7. Financial Assessments

DEVELOPING OUR COST OF SERVICE

Utility rates are set based upon the cost of service, meaning the amount of revenue needed to cover a utility's costs to provide service and an opportunity to earn a reasonable return. The revenue requirement for a particular rate period is measured against sales and other revenue expected for that same period; if expected sales revenue is lower than the revenue requirement, rates will increase to cover the difference. The percentage increase is based upon the difference between current rates and the rates that are shown to be required in the rate period.

For the 2018 IRP financial analysis, we use data from our most recent rate case consistent with the analysis we perform for our ratings agency. We developed the rate period cost of service by taking the actual level of these costs incurred during a test period—January 1, 2017 to September 30, 2017. We then made known and measurable changes to these costs so that the net costs reflect, as closely as possible, the projected level of net costs that will occur in the rate period— January 1, 2019 through September 30, 2019.[65]

It is important to note a few points about our financial summary.

First, given the data used for this financial analysis, there is necessarily some disconnect between the specific inputs used here and the resource modeling and scenario analysis performed elsewhere in the 2018 IRP. That is because we use the most up-to-date individual resource figures we have available, and test scenarios accordingly, while we take a more conservative, accounting approach to our multi-year financial analysis.

65 The test period and rate period reflect the 2019 traditional cost of service rate case we filed in April 2018. It included a nine-month rate period to align our base rate changes with our fiscal year.

Nevertheless, the differences are minimal over the planning period. As described in Chapter 8: Portfolio Evaluation and elsewhere, the first five years of the resource planning model are largely consistent with our current five-year financial forecast (see "Financial Forecast" on page 7-15). While the base forecast in the IRP does not match precisely to our internal financial forecast, for many of the models' key components (including the volumes and prices for major supply sources, which drive most of our power costs), the inputs are directionally the same, and the bottom-line cost projections are similar.

Second, the financial forecasts and base rate assumptions do not reflect extraordinary, compounding costs from major storm restoration during this time of climate change. While we already have approved major storm costs awaiting customer collection under our regulation plan and projections for these costs in coming years (shown as "Deferred Assets–Storm" in Table 7-7 on page 7-18), major storm costs exceeding expectations continue to accrue this year for reporting and collection in coming years. This is a significant challenge for us and our customers, and is one that we strongly believe requires careful attention in the planning period. Major storm costs add millions of dollars to what customers pay, and therefore create real pressure even though not part of routine storm clean up and related maintenance reflected in base rates. In our pending regulation plan, we have proposed a fixed annual collection to help cover costs over time. At the time the regulation plan was filed, the $8 million annual collection we proposed appeared reasonable to test whether this new methodology would help alleviate stacked cost pressure. Given the major storm costs we have experienced in the remainder of 2018, that amount will likely not be adequate. We expect to address this issue with the Department and Commission as the regulation plan proceeding continues.

The fundamental part of establishing rates is determining the appropriate cost of providing service during the rate period. This is determined by evaluating the costs incurred by GMP in the test period and then making appropriate adjustments for changes that are anticipated to occur within the rate period. Utilities include costs in the rate period's revenue requirement that are just and reasonable, prudently incurred, and known and measurable.

The cost of service has two overarching components: costs directly related to providing service to customers (sometimes referred to as "operating costs") and costs related to our capital investments for customers that are made or will be made within the rate period to provide service, along with the associated depreciation expenses, taxes, and capital cost recovery—this is commonly referred to as "rate base" when taken together.

Our cost of service for any particular rate period is based on a number of factors. Among them are:

- Load and revenue forecast
- Growth-related plant additions
- Return on equity
- Gains and losses from the sale of utility property

CAPITAL INVESTMENTS

Navigating the significant transition in the energy sector requires continued thoughtful and strategic capital investments to ensure the delivery of safe and reliable service, while pursuing the types of energy projects and programs necessary to transform our energy delivery model and keep the overall cost of service manageable in years to come, despite the rapid and significant changes in the energy industry.

Over the course of the IRP planning period, we will invest in several key areas to meet our customer commitments:

- Maintain and develop as appropriate low-cost, renewable energy generation resources within Vermont.
- Harden and make more resilient the subtransmission and distribution system that is the backbone of the energy transformation.
- Equip our workforce with the tools and technologies to safely and effectively perform their work every day, while simultaneously keeping our customers safe.
- Continue to automate and digitize our operations to reduce costs and improve the quality of our services.
- Identify and pilot emerging energy technologies that can be integrated within our operations and customer programs to deliver better results and lower costs year-over-year.

Capital investments must benefit customers and our workforce, thus enabling us to deliver service to our customers in a safe and reliable way. We evaluate all of our potential capital investments against these benefits.

Capital investments are broken out into capital additions and capital retirements. Capital additions represent the capital projects that will be completed and added to our overall rate base in the rate period; retirements represent capital assets that will be removed from our overall rate base. These two amounts are netted out to determine the overall "net capital additions," or the overall change in our rate base for any particular period.

CAPITAL INVESTMENTS ACROSS SIX CORE OPERATING AREAS

Providing strong performance for customers throughout our entire energy delivery system requires coordinated capital investment across our six core teams, which include:

- Transmission and Distribution.
- Information Technology (including communications, computer software, and computer hardware).
- Facilities (also called Property and Structures).
- Transportation.
- New Initiatives (also called Energy Transformation).
- Generation (also called Production).

The investment needed from each of these teams can vary from year to year. Each year, we identify and properly manage these investments to maximize the potential benefits while controlling the overall costs for our customers.

Guiding Principles for Selecting Capital Projects

Each capital team has an individual set of guiding principles that are used as a framework to identify, assess, and evaluate capital project candidates for recommendation into a given capital plan.

Each team constantly assesses the operational performance of their selected capital investments and opportunities for improvement. Out of this continuous assessment, new capital project candidates are identified and developed within the team, then submitted to be assessed as a group with the other teams.

Transmission and Distribution Projects

Over the recent planning period, our T&D team successfully completed several important reliability projects. For example, in 2017, we rebuilt the Line 7 circuit in Lincoln. Originally set in the 1950s and 1960s, this line had a poor history of reliability because of the age of the infrastructure, the physical terrain the circuit was constructed on, and the evolving weather patterns in that part of the service territory. We replaced

109 poles, a 3.25-mile length of conductor, brought about half of that length roadside from its original off-road, cross-country location, and replaced the original conductor with hardened 336-tree wire to provide additional resiliency. Customers served by Line 7 have seen dramatic improvement to their power reliability as a result of this project.

Many of the proposed capital additions in the next planning period allow for more capability to interconnect additional distributed energy resources without compromising system power quality or reliability. Good examples of this are the strengthening of the Barre North End and the Barre South End substations. This increased system strength will reduce the potential for voltage flicker from connected DERs, and will allow for increased flexibility and opportunities for integrating emerging technologies.

We are also planning to explore the potential to increase distributed generation (DG) hosting capacity through battery storage systems to possibly implement at substations nearing their DG hosting capacity limits. An example of this is the Panton Battery project. We proposed a limited testing of this capability to gain experience and learn about the requirements and potential tradeoffs related to increasing DG hosting capacity through battery storage systems. The Panton Battery project also enables us to explore other potential grid-related benefits of DERs (such as reactive power support, conservation voltage reduction, and distribution islanding.) The battery storage also provides potential benefits of reducing the regional network service charge and of participating as a merchant plant in the forward capacity market, energy arbitrage, and frequency regulation market.

Distribution Substations. The primary purpose of distribution substation capital projects is to improve reliability and safety. In addition, many of our substation transformers, breakers, reclosers, and protection systems are 30 years old or older, and have reached the end of their service life or become obsolete. The probability of failure starts increasing after 30 years of service and continues to increase as the age profile for equipment increases. Although proper maintenance and diagnostic testing can extend the life of substation transformers and other equipment, eventually it must be replaced because of failure risk, obsolescence, or the unavailability of spare parts.

Some projects are upgrades to vintage equipment, such as replacing specific types of circuit breakers because of bearings sticking, close latches malfunctioning, dash pots malfunctioning, spare parts becoming obsolete, and technology that is no longer supported (such as remote terminal units). Other projects replace transformers and equipment to provide feeder backup. These transformers must be capable of serving their normal load while being able to pick up the additional load of another feeder or substation at the same time. Increased transformer capacity allows for increased operating flexibility for feeder backup during planned and emergency outages, which improves reliability to serve present load.

Transmission Lines. Transmission line projects include reconductoring, structure replacements, and grid automation to address reliability, safety, and the potential overloading of lines. A good example is the reconductoring of transmission Line 43 between the Evergreen Tap and West Rutland, which will enhance the connectivity and consequent reliability of the 46-kV subtransmission system in Central Vermont.

Transmission Substations. Transmission substation projects are focused on reliability and safety, which involves replacing equipment that has reached the end of its service life or become obsolete and implementing power quality improvements. As with the distribution substations, many of our transmission substation transformers, breakers, reclosers, and protection systems are 30 years old or older.

Distribution Equipment Purchases. These capital purchases are for acquiring transformers, meters, and regulators, and capacitors. They permit the installation of new or replacement of deteriorated, obsolete, or failed equipment on the system.

Distribution Lines. Distribution line projects can be broken out into four primary categories.

1. *Reconstruction and rebuild* projects that improve the safety, efficiency, and reliability of the distribution system. These projects include: voltage conversions, fuse coordination, relocation of lines to the road to improve reliability, and replacement of old and deteriorated plant at the end of its service life. This category includes investments in distribution line equipment needed to facilitate distribution automation projects, as well as small capital improvements.
2. *Customer-requested* projects, such as line extensions, relocations, and upgrades. These requests include distributed generation projects that require capital upgrades of our infrastructure to enable the customer to interconnect.
3. *Road relocation* projects that involve relocating T&D facilities where the present location interferes with state or municipality road or bridge construction.
4. *Third-party reconstruction* projects in which a telephone or cable company requests to upgrade and relocate joint facilities to accommodate their service requirements.

Information Technology Projects

Our Information Technology (IT) team manages a host of responsibilities, including communications, computer software, and computer hardware. IT projects are essential to supporting our transformation from a traditional electric utility to an energy services provider. IT projects are also critical for maintaining the safety and security of our grid network and ensuring the efficiency of our workforce.

In the last planning period, our IT group completed a range of key projects that improved the safety and security of our networks, the efficiency of our employees, and the overall customer service experience for our customers. For example, IT refreshed our Outage Center as part of the 2017 website redesign project. The overhaul consolidated all outage and incident reporting into one location and provided several improvements to the customers' experience. This project also improved our internal operations performance, as well as delivered a better experience for our customers when they interact with our outage center. The outage center is a key information hub for customers and other stakeholders during severe weather events.

IT continues to be focused on a number of safety enhancements to our facilities and networks. For example, Project 159554 in 2019 will implement a centralized, server-based digital key and lock management system that will significantly improve the auditability and security of plant and substation assets. This project will incrementally replace existing substation and plant lock and key systems with a digital padlock infrastructure. Project 158850 will license Oracle's Advanced Security software, an add-on option to our existing Oracle database, that will address privacy and regulatory requirements. Advanced Security provides data encryption and strong authentication services to the Oracle database, safeguarding sensitive data against unauthorized access from the network and the operating system. It also protects against theft, loss, and improper decommissioning of storage media and database backups to ensure the highest level of security available in the industry for Oracle databases.

IT priorities also include improving operational efficiency through new and upgraded software. For instance, Project 159555 will improve our meter-to-billing process to ensure accurate meter reading and billing by building a Meter-to-Revenue management tool (MET2REV) that will continuously look for patterns that indicate defective or improperly configured meters. This project will not only increase screening and monitoring to protect against lost or inaccurate data, but also reduce meter operations costs while improving billing accuracy for customers.

Facilities Projects

Facilities projects essentially manage company property and structures. We recently completed several Facilities projects to improve the safety of our staff. For example, the Facilities team replaced a number of gas heater exchangers that were over 20 years old and had begun to fail. A failing heat exchanger creates an unsafe level of carbon monoxide, putting our employees at risk. Facilities replaced the gas heater exchangers with infrared tube heaters, a much safer alternative.

Facilities also constructed an outdoor storage building at our St. Johnsbury district office to store and secure a variety of vehicles, trailers, construction equipment, and other material. This equipment is essential for completing routine work, and for restoring service mostly during inclement weather. Our line crews work not only during busy daytime operations, but also at all hours of the night during emergency situations and service restoration events, working in conditions from pleasant weather to raging storms. Keeping this equipment under cover and out of the inclement Vermont weather allows our crews to work safely, quickly and efficiently during both daily operations and emergency storm restoration. Storing the equipment under cover also ensures that it will be ready when necessary, enabling us to get the most out of this equipment and limiting downtime and maintenance.

Over the past several years, we have redesigned many of the office locations throughout our service territory. One of the keys to our culture of clear communication, informal collaboration and configurable workspaces is our open office workspace. Thus, after merging with CVPS, we redesigned all former CVPS district offices to comply with this foundational work environment of clean, bright workspaces with minimal walls and no enclosed or private offices.

Because of these recently completed renovations, we do not foresee any major new facility investments during the period of this IRP. Instead, we expect only the normal level of maintenance and upkeep projects related to HVAC systems, backup power systems, security systems and other routine facility maintenance projects.

Transportation Projects

In the recent planning period, the Transportation team replaced a variety of vehicles that had reached the end of their productive lives, including eight buckets trucks, two digger trucks, and 25 light vehicles. These replacements better ensure safe and reliable transportation and equipment to complete repairs for our customers in a timely and efficient manner.

Our Transportation team manages and maintains our fleet of vehicles and related transportation equipment. Transportation's priorities in this planning period are to continue to ensure vehicle reliability and safety. We are committed to maintaining a fleet so that when a storm hits, our line crews have safe, reliable vehicles to respond and restore service as quickly as possible. For example, Transportation is replacing four bucket trucks in 2019 that are in poor condition. Bucket trucks are the primary vehicles our line crews use to respond to trouble calls and outages during storms.

New Initiatives Projects

Our New Initiatives team adopts new energy technologies and resources as they emerge in the market. Once adopted, the team evaluates them, and incorporates them into programs based on their ability to deliver cost-effective, cleaner, more reliable energy solutions to our customers.

In our transition to the new energy delivery model, we embrace technological innovation and energy transformation tools that enable an increasingly distributed energy network and a system of developing new value streams for customers. Our goal is to lower customer costs as much as possible while creating a dramatically more localized, reliable, and resilient energy delivery system.

Several New Initiatives projects have helped us advance this vision. These projects focus on new, low-carbon, distributed energy technologies that support Vermont's energy policy, reduce power costs, introduce new revenue streams, and provide customers with options to transition off of traditional fossil-fuel systems for heating or transportation.

New Initiatives projects are selected to comply with four goals:

1. Deliver increased resiliency in new ways to all customers, especially by managing and balancing the power grid.
2. Create new value revenue streams, especially from new non-traditional sources that flow back to all customers and reduce rates.
3. Deliver services and a platform that enable customers to reduce their carbon footprints while increasing their comfort and saving money on total energy consumption.
4. Strategically partner with customers and third parties to deliver more innovative program offerings to achieve our goals, as well as Vermont's energy goals.

Ongoing New Initiatives projects include these programs:

- Tesla Powerwall 2.0 Battery Pilot
- Remote Water Heater Access Innovative eWater Pilot
- Cold Climate Ductless Heat Pump Pilot
- Electric Vehicle e-Charger Pilot
- Bring Your Own Device

(All of these programs are discussed in detail in Chapter 2: Innovative Customer Programs.)

Each program is based upon a customer device. Our Virtual Peaker management software enables customers (through a mobile app) and our staff shared access to manage these customer devices individually or in aggregate. We use Virtual Peaker to aggregate devices from participating customers and use them during peak events and other grid conditions to lower grid costs and carbon impacts. Another benefit of our Virtual Peaker platform is the economic development it supported in Vermont through our Inspire Space "co-laboratory" at our Colchester office. Virtual Peaker is an energy sector start-up attracted to Vermont through our launch of that co-working space and program. Virtual Peaker has secured its first round of growth funding, including participation by a Vermont early stage fund.

Our New Initiatives team will use these same goals to continually develop innovative programs that help us save money for customers and to continue our transformation into an energy services company that responds to the new, dynamic energy landscape.

Generation Projects

The primary goal of our Generation team is to manage and operate our fleet of generation assets in a safe and responsible manner that provides our customers the greatest benefit possible. We are focused on providing power that is low-cost, low-carbon, highly reliable, and meets our important regulatory and environmental obligations. To achieve these customer-focused objectives, we generate energy from a range of different sources.

The Generation team is responsible for maintaining and operating more than 60 solely owned facilities, including 44 hydro facilities, two wind facilities, twelve solar projects, and six thermal peaking facilities. We also have interests in four jointly owned facilities, including five joint venture solar projects.

We are working to develop innovative and transformational energy projects (such as grid-scale battery storage facilities) that will provide important new benefits to customers while reducing costs for all. We currently have one grid-scale battery storage project installed at an existing solar facility (Stafford Hill), one grid-scale battery project installed and pending commissioning at another solar facility (Panton), and three joint venture solar and battery storage projects under development.

CAPITAL INVESTMENTS FOR THE PLANNING PERIOD

Our proposed capital additions are broken out by functional area (Transmission and Distribution, Information Technology, Facilities, Transportation, New Initiatives, and Generation,), the interim period (the time between the test year and the rate year), and the rate year. All amounts in Table 7-1 through Table 7-4 are as of April 2018.

Table 7-1 summarizes the capital investments for all six functional areas.

Functional Area	Interim Period ($000) 10/1/2017–12/31/2018)	Rate Period ($000) 1/1/2019–9/30/2019	Totals ($000)
Transmission & Distribution	$63,672	$33,612	$97,284
Generation	$30,065	$6,025	$36,090
Information Technology	$9,008	$4,549	$13,557
Facilities	$1,287	$0	$1,287
Transportation	$4,524	$2,214	$6,738
New Initiatives	$11,364	$6,087	$17,451
Total Capital Additions	$119,920	$52,487	$172,407
Retirements	$24,186	$15,602	$39,788
Net Capital Additions	**$95,734**	**$36,885**	**$132,619**

Table 7-1. Capital Investments by Functional Area

Table 7-2 breaks out the capital investments for the Transmission and Distribution functional area into five categories: Distribution Substations, Transmission Lines, Transmission Substations, Distribution Equipment Purchases, and Distribution Lines.

Transmission and Distribution Category	Interim Period ($000) 10/1/2017–12/31/2018)	Rate Period ($000) 1/1/2019–9/30/2019	Totals ($000)
Distribution Substations	$8,471	$5,753	$14,224
Transmission Lines	$8,009	$3,228	$11,327
Transmission Substations	$5,566	$348	$5,915
Distribution Equipment Purchases	$6,977	$4,115	$11,092
Distribution Lines	$34,558	$20,168	$54,726
T&D Total	**$63,672**	**$33,612**	**$97,284**

Table 7-2. Transmission and Distribution Capital Investments

Table 7-3 breaks out the capital investments for the Generation functional area into three categories: Owned Generation, Joint Ownership, and Other Generation.

Generation Category	Interim Period ($000) 10/1/2017–12/31/2018)	Rate Period ($000) 1/1/2019–9/30/2019	Totals ($000)
Owned Generation	$28,210	$4,146	$32,356
Joint Ownership	$1,855	$1,879	$3,734
Generation Total	**$30,065**	**$6,025**	**$36,090**

Table 7-3. Generation Capital Investments

Table 7-4 breaks out the capital investments for the New Initiatives functional area into the several main programs and pilots that we are currently offering.

Program	Interim Period ($000) 10/1/2017–12/31/2018)	Rate Period ($000) 1/1/2019–9/30/2019	Totals ($000)
Tesla Powerwall 2.0 Battery	$9,671	$5,558	$15,229
Residential Battery Storage	$12	$0	$12
Cold Climate Heat Pumps	$1,173	$189	$1,362
Heat Pump Water Heaters	$278	$256	$534
Level 2 EV Home Chargers	$0	$84	$84
BTM Controls	$75	$0	$75
ePark	$155	$0	$155
New Initiatives Total	$11,364	$6,087	$17,451

Table 7-4. New Initiatives Capital Investments

The total capital additions across all functional areas in the nine-month 2019 rate period used in this IRP is $52.5 million; total capital retirements in the rate period equal $15.6 million. This represents a net increase to our rate base of $36.9 million during this period.

Figure 7-1 summarizes our planned capital investments from 2018–2022 in our six functional areas. (The Other category combines the Facilities and Transportation functional areas.)

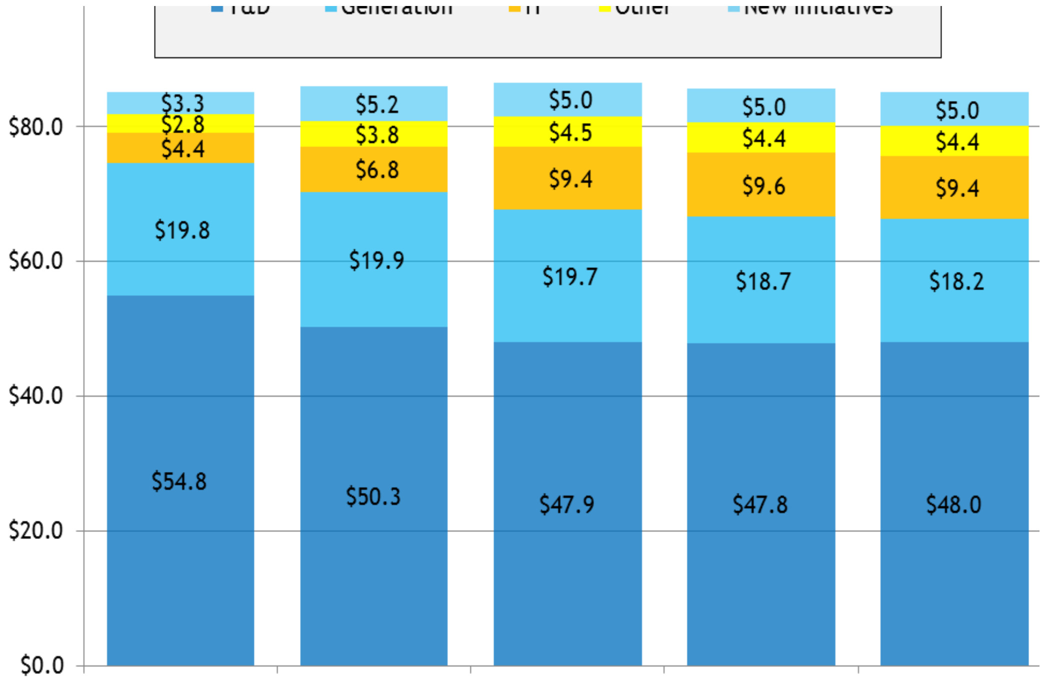

Figure 7-1. Capital Expenditures and Investments: 2018–2022

The amounts for transmission and distribution initially declines then remains steady, even though we anticipate a greater need in this area as the grid evolves.

The amounts for New Initiatives and IT initially grow, then remain flat. We expect to offer additional energy-related transformative projects for our customers and develop the communications infrastructure to better manage the grid and the growth of intermittent distributed renewable generation and distributed energy resources. These transformative programs will typically create new revenues from participating customers that offset program costs while delivering a net benefit to all customers. These projected capital investments, based on spending in recent previous years, represent our best estimate as to the amount of capital required to continue our progress in these important areas.

In prior years, our capital spending increased for several reasons, including:

- The implementation of Our Smart Grid program under Vermont's ARRA Smart Grid Incentive Grant.
- The expansion of our communications and mobile computing capabilities throughout our field organization.

- The construction and commissioning of Our Kingdom Community Wind facility.
- The integration of GMP and CVPS operational systems and processes to create a unified workforce and deliver substantial cost savings for our customers.

Each of these investments, as well as the normal capital investment in our operating infrastructure, was important to deliver services to our customers in a high-quality and contemporary manner. We have successfully implemented many necessary systematic improvements and investments in major operational areas, including capital investments associated with the successful merger with CVPS. While the merger required strategic capital investment to address outdated systems and infrastructure in certain areas, the merger also resulted in significant cost savings to customers, returning millions of dollars in operational synergy savings.

The overall flat trajectory of our total investment amount starting in 2018 represents a reduction from prior years, and reflects our desire to meet DPS's request to ramp down our capital investments after significant projects were undertaken in recent years. We believe this total amount also balances customer safety, system reliability, and our other core operating needs. We do anticipate, however, that we may need to increase our capital investments after this rate period to ensure continued system reliability and to meet the needs and expectations of our customers, especially as the grid continues to evolve.

We remain committed to disciplined spending on behalf of our customers. We aim for a measured level of investment—neither too high nor too low. Given the age and condition of the grid infrastructure in Vermont, the impacts from climate change beyond major storms, and our need to maintain a disciplined course of investment to avoid a backlog of deferred projects, it is likely that additional capital investment may be required to fulfill our responsibilities to our customers.

The pace of change in the energy sector continues to accelerate and the needs of our customers evolve in response. As such, we continue to closely monitor this evolution, keeping an eye on the proper level of capital investment to meet the needs of our distribution grid and those of our customers.

FINANCIAL FORECAST

The overriding principle we employ with our finances is rigor on behalf of our customers. We keep a careful eye on our current financial standing, and constantly assess the financial implications against the evolving nature of the energy landscape. Because of our rigor, we can present a current financial picture that is sound, and a forecast that shows we expect it to remain strong over the next five years.

Table 7-5 summarizes key financial areas over a five-year forecast.

Financial Area	Fiscal Year 2018 ($000)	Fiscal Years 2019–2022 ($000)
Capital Investments	$85,000	$343,000
Transco and Joint-Venture Solar & Storage Investments	$39,000 (Transco)	$50,000
Generating Funds from Operations	$124,000	$589,000
Generating Net Income	$74,000	$318,000
Total Base Rate Increases	5.37% (CY 2018)	2019: ≥5.00% before 6% ADIT credit 2020–2022: Base rate increases expected in range≥ average inflation

Table 7-5. Financial Five-Year Forecast Highlights: 2018–2022

Financial Liquidity

Financial liquidity measures our ability to convert liquid assets (such as cash on hand, as well as current assets and other short-term investments that can be quickly converted to cash) to pay for ongoing operations and other debts when they become due. As such, we hold a number of options to maintain financial liquidity.

Income generated from our daily energy-related activities fund our ongoing operations and maintenance. In September 2018, we renewed a long-term (three-year minimum) revolving credit line, raising our credit line from $110 million plus a $15 million accordion to $140 million with a $10 million accordion. In addition, we maintain liquidity from an available $9 million loan from insurance policies. Finally, Northern New England Energy Corporation (a wholly owned subsidiary of Energir) continues its equity investment in our company.

Forecasts show us maintaining our 50% debt to 50% capital ratio over the planning horizon.

Financial Forecasts

Table 7-6 through Table 7-9 present four essential projections regarding our operational financial statements. To create these projections, we assumed that:

- Retail MWh sales continued to decline because of greater efficiency measures and a sustained increased in net-metered installations, not fully offset by new load from certain areas of strategic electrification (such as transportation and heating) within the planning period.
- Power supply costs would remain stable and that we will continue to hedge on most short-term positions.
- Savings that satisfy the merger requirements would continue to be achieved.
- Key aspects of our Regulation Plan will be renewed through 2022 (major storm cost adjustor, power supply adjustor, innovative program pilot, among others).
- Special dividends would be issued as needed to maintain our capital structure.
- Dividend payouts would be made on approximately 55% of our net income.

The forecast also shows a return-on-equity of 9.3% with a modest inflation provision from 2019 through 2022, as requested in our pending Regulation Plan proceeding.

Income Statement

Starting in 2021, customers will receive 100% of the synergy benefits associated with the GMP-CVPS merger. As a result, our income will begin to decline starting in 2021. Table 7-6 details our consolidated income statement.

Income Statement Category	FY 2018 ($000)	FY 2019 ($000)	FY 2020 ($000)	FY 2021 ($000)	FY 2022 ($000)
Operating Revenues					
Retail Revenues	$618,000	$613,818	$681,492	$687,430	$707,493
Electricity Sales (Billing Adjustments)	7,047	6,047	3,776	2,316	2,316
Business Development–Net	319	343	337	327	327
Provision for Rate Refund/Collections	(9,899)	(7,276)	(3,191)	(2,316)	(2,316)
Other Operating Revenues	19,601	19,273	19,588	18,751	18,660
REC Revenue	21,735	15,711	11,306	7,052	7,016
Rate w/Revenues and/or VY Payment to Sponsor	28,805	4,077	4,055	4,033	4,011
Total Operating Revenues	685,608	651,993	717,364	717,593	737,506
Operating Expenses					
Power Supply Total Energy, Net of Resales	271,686	259,269	260,796	263,234	263,199
Power Supply Total Capacity	61,373	52,532	59,460	58,442	57,616
Subtotal Power Supply	333,060	311,801	320,257	321,676	320,815
Transmission by Others/Transmission Rents	96,422	114,406	112,399	113,607	122,120
Depreciation/Amortization	53,160	42,374	63,844	73,020	78,429
Investment Gain Deferral	(2,029)	8,191	1,185	–	–
Regulatory Deferrals	(885)	–	–	–	–
Cost Center O&M (including Payroll and Overheads)	106,033	100,041	103,253	105,699	108,250
Taxes Other than Income	36,652	39,022	40,376	41,839	43,807
Total Operating Expenses	622,412	615,835	641,314	655,841	673,421
Operating Income	63,196	36,157	76,049	61,753	64,085
Other Income (Loss)					
Equity-in-Earnings	78,713	80,131	79,561	75,852	75,095
Other Income	2,146	(1,015)	(1,254)	(1,243)	(718)
Interest Expense	43,254	40,701	42,377	41,735	41,504
KCW Accretion Expense (ARO)	256	294	307	320	335
Pre-tax Income	100,544	74,279	111,672	94,307	96,624
Income Taxes	24,967	21,582	23,511	18,617	18,265
Net Income before Non-Controlling Interest in Income	**75,577**	**79,697**	**88,161**	**75,690**	**78,358**
Non-Controlling Interest in Income–Income/(loss)	(1,228)	(671)	(568)	(527)	(2,301)
Net Income	**$74,349**	**$79,026**	**$87,593**	**$75,163**	**$76,057**
Effective Tax Rate	25.14%	(7.36%)	21.16%	19.85%	19.36%

Table 7-6. Consolidated Income Statement: 2018–2022

Balance Sheet: Assets

Over the planning period of 2018 through 2022, we forecast our total assets to grow by 1.55% annually (6.19% in total). Table 7-7 details our entire asset-related balance sheet.

Balance Sheet: Asset Category	FY 2018 ($000)	FY 2019 ($000)	FY 2020 ($000)	FY 2021 ($000)	FY 2022 ($000)
Utility Plant					
Utility Plant in Service	$1,883,380	$1,938,442	$2,008,489	$2,075,253	$2,144,803
Less: Accumulated Depreciation and Amortization	(632,482)	(667,124)	(712,517)	(762,436)	(821,228)
Net Plant in Service	1,250,899	1,271,319	1,295,973	1,312,817	1,323,575
CWIP	51,248	61,374	62,064	62,064	62,064
Nuclear Fuel	1,979	1,979	1,979	1,979	1,979
Net Utility Plant	1,304,126	1,334,672	1,360,016	1,376,861	1,387,619
Current Assets					
Cash and Cash Equivalents	8,762	8,326	11,741	14,683	18,490
Special Fund Millstone Decommission	12,940	12,940	12,940	12,940	12,940
VYNPC Spent Fuel Trust	146,041	143,936	141,831	139,725	137,620
Accounts Receivable, Net of Allowance	81,629	81,189	86,123	86,672	88,117
Inventories	24,504	25,185	25,992	26,825	27,672
Derivative Financial Instruments	11,101	11,101	11,101	11,101	11,101
Derivative Financial–Current	8,433	8,433	8,433	8,433	8,433
Prepaid Expenses and Other Current Assets	14,454	13,736	13,064	13,231	13,401
Total Current Assets	307,866	304,846	311,225	313,611	317,774
Regulatory Assets–Long Term: Pine Street	9,059	8,448	7,837	7,225	6,605
Other Deferred Charges					
Preliminary Survey	5,057	5,057	3,251	3,251	3,251
Deferred Assets–Other	21,394	12,613	9,775	7,837	5,926
Deferred Assets–Storm	13,664	12,563	9,671	7,364	5,058
Deferred Assets–Efficiency Fund Payments	16,470	13,624	10,957	8,457	6,148
VYNPC Special Trust Funds	2,878	2,670	2,461	2,252	2,044
Total Other Deferred Charges	59,462	46,526	36,115	29,162	22,427
Other Assets					
Associated Companies	597,890	657,596	678,765	683,072	690,798
Cash Surrender Value of Officers' Life Insurance	17,020	16,317	15,614	14,910	14,716
Other Investments	1,811	1,811	1,811	1,811	1,811
Other Assets	100,292	100,994	103,308	103,992	104,730
Total Other Assets	717,014	776,719	799,498	803,785	812,054
Other Assets–Non-Utility Property	6,600	7,300	8,001	8,715	9,444
Total Assets	**$2,404,126**	**$2,478,511**	**$2,522,691**	**$2,539,359**	**$2,555,923**

Table 7-7. Consolidated Balance Sheet–Assets: 2018–2022

Balance Sheet: Liabilities and Capitalization

Table 7-8 details our entire capitalization and liabilities-related balance sheet, projected over the planning period.

Balance Sheet: Capitalization and Liabilities Category	FY 2018 ($000)	FY 2019 ($000)	FY 2020 ($000)	FY 2021 ($000)	FY 2022 ($000)
Capitalization					
Additional Paid-In Capital	$559,394	$569,394	$545,394	$520,394	$493,394
Distributions to Non-Controlling Member	(406)	(3,187)	(5,946)	(9,156)	(11,476)
Equity Interest of Non-Controlling Member GMP VT Solar	721	1,391	1,959	2,486	4,787
Retained Earnings	244,586	280,078	319,425	353,178	387,334
Total Stockholder's Equity	804,295	847,677	860,833	866,902	874,039
Long Term Debt	639,830	739,500	749,145	726,235	720,730
Total Capitalization	1,444,126	1,587,177	1,609,978	1,593,137	1,594,769
Current Liabilities					
Short-Term Debt	73,511	99,571	76,122	107,499	117,225
Current Portion of Long-Term Debt	86,300	10,330	40,355	30,910	27,530
Accounts Payable	48,782	49,609	51,898	54,242	56,613
Power Supply Adjustor	5	(0)	(0)	(0)	(0)
Derivative Financial Instruments–Current Portion	17,624	17,624	17,624	17,624	17,624
Other Accounts Payable and Accruals					
Accrued Officers Compensation	1,266	1,287	1,316	1,345	1,376
Accounts Payable–Associated Companies	(509)	(439)	(347)	(251)	(152)
Customer Deposits & Unearned Revenue	1,372	1,395	1,426	1,458	1,491
Accrued Interest Payable	10,963	11,979	13,561	13,022	12,928
Other Miscellaneous	16,584	16,285	16,145	16,024	15,911
Total Other Accounts Payable and Accruals	29,677	30,508	32,101	31,599	31,554
Total Current Liabilities	255,899	207,642	218,099	241,874	250,546
Regulatory Liabilities					
Reg Liability–Deferred Future Income Taxes	177,544	148,192	144,501	140,767	136,847
Cost of Removal–Regulatory Liability	24,244	24,657	25,199	25,769	26,352
Other Regulatory Liabilities	41,048	31,262	30,047	30,047	30,047
Total Regulatory Liabilities	242,836	204,111	199,747	196,583	193,246
Derivative Regulatory Liability	16,308	16,308	16,308	16,308	16,308
Customer Advances for Construction	204	204	204	204	204
Spent Fuel Obligation–VY	109,252	109,758	110,263	110,768	111,274
Asset Retirement Obligations	9,798	10,091	10,398	10,718	11,053
Deferred Taxes	216,774	238,370	253,204	265,917	275,266
Minimum Pension Funding Liability	58,153	57,967	57,780	57,646	57,530
Other	50,777	46,884	46,709	46,202	45,726
Total Liabilities	960,000	891,334	912,713	946,221	961,153
Total Liabilities & Capitalization	**$2,404,126**	**$2,478,511**	**$2,522,691**	**$2,539,359**	**$2,555,923**

Table 7-8. Consolidated Balance Sheet–Liabilities and Capitalization: 2018–2022

Cash Flow

Fiscal year 2019 reflects the return of $27 million to our customers as a result of the 2018 Tax Reform Act. Table 7-9 details our entire cash flow statement over the planning period.

Balance Sheet: Capitalization and Liabilities Category	FY 2018 ($000)	FY 2019 ($000)	FY 2020 ($000)	FY 2021 ($000)	FY 2022 ($000)
Operating Activities					
Net Income	74,349	79,026	87,593	75,163	76,057
Net Income attributable to Non-Controlling Interest	(1,228)	(671)	(568)	(527)	(2,301)
Net Income before Non-Controlling Interest	75,577	79,697	88,161	75,690	78,358
Adjustments to reconcile net income to net cash provided by operating activities:					
Depreciation and amortization	58,024	58,861	62,131	69,603	75,199
Amortization of regulatory & other deferred amounts	(4,864)	(8,755)	4,836	5,609	5,418
Amortization & deferral of purchased power costs, net	5,738	–	–	–	–
Dividends & distributions from assoc. companies	60,993	62,878	66,033	67,285	68,148
Equity in undistributed earnings of assoc. companies	(78,713)	(80,131)	(79,561)	(75,852)	(75,095)
AFUDC	(1,794)	(1,271)	(1,000)	(1,000)	(1,000)
Accretion–KCW	256	–	–	–	–
Deferred income tax expense, net of investment tax credit amortization	25,047	(7,756)	11,143	8,980	5,428
Environmental and conservation deferrals, net	(31)	(145)	(145)	(145)	(136)
Working Capital Changes in:					
Accounts Receivable	(6,122)	441	(4,934)	(550)	(1,445)
Other current assets & Deferred Tax Adjustment	(9,214)	37	(135)	(1,000)	(1,017)
Accounts Payable and other current liabilities	(7,646)	(650)	3,632	1,308	1,922
Accrued income taxes	22	(0)	0	(0)	0
Other assets	46,108	1,354	3,533	3,440	3,382
Other liabilities	(39,412)	11,608	2,044	822	737
Net cash provided by operating activities	$123,969	$116,167	$155,737	$154,191	$159,900
Investing Activities					
Utility plant expenditures	(90,033)	(87,197)	(85,500)	(84,500)	(84,000)
Investment in associated companies	(71,322)	(42,453)	(7,640)	4,260	(780)
Proceeds from sale of assets and other items, Investment in Non-Utility and Other	(2,844)	3	3	(11)	(534)
Net cash used in investing activities	$(164,199)	$(129,647)	$(93,137)	$(80,251)	$(85,313)
Financing Activities					
Issuance of long-term debt	25,000	108,800	48,770	(1,255)	(1,285)
Repayment of long-term debt	(7,280)	(85,500)	(9,500)	(31,500)	(8,000)
Additional paid in capital	–	10,000	(24,000)	(25,000)	(27,000)
Capital Contributions from Non-Controlling Partners	(406)	–	–	–	–
Other	149	–	–	–	–
Net borrowings on short-term debt	43,511	26,060	(23,450)	31,377	9,726
Cash dividends	(40,984)	(46,316)	(51,005)	(44,621)	(44,221)
Net cash provided by financing activities	$19,991	$13,044	$(59,185)	$(70,998)	$(70,780)
Net increase in cash and cash equivalents	**(20,239)**	**(436)**	**3,415**	**2,942**	**3,807**

Table 7-9. Consolidated Cash Flow Statement: 2018–2022

Financial Metrics and Ratios

Financial metrics and ratios identify prudent balances between revenue and expenses, between assets and liabilities, and between other opposing financial indicators. Table 7-10 shows a number of these ratios as projected over the planning period. Our calculated ratios include estimated adjustments consistent with generally accepted Standard & Poor's methodology.

Financial Statistics: Ratios	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Capital Spending	**$85,105**	**$85,965**	**$86,500**	**$85,500**	**$85,000**
Investment in Transco	71,322	15,040	7,756	(4,145)	895
Investment in Joint-Venture Solar & Storage Project	–	27,729	–	–	–
Short and Long-Term Debt	799,641	849,401	865,622	864,644	865,485
Base Rate Impact–with Indexed ROE	**5.37%**	**5.43%**	**5.53%**	**1.64%**	**3.63%**
Allowed ROE	9.10%	9.30%	9.65%	9.70%	9.72%
Effective Allowed ROE for Fiscal Year	9.08%	9.25%	9.65%	9.70%	9.72%
Earned ROE	9.4%	9.5%	10.3%	8.7%	8.7%
13-Month Average Equity Ratio	49.9%	50.2%	49.6%	49.8%	50.0%
Key Credit Statistics					
FFO to Total Debt	15.6%	11.3%	17.6%	17.4%	18.3%
Debt / EBITDA x	4.90	6.42	4.56	4.62	4.42
Debt / Book Capitalization	54.20%	55.30%	54.70%	53.90%	54.60%
Liquidity (Sources/Uses) Ratio	1.5	1.2	1.6	1.3	1.5
Other					
Net Income	74,349	79,026	87,593	75,163	76,057
Interest	43,254	40,701	42,377	41,735	41,504
Income Taxes	24,967	(5,418)	23,511	18,617	18,265
Depreciation and Amortization	53,160	42,374	63,844	73,020	78,429
EBIT	**$142,571**	**$114,309**	**$153,482**	**$135,514**	**$135,826**
EBITDA	195,731	156,683	217,326	208,535	214,255

Table 7-10. Financial Statistics and Ratios: 2018–2022

Based on our evaluation of necessary investments, we have forecast the overall capital spending across all departments at approximately $85 million annually over the planning period. We have requested this overall level of investment in our pending Regulation Plan proceeding.

Category	FY 2019 Forecast ($000)	FY 2020 Forecast ($000)	FY 2021 Forecast ($000)	FY 2022 Forecast ($000)
Information Technology	$6,845	$9,375	$9,551	$9,423
Distribution Lines Large Cap	$7,861	$9,500	$9,500	$9,500
Distribution Line Extensions	$4,481	$4,500	$4,500	$4,500
Distribution Lines Small Cap	$14,846	$10,100	$10,100	$10,100
Distribution Substation	$6,068	$4,900	$4,775	$4,425
General Plant	$402	*	*	*
Joint Ownership	$1,466	$2,000	$2,000	$2,000
Kingdom Community Wind	$963	*	*	*
Meters	$913	$650	$650	$650
New Initiatives	$5,170	$5,000	$5,000	$5,000
Production	$17,207	$17,700	$16,700	$16,200
Property & Structures	$329	$1,500	$1,400	$1,400
Regulators and Capacitors	$1,085	$1,100	$1,100	$1,100
Transformers	$3,608	$4,500	$4,550	$4,600
Transmission Lines	$4,462	$7,100	$8,524	$8,852
Transmission Substations	$6,971	$5,575	$4,150	$4,250
Transportation	$3,042	$3,000	$3,000	$3,000
Wind Generation	$246	*	*	*
Total	$85,965	$86,500	$85,500	$85,000

* = These costs are included in the Production line item for each fiscal year.

Table 7-11. Capital Spending Breakout: 2019–2022