ECONOMIC SYNOPSIS
PINE TREE POWER COMPANY
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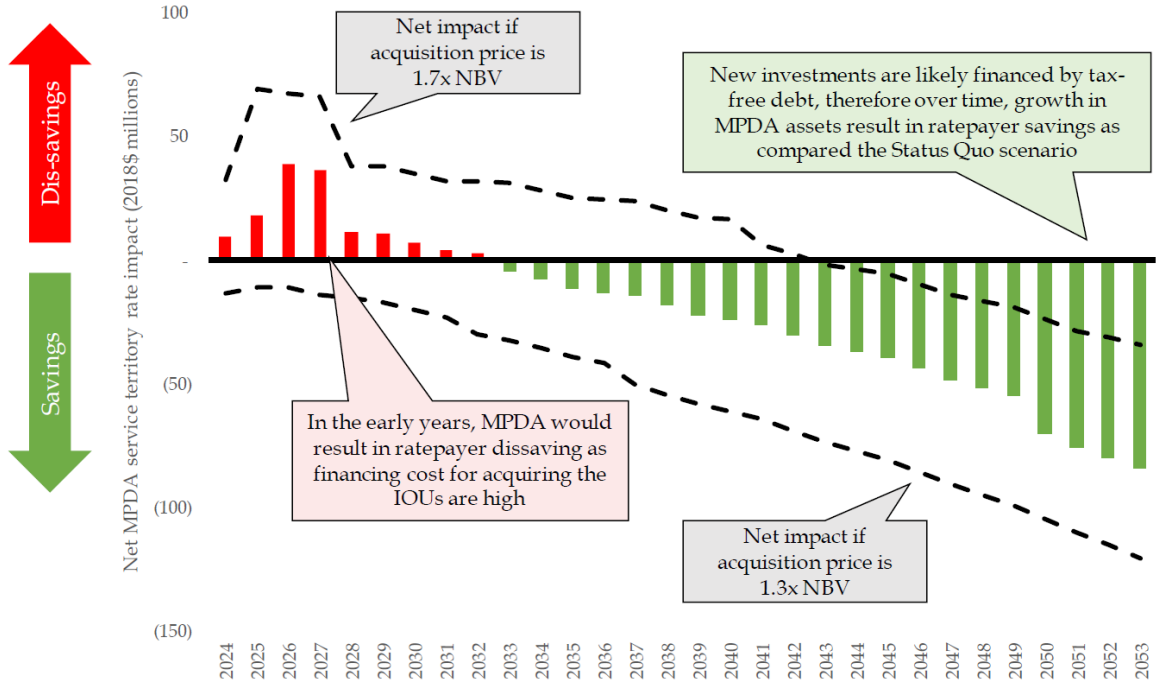
April 2, 2021

On February 15, 2020 London Economics International LLC ("LEI"), in collaboration with Peter Brown, Esq., issued a report titled "Evaluation of the Ownership of Maine's Power Delivery System" (the "LEI Report")[1]. This 100 page report, commissioned by the Maine Public Utilities Commission ("MPUC"), covered many details associated with the creation of the Maine Power Delivery Authority ("MPDA"). While the LEI Report and the Silkman analysis (referenced later) refer to MPDA, I'll simply refer to Pine Tree Power Company ("Pine Tree Power"), which is the current name of the utility that would be created. Some recommendations of the LEI Report have been incorporated by the proponents of Pine Tree Power into their newer proposal.

While the LEI Report found Pine Tree Power to be economic in the long run, and positive on a present worth basis, their report contained several significant errors which understated the positive economics of Pine Tree Power. Below is Figure 1 from the LEI Report:

Figure 1. Forecast of annual MPDA electric rate impacts (Reference Case), 2018 $ millions



Source: LEI analysis

The base case in this figure shows the economics if Pine Tree Power purchases the assets of the Investor-Owned Utilities ("IOUs")[2] at 1.5 times the Net Book Value ("NBV") of those assets (the Reference Case). It indicates that retail rates would be higher under Pine Tree Power for the

[1] "Evaluation of the Ownership of Maine's Power Delivery System." London Economics International, LLC; February 15, 2020

[2] Central Maine Power Company ("CMP") and Versant (until 2020 known as Emera and before that as Bangor-Hydro).

first 9 years and then lower forever after that. The sensitivity analyses show that Pine Tree Power is less expensive immediately for a purchase price of 1.3 NBV and is more expensive for the first 19 years for a purchase price of 1.7 NBV. In all cases Pine Tree Power is less expensive (lower electric rates) in the long run (30 years).

On a present worth basis, the LEI Report looked at the cumulative benefits over both 10 years and 30 years at discount rates of 3.5% and 5.5%. The results for the Reference Case (purchase price of 1.5 NBV) were shown in Figure 3 of the LEI Report:

Figure 3. Cumulative ratepayer savings/dis-savings under Reference Case assumptions based on NPV analysis over the short term and long term

$million in 2018$ (negative is savings)		Real discount rate	
		3.5%	5.5%
Time horizon	Short term (10 years)	$118	$110
	Long term (30 years)	($236)	($119)

As can be seen, there are hundreds of millions of dollars of long-term savings from Pine Tree Power under both discount rates. In this regard, the LEI Report supports the creation of Pine Tree Power simply based on its long-term economic benefits. Once the errors in the LEI Report are corrected, the economic case for Pine Tree Power creation is even stronger.

Dr. Richard Silkman analyzed the LEI Report and its underlying economic Model and published his analysis on May 15, 2020.[3] The first correction relates to LEI's treatment of cash. The LEI Model looks at revenues (income) and expenses in determining the economic impact of Pine Tree Power creation. In effect, they determine the Income Statement (or Profit and Loss Statement) for Pine Tree Power over time. However, once Dr. Silkman examined the underlying Model, he found that besides paying expenses and scheduled debt service with the revenues received from customers, the Model was also accumulating cash. This cash was not shown on the Income Statement but on the Balance Sheet as an asset, and no credit was given to the benefits of Pine Tree Power for that cash asset and no interest was earned on that asset.

Correcting to recognize the cash and interest earned on the cash, after 30 years Pine Tree Power has $1.2 billion less debt and has $5.2 billion in cash, so Maine ratepayers (the owners of Pine Tree Power) are $6.4 billion better off, with a net present worth value of about $2.7 billion. This value is about 12 times the $236 million[4] present worth value shown in the LEI Report and equal to about $2,000 for each resident of Maine in 2024. This accumulation of cash occurs because

[3] "Review, Assessment and Restatement of the Financial Model Used by LEI in its Report to the Maine Legislature on the Creation of a Consumer-Owned Public Utility." Dr. Richard Silkman, May 15, 2020

[4] In his analysis, Dr. Silkman refers to the LEI calculated long-term present worth savings at a 3.5% discount rate as $232 million, not $236 million. The $232 million figure is the figure for that present worth in the LEI Model spreadsheet that they provided Dr. Silkman (Model cell D189). Similarly, the spreadsheet shows the present worth of the long-term savings at a 5.5% discount rate as $118 million, not the $119 million shown in LEI Figure 2. The reason for these slight discrepancies is not known, but they do not impact the final analysis.

the LEI Model limits the amount of cash that can be used to pay down debt or fund capital expenditures and the cash doesn't earn any interest.

That is not the only issue Dr. Silkman had with the LEI analysis. LEI ties operating expenses ("OpEx") to capital expenses ("CapEx"), even though many of the capital expenditures are simply to replace old, worn out and fully depreciated equipment. In other words, excluding system expansion, the value of the rate base goes up, because newer equipment costs more, but the amount of equipment remains essentially the same. Dr. Silkman, instead, ties OpEx to the portion of the rate base that is incremental to the maintenance rate base as it exists today. This lowers the increase in OpEx expenses over the next 30 years from an ~500% increase to an ~300% increase.

With respect to management expenses, Dr. Silkman re-creates the CMP (and Versant) management structures as they existed before their acquisition by other foreign utilities and their need to pay management fees to those companies. This lowers the starting cost of management from ~$82 million in the LEI Model to ~$15.3 million (~$11 million for CMP and then scaled up to include Versant). The difference in this management fee over 30 years is roughly $4.75 billion. To put the management fee structure LEI has built into its Model in perspective, the average annual management fee over the 30-year period is about $10 million **more** than the total amount CMP spent on wages and salaries for its direct employees (employees on the CMP payroll and not employees of Avangrid and/or Iberdrola) plus 100% of the total affiliate charges to CMP by Avangrid in 2018 under its shared services agreement.

Another significant issue in the LEI study was their use of Weighted Average Cost of Capital ("WACC"). The way transmission is priced in New England is that all customers share in the cost of the high voltage Regional Network Service ("RNS") transmission system. In effect, Maine customers pay a small (approximately 9%) portion of the cost of all RNS transmission elsewhere in New England, and the rest of the customers in New England pay a large (approximately 91%) portion of the cost of the RNS transmission in Maine. So, the higher the WACC that Pine Tree Power charges for use of its transmission as part of the RNS rate, the higher the contribution to this cost paid by customers elsewhere in New England. Therefore, if Pine Tree Power uses a WACC similar to the WACCs used by the other transmission companies in New England, say 10%, rather than the 8% used in the LEI study, the economics of Pine Tree Power improve. Such adjustment improves Pine Tree Power finances by ~$4 billion over 30 years.

Finally, there are also differences in the timing of CapEx over the 30 years between Dr. Silkman and the LEI Model, but these do not total to a significant difference and so only represent a very small percent of the total differences between the studies.

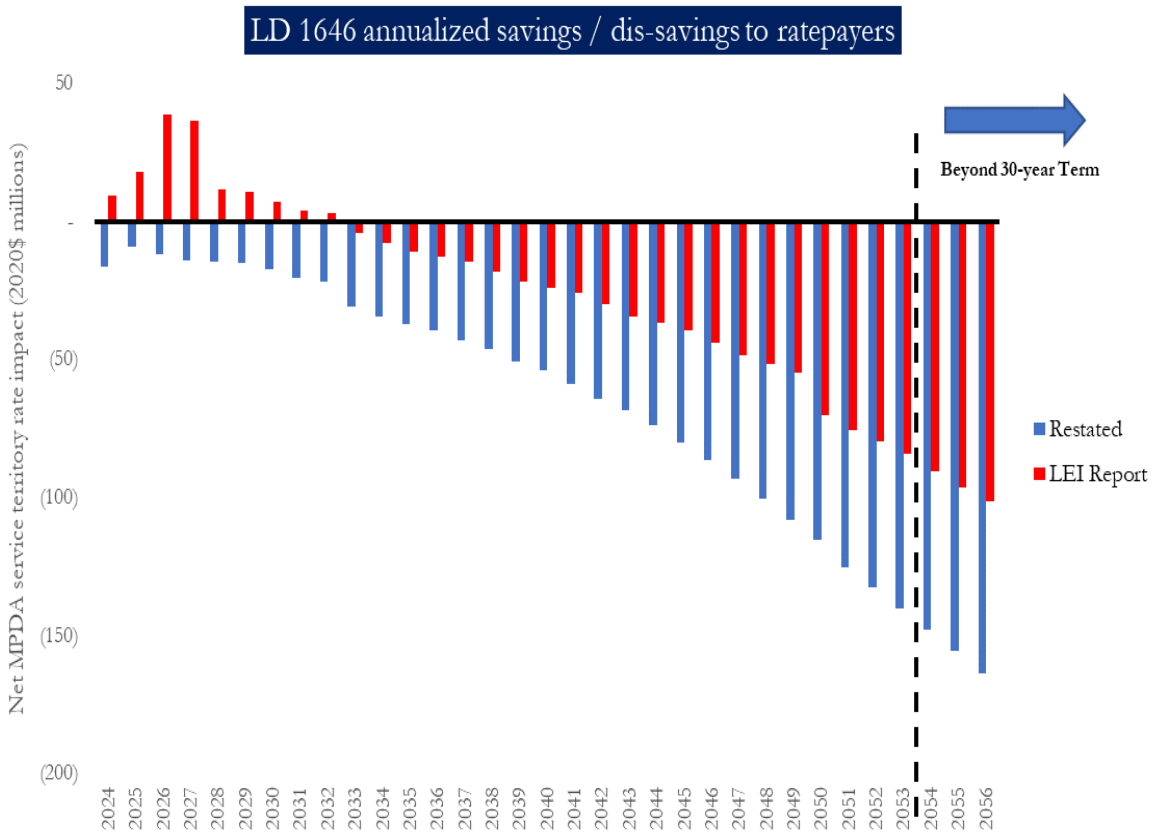
Of course LEI commented on Dr. Silkman's analysis,[5] but their comments do not change his conclusions:

- With respect to recognizing the excess cash, LEI says that such cash cannot be liquidated without impacting future financing costs. This ignores the simple fact that the cash is an asset that would be part of the value of Pine Tree Power should it be sold, and would earn interest while accruing.

[5] LEI Letter to EUT Committee in Response to Silkman Restatement, July 29 2020

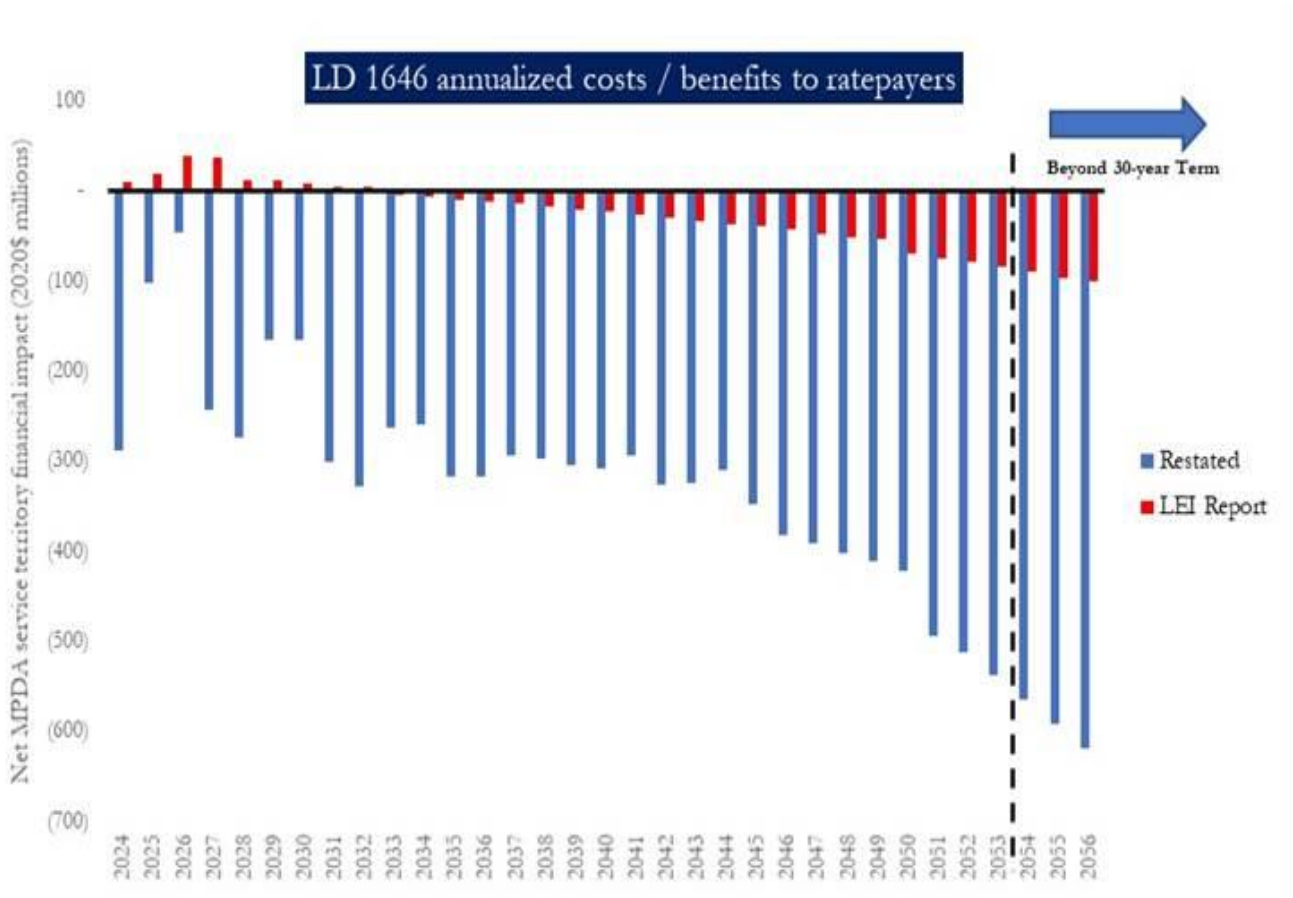
- With respect to adjusting the OpEx expenses, LEI suggests it is premature to forecast that future OpEx would be less, but does not respond to the specifics of Dr. Silkman's analysis. They suggest that his assumptions could be used with the rest of their assumptions, without acknowledging that doing so would improve the economics of Pine Tree Power in their Model even more.
- With respect to management expenses, LEI offers no response.
- With respect to WACC, LEI says that using 10% would represent departure from precedent in the region for municipal rates and would increase the transmission rates for other ratepayers in New England. This ignores Federal Energy Regulatory Commission ("FERC") decisions that allow a COU to impute a capital structure. Also, since the transmission facilities of CMP and Versant are already reflected in the RNS rates, if Pine Tree Power uses the same capital structure as CMP and Versant in imputing its rate, there would be no change to the rates paid by other New England ratepayers.
- With respect to CapEx, LEI offers no comment on Dr. Silkman's view that differences in the timing of CapEx would make little difference in the relative economics of the two studies.

When Dr. Silkman restates the LEI Model making the corrections noted above the results are quite spectacular. For the Reference Case (purchase price of 1.5 NBV), without recognizing the accumulation of cash:



As can be seen, instead of being more expensive for the first 9 years, under the restated Model Pine Tree Power saves Maine ratepayers money through lower rates starting in the first year of operation. In the later years the rate savings to Maine ratepayers are well over $100 million/year.

Once the accumulation of cash is also taken into account, the total benefits to ratepayers in both the lowering of electric rates and the accumulation of cash to either invest in the system or pay down debt are even greater:



Of course, these savings would continue to accrue in future years and at an even high rate as the higher interest rate taxable debt used to acquire the assets of the IOUs in 2024 would be retired shortly after the 30 year study window.

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Bill Dunn is a consultant in Yarmouth with almost 50 years of experience in the electricity industry and has advised clients of all ownership types (i.e., public, private, local and federal) worldwide and throughout the United States. He specializes in electricity market design and implementation, ancillary services, utility and power pool/market operations, inter-utility coordination, contractual power supply arrangements, and transmission access and pricing.