The Promise of Consumer Ownership for Maine: The Breakthrough Opportunity We Need

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Executive Summary

The people of Maine, through decisions of the legislature decades ago, granted special private monopoly privileges to companies offering to create utility infrastructure and provide Maine residents with electric power. For generations, there was little reason to question the role of these large private companies; they adequately served the social need to finance and manage electricity infrastructure.

Now, Maine's electric grid is poised to transform in size and complexity. Most important, the state has embarked on a new policy trajectory to address climate change – a pathway that will allocate unprecedented sums of public money to expand grid infrastructure to achieve beneficial electrification. We will demand more from our electric grid than ever before, including improved reliability as the state becomes increasingly dependent on electricity to meet its climate goals.

This transition to beneficial electrification comes at a time when existing utilities are struggling to provide the reliability and customer service ratepayers expect. This paper shows that a consumer-ownership approach can do a better job addressing these concerns, while also investing in local communities and contributing to economic growth of the surrounding areas.

This is an important moment in our history to rethink how we allocate this state-created responsibility and to re-evaluate our relationship with the private monopolies entrusted to deliver this public good. We have every right to make changes needed to ensure that our utility systems treat customers well, deliver safe and reliable power, charge the lowest possible rates, and meet other important state goals.

Contents

I. Introduction: The Problem and the Solution.

The word "utility" derives from the same root as the word "useful." Governments authorize utilities to create and operate an exclusive monopoly – a business practice which would otherwise be prohibited. A utility is allowed to provide a "useful" service to the public without competition because a competitive market for electricity delivery would result in wasteful spending on duplicative and aesthetically undesirable infrastructure. If a utility is no longer useful, or if a different approach is more useful to the public, the government-granted monopoly power can and should be reconsidered, withdrawn, or re-allocated.

Our electric grid has always been inexorably tied to our economic fortunes. We are now entering a period when our reliance on the grid will expand like never before. To achieve our climate and clean energy goals, the grid will need to carry a three-fold increase in power – an unprecedented transformation requiring a huge investment. The amount of ratepayer money the Maine government will authorize our utilities to collect for this transformation is enormous – estimated at $60 billion or more over the next thirty years.[1]

> "The Maine Employers Mutual Insurance Co., MEMIC, is among the most spectacular success stories of Maine business and policymaking history. . . . Just like MEMIC, the [consumer owned utility] would be a private enterprise, neither government-run, nor taxpayer-funded. Just like MEMIC, any operational efficiencies or profits would be returned to ratepayers in dividends. Just like MEMIC, it would be managed by industry professionals, and overseen by a board of Maine-based, consumer-concerned citizen ratepayers. And just like MEMIC, it would be capitalized by private borrowing, not government borrowing, collateralized by the future stream of ratepayer revenues."
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> *Dick Woodbury, economist and former Maine legislator, Portland Press Herald, January 7, 2020*

[1] *A New Energy Policy Direction for Maine: A Pathway to a Zero-Carbon Economy by 2050*, Dr. Richard Silkman, November 2019. bit.ly/MPsilkmanbook

Utilities are unique enterprises. They are, above all, instruments society uses to finance some of the large-scale infrastructure society requires, when using the competitive market is not an option. Utilities borrow money and secure investments in order to fund the purchase and installation of such infrastructure assets. The operation, maintenance, and repair of the assets are funded by the utility customers, or ratepayers. Although a utility is a private business, it is quite different from a manufacturer, restaurant, or movie theater. It is a financing mechanism with a guaranteed pool of customers. Its financing costs are a topic of great public import.

Before investing to expand our grid, we should ask whether the current structure of our utilities is the most "useful" way to spend the money of Maine's working families, businesses, and industrial facilities.

> "The grid is not going away anytime soon, but it is certainly changing. So, too, must utility business models."
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> *Coley Girouard, Advanced Energy Perspectives*
> *blog.aee.net/how-do-electric-utilities-make-money*

We must also assess the broader implications not just for ratepayers, but also for other vital stakeholders such as the utility employees. A change in a utility's structure or ownership must be fair and must minimize disruption while preserving the expertise and dedication of current employees. The friends and neighbors who are the backbone of our utility operations should not be harmed by the transition. On the other hand, no investor or executive has an unconditional right to operate in a monopoly environment or to receive unlimited favorable rates of return on their investments.

This paper addresses the costs of the current Investor-Owned Utility (IOU)[2] model which currently dominates the electricity sector in Maine. It also reviews some of the potential benefits of a Consumer-Owned Utility (COU). It concludes that the COU model offers significant benefits in "usefulness" to society – reliability, growth in local jobs and the Maine economy,

[2] Appendix A contains a summary of acronyms used in this report, along with some used in general in the industry, especially in New England.

lower cost of capital, expanded access to clean power and distributed generation infrastructure to meet state climate goals, and enhanced control for Mainers to better direct this vital economic sector.

II. Maine's Historical Experience with Consumer-Owned Utilities.

Summary

Maine has nine consumer-owned electric utilities, offering high quality service at lower delivery rates than the state's investor-owned utilities, on average. At least 100 of Maine's towns are served partially or entirely by a COU. In addition, a majority of Maine households and businesses are served by consumer-owned water utilities. Maine's experience with consumer ownership has been very positive.

While the idea of a consumer-owned utility may seem unfamiliar or unusual to many people, in fact this model is currently functioning successfully in Maine and has been for some time. Today there are nine consumer-owned electric utilities operating in various communities throughout the state. Consumer-owned utilities have been part of the scene here since the beginnings of electrification, as the oldest of these, Madison Electric Works, has been in operation since 1888. Electric utilities owned by the ratepayers have thrived in Maine for over a century because they excel at delivering reliable, quality service at reasonable rates.

Residential electricity delivery rates as of December 31, 2018, reported by Maine Public Utilities Commission	
IOU rates (per kWh)	**Abutting COU rates (per kWh)**
Central Maine Power: 8.6 cents	Madison Electric Works: 7.5 cents Kennebunk Light & Power: 5.0 cents
Emera Maine - Bangor Hydro Electric: 10.2 cents	Eastern Maine Electric Co-op: 9.7 cents
Emera Maine - Maine Public Service: 7.4 cents	Houlton Water Co.: 3.4 cents. Van Buren Light & Power: 4.9 cents.

In and around the town of Kennebunk, for example, ratepayers are keenly aware how fortunate they are to be served by Kennebunk Light & Power District (KL&P) rather than Central Maine Power Company (CMP). One business owner who moved from KL&P's district to CMP's in 2017 saw his total cost per kilowatt-hour (kWh) jump from $0.13674 to $0.32714 – nearly two and a half times more with CMP. To make matters worse, he received a bill for over $11,000 for

one day's power, which required several phone calls to correct (the actual amount was $36).[3] KL&P provides an extremely high level of service according to its customers.

With the exception of consumer-owned utilities on Maine islands, which face unique (and expensive) logistical challenges, ratepayers pay less, on average, to consumer-owned utilities than to CMP or Emera.[4] One important reason that rates are more affordable is that consumer-owned utilities don't have to pay dividends to shareholders, unlike investor-owned utilities, which must return consistent profits for this purpose. Investor-owned utilities also typically have much higher debt-service obligations – expenses passed on to ratepayers under current law.

> "... Maine has employed virtually the same electric utility model since at least 1913, with the only major change being the mandated divestiture of generation in 2000. The world today is quite different than the world of 1913. It is altogether fitting and proper to take stock at least every century. But the second reason is the more important: from the perspective of some of Maine's largest electric consumers and manufacturing employers, the present structure of electricity delivery simply isn't working for Maine consumers."
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> *Testimony of Industrial Energy Consumers Group, May 14, 2019 (LD 1646)*

Consumer-owned utilities in Maine have been very effective in transitioning to renewable energy, thereby helping to address climate change. Madison Electric Works, which serves four different Maine towns, installed the largest solar array in the state, generating enough power to supply 700 homes. COUs can also be quite nimble at taking advantage of new grid technologies, like micro-grids, to enhance resiliency for customers and help rebuild grid infrastructure for the future.

COUs offer more autonomy to ratepayers so they can control their destiny with smart long-term solutions rather than relying on foreign owned corporations to make those decisions for them.

[3] John Costin, Owner of Veneer Services Unlimited, Testimony May 14, 2019 (LD 1646).

[4] A calculation based on transmission and distribution delivery rates reported by the PUC in 2018 shows that IOU delivery charges are approximately 21.7% higher than COU delivery charges in Maine.

Fox Islands Electric Cooperative procured wind turbines to stabilize and reduce costs.[5] The Isle au Haut Electric Power Company is in the process of constructing its own solar-powered generating facilities on the island, and also adding new electric energy storage capacity. This island COU's customer/owners will no longer be dependent on the aging underwater power cable from the mainland and won't have to pay unnecessary costs for its replacement. The autonomy afforded by their COU is allowing ratepayers to control their destiny with smart, long-term solutions rather than relying on a distant corporation to make those decisions for them.

In short, consumer ownership is not a new or radical idea here in Maine. Rather, COUs are a proven approach with a strong, local track record that could be scaled up to provide the same benefits to all Maine ratepayers.[6]

[5] http://www.foxislandswind.com/energy.html

[6] For answers to frequently asked questions, please see: https://docs.google.com/document/d/1OwAoh_wth2Vy3SjS6xxvYXNZ1wCAb-HmRrHojU_mBbM/edit

III. Consumer Ownership Leads to Greater Reliability and Fewer Service Interruptions.

Summary

Maine consumers are frustrated with among the longest and most frequent interruptions in power service of any state in the nation. When power cuts out, business and industrial consumers experience costly shutdowns and lost production. And businesses considering re-locating to Maine are deterred by the risks of unreliable power delivery. Meanwhile residential consumers lose power at alarming frequency, and many have been compelled to spend scarce funds on expensive backup power options. Consumer-owned utilities are proven to invest more in the systems and hardware needed to avoid these problems and to deliver reliability that exceeds national standards.

The reputation of Maine's IOUs for poor reliability is rooted in a history of service difficulties that has reached crisis dimensions. A stream of intractable performance problems and skyrocketing customer dissatisfaction, especially with CMP, triggered widespread criticism in recent years:

- "Central Maine Power was dead last in a U.S. in survey of business customers' satisfaction"[7]
- "Customers in Jackman file complaint over 'deteriorating reliability' of CMP service"[8]
- "CMP parent company fined $450,000 for lapses in reliability standards"[9]
- "State jolts CMP with $10 million penalty for mishandling billing and customer service"[10]

[7] www.pressherald.com/2019/11/14/cmp-ranks-as-lowest-rated-utility-in-the-country-among-business-customers/
[8] www.pressherald.com/2018/12/27/jackman-group-files-complaint-against-central-maine-power/
[9] www.pressherald.com/2019/12/03/avangrid-fined-450000-for-lapses-in-reliability-standards/
[10] www.pressherald.com/2020/01/30/state-regulator-slaps-cmp-with-10-million-earnings-reduction/

A plethora of outages also generated headlines over the past seven years, such as:

- "CMP says outages down to 39,000"[11]
- "In windstorm's wake, CMP feels blows of critics"[12]
- "500K Mainers without power as outages surpass Ice Storm of '98"[13]
- "CMP says power outages from last week's storm all resolved"[14]
- "More than 190,000 without power as nor'easter lashes Maine"[15]
- "CMP says it could be 2 days before power fully restored"[16]

Poor reliability is more than a frustrating nuisance – it is costing Maine jobs and hurting the economy. How many homeowners have paid thousands of dollars for polluting and inefficient stand-by generators? How much business have commercial ratepayers lost due to unanticipated shut downs? How much spoilage have restaurants and small markets suffered, and how many runs of lost product have manufacturers wasted? These are the real consequences when IOUs focus too much on the financial bottom line and not enough on reliability. Some have remarked that if the IOUs in Maine were a private business in a competitive market, they would have lost all their customers long ago.

> "As a small business owner, I know the effects that losing electricity has. A couple years back we were in the midst of our busiest season on the farm. In late October, we lost power for 3 days. We were milking cows, trying to keep the water pump running, keep our milk tank cool, digging nursery trees to bring to our wholesale buyer, and cleaning up fallen-down trees on the town roads. Our generator fried over $500 of electric controls. Now, I know that there are always going to be power outages but I believe that more could have been done. If we had a consumer-owned grid run by Mainers, we would know that all the money going to pay for electricity would be going back into our infrastructure. We would know that we were not paying some shareholders dividends. We would know that Mainers come first."
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> *Business Owner Seth Yentes, Testimony, May 14, 2019 (LD 1646)*

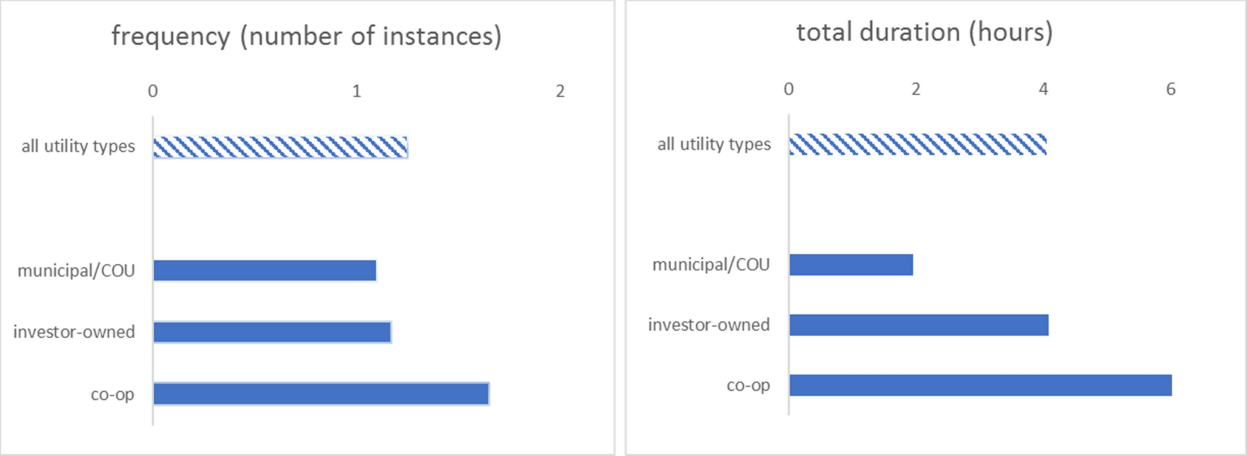
Will consumer ownership address these performance issues? Yes, but not overnight. The unreliability of the Maine IOUs is the result of poor design and maintenance decisions over a

[11] www.pressherald.com/2013/12/24/cmp-says-outages-down-to-39000/
[12] www.pressherald.com/2017/12/03/in-windstorms-wake-cmp-feels-blows-of-critics/
[13] fiddleheadfocus.com/2017/10/31/news/500k-mainers-without-power-as-outages-surpass-ice-storm-of-98/
[14] www.pressherald.com/2019/10/21/power-outages-continue-to-fall/
[15] bangordailynews.com/2019/10/17/weather/more-than-160000-wake-up-without-power-as-noreaster-lashes-maine/
[16] https://www.pressherald.com/2020/04/09/restoration-underway-after-spring-snowstorm-cuts-power-to-264000-maine-customers/

long period of time. It is also the predictable consequence of inadequate investment in necessary – but less profitable – aspects of the utility business such as routine line maintenance and construction. These will take time to remedy.[17]

As investments in reliability and maintenance increase over time under the COU model, performance and reliability metrics will improve. Nationwide analysis shows that COUs have lower outage rates than IOUs. Data from the US Government's Energy Information Administration (EIA) analyzed by the American Public Power Association (APPA) confirms this disparity.[18] According to EIA[19], in 2016 COU (i.e., municipal) customers averaged one outage of 2 hours or less per year. IOU customers averaged about 4 hours of outage. Maine's IOUs – CMP and Emera – are even worse, at almost 10 hours.

Average electric power service interruptions per customer by utility type, 2016[20]



[17] The cost of power outages to the overall economy are large, but difficult to quantify. There are few studies calculating the direct and indirect human and economic costs of power outages. In September 2004 the Environmental Technologies Division of the Lawrence Berkeley National Laboratory issued a report, "Understanding the Cost of Power Interruptions to U.S. Electricity Consumers," https://emp.lbl.gov/sites/all/files/lbnl-55718.pdf . One article attempted to survey what such a calculation might entail. Procedia Computer Science, Volume 130, 2018, Pages 1158-1163, "Review on Economic Loss Assessment of Power Outages," https://doi.org/10.1016/j.procs.2018.04.151

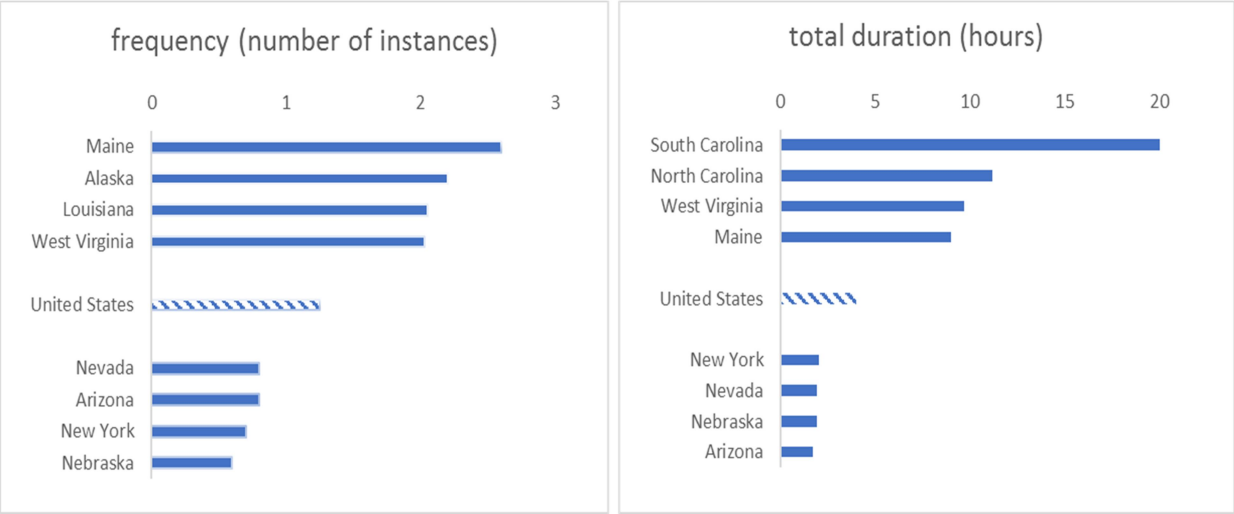
[18] https://www.publicpower.org/periodical/article/public-power-experienced-lowest-instances-outages-eia

[19] https://www.eia.gov/todayinenergy/detail.php?id=35652#

[20] Data for this chart and the following chart is found at U.S. Energy Information Administration, Annual Electric Power Industry Report (EIA-861 data file).

In fact, this EIA data understates the problem, as it focuses on 2016 and does not factor in widespread Maine outages in 2013, 2017, 2019 and so far in 2020 referred to in the media articles above. Maine and West Virginia were the only States to rank in the bottom four in both number and duration of outages. Note that Nebraska, which has adopted a statewide COU approach, is in the top four of both outage categories.

Average electric power service interruptions per customer in selected states, 2016



How would a Maine COU fix this? Initially, the new utility would improve reliability by restoring the ability of line crews to do their jobs in a safe and efficient manner. This would include improving the design and rebuild of distribution lines that are most likely to need repair, and investing in insulated wires and other upgrades, where appropriate, that should have been implemented in Maine decades ago. This means a short-term investment that will bring long-term benefits.

Massachusetts's 41 COUs provide a good model for investing in distribution infrastructure in order to improve reliability. Most, if not all, of the COUs in Massachusetts use insulated distribution wires in high risk areas, supported by a strong carrying cable. The added expense is more than justified because it protects

against outages caused when tree limbs brush against a line causing the circuit to trip. It also means that the line itself can support some trees leaning against it without tripping or breaking, allowing the power to remain on until line crews can clear the fallen tree. This not only reduces outages, but also facilitates quick repair, which as indicated can simply involve removing the branches or trees. Maine's IOUs, on the other hand, rely on bringing in contractors, tree trimming companies and crews from out-of-state utilities to repair the extensive damage their poor design and maintenance ensures will happen every time there is bad weather. Many COUs also use wildlife guards to reduce outages caused by squirrels and birds. Hardening distribution lines by using "tree wire" or "spacer cable" systems could add 25% to the cost of materials when installing a line, but would also substantially reduce the cost of foliage removal, repairs and maintenance.[21]

Maine IOUs rarely invest in this type of upgraded distribution infrastructure where needed. The un-supported, bare distribution wires common throughout our highly forested state are vulnerable to the impacts of wind, snow, and ice on trees. The resulting outages are predictable and commonplace. It has become so bad that Maine's largest utility has been forced to spend time and resources on public relations and information systems to try to soothe public frustration. Central Maine Power has an expensive and elaborate system by which consumers can be informed (often misinformed) of outages. That this has been necessary is revealing.

Power outages also lead to internet outages, since interrupting the power supply to any part of the internet infrastructure can cause an internet outage stretching well beyond the area where electric power is out. Many customers will lose internet service even when their power supply is not interrupted. Customers may blame their internet service provider for these outages, when they actually result from a distant power outage that can be traced to neglect on the part of the electric utility. This is especially critical when many customers are working from home, as during the coronavirus (COVID-19) pandemic.

[21] See page 23, https://www.powerandcables.com/wp-content/uploads/2017/04/Spacer-Cable-v-Tree-Wire-Pros-Cons-Of-Aerial-Cable-Systems-1.pdf

Power outages are expensive to repair. Before and after each major storm, large numbers of crews are deployed at significant expense. Since ratepayers bear the cost of these repairs, the IOU has no incentive to prevent them by investing in better distribution infrastructure.

A COU would not change this overnight. Uninsulated distribution lines in high risk areas built by the IOUs can be replaced over time as their working life ends or repairs are needed. Improved distribution infrastructure could be used in all new construction rolled out to handle the increase in electricity demand to meet Maine's beneficial electrification policy goals. Even though these investments would reduce service interruptions and facilitate renewable energy, Maine's IOUs will either not make them or will make them at a far higher cost, given their inherent financial incentive structure.

To the extent that Maine's investor-owned utilities have begun investing in hardening of the distribution system, it is too little, too late, and too expensive. Using tax-exempt, low-cost capital, a COU can accelerate the investments Maine needs to prepare for more extreme weather, while still making it imaginable for Maine people and businesses to switch to clean electricity for their heating and transportation needs.

While stringing supported insulated distribution wires costs more up front, it saves even more money in the long run and significantly reduces the outage rate. That is one of the ways, along with lower financing costs and eliminating the constant pressure to extract a profit, COUs can provide improved customer service at lower rates. The time has come for Maine to relinquish its lamentable title as the state with the least reliable power.

IV. Consumer Ownership Opens the Door to the High-Quality Customer Service Mainers Expect and Deserve.

Summary

A utility's customer service efforts must include the capacity to interact with customers of all types, to promptly handle their queries, and to resolve issues quickly and efficiently with little expense and inconvenience. It requires service calls in the field, call centers triaging incoming complaints, and all the administration and resources required to make this system function. Investor-owned utilities don't find much profit in this side of the business and typically starve customer service operations of resources. This has been proven to be the case with CMP. In 2019 the Public Utilities Commission (PUC) ordered CMP to restore customer service staff positions that had been cut from the budget earlier. Data proves that COUs have better customer service records and higher levels of customer satisfaction. This is in addition to the better reliability records described above.

With an ordinary electric utility, folks don't have to think much about customer service. They pay their bills and the lights stay on. That's about it. Commercial and industrial consumers have more complicated relationships, but dealing with customer service at a utility is still not supposed to be a regular occurrence. If the utility runs its business well, it should need to devote precious few resources into resolving complaints and service-related problems. When so many people have to deal with customer service that the company is overwhelmed, the underlying problems are substantial. Yet that is what has happened with Maine's IOUs.

When consumers are in the driver's seat, good customer service becomes a guiding principle of the entire company's operations. The annual surveys of utilities conducted by J.D. Power and Associates revealed several COUs as leading their respective categories.[22] COUs in Phoenix, Arizona; Vancouver, B.C; Sacramento, California; Colorado Springs, Colorado; Seattle, Washington; and Tacoma, Washington have been recognized for their outstanding customer

[22] J.D. Power and Associates, 2015 Electric Utility Residential Customer Satisfaction Study, as described in J.D. Power and Associates press release, July 15, 2015. Also, J.D. Power and Associates, 2016 Electric Utility Business Customer Satisfaction Study, as described in J.D. Power and Associates press release, January 13, 2016. As noted above, Maine's major IOU (CMP) performed near the bottom of recent J.D. Power and Associates customer satisfaction studies.

service. In the business customer category, COUs in Omaha, Nebraska; Jacksonville, Florida; and Sacramento were also awarded high honors for customer service.

Case Study – How IOU Customer Service Failed a Maine Small Business

"Service [from our investor owned utility] has been one headache after another, with no clear explanation. We have had to establish two new electrical services at our new building. Electricity is important to running our business, so we initiated the first new service on the day that we closed on our building. Eight weeks later we still did not have power and Central Maine Power was unable and unwilling to give me a date that we would. Only by calling repeatedly and demanding that we be given an energization date was I able to get a commitment from them to supply needed power to my business. We finally got it nearly two and a half months after closing.

But that was nothing compared to getting the second service. I opened a work order for the second service in January 2018. It was energized last month, April 2019. Yes, those years are correct -- it took fifteen months. That includes a three-month period that CMP was apparently waiting for me to call them to schedule an appointment with their engineer, but didn't inform me that they were waiting for me. That includes more than one instance in which CMP claimed they had sent requests for approvals or information to the City of Sanford but the City had no record of them, and CMP made no attempt to follow up until I called and demanded that they do. It includes at least three instances of CMP retaining incorrect contact or location information for our business despite my having already corrected the mistakes. Incidentally, when I requested that CMP provide me with a history of this work order they would not do so until it had gone through their legal department and been redacted."

John Costin, Owner of Veneer Services Unlimited, Testimony May 14, 2019 (LD 1646).

Many IOUs have eliminated their walk-in customer service centers or local call centers and off-shored these functions. This is rare for a COU, which usually maintains walk-in centers even if they cost a little more. After all, the employees are also neighbors – and customers.

In Oregon, the town of Hermiston found that its local utility was falling behind in customer service and actually closed its walk-in service office. Residents of Hermiston organized their own municipal utility which restored the local office and its personal services. And Hermiston Energy Services actually offered lower rates than the previous entity.

This is the advantage of local control and ownership. If the public service is failing, the public will speak up at meetings, and will buttonhole the board members at the local coffee shop. The utility and its governing body are part of the local community and are therefore held accountable by local norms and relationships. The not-for-profit business model means that every penny goes into delivering excellent service, keeping customers happy, minimizing interruptions, and keeping rates low.

V. Achieving Maine's Climate Goals: The Imperative of Low-Cost Capital.

Summary

To decarbonize Maine's use of energy – essential for achieving climate goals to which Maine committed in 2019 – we must electrify transportation, heating, and industrial processes and power them all with clean energy. This "beneficial electrification" will at least triple our reliance on the electric grid – the foundation of our clean energy future. Unfortunately, the grid has also been the cause of Maine's notorious reliability woes, as noted above. The transition to a more robust and reliable grid creates opportunities for Maine, but there is also quicksand to avoid. Our success depends on affordable capital and on planning in the best interest of Maine's people, commerce, and natural resources. We must adopt a modern, flexible grid and leave behind the antiquated model wherein a few huge generators supply all our power. And as we do that, we must ask whether we can afford to finance this new grid buildout by granting exclusive rights to a private monopoly that extracts funds from ratepayers and sends that money out of state.

For many years, the financial incentives driving electric utility business decisions have clashed with important state policy goals. Regulatory compensation structures at the regional and federal level drive utilities to fight for large, lucrative infrastructure projects, even though large-scale transmission does not necessarily facilitate Maine's transition to a future of beneficial electrification and more locally generated renewable energy. State policy goals favor more small-scale distribution infrastructure to connect residential, commercial, and industrial consumers to an expanded array of numerous smaller renewable power sources, storage, and other infrastructure distributed around the state. Due to federal case law, IOU profit incentives necessarily favor investment in centralized, high-voltage transmission lines.

2019 will be remembered as the year Maine finally got serious about investing in a renewable energy future. Governor Janet Mills signed three major pieces of bipartisan legislation to support renewable energy development in Maine, create clean energy jobs, and fight climate change. LD 1679 established the Maine Climate Council; LD 1494 established a robust Renewable Portfolio Standard (RPS) of 80% by 2030; and LD 1711 gave a boost to solar energy projects and distributed generation.

> "The Maine Climate Council will develop comprehensive action plans to meet our ambitious emissions reductions goals and the renewable energy legislation will spur clean energy development and investments that will increase production of homegrown, renewable energy and create good paying jobs for the people of Maine. Maine is once-again leading on clean energy."
>
> *Governor Janet T. Mills, June 26, 2019*

These laws are a breakthrough for Maine, but they introduce significant tension for the business model of incumbent IOUs. Even if Maine had a highly competent and nimble IOU, ambitious policy agendas would bring added expense to our electric utilities, which they are expected to resist. Unless a state policy goal comes with additional incentives to maximize the IOU's profitability, it is not in its mission to embrace technical innovation or adapt their business model to meet that goal – no matter how vital or noble.

> "The transformation of Maine's economy from one heavily reliant on fossil fuels to a state of near zero carbon emissions by 2050 requires very large capital investments. The ability to raise and deploy capital to support beneficial electrification, renewable energy development and deep decarbonization is the sine qua non for addressing global climate change."
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> *Richard Silkman, Ph.D., A New Energy Policy Direction for Maine, (2019) page 90.*

The IOUs' resistance usually is a matter of finances, and navigating the complex financial incentives in the utility sector requires an expert guide. Fortunately, Maine has such a guide in Richard Silkman, a Yale Ph.D. economist and national expert in the regulation of public utilities and competitive energy markets. Silkman has a deep and impressive background, going back to his appointment by Governor John McKernan to direct the Maine State Planning Office, where he advised on economic policy, energy, and state tax policy.

In November 2019, Dr. Silkman published *A New Energy Policy Direction for Maine*,[23] which was quickly recognized as required reading for anyone involved in renewable energy policy or in planning for Maine's economic future. Silkman tackles the 30-year challenge of beneficial electrification of Maine's energy sector wherein most heating, transportation, and industrial processes will be powered by clean energy. He concludes that this will require an investment in zero-emitting generation sources approaching $60 billion. This book is now the roadmap for reaching Maine's goal of "deep decarbonization" by 2050.

Silkman's book focuses on expanding renewable generation by adopting a new approach to financing necessary investments. Silkman's plan is bold, incorporating "a three and a half-fold expansion of Maine's electricity transmission and distribution grid" to accommodate our beneficial electrification. Page 62. But his focus on low-cost capital can also be extended to investment in the poles and wires needed to carry that energy from its sources to where it is needed.

Silkman offers a simple argument why we cannot finance our state's ambitious policy agenda through IOUs. In general, IOUs are risk averse. Their core business is akin to banks or insurance companies; their investments require huge amounts of capital for which the steady flow of payments from captive ratepayers provide the financial security. Social policy goals that challenge an IOU's business model or performance are seen as risk, and shareholders are compensated for taking risk by charging higher rates to customers. As Silkman puts it (page 75):

> When IOUs are directed to pursue social policy goals and objectives, their shareholders become exposed to risks they would not otherwise have to bear. One would expect investors to seek to be compensated for these risks. . . . Not surprisingly … they have done precisely that. . . . For the management and shareholders of an IOU, the decision to act as the implementing agent for a social policy of achieving deep decarbonization is nothing short of a 'bet the farm' decision. We should not kid ourselves – IOUs will never make this type of commitment without a complete insulation of its shareholders from all risks that management can imagine and then some.

[23] *See* footnote #1, above.

Apart from this risk factor, an IOU would eagerly serve Maine's goal of a more robust grid as it would entail additional capital investment and thus generate additional profits. Capital investment, and the subsequent return, is how IOUs return a profit to their shareholders. So, putting aside the competency questions arising about Maine's incumbent utilities, why wouldn't they be eager partners in building the transmission and distribution systems of Maine's energy future? The answer is that they probably would. But that their cost of capital is so high that

> "Utility investors as a group are not interested in change."
>
> *Pathway to a 21st Century Electric Utility, page 13, https://www.ceres.org/*

Maine could not afford it – and whatever investment Maine could afford would not be done quickly.

Consumer-owned utilities by contrast pay much less for their capital and pass savings back to ratepayers, quickly pay down their acquisitions, and/or invest based on the public interest. Silkman takes up the parallel issue of financing generating assets rather than transmission and distribution, and sees similar lessons: "Of all the options for raising capital today, one of the least expensive options is the use of states' and/or municipal governments' abilities to achieve 100% leverage through the issuance of (tax-exempt, low-interest) debt." Additionally, the larger the investment needed, the greater the potential savings of utilizing the favorable financing available to a COU. Silkman explains that, in the generating sector, the leverage of lower cost capital will allow beneficial electrification at essentially no additional cost: "[t]he result is that Maine is able to make this transition at what is essentially the same total annual cost as Maine is paying for all of its energy today." (page 62).

The Silkman analysis focuses on generation. How might this same principle aid investment in transmission and distribution necessary for carrying all that electricity to consumers?

To analyze this question, it is first worth taking a deeper look at how utilities raise the capital

necessary to own and expand the electric grid. To finance investments in infrastructure, an IOU uses a blend of equity and borrowing. It raises equity by selling shares of stock. To raise the rest of its capital needs, utilities must borrow money. The core of the investor-owned utility business is accessing capital in this way.

Utilities have excellent credit since their income derives from a highly reliable revenue stream. Except for the rare customer who goes "off the grid," utility ratepayers are captive and can neither negotiate prices nor switch to another provider of electricity. They also pay their bills since failing to do so would lead the utility to disconnect their power – a severe and prohibitive consequence. Capital markets recognize that there is comparably low risk in lending to utilities, and that low risk is rewarded by lower interest rates on the money utilities borrow.

This potential advantage, however, does not necessarily flow through to customers. This is especially true for the equity portion of capital investment. The United States Supreme Court has determined that when reimbursing utilities' capital costs, the state must apply a standard of "just and reasonable" compensation to the utility.

In the case of IOU debt financing, a lender must pay tax on the interest collected from such loans, so the lender needs to charge a higher interest rate than it would for tax-exempt debt. Interest paid by a COU is tax-free so lenders do not need to charge the same interest rate.

State regulators must approve the charges that an IOU passes along to consumers for delivering electricity, and in that process the state decides how much the utility should be compensated for the cost of debt as well as a "fair" Return on Equity (ROE). The precise level of the ROE for lower-voltage distribution level investments is determined by the PUC, in part by market conditions, and considered in light of longstanding rulings of the United States Supreme Court entitling utilities to a substantial guaranteed return. If the PUC approves too low an ROE, the IOU can sue based on this federal case law. For this reason, neither Maine's policymakers nor Maine's regulators have meaningful alternatives within the IOU paradigm.

The most recent ROE approved by the Maine PUC for CMP was 8.25%, which included a temporary, downward adjustment of 100 basis points (1%) resulting from performance failures.

That is, the PUC would have approved an ROE of 9.25% in the absence of performance issues. The cost of capital for a COU borrowing through revenue bonds is one-third to one-half that rate.[24]

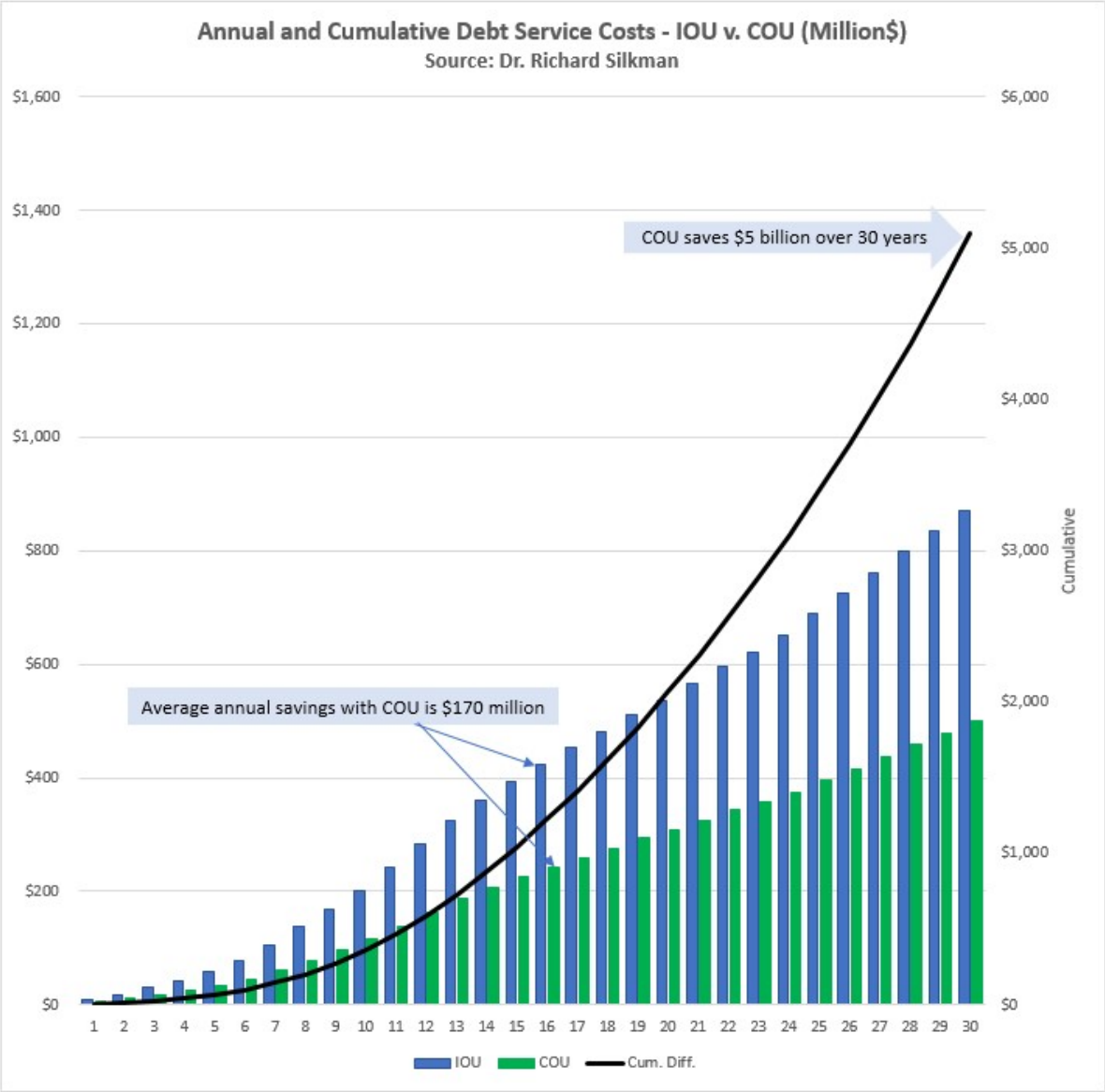
For higher-voltage, interstate transmission system investments, the ROE determination is governed by the Federal Energy Regulatory Commission (FERC). These too are constrained by federal case law, and transmission ROE for Maine's IOUs in recent years has ranged between 10% and an astonishingly high 14% return for investors. Largely for this reason, CMP, Emera Maine, and other Transmission System Operators (TSOs) in New England have focused almost exclusively on transmission investments, and the portion of our utility bill that reflects transmission ROE has tripled since 2008.

In sum, due to the major constraints placed on regulators and policymakers by U.S. constitutional case law (see Hope and Bluefield cases, in particular), capital investments by Maine's IOUs typically cost their customers twice as much as investments by COUs. Including both debt and equity, a typical weighted average cost of capital for an IOU currently hovers at about 8%. For COUs, it is about 3%. Amortized over 20 years, this amounts to a twofold cost difference cost.

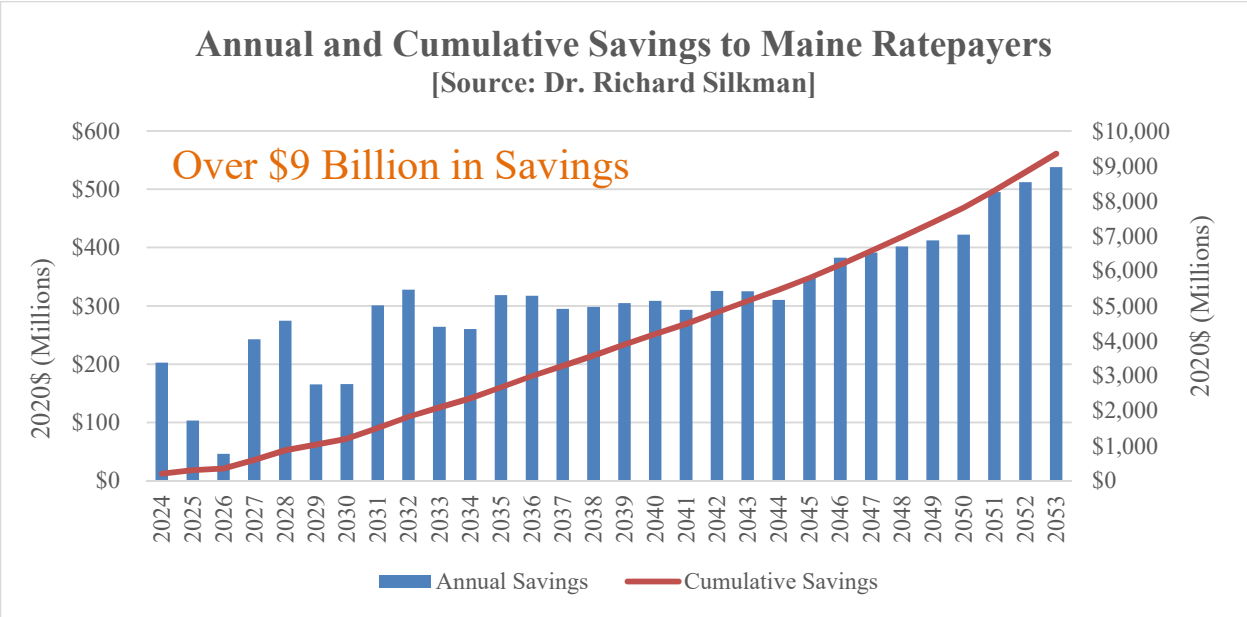
Maine is on track to invest between $10 and $15 billion in enhanced grid infrastructure over the next 30 years to meet beneficial electrification goals. The advantage of COUs' lower cost of capital can mean saving at least $5 billion just on the investment needed for the grid itself.

[24] Historically, the return on investment for capital deployed at the transmission level is greater than for capital deployed at the distribution level, which may be why CMP likes to invest more in transmission than in distribution, and distribution is where most reliability problems originate.

There is no doubt that a consumer-owned utility will deliver these financing advantages, but the transition will take time. Maine's clean energy goals will require immense capitalization, and neither the needed capital nor the construction resources are yet in place to deliver this buildout all at one time. The more capital required and the more quickly it is needed, the greater the premium that would be paid to an IOU to accomplish this buildout and deliver dividends to



shareholders.



Relying on Maine's IOUs during this ambitious phase would delay beneficial electrification and push these goals further out of reach. It would also threaten to crush Maine's low-income population with higher electric rates.[25] The transition to a COU will take time, but whether it takes two years or five, the COU model is the cost-effective way to achieve our critical climate and energy system goals.

[25] Maine Office of the Public Advocate commissioned a study by Synapse Energy Economics (Synapse) to shed light on the energy burdens faced by Maine's residents. https://www.synapse-energy.com/project/low-income-energy-burden-study-maine. For those below the poverty level in Maine, energy consumes 24%, or almost a quarter of the household budget.

Beneficial Electrification and our Low-Income Neighbors

Maine contends with a high rate of poverty, leaving many residents vulnerable to high energy expenses, particularly in the winter when heating is a critical need. Money spent on heating fuels can be high fraction of income which is called the "energy burden", and it's felt acutely by Mainers who live at or near the federal poverty guideline. According to a recent study, Maine residents below the federal poverty level spend 24% of their income on energy. (Such high energy burden rates are punishing, as many studies cite 10% energy burden as energy poverty.) To be specific: residents who heat with propane spent an average of up to $6,000 per year; those heating with wood and fuel oil (or natural gas) paid an average of $3,300 and $3,000, respectively. Heating with efficient electric powered heat pumps is clearly the lowest cost at $1,600 per year. Therefore, converting home heat systems to electricity and heat pumps (plus added efficiency) is an important goal for Maine's low-income population. If the cost can be financed in a low-impact manner, through on-bill financing for example (where the utility behind the bill also gets financing at a low rate such as a consumer-owned utility does), then Maine can enjoy a breakthrough of very high value for its residents and ratepayers. To make such a compelling plan bearable to a state with fair amount of poverty, it needs to be financed at the lowest possible cost.

VI. Consumer ownership Leads to Greater Investment in Economic Growth and Job Opportunities in the Renewable Energy Sector.

Summary

The electric grid is the nerve center of the entire state economy. Without electricity there is no economic activity. With electricity, nearly any industry or employer can locate in Maine. And the price associated with beneficial electrification is a highly effective investment in job creation and economic vibrancy. This is especially true when compared to the estimated $6 billion that leaves the state annually to pay for fossil fuels produced elsewhere. Consumer ownership will open the door to economic growth that will pay huge dividends, and will help absorb any costs related to this investment in our future.

Every electric grid in the country is on the cusp of transition. For the last century, the delivery of electricity from its source to its point of end use depended on capital investment in infrastructure,

plus continuous expenditures on fuel. The grid of the future will eventually require no expenditures for fuels, but will require larger expenditures on infrastructure. That infrastructure will include both generating assets – primarily wind turbines and solar panels – and the transmission and distribution assets required to convey electricity from its source to the point of storage or consumption. It will also require sophisticated switches, load management, storage, computer systems, voltage regulation, and other technologies. This paper previously described the financial advantages of achieving the required capital investment through a consumer-owned utility.

This transition will also enable enormous economic benefits to the state of Maine unrelated to the reduced cost to ratepayers. Redirecting the stream of cash traditionally leaving the state to pay for petroleum-based fuels and dividends to shareholders will create good jobs, contribute to our Gross State Product (GSP), and stimulate the entire state economy with a welcome multiplier effect. A wide array of analyses consistently shows that investments in renewable energy infrastructure bring far greater economic benefits at the state level than does spending on imported fossil fuels.

Consumer ownership of utility infrastructure is also likely to result in lower costs for broadband internet penetration in rural Maine. Many residences and businesses do not have access to broadband, a critical utility whose importance is heightened by the COVID-19 crisis. These locations are often low-density areas, where it is not profitable for a internet service provider to build infrastructure. In order to keep their communities viable and serve their taxpayers, many municipalities are taking matters into their own hands, by either building their own internet infrastructure or subsidizing companies to improve the economic case for extending service. In either case, one of the largest and least predictable expenses for internet service build-out is the cost of attaching the internet infrastructure to existing utility poles, through so-called "make ready" fees.

> It is common knowledge to broadband providers and those endeavoring to be broadband providers that make ready fees typically constitute one of the most significant impediments to implementing local broadband expansion efforts. After budget

> projections have been established, utilities' tacked on make-ready fees have commonly added 20-30% to the overall project costs.[26]

Additionally, internet service providers must rent space on poles that they do not own, which drives the cost of service up. Consumers who own their electric utility are likely to agree that they want access to affordable broadband internet. They could choose to reduce the costs of broadband expansion by properly planning for pole attachment to reduce installation costs and also waiving the long-term rental fees.

> "We share the same concerns of high and ever rising energy cost in the state of Maine. Having a utility that provides reliable and cost-effective service is a necessity for Sappi and Maine to grow. We see a benefit in a utility that has the interest of Maine citizens and businesses as part of its mission and believe this would promote economic and environmental prosperity for the communities we work and live in."
>
> *Benedict Cracolici, Area Operations Manager, Energy, Sappi North America, Testimony May 14, 2019*

The consumer-owned utility will be run by a board and management attuned to the needs and interest of their community because they are part of that community, and have no other master. Their family members and neighbors will be directly affected by the operations of the utility. Those ties and undivided accountability will make a difference in the panoply of planning and investment decisions the utility will make over the next thirty years.

Deploying this infrastructure investment through a locally managed, consumer-owned utility will help ensure that these indirect benefits remain in the community to the greatest extent possible.

[26] "Testimony of the Maine Municipal Association In Support of LD 1192 An Act To Establish Municipal Access to Utility Poles Located in Municipal Rights-of-way," March 27, 2019. https://legislature.maine.gov/legis/bills/getTestimonyDoc.asp?id=113022

VII. Consumer-Owned Utilities Return Greater Financial and Other Benefits to Their Communities.

Summary

A COU is a community-based non-profit. Its revenues stay in the local community and are either reinvested for system improvements, shared with local government, or returned to customers through lower rates. The consumer-owned utility we propose will provide direct benefit to the community in the form of "Payments in Lieu of Taxes" (PILOT) equivalent to the local property tax. But that is not all. National data show that COUs are also more likely to provide free or reduced-cost services, such as engineering assistance or discounted electricity to other public or community institutions. COUs have shown that they are good citizens and beneficial members of the community.

A recent report by the American Public Power Association found that COUs give more back to the community than their private counterparts. When all taxes, tax equivalents, and other contributions of COUs were considered as a percentage of electric operating revenues, they amounted to 27 percent more than those of IOUs. Considering that public power consistently keeps costs lower than investor-owned utilities and has higher reliability, this is a good value for communities.

In Nebraska, where the entire grid is operated by a consumer-owned utility, the Omaha Public Power District (OPPD) gave back $34 million in PILOT payments and services in 2019 – about 5% of their gross revenue. The OPPD also provided some of the lowest retail rates in the country.

The same incentives that drive IOUs to extract higher profits through their financial and other arrangements also drive some energy companies to fight aggressively to pay less in local taxes. According to expert testimony for the Maine Department of Environmental Protection by Garnett Robinson, an assessor for 14 Maine towns, Maine's largest utility has a history of overestimating the value of projects during permitting but underreporting their value when it comes to property tax declarations.[27] Corporate behavior of that nature hurts communities and punishes the working

[27] State of Maine, Department of Environmental Protection, permit application for the New England Clean Energy Connect from Québec-Maine border to Lewiston, pre-filed direct testimony of Garnett Robinson on behalf of

families who pay their full property taxes.

Consumer-owned utilities around the country have an impressive record of giving back to their communities in many ways.

- The Murfreesboro, Tennessee COU took the initiative to move its power lines underground in order to enhance a community effort to revitalize the downtown area. The COU also fixed broken sidewalks, restored crosswalks, updated lamp posts, and reestablished the downtown area as the charming heart of a community.

- The Waverly, Iowa COU was concerned about the toxic oils leaking from utility transformers. Working on its own initiative, it researched and developed a safe, soy-based biodegradable oil to replace the dangerous mineral oil previously used exclusively around the country. The new formula is now in wide use, thanks to the initiative of the COU concerned for its own citizens' health and safety.

- The Seattle, Washington COU recognized a pent-up demand for electric vehicles but saw that few charging stations were available, keeping folks from buying the new cars. The utility partnered with the city to install 280 charging stations around the area.

- And a COU in Los Angeles, California recognized the demand for professionals to fill emerging jobs in the renewable energy sector. The utility pulled together a consortium with a local community college, a job training agency, and a labor union to offer courses open to all residents, filling new good-paying jobs and meeting a need in the energy sector.

When organizing a COU, the people of a state have the power to determine exactly how much the entity will give back to its communities and state. Any proposal for a COU would ensure that host community property tax revenues are made whole through PILOT payments from the COU.

A COU's financial contribution to its community also has a multiplier effect often missing from

Intervenor Groups 2 and 10, February 28, 2019. https://www.maine.gov/dep/ftp/projects/necec/hearing/pre-filed-testimony/Intervenor%20Group%202/2019-02-28%20Pre-Filed%20Expert%20Testimony-%20%20Garnett%20Robinson.pdf

the private, for-profit monopoly model. A COU could benefit the state's economy by keeping more money circulating in Maine's local communities while continuing to keep electricity rates low. Since the COU would be owned and operated by the community it serves, it is more likely to use its substantial economic power to create good jobs and stimulate the local business community. The COU can invest in local businesses and workers through its purchasing, hiring, and investment decisions, spurring a thriving and green local economy. Investor-owned utilities, governed by absentee leadership in a remote corporate boardroom, lack such commitment to the local community, and also cannot match the scale and pace of investment made possible by the consumer-owned platform.

Most importantly, the level of investment in deep decarbonization that the COU financial model makes possible is the kind of economic activity that increases local employment and gross state product, while delivering other multiplier effects in the local and state economies. Current policies supporting renewable energy provide a benchmark of this potential, although those policies are far more limited in scope. According to several experts testifying at public hearing for the 2019 RPS bill,[28] that new law will produce approximately 2,000 good paying jobs in Maine and $1.14 billion in new investment, while increasing GSP by two percent. The investment in deep decarbonization made possible by the COU model would be several times that produced by the RPS bill, and would continue multiplying for three decades.

> "A consumer-owned utility can bring . . . efficient, competent and effective operation . . . to the electric transmission and distribution business. I passionately believe that the consumer-owned business model can bring many advantages to the utility industry. Some of those advantages include the lower cost of borrowing and no requirement for stock holder dividend payments. Pluses aside, our most important asset is having only customers to answer to and satisfy."
>
> *John L. Clark, former General Manager, Houlton Water District,*
> *April 14, 2019 testimony (LD 1646)*

[28] The 2019 RPS bill testimony can be found here: http://www.mainelegislature.org/legis/bills/display_ps.asp?ld=1494&PID=1456&snum=129&sec3#

Not only does the COU keep money circulating locally, creating beneficial relationships among small businesses, but some studies have also shown that investing in local business improves a community's "collective efficacy" – the capacity to act together in mutual benefit. As a consumer-owned enterprise rooted in its community, any new Maine COU's economic power will advantage all Mainers, especially at a time when major investment in the transition to a new energy economy brings such important benefits for climate policy and economic stimulation.

Local control is another major benefit of COUs. With this model, Mainers are not only consumers of energy, but also owners and decision-makers affecting a wide array of matters relating to electricity and the economy. Rather than faraway boardrooms disconnected from the realities of Maine's economy and environment, decisions can be made by elected and appointed community members, local leaders, and their trusted experts. And COUs generally have far greater transparency and accountability than private monopoly utilities. For instance, proposals for a Maine COU include provisions complying with open meeting and open document laws, giving residents far more access to their decision-making process and to important operational data than typically possible with a private monopoly utility.

In 1997 Long Island Power and Light (New York) acquired the assets of its predecessor investor-owned utility, including a white elephant nuclear power plant, yet still reduced rates by twenty percent.

https://www.lipower.org/about-us/

Another aspect of COUs' community accountability is that they generally do not use campaign contributions or strategic philanthropy to promote policies that the public otherwise opposes. These have been powerful tactics for corporate utilities. In fact, some investor-owned utilities in other states have been known to charge ratepayers for their own efforts to influence policy on climate action or to raise their rates.[29] A Maine-based COU would leave policymaking to the voters and their elected officials, while providing open books containing all the pertinent

[29] *Paying for Utility Politics: How utility ratepayers are forced to fund the Edison Electric Institute and other political organizations*, Energy and Policy Institute, May 2017. https://www.energyandpolicy.org/wp-content/uploads/2017/05/Paying-for-utility-politics-ratepayers-funding-the-Edison-Electric-Institute.pdf

information they may require for making smart decisions for electric consumers. COUs also allow residents' voices to be heard in public meetings on subjects such as rates, new infrastructure investments, local programs, and all things relating to the energy transition.

VIII. Conclusion: A Maine Consumer-Owned Utility Can Deliver Improved Reliability, Expanded Access to Renewable Energy, and Billions of Dollars in Long-Term Cost Savings Over Our Current Investor-Owned Utilities.

From Governor Mills' recent signature on a suite of climate and clean energy laws, to the visibly higher seas and stronger storms churning along Maine's 3,478 miles of coastline, to the astonishing foibles of Central Maine Power, Maine's utilities and residents' hopes for a clean energy future have been the subject of intense debate and no small amount of consternation. Simultaneously, Mainers are waking up to the once-in-a-generation opportunity to re-think how we as a society finance our access to electricity – one of the basic obligations that each and every home, retail establishment, office building, and manufacturing facility depends upon twenty-four hours each day.

The cost savings made possible by switching from investor financing to financing using a consumer-owned entity's low-cost borrowing power are enormous. In fact, according to Dr. Silkman, the necessary investments for full decarbonization would be simply beyond the reach of our utilities and generators as they are currently configured. But with consumer ownership, we can reach our state climate goals faster, and at half the cost.

This transition will require time and care. In the short term, the easiest path politically may be to do nothing and to maintain the status quo. And the dollar amount – although not taxpayer funded – of purchasing the assets of a large utility looks large when viewed abstractly. Assuming ownership of every pole, wire and transformer now owned by the IOUs will require a considerable investment of upfront capital. But while the up-front purchase price of transitioning to a COU may seem like an obstacle, it must be considered in context of the potential overall savings through the long lifetime of the purchased assets, when another generation will experience the costs and benefits of what we now decide. These transition costs pale in comparison to what we have already committed to spend on the next iteration of the electric grid, and on the energy it will carry. The process of assuming ownership and management of these parts of the Maine electric grid can be structured to minimize the potential for waste and to focus

attention on the critical decisions. The costs of making this transition are, in the final analysis, a relatively small factor and can be securitized and financed over time.

Public demands on the electric grid are evolving rapidly, and growing in scope and importance. Given these changes, the investor-owned model established a century ago relying on private regulated monopolies is no longer truly "useful" to the public as it originally was. As thousands of Mainers have already experienced, a viable alternative exists around the state and the nation. Consumer-owned utilities cost less, provide more responsive customer service, and are more reliable. These are the benefits that await Maine residents, businesses, and industrial establishments if we have the will to follow through. Consumer ownership is the key to decarbonizing the grid for a new era of beneficial electrification.

This paper was a collaborative effort among the following co-authors, and we thank them for the contributions:

State Representative Seth Berry is the sponsor of Maine's bill to create a consumer-owned utility. He is completing his 12th year in the Maine Legislature, and his 6th on the Joint Standing Committee on Energy, Utilities and Technology, on which he has served for four years as the House Chair. Rep. Berry is also an award-winning former teacher, business development director for a Maine biotech laboratory, and past Majority Leader and Assistant Majority Leader of the Maine House of Representatives. He and his partner Adelaida and their two sons live in Bowdoinham.

Johanna Bozuwa is the Co-Manager of the Climate & Energy Program at the Democracy Collaborative. Her research focuses on energy democracy and climate resilience, ownership structures for a democratic economy, and institutional design. She holds a Masters in Sustainable Business and Innovation from Utrecht University and her work has been published in outlets including The Nation, The Hill, and In These Times.

John Brautigam is an attorney and consultant with a practice in public policy and legislative advocacy. He previously served in the Maine legislature and as Assistant Attorney General. Mr. Brautigam holds a J.D. from Stanford Law School, an M.A. from Trinity College, and a B.A. from Wesleyan University.

Anne Bartol Butterfield has moved to Maine after a life of summering in Prouts Neck and decades of living in Boulder Colorado where she wrote newspaper columns about energy policy and Boulder's long effort to take over the local power distribution system and create a clean-energy municipal utility. Acutely skeptical of all antiquated, uncompetitive and polluting institutions, she also serves on the board of Wild Earth Guardians.

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 US. 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.

Ed Geis is a web development entrepreneur in Camden. A passionate advocate for renewable energy, Ed designed and installed a residential solar system at his home and works to promote smart, clean, reliable energy.

State Representative Nicole Grohoski of Ellsworth is serving her first term in the Maine House and is a member of the Legislature's Energy, Utilities and Technology Committee. She is a GIS specialist and cartographer by trade and an advocate for restoring local control of our grid and growing Maine's clean energy economy.

Sue Inches has worked in public policy for over 25 years. Sue previously served as Deputy Director of the State Planning Office and as a Director at the Department of Marine Resources. Sue now works as a consultant, teacher and advocate with a focus on the environment and climate change. Sue is now writing a book entitled: Advocating for the Environment: How You Can Make a Difference. Sue holds a BA in Human Ecology from College of the Atlantic and MBA from the University of New Hampshire.

Sharon Staz has 29 years of experience relevant to the electric utility industry. She was General Manager & Treasurer of the Kennebunk (Maine) Light & Power District from 1998 to 2015. She previously served 12 years as Manager of the Princeton (Mass.) Municipal Light Department where she received the American Public Power Association's Seven Hats Award (1989) for outstanding service to the community. She served on the Board of Directors of the Northeast Public Power Association and was elected to the Board of Directors of the American Public Power Association where she also served on the Executive Committee. Ms. Staz also served as Secretary and Legislative liaison for DIRIGO, the consumer owned utility association of the state of Maine

Our Power is a broad and rapidly growing Maine-based coalition of everyday Mainers, utility experts, policymakers, activists, and business representatives committed to a utility power delivery system that meets Maine's needs. For more information contact info@ourpowermaine.org.

OUR POWER
LOWER COST · LOCAL · RELIABLE

ACRONYMS

APPA	American Public Power Association
BHE	Bangor Hydro-Electric (unit of Emera Maine)
CMP	Central Maine Power Company
COU	Consumer-Owned Utility
COVID-19	COronaVIrus Disease - 2019
EIA	Energy Information Administration
ERO	Electric Reliability Organization
FERC	Federal Energy Regulatory Commission
GSP	Gross State Product
IOU	Investor-Owned Utility
ISO-NE	Independent System Operator - New England
KL&P	Kennebunk Light & Power District
kWh	Kilowatt-hour
MEMIC	Maine Employers Mutual Insurance Company
MWh	Megawatt-hour
MPS	Maine Public Service (unit of Emera Maine)
NEPOOL	New England Power Pool
NERC	North American Electric Reliability Corporation
OATT	Open Access Transmission Tariff
OPPD	Omaha Public Power District
PILOT	Payment In Lieu of Taxes
PPH	Portland Press Herald
PUC	Public Utilities Commission
ROE	Return on Equity
RPS	Renewable Portfolio Standards
TSO	Transmission System Operator