiny should be more rigorous to ensure that the action does not entirely benefit the State.⁵⁹

The Puerto Rico Supreme Court in *Domínguez Castro* delineated the test that courts should apply when the Government interferes in a contractual evaluation. First, courts need to decide if a valid contractual relationship exists or not.⁶⁰ Second, courts need to determine whether the alleged modification of the contractual relationship is substantial or severe, which would happen if the modification of the contractual obligation adversely affects the essential terms and conditions of the contract.⁶¹ Once these two elements have been established, the courts must inquire over a third element, which is whether the governmental interference responds to an important governmental interest in the benefit of

54 *United States Trust Co.*, 431 U.S. at 31.

55 *Id.* at 29.

[A] State cannot refuse to meet its legitimate financial obligations simply because it would prefer to spend the money to promote the public good rather than the private welfare of its creditors. We can only sustain the repeal of the 1962 covenant if that impairment was both reasonable and necessary to serve the admittedly important purposes claimed by the State.

Id.

56 PR CONST. art. II, § 7.

57 *Domínguez Castro v. ELA*, 178 DPR 1, 80 (2010).

58 *Id.*

59 *Id.*

60 *Id.*

61 *Id.* at 80-81. See also *id.* at 83-84 (citing *Baltimore Tchrs. UN. v. Mayor, etc.*, 6 F.3d 1012, 1017 (4th Cir. 1993) ("[A]n impairment is substantial at least where the right abridged was one that induced the parties to contract in the first place.") and *Buffalo Teachers Fed'n v. Tobe*, 464 F.3d 362, 368 (2nd Cir. 2006) ("[To assess whether an impairment is substantial, we look at 'the extent to which reasonable expectations under the contract have been disrupted.'")).

the general welfare.⁶² If the modification is reasonable and necessary to further the public interest, the Court will sustain the law's validity.⁶³

Thus, the question that we must pose is whether the promotion of renewable energy sources, especially through a more aggressive R.P.S., would alter the risk profile of PREPA's bonds and would constitute a material breach of the contractual obligation between bondholders and the state owned public utility. In addition, we would also have to pose the question of whether the Government's action affecting said bonds would be reasonable and necessary as per the language in *Domínguez Castro* and *United States Trust Co.* While a controversy over such an issue has yet to arise, it is apparent that the Government, if it ever did adopt policies that could affect the risk profile of the issued bonds, would be hard pressed to defend these actions. The C.N.E. study, for example, argues that economic development is an important governmental interest that would survive such scrutiny. While we have yet to see whether an argument like this would hold before the present Puerto Rico Supreme Court, I believe that we can think of other alternatives to deal with PREPA's debt woes.

As we have seen, PREPA's goal is to maintain or improve its debt-service ratio. Therefore, policy goals towards promoting renewable energy should consider targeting that specific issue. Firstly, PREPA could raise rates across the board by targeting the base rate, which has not changed since the late eighties. This action, however, would be politically risky because of the sensitivity in increasing electricity prices through State action. Nevertheless, it is my opinion that the right balance is to reduce the costs associated from the fuel and increase revenue *in order to stabilize prices in the short-term*. In other words, my contention is that the short-term goal of the Authority should not be directed at lowering the price of electricity immediately. Rather, I advocate that a gradual adoption of sensible policies – timely made – would help deal with the present situation.

Secondly, I would also propose the establishment of special incentives with the intention to transfer part of the debt-holdings from the Authority to the privately owned renewable power producers. Simply put, due to the amount of financial subsidies available at both the federal and state level, it might be possible to calculate the debt-to-watt displacement of the renewable power facilities and include such an arrangement as an added incentive for the renewable power producers, PREPA and the bondholders. For example, supposing that the numbers provided by PREPA for 2013 are correct, whereas eleven percent of total energy — constituting 734 MW out of an estimated 6,573 MW of total capacity — were produced by renewable energy.

⁶² *Id.* at 81.

⁶³ *Id.* at 81-84. (Puerto Rico Supreme Court applied the “reasonable and necessary” test applied by the U.S. Supreme Court in *United States Trust Co. of New York v. New Jersey*, 431 U.S. 1, and highlighted the U.S. Supreme Court's reluctance to find in favor of the State because other less drastic and severe alternatives existed).

Now, assuming that those power-purchasing agreements would start in 2013, we could divide the outstanding debt for the year 2013 and divide it by the corresponding MW measurement. Therefore, according to Table I, total outstanding bond debt service would be equal to almost 500 million dollars (\$498,645,130). The corresponding percent of that debt, that could be attributed to the displaced power by private entities (the ten percent going to the privately owned entities),⁶⁴ would equal almost fifty million dollars (\$49,645,130), specifically almost 68 thousand dollars per MW (\$67,935/MW). One could then imagine a situation where the private entities would buy that debt and keep that in their Balance Sheets, which would reduce the overall debt-load to the Authority. In other words, debt incurred by the renewable power producers will be treated differently due to its *green* status. The Authority could sell the corresponding debt to the renewable power producer who could in turn claim tax benefits on the debt that the Authority would otherwise not have. The idea is simply to move the debt away from the Authority and into the power producers, which would maintain PREPA's more favorable debt-to-service ratio. The independent renewable power producer would then pay off the debt but claim super deductions and other proportionate tax benefits due to its *green status*.⁶⁵ While this proposal is just an idea, a situation where the overall preferential treatment of green energy would facilitate this type of arrangement could be imaginable, and could even be welcomed by bondholders.⁶⁶

Lastly, it is important to emphasize that such a recommendation should not be done independently from other policy initiatives. I suggest that: (1) slightly increasing the base rate would ensure additional revenue for the Authority; (2) transferring the corresponding debt-burden would provide an incentive for the Authority (as well as the renewable power producers if combined with tax incentives); and (3) the Government's final goal should not be to reduce prices in the short-term; it should be to attempt to stabilize prices in the short to medium term in order to reduce prices in the long term. Probably, a more aggressive R.P.S. could be achieved if such sensible policy is taken.

⁶⁴ It should be emphasized that one percent is being provided by the hydroelectric dams owned by PREPA, which does not count.

⁶⁵ The existence of such *credits* at the federal tax level is beyond the scope of this Article, nevertheless, Puerto Rico Green Energy Incentives Act, Act No. 83 of July 19, 2010, 13 LPRR §§ 10421 – 10446 (2007 & Supp. 2011), provides certain benefits at the State tax level, in addition to those suggested in this Article.

⁶⁶ It is important to emphasize that public utilities are normally assigned long-term contracts, which involve lesser risk than other business endeavors. If you reduce the overall risk profile of the debt, then bondholders would possibly welcome such an arrangement.

CONCLUSION

In sum, the Authority has a difficult financial position where it has little incentive to let go of its grip from the energy production sector. Although not every issue has been highlighted in this paper, some of them have been considered in our analysis.⁶⁷ From these issues it is noticeable that PREPA operates even though it is technically insolvent and has a high debt-load. Moreover, PREPA recoups an additional premium from its ratepayers from both the purchased power charge and the fuel-adjustment charge. Lastly, we have seen that PREPA’s projected balance sheets do not appear to calculate future costs accurately and completely omit the eventual displacement of twelve percent of energy sources from renewable power producers. Thus, the same saga that we have seen the Authority playing will, undoubtedly, continue in the near-term.

*Table 1. Debt Service Requirements*⁶⁸⁶⁹

The Bonds					
Year Ending June 30	Outstanding Bonds Debt Service	Principal	Interest	Total Debt Service	Total Outstanding Bonds Debt Service
2010	\$471,756,876	-	\$1,769,420		\$473,526,296
2011	459,316,389	-	-		459,316,389
2012	462,486,065	-	-		462,486,065
2013	476,874,792	-	21,770,338		498,645,130
2014	476,532,696	-	43,540,675	43,540,675	520,073,371
2015	461,281,675	-	43,540,675	43,540,675	504,822,350
2016	456,270,562	-	43,540,675	43,540,675	499,811,237
2017	470,884,505	-	43,540,675	43,540,675	514,425,180
2018	423,034,513	-	43,540,675	43,540,675	466,575,188
2019	421,933,328	-	43,540,675	43,540,675	465,474,003
2020	438,641,473	-	43,540,675	43,540,675	482,182,148
2021	440,622,844	-	43,540,675	43,540,675	484,163,519
2022	418,929,656	-	43,540,675	43,540,675	462,470,331
2023	418,664,043	-	43,540,675	43,540,675	462,204,718

⁶⁷ A subject not discussed in this paper, but adequately discussed in the C.N.E. study, are the various exemptions provided to hotels, churches, low income residents, etc. and the high percentage of energy loss suffered by the Authority; all of these are costs eventually recouped by the ratepayer.

⁶⁸ Debt service requirement on all Power Revenue Bonds outstanding on the date hereof, including Rural Electrification Bonds, prior to giving effect to the issuance of the Bonds. Debt service for fiscal year 2010 includes interest paid in January 2010.

⁶⁹ The numbers shown in this table are reduced by the interest that was capitalized through the issuance of the Bonds in the following amounts: approximately \$8.4 million due on July 1, 2010. \$21.8 million due on each of January 1 and July 1, 2011 and 2012, and \$21.8 million due on January 1, 2013.

2024	396,568,448	-	43,540,675	43,540,675	440,109,123
2025	370,191,540	\$14,310,000	43,540,675	57,850,675	428,042,215
2026	347,396,409	22,370,000	42,878,838	65,248,838	412,645,247
2027	347,427,657	26,025,000	41,772,488	67,797,488	415,225,145
2028	317,609,031	-	40,427,138	40,427,138	358,036,169
2029	281,704,970	-	40,427,138	40,427,138	322,132,108
2030	281,644,723	-	40,427,138	40,427,138	322,071,861
2031	239,326,504	-	40,427,138	40,427,138	279,753,642
2032	191,100,525	21,030,000	40,427,138	61,457,138	252,557,663
2033	191,155,250	22,185,000	39,217,913	61,402,913	252,558,163
2034	143,294,938	32,165,000	37,942,275	70,107,275	213,402,213
2035	143,341,913	33,595,000	36,232,413	69,827,413	213,169,326
2036	\$98,014,850	80,985,000	34,463,675	115,448,675	213,463,525
2037	\$98,018,575	85,540,000	29,901,113	115,441,113	213,459,688
2038	\$47,860,075	140,190,000	25,410,263	165,600,263	213,460,338
2039	-	168,815,000	18,050,288	186,865,288	186,865,288
2040	-	175,000,000	9,187,500	184,187,500	184,187,500
Total	\$9,791,884,821	\$822,210,000	\$1,063,220,308	\$1,885,430,308	\$11,677,315,313