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Public Service Regulatory Board Puerto Rico Energy Bureau World Plaza Building 268 Muñoz Rivera Ave. San Juan, PR 00918

Submitted via email to comentarios@energia.pr.gov Re: Case Number CEPR-MI-2018-0010

Dear Chairman Avilés and Commissioners Rivera, Mateo, Palou and Ramos:

On behalf of the Institute for Energy Economics and Financial Analysis (IEEFA), the Public Utility Law Project of New York, CAMBIO P.R. and El Puente Latino Climate Action Network, we appreciate the opportunity to comment¹ on the Puerto Rico Energy Bureau's proposed "Regulation for Wheeling" issued on July 23, 2019.

General Comments

We note initially that this proposed regulation far exceeds the scope of Act 57-2014 in creating the structures for a wholesale electricity market in Puerto Rico. Such a market was not mandated or suggested in Act 57-0214 and is unnecessary for the implementation of a wheeling mechanism. The Bureau's explanation for this act is that it is revising the previous draft "Regulation for Wheeling" (issued February 28, 2019) in response to the passage of Act 17-2019, which establishes Puerto Rico's new energy policy. The resolution cites to no source for the authority for this action more specific than a duty to "regulate the wheeling mechanism in Puerto Rico in accordance with the applicable laws" (Section 5.10 of Act 17). Despite much of the draft regulation focusing on the structures needed to establish a wholesale electricity market in Puerto Rico, Act 17-2019 does not require the Energy Bureau to conduct a study on the viability and convenience of a wholesale electricity market until 2025². This focus on a wholesale electricity market is at best premature in our opinion, and to our knowledge, the Bureau has not conducted such a viability and convenience study, despite promulgating this draft regulation.

¹ We gratefully acknowledge the assistance of Anna Sommer and Chelsea Hotaling of Energy Futures Group in drafting these comments.

² "El Negociado de Energía deberá realizar un estudio sobre la viabilidad y conveniencia de establecer en Puerto Rico un mercado eléctrico basado en la libre competencia y presentará un informe con los resultados de dicho estudio ante la Asamblea Legislativa y al Gobernador en o antes del 30 de junio de 2025." (Ley 17-2019, Artículo 1.19)

It is unclear under what legal authority the Bureau is developing regulations for these new market structures, and thus while we do not render a legal conclusion herein, we question whether the Bureau is acting *ultra vires*.

The Executive Summary of the draft resolution notes the potential for wheeling to "reduce energy costs and maximize energy efficiency, as well as to foster investment in Renewable Resources at competitive costs."

However, it is at best unclear how these goals will be met by the proposed regulation. The uncapped development of wheeling is likely to impose stranded costs on non-wheeling customers, resulting in a mechanism that may lower energy cost for some while certainly raising energy costs for others. There is further nothing in the regulation that would suggest, or provide documentable support for the proposition that wheeling would result in either greater end-use energy efficiency or the more efficient use of existing generators. And, finally, while a wheeling mechanism could potentially promote greater investment in renewable energy, there are more direct regulatory mechanisms that could be applied to promote the development of small-scale renewable power generation. We will discuss this in more detail below.

As the Bureau is well aware and has documented extensively in prior orders, Puerto Rico's electrical system is expensive, replete with sunk and stranded costs, and barely functional. PREPA has historically been unable to present a well-supported budget to the Bureau³ and it has a well-known history of entering into expensive and mismanaged contracts. Changes to the ownership structure of PREPA's assets will not make its existing generators more flexible, less expensive, or less prone to forced outage. Given this situation, layering on the additional bureaucracy and expense contemplated by this regulation does not achieve the goal of lowering costs, does *not* make sense at this time (and probably not at any future time), and is demonstrably not in the public interest.

Our general comments are divided into five sections, related to the proposed regulation's provisions on wheeling, wholesale energy markets, retail choice and consumer protection and on a proposed alternative mechanism for promoting the development of small-scale renewable energy.

Wheeling

Provisions for wheeling were established by Act 57-2014. However, we note that Act 57 requires that the Bureau "shall establish the rules and conditions to ensure that wheeling does not affect in any way whatsoever (including technical problems and rate increases) nonsubscribers of wheeling services, as well as the rules necessary for implementation of a system that allows

³ Puerto Rico Energy Commission Case No. CEPR-AP-2015-0001, Expert Report of Jeremy Fisher and Ariel Horowitz, November 23, 2016. (See p. 186: "PREPA's FY 2017 operating budget is effectively unsupported.")

⁴ See Puerto Rico Energy Commission Case No. CEPR-AP-2015-002, Final Resolution and Order, September 23, 2016 (Paragraph 179) and Puerto Rico Energy Commission Case No. CEPR-AP-2016-0001, Restructuring Order, June 21, 2016 (Paragraphs 261 to 271).

⁵ The Public Utility Law Project of New York ("PULP") does not take a position on wheeling other than to note that it supports measures that demonstrably lower rates and prices for low-income/fixed-income consumers, and buttress reliability, resiliency, safety and adequacy of supply.

exempt business described in Section 2(d)(1)(H) of Article 1 of Act No. 73-2008, as amended, known as the 'Economic Incentives Act for the Development of Puerto Rico,' or similar provisions in other incentive laws, to purchase electric power from other entities through wheeling services." [emphasis added]

Nonsubscribers of wheeling services are likely to be harmed by the loss of load from PREPA that wheeling would likely imply, absent significant study and measures designed to avert such harms. In contrast, loss of load from wheeling has not been factored into PREPA's IRP nor are there any indications that the implications of that loss of load on rates been fully thought through. Even if PREPA could properly assign the resulting stranded costs to retail customers that is no insurance against a "death spiral" of raising rates to cover those stranded costs. Such a spiral would incentivize large consumers to exit PREPA's system to various means of self-supply, and then rates would need to be increased to cover stranded costs. This is critical because not only is it in contravention to Act 57, but it is expected that PREPA's load will continue to decline meaning that there will already necessarily be stranded costs in the future and rate increases to cover those costs.

If the purpose of the wheeling regulation is to allow for industrial customers, large commercial customers, cooperatives, municipalities, and microgrids to use PREPA's transmission and distribution infrastructure to facilitate developing their own power supplies, then this must be carefully planned for to minimize the problem of stranded costs as well as the overbuilding of generation by PREPA based on overstated load forecasts. In particular, we are concerned that PREPA's June 2019 Integrated Resource Plan filing did not take into consideration the implementation of wheeling, even as a sensitivity to its load forecast. Such a failure to plan could well exacerbate the likelihood of stranded costs and overbuilding of generation.

We strongly recommend that PREPA be directed to perform a study of the process for and impact of establishing an open access transmission tariff as well as assess the appetite for wheeling by potential users, i.e., industrial, municipal and cooperative consumers of electricity. Further, because Act 57 is explicit about not harming nonsubscribers of wheeling services, PREPA should explore, in the IRP, how its preferred expansion plan changes with the exit of varying levels of load. Finally, since one of Puerto Rico's overarching policy goals is to transition to 100% renewable generation, there must be a study of the existing and proposed distribution systems' hosting capacity for distributed energy resources. We argue that all of these studies should be completed before the type of changes contemplated in the proposed regulation for wheeling be implemented, and the need for such comprehensive and careful study to avert economic dislocation is implied in the lead time prior to the 2025 study provided for in Act 17-2019.

Wholesale energy market

The proposed regulation appears to presuppose the need for, and envisions the establishment of, a wholesale energy market in Puerto Rico. It also proposes that a System Operator would oversee the rules of a market for the sale of electricity by private generators, similar to the wholesale electricity markets that exist in many U.S. jurisdictions. We re-iterate that this goes far beyond the scope of wheeling and is not necessary for the establishment of wheeling. As stated at Section

1.10(B)(2) of the draft regulation, the System Operator would establish a balancing price mechanism "on an hourly or sub-hourly basis for the purpose of enabling buyers and sellers of electricity to settle differences between electricity generation and electricity demand." Despite this modeling upon the existing mainland U.S. system of regional transmission operators ("RTOs"), the proposed regulation includes no measures to guarantee transparency of such a system, the lack of which has been a major failing of RTO markets.

In the mainland U.S., wholesale electricity markets were proposed to take advantage of the economic efficiencies arising from integrating multiple utility generation systems into a single market, allowing for economic dispatch of generating units across a broader geographic region to potentially lower costs. Obviously this geographical advantage is not available to Puerto Rico. Nor would Puerto Rico have the resources available to even the smallest single-market independent system operator in the mainland United States.

Puerto Rico's wholesale energy market would be more than 10 times smaller than the smallest wholesale market in the mainland United States, the New England Independent System Operator, which manages 350 dispatchable generators. Additionally, wholesale electricity markets in the various States were supposed to incentivize the development of new generation facilities and lower energy supply costs, neither of which can objectively be proven to have occurred absent the influence of plunging natural gas prices due to hydrofracking — also largely unavailable to Puerto Rico as a mitigating factor. We are deeply skeptical that either of these outcomes — more efficient dispatch or the development of new resources — is likely to occur to any significant extent through the implementation of a wholesale electricity market in Puerto Rico. Absent such outcomes, imposing an ISO structure merely adds costs, administrative overhead and lessened transparency.

Indeed, there has been no articulation of why a wholesale market would lead to more efficient dispatch, or any evidence to support that reasoning. Current limitations on dispatch - including contractual provisions, minimum run times, and excessive forced outage rates - are not cured by the presence of a wholesale energy market. To the extent those and other limitations continue to govern generator output, a wholesale market would not provide the system operator with any tools to optimize short term dispatch that are not already available to PREPA.

Further, as ownership/operational control of units may change in Puerto Rico there is the strong likelihood that an operator will be able to exercise market power. And one of the Bureau's technical advisors, the Regulatory Assistance Project (RAP) noted in a 2004 report for a Chinese regulatory commission:⁷

Key elements of a sound market structure to address market power issues include:

⁶ ISO New England, "Resource Mix," Last accessed: March 26, 2019. https://www.iso-ne.com/about/key-stats/resource-mix/

⁷ SERC During the 11th Five-Year Plan: Building an Effective Regulatory Framework. Prepared for the State Electricity Regulatory Commission. Retrieved from https://www.raponline.org/wp-content/uploads/2016/05/rap-serc-buildingeffectiveregulatoryframework-2004-12.pdf

• An Adequate Number of Competing Generators. Market power will exist in any market, submarket, or time period in which generators have the capability to raise prices or threaten system reliability by withholding generation. The market power of generators is not likely to be eliminated solely by dividing up the generation sector into six or so competing companies. Many more are needed. For example, Argentina has nearly 40 competing generation companies, with the largest having no more than 15% of total capacity. The NORD POOL has more the 50, of which the largest accounts for less than 10% of the market. If ownership of generation is concentrated within a constrained area, the owner, even though it may have a relatively small part of the total generation in the region, may be able to exercise market power.

If the premise of the proposed regulation is to promote long-run efficiency by providing an economic incentive for the addition of new generation and the retirement of existing generation such a presumption is highly dubious. First, land and fuel delivery constraints limit both the scope and scale of new generation – there are limited sites appropriate for the construction of new power plants and therefore limited parties who can build new generation. Second, as in other markets, purely merchant generation is unlikely to come online⁸ without some form of subsidy due to risk that the generator cannot achieve a reasonable return on investment (ROI) because of such factors as uncertain and volatile power prices, uncertain and volatile fuel prices, declining demand for electricity, and other factors that could change radically over the lifetime of the investment. Normally, new generation needs a long-term contract to secure financing for construction and given the uncertainties and volatilities in Puerto Rico's energy markets there is no reason to think it would be any different. If it is a long-term contract that brings new generation online, then the question again becomes, what public good does a wholesale market convey on that transaction?

Finally, we note that the establishment of a wholesale electricity market is at odds with the market structure created by Law 120 and possibly also by other provisions of the draft regulation. Law 120 envisions not a wholesale electricity market but a series of long-term, bilateral contracts for new generation with such resources dispatched by an independent transmission and distribution concessionaire. This builds on the model currently in place in Puerto Rico, in which PREPA is responsible for the dispatch of privately owned generators under long-term contract, including the AES coal plant and EcoEléctrica natural gas plant. Efficient dispatch of a utility system can certainly be achieved through this model, a wholesale market is not a prerequisite.

The draft wheeling regulation also appears to contemplate that wheeling customers will enter into contracts with Competitive Electric Power Service Companies for generation service. Given that, as

⁸ According to the American Public Power Association, only 7 percent of new capacity built in 2015 was built on a purely merchant basis. Myriad state level policy and regulatory actions and long-term contracting supported the remainder of capacity built in that year. https://www.publicpower.org/blog/increase-merchant-generation-capacity-positive

⁹ Law 120-2018 authorizes the Public-Private Partnership Authority to establish partnership contracts for new generation and other electrical system functions. The request for qualifications recently issued for the transmission and distribution concession (http://www.p3.pr.gov/assets/p3a-rfq-2018-2-td-system-project.pdf) specifies that the concessionaire will be responsible for power purchasing and for generation scheduling and dispatch (see Section 2.3.1).

stated above, market pricing is typically insufficient to incentivize the development of new generation, such contracts will likely be based on the levelized cost of the new resources developed, not on the wholesale energy price.

In short, if the draft regulation and Law 120-2018 contemplate the Transmission and Distribution Provider purchasing electricity from private generators via long-term contract and Wheeling Customers (industrial, large commercial, municipal, cooperative and microgrid entities) also procuring electricity through bilateral contract, it is unclear what would be the purpose of establishing a balancing price mechanism and who would actually pay this price.¹⁰

If Puerto Rico's electricity market is indeed transitioning towards a bilateral contracting structure, there is no reason why PREPA or a subsequent entity cannot economically dispatch these units without a wholesale market structure, along as this is not precluded by contract terms (such as take-or-pay provisions). Indeed, given PREPA's history of contracting irregularities, ensuring that PREPA and the Public-Private Partnership Authority get these contracts right is far more important for customer rates than any conjectured incremental benefits (if any) that might arise from the implementation of a wholesale market.

Finally, we note that two of the public policy goals established by Law 17-2019 are to "establish an Electrical System model that maximizes the use of the energy resources available and that empowers the consumer to be part of the energy resources portfolio through the adoption of energy efficiency strategies, demand response, the installation of distributed generators, among others;" and "to design an electric power grid that takes into account the development and integration of community solar, wheeling, the creation of microgrids, and electric cooperatives or energy cooperatives as alternatives and tools to improve the access to renewable energy and the electric power grid's resilience to natural disasters." These goals of empowering consumers to play a more active role in the generation and consumption of electricity through the development of more distributed energy resources owned by different actors (including private parties, cooperatives and municipalities) does not require a market at the wholesale level. Indeed, wholesale markets were developed in the mainland United States to manage the more efficient dispatch of utility-scale generation and such markets have struggled to develop new rules and protocols for the fair integration of distributed energy resources. Further, Hawaii, where one in three households has rooftop solar, achieved this dramatic penetration of distributed generation without a wholesale energy market construct. For Puerto Rico to seek to impose such a construct at the same time as it moves away from a reliance on centralized generation makes little sense.

Retail choice

Unlike the February 28, 2019 draft regulation, the July 23, 2019 draft regulation appears to no longer contemplate the introduction of retail choice in Puerto Rico, although we note that the regulation is not entirely clear on this point. The new regulation eliminates what was Article 13 of the previous draft regulation ("Regulation of Energy Service Companies"), which regulated the sale of electricity by Energy Service Companies to retail customers. However, the executive summary of the new draft regulation (Section 1.04) still states that one of the purposes of the draft

¹⁰ As noted below, the draft regulation no longer appears to contemplate retail choice.

regulation is to "enable any Person to make an informed decision in choosing an Electric Power Service Company" – which is precursor language to "retail choice".

We urge the Bureau to clarify in its final regulation that the regulation will not create a market to enable non-wheeling customers (i.e. customers that are not industrial, large commercial, cooperative, municipal or microgrid customers) to purchase electricity service from competitive electricity suppliers. As we have stated previously, we strongly oppose the establishment of retail choice in Puerto Rico. States' experiences with retail suppliers of electricity to residential customers overwhelmingly demonstrate that many energy service companies engage in predatory pricing, misleading offers and inadequate protections, especially when marketing to low-income customers. ¹¹ We believe our concerns are consistent with prior advice given by the Bureau's technical advisor, Synapse Energy Economics. For example, in 2002, Synapse wrote:

Our foremost recommendation is that the risks must be carefully weighed against the potential benefits before establishing a competitive retail electricity market. Retail competition should only be pursued if it can be demonstrated that the benefits outweigh the risks.

A smoothly functioning, well-designed, competitive wholesale electricity market is one of the most important conditions necessary to reduce the risks and increase the potential benefits of retail competition. The appropriate design and structure of the retail market is also necessary to achieve the benefits of retail competition; including the design of the shopping credits, the availability of competitive marketers, and provisions for aggregation or competition to provide standard offer service. If these conditions are not in place, the risk may not be worth taking."12

We note also that roughly one-third of the "retail choice" states are reversing course and/or adopting far stricter regulations after comprehensive studies indicating such markets result in increased costs for consumers, and particularly for vulnerable households.¹³

Consumer Protections

While we are not clear on whether the Bureau is promoting retail choice or not with this regulation, we are concerned by the erosion of consumer protections in the proposal. The Bureau eliminated sections from the prior proposed regulation that dictated the oversight of market

¹² Electricity Restructuring Activities in the US: A Survey of Selected States (March 20, 2002). Prepared for the Arizona Corporation Commission Utilities Division Staff. Retrieved from https://www.synapse-energy.com/sites/default/files/SynapseReport.2002-03.ACC_.Electricity-Restructuring-Activities.02-08.pdf

¹¹ See footnote 3 above.

¹³ See, e.g., in Massachusetts, https://www.mass.gov/news/ag-healey-calls-for-shut-down-of-individual-residential-competitive-supply-industry-to-protect and http://www.nclc.org/images/pdf/pr-reports/competitive-energy-supply-report.pdf; and see in Illinois, https://www.chicagobusiness.com/utilities/ag-madigan-scrap-retail-electricity-sales-illinois-households, and see Illinois' move to legislate a prohibition of retail energy service companies serving low/fixed-income consumers, http://www.energychoicematters.com/stories/20190423aaa.html; similarly, see Connecticut, https://www.ct.gov/occ/lib/occ/2-4-19_press_release.pdf; and see the NCSL conclusion that 12 of the top 15 most expensive residential electric rates have "retail choice" and/or restructured markets, http://www.ncsl.org/Portals/1/Documents/energy/ESTF_Viator_present_7-18_32627.pdf.

participants and the establishment of an independent Market Monitor seemingly in favor of the following provisions of Article 5:

- A. Two years from the date of the approval of this Regulation and, at least every two years thereafter, the Energy Bureau will evaluate the implementation of Wheeling, including its operations and the current rules. The Energy Bureau may propose changes to these rules and implement measures to promote and enhance Wheeling.
- B. If the judgment of the Energy Bureau is there is evidence of market manipulation, market power abuse, discriminatory or preferential treatment within the protocols necessary for the implementation of Wheeling, the Energy Bureau, by Order may require the establishment of an Independent Monitor and shall set forth the structure, compensation, duties, and responsibilities of the Independent Monitor.

We are amazed that the Bureau would decline to investigate alleged market manipulation, market power, or discriminatory or preferential treatment on an ongoing basis and instead do so every two years particularly given the history of corruption and kickbacks within PREPA, and the fact that such a lax approach does not uphold the public interest. And these provisions are also inconsistent with prior recommendations from Synapse on best practices in market monitoring:¹⁴

"The market monitor should be independent and charged with a "public interest" responsibility to ensure that markets are workably competitive both in real-time and in the longer-term.

Recommendation #1: The MMU must closely monitor, and ideally be physically present or adjacent to, the control room dispatch.

Recommendation #2: The MMU should report within the RTO to the Board of Directors. The MMU should work closely and collaboratively with the CEO and the RTO staff that has market design responsibilities.

Recommendation #3: The RTO should contract with an independent Market Monitor (IMM) or Market Advisor to complement and advise an internal MMU. The IMM should report directly to the Board of Directors of the RTO. The market monitor should monitor and have all the tools necessary to monitor all RTO/ISO markets as well as related energy markets and markets outside the region during all hours.

Recommendation # 4: The MMU should be responsible for monitoring all wholesale markets administered or facilitated by the RTO/ISO, including the spot and bilateral energy, ancillary-services, capacity, and transmission markets. The MMU should monitor both supply and load bids in all markets.

Recommendation #5: As part of its ongoing evaluation of market efficiency and competitiveness, the MMU should evaluate the performance of the markets against the outcome of a market where all bids are at marginal cost.

¹⁴ Best Practices in Market Monitoring: A Survey of Current ISO Activities and Recommendations for Effective Market Monitoring and Mitigation in Wholesale Electricity Markets. (November 9, 2001). Retrieved from https://www.synapse-energy.com/sites/default/files/SynapseReport.2001-11.PJM_.Best-Practices-in-Market-Monitoring.01-60.pdf

Recommendation #6: The MMU should have the authority to assess the impact on the market of proposed mergers and acquisitions, and be a party to such proceedings. The market monitor should have authority to mitigate, sanction, and penalize, as well as the ability to identify necessary rule changes.

Recommendation #7: The MMU should have access to all data that will assist it in performing its market monitoring function.

Recommendation #8: The MMU should have authority to mitigate any bid in any market prior to accepting it.

Recommendation #9: Bid caps should be used as an essential component of electricity markets.

Recommendation #10: In addition to its authority to mitigate a bid in advance of accepting it, the MMU should also have the authority to impose sanctions or penalties on market participants for specific behaviors, including the failure to provide information requested by the MMU.

Recommendation #11: The MMU should have the authority to flag clearing prices and make price corrections for a limited period of time after the market clears.

Recommendation #12: The MMU should have the authority to file with FERC for changes to both market-monitoring rules and market rules.

The market monitor should encourage transparency in both the marketplace and in its own activities through regular reports.

Recommendation #13: In order to improve transparency and enhance confidence in the markets, the MMU should regularly and frequently issue detailed reports on its monitoring activities.

Recommendation #14: Bid data with names should be released on a one-month lag.

Further, if retail choice is enacted, the elimination of its applicable consumer protections virtually guarantees abuses will occur, since even with consumer protections in place, there have been significant abuses in retail choice states.

Promoting small-scale renewable energy development in Puerto Rico

Finally, instead of implementing a wholesale electricity market, there are alternative regulatory policy mechanisms the Bureau may deploy in order to foster the construction of new generation by multiple parties in a manner that is likely to benefit rather than harm ratepayers. Given the recent passage of Law 17-2019 and the codification of a 100% renewable energy portfolio standard by 2050, the Bureau should seek to implement policies that move Puerto Rico towards 100% renewable generation as cost-effectively as possible rather than policies that are likely to lead to significant stranded costs associated with non-renewable generators. Our proposal in this regard is to establish a program focused on promoting the interconnection of renewable energy small power producers, similar to such a program implemented in Thailand. Thailand's Small

Power Producer (SPP) Program commenced in 1992 and by 2005, the monopoly state utility had contracts with 84 SPPs totaling a generating capacity of 4,500MW¹⁵.

Thailand implemented such a structure though a feed-in tariff (FIT) by providing eligible renewable energy producers in the program an "adder" on top of the power prices provided to the power producers when they sold power to the national utility. These adder rates differed depending on the technology type, installed capacity, contracted capacity, and project location and the adder is paid over a predetermined time period that also depends on the technology type (10 years for wind and solar and 7 years for other renewables)¹⁶.

We think a renewable small power producer program will capture the potential for generation not covered by the net metering program or by requests for proposals (RFP) that may be issued by PREPA or its successor, i.e., renewable small power producers who consume no load and for whom submitting an RFP response is administratively burdensome.

The development of a small power producer program in Puerto Rico would

- 1. permit renewable small producers to interconnect to the electrical system in a non-discriminatory fashion,
- 2. help promote the development of new generation in Puerto Rico that is owned by municipalities, cooperatives, or communities
- 3. provide the most likely guarantee of a revenue stream to small renewable power producers,
- 4. provide a way for the many enthusiastic organizations and other actors working in Puerto Rico to make meaningful progress towards meeting the island's renewable energy goals, and
- 5. allow PREPA to model, with some certainty, the level of distributed renewables expected to be on its system which would help prevent the overbuilding of new generation

In conclusion, the expanded scope of this wheeling regulation goes beyond the legal requirements of Act 57-2014 and Act 17-2019 and the authority provided thereunder. Furthermore, the establishment of a wholesale electricity market will do nothing to further the policy goals of Act 17-2019 regarding the empowerment of consumers and the decentralization of the electrical system. We urge the Bureau to instead develop regulatory mechanisms that will more directly help Puerto Rico achieve its policy goals of 100% renewable energy by 2050 and an increasingly decentralized electrical system.

We appreciate the opportunity to submit comments.

¹⁵ https://siteresources.worldbank.org/EXTRENENERGYTK/Resources/5138246-

^{1238175210723/}Thailand0Small0Power0Producer0Program0.pdf

¹⁶ Tongsopit, S., & Greacen, C. (2013). An assessment of Thailand's feed-in tariff program. *Renewable Energy*, 60, 439-445. Retrieved from https://www.wind-

works.org/cms/fileadmin/user_upload/Files/Chabot_Files/Tongsopit_Greacen_2013_An_Assessment_of_Thailand_s_FiT_Renewab le_Energy.pdf

Sincerely,

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