**COMMONWEALTH OF MASSACHUSETTS**

**APPELLATE TAX BOARD**

**FIRSTLIGHT HYDRO GENERATING   v. BOARDS OF ASSESSORS**

**COMPANY OF MONTAGUE & GILL**

Docket Nos. F325471-74     Promulgated:

 December 10, 2018

 These are appeals under the formal procedure, pursuant to G.L. c. 58A, § 7 and G.L. c. 59, §§ 64 and 65, from the refusal of the Boards of Assessors of the towns of Montague and Gill (“assessors” or “appellees”) to abate taxes on certain personal and real property located in those towns owned by and assessed to Firstlight Hydro Generating Company (“appellant” or “Firstlight Hydro”) under G.L. c. 59, §§ 11, 18, and 38 for fiscal year 2014 (“fiscal year at issue”).

 Chairman Hammond heard these appeals. Commissioners Scharaffa, Rose, Chmielinski, and Good joined him in the decision for the appellees.

These findings of fact and report are promulgated pursuant to the appellant’s request under G.L. c. 58A, § 13 and 831 CMR 1.32.

 *Daniel J. Finnegan,* Esq. and *Michael D. Roundy,* Esq. for the appellant.

 *Ellen M. Hutchinson,* Esq. and *Karen Tonelli*, assessor, for the appellees.

**FINDINGS OF FACT AND REPORT**

 The hearing of these appeals spanned three days and featured a documentary record, Statements of Agreed Facts, and the testimony of several witnesses, including John Shue, Vice President of the appellant’s parent company, and Ann Bulkley, the appellant’s valuation expert. Based on the record in its totality, the Appellate Tax Board (“Board”) made the following findings of fact.[[1]](#footnote-1)

 On January 1, 2013, the relevant assessment date for the fiscal year at issue, the appellant was the assessed owner of certain real and personal property comprising two hydroelectric generating facilities, known as Cabot Station and Turners Falls Station, located in the towns of Montague and Gill (collectively, “facilities”). While the facilities are comprised of numerous items of personal property and include several parcels of real property, only three parcels of real property and one personal property account are the subject of these appeals. The real and personal property at issue will hereinafter be referred to as the “subject property.” Relevant assessment information for the subject property is summarized in the following table.

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| --- | --- | --- | --- | --- |
| **Docket No.** | **Location** | **Assessed Value** | **Tax/$1,000 and Fire District Tax[[2]](#footnote-2)** |  **Total Tax** |
| F325471 | 15 Cabot Street, Montague |  $91,800,290 | $28.95 | $2,657,618.40 |
| F325472 | Personal Property- Montague |  $15,840,800 | $28.95 |  $458,591.16 |
| F325473 | 0 Riverview Drive, Gill |  $12,672,700 | $16.78 |  $212,647.91 |
| F325474 | 26 Power Street, Montague |  $6,542,513 | $28.95 |  $189,405.75 |
| **Total** |  | **$126,856,303** |  |  |

 The appellant timely paid the taxes assessed for the subject property in full, without incurring interest. On April 29, 2014, the appellant timely filed Applications for Abatement with the assessors for the subject property, and those abatement requests were denied by vote of the assessors on July 28, 2014. The appellant timely filed appeals with the Board on October 15, 2014. Based on the foregoing facts, the Board found that it had jurisdiction to hear and decide these appeals.

1. **The Subject Property and Firstlight Hydro’s Operations**

The facilities are located along the Connecticut River in the towns of Montague and Gill. In Montague, the facilities are situated on 548 acres and in Gill they are situated on 337 acres. Both facilities have several turbines, along with generators and other equipment. The Turners Falls Station has a total generating capacity of 6.4 megawatts. Cabot Station has a total generating capacity of 61.8 megawatts. Both facilities were placed into service in the early 1900s, but both have been deactivated and refurbished at various times since then. During the period relevant to these appeals, Cabot Station was in operation twenty-four hours a day, seven days a week, though not always at maximum capacity, while the Turners Falls Station ran when there was enough river flow.

Firstlight Hydro is a “merchant generator,” meaning that it does not have a contract or power purchase agreement for the energy it produces and it is not a rate-regulated utility, but instead it participates in an open market to sell the power that it generates. John Shue, who is the Vice President of the appellant’s parent company, testified at the hearing about the market in which the appellant operates and the various ways it generates revenue.

Mr. Shue explained that ISO New England (“ISO-NE”) is the system operator responsible for ensuring adequate supply of electricity to the grid. As the operator of the grid, ISO-NE effectively runs the marketplace for energy regionally. One of the mechanisms used by ISO-NE in which the appellant participates is called the forward-capacity market, which is basically an annual auction. ISO-NE determines a market price, and the merchant-generator participants decide if they can participate in the market at that price. If many participants bid, the price is lowered until participants drop out, and the remaining bidder or bidders get the job.

Mr. Shue described two similar auction-like mechanisms in which the appellant participates, called the day-ahead market and the real-time market. As implied by their names, those auctions involve faster turn-around periods than the forward-capacity market. To participate in them, the appellant must assess its generation capacity based on current river-water flows. If it determines that it has adequate generation capacity, the appellant will bid in the real-time and day-ahead markets. The difficulty of predicting capacity was apparent from the record. As generation at the subject property is substantially dependent on rainfall and other weather patterns, generation capacity is subject to fluctuations beyond the appellant’s control. For example, the record showed that there was a tremendous spike in capacity during 2011, due to the impact of Hurricane Irene.

The last revenue-producing mechanism for the appellant is ancillary services.[[3]](#footnote-3) Mr. Shue described these as “other services that power plants can provide,” and those services include voltage support, regulation, and something known as black-start capability, which is necessary to get a power plant back online after a system outage. Payment for ancillary services is a flat fee and it is made by ISO-NE.

Mr. Shue additionally testified to the expense side of the appellant’s fiscal operations. As an entity regulated by the Federal Energy Regulatory Commission (“FERC”), the appellant must meet a number of requirements to maintain its license from FERC. For example, the appellant is required to build and maintain improvements, known as fish ladders, that allow fish passage throughout the Connecticut River in spite of the dams, turbines, and other infrastructure owned by the appellant.

 The subject property’s current FERC license was set to expire in 2018, and Mr. Shue testified that the appellant began preparing for the re-licensing process during 2011-2012. He stated that its original estimate for the expense associated with re-licensing was $18 million. By 2017, that figure had increased to $24 million. Mr. Shue also testified that property taxes are the facilities’ single largest expense.

Mr. Shue testified to some of the changes and challenges facing the electricity industry in general and ISO-NE in particular in its mission to ensure adequate electricity supply. Mr. Shue testified that, for example, between 2002 and 2013, there was a tremendous increase in the reliance on natural gas for the production of electricity. This reliance in turn affects electricity prices, as producers have to compete with consumers of natural gas for home-heating purposes during the winter months.

Mr. Shue also discussed the impact of government regulation and the changing landscape of energy resources on the electricity industry. For example, with stricter emissions controls being implemented by the Environmental Protection Agency, many generators, especially oil and coal facilities, have been forced to decide between making expensive capital improvements or shutting down. Mr. Shue testified that the closure of these types of generating plants can impact energy prices. Additionally, Mr. Shue testified that the increased integration of renewable energy sources, such as wind and solar, stood to impact the electricity market as a whole.

1. **The Appellant’s Valuation Evidence**

The appellant presented its case through the testimony and appraisal report of Ann Bulkley, the Senior Vice President of Concentric Energy Advisors, which is an economic and financial consulting firm catering primarily to the energy industry. Ms. Bulkley is a licensed real estate appraiser with considerable appraisal and consulting experience within the energy industry, and she has been qualified to testify as an expert witness in several jurisdictions. The Board qualified Ms. Bulkley as an expert in the appraisal of power-generating facilities.

To begin her appraisal, Ms. Bulkley first determined the subject property’s highest and best use. Ms. Bulkley concluded that the highest and best use of the subject property was its continued use as a hydroelectric generating facility.

Ms. Bulkley next determined appropriate methodologies with which to value the subject property. She considered each of the usual approaches to value – sales comparison, cost, and income capitalization. Although Ms. Bulkley identified several sales of hydroelectric generating facilities, she concluded that none of the transactions provided a reliable indication of the subject property’s fair market value due to differences in the properties involved or relevant market conditions. Accordingly, she did not apply the sales-comparison approach to determine a value for the subject property.

Ms. Bulkley did perform a replacement-cost analysis that resulted in a $98,420,665 value for the subject property. However, and as will be discussed in more detail below, Ms. Bulkley did not give weight to the value determined through the replacement-cost approach in reaching her ultimate opinion of fair cash value for the subject property, and neither did the Board.

Instead, Ms. Bulkley relied most heavily on the income-capitalization approach, the basic premise of which she described as “projecting out all of your revenue sources . . . and then project[ing] out expenses and capital investments [to] come up with a net-operating cash flow that’s been discounted” to estimate the present value of the property. Ms. Bulkley employed two variations of the income-capitalization approach to determine a fair cash value, the direct-capitalization approach and the discounted-cash-flow (“DCF”) approach, with the key differences being that the DCF approach assumes an income stream that fluctuates and projects it out over a longer period of time, while the direct-capitalization approach is based on a single year’s income stream.

Ms. Bulkley opined that the DCF methodology was the most reliable way to value facilities like the subject property because “the revenues . . . and the expenses of those plants can be variable from year to year,” as factors beyond the control of plant operators, such as the amount of rainfall and available water, have a tremendous impact on a plant’s revenues and expenses. Ms. Bulkley also testified that buyers and sellers of facilities like the subject property most frequently rely on the DCF approach in determining value for such assets. She therefore gave exclusive weight to her value as determined through the DCF approach, which was $104,555,373, rather than the value she determined using the direct-capitalization approach, which was $95,385,881, and her final, rounded opinion of value for the subject property for the fiscal year at issue was $104.5 million.

The assessors did not offer affirmative evidence of value, but instead rested on the presumptive validity of the assessments.

1. **The Board’s Ultimate Factual Findings**

On the basis of all of the evidence, the Board found that the highest and best use of the subject property was its continued use as a hydroelectric generating facility. That use was not only its current use but also the highest and best use determined by the appellant’s valuation expert, Ms. Bulkley, who used both a replacement-cost approach and two variations on the income-capitalization approach – direct capitalization and the DCF method – to determine estimates of fair cash value. However, the Board ultimately placed no weight on the opinions of value or methodologies used by Ms. Bulkley, as it found that her methodologies were without adequate support and unsuitable for *ad valorem* tax purposes.

The Board did not rely on Ms. Bulkley’s replacement-cost approach, as it is well established that evidence relating to costs must be supported by the testimony of a qualified engineer, architect, or construction manager. Ms. Bulkley is none of those, nor was her report supported by the testimony of such a professional. Moreover, her replacement-cost analysis was premised on the “cost to construct a new natural gas-fired combined cycle facility with the same capacity” as the subject property. In other words, it was premised on an entirely different type of generating facility than hydroelectric, which appeared to be at odds with Ms. Bulkley’s conclusions as to highest and best use. Because it was premised on the construction of an entirely different type of generating facility than the subject property, and because it lacked the requisite supporting testimony of a qualified engineer, architect, or construction manager, the Board found that the replacement-cost analysis did not provide a reliable or persuasive indication of the subject property’s fair cash value, as it was based in large part on the type of hearsay that was beyond the scope of Ms. Bulkley’s qualifications. Accordingly, the Board placed no weight on Ms. Bulkley’s replacement-cost analysis.

The Board similarly rejected Ms. Bulkley’s DCF approach. The Board has consistently considered the DCF approach to be an unsuitable methodology for valuing property for *ad valorem* tax purposes, and it did so again here, for numerous reasons. First, Ms. Bulkley’s DCF analysis projected an income stream for the subject property 20 years into the future, and it even incorporated data projected from as far out as 45 years. The Board found that the sheer length of this period rendered Ms. Bulkley’s analysis speculative and unreliable.

Second, as there was ample evidence in the record that the operation of the subject property is impacted by a constellation of forces beyond its control, including the weather, government regulation, and developments and changes in energy technologies and sources, the Board concluded that the DCF analysis was an inappropriate methodology for determining the subject property’s fair cash value.

Third, even assuming *arguendo* that it found the DCF methodology to be an appropriate valuation methodology to determine a fair cash value for the subject property, the Board found that Ms. Bulkley’s DCF analysis contained flaws that rendered it unreliable, including elements of circularity. Moreover, Ms. Bulkley deducted the actual property taxes as an expense, rather than accounting for them as a factor in the rate, and in doing so improperly incorporated into her analysis the very values that are in dispute in these appeals. For all of these reasons, the Board placed no weight on Ms. Bulkley’s DCF analysis.

Although the direct-capitalization approach is often relied upon to determine the value of income-producing properties, the Board did not place weight on Ms. Bulkley’s direct-capitalization analysis either. That analysis, which was limited to one single paragraph within her appraisal report, consisted of applying a capitalization rate, which was the discount rate developed through her DCF approach, to an annual income, to arrive at an estimated value of $95,385,881. As Ms. Bulkley’s direct-capitalization analysis incorporated many of the same elements already dismissed by the Board as flawed or unreliable in her DCF approach, and further lacked adequate explanation and support, the Board similarly rejected her direct-capitalization analysis.

In conclusion, the Board found that the valuation evidence offered by the appellant was neither persuasive nor reliable, and it therefore found that the appellant failed to meet its burden of demonstrating that the assessed value of the subject property exceeded its fair cash value for the fiscal year at issue. Accordingly, the Board decided these appeals for the appellees.

 **OPINION**

The assessors are required to assess property at its fair cash value. G.L. c. 59, § 38. Fair cash value is defined as the price on which a willing seller and a willing buyer will agree if both of them are fully informed and under no compulsion. ***Boston Gas Co. v. Assessors of Boston,*** 334 Mass. 549, 566 (1956). In determining fair cash value, all uses to which the property was or could reasonably be adapted on the relevant assessment dates should be considered. ***Newton Girl Scout Council, Inc. v. Massachusetts Turnpike Authority,*** 335 Mass. 189, 193 (1956); ***Irving Saunders Trust v. Assessors of Boston***, 26 Mass. App. Ct. 838, 843 (1989). The idea is to ascertain the maximum value of the property for any legitimate and reasonable use. ***Id.*** Based on the record, the Board found and ruled that the highest and best use of the subject property was its continued use as a hydroelectric generating facility, which accords with its current use and the opinion of the appellant’s valuation expert.

Generally, real estate valuation experts, the Massachusetts courts, and this Board rely upon three approaches to determine the fair cash value of property: income capitalization, sales comparison, and cost. ***Correia v. New Bedford Redevelopment Authority,*** 375 Mass. 360, 362 (1978). “The [B]oard is not required to adopt any particular method of valuation.” ***Pepsi-Cola Bottling Co. v. Assessors of Boston,*** 397 Mass. 447, 449 (1986).

In these appeals, the Board found and ruled that the sales-comparison approach was not an appropriate methodology to use to estimate the value of the subject property because there were an insufficient number of sales of comparable property to provide a reliable basis for comparison. *See* ***Arthur D. Little, Inc. v Assessors of Cambridge,*** Mass. ATB Findings of Fact and Reports 2002-635, 652.

The Board likewise declined to place weight on Ms. Bulkley’s replacement-cost analysis. “Courts and this Board have found and ruled consistently that only qualified engineers, architects, or contractors should present cost estimates in most circumstances.” ***Cnossen v. Assessors of Uxbridge,*** Mass. ATB Findings of Fact and Reports 2002-675,690 (citing ***Tiger v. Mystic River Bridge Authority,*** 329 Mass. 514, 519 (1952) and ***Maryland Cup Corp. v. Assessors of Wilmington,*** Mass. ATB Findings of Fact and Reports 1988-169).Ms. Bulkley is not an engineer, architect, or contractor. The Board thus found and ruled that she was not competent to offer evidence of construction costs. *See****Cnossen,*** Mass. ATB Findings of Fact and Reports at 2002-690 (finding that the witnesses’ lack of qualifications substantially diminished the probative value of their testimony relating to the cost approach). Moreover her replacement-cost analysis was premised on the “cost to construct a new natural gas-fired combined cycle facility with the same capacity” as the subject property. In other words, it was premised on an entirely different type of generating facility than hydroelectric, which appeared to be at odds with her own conclusions as to highest and best use. For these reasons, the Board placed no weight on Ms. Bulkley’s replacement-cost analysis.

Although Ms. Bulkley gave primary weight to the fair cash value obtained through her DCF analysis, the Board gave it no weight. As an initial matter, the Board noted that typical forecast periods for DCF analyses range from five to ten years. *See generally* Appraisal Institute, the Appraisal of Real Estate 460 (14th ed., 2013). The DCF analysis used by Ms. Bulkley featured a 20-year forecast period, and even incorporated elements based on projections as far out as 45 years, which periods far exceed the typical forecast periods. The Board found that this rendered her DCF approach all the more speculative and unreliable. *See* ***Digital 55 Middlesex, LLC v. Assessors of Billerica,*** Mass. ATB Findings of Fact and Reports 2017-415, 440.

More importantly, however, courts and this Board have routinely rejected the DCF method as an appropriate valuation methodology for *ad valorem* tax purposes. *See* ***GLW Kids LLC v. Assessors of Carlisle,***  Mass. ATB Findings of Fact and Reports 2016-53, 73, *aff’d,*  Mass. App. Ct. No. 16-P-729, Memorandum and Order under Rule 1:28 (July 12, 2017); ***Joseph Iantosca v. Assessors of Weymouth,*** Mass. ATB Findings of Fact and Reports 2008-929, 952; ***Digital 55 Middlesex, LLC,*** Mass. ATB Findings of Fact and Reports at 2017-441.

As discussed in ***Mayflower Emerald Square, LLC v. Assessors of North Attleborough,*** Mass. ATB Findings of Fact and Reports, 2007-421, 523-24, the DCF

analysis focuses on the income stream, net of expenses, generated by a property over a typical ownership period, *e.g.*, ten years, and the value of the reversionary interest after that period. “The cash flows, including the net resale price, are then discounted at a rate . . . to derive an indication of present value.” However, the assessment of real property for tax purposes is based on the value of a fee simple interest [based on] a period of one year only. Given these legal requirements, discounted cash flow analysis, appropriate for valuing the leased fee interest buyers of mall properties usually acquire, has not been adopted in the decisions of this Board. *See, e.g.,* ***One Cambridge Center Trust et al. v. Assessors of Cambridge,*** Mass. ATB Findings of Fact and Reports 1997-188, 229. *See generally* ***Delta Materials Corp. v. Bagdon,*** 43 Mass. App. Ct. 307, 309-10 (1997) (reversing finding of value by Probate Court because expert’s discounted cash flow analysis failed to fully account for the value of a property.).

(citations omitted).

Moreover, Ms. Bulkley testified that the DCF approach is the optimal approach to value property like the subject property because its income stream is impacted by unpredictable and uncontrollable natural forces. However, the Board found that this was precisely the reason the DCF approach was not a reliable valuation approach for *ad valorem tax* purposes, which attempts to capture the value of a property as of a date certain - January first of each year. *See* G.L. c. 59, § 2A(a). The record showed that energy-producing facilities are not only greatly impacted by weather patterns, but also by changes in government regulation as well as emerging energy sources and technologies. Each of these influences is unpredictable and beyond the control of market participants, and the Board found that they rendered the DCF approach, which casts its net out far into the future, particularly unsuitable to determine the value of the subject property for *ad valorem* tax purposes. *See* ***Digital 55 Middlesex, LLC,*** Mass. ATB Findings of Fact and Reports at 2017-441.

The appellant’s attempts to distinguish the present appeals from ***Digital 55 Middlesex, LLC,*** a recent case in which the Board rejected the DCF approach, were unavailing. That case involved a computer data center, referred to sometimes as a server farm. ***Id.*** Part of the Board’s rationale for rejecting the DCF approach in that case was that the rapid pace of change in the computer technology industry rendered the 20-year projected income stream highly speculative. ***Id.*** The appellant in the present appeals cited the subject property’s century-plus history of operation and the longevity of the capital improvements and FERC licenses associated with the subject property as a basis for distinction. What the appellant fails to acknowledge in making this argument is the changeability of the many factors directly influencing the subject property’s operations, including the weather, government regulations, and developments in energy sources and technology, which similarly render the lengthy projection period used by Ms. Bulkley too speculative to furnish a reliable indication of fair cash value. The Board therefore rejected this argument.

Further, although Ms. Bulkley also performed a direct-capitalization analysis, and the Board frequently relies upon that approach to determine the fair market value of income-producing properties, it did not place weight on Ms. Bulkley’s direct-capitalization analysis because it incorporated much of the same speculative and unreliable information used in her DCF approach, and lacked adequate explanation and support.

In reaching its opinion of fair cash value in these appeals, the Board was not required to believe the testimony of any particular witness or to adopt any particular method of valuation that an expert witness suggested. Further, the mere qualification of a person as an expert does not endow her testimony with any magic qualities. ***Boston Gas Co.,*** 334 Mass. at 579. “The credibility of witnesses, the weight of the evidence, and inferences to be drawn from the evidence are matters for the board.”  ***Cummington School of the Arts, Inc. v. Assessors of Cummington,*** 373 Mass. 597, 605 (1977). The Board can accept those portions of the evidence that it determined had more convincing weight. ***Foxboro Associates v. Assessors of Foxborough,*** 385 Mass. 679, 683 (1982); ***Assessors of Lynn v.*** ***New England Oyster House, Inc.,*** 362 Mass. 696, 702 (1972).

“‘The burden of proof is upon the [appellant] to make out its right as a matter of law to abatement of the tax.’” ***Schlaiker v. Assessors of Great Barrington,*** 365 Mass. 243, 245 (1974) (quoting***Judson Freight Forwarding Co. v. Commonwealth***, 242 Mass. 47, 55 (1922)). In the present appeals, the Board found and ruled that the appellant failed to offer persuasive, reliable evidence demonstrating a fair cash value for the subject property that was lower than that assessed. Accordingly, the Board found and ruled that the appellant did not meet its burden of proving that the subject property was overvalued for the fiscal year at issue, and issued a decision for the appellees in these appeals.

 **THE APPELLATE TAX BOARD**

 **By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Thomas W. Hammond., Jr., Chairman**

**A true copy,**

**Attest: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Clerk of the Board**

1. At the conclusion of the appellant’s case, the assessors moved for a directed verdict, which the Chairman took under advisement. Given the Board’s Decision for the appellee, the motion is moot. [↑](#footnote-ref-1)
2. The Fire District Tax was applicable only to property located in Montague. The rate of $28.95 reflected in the table above is a combined rate that includes the property tax rate of $24.85 per thousand along with an additional $4.10 per thousand for the Fire District Tax. [↑](#footnote-ref-2)
3. The subject property also receives *de minimis* income from land leases. [↑](#footnote-ref-3)