ELIZABETH A. PEARCE
STATE TREASURER

RETIREMENT DIVISION
TEL: (802) 828-2305
FAX: (802) 828-5182

UNCLAIMED PROPERTY DIVISION
TEL: (802) 828-2407

ACCOUNTING DIVISION
TEL: (802) 828-2301
FAX: (802) 828-2884

STATE OF VERMONT
OFFICE OF THE STATE TREASURER

TO: Vermont Pension Investment Committee

FROM: Matt Considine, CFA / Katie Green / Nick Foss

RE: Fossil fuel profile in VPIC

DATE: November 25, 2014

To support the discussion of fossil-fuel divestment, Staff has updated the profile of the energy and utility holdings in the VPIC portfolio. As of mid-November, 2014 :

VPIC assets in separate accounts, as of 10/31/2014				$1,595,929,979
Dollar exposure*				
	Energy (ex Coal)	**Coal**	**Utilities**	**Total**
Common shares	$62,461,919	$330,206	$24,710,273	$87,502,397
Bonds, etc	$26,318,630	$1,716,000	$10,522,336	$38,556,966
Total	$88,780,549	$2,046,206	$35,232,609	$126,059,363
Percentage exposure*				
	Energy (ex Coal)	**Coal**	**Utilities**	**Total**
Common shares	3.9%	0.0%	1.5%	5.5%
Bonds, etc	1.6%	0.1%	0.7%	2.4%
Total	5.6%	0.1%	2.2%	7.9%
* Exposure in separate accounts only, as of 11/14/2014				

Staff's best estimate of the holdings covered by the "Carbon Tracker 200" list is $55 million as of 11/20/2014

Globally, the Energy and Utility sectors are estimated to be a $5 trillion investable equity opportunity, or approximately 12% of the global market cap. The Carbon Tracker 200 list – while not exclusively what most investors would consider to be Energy – represents a substantial portion of this universe.

Staff does not find any reason to believe that constraining our managers to avoid 12% of the equity market (and an unknown amount of the fixed income market) would improve the return-risk profile of the VPIC portfolio and continues to recommend that the VPIC not support divestment, for the reasons outlined in Staff's February 20, 2013 memo

ELIZABETH A. PEARCE
STATE TREASURER

RETIREMENT DIVISION
TEL: (802) 828-2305
FAX: (802) 828-5182

UNCLAIMED PROPERTY DIVISION
TEL: (802) 828-2407

ACCOUNTING DIVISION
TEL: (802) 828-2301
FAX: (802) 828-2884

STATE OF VERMONT
OFFICE OF THE STATE TREASURER

To: Vermont Pension Investment Committee

From: Matt Considine, Director of Investments

Subject: Analysis of fossil-fuel divestment legislation (H.271) on VPIC portfolio

Date: February 20, 2013

The bill introduced as H.271 requires VPIC to divest from, and prohibits investment in, any company which has as a principal business the extraction, production or manufacture of petroleum, coal, natural gas, heating oils, light and heavy diesel oil, motor gasoline, propane, butane, residential fuel oils, kerosene and aviation fuels (fossil fuels)[i].

The VPIC has requested that Treasurer's Office staff complete a portfolio impact analysis of bill H.271. VPIC's independent advisor – NEPC – will also be conducting a review. This memo is a preliminary analysis which deals specifically with the costs and governance issues associated with divestment.

Assumptions

Staff interprets this legislation as having the effect of banning investments in the energy sector as a whole for the purposes of this analysis. While biodiesel is excluded from the definition of "fossil fuels," it is not a substantial enough industry to warrant exclusion from the data used in this study. Further, staff does not propose a view on climate change generally but considers solely the following five points:

1. The impact of the restrictions on the return and risk characteristics of the VPIC portfolio;
2. The impact on costs incurred by the VPIC portfolio;
3. The impact on the governance structure of VPIC and the resulting effect on VPIC portfolio construction, management and oversight;
4. The effectiveness of divestment; and
5. Funded status of pension plans.

Background

As of December 31, 2012 the VPIC portfolio had $3.6 billion in assets, comprised of the State pension plan assets (State Employees, Municipal Employees and Teachers Retirement systems), as well as the majority of the City of Burlington Employees Retirement System[ii]. These assets are invested across 15 asset classes or strategy types and in 33 funds, 12 of which are separately managed accounts[iii]. This structure represents a significant evolution in the management of the pension assets over the last ten years, from a time in which the systems were managed by each separate Retirement System Board of Trustees using a more traditional structure consisting primarily of separately managed stock and bond accounts. Consistent with VPIC's statutory mandate, VPIC has implemented a portfolio structure intended to maximize total return on investment, within acceptable levels of risk for public retirement systems, in accordance with the standards of care established by the prudent investor rule under 14A V.S.A. § 902. As of September 2012, the annualized performance of the State Employees portfolio during the last 3- and 5-year time frames has been 10.4% and 2.9%, respectively – equating to performance in the top 12% and 37% of public funds.

1. Impact on the return and risk characteristics of the pension portfolio[iv]

a. Size of fossil-fuel companies in indices affects investment returns.
In various asset classes or indices, fossil-fuel-related companies have significant size. In the S&P 500 and other World equity indices, the sector is approximately 11% of the universe. In the Barclay's Aggregate and other global fixed income indices, fossil-fuel-related companies comprise approximately 5-7% of assets. In the commodities area, 33%-75% of the assets are invested in fossil-fuel-related securities (such as commodity futures and derivatives), depending upon the benchmark chosen.

b. Diversifying element in a portfolio
As evidenced by S&P sector data, fossil-fuel-related companies offer a diversification benefit to the VPIC portfolio, with lower correlations to other sectors than all others with the exception of Utilities[v].

By eliminating a diversifying element of the portfolio, risk would necessarily rise. In order to return to the pre-divestment level of risk, the portfolio would need to be restructured, necessitating a reduction in expected return. **Judging from an estimate of historical performance, the foregone return could be on the order of $10,000,000 annually[vi].**

2. Increased costs to be incurred because of divestment

a. One-time costs
Transaction costs to sell existing positions would be incurred as part of the restructuring process. Sale-and-repurchase fees would be less for large liquid stocks, but higher for less-liquid stocks and positions. Costs to convert commingled accounts to separate accounts that conform to the legislation are unknown but likely significant.

Further costs could be incurred if some managers were unwilling or unable to provide investment advisory services with this restriction. In such a case, a change in managers would require RFP processes, manager selection efforts, contract negotiations and possibly higher management fees relative to the prior manager.

b. Recurring costs
The inability to take advantage of some investment strategies that are only economically viable for VPIC within a commingled investment vehicle would represent a recurring opportunity cost.

Advisory fees would also likely increase as specialized investment benchmarks would need to be created, as would customized compliance monitoring and proxy-voting efforts.

There would be a diversion of Staff's time toward the implementation and ongoing monitoring of the new portfolio, reducing resources available for other fiduciary activities in the Treasurer's Office.

Assuming 0.25% as a total cost of converting all accounts to fossil-fuel-free holdings, one-time costs could approximate $8,500,000. The extent of recurring costs cannot be estimated at this time[vii].

3. Impact on existing governance structure and activities of VPIC

a. Development of VPIC's investment process and strategy
VPIC debates issues of relevance to the portfolio at monthly, open-to-the-public board meetings, with items for discussion having the potential to come before the board in a variety of manners. Decisions regarding portfolio investment guidelines, policies and proxy-voting are codified in investment and proxy-voting guidelines available online and by request. Input is also obtained from third-party consultants. To date, it has been in the purview of VPIC to direct studies of various issues related to the portfolio's composition and characteristics. Both external and staff expertise are brought to bear on investment issues which are brought to the VPIC for discussion. The end result of these deliberations is an investment process, strategy and set of guidelines which governs the investment of the VPIC portfolio.

b. VPIC Proxy Voting Guidelines
VPIC's ability to independently assess issues of relevance to the portfolio has resulted in adoption of progressive proxy-voting guidelines[viii] which direct investment managers to vote VPIC shares as follows:

- Vermont managers should generally vote FOR shareholder proposals seeking greater disclosure of the company's environmental practices, and/or environmental risks and liabilities.
- Vermont managers should generally support resolutions requesting that companies outline their preparations to comply with standards established by Kyoto Protocol signatory markets, unless: 1) The company does not maintain operations in Kyoto signatory markets; or 2) The company already evaluates and substantially discloses such information to shareholders; or, 3) Greenhouse gas emissions do not materially impact the company's core businesses.

- Vermont managers should generally vote FOR shareholder proposals calling for the reduction of greenhouse gas emissions under a reasonable timeline.
- Generally support shareholder proposals seeking increased investment in renewable energy sources, taking into account whether the terms of the resolution are realistic or overly restrictive for management to pursue.
- Generally vote FOR shareholder proposals calling for a company to commit to reducing its greenhouse gas emissions under a reasonable timeline.
- Generally support shareholder proposals seeking greater disclosure on the company's environmental practices, and/or environmental risks and liabilities.
- Generally support requests asking a company to formally adopt the CERES[ix] Principles;
- Generally support the adoption of reports to shareholders on environmental issues.

In addition, a number of managers retained by Vermont are signatories of the Principles for Responsible Investment.[x]

c. Independent management expertise

VPIC's current legislative mandate to maximize total return on investment, within acceptable levels of risk, has resulted in a portfolio structure which utilizes solely outside investment managers, in many cases active managers, who have been hired for their skill and particular area of focus after an open and competitive selection process. These managers are given a great deal of discretion pursuant to their investment management contracts. If it were evident that the return prospects for contemplated divestment targets were particularly poor, the existing process would eliminate those holdings from the portfolio naturally.

Divestment and investment prohibitions would replace the existing structure – which has taken years to put in place - with one in which the Legislature rather than professional investment advisors determine the desirability of certain classes of investments based on factors unrelated to portfolio risk and return.

d. State Prudent Investor Rule

The VPIC is required to make its investments in accordance with the standards of care established by the prudent investor rule[xi] under 14A V.S.A. § 902. This is the standard of care to which the VPIC's investment managers are held as well. Standards the VPIC is required to consider include general economic conditions; the possible effect of inflation or deflation; the role that each investment or course of action plays within the overall trust portfolio, the expected total return from income and the appreciation of capital; other resources of the beneficiaries; needs for liquidity, regularity of income, and preservation or appreciation of capital; and an asset's special relationship or special value, if any, to the purposes of the trust or to one or more of the beneficiaries.

e. Exclusive Benefit Rule

The State retirement plans are subject to Section 401(a) of the Internal Revenue Code which provides that the plans must be maintained and the trustees must act for the exclusive benefit of the plans' beneficiaries. The proposed divestment legislation is projected to have an economic impact, which will likely raise the issue of whether this proposed divestment is consistent with this "exclusive benefit rule." Because the status as a qualified plan provides

for a) deferral of taxation on employer "pick-up" contributions on behalf of members and b) tax-exempt advantages on the investment income from the plan's assets, serious consequences would likely result if the qualified status of the trust was lost. Some of the consequences of disqualification could include:

1. Employer contributions could become taxable to employees as income at present;
2. The income of the plan could become taxable;
3. IRS guidance is not definitive, but the State might be required to pay income tax and potentially other taxes (if for instance, the IRS did not penalize employees for being participants in a disqualified plan, it could opt to collect withholding taxes from the employer);
4. In the event of an IRS review of the plan, the tax liabilities could be assessed retroactively under certain circumstances;
5. Beneficial plan member actions such as tax treatment of rollover distributions could be adversely impacted.

4. The effectiveness of divestment

a. Loss of proxy voting rights

The practical effect of divesting in fossil fuels is to sell shares to another individual or entity interested in owning the shares. By relinquishing its shares, Vermont will reduce any impact it may currently have as a voting shareholder to effect change as currently contemplated under the VPIC Proxy Voting Guidelines – guidelines which are already regarded as forward-looking and progressive.[xii]

b. Reduction in pressure for change

A sale of publicly-traded securities takes place in a secondary market and does not affect the capital structure of the underlying company. (In fact, a given company does not know nor perhaps care if a particular shareholder sells its stock.) As such, a company with policies and practices with which Vermont has an issue is more likely to be increasingly controlled by those that do not share the same values as articulated by the VPIC Proxy Voting guidelines, since the shares sold are necessarily being bought by another party willing to accept affiliation with the company's policies and practices.

5. Impact on funded status

As of June 30, 2012 the funded status of the State Employees, State Teachers and State Municipal Employees plans were 78%, 62% and 85% respectively. Any reduction in expected return could increase the unfunded liability, as the discount rate structure is a function of expected returns on asset classes. The effect will be to worsen the funded status of the plans, which would likely require increased future contributions to the retirement systems. This is particularly relevant in the case of the Teacher's System, the effect of health care benefits not being separately funded already places an additional burden on that System's assets.

Conclusion

There are significant costs, governance issues and fiduciary issues which need to be addressed in the implementation of the action contemplated by bill H.271. Each of these items will have a direct impact on the financial performance and potentially the tax-status of the fund. Further, the absence of a shareholder stake reduces the effectiveness of VPIC's proxy-voting guidelines, investment guidelines, and ability to collaborate effectively with other plans in encouraging positive corporate governance changes.

---

[i] Sec. 1. 3 V.S.A. § 523 as amended :
(h): "On or before January 1, 2014, the Committee shall have developed a three-year plan to divest the assets of the State Teachers' Retirement System of Vermont, the Vermont State Employees' Retirement System, and the Vermont Municipal Employees' Retirement System of interests in any company which has as a principal business the extraction, production, or manufacture of fossil fuels, and shall not invest in any such company. The plan shall make divestment in any company which has as a principal business the extraction, production, or manufacture of coal or fossil fuels obtained from tar sands a priority. As used in this subsection, "fossil fuels" means an energy source formed in the earth's crust from decayed organic material. The term includes petroleum, coal, natural gas, heating oils, light and heavy diesel oil, motor gasoline, propane, butane, residential fuel oils, kerosene, and aviation fuels. However, the term excludes biodiesel as defined in 10 V.S.A. § 585.

Sec. 2. EFFECTIVE DATE
This act shall take effect on July 1, 2013.

[ii] The City of Burlington invests along with the three State plans in VPIC. Overall VPIC assets at 12/31/2012 were approximately $3.616 billion, of which $133 million was the City of Burlington's.

[iii] A separate account is one in which we have visibility into the holdings to the specific share level, i.e. VPIC owns 1000 shares of XYZ Company. A commingled account – which is the structure for 24 of the 36 VPIC funds – is one in which VPIC owns shares with particular net asset values, akin to shares in a mutual fund that an individual investor would own. Such a fund could have significant exposure to a particular industry, but VPIC would have no visibility into or control of the amount at any given point in time. But such funds also make available to VPIC diversifying and complex strategies that would otherwise not be economically viable for VPIC.

[iv] The equity sector has been a source of outperformance in the last decade, as evidenced by the sector's performance versus other areas in the S&P 500 (+15% versus the next best performing sector of +11%). Similarly, in the fixed income markets, energy has outperformed by approximately 1 percentage point annually for the last ten years. This is based on ten-year annualized total return S&P data as of 9/30/2012 (source : http://www.sectorspdr.com/performance/) and estimates of fixed income returns from Bloomberg and Citigroup data.

[v] In the case of S&P 500-indexed portion of the portfolio only, it is estimated that the increase in annual standard deviation would be approximately 0.4%. To put this in context, the fluctuation in the large cap US equity holdings would increase by approximately **$1,590,000**. (11% of $3.616 billion is $385 million. 0.4% of this is $1.540 million.) Correlation data taken from http://www.assetcorrelation.com/sectors/3652 Similar diversification costs are likely in other asset classes and are not estimated here.

[vi] Using annualized S&P data, staff estimates that the reduction on large cap equity returns only during the last ten years would have been on the order of 0.6% each year. One of VPIC's international managers used a simulation to estimate that not having had energy in the international equity portion of the portfolio under

their management would have reduced performance by approximately 0.7% on an annualized basis, using data back to 1998. Assuming all equity accounts were converted to energy-free separate accounts and a reduction in performance of 0.6%, it is estimated that there would have been a reduction in annual return of approximately **$6,725,000**. (31% of the portfolio is targeted to US and International equities. 31% of $3.616 billion is $1.121 billion, the performance of which would be reduced by 0.6% or $6.725 million.)

A further reduction in return would be expected in order to return the portfolio to the pre-divestment level of risk. Using large cap US equities as a proxy and assuming a parallel shift in an efficient frontier with a positive slope of 32.5%, a 0.6% return reduction and 0.4% risk increase equates to a total reduction in expected return of 0.73%. The incremental 0.13% corresponds to a further reduction of approximately **$1,200,000** in annual return. Note that this does not include an estimate of lost return in the fixed income or alternatives space.

[vii] Overall, if nearly the entire VPIC portfolio needed to be converted to energy-free separate accounts, the dissolution of advanced strategies, commingled funds and separate accounts could approach **$8,500,000**. This assumes 0.25% impact from a combination of transaction costs, bid-ask spread realization, possible market-impact, etc. None of the costs noted in the recurring costs section can be estimated at this time.

[viii] Relevant proxy-voting guidelines may be found on pages 60-62: http://www.vermonttreasurer.gov/sites/treasurer/files/pdf/misc/VermontProxyGuidelinesDOMESTIC2010.pdf

[ix] "Ceres mobilizes a powerful network of investors, companies and public interest groups to accelerate and expand the adoption of sustainable business practices and solutions to build a healthy global economy." http://www.ceres.org

[x] "The United Nations-backed Principles for Responsible Investment (PRI) Initiative is an international network of investors working together to put the six Principles for Responsible Investment into practice. Its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision making and ownership practices. In implementing the Principles, signatories contribute to the development of a more sustainable global financial system." http://www.unpri.org

[xi] Relevant Federal law: 26 USC 401(a)

[xii] In the1980's the international effort to force the government of South Africa to change its policies was complemented by a loss of economic support for the government when companies responded to divestment campaigns. In that case, however, the goal was not to put the companies themselves out of business but to incentivize change in a third party. In the particular case of fossil fuels, however, divestment will not change the inherent energy-potential of fossil fuels. As long as economies remain oil-based, addressing issues of the amount of fossil-fuels consumed will likely be more productive than addressing issues of the quantity supplied.

Another example that can be found is the divestment movement associated with tobacco companies. Given that those companies are a) still in existence, b) have outperformed the overall market, c) people are still smoking and d) states are still utilizing tax and settlement fund monies related to smoking to implement budgets, it is fair to say that that divestment campaign was a failure.